

Capacity-Demand Standards Model Final Report

Prepared for:
**City of Virginia Beach
Parks and Recreation Department**



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Section 1 – Introduction and Purpose

1.1 Capacity-Demand Overview

PROS prepared customized sports field asset facility standards with the **PROS Capacity – Demand Standards Model**™ (CDSM). This process supports evaluation of the various assets ability to meet current and projected demand (scheduled utilization) with the existing capacity.

The basis for the PROS CDSM is quantifying current suggested capacity of assets and comparing to current actual demand by individual usage. As an asset management and program planning tool directed to all levels of department administration and staff, along with legislative boards and commissions, the Capacity – Demand Standards Model™ will identify and integrate the benefits of properly managed assets that lead to better decision making regarding athletic facilities. Prioritized recommendations in the report address optimal turf management strategies and effectiveness in field allocation. This model addresses short-term and long-term asset requirements based on current day usage patterns.

Simply stated, capacity and demand may be demonstrated by a bathtub; the actual tub itself represents the capacity – the ability to hold water. Demand equates to the substance that is released into the tub – whether it be water, rocks, sand, or toys. If substance is flowing over the rim, this signifies that the tub is above capacity while a tub with substance below the rim would signify that the tub is operating below capacity.

The CDSM was created in response to the commonly used NRPA standards which state one (1) asset to “X” number of persons. PROS recognized the inexactness of a standard based on a service area of the *entire* population when a particular asset’s participation base is strictly regulated by a minimum and maximum age. An example of this ambiguity is:

- Traditional Asset Standard Approach – One (1) T-Ball Field to 5,000 Persons
 - This standard implies that for every 5,000 persons of the population there should be one (1) T-Ball field
 - This is an inaccurate portrayal of the standard due to a very limited participation base (5-6 years of age) in regards to the population as a whole
- PROS Capacity – Demand Standards Model™ Approach – One (1) T-Ball Field to X,000 5-6 Year Olds
 - The PROS Capacity – Demand standard implies that each T-Ball field has an estimated service area of X,000 5 and 6 year olds
 - This number is established by actual demand as it pertains to the individual asset
 - Only those persons aged five (5) or six (6) are applicable

Based on participation factors by activity as it applies to each individual sport field, capacity and demand service areas (population served by asset) were calculated and mapped to

provide a graphical representation of gaps and overlaps in geographic area and population served. In addition to graphical representation of the equitable distribution of current assets via mapping, asset need in terms of additional sports fields was determined utilizing current assets available to the City of Virginia Beach.

From the service area mapping and the correlating detailed data, alternatives were developed to address areas where assets are needed or potentially shifted from an over-served area to an underserved area. Capital, operations, and maintenance costs can be applied to these alternatives and a cost-benefit analysis performed to determine the optimal recommended solution.

1.2 Report Organization

The report includes three sections: Section 1 provides an overview of the field demand and capacity methodology. Section 2 explains the factors included in the demand and capacity calculations. Section 3 contains an analysis of the data and recommendations for the future, and Section 4 contains the findings and recommendations.

Section 2 – Capacity–Demand Process

Sports fields were evaluated based on their capacity to support the demand by the various usages. Utilizing the Capacity-Demand Standards Model™, capacity of the current facilities based on industry management practices by field type were calculated and converted to number of events (e.g. games, practices, special events, etc.) supported, and ultimately number of persons – the common denominators when comparing against demand.

Accuracy of both capacity and demand is dependent upon the accuracy and availability of detailed inventory of assets; basically, good base data produces good output data, and vice versa. Detailed user data by asset was provided by the City of Virginia Beach and utilized for the basis of the CDSM.

2.1 Capacity

Capacity of an asset is defined as the maximum number of events (i.e. games, practices, special events), and corresponding hours and persons that an individual asset can service. To determine the capacity of each asset, usage factors and guidelines for optimal turf management practices by field type (e.g. engineered, non-engineered, synthetic, etc.) are determined based on industry accepted practices and PROS professional experience and operational knowledge. The following factors are used to determine capacity:

- Asset information
- Type of asset/field
- Field construction and amenities – engineered/irrigated/lighted, etc.
- Usage/user data – generally accepted potential usages that occur on the asset
- Type of usage (i.e. football, baseball, etc.) that would normally occur at the asset
- Estimated number of local participants – established by applying American Sports Data, Inc.'s *Superstudy of Sports Participation* survey data to the various age segments that could potentially participate at the asset
- Average number of participants per team
- Average season lengths by potential usage

Capacity of current assets is based on usage factors per individual asset type (e.g. all assets that are classified as Multipurpose Field Large > 300-foot). Due to the possibility of multiple programming options at one field (e.g. football, soccer, etc.) standards for all event types for assets with the same classifications (Multipurpose Field Large > 300-foot) are applied to calculate the average number of events that is expected to occur at the asset. PROS recognizes that it is possible for an infinite number of events/activities to occur at any one asset; however, to model a dynamic condition with a static model standards were applied to each asset based on the potential for normally accepted usages to occur at a specific asset. Therefore, capacity of multipurpose fields was based on the potential to host generally accepted events such as football, soccer, and lacrosse. Capacity for diamond fields was based on usages associated with traditional bat and ball sports.

Facility Usage Guidelines

Facility Usage Guidelines recognize the impact of events on a playing surface and address the importance of rest in order to limit serious degradation to the surface and maintain the life of the asset. Regarding natural turf, as usage (seasons) progresses, conditions begin to deteriorate. Continued abuse limits, if not completely inhibits, the recovery period required to provide a quality surface. Increased exposure to the elements has the ability to transform a natural turf surface into a hard, non-forgiving base. Increased exposure to the elements combined with high impact use has the ability to transform a natural turf surface into a sub-par surface at best, and quite possibly a safety hazard.

Usage guidelines are based on industry accepted management practices by field characteristics and are integral to the quality and integrity of the playing surface. Due to the differing levels of intensities normally associated with diamond field versus multipurpose field assets, two different usage guidelines are used for natural turf fields. Diamond sports asset events (baseball and softball) have the most intense usage on the dirt/limestone/other non-turf infield surfaces, and minimum intensity usage on the turf surfaces. On the other hand, multipurpose asset events (soccer, football, lacrosse, etc.) experience high intensity usage on concentrated areas of the turf surface for short periods of time before continuing on to another area of the field. These two varying usages are the basis for two facility usage guidelines – one for diamond assets that allows for a greater number of weekly events to take place and one for multipurpose assets that allows a lesser number of weekly events to take place.

Asset surface characteristics include three types – Synthetic, Engineered and Non-Engineered:

- Synthetic – manufactured/artificial surface which is designed to mimic natural grass in appearance, feel, energy absorption and slide characteristics. This surface allows for year round activity and is not affected by elements such as rain, which makes natural surfaces less or non-usable.
 - Synthetic surfaces are the only asset surface type that benefits from lighting; this is due to the artificial surface not requiring rest to regenerate and lighting allows for programming at all times of the day
 - Synthetic surfaces will experience a shortened asset lifecycle with increased usage (i.e. typical lifecycle under normal usage conditions is 8 to 12 years)
 - It is recommended that synthetic surfaces are irrigated to help alleviate heat and assist in field cleanliness
 - In extremely hot weather irrigation will not relieve heat
- Engineered – a natural grass surface that has been properly designed and engineered with extensive site work; field construction includes proper soil/fill, grading, and drainage profile to support a pre-determined sport/field type. This type of surface is commonly used at colleges and professional sports facilities. Engineered surfaces typically include a sand base and require significant amounts of labor to keep in top condition.

- Lighting on an engineered asset only contributes to the convenience of use; Facility Usage Guidelines should be followed to allow for adequate rest
- Irrigation allows for regeneration of the natural turf surface
- Non-Engineered – a natural grass surface which is created in an open space area such as a park or school. The surface is the least costly to install and maintain, but it does not hold up well with extensive levels of play due to the drainage, grading, and soil limitations.
 - Lighting on a non-engineered asset only contributes to the convenience of use; Facility Usage Guidelines should be followed to allow for adequate rest
 - Irrigation, rest between uses, and periodic turf care/replacement are necessary for regeneration of the natural turf surface

PROS recognizes that in some instances such as tournament play certain assets may be utilized more than the suggested Facility Usage Guidelines; this does not however necessitate the adjustment of the usage guidelines. It is important to comprehend that the capacity of an asset – the suggested usage – is completely independent of the demand – actual usage.

Guidelines consider the amount of usage (i.e., number and length of events) a field can support and the corresponding rest (i.e., non-used time for turf recovery) that is required based on the field characteristics (e.g., engineered vs. non-engineered, irrigated vs. non-irrigated). These guidelines were customized to the City of Virginia Beach based on local conditions and considerations including the level of demand for athletic fields compared to the realistic availability of the City’s assets in meeting the demands with the current inventory of assets. Weather conditions also play a role in usage guidelines. This would imply that in normal conditions the area should not experience a prolonged period of freezing temperatures. According to Childs Play Organic Lawns, temperature dictates whether the grass will photosynthesize (make and store energy) or respire (burn stored energy). Cool season grasses, like Kentucky bluegrass, perennial rye, and fescue, are able to photosynthesize in temperatures from about 55 to 80 degrees; they respire in temperatures above or below. Even if a cool season grass is not utilized, regular sweeping or removing of any frost or snow, and other routine maintenance during the cool seasons, will assist in natural turf vitality during these periods.

Most of the sport field assets analyzed for the Capacity – Demand Model are classified as non-engineered and non-irrigated. Recommended Field Usage Guidelines based on field surfaces are presented below for both diamond assets and multipurpose assets, with all field characteristic types shown for comparison purposes:

Diamond Field Facility Usage Guidelines, All Field Classification Type

Diamond Field Characteristics	Recommended Primary Use	Facility Usage Guidelines (Events/Week)	Average Total Weekly Hours	Recommended Minimum Hours of Rest per Event	Recommended Minimum Total Hours of Rest per Week
Synthetic	Game	69	104	N/A	N/A
Engineered / Irrigated	Game	22	33	4	88
Engineered / Non-Irrigated	Game / Limited Practice	20	30	6	120
Non-Engineered / Irrigated	Practice / Limited Game	18	27	6	108
Non-Engineered / Non-Irrigated	Practice Only	14	21	10	140

Multipurpose Field Facility Usage Guidelines, All Field Classification Type

Multipurpose Field Characteristics	Recommended Primary Use	Facility Usage Guidelines (Events/Week)	Average Total Weekly Hours	Recommended Minimum Hours of Rest per Event	Recommended Minimum Total Hours of Rest per Week
Synthetic	Game	69	104	N/A	N/A
Engineered / Irrigated	Game	18	27	4	72
Engineered / Non-Irrigated	Game / Limited Practice	15	23	6	90
Non-Engineered / Irrigated	Practice / Limited Game	13	20	8	104
Non-Engineered / Non-Irrigated	Practice Only	10	15	12	120

In optimal turf maintenance conditions, recommended rest periods would immediately follow a single usage/event. This turf management is commonly found in professional, collegiate, and other high quality sporting venues. PROS realizes that this practice is not realistic for the parks and recreation community and does not recommend resting between individual usages. PROS recommends that the cumulative rest period – the recommended minimum hours of rest per event be multiplied by the total weekly events – be applied to an asset on a weekly basis. Total programmed usage hours should not exceed the average total weekly hours of programmed events and the minimum total hours of rest per week.

Facility usage guidelines total recommended hours of weekly rest and total weekly event hours are less than the total hours available in a given week (168 total weekly hours). This allows for non-programmed usage to occur on the assets by constituents of the City of Virginia Beach while still allowing for adequate rest and recovery.

Capacity Factors

The following factors contribute to the calculation of capacity:

- Average Season Parameters – Average season lengths based on industry guidelines and potential usages
- Field Usage Guidelines – Customized guidelines used to quantify the maximum number of weekly events an asset can support based on accepted industry practices to ensure the quality of the field is maintained at a desired level
- Dependent upon field characteristics
 - Synthetic / Non-Synthetic
 - Engineered / Non-Engineered
 - Irrigated / Non-Irrigated
 - Lighted / Non-Lighted – lighting only affects the capacity in relation to synthetic surfaces
 - All non-synthetic surfaces should adhere to the usage guidelines to protect the natural turf from severe damage
 - Lighted synthetic surfaces allow for usage during inclement weather and before sunrise and after sunset

- Average Length of Event – Average length of event (i.e. game/practice/special event) to be held on any given asset, depicted in hours
 - Average events are calculated at 1.5 hours
 - Based on industry standards to ensure limited/manageable impact on asset
- Events are described as any of the following:
 - Pre-season practices
 - Regular season practices
 - Regular season games
 - Postseason practices
 - Postseason games
 - Special events
- Field Availability – Many School District diamonds and multipurpose assets are not included in this report due to these facilities being utilized to meet demand of School District sanctioned events; therefore, these assets are not available for City of Virginia Beach sanctioned demand.

2.2 Demand

Demand, defined as actual usage of the asset, is calculated independently of capacity. To quantify demand for the various assets, usage by type by each individual asset was defined. User/league data is the catalyst for all demand calculations.

Demand is quantified by total individual participants registered for each usage. Registered usage is comprised of the most recent usage records maintained by the City of Virginia Beach.

Demand Factors

Demand is organized by representative age segment and activity (e.g. 6 to 18 year old females; youth softball). To accurately determine demand for each asset, information was gathered pertaining to scheduling, number of users, age segments of users, and user/league names along with usage guidelines for each of the field types. The following items were considered for each season to calculate the facility demand:

- Season Parameters – Season start date and end dates for participating users
- Asset/Field Usage and Characteristics – Specific assets utilized for each usage and general characteristics
 - Synthetic / Non-Synthetic
 - Engineered / Non-Engineered
 - Irrigated / Non-Irrigated
 - Lighted / Non-Lighted – Lighting only affects the capacity in relation to synthetic surfaces

- All non-synthetic surfaces should adhere to the usage guidelines to protect the natural turf from severe damage
- Lighted synthetic surfaces allow for usage during inclement weather and before sunrise and after sunset
- Age Segmentation – Beginning and ending ages represented by user group
- Gender – Gender of usage group (male, female, coed); percentage estimate of male and female users if usage is coed
- Registered Players – Total number of registered players within the user group
- Average Players – Average numbers of players per team by user group
- Event Hours per User Group – Average number of preseason, regular season, and postseason practices and games, and all special events held by each team within the usage group/league at the asset; average hours per each category

Section 3 – Capacity – Demand Analysis

The PROS Capacity – Demand Standards Model™ analysis began by establishing a detailed inventory of the current assets to understand their suggested capacity to support the actual demand by the various usages. The model calculates the capacity of the current facilities based on normalized potential usage factors (i.e., number of and type of events held; facility equivalents) and exemplary industry management practices by field type (i.e., number of events that an individual field can support without serious degradation considering a variety of factors such as whether the field is engineered, non-engineered, synthetic, lighted, non-lighted, irrigated, etc.). Demand is calculated by comparing the actual demand – registered users – against the total population as it relates to the age segmentation and gender of the registered users. Probable participation of the user group (registered users to total population) is then mapped in terms of population.

3.1 Asset Types - Definitions

Each asset is defined by the type of field, not the use that occurs on that specific field. For example, rectangular sports fields historically utilized for football, soccer, lacrosse, and field hockey are defined as multipurpose fields because of the limited development that is present that would inhibit a wide range of uses; these assets generally lack infield cutouts (skinned infields) associated with baseball fields, yet it is possible to program a diamond sport usage at a multipurpose field asset.

The City of Virginia Beach utilizes four basic asset (field) types:

- Baseball – 60 foot base paths
 - General Characteristics – Smaller baseball field with permanent backstop; skinned base paths
 - Typical Usage(s) – Youth Baseball (under 12 years of age)
- Softball – 300 foot fence radius
 - General Characteristics – Full size softball field; permanent backstop; skinned infield
 - Typical Usage(s) – Adult Softball/Girls Softball
- Multipurpose Field (Small) – <240 foot field length
 - General Characteristics – Smaller size rectangular field or open space area
 - Typical Usage(s) – Youth Soccer
- Multipurpose Field (Large) – >300 foot field length
 - General Characteristics – Larger “full size” field
 - Typical Usage(s) – Youth/Adult Soccer, Lacrosse, and Football

3.2 Asset Utilization

With the assistance of City management and staff, PROS was able to assemble asset inventory and detailed usage of athletic fields in City boundaries – City owned assets available for City sanctioned activities, leagues, and rentals (**Figure 1**). Inventory is depicted by asset type and associated park/site classification. From this base asset inventory the scheduled usage of each asset was identified and organized by season.

	Baseball - 60-foot base paths	Baseball - 90-foot base paths	Softball - 220-foot fence radius	Softball - 300-foot fence radius	Multipurpose Field (Small) - <240-foot	Multipurpose Field (Large) - >300-foot
Current Total Inventoried Assets - Virginia Beach: By Site Classification / Type; by Season						
Neighborhood Park Assets Inventoried; 1st Season	-	-	20.0	10.0	4.0	-
Neighborhood Park Assets Inventoried; 2nd Season	-	-	20.0	10.0	4.0	-
Neighborhood Park Assets Inventoried; 3rd Season	-	-	20.0	10.0	4.0	-
Community Park Assets Inventoried; 1st Season	-	-	3.0	-	3.0	-
Community Park Assets Inventoried; 2nd Season	-	-	3.0	-	3.0	-
Community Park Assets Inventoried; 3rd Season	-	-	3.0	-	3.0	-
Metro Park Assets Inventoried; 1st Season	2.0	-	1.0	6.0	-	-
Metro Park Assets Inventoried; 2nd Season	2.0	-	1.0	6.0	-	-
Metro Park Assets Inventoried; 3rd Season	2.0	-	1.0	6.0	-	-
Special Use Area Assets Inventoried; 1st Season	-	-	8.0	8.0	-	7.0
Special Use Area Assets Inventoried; 2nd Season	-	-	8.0	8.0	-	7.0
Special Use Area Assets Inventoried; 3rd Season	-	-	8.0	8.0	-	7.0
Total 1st Season Assets Inventoried	2.0	-	32.0	24.0	7.0	7.0
Total 2nd Season Assets Inventoried	2.0	-	32.0	24.0	7.0	7.0
Total 3rd Season Assets Inventoried	2.0	-	32.0	24.0	7.0	7.0

Figure 1 - Inventoried Assets by Asset Type and Park/Site Classification

Analyzing assets by park/site classification reveals that the classifications with the largest number of inventoried assets are neighborhood parks and special use areas. Neighborhood parks have a total of thirty-four (34) assets spread among three asset types – small and large diamond field assets and small multipurpose field assets. Special use areas have a total of twenty-three (23) assets, including large and small diamond field assets and large multipurpose field assets.

Programming occurs at the majority of the available assets during each of the three seasons, with the third season receiving less programming than the first or second seasons (**Figure 2**).

Current Total Assets - % of Virginia Beach Sanctioned Assets IN USE by Asset Provider; by Season (Note: Excludes assets classified as "Maintenance")	Baseball - 60-foot base paths	Baseball - 90-foot base paths	Softball - 220-foot fence radius	Softball - 300-foot fence radius	Multipurpose Field (Small) - <240-foot	Multipurpose Field (Large) - >300-foot
Total Virginia Beach Assets In Use, 1st Season	0.0%	0.0%	87.5%	91.7%	100.0%	100.0%
Total Virginia Beach Assets In Use, 2nd Season	0.0%	0.0%	87.5%	91.7%	100.0%	100.0%
Total Virginia Beach Assets In Use, 3rd Season	0.0%	0.0%	87.5%	87.5%	85.7%	100.0%

Figure 2 - Asset Type Utilization Factor – Total Percentage of Assets in Use by Season

As shown in **Figure 2**, the Baseball – 60-foot base path assets are not being utilized during any of the three seasons while the Multipurpose Field (Large) - >300-foot assets are being utilized at 100% for all seasons. The Softball – 220-foot fence radius assets are utilized at 87.5% during each of the three seasons.

A complete listing of asset utilization by asset type is presented in Figure 3. All three seasons experience a large amount of pure asset utilization with 64 total assets in use during the first season, 64 in use during the second season, and 62 total assets in use during the third season.

Current Total Assets - Virginia Beach SANCTIONED Assets In Use: By Site Classification / Type; by Season (Note: Excludes assets classified as "Maintenance")	Baseball - 60-foot base paths	Baseball - 90-foot base paths	Softball - 220-foot fence radius	Softball - 300-foot fence radius	Multipurpose Field (Small) - <240-foot	Multipurpose Field (Large) - >300-foot
Neighborhood Park Assets In Use; 1st Season	-	-	17.0	8.0	4.0	-
Neighborhood Park Assets In Use; 2nd Season	-	-	17.0	8.0	4.0	-
Neighborhood Park Assets In Use; 3rd Season	-	-	17.0	7.0	4.0	-
Community Park Assets In Use; 1st Season	-	-	3.0	-	3.0	-
Community Park Assets In Use; 2nd Season	-	-	3.0	-	3.0	-
Community Park Assets In Use; 3rd Season	-	-	3.0	-	2.0	-
Metro Park Assets In Use; 1st Season	-	-	-	6.0	-	-
Metro Park Assets In Use; 2nd Season	-	-	-	6.0	-	-
Metro Park Assets In Use; 3rd Season	-	-	-	6.0	-	-
Special Use Area Assets In Use; 1st Season	-	-	8.0	8.0	-	7.0
Special Use Area Assets In Use; 2nd Season	-	-	8.0	8.0	-	7.0
Special Use Area Assets In Use; 3rd Season	-	-	8.0	8.0	-	7.0
Total 1st Season Assets In Use	-	-	28.0	22.0	7.0	7.0
Total 2nd Season Assets In Use	-	-	28.0	22.0	7.0	7.0
Total 3rd Season Assets In Use	-	-	28.0	21.0	6.0	7.0

Figure 3 - Total Usages by Asset Type by Season

Section 4 – Findings and Recommendations

The Capacity – Demand Standards Model tm is not intended to be a scheduling tool or a measurement of convenience. The purpose of the model is to assist in the managing and planning of assets to meet the demand of the users. PROS does realize that although a particular asset may demonstrate excess capacity, the desirability of the available time may be low – this is true in the case of many early morning and late afternoon/late evening time slots.

Capacity-Demand is measured for three seasons. The 1st season falls between January and May with the majority of programs occurring March through May. The 2nd season falls between June and August with the majority of programs occurring June through August. The 3rd season falls between September and December with the majority of usage occurring between September and November.

The current asset capacity, demand, and requirements are presented in **Figure 4** on the following pages. Based on the current asset utilization by season – actual demand compared to suggested capacity by asset type – the number and type of additional assets needed differs for each season.

- Season One
 - Twenty-two (22) additional small multipurpose fields are required to meet the current demand
 - A total of 7 assets are inventoried
 - To meet the current demand, a total of 29 assets are required
 - Current demand and suggested capacity results in total assets required in excess of inventory of 22
 - Large multipurpose fields display additional capacity that could possibly be made available; by shifting some of the demand from the small multipurpose field assets to large multipurpose field assets some of this demand can be dissipated
- Season Two
 - Ten (10) additional small multipurpose fields are required to meet the current demand
 - A total of 7 assets are inventoried
 - To meet the current demand, a total of 17 assets are required
 - Current demand and suggested capacity results in total assets required in excess of inventory of 10

- Large multipurpose fields display additional capacity that could possibly be made available; by shifting some of the demand from the small multipurpose field assets to large multipurpose field assets some of this demand can be dissipated
- Four (4) additional large softball fields are required to meet the current demand
 - A total of 24 assets are inventoried
 - To meet the current demand, a total of 28 assets are required
 - Two (2) assets are not programmed during this period
 - Current demand and suggested capacity results in total assets required in excess of inventory of 2
 - Small softball fields have excess capacity; it is recommended that all usage not requiring large softball fields by shifted to the non-used small softball fields
- Season Three
 - Twenty-six (26) additional small multipurpose fields are required to meet the current demand
 - A total of 7 assets are inventoried
 - To meet the current demand, a total of 34 assets are required
 - One (1) assets are not programmed during this period
 - Current demand and suggested capacity results in total assets required in excess of inventory of 26
 - Large multipurpose fields display additional capacity that could possibly be made available; by shifting some of the demand from the small multipurpose field assets to large multipurpose field assets some of this demand can be dissipated

All other asset types currently meet the demand placed on the system for each season when viewed system wide. While there are a number of assets that are not currently being utilized due to maintenance/rest, bringing these assets online or allowing particular leagues access to more assets would not address this excess demand.

When analyzing **Figure 4**, the first season's requirements are listed in the top chart and the third season requirements are shown on the bottom chart. Total asset inventory available for City of Virginia Beach usages is listed in the "Total Asset Inventory" column. Assets that are "on-line" are shown in the "Total Virginia Beach Sanctioned Programmed Assets" column.

The culmination of the detailed capacity and demand data is shown using two methods – players supported versus registered players and event hours supported versus event hours required (demanded). Totals are based on the current demand placed on each asset type.

Capacity and demand are displayed by player totals to illustrate the total number of persons each field can support as it relates to the actual user base. Player analysis does not provide an understanding of the actual intensity/frequency each asset type is receiving, but an understanding of how many players an asset can support if the usage were to mimic normal usage patterns found on like assets within the geographical area. To provide an understanding of the intensity/frequency, capacity and demand utilization is also shown by hours each asset is actual used as opposed to suggested hours of use based on asset integrity. Player comparison illustrates X players can be supported under normal conditions, and hourly comparison stipulates X number of hours are allowed.

An example of when the necessity to differentiate between player and hourly intensity is as follows:

One usage is comprised of thirty (30) teams that utilize the asset on ten (10) occasions for one (1) hour per team as compared to six (6) teams that utilize the asset on more than fifty (52) occasions for an average of two (2) hours per team. The usage with the greatest number of players (roughly 300 players versus 90 players) is actually utilizing the asset for half as many hours as the usage with the least amount of players.

When analyzing total number of assets required to meet demand based on total inventory available to the City of Virginia Beach user base, the column titled “Number of ADDITIONAL Assets Required by Season” illustrates the total number of additional assets required to meet demand by season – this represents assets in excess of total inventory – on a system wide basis. This figure represents total number of assets required to meet demand based on optimal field usage guidelines and is rolled up to an asset category.

Capacity and demand for sport field assets must be analyzed with the community values prioritized needs assessment from the Master Plan. Although required assets may be in excess of current assets available, meeting additional field requirements can occur through a variety of methods and alternatives. Some alternatives include:

- Analyze existing natural turf multipurpose assets for possible conversion to synthetic turf fields; synthetic surface multipurpose assets with lighting significantly increases capacity
- Purchasing additional land for sport complexes, or community/signature parks which can support multiple fields; sport complexes can be placed within community/signature park sites.

					Players Supported (Normalized Usage Patterns) vs. Registered Players (Actual Demand)		Optimal Facility Usage Hours vs. Actual Facility Usage Hours					
1st Season Analysis; Asset (Field) Types	Total Asset Inventory	Total Virginia Beach Sanctioned Programmed Assets	Total Other Asset Inventory	Total Assets In Use	Average Players SUPPORTED by Asset Type PER SEASON	Average REGISTERED Players by Asset Type PER SEASON	Event Hours per Season Supported PER ASSET TYPE	Event Hours per Season Required PER ASSET TYPE	Number of Assets Required by Season	Number of ADDITIONAL Assets Required by Season	Total NON- PROGRAMMED Assets Remaining in Inventory	% of Assets Available for Maintenance and/or Rest
Baseball - 60-foot base paths	2	2	-	-	-	-	-	-	-	None	2.0	100.0%
Baseball - 90-foot base paths	-	-	-	-	-	-	-	-	-	None	-	0.0%
Softball - 220-foot fence radius	32	32	-	28	1,581.82	548	9,510.59	7,199.48	22.00	None	4.0	12.5%
Softball - 300-foot fence radius	24	24	-	22	1,035.08	643	5,948.57	5,508.39	21.00	None	2.0	8.3%
Multipurpose Field (Small) - <240-foot	7	7	-	7	299.58	1,844	1,618.11	6,554.52	29.00	22.0	-	0.0%
Multipurpose Field (Large) - >300-foot	7	7	-	7	380.71	568	1,951.35	344.38	2.00	None	-	0.0%

					Players Supported (Normalized Usage Patterns) vs. Registered Players (Actual Demand)		Optimal Facility Usage Hours vs. Actual Facility Usage Hours					
2nd Season Analysis; Asset (Field) Types	Total Asset Inventory	Total Virginia Beach Sanctioned Programmed Assets	Total Other Asset Inventory	Total Assets In Use	Average Players SUPPORTED by Asset Type per Season	Average REGISTERED Players by Asset Type per Season	Event Hours per Season Supported	Event Hours per Season Required	Number of Assets Required by Season	Number of ADDITIONAL Assets Required by Season	Total NON- PROGRAMMED Assets Remaining in Inventory	% of Assets Available for Maintenance and/or Rest
Baseball - 60-foot base paths	2	2	-	-	-	-	-	-	-	None	2.0	100.0%
Baseball - 90-foot base paths	-	-	-	-	-	-	-	-	-	None	-	0.0%
Softball - 220-foot fence radius	32	32	-	28	1,580.72	497	9,503.93	4,563.50	14.00	None	4.0	12.5%
Softball - 300-foot fence radius	24	24	-	22	1,026.67	684	5,900.24	7,328.52	28.00	4.0	2.0	8.3%
Multipurpose Field (Small) - <240-foot	7	7	-	7	299.58	1,840	1,618.11	3,909.05	17.00	10.0	-	0.0%
Multipurpose Field (Large) - >300-foot	7	7	-	7	380.71	545	1,951.35	349.88	2.00	None	-	0.0%

					Players Supported (Normalized Usage Patterns) vs. Registered Players (Actual Demand)		Optimal Facility Usage Hours vs. Actual Facility Usage Hours					
3rd Season Analysis; Asset (Field) Types	Total Asset Inventory	Total Virginia Beach Sanctioned Programmed Assets	Total Other Asset Inventory	Total Assets In Use	Average Players SUPPORTED by Asset Type per Season	Average REGISTERED Players by Asset Type per Season	Event Hours per Season Supported	Event Hours per Season Required	Number of Assets Required by Season	Number of ADDITIONAL Assets Required by Season	Total NON- PROGRAMMED Assets Remaining in Inventory	% of Assets Available for Maintenance and/or Rest
Baseball - 60-foot base paths	2	2	-	-	-	-	-	-	-	None	2.0	100.0%
Baseball - 90-foot base paths	-	-	-	-	-	-	-	-	-	None	-	0.0%
Softball - 220-foot fence radius	32	32	-	28	1,617.07	363	9,722.53	2,511.32	8.00	None	4.0	12.5%
Softball - 300-foot fence radius	24	24	-	21	988.37	469	5,680.08	3,500.04	13.00	None	3.0	12.5%
Multipurpose Field (Small) - <240-foot	7	7	-	6	256.78	2,116	1,386.95	7,821.00	34.00	27.0	1.0	14.3%
Multipurpose Field (Large) - >300-foot	7	7	-	7	380.71	565	1,951.35	822.91	3.00	None	-	0.0%

Figure 4 - Capacity - Demand by Season

To accurately calculate the required assets by season, usages must be rolled up to the specific asset type utilized. The capacity and demand calculations presented above in **Figure 4** are by asset type by season. Although it has been determined that capacity does meet demand on a system wide level for all assets except the large diamond sport fields during the second season and small multipurpose fields for all three seasons, it is also important to recognize when demand exceeds capacity on an individual asset basis.

In total – combining the 1st, 2nd, and 3rd seasons – the City of Virginia Beach annually programs 1,436 total usages (536 usages in the 1st season, 634 usages in 2nd season, and 266 usages in the 3rd season) (**Figure 5**).

	Baseball - 60-foot base paths	Baseball - 90-foot base paths	Softball - 220-foot fence radius	Softball - 300-foot fence radius	Multipurpose Field (Small) - <240-foot	Multipurpose Field (Large) - >300-foot
Current Total Assets - Virginia Beach Sanctioned Programming - Total Usages: By Site Classification / Type; by Season (Note: AVAILABLE FOR PROGRAMMING)						
Neighborhood Park Asset Usages; 1st Season	-	-	234	94	8	-
Neighborhood Park Asset Usages; 2nd Season	-	-	252	96	16	-
Neighborhood Park Asset Usages; 3rd Season	-	-	92	34	8	-
Community Park Asset Usages; 1st Season	-	-	34	-	6	-
Community Park Asset Usages; 2nd Season	-	-	28	-	10	-
Community Park Asset Usages; 3rd Season	-	-	10	-	4	-
Metro Park Asset Usages; 1st Season	-	-	-	42	-	-
Metro Park Asset Usages; 2nd Season	-	-	-	36	-	-
Metro Park Asset Usages; 3rd Season	-	-	-	12	-	-
Special Use Area Asset Usages; 1st Season	-	-	32	44	-	42
Special Use Area Asset Usages; 2nd Season	-	-	64	76	-	56
Special Use Area Asset Usages; 3rd Season	-	-	32	32	-	42
Total 1st Season Asset Usages	-	-	300.0	180.0	14.0	42.0
Total 2nd Season Asset Usages	-	-	344.0	208.0	26.0	56.0
Total 3rd Season Asset Usages	-	-	134.0	78.0	12.0	42.0

Figure 5 - Assets by Total Usage

Because multiple usages occur at one asset or individual usages require a large number of asset hours – high asset usage hours are usually attributable to youth programs and the need for practice time as well as game time; conversely, adult programming typically does not practice, or tournament quality programs which have a high utilization factor – individual asset demand and capacity is analyzed.

In accordance with the results shown in **Figure 6 – Total USAGES Exceeding Capacity**, thirteen (13) small softball fields, seven (7) large softball fields, and seven (7) small

multipurpose fields in the first season are operating above capacity. During the second season, three (3) small softball fields, six (6) large softball fields, and seven (7) small multipurpose fields are operating above capacity. And during the third season, three (3) small softball fields, four (4) large softball fields, and seven (7) small multipurpose fields are operating above capacity.

Current Total Assets - Virginia Beach SANCTIONED Assets Where Demand Exceeds Capacity (80% or Greater Capacity): By Site Classification / Type; by Season (Note: Excludes assets classified as "Maintenance")	Baseball - 60-foot base paths	Baseball - 90-foot base paths	Softball - 220-foot fence radius	Softball - 300-foot fence radius	Multipurpose Field (Small) - <240-foot	Multipurpose Field (Large) - >300-foot
Neighborhood Park Assets Exceeding Cap.; 1st Season	-	-	11.0	6.0	4.0	-
Neighborhood Park Assets Exceeding Cap.; 2nd Season	-	-	1.0	6.0	4.0	-
Neighborhood Park Assets Exceeding Cap.; 3rd Season	-	-	1.0	4.0	4.0	-
Community Park Assets Exceeding Cap.; 1st Season	-	-	2.0	-	3.0	-
Community Park Assets Exceeding Cap.; 2nd Season	-	-	2.0	-	3.0	-
Community Park Assets Exceeding Cap.; 3rd Season	-	-	2.0	-	3.0	-
Metro Park Assets Exceeding Cap.; 1st Season	-	-	-	1.0	-	-
Metro Park Assets Exceeding Cap.; 2nd Season	-	-	-	-	-	-
Metro Park Assets Exceeding Cap.; 3rd Season	-	-	-	-	-	-
Special Use Area Assets Exceeding Cap.; 1st Season	-	-	-	-	-	-
Special Use Area Assets Exceeding Cap.; 2nd Season	-	-	-	-	-	-
Special Use Area Assets Exceeding Cap.; 3rd Season	-	-	-	-	-	-
Total 1st Season Assets Exceeding Cap.	-	-	13.0	7.0	7.0	-
Total 2nd Season Assets Exceeding Cap.	-	-	3.0	6.0	7.0	-
Total 3rd Season Assets Exceeding Cap.	-	-	3.0	4.0	7.0	-

Figure 6 - Total USAGES Exceeding Capacity (80% Capacity or Greater)

As noted previously, system wide capacity by asset type does exist; however, there are individual assets which are being over-used in terms of intensity/frequency of hours in use. To meet the high individual usage demand placed on these assets, online assets with additional capacity or off-line assets (assets classified as maintenance or rest) could be utilized to disperse some of the demanded hours across the system. However, the City of Virginia Beach may encounter extensive scheduling issues when trying to shift usages within the already crowded sport field asset inventory. Usages which had a higher amount of hours required than suggested asset hours are:

- Assets exceeding optimal capacity levels, 80% to 99% utilization include:
 - City View Park, Adult Softball 3; 1st Season
 - Salem Woods Park, Youth Softball 1; 1st Season

- Salem Woods Park, Youth Softball 2; 1st Season
- Seatack Community Park, Youth Softball 1; 1st Season
- Seatack Park, Youth Softball 1; 1st Season
- Salem Woods Park, Youth Softball 1; 3rd Season
- Salem Woods Park, Youth Softball 2; 3rd Season
- Assets exceeding total capacity levels, greater than 100% utilization include:
 - Brill Field Park, Soccer 1; 2nd Season
 - Brill Field Park, Soccer 1; 1st Season
 - Brill Field Park, Soccer 1; 3rd Season
 - Fairfield Park, Softball 1; 1st Season
 - Holland Road Soccer Field, Multipurpose Field 1; 2nd Season
 - Holland Road Soccer Field, Multipurpose Field 1; 3rd Season
 - Holland Road Soccer Field, Multipurpose Field 1; 1st Season
 - Landstown Lakes Park, Soccer 1; 2nd Season
 - Landstown Lakes Park, Soccer 1; 1st Season
 - Landstown Lakes Park, Soccer 1; 3rd Season
 - Larkdowns Park, Softball 1; 1st Season
 - Larkdowns Park, Softball 2; 1st Season
 - Larkdowns Park, Softball 3; 1st Season
 - Larkdowns Park, Softball 4; 1st Season
 - Level Green Park, Softball 1; 1st Season
 - London Bridge Park, Softball 1; 1st Season
 - Newlight Park, Softball 1; 1st Season
 - Newlight Park, Softball 1; 3rd Season
 - Newlight Park, Softball 1; 2nd Season
 - Newlight Park, Softball 2; 1st Season
 - Newlight Park, Softball 2; 3rd Season
 - Newlight Park, Softball 2; 2nd Season
 - Ocean Lakes Park, Soccer 1; 2nd Season
 - Ocean Lakes Park, Soccer 1; 1st Season
 - Ocean Lakes Park, Soccer 1; 3rd Season
 - Princess Anne Park, Soccer 2; 2nd Season

- Princess Anne Park, Soccer 2; 1st Season
- Princess Anne Park, Soccer 2; 3rd Season
- Princess Anne Park, Soccer 3; 2nd Season
- Princess Anne Park, Soccer 3; 1st Season
- Princess Anne Park, Soccer 3; 3rd Season
- Red Mill Farms Park, Softball 1; 2nd Season
- Red Mill Farms Park, Softball 1; 1st Season
- Red Mill Farms Park, Softball 2; 2nd Season
- Red Mill Farms Park, Softball 2; 1st Season
- Rosemont Forest Ball Fields, Softball 1; 1st Season
- Rosemont Forest Ball Fields, Softball 1; 3rd Season
- Rosemont Forest Ball Fields, Softball 1; 2nd Season
- Rosemont Forest Ball Fields, Softball 2; 1st Season
- Rosemont Forest Ball Fields, Softball 2; 3rd Season
- Rosemont Forest Ball Fields, Softball 2; 2nd Season
- Salem Woods Park, Multipurpose Field 1; 2nd Season
- Salem Woods Park, Multipurpose Field 1; 3rd Season
- Salem Woods Park, Multipurpose Field 1; 1st Season
- Salem Woods Park, Softball 1; 2nd Season
- Salem Woods Park, Softball 2; 2nd Season
- Stratford Chase Park, Softball 1; 1st Season
- Woodstock Community Park, Softball 1; 3rd Season
- Woodstock Community Park, Softball 1; 1st Season
- Woodstock Community Park, Softball 1; 2nd Season

Detailed asset inventory by usage by asset type, season, and site (park/school) is presented in **Appendix A** of this report. Detailed inventory by usage depicts all usages that occur at a specific asset; some assets have multiple usages per season.

4.1 School Usage

School assets receive heavy usage throughout the year. However, based upon conversations with Department staff, the majority of school usage is for practice activities. Due to the differences in data portraying detail league/user information, school usage is analyzed independent of the usage depicted prior in this report. Detail usage hours by school asset is presented in **Appendix B** of this report. School asset capacity and demand findings are:

- Of the 89 school assets analyzed, 86 are programmed for some type of usage
- Capacity of school assets is based on annual available hours of 4,896; this equates to nearly 13 ½ hours of use per day of the year
- Average demand (usage) of the school assets is 3,026 annual hours; this equates to slightly more than 8 hours and 15 minutes of programmed sport usage per day of the year
- A total of 52 Diamond Field assets are in use at school sites
- A total of 34 Multipurpose Field assets are in use at school sites
- Average utilization of all school assets is 62% (260,257 hours of use; 421,056 hours available)
 - Diamond Field asset utilization rate is 64.1%
 - Multipurpose Field asset utilization rate is 58.3%

School Diamond Field Asset Capacity	254,592
School Diamond Field Asset Demand	163,171
Percent Utilization, Diamond Field Asset	64.1%
School Multipurpose Field Asset Capacity	166,464
School Multipurpose Field Asset Demand	97,086
Percent Utilization, Multipurpose Field Asset	58.3%

Figure 7 – School Asset Capacity and Demand

- None of the school sport field assets are operating above capacity
- Although school sport field assets are not operating at 100% capacity, average daily hours of sports usage (8.29 hours per day) effectively eliminates the school assets as a possible outlet for excess demand being placed on the City assets

4.2 Benefits of Synthetic Turf

When analyzing the benefit of utilizing synthetic turf as opposed to natural turf, not only should the annual maintenance cost saving be studied, but the increase in potential capacity and the guaranteed integrity of the playing surface should also be emphasized.

Due to the differences in normal usage patterns experienced at diamond field assets and multipurpose field assets, it is only recommended that synthetic surfaces be installed at multipurpose fields – the level of intensity associated with “bat and ball” diamond sports is much less than that found in multipurpose field sports (i.e. soccer, football, lacrosse).

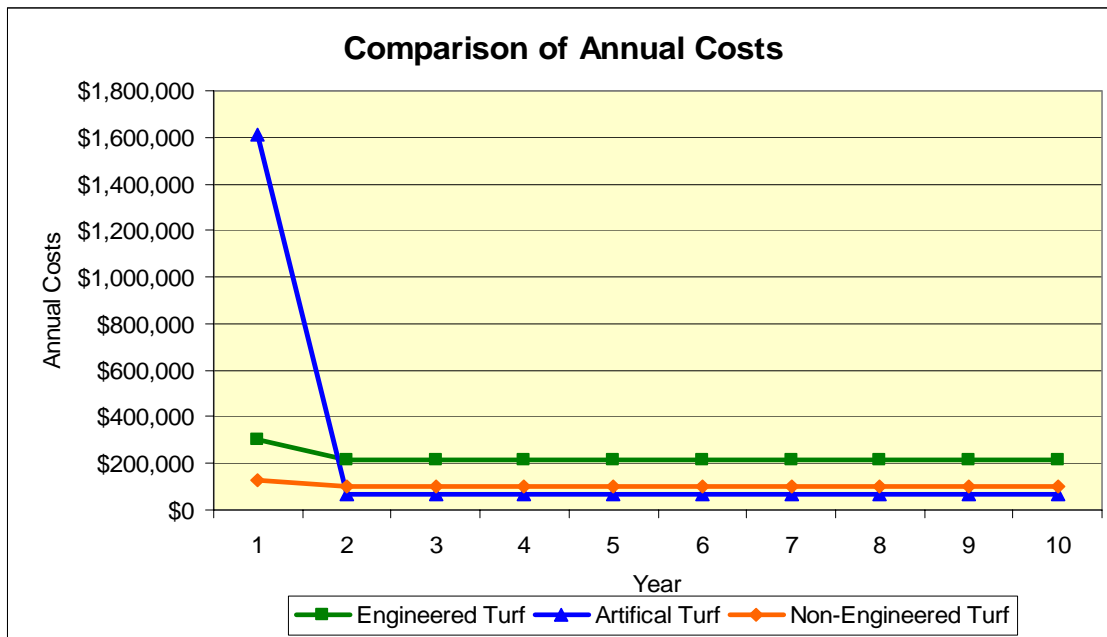


Figure 8 - Annual Cost Comparison by Field Type; Average of 4 Acre Plot

Although overlays are not recommended for natural turf assets, one alternative that may be utilized to help alleviate the need for additional land is the combination of a synthetic multipurpose asset with a corner synthetic diamond field asset. This synthetic surface combination asset is designed to allow the multipurpose field to be completely independent of the diamond field asset infield area; the aggregate infield surface borders the boundaries of the multipurpose field but do not intrude onto the actual playing surface of the multipurpose asset. However, by combining the two distinct assets into one synthetic combination asset (an asset with an overlay), the capacity for each use (multipurpose field asset and diamond field asset) will in essence be reduced by half.

From a cost savings stand point, once the initial investment of the sports field has been made, an annual maintenance costs savings of thirty to sixty percent (30-60%) can be expected when comparing an engineered sport field asset to a synthetic surface sport field asset.

Annual maintenance costs were derived utilizing average tasks associated with maintaining each field by type. This included the following tasks:

- Engineered (Natural) Surfaces
 - Labor – Mowing, fertilization, aerification, edging, pest control

-
- Supplies and Equipment – Fertilizer, seed, fungicide, mower, edger, aerator, irrigation, and top dressing
 - Synthetic Surfaces
 - Labor – Sweeping, grooming, weed control, pest control
 - Supplies and Equipment – various turf supplies, patches, sweeper

Due to the increased – nearly limitless – usage a synthetic surface can accommodate, it is recommended that the City of Virginia Beach explore utilizing synthetic surfaces on future multipurpose fields located at community or signature parks, and special use areas. It is also recommended that at all future sport field projects located in community and signature parks, and special use areas include lighting for convenience of use (natural surface assets) and increased capacity and convenience (synthetic surface assets). Synthetic surfaces with lighting are only limited by the user's ability to schedule free time. Depending on the level of service that the City of Virginia Beach desires to maintain each asset at, the assumptions made for cost comparison may vary.

Diamond Field Asset, Softball - 300-foot fence radius, Season 1, continued

Park Site	Asset Type	Asset Name	Season	Usage Type	Usage Name
Princess Anne Park	Softball - 300-foot fence radius	Princess Anne Park ASoftball 1	1st Season	Youth Baseball	Youth Baseball (City) - Game Fields - S1
Princess Anne Park	Softball - 300-foot fence radius	Princess Anne Park ASoftball 1	1st Season	Youth Baseball	Youth Baseball (City) - Preseason
Princess Anne Park	Softball - 300-foot fence radius	Princess Anne Park ASoftball 1	1st Season	Youth Baseball	Youth Baseball (City) S1
Red Mill Farms Park	Softball - 300-foot fence radius	Red Mill Farms Park ASoftball 1	1st Season	Slow Pitch Softball	Adult Softball (City) - SP - League 1 - Preseason
Red Mill Farms Park	Softball - 300-foot fence radius	Red Mill Farms Park ASoftball 1	1st Season	Slow Pitch Softball	Adult Softball (City) - SP - League 1 - S1
Red Mill Farms Park	Softball - 300-foot fence radius	Red Mill Farms Park ASoftball 1	1st Season	Fast-Pitch Softball	Youth Softball (Independent) S1
Red Mill Farms Park	Softball - 300-foot fence radius	Red Mill Farms Park ASoftball 2	1st Season	Slow Pitch Softball	Adult Softball (City) - SP - League 1 - S1
Red Mill Farms Park	Softball - 300-foot fence radius	Red Mill Farms Park ASoftball 2	1st Season	Slow Pitch Softball	Adult Softball (City) - SP - League 1 - Preseason
Red Mill Farms Park	Softball - 300-foot fence radius	Red Mill Farms Park ASoftball 2	1st Season	Youth Baseball	Youth Baseball (Independent) S1
Rosemont Forest Ball Fields	Softball - 300-foot fence radius	Rosemont Forest Ball Fields ASoftball 1	1st Season	Slow Pitch Softball	Youth Softball (City) - SP - S1
Rosemont Forest Ball Fields	Softball - 300-foot fence radius	Rosemont Forest Ball Fields ASoftball 1	1st Season	Fast-Pitch Softball	Youth Softball (City) - SP - Game Fields - S1
Rosemont Forest Ball Fields	Softball - 300-foot fence radius	Rosemont Forest Ball Fields ASoftball 1	1st Season	Youth Baseball	Youth Baseball (City) S1
Rosemont Forest Ball Fields	Softball - 300-foot fence radius	Rosemont Forest Ball Fields ASoftball 1	1st Season	Fast-Pitch Softball	Youth Softball (City) - FP - S1
Rosemont Forest Ball Fields	Softball - 300-foot fence radius	Rosemont Forest Ball Fields ASoftball 1	1st Season	Slow Pitch Softball	Youth Softball (City) - SP - Game Fields - S1
Rosemont Forest Ball Fields	Softball - 300-foot fence radius	Rosemont Forest Ball Fields ASoftball 1	1st Season	Youth Baseball	Youth Baseball (City) - Preseason
Rosemont Forest Ball Fields	Softball - 300-foot fence radius	Rosemont Forest Ball Fields ASoftball 1	1st Season	Slow Pitch Softball	Youth Softball (City) - SP - Preseason
Rosemont Forest Ball Fields	Softball - 300-foot fence radius	Rosemont Forest Ball Fields ASoftball 1	1st Season	Fast-Pitch Softball	Youth Softball (City) - FP - Preseason
Rosemont Forest Ball Fields	Softball - 300-foot fence radius	Rosemont Forest Ball Fields ASoftball 1	1st Season	Slow Pitch Softball	Adult Softball (City) - SP - League 1 - S1
Rosemont Forest Ball Fields	Softball - 300-foot fence radius	Rosemont Forest Ball Fields ASoftball 1	1st Season	Slow Pitch Softball	Youth Softball (City) - SP - Game Fields - S1
Rosemont Forest Ball Fields	Softball - 300-foot fence radius	Rosemont Forest Ball Fields ASoftball 1	1st Season	Slow Pitch Softball	Adult Softball (City) - SP - League 1 - Preseason
Rosemont Forest Ball Fields	Softball - 300-foot fence radius	Rosemont Forest Ball Fields ASoftball 2	1st Season	Slow Pitch Softball	Adult Softball (City) - SP - League 1 - Preseason
Rosemont Forest Ball Fields	Softball - 300-foot fence radius	Rosemont Forest Ball Fields ASoftball 2	1st Season	Fast-Pitch Softball	Youth Softball (City) - FP - Preseason
Rosemont Forest Ball Fields	Softball - 300-foot fence radius	Rosemont Forest Ball Fields ASoftball 2	1st Season	Slow Pitch Softball	Youth Softball (City) - SP - Preseason
Rosemont Forest Ball Fields	Softball - 300-foot fence radius	Rosemont Forest Ball Fields ASoftball 2	1st Season	Youth Baseball	Youth Baseball (City) - Preseason
Rosemont Forest Ball Fields	Softball - 300-foot fence radius	Rosemont Forest Ball Fields ASoftball 2	1st Season	Slow Pitch Softball	Adult Softball (City) - SP - League 1 - S1
Rosemont Forest Ball Fields	Softball - 300-foot fence radius	Rosemont Forest Ball Fields ASoftball 2	1st Season	Youth Baseball	Youth Baseball (City) S1
Rosemont Forest Ball Fields	Softball - 300-foot fence radius	Rosemont Forest Ball Fields ASoftball 2	1st Season	Slow Pitch Softball	Youth Softball (City) - SP - S1
Rosemont Forest Ball Fields	Softball - 300-foot fence radius	Rosemont Forest Ball Fields ASoftball 2	1st Season	Fast-Pitch Softball	Youth Softball (City) - FP - S1
Rosemont Forest Ball Fields	Softball - 300-foot fence radius	Rosemont Forest Ball Fields ASoftball 2	1st Season	Fast-Pitch Softball	Youth Softball (City) - FP - Game Fields - S1

Multipurpose Field Asset, Small < 240-foot, Season 1

Park Site	Asset Type	Asset Name	Season	Usage Type	Usage Name
Brill Field Park	Multipurpose Field (Small) - <240-foot	Brill Field Park YSoccer 1	1st Season	Junior Soccer	Youth Soccer (Independent) - League 1 - S1
Holland Road Soccer Field	Multipurpose Field (Small) - <240-foot	Multipurpose Field 1	1st Season	Junior Soccer	Youth Soccer (Independent) - League 1 - S1
Landstown Lakes Park	Multipurpose Field (Small) - <240-foot	Landstown Lakes Park YSoccer 1	1st Season	Junior Soccer	Youth Soccer (Independent) - League 1 - S1
Ocean Lakes Park	Multipurpose Field (Small) - <240-foot	Ocean Lakes Park YSoccer 1	1st Season	Junior Soccer	Youth Soccer (Independent) - League 1 - S1
Princess Anne Park	Multipurpose Field (Small) - <240-foot	Princess Anne Park YSoccer 2	1st Season	Junior Soccer	Youth Soccer (Independent) - League 1 - S1
Princess Anne Park	Multipurpose Field (Small) - <240-foot	Princess Anne Park YSoccer 3	1st Season	Junior Soccer	Youth Soccer (Independent) - League 1 - S1
Salem Woods Park	Multipurpose Field (Small) - <240-foot	Multipurpose Field 1	1st Season	Lacrosse or Hockey	Youth Lacrosse (Independent) S1

Multipurpose Field Asset, Small < 240-foot, Season 2

Park Site	Asset Type	Asset Name	Season	Usage Type	Usage Name
Brill Field Park	Multipurpose Field (Small) - <240-foot	Brill Field Park YSoccer 1	2nd Season	Junior Soccer	Youth Soccer (Independent) - League 2 - S2
Brill Field Park	Multipurpose Field (Small) - <240-foot	Brill Field Park YSoccer 1	2nd Season	Junior Soccer	Youth Soccer (Independent) - League 1 - S2
Holland Road Soccer Field	Multipurpose Field (Small) - <240-foot	Multipurpose Field 1	2nd Season	Junior Soccer	Youth Soccer (Independent) - League 2 - S2
Holland Road Soccer Field	Multipurpose Field (Small) - <240-foot	Multipurpose Field 1	2nd Season	Junior Soccer	Youth Soccer (Independent) - League 1 - S2
Landstown Lakes Park	Multipurpose Field (Small) - <240-foot	Landstown Lakes Park YSoccer 1	2nd Season	Junior Soccer	Youth Soccer (Independent) - League 1 - S2
Landstown Lakes Park	Multipurpose Field (Small) - <240-foot	Landstown Lakes Park YSoccer 1	2nd Season	Junior Soccer	Youth Soccer (Independent) - League 2 - S2
Ocean Lakes Park	Multipurpose Field (Small) - <240-foot	Ocean Lakes Park YSoccer 1	2nd Season	Junior Soccer	Youth Soccer (Independent) - League 1 - S2
Ocean Lakes Park	Multipurpose Field (Small) - <240-foot	Ocean Lakes Park YSoccer 1	2nd Season	Junior Soccer	Youth Soccer (Independent) - League 2 - S2
Princess Anne Park	Multipurpose Field (Small) - <240-foot	Princess Anne Park YSoccer 2	2nd Season	Junior Soccer	Youth Soccer (Independent) - League 2 - S2
Princess Anne Park	Multipurpose Field (Small) - <240-foot	Princess Anne Park YSoccer 2	2nd Season	Junior Soccer	Youth Soccer (Independent) - League 1 - S2
Princess Anne Park	Multipurpose Field (Small) - <240-foot	Princess Anne Park YSoccer 3	2nd Season	Junior Soccer	Youth Soccer (Independent) - League 1 - S2
Princess Anne Park	Multipurpose Field (Small) - <240-foot	Princess Anne Park YSoccer 3	2nd Season	Junior Soccer	Youth Soccer (Independent) - League 2 - S2
Salem Woods Park	Multipurpose Field (Small) - <240-foot	Multipurpose Field 1	2nd Season	Lacrosse or Hockey	Youth Lacrosse (Independent) S2

Multipurpose Field Asset, Small < 240-foot, Season 3

Park Site	Asset Type	Asset Name	Season	Usage Type	Usage Name
Brill Field Park	Multipurpose Field (Small) - <240-foot	Brill Field Park YSoccer 1	3rd Season	Junior Soccer	Youth Soccer (Independent) - League 2 - S3
Holland Road Soccer Field	Multipurpose Field (Small) - <240-foot	Multipurpose Field 1	3rd Season	Junior Soccer	Youth Soccer (Independent) - League 2 - S3
Landstown Lakes Park	Multipurpose Field (Small) - <240-foot	Landstown Lakes Park YSoccer 1	3rd Season	Junior Soccer	Youth Soccer (Independent) - League 2 - S3
Ocean Lakes Park	Multipurpose Field (Small) - <240-foot	Ocean Lakes Park YSoccer 1	3rd Season	Junior Soccer	Youth Soccer (Independent) - League 2 - S3
Princess Anne Park	Multipurpose Field (Small) - <240-foot	Princess Anne Park YSoccer 2	3rd Season	Junior Soccer	Youth Soccer (Independent) - League 2 - S3
Princess Anne Park	Multipurpose Field (Small) - <240-foot	Princess Anne Park YSoccer 3	3rd Season	Junior Soccer	Youth Soccer (Independent) - League 2 - S3

Appendix B – Detailed Usage by School Asset

School	Asset	Usage Type	Hours Available	Hours Utilized	Percent Utilized
Alanton Elementary School	Ball Diamond	Baseball/Softball	4,896	3,518	71.9%
Alanton Elementary School	Multipurpose Field	Football/Soccer	4,896	3,379	69.0%
Arrowhead Elementary School	Ball Diamond 1	Baseball/Softball	4,896	3,760	76.8%
Arrowhead Elementary School	Ball Diamond 2	Baseball/Softball	4,896	2,108	43.1%
Bayside Elementary School	Ball Diamond	Baseball/Softball	4,896	3,413	69.7%
Bridneck Elementary School	Ball Diamond 1	Baseball/Softball	4,896	3,836	78.3%
Bridneck Elementary School	Ball Diamond 2	Baseball/Softball	4,896	3,776	77.1%
Brookwood Elementary School	Under Construction	N/A	N/A	N/A	N/A
Centerville Elementary School	Ball Diamond	Baseball/Softball	4,896	2,962	60.5%
Centerville Elementary School	Multipurpose Field	Soccer	4,896	3,268	66.7%
Christopher Farms Elementary School	Ball Diamond	Baseball/Softball	4,896	3,575	73.0%
Christopher Farms Elementary School	Multipurpose Field 1	Football/Soccer	4,896	3,168	64.7%
Christopher Farms Elementary School	Multipurpose Field 2	Football/Soccer	4,896	2,448	50.0%
College Park Elementary School	Ball Diamond 1	Baseball/Softball	4,896	3,016	61.6%
College Park Elementary School	Ball Diamond 2	Baseball/Softball	4,896	3,016	61.6%
Cooke Elementary School	Ball Diamond 1	Baseball/Softball	4,896	1,773	36.2%
Corporate Landing Elementary School	Ball Diamond	Baseball/Softball	4,896	3,575	73.0%
Corporate Landing Elementary School	Multipurpose Field 1	Football/Soccer/Lacrosse	4,896	3,226	65.9%
Corporate Landing Elementary School	Multipurpose Field 2	Football/Soccer	4,896	3,265	66.7%
Courthouse Elementary School	Ball Diamond	Baseball/Softball	4,896	3,642	74.4%
Creeds Elementary School	Ball Diamond 1	Baseball/Softball	4,896	2,599	53.1%
Creeds Elementary School	Ball Diamond 2	Baseball/Softball	4,896	2,679	54.7%
John B Dey Elementary School	Ball Diamond	Baseball/Softball	4,896	2,535	51.8%
John B Dey Elementary School	Multipurpose Field	Football/Lacrosse	4,896	2,373	48.5%
Fairfield Elementary Field	Ball Diamond	Baseball/Softball	4,896	3,538	72.3%
Green Run Elementary School	Ball Diamond	Baseball/Softball	4,896	2,959	60.4%
Green Run Elementary School	Multipurpose Field	Football/Soccer	4,896	2,907	59.4%
Glenwood Elementary School	Ball Diamond	Baseball/Softball	4,896	3,009	61.5%
Hermitage Elementary School	Ball Diamond	Baseball/Softball	4,896	3,430	70.1%
Hermitage Elementary School	Multipurpose Field	Soccer	4,896	3,565	72.8%
Holland Elementary School	Ball Diamond	Baseball/Softball	4,896	2,372	48.4%
Holland Elementary School	Multipurpose Field	Soccer	4,896	2,904	59.3%
Indian Lakes Elementary School	Ball Diamond	Baseball/Softball	4,896	2,968	60.6%
Indian Lakes Elementary School	Multipurpose Field	Soccer	4,896	2,875	58.7%
Kempsville Elementary School	Ball Diamond	Baseball/Softball	4,896	3,538	72.3%
Kempsville Elementary School	Multipurpose Field	Football/Soccer	4,896	1,773	36.2%
Kempsville Meadows Elementary School	Ball Diamond	Baseball/Softball	4,896	3,228	65.9%
Kempsville Meadows Elementary School	Multipurpose Field	Soccer	4,896	2,597	53.0%
Kings Grant Elementary School	Ball Diamond	Baseball/Softball	4,896	3,610	73.7%
Kings Grant Elementary School	Multipurpose Field	Football/Soccer	4,896	3,265	66.7%
Kingston Elementary School	Ball Diamond	Baseball/Softball	4,896	3,601	73.5%
Kingston Elementary School	Multipurpose Field	Soccer	4,896	3,283	67.1%
Landstown Elementary School	Ball Diamond	Baseball/Softball	4,896	2,597	53.0%
Landstown Elementary School	Multipurpose Field	Soccer	4,896	2,479	50.6%
Linkhorn Park Elementary School	Ball Diamond	Baseball/Softball	4,896	3,267	66.7%
Linkhorn Park Elementary School	Multipurpose Field	Soccer	4,896	2,349	48.0%

School Asset Usage, Continued

School	Asset	Usage Type	Hours Available	Hours Utilized	Percent Utilized
Luxford Elementary School	Ball Diamond	Baseball/Softball	4,896	2,176	44.4%
Luxford Elementary School	Multipurpose Field	Soccer	4,896	2,478	50.6%
Lynnhaven Elementary School	Ball Diamond 1	Baseball/Softball	4,896	3,437	70.2%
Lynnhaven Elementary School	Ball Diamond 2	Baseball/Softball	4,896	3,377	69.0%
Malibu Elementary School	Ball Diamond	Baseball/Softball	4,896	3,191	65.2%
New Castle Elementary School	Ball Diamond	Baseball/Softball	4,896	2,337	47.7%
New Castle Elementary School	Multipurpose Field	Soccer	4,896	2,384	48.7%
Newtown Elementary School	N/A	N/A	N/A	N/A	N/A
North Landing Elementary School	Ball Diamond	Baseball/Softball	4,896	3,575	73.0%
Ocean Lakes Elementary School	Ball Diamond	Baseball/Softball	4,896	3,426	70.0%
Ocean Lakes Elementary School	Multipurpose Field 1	Soccer	4,896	2,434	49.7%
Ocean Lakes Elementary School	Multipurpose Field 2	Football/Soccer	4,896	3,486	71.2%
Old Donation Center Elementary School	Ball Diamond 1	Baseball/Softball	4,896	2,744	56.0%
Old Donation Center Elementary School	Ball Diamond 2	Baseball/Softball	4,896	2,684	54.8%
Old Donation Center Elementary School	Multipurpose Field	Football/Soccer	4,896	2,684	54.8%
Parkway Elementary School	Ball Diamond	Baseball/Softball	4,896	2,597	53.0%
Parkway Elementary School	Multipurpose Field	Soccer	4,896	2,904	59.3%
Pembroke Elementary School	Ball Diamond	Baseball/Softball	4,896	2,876	58.7%
Pembroke Meadows Elementary School	Ball Diamond	Baseball/Softball	4,896	1,773	36.2%
Pembroke Meadows Elementary School	Multipurpose Field	Soccer	4,896	1,773	36.2%
Plaza Elementary School	N/A	N/A	N/A	N/A	N/A
Point O View Elementary School	Ball Diamond 1	Baseball/Softball	4,896	3,940	80.5%
Point O View Elementary School	Ball Diamond 2	Baseball/Softball	4,896	3,880	79.2%
Point O View Elementary School	Multipurpose Field	Soccer	4,896	3,257	66.5%
Princess Anne Elementary School	Ball Diamond 1	Baseball/Softball	4,896	3,622	74.0%
Princess Anne Elementary School	Ball Diamond 2	Baseball/Softball	4,896	3,886	79.4%
Providence Elementary School	Ball Diamond	Baseball/Softball	4,896	3,540	72.3%
Providence Elementary School	Multipurpose Field	Soccer	4,896	3,258	66.5%
Red Mill Elementary School	Ball Diamond	Baseball/Softball	4,896	3,575	73.0%
Red Mill Elementary School	Multipurpose Field 1	Soccer	4,896	3,266	66.7%
Red Mill Elementary School	Multipurpose Field 2	Soccer	4,896	3,265	66.7%
Rosemont Elementary School	Ball Diamond	Baseball/Softball	4,896	2,597	53.0%
Rosemont Elementary School	Multipurpose Field	Soccer	4,896	2,904	59.3%
Rosemont Forest Elementary School	Ball Diamond	Baseball/Softball	4,896	2,337	47.7%
Rosemont Forest Elementary School	Multipurpose Field	Soccer	4,896	3,265	66.7%
Salem Elementary School	Ball Diamond	Baseball/Softball	4,896	3,009	61.5%
Salem Elementary School	Multipurpose Field	Football/Soccer	4,896	2,904	59.3%
Seatack Elementary School	Ball Diamond	Baseball/Softball	4,896	3,790	77.4%
Shelton Park Elementary School	Ball Diamond	Baseball/Softball	4,896	3,415	69.8%
Shelton Park Elementary School	Multipurpose Field	Soccer	4,896	1,780	36.4%
Strawbridge Elementary School	Ball Diamond	Baseball/Softball	4,896	3,487	71.2%
Strawbridge Elementary School	Multipurpose Field 1	Soccer	4,896	2,434	49.7%
Strawbridge Elementary School	Multipurpose Field 2	Football/Soccer	4,896	3,486	71.2%