

APPENDIX I



Athletic Fields Renovation Feasibility Study Lynnfield High School Lynnfield, Massachusetts

July 3, 2013

table of contents

1. Background & Feasibility Study Objectives
2. Background Investigation & Site Constraints
3. Conceptual Design and Project Costs
4. Permitting Requirements
5. Conclusions and Recommendations

appendices

- A. Zoning Map, Aerial Imagery, USGS Map
- B. NRCS Web Soil Survey Data
- C. Soil Test Pit Logs
- D. FEMA Floodplain Maps, Habitat Map
- E. Existing Conditions Plan
- F. Conceptual/Schematic Plans
- G. Floodplain Storage Volume Calculations
- H. Pre-Design Cost Estimate
- I. Linden Engineering Memorandum
- J. Sample Preliminary Milestone Schedule

Gale JN 716030

Gale Associates, Inc.

163 Libbey Parkway | P.O. Box 890189 | Weymouth MA 02189-0004

P 781.335.6465 F 781.335.6467 www.galeassociates.com



**LYNNFIELD HIGH SCHOOL
ATHLETIC CAMPUS RENOVATIONS
FEASIBILITY STUDY
LYNNFIELD, MA**

SECTION 1 – BACKGROUND AND FEASIBILITY STUDY OBJECTIVES

Gale Associates, Inc. (Gale) was engaged to assist the Lynnfield Fields Committee (Fields Committee) with a feasibility study for the potential development and reconfiguration of the Lynnfield High School athletic campus. The feasibility study is the second phase of a Town-Wide Needs Assessment and Master Plan that was completed by Gale for the Town of Lynnfield (the Town). Based on the results of the Master Plan, demand for athletic fields in Lynnfield greatly exceeds the quantity of athletic fields currently available in the Town. The shortage of athletic fields was calculated in the Master Plan as a deficit of approximately five to six (5-6) multi-purpose rectangular (MPR) fields. The Fields Committee engaged Gale to conduct a feasibility study for the redevelopment of the Lynnfield High School athletic campus to mitigate the current shortage of athletic fields in the Town.

The process used to complete the feasibility study focused on three specific tasks, which are summarized as follows.

1. Perform a background investigation and site evaluation to determine the geotechnical, topographical and environmental resource area constraints that may impact the development potential of the site, including floodplain analysis, soil test pits and a utilities investigation.
2. Perform a supplemental topographical survey in the vicinity of the proposed field improvements and compile existing survey data to develop an updated existing conditions plan.
3. Prepare an update to the preliminary Master Plan layout for the proposed reconstruction of the Lynnfield High School athletic fields, including the preliminary design of grading and drainage concept plans.

This report documents the prevailing site conditions and constraints, preliminary concept plans, pre-design cost estimates and the permitting requirements to allow the Fields Committee to assess the development potential of the Lynnfield High School athletic fields.

SECTION 2 – BACKGROUND INVESTIGATION AND SITE CONSTRAINTS

The Lynnfield High School athletic campus contains one (1) 90' baseball diamond, one (1) 60' softball diamond, three (3) multi-purpose rectangular fields, as well as a shared multi-purpose field within the outfields of the diamonds. The athletic campus also includes a full



outdoor basketball court and four (4) tennis courts. A facility assessment was performed as part of the Needs and Assessment and Master Plan completed by Gale in March of 2013. The following is a summary of the athletic campus evaluation.

The overall turf quality of the fields is fair to poor, which is due to poor turf growth density, lack of sufficient seasonal maintenance, weed infestation, as well as areas of poor drainage and planarity. The quantity of demand placed on the athletic fields greatly exceeds the industry standard of 250 team uses per year. This amount of use has resulted in athletic fields which are over-compacted, have poor root zone development and are a significant strain on the maintenance resources provided by the Town. An extremely aggressive maintenance plan is required to sustain the demands placed on the existing fields, and the Town does not have the resources to provide such preservation measures.

The redevelopment of the Lynnfield High School athletic campus, as proposed in the Master Plan, includes installation of three (3) synthetic turf field areas, as well as the redevelopment of the existing natural turf baseball and softball facilities (refer to Appendix F for the Conceptual Layout Plan). The preliminary concept plans also include the development of spectator seating, an amenities building, athletic lighting and site walkways. To determine the feasibility of such development, Gale performed a soil analysis, topographical survey, limited floodplain analysis, and a wetland and habitat evaluation. The following information summarizes the findings developed from these efforts.

Topography

Gale obtained an existing conditions plan previously developed for the Town, in September of 2000, by John G. Crowe Associates, Inc. In June of 2013, Gale performed a topographic survey of the project area to supplement the record information and develop an updated existing conditions plan of the site. The plan was adjusted to the NAVD88 Vertical Datum, to be consistent with recent benchmarks and elevations used to develop the flood zones, which will be discussed in a later section (refer to Appendix E for the Existing Conditions Plan).

The topography of the site generally slopes from west to east, at 1-2%, from the Lynnfield High School's main building toward the wooded area to the east of the school. The land is currently used as the athletic campus for Lynnfield High School and is generally considered to be flat. The low point of the site is the Bordering Vegetated Wetlands (BVW), which are located within the wooded areas to the east of the athletic campus. The BVW area was delineated by Gale's wetland scientist and is discussed in a later section of this report.

The main athletic campus slopes from an elevation of 109 feet at the west side of the baseball facility, to an elevation of approximately 103 feet at the tree line along the eastern boundary of the athletic campus. The BVW area is located to the east of the tree line. The majority of the athletic campus consists of multi-purpose rectangular fields, a baseball field and a softball facility. To the west of the primary athletic campus is the upper athletic



field, consisting of a small, rectangular, multi-purpose field at an elevation of approximately 112 feet.

Soils

Based on the United States Department of Agriculture (USDA) National Resources Conservation Service (NRCS) Web Soil Survey, the athletic campus consists mainly of "Udorthents, smoothed", which are defined by the NRCS as "areas from which soil material has been excavated, and nearby areas in which this material has been deposited". The original soil material is generally "excessively drained to moderately well-drained, and ranges from nearly level to very steep." The Udorthents classification generally does not provide detailed information of the prevailing soil conditions. Please refer to Appendix B for the NRCS Web Soil Survey Data.

A total of five (5) test pits were performed to determine the subsurface soil profile, drainage characteristics and seasonal high groundwater elevations (refer to Appendix C for the related test pit logs and locations). The majority of the test pits consisted of a surface layer of dark, organic topsoil, to depths between 24 and 28 inches, followed by a layer of sandy loam of varying depths, between 3 and 5 feet below grade. The underlying compact till varied in silt content in each test pit, ranging from a sandy loam to a silt loam, and containing various amounts of gravels, cobbles and stones. The structure and consistency of the material observed between 5 and 9 feet in depth was typically massive and firm in place, was saturated in several areas, and displayed characteristics of soil within the groundwater table. Silt traces were observed in the soil material at lower depths of the test pits, and some in areas between 30 and 56 inches.

Seasonal high groundwater elevations were estimated, based on observed standing water in the test pit, weeping from the sides of the test pit and redoximorphic features. The majority of the test pits contained standing water, as well as weeping; both of which are indicators of groundwater elevation. Redoximorphic features were not abundant or visible in most of the test pits. The elevation of seasonally high groundwater varied slightly at each test pit and is estimated to be located between 99 feet and 102 feet in elevation, or an average of approximately four feet below prevailing grade. Please refer to Appendix C for the groundwater elevations estimated at each test pit location.

Based on these findings, the anticipated soil conditions will moderately support infiltration and are expected to adequately support development of a new athletic surface and site features, including retaining walls, athletic lights, bleachers, scoreboards and walkways. There were no geotechnical conditions observed during the test pit procedures that would result in a cost premium for site development, such as ledge, peat or compressible clays. A full geotechnical investigation will be needed prior to proceeding with design development.

Wetlands and Critical Habitat

According to Massachusetts Global Information System (MassGIS), a bordering vegetated wetland (BVW) exists to the east of the athletic campus. In addition to the BVW, a



perennial stream is located further east of the BVW. A 200-foot riverfront setback is associated with any perennial stream, but neither the stream nor the setback fall within area of the existing athletic campus. The Massachusetts Wetland Protection Act protects resource areas, such as BVWs, and also requires that work within their 100-foot buffer require the filing of a Notice of Intent (NOI). The Town of Lynnfield's Wetlands Protection Bylaws are more stringent than state law and also protect areas with 50-foot and 25-foot of the BVW. A "25-foot No-Disturb Zone" prohibits any activity, including grading and alteration, within 25 feet of the BVW. A "50-foot No-Build Zone" limits the development that is permitted within 50 feet of the BVW and prohibits the development of structures within this zone.

Gale's wetland scientist performed a wetland delineation to determine the exact location of the BVW. Based on the delineated wetland line, the 25-foot, 50-foot, and 100-foot buffers have been located. Please refer to the Existing Conditions Plan at Appendix E for locations of the BVW and associated buffers.

According to the latest Massachusetts Natural Heritage & Endangered Species Program (NHESP) Atlas, there is no Priority Habitat or Rare Species located within the project site (refer to Appendix D for the NHESP Map).

Floodplain

The Massachusetts Wetland Protection Act (310 CMR 10.00) defines "Land Subject to Flooding" as the boundary of the flood zone, as determined by the National Flood Insurance Program (NFIP), which is currently administered by the Federal Emergency Management Agency (FEMA). FEMA develops a Flood Insurance Rate Map (FIRM), which locates the 100-year floodplain on an aerial map and provides floodplain elevations in areas where they have been determined to exist by FEMA.

A portion of the project site is located within the 100-year flood zone, according to the FIRM for the site. The FIRM, updated in 2012, has determined flood zone elevations in the project area. At the main athletic campus, the flood plain elevation ranges between 104 and 105 feet. Based on these elevations, Gale has located the 100-year floodplain on the Existing Conditions Plan. Please refer to Appendix D for the FIRM and Appendix E for the Existing Conditions Plan.

Where a project involves removing, filling, dredging or altering of Land Subject to Flooding, the Wetlands Protection Act has developed performance standards that must be met. These requirements include the following:

1. Compensatory storage shall be provided for all flood storage volume that will be lost as a result of a proposed project within Bordering Land Subject to Flooding. Compensatory storage shall mean a volume not previously used for flood storage and shall be incrementally equal to the theoretical volume of flood water at each elevation, up to and including the 100-year flood elevation.



2. Work within Bordering Land Subject to Flooding, including that work required to provide the above-specified compensatory storage, shall not restrict flows so as to cause an increase in flood stage or velocity.

The conceptual layout plan for the redevelopment of the athletic campus involves work within Land Subject to Flooding. The conceptual grading plan has been preliminarily designed in a way that provides compensatory storage for all flood storage volume that will be lost as a result of the proposed project. The grading plan results in a net earthwork "cut", which also results in additional areas of flood storage. Gale has calculated the incremental volume of flood storage at each elevation up to and including the 100-year floodplain elevation. The calculation shows that compensatory storage is provided for all flood storage volume that will be lost. The conceptual design appears to meet the criteria of the Wetlands Protection Act as it relates to work within Land Subject to Flooding.

Refer to Appendix F for the Conceptual Grading Plan and Appendix G for the preliminary flood storage volume calculations.

Utilities

Drainage. Currently the Lynnfield High School athletic campus does not have a subsurface drainage system to provide storm drainage for the athletic fields. In its existing condition, stormwater flows overland from the west to the east, toward the existing wetland at the low point of the facility. To the north of the athletic campus, adjacent to the existing parking lot, a French drain and a series of catch basins and drain manholes collect runoff from the parking lot. The runoff is ultimately piped through a 30" concrete storm drain pipe, where it is released at a headwall located within the wooded area east of the athletic fields. An additional storm drain outlet is provided at the southern low point of the facility, just south of the baseball field. A catch basin collects runoff at the low point beyond the baseball outfield and releases it through a 12" metal pipe to the adjacent wooded area. In the preliminary design, both of these storm drain outlets are maintained and will be the ultimate point of discharge for the proposed drain system.

Electric. Electric service is currently provided from Essex Street by the Reading Municipal Light Department (RMLD) to the Lynnfield High School facilities. Electric service is provided for lighting of the parking lot located just northeast of the athletic campus, as well as to the scoreboards currently located within the athletic facility. The preliminary design assumes that electric service for the site and athletic field lighting, PA system, irrigation controls, scoreboards and an amenities building would be provided through RMLD and branched from the existing service at Lynnfield High School or from Essex Street. We have not confirmed that the electrical service required for athletic lighting is available and adequate. Please note that the preliminary cost estimate (refer to Appendix H) assumes no premium is required for bringing a new service upgrade to the site.

Gas. The preliminary design includes an amenities building to provide storage, concessions and restrooms for the proposed facility. The location of the building is preliminary and will



be determined upon detailed design of the project. In the event the building is designed to be a year-round building, gas service will be required for heating and hot water. Gas service is currently provided by National Grid from the main in Essex Street to the school building. Depending on the final location of the amenities building, an additional gas line will likely be required.

Water. Water service is currently provided within Essex Street and to the Lynnfield High School facilities through the Lynnfield Water Department (LWD) and the Massachusetts Water Resource Authority (MWRA). Water service to the athletic field development and amenities building will likely require an additional water line. An existing water line located within the high school access drive services the hydrant in the northwest corner of the parking lot. This water line appears to be closest to the athletic campus and would likely be tapped to provide water service to the athletic campus.

Sewer. Wastewater from Lynnfield High School currently flows to an onsite wastewater treatment system. Development of an amenities building with restrooms will require connection to the wastewater system or the installation of a new septic system for the new restroom facilities. The system or connection to the existing system will need to be designed during the detailed design phase of the potential project.

SECTION 3 – CONCEPTUAL DESIGN AND ESTIMATED PROJECT COSTS

Master Plan Layout

The preliminary design includes three (3) synthetic turf field areas, reconstruction of the baseball facility, and relocation of the softball field. The primary stadium field is sized at 210' x 360' to accommodate all high school rectangular field sports, including football, soccer, lacrosse and field hockey. A synthetic field area will be located to the south of the stadium field, to accommodate two (2), side-by-side, multipurpose, rectangular fields, sized at 200' x 360' and 190' x 300', providing an open field area for a variety of youth sport configurations. The following summaries provide information about the main components depicted within the Conceptual Layout Plan.

Multi-Purpose Stadium Field Construction with a Pressbox, Lighting and an Amenities Building. The conceptual layout includes the installation of an all-weather, 210' x 360', multi-purpose, infilled, synthetic turf field, to be located to the south of the existing parking lot. The field is sized to accommodate all multi-purpose uses, including football, men's and women's soccer, men's and women's lacrosse, as well as field hockey. Construction of the field would include a significant base system, comprised of a concrete anchor curb, base stone and subsurface drainage. The redevelopment also proposes a four foot (4'), vinyl-coated, chain-link fence around the perimeter of the field, which would be installed within the concrete turf anchor curb. Athletic field lighting for the stadium field is proposed as the first phase of an athletic lighting project. This first phase is proposed to include four (4) poles with lighting fixtures adequate to provide fifty (50) foot candles of light at the stadium field, which will be sufficient for game or practice play of football and small ball sports. Use of synthetic turf, combined with a lighting system, will allow the



multi-purpose field to more than double its current uses, allowing for adequate demand and rest on the remainder of the campus fields. A 1,000-seat grandstand is proposed to be constructed within the existing slope, between the parking lot and proposed field location, which would provide at-grade access to the rear of the grandstand from the parking lot. A 12' x 30' pressbox is proposed to provide viewing opportunities and a filming platform.

Amenities Building. Due to the increase in seating capacity, resulting from the proposed 1,000-seat grandstand, an amenities building will be required to provide restroom facilities to meet the Massachusetts Plumbing Code. To determine the amount of toilet and sink fixtures required, the plumbing code assumes that the grandstand capacity will be split at 50% females and 50% male. For females, at full capacity, a total of 1 fixture per 30 females is required. For males, at capacity, a total of 1 fixture per 60 males is required. For a 1,000 seat grandstand, as proposed, the total fixture quantity equates to seventeen (17) female fixtures and nine (9) male fixtures. The authority having jurisdiction over the plumbing code in Massachusetts is the Board of State Examiners of Plumbers and Gas Fitters. The Board understands that this requirement can be excessive for high school municipal stadiums and has, in the past, granted a 50% variance in the quantity of structures required. Gale has successfully submitted the required variance application with the Board on similar projects and was granted a 50% waiver for fixture quantity on these projects. Based on previous experience, Gale anticipates that the requirement for toilet fixtures would be approximately nine (9) female fixtures and five (5) male fixtures. A schematic building footprint has been provided in Appendix F.

Two (2) Multi-Purpose Synthetic Turf Fields. The conceptual layout in Option 1 includes the installation of two (2), all-weather, multi-purpose, infilled, synthetic turf fields, to be located south of the proposed stadium field. The fields are proposed in a north-south orientation and would provide a 200' x 360' field and a 190' x 300' field, both adequate for MIAA level sports, including men's and women's soccer, lacrosse and field hockey. Because the synthetic field surface would be contiguous, the field space can accommodate a significant quantity and variety of youth sport layouts, which could be seasonally painted. The fields are proposed to be used for both practice and games, with portable seating to allow for mobility of seating arrangements. Construction of the field would include a significant base system comprised of a concrete anchor curb, base stone and subsurface drainage. The redevelopment also proposes a four-foot (4'), vinyl-coated, chain-link fence around the perimeter of the field, which would be installed within the concrete turf anchor curb. Athletic field lighting for the fields would be provided by installing supplemental fixtures on the poles installed for the stadium field, and installing two (2) new poles with fixtures at the southeast and southwest corners of the combined field area. Installation of a synthetic turf field of this size allows for flexibility of use, as well as a substantial increase in demand for high school, youth level and recreational sport users.

Men's Softball Backstop. An option has been priced in the cost estimate, and sketched in the conceptual layout plan, for the construction of a backstop and additional synthetic turf to provide an area to be used for the Men's Softball League. The "bump-out" for the backstop and batters' area would require additional synthetic turf installation and a backstop. The option provides for a left field dimension of 360', a right field dimension of



230', a right-center field dimension of greater than 360', as well as a centerfield dimension of greater than 400'. Refer to Appendix F for the schematic/conceptual layout.

Reconstruction of the 90' Baseball Diamond. The existing baseball facility at Lynnfield High School is in fair to good condition. However, it is over-used due to multi-purpose use of the outfield, thus exceeding its sustainable demand load and contributing to the lack of root zone development, as well as the compacted condition of the turf subgrade. The conceptual layout proposes to reconstruct the baseball field and re-orient it to achieve a north/northeast layout, which is the optimal solar orientation. To provide a fully compliant baseball facility, the reconstruction should include the installation of subsurface drainage, re-grading to promote drainage, installation of an engineered, sand-based root zone, temporary outfield fencing, a 30' hooded backstop, dugouts and spectator seating. The dimension to left and center field is 350', while the dimension to right field is 300'. The right field dimension could be extended, if one of the synthetic turf fields was shortened and the men's softball backstop eliminated. Full reconstruction of the facility will address the current grading and drainage issues, poor solar orientation and poor root zone development. The baseball diamond reconstruction will also provide for construction of a 190' x 300' multi-purpose field, in the outfield, which is proposed to include subsurface drainage, an engineered sand based root zone and athletic field seed mix. The field geometry can adequately accommodate soccer, lacrosse and field hockey uses. The baseball field and multi-purpose outfield do not include athletic field lighting.

Reconstruction of the 60' Baseball Diamond. The conceptual layout plan proposes to reconstruct the existing softball facility to the western portion of the campus, where the upper multi-purpose facility exists today. The reconstructed facility will provide optimal solar orientation (north-northeast), as opposed to the current westerly facing orientation. The facility, in its reconstructed state, is proposed to be a premier softball facility, with uses limited to high school, youth level and adult softball, with restricted outfield use. The reconstruction should include subsurface drainage, re-grading to promote drainage, installation of an engineered, sand-based root zone, permanent outfield fencing, 210' foul pole distances, a 30' hooded backstop, dugouts and spectator seating. Access from the rear parking lot will be provided, as well as a pedestrian route to the campus athletic facilities.

Pedestrian Circulation and Safety. In its current condition, the athletic campus at Lynnfield Regional High School does not provide for adequate spectator seating, pedestrian circulation or accessibility to its facilities. The redevelopment proposes to construct five to eight foot (5' to 8') walkways, throughout the facility, to provide an accessible pedestrian route to the proposed spectator seating provisions and to each athletic field. Additionally, the synthetic turf fields should include a four foot (4') perimeter fence for athlete safety, crowd control and vehicular access restrictions.

Cost Estimate

The preliminary project cost estimates for the conceptual layout discussed above are included, in detail, in Appendix H of this report. With a 10% design contingency and a 7%



soft cost estimate, the total cost estimate for the athletic campus redevelopment is \$5,663,737.18, not including additional baseball lighting.

This pre-design estimate is an approximation, and more detailed construction cost estimates will be prepared upon the detailed design of the facility. The cost estimate is subject to change upon further design and site evaluation.

Gale has developed a sample milestone schedule for completion of the design, permitting and construction of the Lynnfield High School Athletic Campus Renovations. This schedule is included as Appendix J.

SECTION 4 – PERMITTING REQUIREMENTS

Zoning. Lynnfield High School is located within the Single Residence B District, for which municipal recreation is an allowed use. Due to the proposed grandstand, amenities building and athletic field lighting, the Site Plan Approval process will be required through the Zoning Board of Appeals (ZBA). However, Lynnfield High School, as an educational institution, is subject to the "Dover Amendment", which generally exempts it from zoning requirements.

Wetlands. The conceptual layout plan proposes work within the 100-foot BWV buffer, as well as within the 50-foot "no build-zone". No "structures", as defined by the Zoning Bylaw, are proposed to be built within the 50-foot "no-build zone". No work is proposed within the 25-foot "no-disturb zone". Due to the work within the 100-foot buffer, a Notice of Intent (NOI) is required to be filed with the Conservation Commission.

Floodplain. The conceptual layout plan proposes work within the 100-year floodplain. The proposed design will, therefore, be subject to filing of a NOI, as well as a Site Plan Approval. A special permit is required from the ZBA for alteration within a floodplain.

Due to the scope of the project, as well as the work proposed within wetland buffers and floodplain limits, Gale met with Bill Jones of Linden Engineering, the Town's engineering consultant, to discuss the design requirements. Also present at the meeting was Betty Adelson, the Lynnfield Conservation Commission Administrator. Gale described the scope of the project and provided preliminary concept plans of the layout, grading and drainage of the facility. Additionally, Gale discussed the location of the floodplain limits and the wetland buffers, as shown on the Existing Conditions Plan (Appendix E). The Town's consultant agreed with Gale's understanding of the permitting requirements due to development within the floodplain and wetland buffers. Gale provided the consultant with preliminary calculations of resultant flood storage volume (Appendix G). Mr. Jones provided the following comments:

- The flood storage volumes will begin at Elevation 102, rather than 103.
- Gale will confirm that the flood storage volume calculations are "incremental", rather than "cumulative"



- The design, going forward, will provide adequate room for erosion controls along the 25-foot "no-disturb zone". Erosion controls will not be located within the 25-foot "no-disturb zone".
- The detailed design should address snow storage requirements, if the fields are to be plowed.
- The detailed design should propose that fencing be installed with a 3" - 4" space beneath the fabric for wildlife.
- The detailed design and applications to the Conservation Commission and ZBA will address the technical aspects of the synthetic turf, including migration of rubber infill, lead content and any health-related concerns.

Gale is in agreement with the comments provided by Mr. Jones. If the project goes into detailed design, it is Gale's opinion that each of these elements can be adequately addressed during the permitting process with the ZBA and Conservation Commission. A memo from Mr. Jones summarizing the meeting is included as Appendix I.

SECTION 5 – CONCLUSIONS AND RECOMMENDATIONS

Gale's preliminary findings are that the existing athletic campus at the Lynnfield High School is adequate for redevelopment, as proposed in the conceptual plans. The background investigation provided Gale with information related to soil characteristics and groundwater elevations that will require a detailed engineering design, but are not prohibitive to the development of synthetic turf athletic fields. During detailed design, Gale recommends that geotechnical borings be completed to determine the soil bearing capacities and to confirm soil classifications.

Gale's wetland scientist has completed a wetland delineation along the eastern border of the athletic campus. An Abbreviated Notice of Resource Area Delineation (ANRAD) is required to be filed to record the BVW with the Conservation Commission for a 3-year period, unless an NOI is filed within that timeframe. If neither an ANRAD, nor an NOI is filed within 3 years, a new delineation will be required prior to a filing with the Conservation Commission. If detailed design of the project moves forward within 3 years, the delineation can be used during the permitting process.

Gale received informative feedback from the Town's engineering consultant relating to the conceptual plans and permitting requirements. A Site Plan Approval with the ZBA will be required, as well as an NOI with the Conservation Commission and the Massachusetts Department of Environmental Protection (MDEP). Based on the preliminary findings, Gale believes that a detailed design would provide the information required for both the Site Plan Approval and the Notice of Intent.