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

MCPB 10/04/07
Item No. 9

September 28, 2007

MEMORANDUM

TO: Montgomery County Planning Board

VIA: Mary Bradford, Director of Parks
Michael F. Riley, Acting Deputy Director, Department of Parks
Doug Alexander, Acting Chief, Park Development Division
Michael Ma, Acting Project Management Section Supervisor

FROM: Ellen Masciocchi, Project Manager

SUBJECT: Facility Plan for Expansion of Parking Lot and Renovation of Hadley's Playground at Falls Road Local Park

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STAFF RECOMMENDATION

- Approve Facility Plan for renovation and expansion of parking lot, playground resurfacing, and addition of a picnic shelter at Falls Road Local Park, including cost estimate.

- Determine schedule for design and construction during review of the FY09-14 Capital Improvements Program

PROJECT DESCRIPTION

Introduction

The purpose of this project is to prepare a facility plan to renovate and expand the parking lot and resurface the playground at Falls Road Local Park. The park was built in the late 1980's and is 19.9 acres. The site was a former Middle School site and was purchased from the Board of Education in 1986. It is located on Falls Road at the intersection of Falls Road and Falls Chapel Way. The site gains access from Falls Road to the East, Cold Spring Road to the West and Falls Chapel Way to the South. See Attachment A – Vicinity Map.

The 19 acre park provides a facility for the surrounding single-family homes. It includes football/soccer, practice soccer, and baseball fields, a large playground, a parking lot, and a loop path. The areas for the basketball, handball, and tennis courts were graded; however, they were never constructed.

Project Funding

Facility planning represents thirty percent design completion, and results in a proposed design scheme, cost estimate, and determination of regulatory feasibility. The cost of the facility plan was funded through the Facility Planning: Local Parks budget within the Capital Improvements Program.

Facility Planning Process

The goal of the park facility plan is to renovate and expand a 20 year-old parking lot that is insufficient to accommodate the three ballfields in the park. URS was hired as the consultant in November of 2006 to develop the plan. The facility planning process included the following steps:

- Preparation of site survey
- Analysis of existing site conditions, including several site visits with natural resources staff
- Preparation and approval of Natural Resources Inventory/Forest Stand Delineation
- Preparation of a study considering different types of playground surfacing that could be used to replace the existing surfacing
- Meetings with the Park and Planning staff team and consultant including, kick-off meeting, alternatives meeting, interim and final review meetings
- Final staff team approval meeting held on August 21, 2007
- Notification to adjacent homeowners and civic associations to show the preferred alternative at a community meeting
- Community meeting on September 11, 2007 with the consultant presenting the preferred alternative
- Approval of stormwater management concept (SWM) plan and exemption for Forest Conservation Plan (FCP)

PROGRAM OF REQUIREMENTS

The scope of the facility plan includes addressing the following key issues:

- increase the parking lot size by a minimum of 80 spaces
- investigate the benefits of removing the existing berm in the middle of the existing parking lot
- provide efficient stormwater management for the expanded parking lot
- provide safe handicap access to the park and safe movement throughout the parking lot
- protect existing trees, as located by MNCPPC
- improve landscaping in, and around, the expanded parking lot
- resurface the existing playground

PLANNING DOCUMENT RECOMMENDATIONS

Potomac Master Plan

The proposed plan for the expansion and improvement of the surface parking area of the Falls Road Local Park is consistent with the recommendations of the Potomac Subregion Master Plan (2002). An additional sidewalk extension along Falls Road, with lead walks to the facilities may be desirable. This should be coordinated with landscaping, lighting, and sight distance clearances. These issues should be considered at the detailed design stage. The recently installed Shared Use Path (Bike Path/sidewalk) on the opposite side of Falls Road currently serves as the primary pedestrian connection.

Hadley's Playground Approval

In 1997, staff presented the plan for an accessible playground at Falls Road Local Park to be called "Hadley's Playground" to the Planning Board. The project was a public-private partnership between the Commission and a private foundation. Board approval of the project allowed the Foundation to raise sufficient funds to design and construct the playground. Hadley's playground is much larger than most playgrounds allotted for a local park and draws attendance from a wider area. At the time of the playground approval, the Fox Hills West Civic Association expressed a concern about the impact a highly specialized playground of this size would have on parking. Their concern is noted on circle 18 of the attached board packet dated January 27, 1997 requesting approval of Hadley's Playground. See Attachment B – Staff Report dated January 27, 1997.

PERMITS AND AGENCY APPROVALS

Natural Resource Inventory/Forest Stand Delineation (NRI/FSD) and Preliminary Forest Conservation Plan

On March 1, 2007 a site visit was conducted at Falls Road Local Park. The majority of the park has been graded to accommodate ball fields, a playground, drainage swales and a parking lot. A dry stormwater management pond is located at the western end of the property. Falls Road Local Park is not located within the 100-year floodplain and does not contain any wetlands, streams, or stream buffers.

Ten areas of ornamental trees are planted throughout the parking lot and playground area. The ornamental trees are located in open, maintained grass areas as single plantings and in small groups of up to five.

An NRI/FSD was submitted to MNCPPC to obtain approval for a Forest Conservation Plan Exemption in accordance with Section 22A-5(t) of the Montgomery County Forest Conservation Law, which collectively states that the applicant "must notify the Planning Director in writing..." and "seek confirmation from the Director that the cutting, clearing, or grading is in fact exempt from Article II." An exemption may be granted for "a modification to existing developed property if no more than 5,000 square feet of forest will be cleared." On May 10, 2007, an exemption and approved Tree Save Plan were granted for the site by MNCPPC, Environmental Planning. A revised NRI/FSD was submitted on August 24, 2007 for approval for a Forest Conservation Plan Exemption. This submission was also approved; however, changes required for the stormwater management concept plan impacted the Limits of Disturbance. This required an additional submission to expand the Limits of Disturbance to accommodate the bioretention ponds required by Department of Permitting Services (DPS). The final FCP Exemption submission is currently under review, but is expected to be approved.

Stormwater Management Concept Plan

Existing stormwater management in the park is provided by the existing retention basin; two existing swales convey drainage to the basin – one swale at the northern boundary and one swale at the southern boundary. The existing basin was initially designed in 1981 and provides quantity management for stormwater. Stormwater quality management design was not required at that time.

The parking lot will be expanded resulting in an additional 0.61 acres with impervious asphalt pavement, increasing the total impervious area to 3.11 acres. Although the resurfacing of the playground is in the scope of the project, it is not anticipated to increase the impervious area and adversely affect stormwater management of the site.

1. A second Stormwater Management Concept Plan has been submitted to the Montgomery County Department of Permitting Services (MCDPS) for review, including plan views and calculations. See Attachment C -

Stormwater Management Concept Plan. DPS asked URS after the first review to revise stormwater management design to accommodate treatment of water quality closer to the parking lot. DPS has expressed its desire to incorporate Environmentally Sensitive Design into current projects, such as water quality treatment structures closer to the source. As a result, the Consultant revised the plan and located two bioretention ponds closer to the parking lot to treat water quality. The conceptual location of the two ponds is very close to the playground, which serves young children. The final location of the ponds and whether they should be fenced, will be further analyzed at the time of the detailed design of the parking lot to address safety concerns. Approval is expected based on discussions with DPS.

DESIGN CONCEPTS

The consultant developed four different parking lot layouts. The designs were based on the "Program of Requirements" (POR) provided by staff. The staff team reviewed the alternative designs. A preferred alternative was developed by the consultant, which combined features of the different alternatives. This preferred alternative was presented to the community.

Preferred Alternative

The preferred alternative eliminates the berm that is currently located in the center of the parking lot. See Attachment D – Preferred Alternative. It expands the parking lot in two directions (east and south) in order to accommodate the addition of spaces and minimize the impact to any one area. The original parking lot contained 71 spaces. Parking has been increased and reorganized to accommodate a total of 154 automobiles, including 6 handicapped spaces. The Park Development Design Standards provide that 50 parking spaces should be allotted for each ballfield.

FACILITY PLAN ELEMENTS

Circulation and parking

The park has three distinct ballfields and a playground that is larger than a typical local park playground. Anytime there is a permitted event that involves sports, the parking lot is full and overflowing according to Park Police. This causes particular problems when the first game has not ended and the second set of games participants are entering to play.

Four different conceptual design alternatives for the parking lot expansion were initially developed and presented to representatives of MNCPPC. Each alternative added a minimum of 80 parking spaces to the existing configuration, as recommended by Staff. Two of the alternatives removed the existing berm located

in the middle of the existing parking lot. All of the alternatives included internal parking lot green space and adequate driveway and aisle clearance, in accordance with the Montgomery County Zoning Ordinance.

The preferred alternative in the current facility plan provides a total of 154 parking spaces, increasing the amount of parking currently available at the park from 71 spaces. The current parking is inadequate to handle the number of vehicles required or spaces that are needed during games at the three ballfields or when school groups come to visit the playground. It features a stamped asphalt walkway through the parking lot to direct park visitors to a central accessible path to safely traverse the parking lot.

Parking analysis

Several things have changed since the Falls Road Local Park was constructed that justify additional parking. They include a new playground, increased field parking standards and elimination of a substantial amount of street parking.

- A new accessible playground was constructed at the site in 1998. This playground is unique in the County and is used by many children and visited by groups from schools for children with disabilities.
- Attendance at the playground is large resulting in Falls Road Local Park having the highest recorded use of any park in a 2000 user count survey. The survey recorded an average use of nearly 200 users per visit (as compared to the 62 average persons per visit at other surveyed parks. Forty five (45%) percent of the visitors counted at the park were using the playground area. Persons with disabled children should not be required to walk a significant distance to use the playground. Since the installation of the playground, many complaints have been received about inadequate parking, particularly on weekends when the ballfields were in use.
- Standards for parking adequacy at parks with ballfields have risen following problems with overflowing parking areas at peak times. At the Soccerplex, the standard was 75 spaces per field, while in previous years the standard was 50 spaces per field.
- On-street parking was intended to satisfy some of the needs for spaces at Falls Road and there are currently approximately 56 on street spaces adjacent to the park. Residents have noted significant safety problems with park users parking too close to intersections and have requested safety improvements. Staff has discussed the street parking with the Traffic Engineering Division of the Department of Public Works and Transportation (DPWT). They are looking into the possibility of prohibiting parking near the intersections on Falls Chapel Way as well as the section between Falls Chapel Court and Falls Road, which has a blind curve. This could eliminate as many as 20 on-street spaces.

Playground surfacing

The original tot lot was removed in 1998 and replaced with a large accessible playground as a part of a public private partnership. The entire playground area is approximately one acre. It was covered in rubberized surfacing in 1999 that has deteriorated and is in need of replacement. A report was prepared by the Consultant, which discusses different kinds of surfacing and offers suggestions for the best type of replacement materials. See Attachment – E Summary of Playground Surfacing Report. A meeting of Park staff was held on August 15, 2007 to discuss the best option for the park based on the collective experience of staff with the variety of materials currently available for surfacing under playgrounds. The conclusion was that the installation with the current surfacing was problematic, not the product. There is insufficient experience with other products to warrant testing them out on this project. It is possible, that only the top layer has to be removed of the existing surfacing. The cost estimate is based on the recommendation to replace the top layer.

COMMUNITY OUTREACH AND STAFF TEAM INVOLVEMENT

Mailings

In August 2007, a mailing was sent to citizens living within a half mile radius of the park requesting their presence at the September 11, 2007 public meeting to discuss the proposed parking lot layout. A reminder was sent out several days before the meeting. The community was also notified in September of the Planning Board meeting scheduled to review the facility plan.

Community Meetings

During the community meeting held on September 11, 2007, the preferred alternative for the facility plan for the parking lot was presented. Thirteen citizens attended. Most of the comments relevant to the plan focused on whether the addition to the parking lot would solve the parking problems. Residents expressed some concern about citizens parking along Falls Chapel Way particularly close to the intersections with Falls Road and Coldspring Road. Park staff contacted the Department of Public Works and Transportation (DPWT) Traffic Engineering Division about this and several other concerns raised by the community. DPWT offered to perform a site visit to assess these concerns. Park staff recommended that "No Parking" signs be located along Falls Chapel Way between Falls Chapel Court and Falls Road as well as near the intersection of Falls Chapel Way and Coldspring Road. This would result in the loss of 20 parking spaces along Falls Chapel Way. DPWT will render its decision after the site visit is performed.

Residents mentioned their desire to continue to have the parking lot screened from Falls Road with additional landscaping. It was suggested that monopavers be

utilized for the additional parking spaces closest to Falls Road to provide less blacktop in that area. Many of the remaining comments concerned issues related to pedestrian access surrounding the park, including the need for sidewalks along Falls Road on the park side, a deceleration lane for cars approaching the park from the north along Falls Road, better signage of the park entrance, a safer way for cars to make a left turn onto Falls Road when leaving the park, and concerns about water pooling in front of the bus stop in front of St. Rafael's Church. Park staff requested that DPWT look at these additional issues at the time of their site visit. Staff is recommends evaluating use of some type of grass paver for part of the parking lot expansion during the detailed design stage, along with the sidewalk

One citizen who was unable to attend the meeting sent an e-mail supporting the staff recommendations. See Attachment F – Citizen E-mail.

Staff Team Meetings

The Planning, Design, Construction, and Operations (PDCO) staff team was formed at the beginning of the project. The team includes staff members from Park Development, County Wide Planning, Community Based Planning, Southern Region, Natural Resources, and Park Police.

The kick-off meeting was held with the Consultant and staff team participation on November 15, 2006. An additional PDCO staff team meeting took place on May 17th, 2005. Field visits were made on May 21st and June 5, 2007. The final PDCO meeting was held on August 21, 2007.

An informal meeting of some of the PDCO members was held September 14th to discuss comments made at the community meeting.

COSTS

Design and Construction

The consultant prepared a detailed cost estimate for the design and construction of the renovations to Falls Road Local Park, which is included in the consultant's Facility Plan Report. See Attachment G – Facility Plan Report. The cost for design and construction of the park is $1,601,279.68. A summary of the estimated cost to complete the improvements follows at the end of this section.

Staff recommends that the park construction be planned to occur in two phases: one for the playground resurfacing, the second for the parking lot. Staff recommends planting a small number of trees from Pope Farm.

Operating Budget Impact (OBI)

The OBI impact will be minor for this project since the renovation is restricted to expansion of the parking lot.

FALLS ROAD LOCAL PARK

CONCEPTUAL FACILITY PLANNING COST ESTIMATE

OCTOBER 2007

ITEM NO.	ITEM	TOTAL COST
1	**SITE PREPARATION & DEMOLITION**	$50,000.00
2	**SEDIMENTATION & EROSION CONTROL**	$30,000.00
3	**EARTHWORK/DEMOLITION**	$182,590.00
4	**STORMWATER MANAGEMENT**	$76,275.00
5	**VEHICULAR PAVEMENT**	$250,522.75
6	**PEDESTRIAN PAVEMENT & HARDSCAPE**	$20,085.00
7	**PLAYGROUND SURFACING AND STRUCTURES**	$295,000.00
8	**LANDSCAPING**	$50,375.00
9	**CONSTRUCTION SUBTOTAL**	**$954,847.75**
10	**CONSTRUCTION CONTINGENCY** (30% of Construction Subtotal)	**$286,454.33**
11	**CONSTRUCTION TOTAL**	**$1,241,302.08**
12	LAND COSTS (Utility/Trail/Grading Easements, Purchase)	$0.00
13	DESIGN CONTRACT WITH CONTINGENCY (20-30% of Construction Total, depending on project)	$248,260.42
14	STAFF CHARGEBACKS FOR DESIGN (20% of Design Contract with Contingency)	$49,652.08
15	CONSTRUCTION MANAGEMENT & INSPECTIONS (5% of Construction Total)	$62,065.10
16	**TOTAL PROJECT COST**	**$1,601,279.68**

ATTACHMENTS

A - Vicinity Map
B - Hadley's Playground Staff Report Approval
C - Stormwater Management Concept Plan
D- Preferred Alternative
E- Resurfacing Report
F- E-mail from Citizen
G - Facility Plan Report

FALLS ROAD LOCAL PARK

Map compiled on September 20, 2007 at 2:22 PM | Site located on base sheet no - 218NW09 | Date of Orthophotos: April 2006 - Used with permission from Montgomery County Government

NOTICE

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Property lines are compiled by adjusting the property lines to topography created from aerial photography and should not be interpreted as actual field surveys. Planimetric features were compiled from 1:14400 scale aerial photography using stereo photogrammetric methods.

This map is created from a variety of data sources, and may not reflect the most current conditions in any one location and may not be completely accurate or up to date. All map features are approximately within five feet of their true location. This map may not be the same as a map of the same area plotted at an earlier time as the data is continuously updated. Use of this map, other than for general planning purposes is not recommended. - Copyright 1998

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

Key Map

N

0 200

1 inch = 200 feet
1 : 2400

ATTACHMENT A

Agenda Item # 5 **ATTACHMENT B**

M-NCPPC

MONTGOMERY COUNTY DEPARTMENT OF PARK AND PLANNING

THE MARYLAND-NATIONAL CAPITAL
PARK AND PLANNING COMMISSION

9500 Brunett Avenue
Silver Spring, Maryland 20901

AGENDA ITEM: 5
AGENDA DATE: 1/27/97

January 21, 1997

MEMORANDUM

TO: Montgomery County Park Commission

VIA: Rod Irwin, Director, Department of Park and Planning
Donald K. Cochran, Director of Parks
Terry Brooks, Chief, Park Planning and Development

FROM: Ellen Masciocchi, Accessibility Planner
Doug Alexander, Project Management Supervisor

SUBJECT: Donation and Installation of Play Equipment for an Accessible Playground at Falls Road Local Park

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STAFF RECOMMENDATION

Approval of design for donated playground for Falls Road Local Park.

INTRODUCTION

The purpose of this memorandum is to inform you of an offer by Mrs. Shelley Kramm, a citizen, to raise the funds for an accessible playground. Mrs. Kramm approached staff last summer about the possibility of building an accessible playground on park property with donated funds. She has a personal interest in this project because she has a child with a disability. Park Planning and Development as well as Region staff met with her on several occasions to discuss the scope and design for the park.

Staff has identified the Falls Road Local Park as the best location for the playground since it has a large enough level area to accommodate an accessible playground and the park is not fully developed. The existing playground equipment is sixteen years old. Coincidentally, this park is located close to the donor's home. The cost of the project would be approximately $500,000 for equipment, installation, signage, and safety surfacing. Mrs. Kramm has set up a 501K fund for the money she plans to receive.

DESCRIPTION

The Falls Road Local Park is 22 acres in area. (See attached vicinity plan). The park includes 3 ballfields and a tot lot. The existing play equipment is inadequate in proportion to the size of the park. Multi-use, handball, and tennis courts indicated on the original site plan were graded, but never constructed. Parking for 67 spaces is provided with access from Falls Road.

The Ivymount school for children with disabilities is located near the park as well as a recreational program that operates on Sundays at Tilden Woods Middle School. There are currently no capital improvement projects planned over the next six years for this park that would have an impact on this project. Plans are underway to widen Falls Road, however, this would have no impact on the park.

The proposed playground includes 3 separate pieces of equipment, each with a separate theme. The playground would encompass one-half acre of land. In addition to the playground, there would be a butterfly garden and birdwatching area. The walkway to the playground would include ramping and stairs. Imbedded bricks will be used as edging and cross pieces for a new sidewalk adjacent to the parking. These bricks would be purchased by donors to help fund the project. Existing walkways will be rerouted around the playground. The park currently has no lighting and there are no plans to add lighting after the playground is installed. Natural resources staff has been contacted to transplant trees that are currently within the area that will be coated with playground surfacing. Additional buffer trees will be added at community request.

PROJECT STATUS

Mrs. Kramm has met with the region staff, playground inspectors and Park Planning and Development staff. The playground inspectors are satisfied with the design and vendor chosen. Previous experience with this vendor and installer have been excellent. Mrs. Kramm met with the Park Accessibility Advisory Committee who provided feedback and their approval. Staff has taken the plan through December plan review.

Two civic association areas, Fox Hills West and Horizon Hills adjoin the park. Mrs. Kramm and one of her Board members met with the Fox Hills West Civic Association and presented the project. A follow-up meeting was held the following week with the Civic Association Board. There was a concern that some of the community members did not have a clear idea as to the scope of the project. As a result a special meeting was scheduled and flyers were distributed by Mrs. Kramm and another resident. The Horizon Hills Civic Association had not planned to meet in January, therefore Board members met and discussed the project independently. A letter was sent to the Co-Presidents by staff, offering any of their Board members with questions the opportunity to call for further information. The Horizon Hills Civic Association has sent a letter of endorsement. (See attached).

The Fox Hills West Civic Association has a concern about parking. There are currently 3 ballfields in this park and 67 parking spaces. Under current standards, 50 parking spaces are allowed for each ballfield. Staff would need to assess whether the current parking problem along Falls Reach Way is the result of inadequate parking in the current lot or the public's need to walk shorter distances to the ballfield. If it is demonstrated that there is a need for additional parking, staff will include this request in their CIP requests for FY99.

PROPOSED SCHEDULE

The normal steps for development of a park project will be followed and a final design reviewed with citizens and the Board.

1. Following Board approval, the donor will begin raising funds. The target date is June of 1998 for the opening of the playground.

2. Design and engineering details would need to be completed in May of 1997. Permits will be needed for storm water management, erosion and sediment control and forest conservation. Six months are normally required to secure these permits.

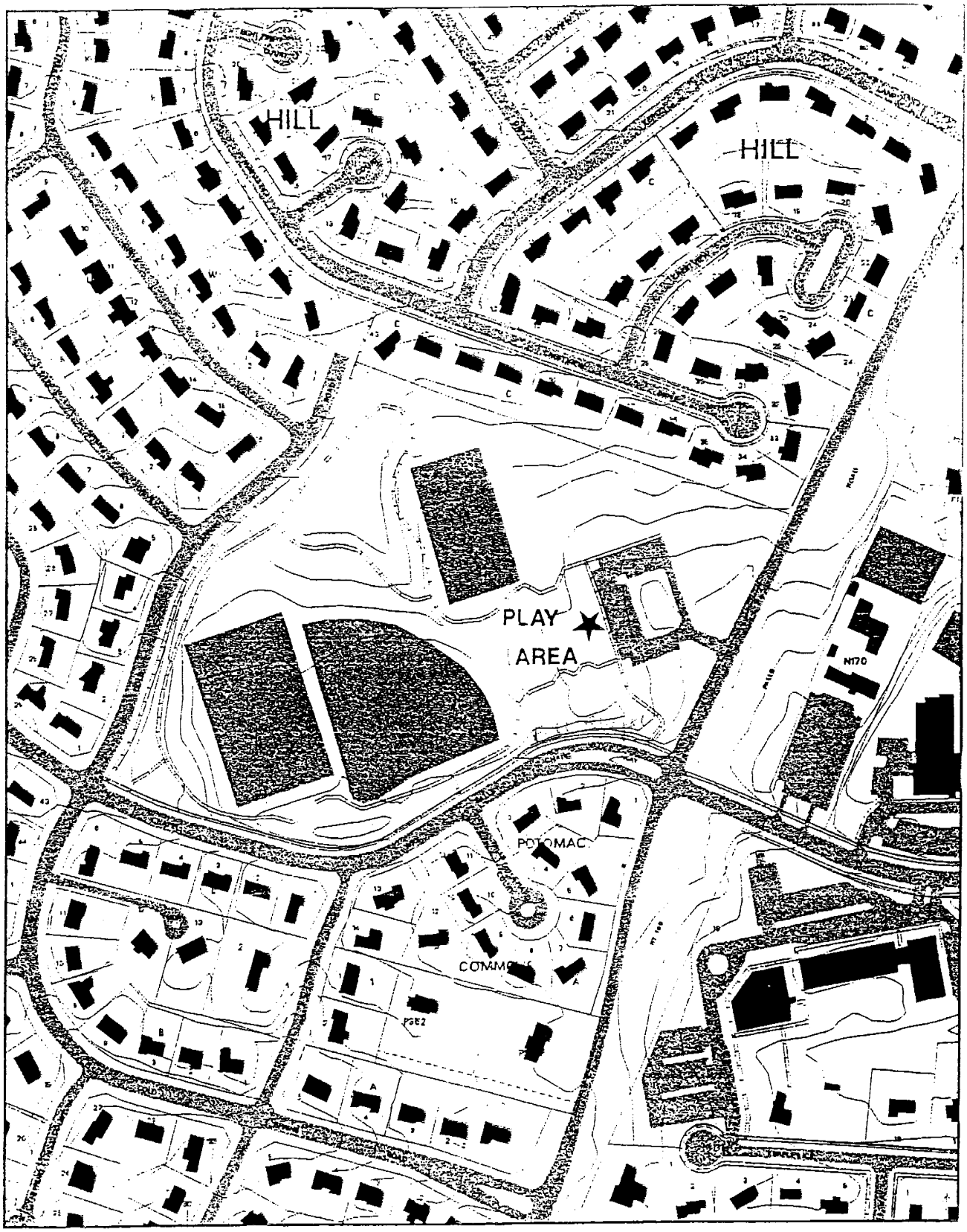
3. The start of construction is planned for March 1998 and will take approximately 3 months for completion.

4. Funds for any additional parking would not become available until July 1998, the beginning of fiscal year 1999.

Attachments

Agenda Item # 2

VICINITY MAP FOR FALLS ROAD LOCAL PARK



Maryland-National Capital Park and Planning Commission

Montgomery County Park and Planning Department

300 600 feet

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Key

Agenda Item # 5

HORIZON HILL CIVIC ASSOCIATION

ROCKVILLE, MARYLAND 20854

Lawrence J. Center
1744 Crestview Drive
Rockville, MD 20854

January 15, 1997

Ellen Masciocchi
Access Planner
Montogmery County Department of Park and Planning
9500 Brunett Avenue
Siver Spring, MD 20901

Dear Ms. Masciocchi:

On behalf of the Horizon Hill Civic Association, I am writing to support the proposal for "Hadley's Park" at the Falls Road Local Park.

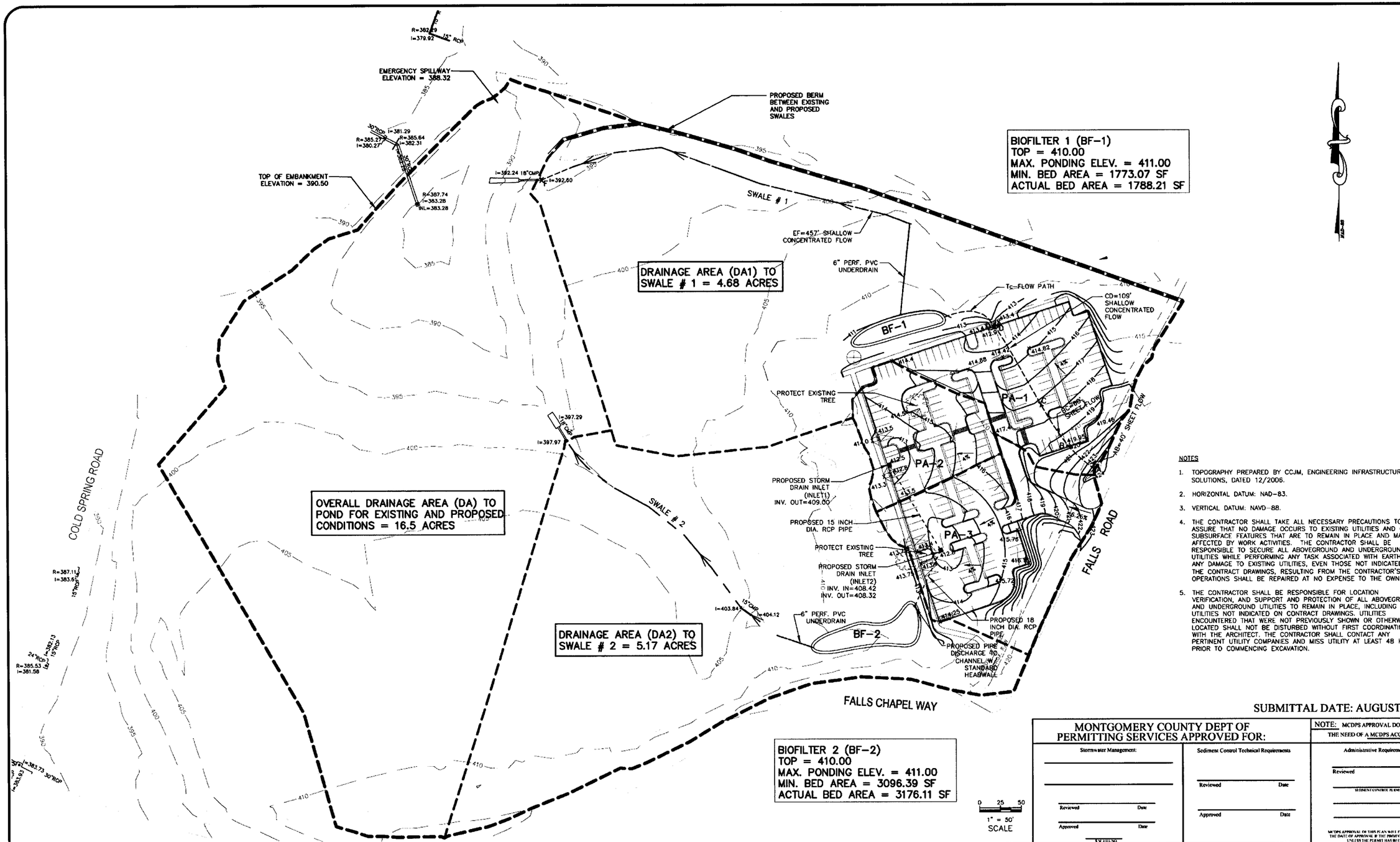
Our Board has studied the proposal for "Hadley's Park" carefully. We believe that the proposed playground will be a benefit to all children using the park, including those who reside in Horizon Hill. Moreover, having an accessible park in our neighborhood will enable our children to learn and play with others who are different.

If we can provide any other additional information in support of "Hadley's Park," please do not hesitate to call upon us.

Sincerely,

Lawrence J. Center,
Co-President, HHC

cc: Shelley Kramm



NOTES

1. TOPOGRAPHY PREPARED BY CCJM, ENGINEERING INFRASTRUCTURE SOLUTIONS, DATED 12/2006.
2. HORIZONTAL DATUM: NAD-83.
3. VERTICAL DATUM: NAVD-88.
4. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ASSURE THAT NO DAMAGE OCCURS TO EXISTING UTILITIES AND OTHER SUBSURFACE FEATURES THAT ARE TO REMAIN IN PLACE AND MAY BE AFFECTED BY WORK ACTIVITIES. THE CONTRACTOR SHALL BE RESPONSIBLE TO SECURE ALL ABOVEGROUND AND UNDERGROUND UTILITIES WHILE PERFORMING ANY TASK ASSOCIATED WITH EARTHWORK. ANY DAMAGE TO EXISTING UTILITIES, EVEN THOSE NOT INDICATED ON THE CONTRACT DRAWINGS, RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT NO EXPENSE TO THE OWNER.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION VERIFICATION, AND SUPPORT AND PROTECTION OF ALL ABOVEGROUND AND UNDERGROUND UTILITIES TO REMAIN IN PLACE, INCLUDING ANY UTILITIES NOT INDICATED ON CONTRACT DRAWINGS. UTILITIES ENCOUNTERED THAT WERE NOT PREVIOUSLY SHOWN OR OTHERWISE LOCATED SHALL NOT BE DISTURBED WITHOUT FIRST COORDINATING WITH THE ARCHITECT. THE CONTRACTOR SHALL CONTACT ANY PERTINENT UTILITY COMPANIES AND MISS UTILITY AT LEAST 48 HOURS PRIOR TO COMMENCING EXCAVATION.

SUBMITTAL DATE: AUGUST 28, 2007

MONTGOMERY COUNTY DEPT OF PERMITTING SERVICES APPROVED FOR:

Stormwater Management: Reviewed Date / Approved Date

Sediment Control Technical Requirements: Reviewed Date / Approved Date

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

Administrative Requirements: Reviewed Date

MCDPS APPROVAL OF THIS PLAN SHALL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED

design	review and approval	review and approval
landscape architect date	park development division date	superintendent of parks date
architect date	central maintenance date	park police date
engineer date	region date	date
drawn by date	natural resources date	date

The Maryland-National Capital Park and Planning Commission
9500 Brunett Avenue
Silver Spring, Maryland 20901
Montgomery County Department of Parks
(301) 495-2535

revisions:

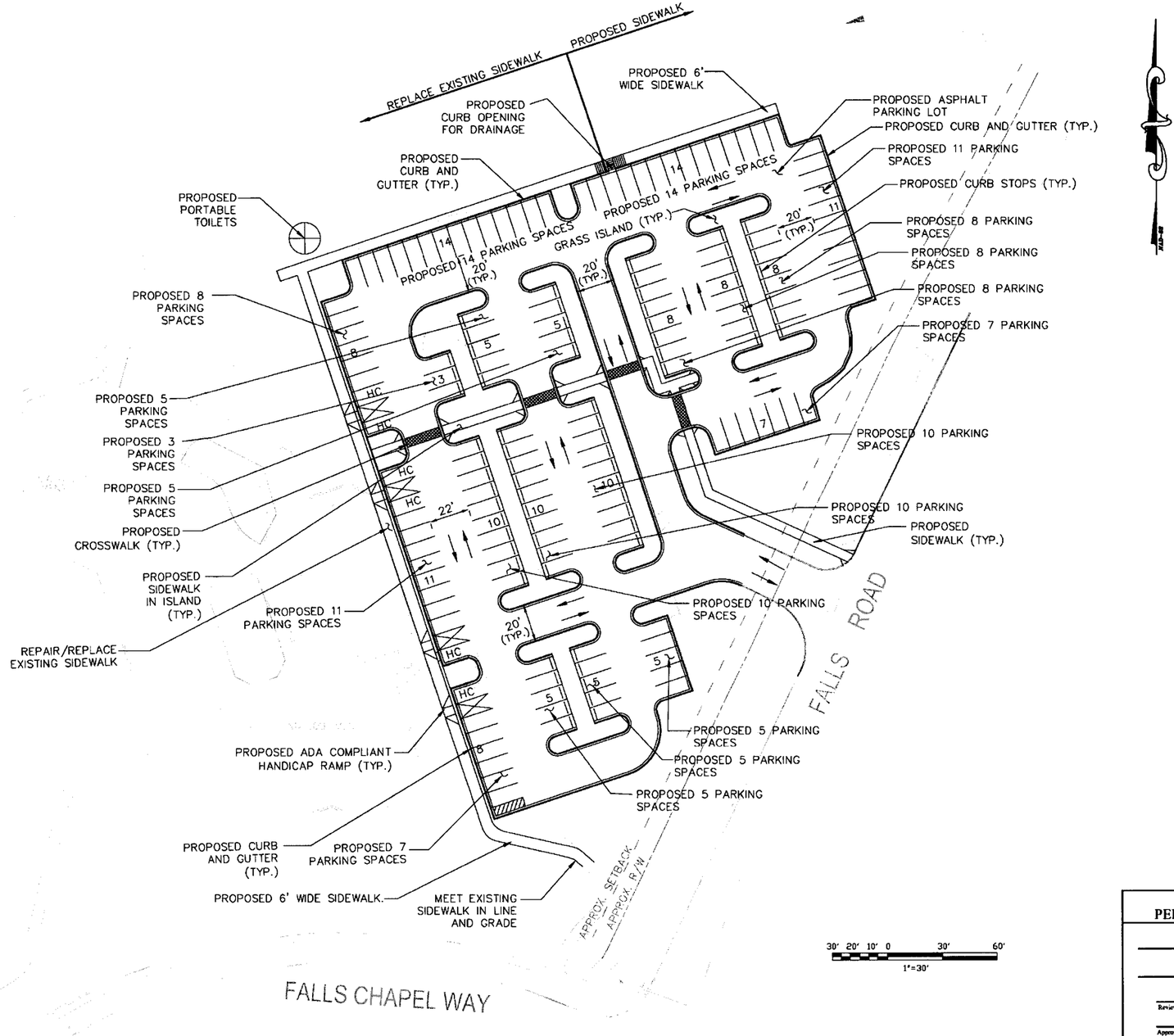
rev. no.	date	description

URS
Suite 101
200 Orchard Ridge Drive
Gaithersburg, MD 20878

project : Falls Road Local Park

STORMWATER MANAGEMENT CONCEPT PLAN

scale : 1"=50' (PFC K02/K05)



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6. TOTAL NUMBER OF PARKING SPACES SHOWN ARE 154 INCLUDING 6 HANDICAPPED PARKING SPACES.
7. PARKING SPACE DIMENSION IS 8.5'X18' AS PER MONTGOMERY COUNTY ZONING ORDINANCE.

LEGEND

- PROPOSED CONCRETE CURB AND GUTTER
- PROPOSED PARKING SPACE WITH CURB STOP (NO CURB AND GUTTER)
- HC — PROPOSED HANDICAP PARKING SPACE W/ AISLE
- PROPOSED STAMPED ASPHALT CROSSWALK

SUBMITTAL DATE: AUGUST 28, 2007

MONTGOMERY COUNTY DEPT OF PERMITTING SERVICES APPROVED FOR:

Stormwater Management: Reviewed Date / Approved Date

Sediment Control Technical Requirements: Reviewed Date / Approved Date

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

Administrative Requirements: Reviewed Date

SEDIMENT CONTROL PERMIT NO

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PLAN HAS BEEN EXTENDED.

design	review and approval	review and approval
landscape architect — date	park development division — date	superintendent of parks — date
architect — date	central maintenance — date	park police — date
engineer — date	region — date	date
drawn by — date	natural resources — date	date

The Maryland-National Capital Park and Planning Commission
9500 Brunett Avenue
Silver Spring, Maryland 20901
Montgomery County Department of Parks
(301) 495-2535

revisions:

rev. no.	date	description

URS
Suite 101
200 Orchard Ridge Drive
Gaithersburg, MD 20878

project : Falls Road Local Park

PROPOSED PARKING LOT LAYOUT PLAN

scale : 1"=30' (PFC K02/K05) ATTACHMENT D

URS

Memorandum

In reply, please refer to: 31942784.00003

Date: **Revised May 7, 2007**

To: Project File

From: Romaine Kesecker, RLA, ASLA
Landscape Architect

Subject: Hadley's Playground – Safety Surfacing

Introduction

Hadley's Playground is a heavily used park that opened in 1999. Consisting of about one-acre, it is an accessible playground located within the Falls Road Local Park, 12600 Falls Road, in Potomac. It is focused on "theme play" and has seven different types of play. It served as the flagship and model for additional Hadley's Playgrounds elsewhere.

Source: Bosco website

Aerial view of Hadley's Playground soon after construction in 1999.

Hadley's Playground was constructed with a porous, cushioned, seamless safety surfacing called VitriCon on the construction plans (by Vitricon, Inc., and now also called VitriTurf Playground System). It was likely poured and troweled at a minimum thickness of 2-inches, and up to 2-1/2 inches, providing for a durable, seamless and non-slip surfacing. The VitriTurf was poured directly onto a 4-inch minimum thickness welded-wire-fabric reinforced concrete base. It was originally detailed, according to the plans, to have a 3/4" leveling course below the VitriTurf, but it is believed that item was deleted prior to construction. The concrete base was detailed to be placed directly onto compacted subgrade. The color surfacing consists of about 1/8" material

that is the main problem for peeling. M-NCPPC staff indicates that the peeling started within months after installation, and that workmanship, use of improper binder and other materials contributed to the failure. The safety surface installation is well beyond its warranty period, which is typically 5 years. Based on the site visit, photos, and anecdotal information, the safety surfacing may be simply wearing from the heavy use in certain areas. Perhaps the problems stem from workmanship during installation. There does not appear to be a settlement problem with the concrete sub base, or a significant UV concern regarding colors of the surfacing.

The cost of the VitriTurf installation in 1999 was not readily available to include in this report.

ViriTurf's website describes their product as follows:

VitraTurf is a Unique poured in place safety system providing a seamless, safe porous and aesthetic surfacing. Because the components are mixed on site the thickness may change for various deck heights and design criterion. Custom designs and logos may be installed to create the ultimate play environment. VitriTurf is offered with many options including color, size of particle, thickness and ultra-violet and waterborne binders.

The Binder, which is mixed with the shredded rubber and EPDM is the key ingredient. VitriTurf manufactures its own binders and utilizes them for the playground surfacing industry. The standard urethane binder for surfacing is called an aromatic binder. This binder will amber when exposed to UV rays. VitriTurf manufactures an aromatic binder but prefers to sell its Aliphatic Binder which is UV resistant. In this case the color you choose is the color you will receive. VitriTurf has been installed on playgrounds since 1978.

Background

Design plans were completed in 1998 for Hadley's playground. Construction was completed in June of 1999.

VitriTurf product is or was supplied by Vitricon, Inc:
901 Motor Parkway
Hauppauge, New York 11788
631.231.1300 F.631.231.1329
vturf@aol.com **vitriturf.com**

The VitriTurf was installed by (or by a subcontractor):
Bosco Associates, Inc.
Contact: Bruce Oranburg
Toll Free: (800) 669-0907
Telephone: (703) 642-9800
Telephone: (703) 851-0300
Fax: (703) 642-9812
Bosco4@aol.com **www.boscoassociates.com**

Results

URS performed site visits in February, and on March 14, 2007 to identify existing conditions and to review site and potential options. Existing construction plans of the installation were not readily available for review.

At this time a core of the material is not needed. There does not appear to be any settlement of the concrete subbase. Ponding or "birdbaths" in the main areas do not appear to be an issue. However, there do appear to be cuts made in the concrete edge at the low end of the playground to facilitate drainage from below the VitriTurf. It appears that a unique subsurface drainage system may have been incorporated, whereas plastic or polyethylene pipe was imbedded into the concrete slab. The system may not be properly functioning, and stormwater basically is sheet flowing off the playground surface.

Picture 1 – Typical worn or damaged VitriTurf

There is a significant amount of worn VitriTurf (see Photo 1). These areas present themselves randomly throughout the 'roadway', and at specific equipment ingress and egress points, that is, at points of heavy usage for the play equipment. Although difficult to assess exactly how much area is damaged, the visual assessment might result in up to 6% of the surface requiring repair, or say about 2,600 square feet.

Photo 2: One of several exposed anchors

This damage varies in thickness from 1/8" to 1/2" in most areas to almost 3/4" to 1" depth in some limited areas. There are no significant tripping points due to this abutting condition of VitriTruf / concrete edge, except for some marked anchors (see Photo 2).

The VitriTurf meets the surrounding concrete edge at proper and acceptable elevations (see Photo 3).

There have been prior repairs made as well throughout the park. Repairs appeared to be made professionally, either by staff or a contractor. The damaged areas were cut neatly, and new VitriTruf troweled into place. There is a slight color variation between the patched and existing surfaces, but the repairs appear to provide adequate safety surfacing. In some instances it seemed the wrong colors may have been used for the repair.

Several of the spring toys have broken, but not repaired, because the accompanying slab of concrete for the spring toy is below the concrete slab for the safety surface.

Photo 3 - Material applied adequately to edges of equipment. Note patching of VitriTurf.

Entry logo in need of minor repair.

PATCHING OR RENOVATING

Patching - in order to patch approximately 2,600 square feet, either park maintenance forces or a contractor would be needed to provide the labor. Patching existing areas of damage with park maintenance staff may or may not be feasible.

Estimated Cost:
VitriTurf supplies a repair kit which covers about 8 square feet at average 1/2" thickness. It comes in a 5-gallon pail with rubber and binder included. The price is $225.00 per kit plus freight. This does not include labor, however. This would be suitable for very small areas of repair, and does not particularly apply in this case for a large area.

At 8 square feet a bucket, it would take about 325 buckets, or $73,125 just in material, plus freight and installation. Therefore, purchasing VitriTurf binder material in 55-gallon drum bulk form would be recommended. Patching these areas may provide an unsightly appearance for some, but would not impede the use of the park in any way.

The surface should be cleaned at this time as well, and information for this work is included in attached information.

Renovating - according to industry sources, and this must be confirmed with a safety surface vendor that is knowledgeable of the process, another option may be a "facelift" renovation. This method would remove approximately 3/8" off the existing safety surface, thus allowing a new skim of VitriTurf or other material to be placed over the area, using a larger size material than originally installed. Historical cost data for this option is not readily available, and it is not clear if renovation as described is a common type of installation. Assuming a general square footage cost of about $3 to $5 per square foot for removal and replacement, this option may cost about $130,000 to $220,000. Costs will depend on vendor experience and ease of removal of the existing surface.

B. REPLACMENT IN KIND

This option requires demolition and removal of the existing VitriTurf safety surface entirely. The existing concrete sub-base and concrete edging would remain in place. This work would disrupt usage of the playground for an extended period of time. Subsurface drainage would need to be considered.

The product would be VitriTurf, or an approved equal. Material Composition:

VitriTurf Primer: A single component moisture cured polyurethane primer.

VitriTurf Binder: A proprietary, elastic Polyurethane Pre-Polymer, MDI based. Extremely low odor, capable of excellent weathering and binding characteristics. Binder shall contain no more than 0.2% TDI Monomers.

VitriTurf Black SBR: Shall be recycled SBR Rubber, cryogenically processed, and shall be chopped to 1-3mm or 3/8" shredded granules and contain less than 4% dust. It shall be packed in suitable bags to protect SBR from moisture.

VitriTurf EDPM Rubber: A man-made rubber containing minimum of 30% EPDM and having a density of 1.5 - 0.05. Available in assorted colors and three sizes 1-3mm, 0.5-1.5mm and 0.40-08mm (dust).

VitriTurf Line Markers: A two component polyurethane utilized to stripe lines or demarcate specific areas.

All material shall meet or exceed guidelines set by Consumer Product Safety Commission and National Bureau of Standards including: Class 1 fire rating; ASTMF 355-78 headform drop test; CPSC NBSIR-79-1707; MIL-STD-45662 notice 3; MIL-I-45208A, amend. 1; 100% memory and 130%.

Estimated Cost for Renovation (as described above):
Removal and disposal of top 3/8": $ 30,000 to $ 50,000
New 3/8" VitriTurf surface layer: $100,000 to $180,000
$130,000 to $230,000

Note: Cost for Renovation is conservative due to anticipated contractor concerns of removal of top layer without damaging base material, application of new layer on an older base material of unknown condition, and higher associated warranty and workmanship costs related to this method.

Estimated Cost for Replacement in Kind (full-depth):
Demolition and disposal – 1 acre of VitriTurf: $ 70,000
New 2" VitriTurf (about 350 cubic yards) $100,000
$170,000

ATTACHMENT F

Masciocchi, Ellen

From: Gerry Tomlin [gktomlin@verizon.net]
Sent: Friday, September 14, 2007 12:01 PM
To: Masciocchi, Ellen
Subject: Falls Road Park

Ellen,

I enjoyed talking to you on the phone about Falls Road Park. I live very close to the park (at 1 Falls Chapel Court) and our grandchildren use the park several times a week. I heartily endorse your parking lot changes and resurfacing the playground. It also would be nice if repairs were made to broken items on the playground. I agree with you that port-a-johns are a necessary item in the park. If contractors us the port-a-johns - so what. It's better than some of the other options. Permanent restrooms would be nicer, but would require consistent and permanent maintenance plus frequent checking by the police. A shelter over the picnic table area would be a great improvement. It would allow mothers and nannies to escape the sun while watching their children and also a place to have a picnic out of the sun. A few shade trees planted within the playground would also be helpful in shading the children. Cabin John Regional Park has lots of shade trees and it is a pleasure to use the playground over there for this and other reasons. Again, it was a pleasure talking to you and the best of luck in completing this project.

Respectfully,
Gerry Tomlin
gktomlin@verizon.net

M-NCPPC
THE MARYLAND-NATIONAL CAPITAL PARK & PLANNING COMMISSION

Facility Plan Report for Falls Road Local Park Potomac, Maryland

prepared by

URS

200 Orchard Ridge Drive
Suite 101
Gaithersburg, Maryland 20878

October 2007

prepared for

The Maryland-National Capital Park & Planning Commission

I. Executive Summary

This section provides an overview of the Falls Road Local Park Facility Plan, summarizing key issues to be addressed in the Facility Plan, design alternatives considered, and the resulting Selected Alternative.

What is a Facility Plan?

The purpose of the Facility Plan is to develop a comprehensive design for an expanded park property and revitalize the existing facilities. The Facility Plan includes the following steps:

- Inventory and evaluate existing conditions
- Confirm and develop a program of requirements, or purpose and need for the facility plan
- Identify and evaluate alternatives and discuss with the Park's neighbors
- Select and refine a preferred alternative
- Prepare the Facility Plan and review it with the public and Planning Board

Facility Plan Purpose

The Facility Plan resulted from community input during development of Hadley's Playground in 1998. At that time, the community was concerned that the development of a larger playground would further complicate an existing parking problem. A recommendation was made to include the expansion of the parking lot in the Capital Improvements Program (CIP). The park has three ballfields and does not have a commensurate number of parking spaces for each field. The design guideline is 50 parking spaces per ballfield. Park Police have reported that there are problems when the fields are in use and a game runs overtime. The parking lot cannot accommodate the transition from one game to another. In addition, staff has observed a problem when school groups, in addition to the normal park users, come to visit the park on weekdays. Many residents have complained that users attending games on the ballfields park along Falls Chapel Way. This poses a problem when car doors are opened into incoming traffic. If the community agrees to have the County post no parking signs along Falls Chapel Way, the parking lot will need to accommodate the cars that will be displaced.

Definition of a Local Park

Local parks provide both programmed and informal recreation opportunities within reach of all area residents. Typically about ten to fifteen acres in size, these parks contain athletic fields, tennis and basketball courts, picnic and playground areas, and sometimes recreational buildings and other facilities. . [Source: *Land Preservation, Parks, and Recreation Plan*]

Program of Requirements

The scope of the facility plan includes addressing the following key issues:

- increase the parking lot size by a minimum of 80 spaces
- investigate the benefits of removing the existing berm in the middle of the parking lot

- provide efficient stormwater management for the expanded parking lot
- provide safe handicap access to the park and safe movement throughout the parking lot
- protect existing trees, as located by MNCPPC
- improve landscaping in, and around, the expanded parking lot
- resurface of the existing playground

Parking Lot Expansion - Alternatives Considered

Four alternatives were developed to facilitate discussion with MNCPPC. All alternatives increased the parking lot by at least 80 spaces, and two of the alternatives removed the existing berm at the center of the existing parking lot. An alternative for the parking lot expansion was then developed by MNCPPC that is a combination of some of the features from all alternatives.

Proposed Parking Lot Expansion Layout Plan – Selected Alternative

After receipt of the selected alternative for the parking lot expansion from MNCPPC, conceptual design plans were generated to include the expanded parking lot and pertinent site design elements. The Selected Alternative increases the number of parking spaces at the facility from 71 to 154, including six handicap spaces, and removes the existing berm to provide an unobstructed view into the park from Falls Road. A handicap accessible sidewalk has been provided through the parking lot for safer pedestrian movement, with stamped asphalt used at the crosswalks in the parking lot to more clearly delineate the crosswalks. The existing sidewalks at the perimeter of the parking lot have been upgraded and extended to accommodate the parking lot expansion and the handicap ramps have been upgraded to current standards. Internal green space within the parking lot exceeds the minimum 5%, as required by the Montgomery County Zoning Ordinance. Trees have been proposed within the parking lot green space, as well as at the perimeter of the expanded parking lot to provide a softer, more natural character. Design elements of the Selected Alternative are described in greater detail in Section V of this report.

II. Agency Coordination

Throughout the Park Facility Planning Process, the Maryland-National Capital Park and Planning Commission (M-NCPPC) Park Development staff has conducted meetings with the park design consultants and representatives of various agency departments including the Natural Resources Division and Parks Maintenance staff. This series of inclusive meetings ensured that the design effort was well-coordinated to successfully meet the needs of the community. Meetings held to date include:

- Kick-Off meeting, November 15, 2006
- Progress meeting, February 28, 2007
- Site meeting, March 1, 2007
- Progress Meeting, May 17, 2007
- Site meeting, May 21, 2007
- Final PDCO meeting, August 21, 2007

III. Existing Conditions

This section inventories the conditions currently found in Falls Road Local Park. The topography and site conditions, natural resources, and infrastructure found in the park are summarized below.

Topography

The park is 20 acres in area and located at the intersection of Fall Chapel Way & Falls Road in Potomac, Maryland. The site gains access from Falls Road to the East, Cold Spring Road to the West and Falls Chapel Way to the South. The park provides a facility for the surrounding single-family homes. It includes Football/Soccer, practice soccer, and baseball fields, a large playground, a parking lot, and a loop path. The areas for the basketball, handball, and tennis courts were graded; however, they were never constructed.

A topographic survey of the site was conducted; this information was incorporated into the Existing Conditions Plan. (See Attachment A – Existing Conditions Plan) The existing topography is shown using a one-foot contour interval. In general, the site slopes towards the existing stormwater management (SWM) retention basin located in the western portion of the site. Though most existing slopes in the park range from 1% to 5%, slopes of 25% or greater can be found in limited areas at the western and southern perimeters, and in areas free of pedestrian travel. Stormwater management for the existing condition is provided by the retention basin discussed above, with two swales conveying drainage into the basin – one swale at the northern boundary and one swale at the southern boundary.

Natural Resource Inventory/Forest Stand Delineation

On March 1, 2007 a site visit was conducted at Falls Road Local Park located at 12600 Falls Road, Potomac, Maryland. The majority of the park has been graded to accommodate ball fields, a playground, drainage swales and a parking lot. A large Retention basin is located at the western end of the property. Falls Road Local Park is not located within the 100-year floodplain and does not contain any wetlands, streams, or stream buffers.

Ten areas of urban, planted ornamental trees were observed throughout the parking lot and playground area. The ornamental trees are located in open, maintained grass areas as single plantings and in small groups, of up to five. The ornamental trees consist of Pinus strobus (eastern white pine), Pinus resinosa (red pine), Juniperus virginiana (eastern red cedar), Malus sp. (apple species), Acer rubrum (red maple), Cornus florida (flowering dogwood), Koelreuteria paniculata (goldenrain tree), Gleditsia triacanthos (honey locust), Catalpa speciosa (northern catalpa), Fraxinus Americana (White Ash)and Ginkgo biloba (ginkgo), and Prunus sp. (ornamental cherry). The diameter at breast height (DBH) of these species ranged from 6- to 14-inches DBH.

An approximately 0.80-acre, narrow tree line along an abandoned farm driveway was identified along the northern property boundary. This corridor of trees, between 25- and 50-feet wide, contains two distinct vertical canopy layers with about 50% canopy closure. The overstory consists of the following dominant and codominant species: eastern red cedar, eastern white pine, red maple, Ulmaceae americana (american elm), Prunus serotina (black cherry), Robinia pseudoacacia (Black Locust), Rhus glabra (Smooth Sumac), and Populus deltoids (Eastern Cottonwood). DBH of the dominant species ranged from 2- to 14-inches. The herbaceous understory predominantly consists of Lonicera japonica

(Japanese Honey Suckle). Downed woody material greater than or equal to 6 inches is common in this area. There are no specimen or champion trees located within the tree line. The overall condition of the stand is poor of this stand is due to the predominance of forest edge and non-native invasive species. The stand functions as a visual buffer and wildlife corridor.

An adjacent forested property is located to the east of the Park and Falls Road. This property contains about 1.5 acres of forested area. The forest contains three vegetation layers (dominant and co-dominant trees, understory trees and shrubs, and an herbaceous layer). The stand exhibits about 95% canopy closure. Dominant and codominant species include red maple, Liriodendron tulipifera (yellow poplar), black cherry, eastern red cedar, Diospyros virginiana (persimmon), american elm, and black locust. The DBH of these species ranged from 6" to 12" DBH. The woody understory primarily consists of Lindera benzoin(spice bush) and Cornus florida (flowering dogwood). Given the site visit occurred during the dormant season, no herbaceous layer was identifiable; however, it is anticipated that an herbaceous layer is present in this forest stand. Downed woody material greater than or equal to 6 inches is uncommon in this area. There are no specimen or champion trees located in this area. The over all condition of this young stand is good due to the lack of non-native invasive species and other disturbance. The forest stand functions as viable forest habitat. The current forest composition suggests that past land use and management was agriculture cultivation.

An NRI/FSD was submitted to MNCPPC to obtain approval for a Forest Conservation Plan Exemption in accordance with Section 22A-5(t) of the Montgomery County Forest Conservation Law, which collectively states that the applicant "must notify the Planning Director in writing..." and "seek confirmation from the Director that the cutting, clearing, or grading is in fact exempt from Article II." An exemption may be granted for "a modification to existing developed property if no more than 5,000 square feet of forest will be cleared." The previous NRI/FSD Exemption granted on May 10, 2007 (see Attachment B – Exemption Letter, Attachments C – Existing Conditions Plan and Simplified NRI/FSD Plan, signed as Approved Tree Save Plans), was for the limits of disturbance defined within that exemption request. The limits of disturbance were subsequently modified and a revised NRI/FSD Exemption Request was submitted on August 20, 2007. An exemption was grated on September 17, 2007. Subsequent to the August 20th submittal, the limits of disturbance had to be modified again to accommodate review comments generated by the Stormwater Management Concept review. As a result, a final revised NRI/FSD Exemption request showing the updated limits of disturbance was submitted to Environmental Planning.

Land Use - Existing and planned land use

Falls Road Park encompasses 20 acres and was acquired by M-NCPPC in 1986. A highlight of the park is the award-winning Hadley's Playground, a unique and fully accessible playground that allows children of all ages and abilities to play together. The land use for the site will not change.

Infrastructure

The existing vehicular, pedestrian, bicycle, and utility infrastructure serving the park is reviewed below.

Automobile and Pedestrian Circulation - Neighborhood Streets

Vehicular access to the park is from Falls Road only. Adjacent local roads and streets include Falls Chapel Way and Coldspring Road. Vehicular access to the park from these adjacent streets is not provided.

Automobile and Pedestrian Circulation - Existing Sidewalks and Footpaths

There is an existing asphalt sidewalk located along the perimeter of the park to the south, this sidewalk continues through the park to the existing playground. This sidewalk provides continuous access to the park as well as the surrounding neighborhood. There is also an existing sidewalk at the perimeter of the parking lot, which provides handicap access into the park from the parking lot.

Utilities

A number of existing utilities are found at the perimeter of the park or in the adjacent streets, including sanitary sewer, potable water, overhead utility lines (with poles), and storm sewer. None of these utilities enter or cross into the park, and none of these utilities will be affected by the parking lot expansion.

IV. Alternatives Considered

Four different conceptual design alternatives for the parking lot expansion were initially developed and presented to representatives of MNCPPC. Each alternative added a minimum of 80 parking spaces to the existing configuration, as recommended by MNCPPC. Two of the alternatives removed the existing berm located in the middle of the existing parking lot. All of the alternatives included internal parking lot green space and adequate driveway and aisle clearance, in accordance with the Montgomery County Zoning Ordinance.

V. Selected Alternative

Design Recommendations

A Selected Alternative was subsequently created based on input from MNCPPC. The Selected Alternative includes a combination of features from all conceptual design alternatives, and some new features from ideas gained in further discussions with MNCPPC. This section reviews the design recommendations of the Selected Alternative.

Overall Park Concept

The Selected Alternative maintains the same character of the current layout, while addressing the need for additional parking. The existing playing fields are kept intact, and are not affected by the expansion. Pedestrian flow through the expanded parking lot is improved through the use of an internal handicap accessible sidewalk, with stamped asphalt crosswalks within the parking lot. The existing sidewalk at the perimeter of the existing parking lot is upgraded and extended to fit the expanded parking lot, and includes ADA compliant handicap ramps for safe access into the park. The expanded parking lot includes internal greenspace with planted trees, surpassing the minimum requirement of 5% internal green space. For improved security and surveillance, the existing berm is removed to provide greater visibility from Falls Road into the park.

Circulation and Parking

The selected plan provides a total of 154 parking spaces, an increase of 83 spaces when compared to the 71 space currently provided. The new configuration includes six handicap spaces. All of the spaces are located within the park and comply with the latest requirements of the Montgomery County Zoning Ordinance.

Vehicular access to the park will be maintained from Falls Road only. The expanded parking lot will allow two-way travel within the parking lot via drive aisles that are typically 20 feet wide. Adjacent to the parking row abutting the park, the drive aisle width has been increased to 22 feet and will also allow two-way travel. (See Attachment D – Proposed Parking Lot Layout)

Parking analysis

Several things have changed since the Falls Road Local Park was constructed that justify additional parking. They include a new playground, increased field parking standards and eliminating of a substantial amount of street parking.

- A new accessible playground was constructed at the site in 1998. This playground is unique in the County and is used by many disabled children and visited by groups from schools for the disabled.
- Attendance at the playground is large resulting in Falls Road Local Parking having by the highest recorded use of any park according to a M-NCPPC 2000 user count survey. The survey recorded an average use of nearly 200 users per visit (as compared to the 62 average persons per visit at other surveyed parks. Forty five (45) % of the visitors counted at Falls Road were using the playground area. Persons with disabled children should not be required by M-NCPPC to walk a significant distance to use the playground. Many complaints were received by M-NCPPC about inadequate parking since the installation of the playground, particularly on weekends when the ballfields were in use.
- M-NCPPC standards for parking adequacy at parks with ballfields have risen following problems with overflowing parking areas at peak times. At Soccerplex for example, the standard was 75 spaces per field while in previous years, the standard was 50 spaces per field.
- The Potomac area has significant ballfield needs and field users cannot be relocated as all area fields are fully permitted. The 2005 Land Preservation, Parks and Recreation Plan (LPPRP) indicated that the Potomac Community Based Team Area had a year 2020 field need of 14 additional fields and almost no additional sites to provide them. Soccer needs are increasing. As a result, field needs will not decrease in the future. The 1998 PROS (Park, Recreation and Open Space) Plan indicated that high need areas would need to develop maximum field availability by increasing parking at restricted sites.
- On-street parking was intended to satisfy some of the needs for spaces at Falls Road and there are currently approximately 56 on street spaces adjacent to the park. M-NCPPC reports that residents have noted significant safety problems with park users and parking too close to intersections and have requested safety improvements. Staff has discussed the street parking with the Traffic Engineering Division of the Department of Public Works and Transportation (DPWT), which is looking into the possibility of prohibiting parking near the intersections on Falls Chapel Way as well as the section between Falls Chapel Court and Falls Road, which has a blind curve. This could eliminate as many as 20 spaces.

Conceptual Landscaping

Two existing trees within the parking lot expansion area will be protected under the Selected Alternative. Approximately 43 new shade trees will be planted, most of which will be planted within the parking lot internal greenspace. Approximately 16 ornamental trees and 49 evergreen trees will be planted at the perimeter of the expanded parking lot. The trees effectively enclose the expanded parking lot, buffering views out to Falls Road from within the park while maintaining necessary sight lines into the park for safety. (See Attachment E – Conceptual Landscaping Plan)

Conceptual Stormwater Management Plan

A Stormwater Management Concept Plan has been submitted to the Maryland Department of Permitting Services for review, including plan views and calculations.

Existing stormwater management in the park is provided by the existing retention basin; two existing swales conveying drainage to the basin – one swale at the northern boundary and one swale at the southern boundary. The existing basin was initially designed in 1981 and provides quantity management of stormwater. Stormwater quality management design was not required at that time.

The parking lot will be expanded resulting in an additional 0.61 acres with impervious asphalt pavement, increasing the total impervious area to 3.11 acres. The overall drainage area to the pond is 16.5 acres (DA), with 4.68 acres conveying via swale #1 (DA1) and 5.17 acres conveying via swale #2 (DA2) in the proposed condition. This information is further delineated on the design plans. Although the resurfacing of the playground is in the scope of this project, it is not anticipated to increase the impervious area and adversely affect stormwater management of the site.

SCS TR-55 method was utilized to calculate peak flows, Runoff Curve Number (RCN) and Time of Concentration, (T_c). Two (2) year, ten (10) year and hundred (100) year storm events were analyzed utilizing the SCS method 24 hour storm rainfall data and a minimum value of Time of Concentration, T_c = 0.1 hour (6 minutes) as allowed in SCS TR-55 method.

Calculations were performed to determine the required water quality volume (WQv) and ground water recharge volume (ReV). The current MDE 2000 Maryland Stormwater Design Manual, Volumes I & II was used to determine the unified stormwater sizing criteria and performance criteria. (See Attachment F – Stormwater Management Concept Plan)

Quantitative Stormwater Management

An analysis of the post- versus pre-development conditions was performed using SCS TR-55 methods for the 2-, 10- and 100-year storm events. The overall increase in impervious area due to the proposed extension is 0.61 acres total. The runoff curve number for the proposed conditions was determined to be 70. Based on this data, the peak discharge for the post-development condition for the 2-year storm event is 19.44 cfs; for the 10-year storm the peak discharge is 53.46 cfs. The peak discharge for the 100-year storm event is 95.88 cfs. Run-off will be conveyed to swale #1 through a curb-cut along the sidewalk at the northern perimeter of the expanded parking lot. Run-off will be conveyed to swale #2 through the use of two inlets placed within the expanded parking lot, connected by underground storm drain pipes. As a result of the increased discharge, the existing swales will be modified to adequately convey the additional run-off. The existing retention basin will remain as it currently exists, and will not be modified.

Quality Stormwater Management

As mentioned in the previous sections of this narrative, stormwater runoff from sub-drainage areas DA1 and DA2 discharges to the existing retention basin via swales #1 and #2. A third area at the southwest boundary of the park drains directly to the pond. The water quality volume (WQv) and groundwater recharge volume (ReV) requirements will be accommodated with the use of swales, modified to convey the additional run-off from the increased impervious areas of the proposed parking lot expansion. Check dams will be constructed within the swales to complete the proposed improvements associated with quality SWM. The water quality volume (WQv) will be accommodated with the use of two (2)

biofilters, designed for the run-off from the impervious areas of the proposed parking lot expansion, as per Montgomery County detail. Stormwater quality management will be achieved through the use of these biofilters – one (1) placed to the north of the expanded parking lot (BF-1), and one (1) placed to the south of the expanded parking lot (BF-2). Biofilter BF-1 will accommodate run-off from parking lot area PA-1, and biofilter BF-2 will accommodate run-off from parking lot areas PA-2 and PA-3.

Preliminary Forest Conservation Plan

An NRI/FSD was submitted to MNCPPC to obtain approval for a Forest Conservation Plan Exemption in accordance with Section 22A-5(t) of the Montgomery County Forest Conservation Law, which collectively states that the applicant "must notify the Planning Director in writing..." and "seek confirmation from the Director that the cutting, clearing, or grading is in fact exempt from Article II." An exemption may be granted for "a modification to existing developed property if no more than 5,000 square feet of forest will be cleared." The previous NRI/FSD Exemption, granted on 5/10/07, was for the limits of disturbance defined with that exemption request. The limits of disturbance were subsequently modified and a revised NRI/FSD Exemption Request was submitted on August 20, 2007, for which an Exemption was granted on September 17, 2007. Since our August 20, 2007 submittal, the limits of disturbance have been modified again to accommodate review comments generated regarding the Stormwater Management Concept. As a result, a revised NRI/FSD Exemption request showing the updated limits of disturbance has been submitted for review.

Tree Removal

All trees within the limit of disturbance, with the exception of two previously mentioned, will be removed to accommodate the parking lot expansion, as illustrated in the Tree Save Plan approved by MNCPPC, dated 5/10/07 and as stated in the exemption granted by MNCPPC on the same date.

Preliminary Grading Concept

The expanded parking lot will be re-graded to adhere to the existing grading concept; in addition, a portion of the run-off will be captured and conveyed via a closed pipe system prior to entering the park. Proposed grades within the parking lot typically range from 2% to 5%, with a maximum of 6.25% at the entrance to the park from Falls Road. Parking areas and paved walkways will be graded to maintain positive drainage to swale #2 via surface inlets and swale #1 via a curb cut along the sidewalk at the northern perimeter.

As a result of the increased discharge from the parking lot expansion, the existing swales will be modified and re-graded to adequately convey the additional run-off. The existing retention basin will remain as it currently exists, and will not be modified.

Proposed walkways and boardwalk will be fully accessible. Walkways shall not exceed a 20:1 slope and cross slopes shall not exceed 50:1. (See Attachment G – Grading Plan)

Impacts of Selected Alternative on Adjacent Communities

Implementation of the Selected Alternative will have many positive impacts on adjacent communities:

- Improved pedestrian and vehicular circulation throughout the parking lot
- Improved sight distances through park for safety
- Increased parking capacity

- Reduction of run-off that enters the park from the parking lot
- Addition of buffer trees along Falls Road

Utility Requirements

The Selected Alternative will require two inlets to be placed within the expanded parking lot. These inlets will be connected by underground storm drain pipes, conveying drainage to swale #2. No other utilities will be affected.

Playground Resurfacing

The playground will be resurfaced based on recommendations made in a Memorandum dated 5/7/2007, in coordination with MNCPPC. (See Attachment H – Memorandum on Hadley's Playground – Safety Surfacing) At one of the site visits to the park, the design team spoke with teachers from one of the special education programs visiting the park. The teachers pointed out the need for shade structures within the playground since many children with disabilities are sensitive to the sun. URS responded by including a cost estimate in for a shade structure in the playground. The exact location would need to be determined during the design phase of the project.

VI. Implementation

Conceptual Cost Estimate

A Conceptual Facility Planning Cost Estimate has been prepared for implementation of the Falls Road Local Park Facility Plan. (See Attachment I – 2 pages).

Permitting Requirements

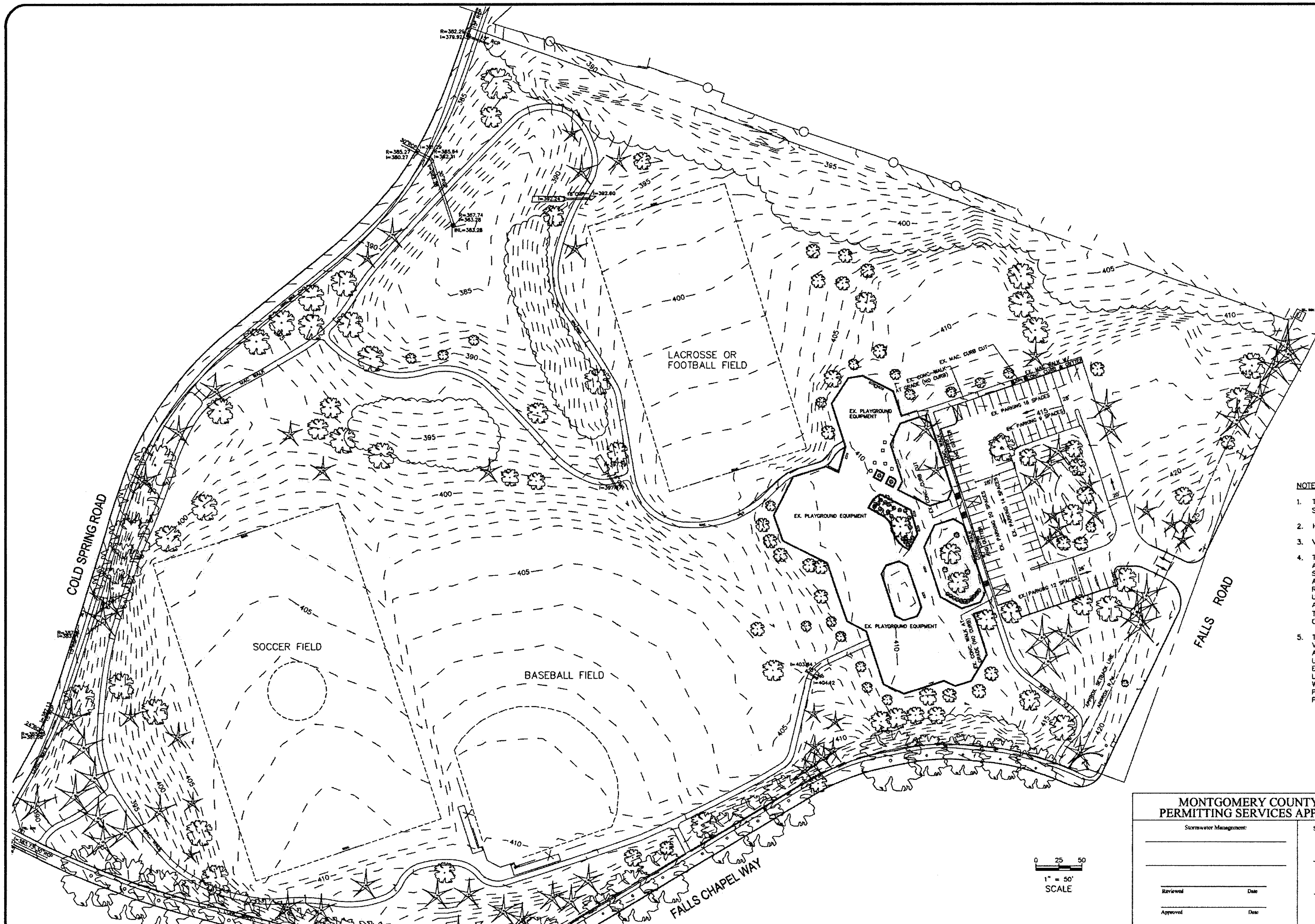
Three approvals/permits are being pursued as part Facility Plan:

- Natural Resources Inventory/Forest Stand Delineation (NRI/FSD) Exemption and Approved Tree Save Plan - Approved 5/10/2007
- Forest Conservation Plan (FCP) Exemption – Initially approved 5/10/07, resubmitted 9/19/07
- Storm Water Management Concept Plan – resubmitted for review on 9/19/2007

It is anticipated that a grading permit will be issued through the Montgomery County Department of Permitting Services prior to construction. This permit will be based on detailed design drawings that will be prepared during the next phase of the project.

Attachments

Attachment A: Existing Conditions Plan
Attachment B: NRI/FSD Exemption Letter
Attachment C: Approved Tree Save Plan (2 Sheets)
Attachment D: Selected Alternative – Proposed Parking Lot Layout Plan
Attachment E: Conceptual Landscaping Plan
Attachment F: Stormwater Management Concept Plan
Attachment G: Grading Plan
Attachment H: Playground Surfacing Memorandum
Attachment I: Conceptual Facility Planning Cost Estimate



NOTES

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3. VERTICAL DATUM: NAVD-88.
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SUBMITTAL DATE: AUGUST 28, 2007

MONTGOMERY COUNTY DEPT OF PERMITTING SERVICES APPROVED FOR:

Stormwater Management:	Sediment Control Technical Requirements	Administrative Requirements:
Reviewed Date	Reviewed Date	Reviewed Date
Approved Date	Approved Date	SEDIMENT CONTROL PERMIT NO.
S.M. FILE NO.		

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landscape architect	date	park development division	date	superintendent of parks	date
architect	date	central maintenance	date	park police	date
engineer	date	region	date		date
drawn by	date	natural resources	date		date

The Maryland-National Capital Park and Planning Commission
9500 Brunett Avenue
Silver Spring, Maryland 20901
Montgomery County Department of Parks
(301) 495-2535

revisions:

rev. no.	date	description

URS
Suite 101
200 Orchard Ridge Drive
Gaithersburg, MD 20878

project : Falls Road Local Park

EXISTING CONDITIONS PLAN

scale : 1"=50' (PFC K02/K05) ATTACHMENT A

ATTACHMENT B

MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION
FOREST CONSERVATION RECOMMENDATIONS

TO: Inspector Staff , Development Review Division

SUBJECT: Project Name Falls Road Local Park Date Recd 4/11/07 NRI/FSD # 4-07242E

The above-referenced plan has been reviewed by the Environmental Planning Division to determine the requirements of Chapter 22A of the Montgomery County Code (Forest Conservation Law). A determination has been made that the plan qualifies for the following exemption:

EXEMPTION:

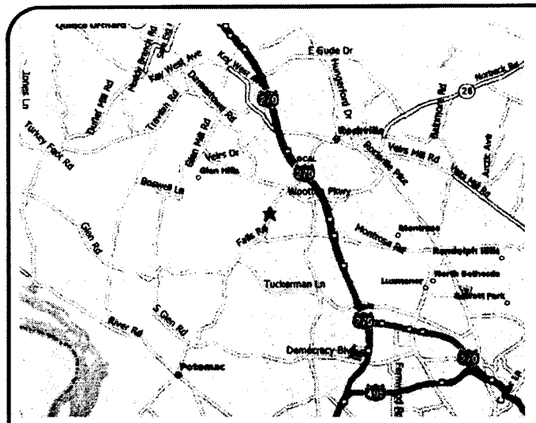
Modification of Existing Developed Property – no more than a total of 5,000 square feet of forest will be cleared; no forest clearing within a stream buffer or on property subject to SPA WQP requirements; and does not require new subdivision plan.

This exemption is granted with the following conditions:

1. This exemption is only Valid for the LOD shown on the approved plan date 5/10/07
2. This project is subject to a Tree Save Plan.
3. All trees outside the LOD as shown on the approved plan shall be retained.

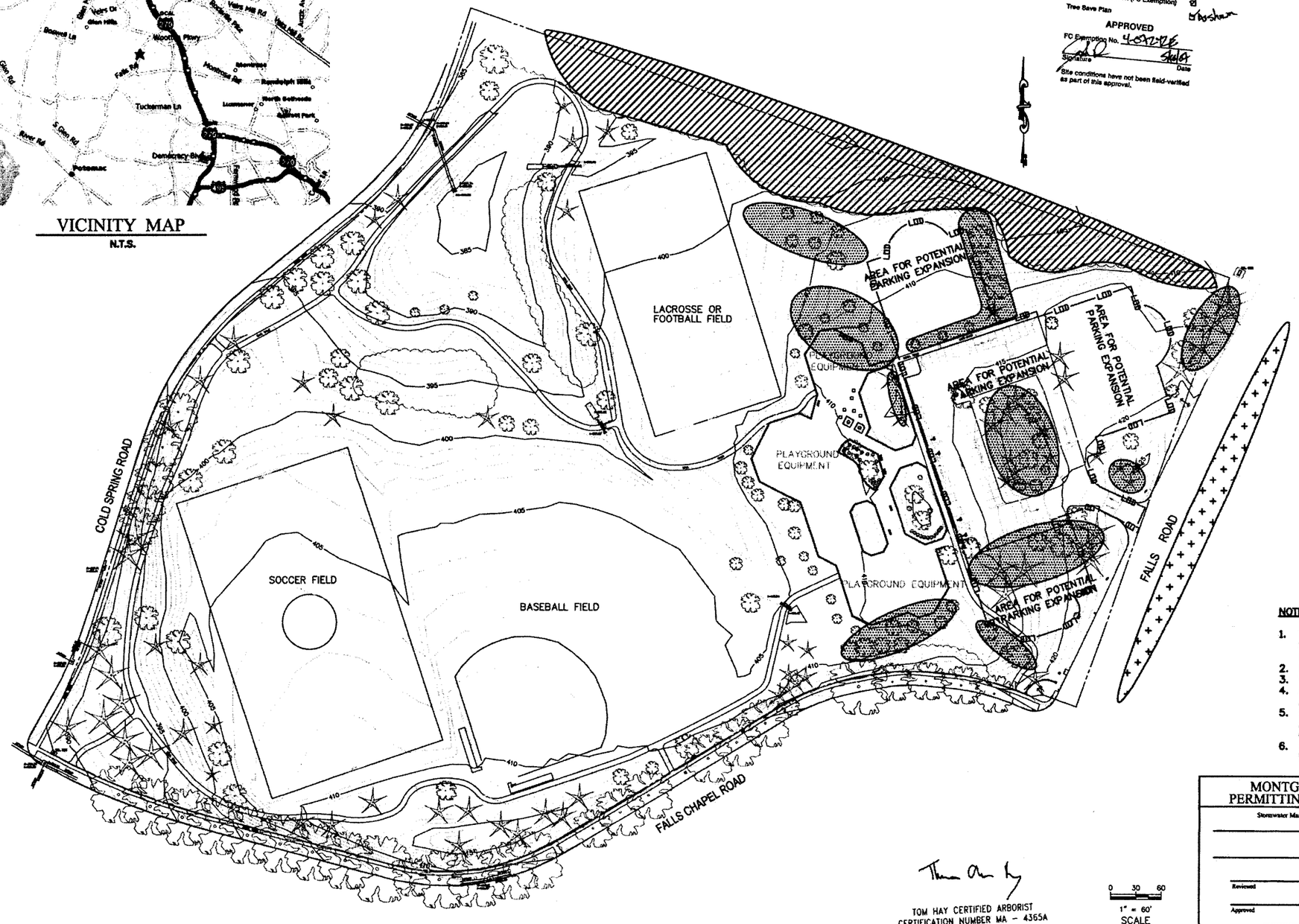
Signature: _____ Date: 5/10/07
Josh Penn, Environmental Planning

cc: Adil Rivzi 301-869-8728



VICINITY MAP
N.T.S.

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION
Forest Conservation (FC Exemption)
Tree Save Plan
APPROVED
FC Exemption No. 4-07212E
Signature
Date
Site conditions have not been field-verified as part of this approval.



EXISTING FOREST CHARACTERIZATION			
PLANTING AREA	DOMINANT SPECIES (COMMON NAME)	SCIENTIFIC NAME	DBH (INCHES)
A (URBAN PLANTINGS)	EASTERN WHITE PINE	PINUS STROBUS	14
	RED PINE	PINUS RESINOSA	8-14
	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	10-12
	APPLE SPECIES	MALUS SP.	6
	RED MAPLE	ACER RUBRUM	12-14
	FLOWERING DOGWOOD	CORNUS FLORIDA	4-6
	GOLDENRAIN TREE	KOELREUTERIA PANICULATA	8-12
	HONEY LOCUST	GLEDITSIA TRIACANTHOS	8-10
	NORTHERN CATALPA	CATALPA SPECIOSA	10
	WHITE ASH	FRAXINUS AMERICANA	6-10
	GINKGO	GINKGO BILOBA	8
B (NARROW TREE LINE)	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	8-10
	EASTERN WHITE PINE	PINUS STROBUS	12-14
	RED MAPLE	ACER RUBRUM	10-12
	AMERICAN ELM	ULMACEAE AMERICANA	4-8
	BLACK CHERRY	PRUNUS SEROTINA	8-12
	BLACK LOCUST	ROBINIA PSEUDOACACIA	12-16
	SMOOTH SUMAC	RHUS GLABRA	2-6
	EASTERN COTTONWOOD	POPULUS DELTOIDS	12
C (ADJACENT FORESTED PROPERTY)	YELLOW POPLAR	LIRIODENDRON TULIPIFERA	4-6
	BLACK CHERRY	PRUNUS SEROTINA	4-8
	RED MAPLE	ACER RUBRUM	4-8
	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	6-8
	PERSIMMON	DIOSPYROS VIRGINIANA	6-8
	BLACK LOCUST	ROBINIA PSEUDOACACIA	8-10
	AMERICAN ELM	ULMACEAE AMERICANA	2-4
	FLOWERING DOGWOOD	CORNUS FLORIDA	4-6

NOTES

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3. VERTICAL DATUM: NAVD-88.
4. ACCORDING TO THE NATIONAL WETLANDS INVENTORY MAP NO WETLANDS ARE LOCATED ON OR ADJACENT TO THE PROPOSED PROJECT SITE.
5. FEMA FIRM PANEL NUMBER 2400510003B EFFECTIVE JANUARY 5, 1979 AND 2400490125C EFFECTIVE JUNE 16, 1992 PROJECT IS LOCATED OUTSIDE OF THE FLOOD PLAIN.
6. PLANTING AREA C IS LOCATED OUTSIDE OF THE SURVEY LIMITS AND WILL NEED TO BE FIELD VERIFIED, IF NECESSARY.

TOM HAY CERTIFIED ARBORIST
CERTIFICATION NUMBER MA - 4365A

0 30 60
1" = 60'
SCALE

MONTGOMERY COUNTY DEPT OF PERMITTING SERVICES APPROVED FOR:

Stormwater Management:
Reviewed Date
Approved Date

Sediment Control Technical Requirements
Reviewed Date
Approved Date

Administrative Requirements:
Reviewed Date
SEDIMENT CONTROL PERMIT NO.

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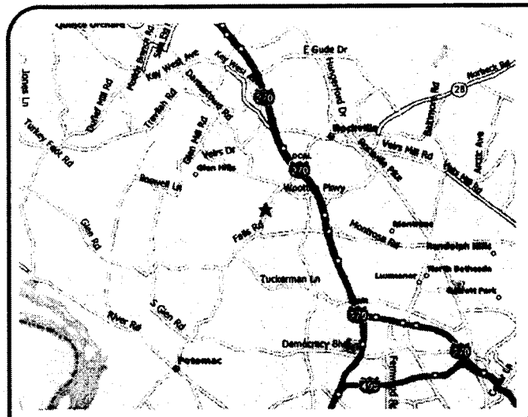
URS
Suite 101
200 Orchard Ridge Drive
Gaithersburg, MD 20878

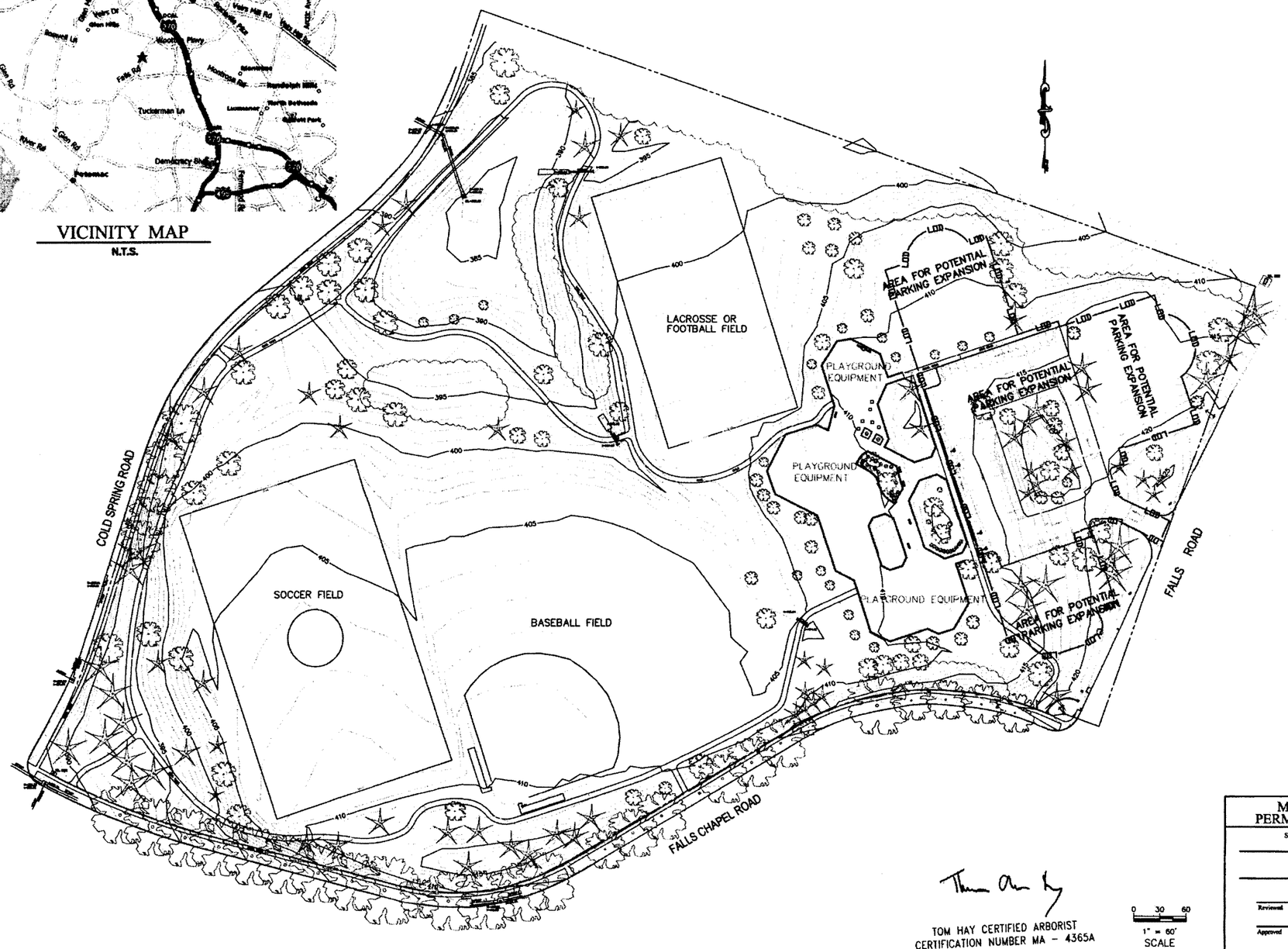
project : Falls Road Local Park

SIMPLIFIED NRI/FSD PLAN

scale : 1"=60' (PFC K02/K05) ATTACHMENT C



VICINITY MAP
N.T.S.



THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

Forest Conservation (FC Exemption) ☑

Tree Save Plan ☑ AS Shown

APPROVED

FC Exemption No. 4-09242E

Signature 5/6/10 Date

Site conditions have not been field-verified as part of this approval.

NOTES

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6. PROPERTY LIMITS SHOWN ARE APPROXIMATE DUE TO INSUFFICIENT SURVEY DATA.

TOM HAY CERTIFIED ARBORIST
CERTIFICATION NUMBER MA – 4365A

0 30 60
1" = 60'
SCALE

MONTGOMERY COUNTY DEPT OF PERMITTING SERVICES APPROVED FOR:

Storm water Management:
Reviewed Date
Approved Date

Sediment Control Technical Requirements
Reviewed Date
Approved Date

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Administrative Requirements:
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SEDIMENT CONTROL PERMIT NO.

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project : Falls Road Local Park

EXISTING CONDITIONS PLAN

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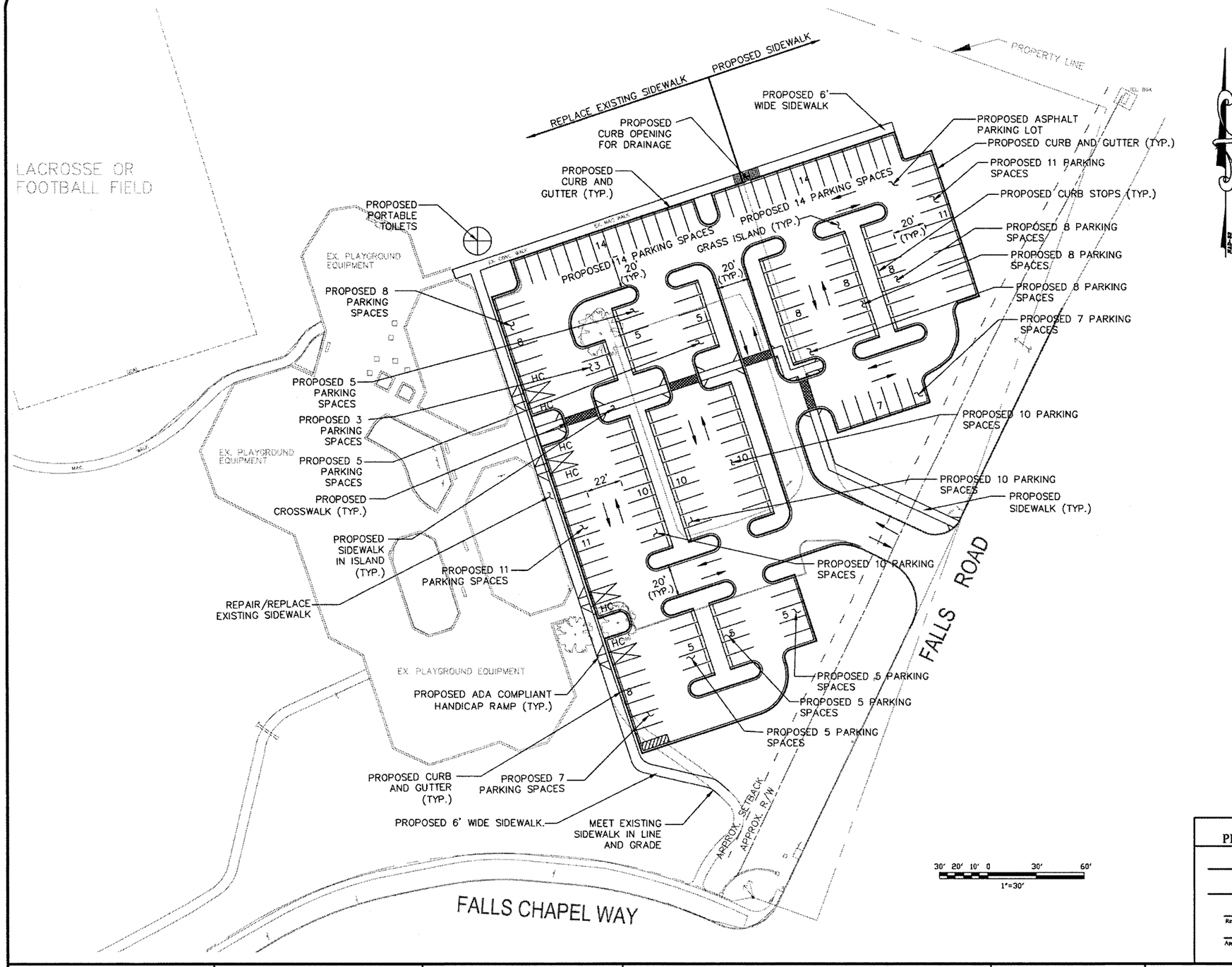

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6. TOTAL NUMBER OF PARKING SPACES SHOWN ARE 154 INCLUDING 6 HANDICAPPED PARKING SPACES.
7. PARKING SPACE DIMENSION IS 8.5'X18' AS PER MONTGOMERY COUNTY ZONING ORDINANCE.

LEGEND

- PROPOSED CONCRETE CURB AND GUTTER
- PROPOSED PARKING SPACE WITH CURB STOP (NO CURB AND GUTTER)
- HC — PROPOSED HANDICAP PARKING SPACE W/ AISLE
- PROPOSED STAMPED ASPHALT CROSSWALK

SUBMITTAL DATE: AUGUST 28, 2007

MONTGOMERY COUNTY DEPT OF PERMITTING SERVICES APPROVED FOR:		NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
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URS
Suite 101
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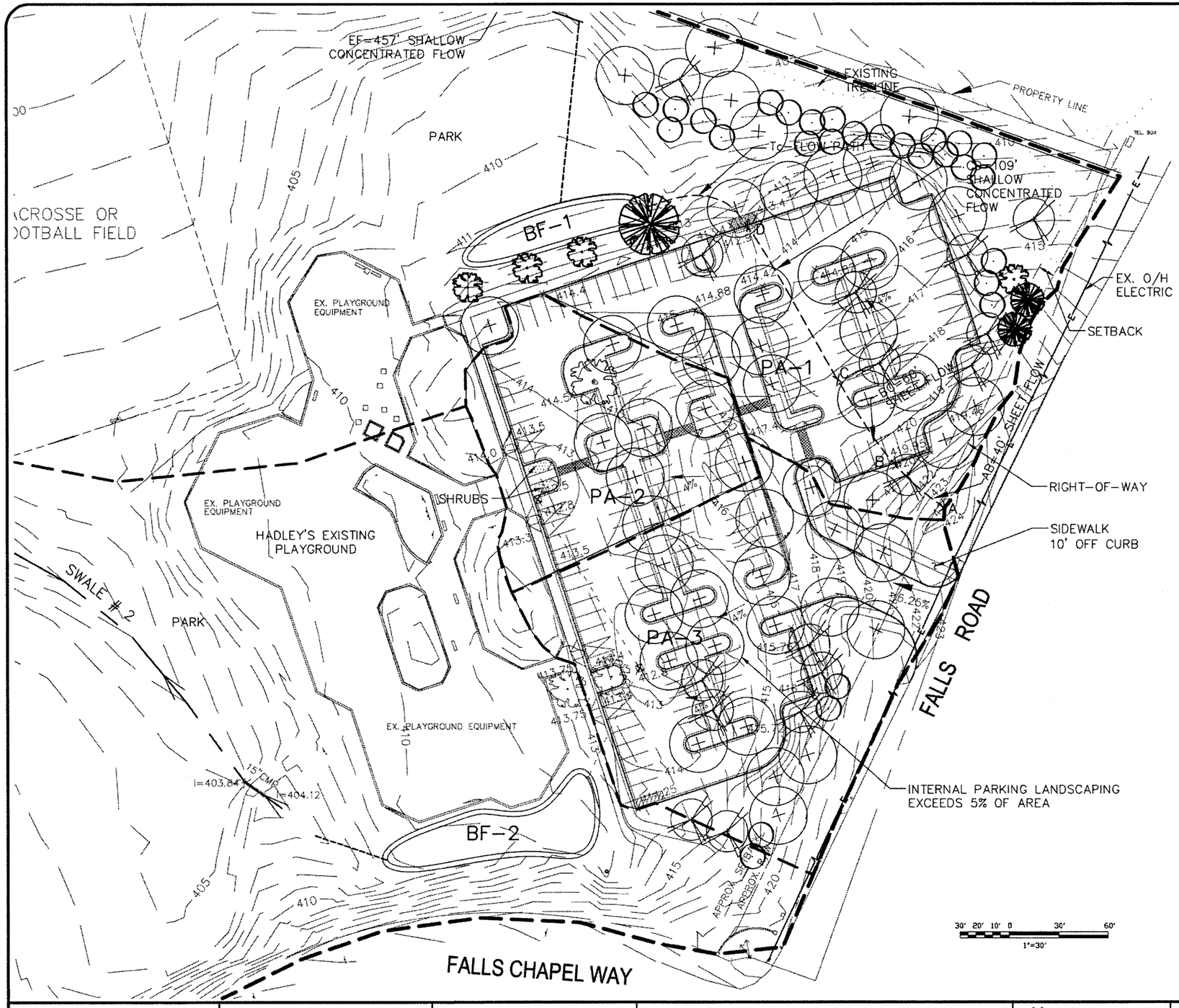
Gaithersburg, MD 20878

project : Falls Road Local Park

PROPOSED PARKING LOT LAYOUT PLAN

scale : 1"=30' (PFC K02/K05) ATTACHMENT D



LEGEND

- EXISTING DECIDUOUS TREE
- EXISTING EVERGREEN TREE
- PROPOSED SHADE TREE (50)
- PROPOSED ORNAMENTAL TREE (16)
- PROPOSED EVERGREEN TREE (28)

SUBMITTAL DATE: AUGUST 28, 2007

MONTGOMERY COUNTY DEPT OF PERMITTING SERVICES APPROVED FOR:

Stormwater Management: Reviewed Date / Approved Date

Sediment Control Technical Requirements: Reviewed Date / Approved Date

Administrative Requirements: Reviewed Date

SEDIMENT CONTROL PERMIT NO.

S.H. FILE NO.

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The Maryland-National Capital Park and Planning Commission

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URS

Suite 101
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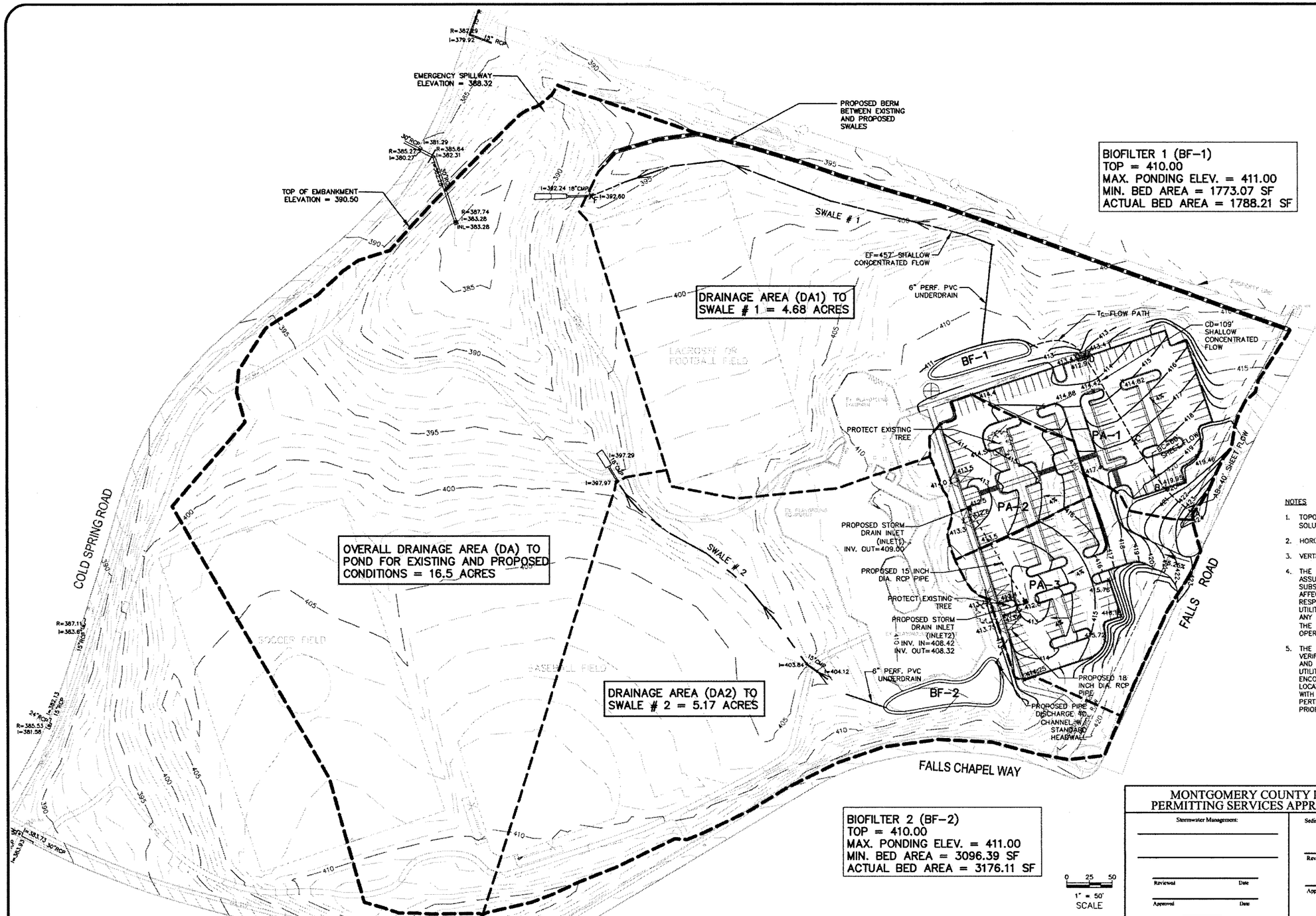
Gaithersburg, MD 20878

project : Falls Road Local Park

CONCEPTUAL LANDSCAPING PLAN

scale : 1"=30' (PFC K02/K05) ATTACHMENT E



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SUBMITTAL DATE: AUGUST 28, 2007

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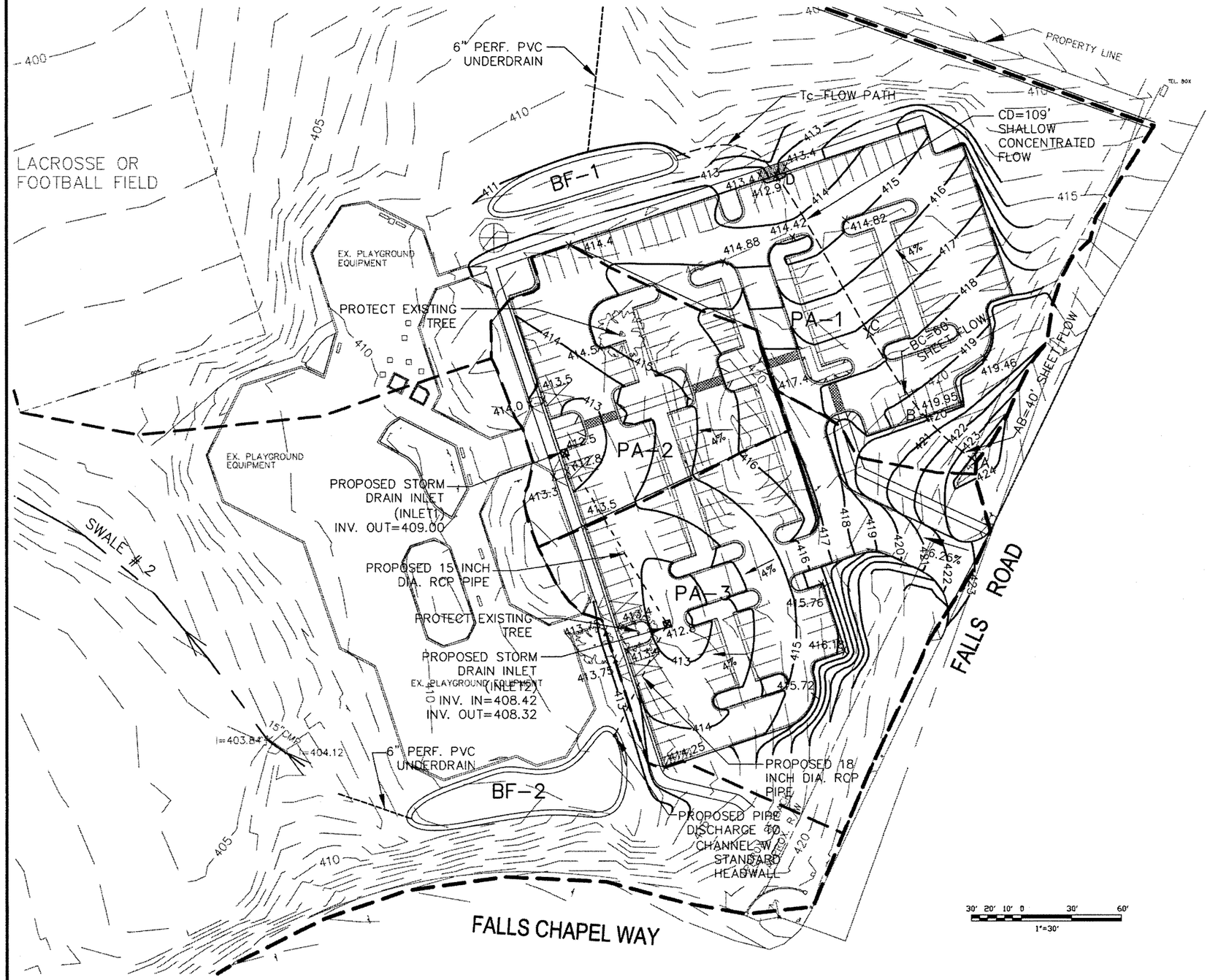
project : Falls Road Local Park

STORMWATER MANAGEMENT CONCEPT PLAN

scale : 1"=50' (PFC K02/K05) ATTACHMENT F



LEGEND

- PROPOSED RCP PIPE
- PROPOSED INLET
- PROPOSED CONTOUR
- EXISTING CONTOUR
- $\times_{100.0}$ PROPOSED SPOT ELEVATION

NOTES

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SUBMITTAL DATE: AUGUST 28, 2007

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S.M. PECI.50

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project : Falls Road Local Park

GRADING PLAN

scale : 1"=30' (PFC K02/K05) ATTACHMENT G

ATTACHMENT H

URS

Memorandum

In reply, please refer to: 31942784.00003

Date: **Revised May 7, 2007**

To: Project File

From: Romaine Kesecker, RLA, ASLA
Landscape Architect

Subject: Hadley's Playground – Safety Surfacing

Introduction

Hadley's Playground is a heavily used park that opened in 1999. Consisting of about one-acre, it is an accessible playground located within the Falls Road Local Park, 12600 Falls Road, in Potomac. It is focused on "theme play" and has seven different types of play. It served as the flagship and model for additional Hadley's Playgrounds elsewhere.

Source: Bosco website

Aerial view of Hadley's Playground soon after construction in 1999.

Hadley's Playground was constructed with a porous, cushioned, seamless safety surfacing called VitriCon on the construction plans (by Vitricon, Inc., and now also called VitriTurf Playground System). It was likely poured and troweled at a minimum thickness of 2-inches, and up to 2-1/2 inches, providing for a durable, seamless and non-slip surfacing. The VitriTurf was poured directly onto a 4-inch minimum thickness welded-wire-fabric reinforced concrete base. It was originally detailed, according to the plans, to have a 3/4" leveling course below the VitriTurf, but it is believed that item was deleted prior to construction. The concrete base was detailed to be placed directly onto compacted subgrade. The color surfacing consists of about 1/8" material

that is the main problem for peeling. M-NCPPC staff indicates that the peeling started within months after installation, and that workmanship, use of improper binder and other materials contributed to the failure. The safety surface installation is well beyond its warranty period, which is typically 5 years. Based on the site visit, photos, and anecdotal information, the safety surfacing may be simply wearing from the heavy use in certain areas. Perhaps the problems stem from workmanship during installation. There does not appear to be a settlement problem with the concrete sub base, or a significant UV concern regarding colors of the surfacing.

The cost of the VitriTurf installation in 1999 was not readily available to include in this report.

ViriTurf's website describes their product as follows:

VitraTurf is a Unique poured in place safety system providing a seamless, safe porous and aesthetic surfacing. Because the components are mixed on site the thickness may change for various deck heights and design criterion. Custom designs and logos may be installed to create the ultimate play environment. VitriTurf is offered with many options including color, size of particle, thickness and ultra-violet and waterborne binders.

The Binder, which is mixed with the shredded rubber and EPDM is the key ingredient. VitriTurf manufactures its own binders and utilizes them for the playground surfacing industry. The standard urethane binder for surfacing is called an aromatic binder. This binder will amber when exposed to UV rays. VitriTurf manufactures an aromatic binder but prefers to sell its Aliphatic Binder which is UV resistant. In this case the color you choose is the color you will receive. VitriTurf has been installed on playgrounds since 1978.

Background

Design plans were completed in 1998 for Hadley's playground. Construction was completed in June of 1999.

VitriTurf product is or was supplied by Vitricon, Inc:
901 Motor Parkway
Hauppauge, New York 11788
631.231.1300 F.631.231.1329
vturf@aol.com **vitriturf.com**

The VitriTurf was installed by (or by a subcontractor):
Bosco Associates, Inc.
Contact: Bruce Oranburg
Toll Free: (800) 669-0907
Telephone: (703) 642-9800
Telephone: (703) 851-0300
Fax: (703) 642-9812
Bosco4@aol.com **www.boscoassociates.com**

Results

URS performed site visits in February, and on March 14, 2007 to identify existing conditions and to review site and potential options. Existing construction plans of the installation were not readily available for review.

At this time a core of the material is not needed. There does not appear to be any settlement of the concrete subbase. Ponding or "birdbaths" in the main areas do not appear to be an issue. However, there do appear to be cuts made in the concrete edge at the low end of the playground to facilitate drainage from below the VitriTurf. It appears that a unique subsurface drainage system may have been incorporated, whereas plastic or polyethylene pipe was imbedded into the concrete slab. The system may not be properly functioning, and stormwater basically is sheet flowing off the playground surface.


Picture 1 – Typical worn or damaged VitriTurf

There is a significant amount of worn VitriTurf (see Photo 1). These areas present themselves randomly throughout the 'roadway', and at specific equipment ingress and egress points, that is, at points of heavy usage for the play equipment. Although difficult to assess exactly how much area is damaged, the visual assessment might result in up to 6% of the surface requiring repair, or say about 2,600 square feet.


Photo 2: One of several exposed anchors

This damage varies in thickness from 1/8" to 1/2" in most areas to almost 3/4" to 1" depth in some limited areas. There are no significant tripping points due to this abutting condition of VitriTruf / concrete edge, except for some marked anchors (see Photo 2).

The VitriTurf meets the surrounding concrete edge at proper and acceptable elevations (see Photo 3).

There have been prior repairs made as well throughout the park. Repairs appeared to be made professionally, either by staff or a contractor. The damaged areas were cut neatly, and new VitriTruf troweled into place. There is a slight color variation between the patched and existing surfaces, but the repairs appear to provide adequate safety surfacing. In some instances it seemed the wrong colors may have been used for the repair.

Several of the spring toys have broken, but not repaired, because the accompanying slab of concrete for the spring toy is below the concrete slab for the safety surface.

Photo 3 - Material applied adequately to edges of equipment. Note patching of VitriTurf.

Entry logo in need of minor repair.

PATCHING OR RENOVATING

Patching - in order to patch approximately 2,600 square feet, either park maintenance forces or a contractor would be needed to provide the labor. Patching existing areas of damage with park maintenance staff may or may not be feasible.

Estimated Cost:
VitriTurf supplies a repair kit which covers about 8 square feet at average 1/2" thickness. It comes in a 5-gallon pail with rubber and binder included. The price is $225.00 per kit plus freight. This does not include labor, however. This would be suitable for very small areas of repair, and does not particularly apply in this case for a large area.

At 8 square feet a bucket, it would take about 325 buckets, or $73,125 just in material, plus freight and installation. Therefore, purchasing VitriTurf binder material in 55-gallon drum bulk form would be recommended. Patching these areas may provide an unsightly appearance for some, but would not impede the use of the park in any way.

The surface should be cleaned at this time as well, and information for this work is included in attached information.

Renovating - according to industry sources, and this must be confirmed with a safety surface vendor that is knowledgeable of the process, another option may be a "facelift" renovation. This method would remove approximately 3/8" off the existing safety surface, thus allowing a new skim of VitriTurf or other material to be placed over the area, using a larger size material than originally installed. Historical cost data for this option is not readily available, and it is not clear if renovation as described is a common type of installation. Assuming a general square footage cost of about $3 to $5 per square foot for removal and replacement, this option may cost about $130,000 to $220,000. Costs will depend on vendor experience and ease of removal of the existing surface.

B. REPLACMENT IN KIND

This option requires demolition and removal of the existing VitriTurf safety surface entirely. The existing concrete sub-base and concrete edging would remain in place. This work would disrupt usage of the playground for an extended period of time. Subsurface drainage would need to be considered.

The product would be VitriTurf, or an approved equal. Material Composition:

VitriTurf Primer: A single component moisture cured polyurethane primer.

VitriTurf Binder: A proprietary, elastic Polyurethane Pre-Polymer, MDI based. Extremely low odor, capable of excellent weathering and binding characteristics. Binder shall contain no more than 0.2% TDI Monomers.

VitriTurf Black SBR: Shall be recycled SBR Rubber, cryogenically processed, and shall be chopped to 1-3mm or 3/8" shredded granules and contain less than 4% dust. It shall be packed in suitable bags to protect SBR from moisture.

VitriTurf EDPM Rubber: A man-made rubber containing minimum of 30% EPDM and having a density of 1.5 - 0.05. Available in assorted colors and three sizes 1-3mm, 0.5-1.5mm and 0.40-08mm (dust).

VitriTurf Line Markers: A two component polyurethane utilized to stripe lines or demarcate specific areas.

All material shall meet or exceed guidelines set by Consumer Product Safety Commission and National Bureau of Standards including: Class 1 fire rating; ASTMF 355-78 headform drop test; CPSC NBSIR-79-1707; MIL-STD-45662 notice 3; MIL-I-45208A, amend. 1; 100% memory and 130%.

Estimated Cost for Renovation (as described above):
Removal and disposal of top 3/8": $ 30,000 to $ 50,000
New 3/8" VitriTurf surface layer: $100,000 to $180,000
$130,000 to $230,000

Note: Cost for Renovation is conservative due to anticipated contractor concerns of removal of top layer without damaging base material, application of new layer on an older base material of unknown condition, and higher associated warranty and workmanship costs related to this method.

Estimated Cost for Replacement in Kind (full-depth):
Demolition and disposal – 1 acre of VitriTurf: $ 70,000
New 2" VitriTurf (about 350 cubic yards) $100,000
$170,000

C. REPLACEMENT WITH ALTERNATE MATERIAL

This option entails the use of an alternate product or material. This would also require demolition and removal of all or a major portion of the existing VitriTruf, and possibly the concrete subbase. Compaction of subgrade would not be required, with the new material added over the existing concrete base or on compacted subgrade.

There are numerous products on the market, and include, but are not limited to, in random order:

1. **Rubber-Cal**
   www.rubbercal.com

2. **Rubberific Mulch®,**
   www.internationalmulch.com

3. **SofPlay™**
   www.sofplaysystem.com

4. **FibarSystems**
   www.fibar.com

Estimated Cost:
The estimated cost for each of these will be similar to VitriTurf, if there is no removal of the concrete subbase. Discussion with M-NCPPC staff to identify the pros and cons of these products, as well as other desirable products would be very important to selecting an alternate material.

D. VENDOR INVESTIGATION

1. **Playground Specialists, Inc.** was contacted first to discuss the options:

   Jeff Barber
   Playground Specialists, Inc.
   17352 N Seton Avenue
   Emmitsburg, MD 21788
   1-800-385-0075
   e-mail address - sales@playspec.com

Jeff knows the Hadley's playground site, and through discussion, confirmed the above assessment. He added some additional thoughts:

a. Overlay method - although the safety surface is an EPDM surface now, overlaying the failing surface with the same material may not be the best solution. Since the existing material has already taken a fair amount of repair, use and abuse, then that might reflect through on the new surface application. There may also be problems meeting critical fall criteria.

b. Replacement method - demolishing the existing surface and replacing with same EPDM material is not the best solution, either. It would only have another 5 years of life due to the heavy usage the playground receives (use a different product).

c. Other options - Jeff suggested the following alternate products that he supplies and installs:

- **SofPlay** Playground Turf - a typical synthetic turf application. The existing VitriTurf surface could basically remain intact, except where removal is required at equipment to meet elevations. The SofPlay is added over the existing surface. Installation would exceed critical fall criteria.

Approximate Cost - say about $7 to $10 a square foot. Would probably last about 10 years. Easy to repair areas that are damaged or worn.

www.sofplaysystem.com

- **Play Matta** - this product uses flexible mats that allow for expansion and contraction and provides a "floating" surface. It can be laid on the existing concrete sub-base (but the old VitriTurf would require removal). All mats are interlocking and glued at each seam.

Approximate Cost - say about $12 a square foot. Would probably last about 10 years. 6 year warranty.

www.playmatta.com

- **Rainbow Turf -** this product is poured-in-place, and the unitary surfacing consists of a single density pour of colored Rainbow Turf combined with a special polyurethane adhesive. It would appear like natural mulch, but in one layer.

Approximate Cost - say about $9 a square foot. Would probably last about 7 years.

www.rainbowturfproducts.com

Miscellaneous: Jeff noted that demolition of VitriTurf might cost more than usual because of the problem disposing of the removed material. It may not be recyclable, as it won't be considered 'tire' material.

He did not think current drainage was a significant issue, but if necessary, after removal of the existing VitriTurf, then strip drains might need to be added to facilitate drainage.

If the graphic for the roadway is desired, for example, the above products could be mixed in usage to provide for some graphics. The work does not have to be limited to use of one product.

He thought that for the longest life for the dollar, the **SofPlay** Playground Turf would provide the best value.

2. **Child Safe Products** was contacted secondly to discuss various options:

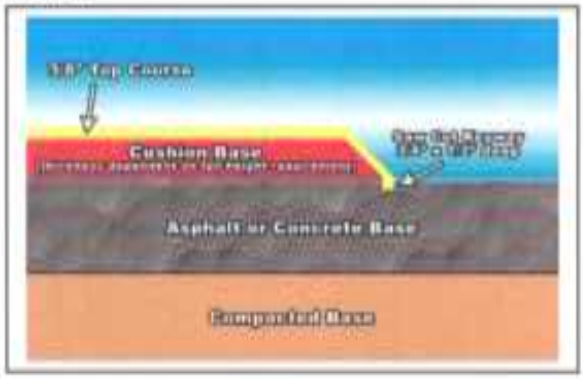
Joe Guercia
Child Safe Products
645 Broadway
Amityville, NY 11701
800-434-5616 - 631-841-0562 Fax
guercia7@aol.com
www.childsafeproducts.com

Joe has a recent installation at the Damascus Community Center and another at the Western Elementary School in Dayton, Maryland. Both installations used a Child Safe Products' product- called "Poured In Place":

- **Poured-In-Place** is basically a 3-inch depth of primer, binder, SBR Black base layer, and EPDM wear surface troweled into place. Graphics may be incorporated. The material may be placed over existing concrete base or an asphalt base. The specification for the **Poured-In-Place** product is attached.

  www.childsafeproducts.com/childsafe_kids.htm

Approximate cost will be about $9 to $10 a square foot (not including the demolition for the VitriTurf).



- **Pour-In-Place Safety Mulch** - Joe recommends using another material within the playground, such as this product to help provide variety throughout, and to consider placing this at heavily used locations for easy repair due to wear.

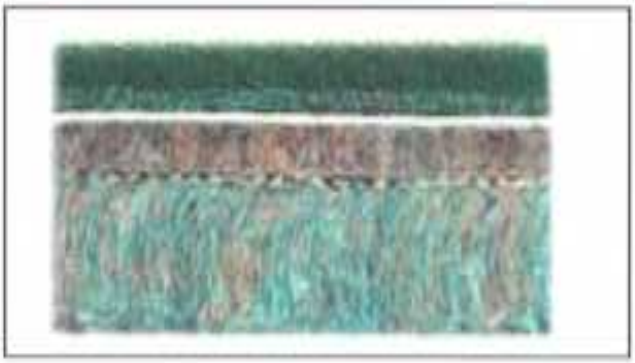
Approximate cost will be about $9 to $10 a square foot (not including the demolition for the VitriTurf).

www.childsafeproducts.com/childsafe_kids.htm

- **SurfacePlay** – a new product is **SurfacePlay®**. This product introduces a new playground surface – it is a durable carpet surfacing solution (patent pending) made of 100% Polypropylene with a fine sand infill, and is flame resistant. Durable Carpets

resemble wall-to-wall carpets - however specifically designed for extreme weather conditions, high-traffic areas, and offer maximum impact absorption. This surface, according to the manufacturer, may be applied over the existing VitriTurf. Sand is applied at 4 pounds per square foot, and the perimeter is anchored between the existing VitriTurf and the concrete border. No tension is placed on the carpet anchoring to the perimeter, and the weight of the sand basically holds the carpet in place. The accompanying sand fill in the carpet does not affect this application. This material could be used on all or a portion of the playground, that is, used in conjunction with another product. Graphics may be incorporated into this product as well. Repair of worn or damaged areas would be relatively simple. Would probably last about 10 years., and has a 5 year warranty.

www.surfaceplay.com



Approximate turnkey cost, according to the supplier the date of this Memo, would be $6 a square foot, and would not require demolition of the existing VitriTurf. Specifications are attached for this product. The manufacturer is based in Canada, but indicates they have 200 installations in the United States. They have provided a list of U.S. references.

Recommendations

1. The existing VitriTruf is nearing a 10-year life span, and has seen a great deal of use by many patrons. There appear to have been many problems associated with the installation, materials, subsurface drainage, and more.

2. Patching the surface will only be a short-term solution, but would be the least expensive option. It may extend the life of the surface a few more years.

3. Renovation may be a viable option, but no information could be found for this method to determine the life expectancy or cost. Further investigation into this with a qualified vendor would be necessary. A decision would be needed regarding the graphics for the safety surfaced. For example, would one solid color be used, or would graphics once again be incorporated?

4. Replacing the material in-kind or with similar material would be a suitable option. This also could maintain the design characteristics, such as the "road", if these graphics are important.

5. Replacing the surface with an alternate material, such as rubberized mulch, would potentially eliminate some of the surfacing details and colors. The cost may be less, but the visual appearance of the playground would be altered significantly.

6. The **SurfacePlay®** product appears to be a viable and cost effective method, based on information collected. If it is determined that the existing VitriTurf may remain as a base, then this carpet-type product can be applied directly above. The product is vandal and flame resistant, and graphics may be incorporated.

7. Overall, it appears that replacing in-kind with a suitable product or with the carpet overlayment assures that the thickness required is met, the material meets existing edge and equipments surfaces appropriately, that subsurface drainage is resolved, and would be the most cost effective method for the next 10 years of use.

Discussion

During the decision making process for any surface replacement, other actions should be taken to ensure a safe play environment by coordinating the work with Lynn Witt, playground specialist:

- Conducting a comprehensive audit of the playground for SPSC compliance.
- Prioritizing the identified hazards.
- Establishing an action plan to address the conditions.
- Regularly inspecting and maintaining the playground equipment.
- Providing regular training for maintenance, inspection and playground supervisors, as well as for parents and children.
- Documenting all risk-control plans and activities.

VitriTurf CLEANING AND MAINTENANCE PROCEDURES (per VitriTurf)

All flooring surfaces require at some point in time cleaning of some sort. Cleaning becomes necessary due to traffic on it or due to its surrounding environment.

VitriTurf surfaces, like any flooring material requires periodic cleaning. The frequency of this cleaning process depends on the intensity and type of traffic on it. If the traffic is heavy, the cleaning process might be necessary bi-weekly or on a monthly basis.

In some cases, dissolved salts in water can deposit a whitish film on the surface. These dissolved salts are usually referred to as the hardness of the water. If this occurs, then cleaning is necessary to enhance the original colors of the EPDM granules. These "whitish deposits" can also bleed out from the environment the VitriTurf is in or from the proximity to concrete surfaces. The latency of the concrete can also bleed on to the VitriTurf creating this "whitish' stain.

Staining can also occur due to soft drink spills and/or chewing gum dropped on to the surface. The important point to remember is that VitriTurf is a flooring surface and therefore cleaning and maintenance need to be observed.

THE CLEANING PROCESS

The cleanser we recommend to clean the VitriTurf and eliminate these "whitish" salt deposits is Soft Scrub with Bleach.

Initially dilute the Soft Scrub at a proportion of one part by volume of the cleanser to two parts of water, mix well. Clean the VitriTurf with the solution utilizing a scrub brush. The brush bristles should be reasonably stiff so the floor contaminant can be removed and also be of enough thickness to penetrate the space within the EPDM granules. Follow this by rinsing the VitriTurf with water. If a "white" film persists, repeat the process above but dilute the cleanser in a proportion of one part cleanser to one part of water. If the buildup is excessive use the cleanser without diluting with water. You may use a power wash machine as well to clean the surface. The best method is to utilize hot water with a mixture of the Soft Scrub solution.

The best tactic to practice with regards to cleaning the VitriTurf is to act quickly once the contamination appears. If the contamination is allowed to build up, then the cleansing process becomes increasingly difficult.

The suggested cleaner is Soft Scrub with Bleach. Substitutions can be made with equivalent products provided they are tested prior to use. For more information, please contact Hanover Specialties Inc at 631.231.1300.

Child Safe Pour-in-Place Mulch Safety Surface is an advanced shock absorbing playground surfacing system.

Kids will love playing on Child Safe Mulch Safety Surface both outdoors and inside.

Although no playground can guarantee against an accident, you'll rest easy knowing that Child Safe Mulch Safety Surface is providing the most advanced security shield available today!

Engineered For Peace of Mind

Child Safe Mulch Safety Surface is designed and engineered to reduce serious falls to those tender heads and bodies thus reducing serious injury.

Designed with the proper blend of 100% colored recycled rubber and locked in by a special polyurethane binder, Child Safe Mulch Safety Surface results in a soft and resilient surface.

Child Safe Mulch Safety Surface resists compression and remains constant through temperature cycling.

Child Safe Mulch Safety Surface aids in reducing the impact of a falling child at 3 or 12 feet while its no seams continuous poured design insures against tripping!

Child Safe Mulch Safety Surface is independently tested to comply with CPSC, ASTM and ADA standards.

Child Safe Mulch Safety Surface is suited for installation over any sound, hard surface such as asphalt or concrete, or designed for installation over loose materials, such as sand and gravel, so contact the manufacturer for consultation.

Child Safe Mulch Safety Surface colors can be blended to conform to any architectural theme.

Safety Surface Rubber Mulch

PRODUCT FEATURE

- Custom colors
- Single density construction for durability and aesthetics
- CPSC & ASTM compliant for Shock Attenuation surfaces
- ADA compliance for stability and movement of wheel chairs
- Water percolates preventing standing surface water
- Slip Resistant and Fire Retardant
- No Toxic Residue
- Taper edges for smooth egress without trip points
- Year round use
- Virtually maintenance free

- Standard Colors: Black, Pine, Turf, Aqua, Earth, Cedar, Cypress, Brick, Southern Cypress and others

- Colors can be blended to provide an endless variety.

Child Safe Mulch Safety Surface porous design assures free water movement-important in climates where freezing is a problem.

Child Safe Mulch Safety Surface insures positive foot traction during play.

Child Safe Mulch Safety Surface facilitates access to the play area by molding the Surface into the perimeter of the playground.

Child Safe Mulch Safety Surface self sealing properties resist punctures. If ever necessary, Child Safe can be quickly and easily repaired by any maintenance personnel.

Child Safe Mulch Safety Surface poured in-place system allows (architectural freedom of design) for effective use of all available area and shapes.

Child Safe Mulch Safety Surface feature assures a tight seal around all play apparatuses so there is no space around posts to accumulate dirt or debris. No anchors to come loose from razing of the base or freeze thaw cycles.

Child Safe Mulch Safety Surface is "the logical choice", since it has no seams to come apart. Child Safe's poured-in-place design insures against potentially dangerous tripping hazard. Child Safe allows broken glass or other objects to remain on the surface, visible to your inspection and early removal.

Child Safe Mulch Safety Surface will remain stable under either dynamic or static conditions and at surface temperatures ranging from -10 degrees (F) to 120 degrees (F).

Child Safe Mulch Safety Surface 100 percent memory assures against loss of shape and its design provides a high tensile strength with excellent breaking elongation.

Child Safe Mulch Safety Surface System is designed to meet or exceed guidelines as set by the Consumer Product Safety

Commission (CPSC), the ASTM, and ADA Standards.

The Child Safe Mulch Safety Surface polyurethane system is surprisingly cost competitive when taking into consideration the cost to install other brands with your own personnel. Add to this a service life which exceeds ten years even in the most demanding areas equals an inexpensive playground surface system that will insure years of trouble free use.

Child Safe has been enjoyed by thousands of children over the last twenty years, the ultimate playground experts. Child Safe Safety Surface is toxic free and formulated to stand up against mildew and bacterial growth that adds up to a safe playing surface.

645 Broadway Amityville, NY 11701
Toll Free: 800-730-0064 Fax: 631-841-0562

www.childsafeproducts.com
Amityville NY 11701~ Riviera Beach FL 33404 ~ Scottsdale AZ 85260 ~ Dominican Republic

SPECIFICATION FOR POURED-IN-PLACE PLAYGROUND SURFACING

Part 1 General

1.01 Description

Provide all materials, installation details, labor, and equipment required to properly install the Child Safe pour-in-place system

1.02 Quality Assurance

A. Qualifications

1. The Child Safe system shall be warranted by Child Safe for any defects in materials and workmanship for a minimum three (3) years from the date of completion.

B. Design and Detailing

1. The Child Safe system is utilized when an impact absorbing surface is required within the use zone of the playground equipment. Each system is engineered to meet CPSC, ASTM F 1292 Impact Attenuation and ASTM F 1951 wheel chair mobility criteria.
2. Substrate over which Child Safe may be installed includes concrete, asphalt and compacted aggregate.
3. All other substrates must be approved by Child Safe prior to installation
4. The installer shall verify that all proposed substrates meet the requirements for the installations of the Child Safe system with regard to structural performance.

1.03 Submittals

A. Product Data, testing and warranty

1.04 Delivery and Storage

A. Protect materials from weather.

B. Remove and discard empty containers in accordance with local ordinances.

1.05 Installation Limitations

A. Air temperature shall be > 35 °F (2 °C) Installation shall not commence when rain is imminent.

1.06 Alternates

A. Or equals shall be approved by the project architect prior to bid date.

Part II Products

2.01 General: No substitution of other materials shall be permitted.

2.02 Materials

A. Primer: A single component, moisture cured polyurethane.

B. Binder: A MDI based, elastomeric, polyurethane pre-polymer with low order and exceptional weathering and binding attributes.

C. SBR Black base layer

1. Recycled SBR rubber buffing
2. 3/8" sieve with < 4% dust (6-16 mesh)
3. Containment Bags shall provide ample moisture protection

D. EPDM wear surface

1. UV Stabilized virgin EPDM rubber

2. EPDM shall be full color. No coated rubber is permitted.
3. Available in sieve's of .5 - 1.5 mm, 1 - 3 mm or 1- 4 mm

E. Pour-In-Place System
1. Independently tested to ASTM F1292 standards for head injury criteria.
2. Slip resistant in wet and dry conditions
3. Abrasion resistant
4. Fire Retardant
5. Fungal resistant
6. Resistance to weathering and aging
7. Complies with ADA accessibility standards

2.03 Mixing and Preparation
A. Binder/SBR and binder/EPDM mix ratios shall be determined by the specified system (see Product Data Sheet application rates).

Part III Execution

3.01 Inspection
A. Before applying Child Safe installer will evaluate the substrate and site conditions. No work will commence until discrepancies are corrected.

3.02 Pour-In-Place System
A. Primer: when required apply primer using a 3/8" nap roller at a rate 300 sf/gallon. Do not apply over crush stone base. Prime all vertical interfaces of curbs, etc.

1. SBR base layer

a. Binder to rubber ratio shall be 14/86 (16 %) by weight to achieve proper resiliency.
b. Mix binder and SBR rubber in a paddle type mixer for 1 to 2 minutes or until rubber particle is encapsulated.
c. Spread this mix to the desirable thickness using a screed bar.
d. Using a steel trowel uniformly compact the mix. Periodically lubricate the trowel with mineral spirits as work progresses. Do not saturate the rubber surface with cutting agents.
e. Allow base layer to cure to point of supporting foot traffic without deforming the base layer and before proceeding with the EPDM wear surface.

2. EPDM Wear Surface

a. Binder to rubber ratio shall be 18/82 (21.9%) by weight to achieve maximum durability.
b. Mix EPDM and binder in paddle type mixer for 1 to 2 minutes or until materials are thoroughly encapsulated. Using a screed bar, level the mix over the base layer.
c. Using a steel trowel uniformly compact the mix. Periodically lubricate the trowel with soapy water as work progresses. Do not saturate the rubber surface with cutting agents.
d. Allow wear surface to cure 24 to 72 hours before opening the area for play. The surface must be tack free before attempting to walk on the surface.

4. Cleanup
   A. Clean all tools with mineral sprits.

5. General Precautions
   Wear protective clothing and safety glasses when handling materials. Follow all safety precautions on packaging labels. Refer to MSDS sheets for safety information.

End of Section

SurfacePlay® Durable Carpets: Specification Sheet

1. Product Description:

Durable Carpet is an innovative playground surface solution. It is a surfacing solution (patent pending) made of 100% Polypropylene with a fine sand infill. The infill sand allows instant water drainage and creates special protection for the carpets, enabling them to last considerably longer than other surfacing solutions. The sand is brushed during the final installation phase and is held firmly in place by the random nature of the Needle-punched fibers that are specifically designed to hold the sand for **long-term usage.**

The Durable Carpet forms the top surface layer. Underneath the Durable Carpet, specially-designed absorbing pads and recycled rubber granules are placed in a safety effort to assist in receiving the energy and absorbing the impact of a fall. The installation of different layers underneath the Durable Carpets is designed strictly based on safety regulations and considerations (ASTM F1292). Thus, it enables certain areas in the playground to be equipped with extensive impact attenuation support and others with standard level of shock absorption.

Unlike other surfacing solutions, ***SurfacePlay***® Durable Carpets offer:

- Special Safer protective systems adjusted for different fall heights
- Flat or mounded landscape suitable
- Complex multi-color design
- Guaranteed impact absorption
- Surface available right after rain
- Resists fire and non-flammable
- Vandal Resistance
- Not conductible to heat as much as sand and rubber do
- No color fading - Full UV treatment with color warranty

For any additional question, please do not hesitate to contact us at: Info@surfaceplay.com 2

2. Safer Protective Systems:

ASTM F1292 requires every playground surface used to have a critical height value of at least the height of the highest designated play surface on the equipment. This height represents the fall height for the equipment. ***SurfacePlay***® meets guidelines in **USCPSC** Handbook.

SurfacePlay® supports the required fall heights:

- **SP Recreation** - Regular safety level
- **SP 4'** - 4' fall height safety level
- **SP 6'** - 6' fall height safety level
- **SP 8'** - 8' fall height safety level
- **SP 10'** - 10' fall height safety level

Figure 1: Safer Protective Systems
(Based on Different Fall Heights)

3. Accessibility:

SurfacePlay® Durable Carpets are easily accessible for Americans with disabilities -children and adults alike. We believe that playgrounds are created for the benefit of the total population and it is our role to ensure that the playground surface would facilitate their accessibility to the playground area. Our Durable Carpets are needle-punched fibers made from 100% Polypropylene with infill sand that creates a smooth and firm surface. Durable Carpets are like any pavement surface and thus wheelchair accessibility is as easy as walking on the surface by foot.

For any additional question, please do not hesitate to contact us at: Info@surfaceplay.com 3

4. Material Specifications:

The following table provides you with the specification for each material used for the ***SurfacePlay®*** surfacing solution:

Layer Name	**Fiber Denier/ Blend**	**Total Weight**	**Total Thickness**	**Porosity**	**Other Specifications**
VHAF® NOTTSSWARD™ (Durable carpet layer)	110/18 Denier UVF Polypropylene 75% at 110 denier, 25% at 18 denier	4.5 oz/sq.ft.	¾ " (including backing)	Approximatel y 5200 mm/hr	Coating - Back-coated with SBR compound plus cross linking agent. At 20% pick up gives 8 oz
NOTTSFILM™ (Load spreading layer)	Polyester 6 to 120 denier	0.9 oz/sq.ft. (not less than)	¼ " (including granules)	1.6 us gal/s/ft	Stiffness - nil < NCC/SFAL< 1" Tensile Properties - Not less than 6.0kn/m (BS6906 Part 1 1987) Elongation Peak Load - No more than 70% Resistance to Silting Up - No greater than 0.118 inch (NS/PLK04), Infiltration rate - no less than 1.5" per hour
VHAF® UNDERLAY (Absorbing energy layer)					

110/18 Denier
UVF
Polypropylene
75% at 110
denier,
25% at 18
denier
4.5
oz/sq.ft.
¾ " (including
backing)
Approximatel
y 5200
mm/hr
Coating - Back-coated
with SBR compound
plus cross linking agent.
At 20% pick up gives 2.5
oz/ft
vPad™
(Absorb
impact layer)
70%
Polypropylene/
30% Bi-Com
Polyester
5 to 110
denier
6.5
oz/sq.ft.
Approximately 1
¼ "
N/A Roll Size - 6.6' wide x
Maximum Length of 65'

5. Colors:

SurfacePlay® Durable Carpets allow creating a very complex colorful design at a reasonable cost. They come in various colors:
Other colors are available under special order, please contact with ***SurfacePlay®*** for details.
Grass Green Navy Blue Burgundy Vivid Yellow
Olive Green Fjord Blue Tillett Red
For any additional question, please do not hesitate to contact us at: Info@surfaceplay.com 4

6. Limitations and Precautions:

• Inappropriate footwear (e.g., spiked, studded or bladed footwear) or other ancillary equipment may damage the surface.
• Some solvents or cleaning material may cause damage to playground surface, please consult with ***SurfacePlay®*** before using disinfectants, chlorine bleach, oils, acids and any organic solvents.
• In water areas where chlorine and other chemicals are used, the surface may discolour over a period of time.

7. Standards Compatibility:

• ASTM F1292 - Standard Specification for Impact Attenuation of Surface Systems Under and Around Playgrounds Equipment
• BS4790 - Hot Metal Nut test is used to determine the effects of fire
• BS6906 Part 1 1987 - Maximum Tensile Load
• NCC/SFAL - Stiffness Test Method
• NS/PLK04 - Surface Resistance for Silting Up
• ASTM F1951-99 ADA Accessible
• ASTM D2859-04 Flammability - Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials

8. Preparations:

If the area does not have a firm and flat surface, excavate as follows:

- For SP Recreation - a minimum of 2" below the proposed final level
- For SP 4' - a minimum of 3 ¼ " below the proposed final level
- For SP 6' - a minimum of 4 ¼ " below the proposed final level
- For SP 8' - a minimum of 5 " below the proposed final level
- For SP 10' - a minimum of 6 ¼ " below the proposed final level

Then, roll & compact the base of the excavation. Import, lay & compact 1/4" - 3/8" clean, angular non-frost susceptible and unbreakable stone so that the stone finishes level with the surrounding area. Level the surface of the stone such that no deviations exist greater than 1/4" under a 10' straight edge.

The minimum depth of stone and excavation indicated is based on the exposed fall height being suitable to receive the ***SurfacePlay®*** system (i.e., consistent gradient, even, free-draining and firm enough to support the system). If this is not the case then further preparation work will be required as listed in the ***SurfacePlay®*** installation guide.

9. Installation:

Please note that we have listed the installation procedures for all the components, but for each fall height you would require to apply in order only the relevant components as described in figure 1 on page 1.

The following describe the suggested installation method for each component.

- **VPad™ Underlay** - Lay 1¼" vPad™ 2500 Underlay, scrim side up, onto the prepared stone base/ VHAF™ Underlay/ rubber granules, butting together at all joints and taping on top with ProBond PB111 Jointing tape.
- **VHAF™ Underlay** - Lay VHAF™ Underlay onto the vPad™ 2500 Underlay, seaming together all joints, using a suitable adhesive applied to a 6" wide carrier strip of 0.039" maximum thickness.
- **Loose Rubber Granules** - Brush / work a minimum of 4 lb per sq.yd. of 0.02" - 0.059" rubber granules into the pile of the VHAF Underlay ensuring an even distribution. Evenly spread a further 4 lb per sq.ft. (minimum) of the rubber granules over the top of the VHAF™ Underlay.
- **NottsFilm™ STIFF** - Lay NottsFilm™ STIFF over the top of the VHAF™ Underlay/ rubber granules, overlapping each run by 4" and spot sticking with a suitable adhesive at a minimum of 8" centres. Any cuts in the NottsFilm™ should be carefully sealed.
- **VHAF® NottsSward™** - Lay VHAF® NottsSward™ 1150 Carpet over the installation overlapping at the perimeter by 4". Seam together all joints as necessary, using a suitable adhesive applied to a 6" wide carrier strip of 0.039" maximum thickness. Fix at the perimeter in a manner appropriate to the surround detail ensuring that there is a smooth transition between the surrounds and the VHAF® NottsSward™ Carpet. For example:
  - Carpet inserted between a timber and an existing wall
  - Carpet attached to an interblock border
  - Carpet inserted into asphalt or concrete
  - Carpet folded into the existing ground
  - Carpet attached to a timber with pegs

10. Availability and Cost

Please contact ***SurfacePlay®*** or your local representative to get specific information regarding the availability of a certain color or the estimated cost for a project.

For any additional question, please do not hesitate to contact us at: Info@surfaceplay.com 6

11. Warranty:

The product is guaranteed for a period of 5 years from the date of installation against manufacturing defects, ultra violet degradation (including light fastness) and excessive wear. This warranty is only applicable for regions with an annual radiation not exceeding 160 kilolangleys. Please contact ***SurfacePlay®*** for more detailed information on the warranty terms or check our warranty statement at: http://www.surfaceplay.com/site/warranty.php

12. Maintenance:

Under normal circumstances, the ***SurfacePlay®*** Systems require minimal maintenance, which will not need specialist equipment or training. To keep the surface in optimum condition, and ensure maximum life-span, the following maintenance should be carried out:

1. To maximize the durability of the VHAF® NottsSward® surface, it is important to maintain the level of sand to within 1/10 of an inch of the top of the pile. Normally, this will involve redistributing the sand already in the pile as it gets displaced, causing too much in some areas and too little in others. Use a stiff brush to even out the spread of sand. This is particularly important in the higher wear areas, and is most common underneath apparatus where the usage causes a scraping on the ground (e.g. under swings).
   In exceptional circumstances it may be necessary to import new sand to top-up the levels. The sand should be kiln-dried and have a particle range between 0.01"- 0.039", with a rounded or sub-rounded shape. For information on where to purchase the sand please contact ***SurfacePlay®*** or your local distributor.
2. Remove debris and rubbish from the surface by light brushing.
3. Any grass around the perimeter of the surface should be kept short.
4. During routine maintenance of any surrounding grass area, clippings or seed may blow on to the ***SurfacePlay®*** surface area. It is important that the surface is brushed immediately after such works to avoid seeds growth on the surface.

13. Technical Assistance:

SurfacePlay® is welcoming you to contact our technical team to answer any challenge that you are facing. Our professionals have extensive experience and they would be able to suggest you the best way to implement your playground surface.

14. Product Name:

SurfacePlay® Durable Carpet Surfacing

FALLS ROAD LOCAL PARK - CONCEPTUAL FACILITY PLANNING COST ESTIMATE **ATTACHMENT I**

OCTOBER 2007

CIP CATEGORY	ITEM NO.	ITEM	QUANTITY	UNIT	UNIT COST (Materials & Installation)	TOTAL COST
SI		**SITE PREPARATION & DEMOLITION**			SUBTOTAL	**$50,000.00**
	001	Mobilization	JOB	LS	$30,000.00	$30,000.00
	002	Clearing & Grubbing / Tree Removal	JOB	LS	$15,000.00	$15,000.00
	003	Construction Stakeout	JOB	LS	$5,000.00	$5,000.00
SI		**SEDIMENTATION & EROSION CONTROL**			SUBTOTAL	**$30,000.00**
	004	Sedimentation & Erosion Control	JOB	LS	$30,000.00	$30,000.00
SI		**EARTHWORK/DEMOLITION**			SUBTOTAL	**$182,590.00**
	005	Excavation/Cut (Parking Lot) - CLASS I	8000	CY	$21.00	$168,000.00
	006	Common Fill	200	CY	$31.50	$6,300.00
	007	Removal of Existing Sidewalk	60	CY	$84.00	$5,040.00
	008	Removal of Existing Curb and Gutter	650	LF	$5.00	$3,250.00
SI/U?		**STORMWATER MANAGEMENT**			SUBTOTAL	**$76,275.00**
	009	Pipes (15" RCP Class IV)	120	LF	$52.50	$6,300.00
	0010	Pipes (18" RCP Class IV)	105	LF	$65.00	$6,825.00
	0011	Standard Yard Inlet	2	EA	$525.00	$1,050.00
	0012	Standard Headwall for 18 in. Pipe	1	EA	$2,100.00	$2,100.00
	0013	Biofilters (2)	1	LS	$60,000.00	$60,000.00
SI		**VEHICULAR PAVEMENT**			SUBTOTAL	**$250,522.75**
	0013	Asphalt Superpave (1.5 in. surface course)	505	TON	$68.25	$34,466.25
	0014	Asphalt Base Course (4 in. base course)	1343	TON	$73.50	$98,710.50
	0015	Stamped Ashpalt (for crosswalks in parking lot)	370	SF	$25.00	$9,250.00
	0016	Stone Base (4 in.)	1007	TON	$8.00	$8,056.00
	0017	Combination Conc. Curb & Gutter (10-A)	3120	LF	$26.25	$81,900.00
	0018	Conc. Wheel Stops	80	EA	$89.25	$7,140.00
	0019	Pavement Marking and Striping	6000	LF	$1.00	$6,000.00
	0020	Signage	JOB	LS	$5,000.00	$5,000.00
SI		**PEDESTRIAN PAVEMENT & HARDSCAPE**			SUBTOTAL	**$20,085.00**
	0021	Asphalt Sidewalk - 5ft wide (4 in. thick)	2	TON	$330.00	$660.00
	0022	Concrete Sidewalk 6ft wide (5 in. thick)	3700	SF	$5.25	$19,425.00

C		**PLAYGROUND SURFACING AND STRUCTURES**			SUBTOTAL	**$295,000.00**
	0023	Picnic Shelter (32ft DIA)	1	LS	$30,000.00	$35,000.00
	0024	Restroom (Portable)	JOB	LS	$10,000.00	$10,000.00
	0025	Picnic Umbrella	4	EA	$2,500.00	$10,000.00
	0026	Playground Surface Removal	JOB	LS	$70,000.00	$70,000.00
	0027	Playground Surface Installation	JOB	LS	$170,000.00	$170,000.00
SI		**LANDSCAPING**			SUBTOTAL	**$50,375.00**
	0028	Soil Preparation (4 in. Topsoil)	1500	SY	$5.25	$7,875.00
	0029	Permanent Seeding	1500	SY	$1.00	$1,500.00
	0030	Shade Tree	43	EA	$400.00	$17,200.00
	0031	Ornamental Tree	16	EA	$225.00	$3,600.00
	0032	Evergreen Tree	49	EA	$300.00	$14,700.00
	0033	Shrubs	20	EA	$75.00	$1,500.00
	0034	Mulch	1	LS	$2,500.00	$2,500.00
	0035	Additional Watering	1	LS	$1,500.00	$1,500.00
		CONSTRUCTION SUBTOTAL				**$954,847.75**
		CONSTRUCTION CONTINGENCY (30% of Construction Subtotal)				**$286,454.33**
		CONSTRUCTION TOTAL				**$1,241,302.08**
		LAND COSTS (Utility/Trail/Grading Easements, Purchase)		LS		$0.00
		DESIGN CONTRACT WITH CONTINGENCY (20-30% of Construction Total, depending on project)				$248,260.42
		STAFF CHARGEBACKS FOR DESIGN (20% of Design Contract with Contingency)				$49,652.08
		CONSTRUCTION MANAGEMENT & INSPECTIONS (5% of Construction Total)				$62,065.10
		TOTAL PROJECT COST				**$1,601,279.68**

Notes:

1. Unless otherwise noted, pricing data obtained from Price Index, July 2006, as Prepared by the Maryland State Highway Administration. A 5% escalation value has been assumed.
2. This cost estimate is based on conceptual plans and should be considered budgetary in nature.
3. Lump sum costs are either based on a percentage estimate of the total estimated cost or were provided by MNCPPC.
4. Landscaping costs are based on current estimated costs provided by vendors.