



Upper Park Parking Lot and Driveway



Entrance from Route 202



Lower Park Area Parking Lot

## Site Analysis

### Data Collection / Methodology

The park site was surveyed in early 2006 and a full topographic site survey was provided by C. Robert Wynn Associates, Inc. The survey was updated in early 2007 to include wetland and riparian corridor information.

### Existing Land Use and Zoning

The Pat Livezey Park is located within Solebury Township's Village Residential (VR). Park and recreational facilities are permitted principal uses within the VR. The park immediately borders single family homes to the north and west; Sunset Drive to the north, Hagan Drive to the northwest, and Parkside Ridge Drive to the west. Surrounding residential properties are also zoned as VR. Proximity of these residential properties must be considered in the master plan to ensure adequate buffering. The property directly to the east lies within the Borough of New Hope, and is zoned R1 Low Density Residential. This property is currently undeveloped, however a development proposal is pending. The southeastern corner of the park property is bordered by Route 202.

### Site Access

The upper park access is located off Hagan Drive, a Township road located in the residential development known as Sunset Drive. Hagan Drive does not have curbing or sidewalks to provide pedestrian access to the Park. An additional access into the lower portion of the park is located off of Route 202, approximately 1,500' north of the Route 202 and Sugaan Road intersection. This entrance is gated to prevent unauthorized access. As with the Hagan Drive entrance, the Rt. 202 entrance does not presently provide any pedestrian connections to the surrounding communities. The existing entrance drive from Route 202 is very narrow at the crossing of Rabbit Run.

### Circulation and Parking

Gravel parking lots are provided in the upper and lower areas of the park. The upper park parking lot is sized for approximately 14 vehicles with an additional 2 paved handicapped accessible spaces. Overflow parking is available in a lawn area adjacent to the driveway from Hagan Drive. The lower park parking lot has approximately 34 spaces and no designated handicapped parking. Overflow parking is not available in the lower level. A gravel drive leads from the lower park parking lot to the lower park soccer field.

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Due to the significant change in elevation between the upper and lower portions of the park, no formalized vehicular circulation exists between the upper and lower portions of the park.

A minimal pedestrian circulation path exists within the park. A stone dust path leads visitors from the upper park parking lot to the concession/storage building, playground, and to the existing picnic pavilion. An informal mown grass path down a steep embankment provides a connection between the upper and lower portions of the park and can be used for emergency vehicle access. There are no handicapped accessible routes between the upper and lower playing fields.

## Utilities

The maintenance/concession building in the upper park is equipped with electric and water service. The park has an existing on-site well and septic system. The existing park pavilion is equipped with electrical service. The lower portion of the park has electrical service to the 6 light poles that light the combination softball/soccer field and small practice field. The shared use softball/softball field also has 7 existing stormwater inlets and 1 outlet that help drain this area.

## Views

The park overlooks New Hope to the south, although there are no prominent views to or from the site as areas of existing woodland and mature vegetation limit views. Existing buffers along the adjoining northwestern residential properties could be enhanced to provide better screening between the park and residences; although park neighbors who attended public meetings did not request additional screening.

## Natural Features

### Topography

The park site exhibits a fifty-six foot change in elevation between the low point at Rabbit Run located in the lower portion of the park and the high point where the storage/concession building is located. This significant change in elevation is what divides the park into two distinct areas. Of the park's 17.5 acres, 6.25 acres (35.7%) are categorized as steep slopes by the Township's ordinances and have certain protections from development. A slope analysis plan is located at the end of this chapter illustrating the areas of steep slopes (as defined by the Zoning Ordinance) within Pat Livezey Park. This analysis reveals zoning variances will be required even for regrading of the existing fields.



Existing Field Lighting



Existing Stormwater Inlet, Lower Park Area



Typical Woodlands Bordering the Park

### Hydrology

Rabbit Run lies along the southeastern edge of the park, parallel to Route 202, flowing northeast to where it discharges into the Delaware River. Rabbit Run is classified as a minor watershed in the Township. A designated riparian corridor (Zoning Ordinance) extends 75 feet from either side of Rabbit Run, and must be maintained as such with little if any disturbance permitted. Rabbit Run passes through an existing culvert where the lower park driveway enters from Route 202. An Environmental Resource and Site Analysis Plan at the end of this chapter illustrates the riparian corridors. A conditional use approval will be required for drainage improvements within the riparian corridor.

The park site is within an area of the Township that is under consideration for a critical aquifer area zoning overlay district. The Township's critical aquifer districts are those areas where water demand may exceed supply during dry or drought periods.

The upper park drains primarily towards the northeast property boundary of the park and Sunset Drive residences, with the lower park area draining towards Rabbit Run. There are no stormwater management facilities in the park to control stormwater runoff generated from the site.

### Vegetation

The park site is comprised mainly of mown lawn areas maintained for playing fields with woodland vegetation and brush areas around the park perimeters. These are comprised mainly of invasive species. Of the park's 17.5 acres, 5.74 acres (32.7%) is woodlands, as defined by the Township's ordinances. A Pennsylvania Natural Diversity Inventory search (PNDI) has been conducted for the site with results that indicate that there are no rare or threatened habitats, wildlife or fauna.

### Soils

Based upon a site specific soil investigation conducted by DelVal Soil and Environmental Consultants, Inc., a refined soil map was prepared for Pat Livezey Park. The site specific soil map indicates that there are three soil classifications present within Pat Livezey Park. There are no prime farmland soils or soils of statewide importance located at Pat Livezey Park.

Additional studies were conducted by Del Val Soil and Environmental Consultants, Inc. to determine soil permeability, in accordance with the Township's Stormwater Management Ordinance, and the soil depth to bedrock. Copies of all soil studies can be found in the appendix of this

## Site Analysis

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report. Soil mapping information is shown on the Existing Resource and Site Analysis Plan found at the end of this chapter.

The following descriptions are generally characteristic of the identified soils.

An area of Bowmansville-Knauers Silt Loam (Bo) is located along the southeast boundary of the site extending along Rabbit Run. The Bo soil type has slopes ranging from 0-3%. It is considered to be a somewhat poorly drained soil with an occasional potential for flooding. The depth to bedrock is very deep however one potential limiting factor is the presence of a seasonal water table that is from 0-18 inches deep. Bowmansville-Knauers Silt Loam is not considered a prime agricultural soil as defined by the Solebury Township Zoning Ordinance nor classified as a farmland soil of statewide importance.

The southwest corner of the park contains Klinsville Very Channery Silt Loam (KIC). KIC soils are found in areas of 8-15% slope and the soil is considered to have a high potential for surface runoff. Klinsville Very Channery Silt Loam is not considered a prime agricultural soil as defined by the Solebury Township Zoning Ordinance nor classified as a farmland soil of statewide importance.

The majority of the park has seen substantial site/soil disturbance is therefore classified as Urban Land (Ufu). The Urban Land soils are associated with areas of existing development and are not classified as prime agricultural soils by the Solebury Township Zoning Ordinance; similarly, the urban soils are not classified as soils of farmland statewide importance.



Storage/Concession Building

## Existing Facilities Analysis

### Concession/Storage Building

Pat Livezey Park contains an existing one story block building in the upper park area which provides a concession stand, restrooms, and interior storage area for equipment and supplies. There is a well and septic system located within close proximity to the storage/concession building. The building is essentially divided into 3 separate areas; storage, concession, and restrooms. The concession area of the building is equipped with a full kitchen, large windows that open for food/snack sales and a separate entrance from the storage area. The restrooms are gender specific and are handicapped accessible. The storage area of the building houses both maintenance equipment for the playing fields and soccer/softball equipment. Access to the storage area is through an over head garage door and regular door. Equipment is also stored in the “attic” area above the first floor. The Township has indicated that there is a need for more storage space and a separate meeting room. An existing agreement between the Township and New Hope Solebury Community Association allows the CA use of the building should the Township expand it’s facilities.



Picnic Pavilion

### Picnic Pavilion

The picnic pavilion, also located in the upper park area, is a stone and wood structure that is open on three sides. The picnic pavilion is equipped with electricity and lighting. There is a stone dust path that leads from the parking lot area to the pavilion that is handicapped accessible.

### Playground

The existing playground contains relatively new equipment with a wood chip (fiber) safety surface. The play equipment is intended for children from 5-12 years of age. The playground is located at the upper portion of the park in close proximity to the storage/concession building and restrooms



Playground

### Soccer Fields

Pat Livezey Park has two soccer fields, one softball field with shared outfield, and a smaller practice field area. The soccer field located in the upper park is approximately 72 x 116 yards. A second soccer field is located within the lower park area, along with the softball and practice fields. The lower soccer field is approximately 59 x 122 yards. The softball field has 60 foot base lines and shares its outfield area with the playing area of the soccer field. The softball field’s solar orientation from home plate to the pitcher’s mound is east to west which is considered a safety hazard. The lower park area also has a smaller practice field area that is approximately 53 x 60 yards.

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All playing fields located in the lower park are lit. All fields are heavily used and have required occasional closure to allow turf re-establishment. This presents scheduling and use challenges.

## Opportunities and Constraints

The opportunities at Pat Livezey Park are unique. Due to the existing field lighting, continued field lighting can be provided with upgraded equipment that will be more energy efficient and permit less light spill over. Due to the field lighting, there is the opportunity to utilize the two fields to their fullest potential. One way to achieve this potential is by designing the fields for artificial turf which provides almost unlimited playing times. Artificial turf will also reduce maintenance for each field, and eliminate irrigation and the application of fertilizers. However artificial turf fields have a much higher installation cost. Some artificial turf manufacturers' predict a ten- year payback period when comparing construction and maintenance costs with natural turf. This plan also considers the construction of natural turf fields. A sample construction/maintenance cost comparison between artificial and natural turf is contained in the appendix.

Both the upper and lower portions of the park exhibit opportunities to formalize the vehicular circulation and parking. Both entrances require widening to allow for safer flows of two-way traffic. Both upper and lower parking lots require formal parking stall delineation. The lower park area has the potential for an additional parking lot below the full size soccer field. The lower parking lot presents opportunities for better vehicular circulation, ADA access and designated ADA parking.

Pat Livezey Park has many constraints associated with the park site's topography, vegetation, and hydrology. Many of these natural features are protected from disturbance by the Township's ordinances. Topography may be the biggest constraint to future improvements to the site. Due to current ordinance requirements, it will be necessary to obtain conditional use approval and variances to expand and improve the parks facilities. See the appendix for a list of anticipated variances and conditionals uses for approval.



*Lower Park Softball/Soccer Field*