

Athletic Field Master Plan Town of Georgetown Georgetown, MA

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SECTION 1.0 – INTRODUCTION AND PURPOSE

Gale Associates, Inc. (Gale) was engaged by The Town of Georgetown (Town), working through the Recreational Fields Committee, to assist with the development of an Athletic Field Master Plan. The goals of the Master Plan are as follows:

- *To evaluate the physical characteristics of the athletic field venues at the High School/Middle School as well as the West Street fields.*
- *To quantify the field demand use at each of the Town's athletic field venue versus capacity. Usage was quantified at the High School/Middle School, West Street, Penn Brook School, the Perley School, Littles Hill, and American Legion Park.*
- *The demand and capacity was evaluated with and without the West Street fields being available, as we understand the Town is considering discontinuing these fields due to environmental concerns and maintenance limitations with it being located within the Town's public water supply district.*
- *To evaluate and program the Town's need for upgraded, redistributed or new athletic field facilities.*
- *To provide master planning services, resulting in a renovation strategy for the athletic programs and venues that meet the needs of the community. Master Planning efforts considered renovations at the High School/Middle School, Penn Brook School, and the Greenway Parcels defined as Map/Lot 16/11F, 12, 13, 7, 6, 4 totaling approximately 50 acres west of Martel Street.*

SECTION 2.0 – BACKGROUND INVESTIGATION AND EXISTING FACILITIES ASSESSMENT

Section 2.1 – Background Investigation and Base Plan Development

Gale compiled base maps for each of the four (4) Town-owned venues that were evaluated or are being considered for redevelopment, Enclosure 1 – Town Wide Field Location Maps. Typically, in developing a Master Plan Report, Gale will utilize public information such as assessor's maps, Town and State GIS data, aerial maps, and FEMA floodplain maps. Although this information is not suitable for detailed design, it provides a basis on which planning can occur. The base plans are provided in Enclosure 1 - Town Wide Field Location Map.

Section 2.2 – Facility Evaluation

Gale evaluated the West Street Athletic Field (West Street) Complex and the Georgetown Middle/High School (High School). An Athletic Field Evaluation Form was used to log existing field conditions, present equipment and current site amenities at each of the parcels along with providing a general opinion of their condition, see Enclosure 2. Evaluation items listed include, but are not limited to, field size and solar orientation, team benches, dugouts,

backstops, spectator seating (bleachers), fences and gates, permanent field equipment, grounds, irrigation, pedestrian and athletic lighting, structures, surfaces and ADA accessibility. The evaluations will be used not only as the baseline for field evaluations but also in the final rescheduling and redistribution of the athletic field activities as they are integrated into the recommendations of the Master Plan Report.

Gale conducted a facilities inventory and condition assessment of the existing athletic field facilities. The average score within the Athletic Field Evaluation Report rates the presence and the condition of the fields and equipment as they relate to adequacy, safety, serviceability, turf grass, and field compliance with applicable geometry standards.

Gale's rating system is organized as follows: 4=excellent, 3=good, 2=fair, 1=poor, and N/A=not applicable. The Town's field report cards and site photos are provided in Enclosure 2 – Evaluation Forms and Site Photos.

It should be noted that of the nine (9) athletic fields evaluated between the High School and West Street, only the High School Synthetic Turf Field is ADA compliant. Bringing the remaining athletic fields into ADA compliance should be a priority for the Town. Also note that the High School Synthetic Turf Field was evaluated as two (2) fields to separate the baseball/softball components from the rectangular sports components, for rating and evaluation purposes only. It should be clarified for readers that there is one (1) synthetic turf field with a dual baseball/softball and MPR purpose. A brief summary of observations and deficiencies either noted in the evaluation forms in Enclosure 2 or discussed with user groups is as follows:

High School Fields No. 1 "Upper Left" (Average Score = 1.9)

- Neither Softball Field No.1 nor multipurpose rectangular (MPR) Field No. 1 have a designated parking lot or paved access to the fields and are not ADA compliant. Access to the field can be rather challenging given the distance from the parking lot and the steep slope of the gravel pathway leading to the field. Neither field is equipped with site lighting or athletic lighting. The natural turf throughout both fields contains bare spots and the playing surfaces contain small dips and heaves. The infield dirt at Softball Field No. 1 appears to be over compacted, indicating poor drainage. The chain link batting tunnel at Softball Field No. 1 is notably damaged and the interior safety netting is loose or torn. The on-site storage allocated for both fields is outdated and in need of repair. It should be noted that the MPR field scored 1.6 and that the softball field scored 2.1, for an average of 1.9.

High School Fields No. 2 "Upper Right" (Average Score = 2.0)

- Neither Softball Field No. 2 nor Multipurpose Field No. 2 have a designated parking lot or paved access to the fields and are not ADA compliant. Access to the field can be rather challenging given the distance from the parking lot and the steep slope of

the gravel pathway leading to the field. Neither field is equipped with site lighting or athletic lighting. The natural turf on both fields is generally in fair condition, though some bare areas from excessive use are apparent on multipurpose Field No. 2. The soccer and lacrosse goals on multipurpose Field No. 2 are rusting, bent, or missing full netting. The chain link backstop and dugout fencing on Softball Field No. 2 is showing signs of rust and some damage to the wire mesh. It should be noted that the MPR field scored 1.9 and that the softball field scored 2.0, for an average of 2.0.

High School Synthetic Turf Baseball Field (Score = 3.3)

- The access to the field is paved and ADA compliant. The synthetic turf, playing surface, striping, and fencing are all in excellent condition. The field has both adequate site lighting and adequate athletic lighting. The west facing orientation of the field is not ideal solar orientation, although the field would not be feasible in any other configuration. The current location of the spectator seating, parallel and set back from the first base line, leaves spectators exposed to foul balls and ricochets. The outfield encroaches into the turf multipurpose field, resulting in shared field space and scheduling conflicts. However, we are seeing combination baseball/softball/MPR fields becoming more popular since it allows all sports to benefit from the synthetic turf surface and lighting without the need to build multiple facilities.

High School Synthetic Turf Multipurpose Rectangular (MPR) Field (Score = 3.4)

- The access to the field is paved and ADA compliant. The turf, playing surface, striping, and fencing are all in excellent condition. The field has both adequate site lighting and adequate athletic lighting. The run outs from both the northeast and southeast corners of the striped playing field are less than recommended, although it appears that extending run out space while maintaining required field geometry is not feasible.

West Street Athletic Fields (Average Score = 1.7)

- There is currently no paved parking lot or ADA accessible route to the fields. There is no on-site storage. The playing surfaces of all three (3) fields are generally in poor condition as there are depressions and rocks throughout the playing surface as well as bare natural turf in goal areas. Field conditions can be partially attributed to environmental constraints limiting field maintenance. The soccer goals on Field No. 3 are in poor condition. There is no apparent spectator seating throughout the site.

Section 2.3 - Annual Field Use Demand

Scheduled field use data was obtained by Gale through a questionnaire sent to representatives of sports organizations and can be found in Enclosure 3. In addition to field

use, the questionnaire provided information on anticipated participation growth, field conditions, and top priority needs for the respective organizations. This information was discussed further at a meeting in Georgetown on February 26, 2019 where Gale met with the Georgetown Athletic Association (GAA) and invited representatives from all youth and High School sports to share comments on scheduling and field space/deficiencies. Each field facility was reviewed and discussed individually with regards to type of hosted event, time spent on the field per event and how many uses per season that event occurred on each field.

A summary of the information gathered from the questionnaires and supplemental information from the meeting on February 26, 2019 is as noted:

Georgetown Youth Baseball

- Youth baseball has expressed concerns over limited field space and noted that practices are limited. Additional fields would allow for longer practices, more games, and the possibility of a hosting a baseball tournament in Town, which is something that the league desires. Another issue the league encounters is parents and coaches having to leave work early to attend practices and games because Penn Brook Field 1 is the only 60-foot diamond with lights and games need to be scheduled earlier accordingly. The league believes that adding lights at the other existing fields would help scheduling, but lights at any new fields are a necessity. American Legion Park (ALP) also has lights but is a 70' diamond. Georgetown baseball has also expressed the need for additional amenities at the fields. Other than ALP, which has a men's and women's restrooms and a snack bar, the other fields lack amenities.

Georgetown Youth Soccer Association (GYSA)

- GYSA utilizes the West Street complex which may be decommissioned because of environmental issues. Due to environmental concerns, they are unable to perform any maintenance other than weekly in-season mowing and occasional watering. Losing the West Street complex would create severe scheduling issues for GYSA and additional fields would be necessary.
- The High School fields are maintained and mowed by the School and the GYSA understands that the School works hard to maintain the fields, but the budget is constrained so they do not get adequate care. Scheduling also appears to be an issue, especially in the early spring and late fall when fields are deteriorated from over use and daylight is short. The league noted that additional fields with lights would help existing field conditions as it would allow for more time for the fields to recover. Although the league expects level growth over the next five years, they expect field use to increase because of additional training opportunities such as working with Mass Youth Soccer and Essex County to provide additional clinic and development opportunities with local club teams.

Georgetown Youth Field Hockey

- Field Hockey formed two (2) years ago and does not currently field any teams, rather they focus on fundamentals and skills. The league consists of approximately twenty-five (25) players, with goals to reach fifty (50) players in the next five (5) years. They currently host practices three (3) times per week on the High School Synthetic Turf field and do not need any additional field space at this time. However, they do have issues with practices being interrupted by other sports.

Georgetown Athletic Association (GAA) Lacrosse

- Lacrosse has experienced declining growth over the past five (5) years but expects growth in the next five (5) years to be level. They primarily use the High School Synthetic Turf Field and also the fields at Penn Brook. The league appears to have issues with practices being limited to half a field because all age groups practice at the same time. They note that adding lights at Penn Brook would allow for younger age groups to practice there, allowing the older age groups to practice on the full-sized Synthetic Turf field at the High School.

Georgetown Youth Flag Football

- The League experiences scheduling issues due to limited field availability. Games and practices are held on either the High School Synthetic Turf Field or ALP and are limited to one (1) field per day at a set time. Games played at ALP are prone to rainouts due to the fact that part of the field stretches over the baseball infield, and rescheduling the games is challenging. This also creates challenges for multisport athletes to participate because the schedule is not flexible. The league has expressed that athletic lighting and additional fields, preferably synthetic turf, would allow for more flexibility.

Georgetown High School Sports

- Georgetown High School fields consist of the Synthetic Turf Field and two (2) multi-use grass fields with softball diamonds. The school expects growth to remain the same in all sports over the next five (5) years and is not restricted by field space. All grass fields are irrigated and seeded, but the overall quality of the grass fields is poor due to lack of rest. The Upper Left field is used for JV/Varsity Boys/Girls Soccer and Lacrosse and the Upper Right field is used for Softball and Football practices. The Upper Left softball field has severe drainage issues and needs maintenance. The Synthetic Turf Field lacks seating and access is difficult. Practices on the synthetic turf are also limited to 90 minutes rather than two (2) hours because GAA uses the fields from 6:00-9:00 p.m. and the High School uses the fields 3:00-6:00 p.m. More parking on campus would also be beneficial.

GAA Youth Softball

- The GAA Softball league utilizes the High School Synthetic Turf Field and Penn Brook Field 2. Although the league only consists of four (4) teams, they are anticipating 10 percent year over year growth for the next five (5) years. Penn Brook Field 2 is maintained by the coaches and is reportedly in good condition. It is noted that adding lights at Penn Brook 2 would allow additional practice and game options, but the league is not restricted by field space.

The information obtained through the questionnaires and the meeting on February 26, 2019 allowed Gale to compile usage data from each sport league and calculate the total use on each field per year. The total number of “uses” each field hosts per year was determined through the following methodology. First, the amount of Time Per Event (TPE) was set at 1.5 hours, as a typical amount of time for a game or practice event of baseball, softball, football, soccer, lacrosse or field hockey or any other field event listed by User Organization. The Time Per Event (TPE) is an average time used to estimate total annual field use. Second, a Frequency of Use (FOU) was determined per field event per week, per season, and per year. For example, Youth Field Hockey meets for three (3) hours per week (equating to approximately 2 scheduled uses per week), for eight (8) weeks in the fall season. The Field Use (FU) of that event is then calculated: 2 uses/week X 8 weeks = 16 field uses/year. This procedure is done for each recreation and athletic playing field in this study. The quantification of field use demand is provided in Enclosure 4 – Field Use Evaluation – Current Use Matrix. It provides a summary of the annual team and organization uses for the Town’s existing recreation and athletic fields.

A well-constructed and irrigated natural turf field that is properly rested and maintained can typically sustain approximately 250 team-uses per year. To sustain high quality and safe athletic turf under the maximum volume of use is dependent upon how well the field is built and to what degree the fields are maintained and if an Inclement Weather Policy is enforced.

The results of the Current Use demand quantification indicate that the Town’s fields are being used to accommodate approximately 4,655 team events per year. This number is based on scheduled events only and does not include undocumented uses. Approximately seven (7) of the thirteen (13) recreation and athletic areas currently experience more than 250 scheduled team uses per year, and four (4) of those fields experience more than 485 uses per year. The four (4) fields include Fields 1 and 4 at Penn Brook Elementary, the Synthetic Turf Field at the High School, and ALP. There are six (6) recreational areas that experience less than 250 scheduled team uses per year and include Field 3 at Penn Brook Elementary, the Upper Right and Upper Left fields at the High School, West Street Fields G4a and G4b, and Little Hills.

According to the Current Use quantification analysis, it appears that soccer and baseball have the most annual scheduled uses, with lacrosse being the next largest user. Football,

Field Hockey, and Softball use the fields as well with other miscellaneous uses including kickball, boy scouts, adult leagues, and summer sports clinics.

Section 2.4 - Equivalent Field Use Analysis

When comparing the field uses on the field turf, one must consider that different sport activities result in different levels of stress and wear on the playing field. Some fields are primarily used for high/medium contact sports, where play is more aggressive, increasing the stress loads on the field and the rate of field wear and deterioration. Other fields are primarily used for low-contact sports and the stress on the field is not as detrimental. While the “Current Use” is a good indication of scheduled team-uses, the “Equivalent Use” (Enclosure 5) is a better indicator of stress imposed on the field.

Based on our experience, we have applied an equivalent use factor of 1.0 to High School Soccer as the baseline of field impact and deterioration. Gale estimates that football is much more damaging to the turf and assign it a 2.0 equivalent use factor accordingly. Similarly, baseball and softball are not as damaging and are assigned a factor of 0.75. Other equivalent use factors for various sports were assigned based on estimated turf impact, and then multiplied by the number of scheduled uses for each type activity to yield the Equivalent team-uses in terms of turf impact and damage.

Based on the results from the Current Use data in Section 2.3 and applying the use factors, Gale developed an Equivalent Use Demand matrix. In accordance with this data, six (6) of the twelve (12) natural turf athletic areas in Town are overburdened and accommodate more than the suggested 250 events per year. Synthetic turf fields are much more resilient than natural grass fields and are typically restricted by schedule, not by field condition. A well-maintained and lighted synthetic turf field can typically sustain 750 or greater uses per year. Based on the user questionnaires, it appears that the synthetic turf field is fully scheduled with 932 scheduled uses per year.

Typically, heavily used natural turf athletic fields require a thirty to forty-five (30-45) day rest period during an active growth period in the fall or the spring. The Equivalent Use (weighted field use) per field event is provided in Enclosure 5, and, as shown, it is apparent that the athletic fields are not afforded the consistent and appropriate rest period needed during the year due to their full use schedule. A rest period allows the predominately blue grass field to repair itself by rhizome propagation and “re-knitting” of the root-zone. This process does not take place during the summer, when cool weather grasses like Kentucky blue grass are dormant. This is a significant challenge for virtually all public schools and municipal organizations.

SECTION 3.0 – FIELD USE REDISTRIBUTION

Section 3.1 – Redistribution of Athletic Programs

As mentioned above, for each field to achieve a sustainable playing surface, the total number of equivalent uses is not recommended to exceed approximately 250 per year and the fields should have adequate maintenance and should not be used when wet. To accomplish this, uses on fields with higher existing demands would need to be moved to fields with lower existing demands in an attempt to distribute uses more evenly throughout the Town. Clearly, the redistribution of uses must occur by moving uses to appropriately sized fields. For example, high school soccer would not be moved to a youth sized field. Of the six (6) fields that are not overused, one (1) of them is Little's Hill and two (2) are at West Street. Little's Hill is the smallest youth soccer field type and the property line constraints do not allow for a larger youth field and therefore cannot help alleviate the other larger overburden fields. Also, the environmental concerns at West Street make redistributing uses there unlikely. This leaves three (3) fields that have less than the suggested 250 uses and includes Penn Brook Field 3 and the Upper Left and Right fields at the High School. It is Gale's understanding that the Upper Left field at the High School experiences severe drainage issues and this may be a reason why scheduled uses are low. Field improvements may make this field more viable and a better option for use redistribution. Also, Field 3 at Penn Brook is a youth size soccer field and it is dimensionally restricted because it is located above a leaching field. It is clear that the ability to move sports around to different fields is challenging and creates scheduling conflicts. It is reasonable to conclude that additional fields are warranted to allow for expansion of youth leagues, more opportunity to rest fields, and more opportunity to limit schedule constraints.

The field deficit data shown below and found in Enclosure 6, shows the number of additional natural turf fields that the Town needs for all-natural turf fields to have under 250 uses. The same method was used for the Synthetic Turf Field, but instead shows the number of additional synthetic turf fields the Town needs for the Synthetic Turf Field to have under 750 uses. The average use per field is determined by dividing the Total Uses per field type by the number of fields. For example, the 60' baseball diamonds experienced 1,020 uses between the two (2) fields and is calculated as follows: $1,020 \text{ total uses} \div 2 \text{ fields} = 510 \text{ uses per field}$. It appears that 60' baseball diamonds have the greatest field deficit as three (3) additional fields are needed. It is understood that Penn Brook Field 2 is a 60' softball diamond, but Georgetown Youth Baseball also utilizes the field. This was accounted for when quantifying the Total Uses, however, considering the field is a 60' Softball Diamond it was counted as a softball field under 'Current Number of Fields.' To clarify even further, the two (2) 60' baseball diamonds include Penn Brook Fields 1 and 4. The three (3) softball diamonds include Penn Brook Field 2 and the Upper Left and Upper Right Fields at the High School.

Field Deficit Data - Based on Equivalent Use (Existing Fields)					
Use Type	Total Uses	Avg use per Field	Total Fields Needed	Current No. of Fields	Field Deficit
Natural Turf Fields					
60' Baseball	1020	510	5	2	3
70' Baseball	416	416	2	1	1
60' Softball	146	49	1	3	-2
90' Baseball	130	130	1	1	0
MPR-F	360	360	2	1	1
MPR-Y	1059	212	5	5	0
Synthetic Turf Field					
Softball/Baseball	54	54	1	1	0
MPR-F	879	879	2	1	1

F=Full Size

Y=Youth Size

Note: Fields needed and field deficit data is based on natural grass. Synthetic turf with lights can count for three (3) natural fields.

Gale also explored the effect that decommissioning the West Street complex would have on field deficit data and redistributed uses to other fields, seen below and found in Enclosure 6 and 7. With the decommissioning of West Street, three (3) additional MPR-Y fields are needed. Note that from the questionnaires it is Gale's understanding that many of the fields already experience scheduling conflicts and redistributing the uses to other fields may not be logistically feasible.

One additional field that youth soccer may be able to redistribute uses to is the East Main Street field. This is currently an open natural grass field that was intended to be developed into a baseball diamond in the future but will remain as an open grass field for the foreseeable future. It was not included in this study because it is currently not completed. Gale was involved with the design and bid of a gravel parking area at the site that would allow access to the open grass field. Gale understands that this project is expected to be completed by the Spring of 2020. Assuming the East Main Street project is completed and the Town allows access to the fields, it appears that two (2) youth soccer fields would be able to fit in the open area. If West Street is decommissioned, this area could be a viable option to add youth soccer fields, or possibly a combined 60'/70' baseball field with a youth soccer field. One additional location that could receive Youth Soccer uses is Perley Field. According to use data, the field currently hosts some Youth Soccer uses, and more could be moved here if scheduling allows.

Field Deficit Data - Based on Equivalent Use (West Street Decommissioned)					
Use Type	Total Uses	Avg use per Field	Total Fields Needed	Current No. of Fields	Field Deficit
Natural Grass Fields					
60' Baseball	1020	510	5	2	3
70' Baseball	416	416	2	1	1
60' Softball	146	49	1	3	-2
90' Baseball	130	130	1	1	0
MPR-F	360	360	2	1	1
MRP-Y	1059	530	5	2	3
Turf Field					
Softball/Baseball	54	54	1	1	0
MPR-F	879	879	2	1	1

F=Full Size

Y=Youth Size

Note: Fields needed and field deficit data is based on natural grass. Synthetic turf with lights can count for three (3) natural fields.

Gale also understands that the Town plans to install a leaching field beneath the Upper Fields at the High School. Gale does not recommend installing synthetic turf fields over the leaching area, therefore, Conceptual Design Options 1 through 3 include natural turf playing areas at the High School. Option 4 proposes a synthetic turf field inside of a proposed track at the Upper Right Field. This appears to be a viable option if the Town finds a strong need to construct a running track and if the leaching field could be located elsewhere. MassDEP Title V does not appear to exclude the use of an irrigated natural turf athletic field over a leaching field, however, Gale strongly recommends that this be verified and further considered by the local Board of Health and the Town's wastewater engineering consultant.

Section 3.2 – Athletic Field Master Plan

Upon review of all the athletic field information including questionnaires, evaluation forms, and discussions with High School and youth sports representatives, Gale has compiled a Master Plan for the athletic venues evaluated. As noted above, four (4) conceptual design options are presented in Enclosure 8 of this report. Each option correlates to a Redistributed Use chart to show the number of uses per field for each option, see Enclosure 7.

Conceptual Design Option 1 assumes that the GYSA can continue use of the West Street Athletic Complex. With this assumption, the Field Deficit Data found in Enclosure 6 shows that three (3) 60' baseball diamonds and one (1) MPR-F field are needed. It also shows that there are two (2) extra softball fields that can be decommissioned, therefore, Option 1 removes the softball field from the Upper Right Field at the High School. In addition, improvements to the existing MPR portion of the Upper Right field include widening the

playing surface, ADA accessible walkways, and an ADA vertical platform lift. Property lines at the High School allow for expansion at the Upper Left Field and Option 1 shows the addition of a 60' baseball diamond and a repositioned softball diamond and a youth soccer field. The berm between the Upper Left and Upper Right Fields would be removed and a grass slope would be constructed in its place. Gale also added an 81 capacity two-tiered parking area to the North of the High School. The existing area is wooded and slopes upward from the existing parking lot to the Upper Left Field. Retaining walls would likely be necessary to construct the parking lot. Further design is necessary to confirm the feasibility of this parking area. Option 1 also includes adding a 60'/70' baseball diamond at the East Main Street complex which would provide Youth Baseball a field which could be used for both 60' and 70' diamonds, helping minimize their field deficit.

Conceptual Design Option 2 assumes that the West Street Complex is decommissioned. It also assumes that the Greenway Parcels cannot be developed. With West Street decommissioned, the Field Deficit Data found in Enclosure 6 shows that the three (3) West Street fields need to be replaced. Therefore, Option 2 includes converting the Upper Right Field at the High School to a natural turf MPR field with two (2) 180'x300' soccer fields and four (4) youth size soccer fields. Note that there is also an option to play full size men's and women's lacrosse on the Upper Right Field. This field also includes a natural grass 60' softball diamond. The fields are situated so that when the softball field is in use, two (2) of the youth size soccer fields could be used simultaneously. The Upper Right field also may require a retaining wall along the eastern property line. The Upper Left Field includes similar improvements as Option 1, but adds a 90' baseball diamond in the expanded area and a 60' baseball diamond in the opposite corner. Adding the 90' baseball diamond would allow for baseball uses to be removed from the existing synthetic turf field at the High School and therefore open the opportunity for more uses by other sports. There would also be an option to include a 190'x330' soccer field between the baseball diamonds and youth soccer fields could be played there as well. The 81 capacity two-tiered parking area, maintainable grass slope, and ADA vertical platform lift discussed in Option 1 are also included in Option 2. Additional youth soccer fields are proposed at the East Main Street Recreation Complex so that Youth Soccer has additional fields for when there are scheduling conflicts with the High School. It should be noted, without additional field space in Town, Enclosure 7 shows that the renovated fields would still be somewhat overused. Deliberate field maintenance and a strong inclement weather policy will be needed.

Conceptual Design Option 3 assumes that the Greenway Parcels off Martel Way are available to develop, and it is also assumed that the West Street Complex is decommissioned. In this scenario, the High School fields are to generally remain as existing with minor improvements to provide better playing surfaces and accessibility. This includes a new 60' natural turf softball diamond at the existing Upper Left softball field and new natural turf men's and women's lacrosse fields at the Upper Right field. Option 3 also includes constructing a 60'/70' baseball diamond at East Main Street.

The Greenway Parcels appear to allow for further expansion opportunity. Given that it is assumed West Street is offline, Option 3 includes three (3) youth soccer fields at the

Greenway Parcels. It also includes a full-size MPR field and an additional full-size soccer field that could accommodate more youth soccer field if needed. In addition, it includes two (2) 60' baseball diamonds, an amenities building, two (2) basketball courts, four (4) tennis courts, a playground area, and approximately 247 parking spaces. Parcel 11F would be the access point off Martel Way and it is important to note that it appears a bridge would be needed to cross the wetlands in the area. Also, Gale was not able to access the site to review slopes or any other site conditions which could affect construction costs. Gale also understands that the Town currently does not own Parcel 13, which would be needed for access to the area where the fields are proposed. Permitting the entrance road through the wetland and open water would be challenging and possibly not feasible.

Note that the cost estimate found in Enclosure 9 did not provide a cost for the bridge because further engineering study would be needed to determine soil conditions, permitting fees, and other costs associated with the bridge. In addition, the cost estimate does not include a cost to purchase Parcel 13.

Conceptual Design Option 4 assumes that GYSA can continue the use of the West Street Athletic Complex and the Greenway Parcels cannot be developed. This option specifically looks at the feasibility of constructing a track and synthetic turf field on the Upper Right Field at the High School. The proposed track is a 125' radius 6-lane oval with 8-lane straightaway and includes field events such as discus, high jump, and long jump/triple jump. A retaining wall may be required along the eastern property line and the northern portion of the track straightaway. An amenities building and an 817 person capacity bleacher is also included. The Upper Left field is similar to Option 2, but includes a 60' softball diamond in lieu of the 60' baseball diamond to account for the proposed track replacing the softball field on the Upper Right field. This allows for a softball field to remain on campus for the Middle and High School sports. The 81 capacity two-tiered parking area and ADA vertical platform lift are also included in Option 4.

SECTION 4.0 – PHASING AND COST ESTIMATES

As shown in Section 3.2, Gale provided four (4) Conceptual Design Options that varied depending on the availability of the West Street Athletic Complex and the Greenway Parcels. Throughout the study, Gale has been in contact with the Recreation Fields Committee and understands that it appears more likely that the West Street fields will be decommissioned. Conceptual Design Options 2 and 3 focus on this scenario and it appears that Option 2 is the most feasible. As shown in Option 3, developing the Greenway Parcels would add field space, but it may not be feasible because the Town does not own Parcel 13 which is needed to provide access, the wetlands would require extensive permitting for a bridge crossing, and the topography within the area is unknown. Also, the Greenway Parcels are located approximately 3 miles from the High School, which could create transportation challenges for Middle and High School sports who use the fields.

Conceptual Design Option 2 appears to be more desirable as it will allow Middle and High School sports to stay on campus and provide convenient access for students and parents by staying within close proximity to the center of Town. Also, Gale understands the High School lacks sufficient parking and Option 2 includes adding parking which would be beneficial for the School and for sporting events. Another advantage is that developing the High School fields would maximize the available space on the property by expanding the Upper Left field and widening the Upper Right field. Also, as the Field Evaluation forms show in Enclosure 2, the Upper Left and Right fields are in poor condition and need to be renovated. In addition, the fields are the likely location for a leaching field system which will require excavation and repair of the fields. If the leaching field is coordinated with the field renovation efforts, then this could result in construction cost efficiencies.

Option 2 also accounts for the decommissioning of the West Street fields by adding youth soccer fields at the High School and East Main Street. This will mitigate the loss of three (3) youth fields at West Street and will provide Youth Soccer two (2) excess youth sized fields which will be necessary due to probable scheduling conflicts at the High School fields. An additional 90' baseball diamond has been added in Option 2 at the Upper Left field although the Field Deficit Data doesn't show that this is needed, see Enclosure 6. However, this will enable baseball uses to be removed from the synthetic turf field which will allow for maximizing uses on the MPR synthetic turf field. Also, a 60' baseball diamond has been added at the Upper Left field and a 60' softball diamond has been removed to reflect field deficit needs. Another advantage of expanding the Upper Left field is that there's an option to include a full-size soccer field or youth soccer fields in the shared outfields between the baseball fields. This provides an additional option for Youth Soccer and an extra full-size field for the High School.

As noted previously, Option 2 does not completely fulfill the field deficit issues in Town. However, assuming that West Street is decommissioned and Greenway is not developable, this makes the High School fields and East Main Street the only logical places to relocate Youth Soccer fields uses. Scheduling youth soccer on the High School fields without lighting, as shown in Option 2, could create scheduling challenges with High School Sports.

It is also important to consider the disruption that construction activities will have on the High School fields. During construction and the grow-in period for the grass, field uses will need to be relocated to other fields in Town, which will be challenging considering the lack of available field space. Therefore, phasing the construction of the Upper Left and Upper Right fields could be a viable option to preserve some of the field space during construction. However, if the leaching field construction effects both fields, it would be logical to complete the work simultaneously. Also, completing both fields at the same time would be more cost effective.

If phasing the work is more appealing to the Town, Gale suggests the following phasing strategy and cost estimates for Option 2:

Phase 1. Phase 1 includes rebuilding the natural grass Upper Right Field. This includes widening the existing field to include two (2) 180'x300' soccer fields, four (4) 135'x180' soccer fields, and a 60' softball diamond. A vertical platform lift with access from the gym is also included as well as ADA accessible walkways throughout the field. Gale suggests constructing the Upper Right field first because the Upper Left field includes constructing the parking lot. The wooded area where the parking lot is proposed would most likely be the construction entrance to the field, so constructing the parking lot as Part of Phase 2 is preferred.

Option 2 Phase 1 Cost Estimate: \$1,188,289

Phase 2. Phase 2 includes expanding the natural turf Upper Left Field to include a 60' and 90' baseball diamond with a full-size soccer field in the shared outfield area. The phase also includes constructing the proposed 81 capacity two-tiered parking lot, ADA accessible walkways, and the clearing and removal of the berm separating the Upper Left and Right fields to be a maintainable grass slope.

Option 2 Phase 2 Cost Estimate: \$2,293,999

It should be noted that cost estimates provided in the report are based on conceptual design and are intended for order of magnitude preliminary budgeting purposes only. No survey, geotechnical or engineering design has been performed, which could impact the estimates. All figures are subject to change during final engineering and design.

SECTION 5.0 – MAINTENANCE AND BUDGET

The implementation of a Master Plan to expand/enhance recreation facilities is only effective if the work completed is properly maintained. This section summarizes those activities that are routinely accomplished in the maintenance of high-quality athletic fields, and provides recommendations with regards to maintenance activities, resources, and budget for proper maintenance of the athletic fields in the Town.

Turf grass management practices may vary throughout the various playing fields, according to the type of play that is occurring in each locale and according to the stage of development of the athletic fields. Soccer, softball and baseball each dictate a different set of conditions that require unique management approaches. Additionally, specific areas within soccer fields are subject to different stresses (e.g., goal mouths, versus midfield and side line areas). Athletic complexes cycle through various stages of development including construction, grow-in, and maturity, each requiring a different approach to management. The below is intended to be a general guide for turf grass maintenance.

Section 5.1 – Maintenance Activities

Natural Grass Field Maintenance. The following sections provide a description of each maintenance activity. Symbols are provided in parentheses after each activity name for

quick reference.

5.1.1 Soil Sampling, Spring Inspection, Work Order Scheduling (I)

Soil tests should be taken annually for each athletic field and open grass area by early April. Samples can be submitted to the Soil & Plant Tissue Laboratory at the University of Massachusetts. The testing will establish the existing pH and micronutrient deficiencies for each facility and prescribe an amendment strategy to result in optimal turf grass development. Additionally, by establishing the actual turf grass nutritional requirements, rigorous testing of each field results in “as-needed” applications that are environmentally sensitive and cost effective. Results of these tests should be due to Georgetown by April 1 each year.

An individual maintenance worker can accomplish soil testing. A single worker can sample and ship an estimated ten to twelve playing fields per day. The cost of analysis for four (4) samples per field vary in price. Preliminary turf inspection of facilities can be performed at the same time by parks staff and is vital as the turf is the most critical part of the playing experience for athletics, and the most visible component of grassed park areas. In addition, to the turf inspections done in conjunction with soil sampling, maintenance staff can observe the ‘base line’ conditions of the facilities they work on. Maintenance staff should be the most familiar with individual sites and can identify possible safety and maintenance issues such as divots, low spots, broken sprinkler heads, and the turf moisture level. Any observations need to be reported to and documented by the Operations Manager.

5.1.2 Spring Clean Up, Service Irrigation, Inspect and Repairs (S)

The spring cleanup should be a deliberate, planned evaluation and repair program that addresses each facility in Town. It should begin as early as weather allows equipment to be on the fields without damaging the turf, usually in mid-April.

There are several valuable facility inspection checklists for overall park safety and serviceability, which should be executed for each playing field and its associated facilities (seating, scoring, public toilets, concessions, lighting, irrigation, etc.). The resultant inspection record and the recommendations therein must be compiled into a prioritized listing of maintenance and repair requirements that may be recommended for budgeting purposes.

Irrigation:

One of the most critical early spring maintenance requirements is the inspection and servicing of irrigation systems at each facility. The irrigation system servicing should include:

1. Turning the power on to the irrigation controller.

2. Re-install and test backflow preventers (if removed) and open the valves to the water source including all system isolation valves that were used for winterization.
3. Visually inspect pump systems and clean out any dust and debris that has settled on and around the pump.
4. Check the tension on any belts to the pump.
5. Once the pump is inspected, activate the pump with the controller and allow the irrigation main to pressurize.
6. Walk the water line route and check for any leaks at the valve locations.
7. Once this is complete, turn on each irrigation zone (one at a time) and again inspect the water coverage and make sure each sprinkler head is operational. It is a good practice to keep a supply of sprinkler heads and electronic valve starters in stock, so that defective ones can be replaced without delay.
8. Two (2) to three (3) days after irrigation lines are pressurized, walk the facility in order to detect any wet areas that may indicate a leak in pressurized irrigation lines that may indicate a need for repair.
9. Inspect and review irrigation application rates and zones regularly during the season to ensure proper coverage and amounts. Over-watering can damage turf more than under-watering.

For purposes of a budget development, it is impossible to predict the overall spring clean-up and repair effort required, as it will vary from year to year and from facility to facility depending on things like winter damage, surrounding tree cover, vandalism, and deferred maintenance. We have made a general assumption that the overall assessment, servicing the irrigation system, and clean-up and repairs required at each field takes 0.5-man days.

5.1.3 Weed and Pest Control Applications (P)

Herbicide and pesticide applications are a critical tool for turf managers in maintaining a vigorous stand of turf. The proper use, monitoring and application of these materials is vital in order to work effectively for their intended purpose, avoid damage to the environment and be cost effective. Application, storage and purchase of these materials must be done in the presence of a person certified in their use and treated areas may be required to be prominently tagged or signed for the public. In recent years, organic weed and pest control products have been introduced to the turf managers' palette. The choice of what methods and

materials are used is sometimes the choice of the turf manager but is frequently regulated by state or local ordinance. The key to proper herbicide and pesticide application is an integrated approach that includes all the best practices for moisture, fertilization and turf stress control, as well as proper seasonal timing.

These methods are referred to as Integrated Pest Management (IPM) practices. IPM is an approach to pest control, which seeks to anticipate and address the full range of physical, cultural and biological factors affecting the development of pest populations at a given site. The gathering of information on potential pest populations ensures that as the turf becomes established, maintenance staff has the knowledge and tools necessary to anticipate and address likely pest problems.

Pre-emergent herbicide (typically for crabgrass) should be used in March before germination of weed seeds. For highly infested areas, an additional application may be applied in mid-May. Post emergent herbicides (such as Round-Up® or Confront®) should be used as deemed necessary by the park's superintendent or turf manager and are rarely used for other than spot applications.

Pesticides should be used sparingly, as deemed necessary for a specific infestation, as reviewed by the Operations Manager. Chemicals used must be of recent manufacture, should be ordered as needed and used immediately to avoid storage. Only approved chemicals that do not present health hazards should be used. The superintendent should approve any herbicide or pesticide application program used on a public property prior to application, an annual review of procedures is recommended.

For application of selected pesticides and herbicides, the resource table assumes labor at 0.5-man days for each field.

5.1.4 Fertilizer Spreading (F)

Fertilization is done in order to provide micronutrients to the soil and acts as a "food" for the turf-grass plant. Fertilization should generally be done in the early spring and summer and supplemented on selected fields in the fall on an as needed basis. This ensures that sufficient nutrients are available to develop healthy root zones during the peak growth period of May and June. The amount and type of fertilization should be adjusted for each field or facility based on the soil tests performed during spring inspections. As-needed applications of fertilizer save on materials costs and help prevent algae problems in adjacent waterways.

While actual fertilizer quantities will be dictated by soils testing results, for planning and budgeting purposes, it is assumed that fields will receive approximately one to two (1 to 2) applications of fertilizer (not more than five (5) pounds of nitrogen per

1,000 square feet) per year. The Operations Manager will need to determine the optimal release time of the nitrogen based on field conditions, anticipated use, and time of year.

A granular materials spreader generally applies fertilizer. Organic, inorganic and/or synthetic fertilizers can be applied by hand, walk-behind spreaders or contracted spreaders for larger applications. Calibration of spreaders must be done to equipment regularly according to ground speed, type and size of material in order to accurately apply materials to the turf at the correct rate. Soils testing will recommend application rates for specific nutrients and is determined by the needs of the turf and type of soil, which affect the movement of the fertilizer and availability of nutrients to the grass plants. Application must be done in a uniform, even pattern to avoid stripping, caused by too much or not enough fertilizer applied. Turf should be watered after application of materials to work it into the soil and avoid tracking. A typical athletic field takes approximately three (3) man-hours to fertilize and requires a materials spreader, utility truck and trailer.

All employees who handle or apply fertilizer, pesticides and herbicides must have the proper training and certifications and have the proper protective gear available for use. These materials should be ordered and applied as soon as possible to avoid storage issues and possible damage. Where appropriate, proper notifications and signage must also be displayed prior to application.

5.1.5 Cut Grass, Empty Trash, Re-Stripe, Rake Out Infield (Maintenance Rectangular/Maintenance Baseball, MR/MB)

Mowing is done to avoid having the grass go to seed, to maintain a safe, playable surface and to maintain a healthy vigorous stand of turf. Mowing is also performed to maintain a healthy, dense viable carpet of plants. It encourages root depth, grass strand density, root mass and rhizome development. It is done to keep the plants at a height that provides safe footing, cushioning and soil retention.

During the playing season, mowing on most fields will normally be conducted once a week. Mowing is usually included with litter pick-up, trash removal and striping of fields. Mowing heights should be adjusted from 2.5 inches during the spring growing season until mid-July, to 3.5 inches from mid-July to mid-September during the dry hot summer season, and then gradually brought back down to 2.5 inches during the fall season. Generally, not more than one-third ($\frac{1}{3}$) of the blade should be cut at any one time during any mowing activities.

To prevent damage to the grass blades and root systems mowing should not be conducted when frost is present on the ground, the ground is muddy, or during rainfall. It should be expected that grass will go dormant and may 'brown-out' both in the winter season, and in the heat of the summer. Clippings may be discharged on site. The direction of mowing should be changed each week to avoid wear

patterns in the turf. Mowers should be maintained regularly to ensure even, sharp blades. Do not refill mowers on the playing surface, and check equipment regularly for fuel, oil or hydraulic leaks that can kill turf grass and form mysterious patterns.

Using hand mowers, rotary mowers and reel mowers can accomplish mowing practices. Reel mowers are preferred for the best cut, and height control. The general guidelines for mowing are:

1. Mower blades should be kept sharp at all times, even if this means sharpening every day.
2. Refill mower fuel prior to starting work away from lawn areas.
3. Patrol site and remove sticks, litter and debris from mowed areas.
4. Remove no more than 1/3 of the grass plant at any one mowing.
5. The rate of turf growth determines mowing frequency, but no more than seven (7) days between mowing is recommended when possible.
6. Mow in alternate direction to avoid layover of turf blades, wear patterns and compaction.
7. The user groups using the facility should agree upon the height of the turf with the maintenance staff. No shorter than two and a half (2 ½) inches for blue grass is recommended.

The equipment used, and the amount of the plant being cut off determine optimum square foot per hour. The time needed to perform this task will vary depending on the mower width from four (4) acres per hour to twelve (12) acres per hour.

For baseball and softball fields, the MR/MB activity includes grooming of the infield as well as use of application of surface infield conditioner in localized areas as necessary.

Completion of mowing, trash removal, striping and raking of infields (baseball only), is assumed to require four (4) hours of labor. Equipment used will include a utility truck, trailer, mower (rider and deck) and blowers/trimmers.

5.1.6 Maintenance of the Synthetic Turf Field (MST)

The Town currently has one (1) synthetic turf field at the High School in its inventory of athletic facilities. There are generally only a few maintenance activities required for a synthetic turf field. However, it is often discovered that most municipalities do

not perform any maintenance on their synthetic turf fields which can lead to premature failure and over compaction of infill. Most synthetic turf field manufacturers provide a field groomer or sweeper upon installation of the field. The equipment is generally a pull-behind sweeper that is intended to rejuvenate the infill materials and reduce compaction. There are also sweepers and magnets that provide removal of particles, fibers and debris that maybe on the surface of the turf. Manufacturers also typically recommend that the goal-mouth areas and localized areas of high demand be supplemented with infill. Infill material is usually leftover after construction and can be stored and used to sprinkle by hand at localized areas where demand is at its highest. In cases where synthetic turf fields are located within a track and a perimeter drain is installed, maintenance workers may need to inspect and clean areas where infill or debris has collected in the drain and to ensure that buildup at the interface between the turf and track is removed. The resource table for MST assumes 3.5 man-hours and a tractor, groomer, and blowers.

5.1.7 Aeration (A)

Aeration alleviates compaction and develops deep-rooted turf. It is accomplished by creating holes in the root zone of the soil profile, which allow moisture, nutrients and oxygen to penetrate to the root zone. Aeration also breaks up thatch, which helps contribute to the organic content of the soil and breaks the mat on the soil surface.

The best aeration method is a 1/2" + hollow tine aerator that removes plugs from the soil. When done over a period of years and followed by top dressing with sand, it is possible to dramatically improve the drainage character and compaction of the root zone and improve its ability to drain properly and resist compaction.

Aeration is generally performed as follows:

1. Walk the field to remove rocks and trash. Flag all irrigation heads and valve box locations to avoid damage.
2. Water the field and let soak for several hours, if the moisture level is not adequate to allow penetration.
3. Core-aerate twice, once at each opposing angle to maximize the number of holes per square foot.
4. Allow cores pulled to surface to dry out.

5. Light-drag the area to break up cores on the surface, - or rake and remove cores.
6. Follow up immediately with top dressing with sand and/or over seeding.

Core to a depth of 2 ½" to 3" for most turf areas that are under stress from compaction or wear, and 4"-5" penetration for athletic fields with the need to break the compaction zone. Exercise care not to damage shallow buried irrigation or electric lines.

A slicing aerator can be used during the playing season without affecting the field playability.

Other aeration machines do deep tine aeration or deep hollow core aeration. The machine drives spikes into the soil at 90°, pulls out at a 45° angle to the surface so that it literally rips into the soil below and fractures the subsoil relieving deep soil compaction. Field managers must have intimate knowledge of the depth of irrigation and electrical lines to prevent having to make unnecessary repairs.

Aeration on municipal fields is typically performed once or twice per year depending on field use, soil structure, field condition and need to achieve field classification playing conditions. Soccer goal mouths should be aerated a minimum of every 21-30 days. The following breakdown applies to one person per task:

Core Aeration:	70 minutes per field per occurrence
Slicing:	50-60 minutes per field per occurrence
Deep Tine Aerating:	90-100 minutes per field per occurrence
Goal and Wear Areas:	30 minutes per field per occurrence

Completion of aeration of the fields and localized areas is assumed to require 0.5-man days, as well as use of an aerator, utility truck, trailer, and tractor.

5.1.8 Topdressing (TD)

Topdressing adds soil, sand or other beneficial organic material or soil amendments (as determined by turf needs) to the surface of the turf. Topdressing is a maintenance method that adds material to the surface of growing turf to fill low areas, decrease compaction, or increase the organic content of the topsoil. Topdressing can, over a period of years, change the quality of existing in-place topsoil without taking the field off-line for a long period. Topdressing is also necessary for repairing low areas and high wear areas that typically form during regular use of a field. Topdressing usually follows core aerating operations to fill core voids and is followed by over seeding to add turf cover. For topdressing and over seeding to work properly, fields need to be taken off-line for at least a month during a growing season to let existing turf and over seeding re-establish. If soil

testing indicates the need for additional organic matter in the topsoil, compost, peat, topsoil or other dry organic material can be used. Typically, coarse sand or a mix of sand and organic matter is used for topdressing to improve topsoil drainage characteristics and relieve compaction.

Topdressing is normally performed as follows:

1. The topdressing material of choice is bulk mixed, loaded and drop-spread from a hopper conveyor or top dresser. Topdressing worn areas is typically done by hand in areas such as soccer goalmouths or field centerlines.
2. Review soil sample results as noted in Section 5.1.1. Observe soil density, thatch thickness, root structure and soil composition.
3. Evaluate needs of the field and determine appropriate mix to offset problems observed in the sample.
4. Order topdressing mix and have delivered to site.
5. Inspect and fill low areas or worn areas by hand.
6. Fill the top dresser, check conveyor and material drop mechanism for desired rate of drop.
7. Distribute evenly over the playing surface following a prescribed pattern.
8. Surface can then be light dragged or raked.

Topdressing is generally done once per year, however may be done twice per year and more if a field or soil demand, and the use of the field allows. Soccer goalmouths are topdressed following core aeration. This task usually takes one person 3-4 hours for full field application, while goal mouths take as little as 15-20 minutes per goal area.

5.1.9 Over seeding (OV)

Over seeding is recommended for all well used athletic fields and is typically performed in the spring and fall seasons. Over seeding is the spreading of turf grass seed over established turf, bare areas or areas of stressed turf in order to increase the density of actively growing turf grass and fill-in bare or worn areas on a field. In New England over seeding is typically done in the spring and fall because warm days and cool nights are ideal for turf establishment and seed growth. Fall is especially effective for over seeding as weather conditions and moisture conditions are

optimum and weed competition is at a minimum. Over seeded fields must have ample down time to allow for the grow-in period and proper seed establishment. Over seeding is most effective when combined with aeration and topdressing activities to increase soil contact of the seed. Turf managers need to judge whether to dethatch or vertical mow fields prior to over seeding to increase soil contact, as well as select the proper seed for how they are managing the field. Fertilizer should be added after over seeding has been conducted.

Over seeding can be done by different methods, which is usually determined by the size of the area to be over seeded and available equipment. A mechanical tow-behind seeder with a high capacity bulk spread box is typically used for large areas. Broadcast spreaders and manual raking can be used for spot applications like sidelines or goals mouths. Over seeding should be done in conjunction with topdressing for filling low areas or when repairs are made around irrigation heads or utility boxes. Preparation for over seeding usually includes some combination of aeration, topdressing and dethatching, and is generally performed as follows:

1. Grade, level and crown field by topdressing as needed.
2. Add soil amendments as recommended reduce compaction and/or increase organic content.
3. Apply fertilizer as recommended.
4. Determine rate of seed application from size of seed and condition of the area to be over seeded. Bare areas require a higher rate than over seeding an established turf stand.
5. Always insure the seed has contact with the soil after application. Do this by dragging or applying a thin layer of topdressing and a light drag or brooming. Soil contact is critical for germination and sustained growth.
6. Set irrigation operation to maintain satisfactory soil moisture always. After germination maintain moisture level, mow at 2 ½" and fertilize every 21-days until plants reach maturity. Do not over water.

Over seeding using a bulk spreader typically takes one (1) person two (2) hours per field, depending upon equipment used and the size of area being over seeded.

5.1.10 Irrigation Operations (IR)

The irrigation activity was established to capture the cost of the time spent in adjusting and monitoring field irrigation systems, as well as the utility costs for irrigation operation. To estimate the cost, we assumed that the irrigation season

was from June through August. We also assumed that each field footprint received a half inch of irrigation per week and used this figure to determine the average volume of water used on a typical field. The costs to service, repair, and winterize the irrigation systems were captured in this model separately as they were included in the spring clean-up and fall-clean-up activities described above.

5.1.11 Fall Clean Up, Leaf Removal, and Late Fall Facilities Inspection, Repair and Irrigation System Winterization (W)

The Fall Clean-Up Program should be a deliberate, planned evaluation and repair program that addresses each facility in Town. It should begin as early as the use of the facility allows and be completed before cold weather threatens the irrigations system, usually by mid to late November.

As noted in the Spring Clean-Up section, there are several valuable facility inspection checklists for overall park safety and serviceability that should be implemented for each facility and its associated improvements (seating, scoring, public toilets, concessions, lighting, irrigation, etc.). The resultant inspection record and the recommendations should be compiled into a prioritized listing of maintenance and repair requirements, and the resultant work orders be completed during the winter and early spring.

Irrigation:

One of the most important fall maintenance requirements is the inspection and winterization of the irrigation system at each field before freezing weather has a chance to cause damage. There are several steps to shutting down and winterizing the system which can be completed by parks staff or an outside contractor with specialized equipment for removing water from the irrigation pipes.

1. Disconnect the electrical supply to both the controller and any pumps within the system.
2. Shut off the water supply source (well).
3. Use an air compressor that attaches to the system to “blow-out” the remaining water within the system.
4. As portions of the system are clear of water, close any isolation valves to that part of the system.
5. Remove the backflow preventer from non-frost protected systems as recommended by the manufacturer.
6. Once the entire system is purged, the winterization is complete.

Budget two (2) men, four to six (4 to 6) hours to complete if using own staff. If an irrigation service is used, budget \$200/field for winterization.

The other significant, labor-intensive requirement during the Fall Clean-Up is leaf removal. The removal of leaves from park areas, athletic turf and planting beds is essential to park aesthetics and the long-term health of turf grass areas. We have assumed that a combination of leaf blowers and vacuum trucks are used for this purpose.

For purposes of budget development, it is impossible to accurately predict the fall clean up and repair effort required, as it will vary from year to year and from facility to facility depending on things like playing season damage, tree cover, exposure, vandalism, and deferred maintenance. We have made a general assumption that the overall assessment of each field will take .25 man-days. That servicing the irrigation system at each field will take .5 man-days, and that the actual clean-up and repairs required at each field will take 0.5 man-days.

5.1.12 Lime Application (L)

Lime application will generally be conducted during the last two weeks of November. Lime requires up to six months to break down and have the desired effect on soil pH.

Lime should be applied to soil based on the pH results and recommendations of the soil testing required in Section 5.1.1. Not more than 50 pounds of Lime per 1,000 square feet shall be applied at any time. Lime is typically spread using a granular materials spreader, and a typical field can be completed in approximately two hours with motorized equipment. For large lawn areas, purchasing and applying lime in bulk and having it applied more efficiently with specialty equipment (e.g. by a contractor) can provide a savings by avoiding equipment maintenance and labor costs.

5.1.13 “Off-Season” Maintenance Requirements (E)

Off-season maintenance activities include work which is deferred during the playing season, to seasons where less direct maintenance is required. Off-season maintenance also includes items which must be accomplished in the off season to properly prepare for the next turf grass growing and playing season. A partial listing of these activities is as follows:

- Annual services on all maintenance equipment. This generally includes thorough inspection and repair, a change of all fluids, sharpening, calibration, filter replacement, and tuning.

- Annual cleaning, service and repair of athletic equipment and facilities. (e.g. goals, goal posts, dugouts, bases, netting, etc.)
- Inventory of all hand tools and materials, repair and ordering replacements as needed.
- Completion of all the hazmat, pesticide, herbicide and fertilizer reporting requirements and logs.
- Staff professional development training on such topics as Integrated Turf Management requirements, OSHA safety, re-certifications, operational and procedural training. The professional development training has been scheduled in February and early March, during the calendar year when no outside work is being done. This will allow for optimal staff attendance and program benefit.

SECTION 6.0 – INCLEMENT WEATHER POLICY

How a field is scheduled is an important consideration in its ability to sustain heavy use with an acceptable decrement in turf condition. Obviously, a field with 250 scheduled uses stretched out over the year (April through November), behaves differently than if this use was broken up with rest period(s) provided. Ideally, a natural turf field should have a 30-day rest period during the active growing season (spring or fall) to repair the root zone damage it has sustained and to propagate new crown growth. Alternatively, this rest period can be in the summer time. However, a summer rest period is less effective, as the turfgrass is somewhat dormant.

It should be noted that it only takes playing once on a very wet field to destroy the turf root zone for that season. An effort must be made not to play games or even practice on fields that are excessively wet. Based on the conclusion that the Town's fields sustain heavy use, an Inclement Weather Policy is strongly recommended as a management tool for preventing damage to fields in the event of inclement weather.

The enforcement of a restrictive inclement weather policy by field managers is the single best management practice available. A typical policy addresses the importance of not playing on fields during wet conditions. Such a policy protects the safety of players, the condition of the fields and serviceability of the facilities. It is also fiscally responsible to local taxpayers. The policy should outline condition assessment procedures and the responsibility of the Recreation Commission, Department of Public Works, athletic team staff and players, as they relate to inclement weather and field use. A complete inclement weather policy should include information on its purpose, implementation procedures, field closure guidelines, communication processes, procedure enforcement and penalty procedures. The Inclement Weather Policy should be provided to all permitted field users,

as well as posted at all facilities to inform unscheduled users of the importance of prohibiting use during inclement weather.

The following is a sample Inclement Weather Policy.

SAMPLE INCLEMENT WEATHER POLICY

PURPOSE

Town athletic fields are designed and maintained for the enjoyment and use of all residents. The purpose of this policy is to inform the public of certain rules and restrictions for fields to (1) prevent damage to the playing surface and (2) injuries to field users caused by inclement weather or unsafe playing conditions. An effective field maintenance program and inclement weather closure policy is essential for safety, upkeep, and enjoyment for all residents and visitors.

Field users are asked to help us by adhering to the following rules and procedures. Groups who use Town athletic facilities are expected to assist in protecting their participants and the fields during periods of rain and other inclement weather. With respect to field quality, it only takes one practice or game to destroy a field that is not ready for play.

POLICY

The Parks & Recreation Commission reserves the right to cancel or suspend outdoor facility and field use, including uses subject to an issued permit, for games, practices and other uses whenever field conditions might result in damage to the fields or injury to players.

Permits may also be cancelled when the health or safety of participants is threatened due to existing or predicted conditions, including but not limited to heavy rains, thunderstorms, and air quality alerts.

It is the field user's responsibility to visit the Recreation Commission homepage to verify field closures. Closed fields may not be used.

The Recreation Commission enforces field closure notices, and if groups are found using closed fields, the permit holder may be charged for the cost to repair the field against a field security deposit paid by the group at the beginning of the playing year. Additionally, if the Department determines that permit holder has violated the field closure notice on multiple occasions, the entirety of their permit may be revoked and that organization's or group's ability to acquire future permits shall be under review.

PROCESS

The Recreation Commission uses various resources to get the most accurate conditions report at a site. These resources include coaches, Town employees, referees, and umpires. Information may be collected from one or more of these sources prior to a decision to close a field. Once the decision is made, the hotline and Recreation Commission homepage are updated.

Weather is very difficult to predict. To assist with closure decisions, the Department utilizes weather forecasts from various sources. However, the Department reserves the right to close a field when a determination is made that use might cause damage or injury.

Please use the breakdown below as general guide for which fields are closed.

Rain

Artificial Turf – Open until conditions become unsafe for play

Natural Turf – Closed

Note: Fields may be offline for multiple days for the field to completely dry-out and return to a playable condition.

Thunderstorm

Artificial Turf – Closed until storm passes (unless field becomes saturated)

Natural Turf – Closed (may reopen)

Reopening dependent on amount of rainfall, the Recreation Department will make determination.

Snow or Ice

Artificial Turf – Please refer to the Recreation Department website or weather hotline to determine the status of artificial fields after snowfall.

Natural Turf – Closed

End of Sample Policy

SECTION 7.0 – OVERALL CONCLUSIONS

The Master Plan is the first step in identifying inventory constraints, community needs and a planning program to help the Town of Georgetown better meet the recreational needs of the community. Gale determined the level of use for each athletic facility and formulated a planning program based on these use levels. Based on these assessments and the meetings with members of the Youth and High School sports organizations, this report finds that seven (7) of the thirteen (13) fields analyzed in this study are currently overused (greater than 250 uses per year for natural turf and greater than 750 uses per year for synthetic turf) as shown in Enclosure 5. It appears that redistributing uses to existing fields to alleviate the burden on the overused fields may not be feasible based on scheduling conflicts. In addition, the decommissioning of the West Street Fields would create more scheduling conflicts in Town and it is evident that additional fields would be needed.

Gale concluded that many of the existing athletic fields have deficiencies in similar areas, which include little to no rest periods which are essential to turf growth and establishment, field areas devoid of turf (a potential safety hazard), drainage issues, a lack of site amenities, and a lack of ADA accessibility. It is also clear that the Town needs additional fields to allow the existing fields time to rest and allow the natural turf to grow. Gale's Master Plan provides four (4) conceptual options based on the following scenarios; 1) GYSA can continue use of the West Street Fields but the Greenway Parcels are not developable, 2) the West Street Fields are decommissioned and the Greenway Parcels are not developable, 3) the West Street Fields are decommissioned but the Greenway Parcels are open to development, and 4) GYSA can continue use of the West Street Fields and the a track and field are installed at the High School. These four (4) Options are outlined in greater detail in Section 3.2 of this report. Gale's Master Plan provides a planning program that will guide the Town of Georgetown in its goal to provide adequate and safe athletic fields to its community.