

Wellesley Sports Center

900 Worcester Street
Wellesley, MA

Issued for:

- Site Plan/Special Permit Review



Applicant:

Wellesley Sports Center, LLC
41 North Road, Suite 203
Bedford, MA 01730

Prepared by:



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A&M PROJECT #2329-01

July 31 2017

PROJECT TEAM

APPLICANT

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The information presented herein this report has been a collaborate effort from the various members/personnel of the Project Team.

TABLE OF CONTENTS

APPLICATION ABUTTERS LIST CHECK

1.0 – Project Summary.....	1
2.0 – Existing Conditions.....	1
2.1 – Existing Site Development.....	1
2.2 – Existing Site Utilities and Municipal Demand.....	2
2.2.1 – Stormwater	2
2.2.2 – Sanitary Sewer	3
2.2.3 – Water	3
2.2.4 – Electrical.....	3
2.2.5 – Gas.....	4
2.3 – Other Site Characteristics.....	4
2.3.1 – Wetland Resource Areas.....	4
2.3.2 – Flood Plain.....	4
2.3.3 – MEPA Permit Thresholds	4
3.0 – Proposed Conditions	5
3.1 – Proposed Overview	5
3.2 – Proposed Site Utilities and Municipal Demand	5
3.2.1 – Stormwater	5
3.2.2 – Sanitary Sewer	9
3.2.3 – Water	9
3.2.4 – Electrical.....	10
3.2.5 – Gas.....	10
3.2.6 – Refuse Disposal	10
3.2.7 – Building Occupant Safety	10
3.2.8 – Pedestrian Safety	10
3.2.9 – Site Lighting.....	11
3.3 – Other Site Characteristics.....	11
3.3.1 – Wetland Resource Areas.....	11
3.3.2 – Flood Plain.....	12
3.3.3 – MEPA Permit Thresholds	12
3.4 – Construction Traffic Management Plan	12

3.4.1 – Access and Site Management	12
3.4.2 – Construction Operation	13
3.4.3 – Erosion and Sediment Control	14
4.0 – Transportation	15
4.1 – Transportation Impact Assessment.....	15
4.2 – Parking	15
5.0 – Environmental Impact.....	16
5.1 – Stormwater Management	16
Standard #1	16
Standard #2	16
Standard #3	16
Standard 4	17
Standard 5	18
Standard 6	18
Standard 7	18
Standard 8	19
Standard 9	19
Standard 10	19
5.2 – Stormwater Management System Maintenance	20
5.3 – Long-Term Pollution Prevention.....	24
6.0 – Conclusion	29
 Appendix A – Drainage Calculations	
 Appendix B – Traffic Report	
 Site Plans (Separate Cover)	

**ZONING BOARD OF APPEALS**

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ROBERT W. LEVY
WALTER B. ADAMS
DEREK B. REDGATE

PROCESS SCHEDULE FOR SITE PLAN APPROVAL PROJECTS

1. Petitioner meets with Executive Secretary to discuss project. At initial meeting, petitioner is given the List of Plans, Check List, Time Line, Official Development Prospectus, and Process Schedule.

Preliminary Meetings**A. Voluntary****(1). Department of Public Works**

- a. Petitioner arranges preliminary meeting with Town Engineer, which will include other DPW representatives. Petitioner will be prepared to discuss in detail the water, sewer, drainage, electric, parking and landscaping requirements associated with the project. Petitioner will bring preliminary engineering and landscape/parking plans to this meeting.
- b. No less than Ten (10) weeks prior to the Public Hearing, the applicant will send **one** full set of plans to the Town Engineer for review by the Department of Public Works. Plans should include all requirements on the Check List. Within ten (10) days of receipt of the plans, the Department of Public Works will send a letter of review to the petitioner, summarizing comments and concerns and issues to be addressed.

(2). Wetlands Protection Committee

- a. If the location of the construction is within a Resource Area, a Water Supply Protection District or a Flood Plain District, the petitioner must obtain all necessary approvals and Orders of Conditions at least ten (10) days prior to the date of the Public Hearing on the petition.

(3). Public Safety Officer – Fire Department**(4). Board of Health****(5). Design Review Board**

Process Schedule Continued

1. No less than six (6) weeks prior to Board of Appeals Public Hearing, the applicant shall submit thirteen (13) copies of the application for Site Plan Review, Development Prospectus, the Check List and any supplemental materials, 12 large sets of all required plans & 6 sets of 11 x 17 plans), incorporating all DPW comments, to the office of the Board of Appeals.
2. The Executive Secretary shall time-stamp 2 copies of all materials and plans submitted in the Town Clerk's office. Individual packages of all plans and materials with a cover letter shall be distributed to the Planning Board, Design Review Board, Wetlands Protection Committee, Town Engineer, Board of Health, Fire Chief, Police Chief and Municipal Light Plan, for review and recommendations.
3. The Board of Appeals will automatically continue the scheduled Site Plan Approval Public Hearing, if all revised plans and/or additional requested materials have not been approved by all departments no less than ten (10) days prior to the hearing.
4. Public Hearing on petition for Site Plan Approval
If the above requirements have not been completed, or if the Board requests additional information or plan revisions at the initial hearing, the Board may continue the hearing for one month.
5. Decision
The decision shall be issued between three to four weeks following the last Public Hearing.
6. General Comments
If the project requires a Special Permit for a Project of Significant Impact issued by the Planning Board, the Preliminary steps in the process may be undertaken concurrent with the processing of the Special Permit. However, no submission shall be made to the Board of Appeals until the Special Permit has been granted and the twenty-day appeal period has expired.

ALL WETLANDS PROTECTION ISSUES (DETERMINATION OF NEGATIVE APPLICABILITY OR ORDER OF CONDITIONS) MUST BE RESOLVED AND SUBMITTED TO THE BOARD BEFORE THE ZBA PUBLIC HEARING.

THE BOARD RECOMMENDS THAT THE PETITIONER REVIEW THE ZONING BOARD OF APPEALS RULES AND REGULATIONS.



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Special Permit Granting Authority
Wellesley Town Hall
Wellesley, MA 02482

Date: _____

ZBA Number: _____

Pursuant to the provisions of Section _____, subparagraph _____, and Section _____ of the
Zoning Bylaw, the undersigned hereby requests Site Plan Approval for the construction of

Located at _____

Within a _____ District (s).

The following plans are submitted:

- 1. Existing Site Features Plan Plan # _____ (Title Block Number)
2. Site Development Plan Plan # _____
3. Plot Plan Plan # _____
4. Grading & Drainage Plan Plan # _____
5. Utilities Site Plan Plan # _____
6. Landscaping/Parking Plan Plan # _____
7. Architectural Plans Plan # _____ through _____
8. Subsurface Conditions Plan Plan # _____
9. Utilities Detail Plans Plan # _____ through _____
a. Structure Details Plan # _____
b. Plumbing Details Plan # _____
c. Electric Details Plan # _____

(Twelve (12) full sized copies of each plan, seven (7) 11 inch by 17 inch copies of each plan, a check in
the amount of _____ payable to the Town of Wellesley, and a check in the amount of _____
payable to the Town of Wellesley Fire Department (for Site Plan Approval without PSI).

OWNER OF RECORD/PETITIONER: _____

ADDRESS: _____

TELEPHONE NUMBER: _____ FAX NUMBER: _____

PROJECT CONTACT PERSON: _____

ADDRESS: _____

TELEPHONE NUMBER: _____ FAX NUMBER: _____

TOWN OF WELLESLEY
ZONING BOARD OF APPEALS
SITE PLAN APPROVAL REVIEW
PLANS AND SUBMITTAL CHECKLIST

Plans and submittals for site plan approval review are submitted to the Department of Public Works for its review and approval on behalf of the Zoning Board of Appeals shall contain the items listed in this checklist. Electric plans will be reviewed by representatives of the Wellesley Municipal Light Plant.

PLANS

CHECK

1. EXISTING SITE FEATURES PLAN

- a) Location, type, size or dimension of existing trees and rock masses _____
- b) Surface drainage and topography with one foot contours _____
- c) Property lines, zoning districts, adjacent roadways, historical or archeological features _____
- d) Rights of way and easements (temporary and permanent) _____
- e) Wetlands and floodplains _____
- f) Adjacent public, footpaths, trails and other natural or man-made features such as walls and fences _____
- g) Plan to be Scale 1" = 40' or larger _____
- h) Plan must be stamped, dated and signed by a Registered Land Surveyor in the Commonwealth of Massachusetts _____

2. SITE PLAN DEVELOPMENT

- a) Building locations, finish floor elevations at basement and first floor _____
- b) Grading detail for entire site with existing and proposed contours _____
- c) Existing and proposed curb cuts, design as per Town Policy by Board of Selectmen dated 5/15/73 _____
- d) Property lines and easement lines _____
- e) All elevations on the Town of Wellesley datum base _____
- f) North directional arrows shall be provided and point due north _____
- g) Plan must be stamped, dated and signed by a Registered Architect, Registered Land Surveyor or Professional Engineer in the Commonwealth of Massachusetts _____

3. PLOT PLAN

- a) Existing buildings and structures _____
- b) Proposed structure(s) including all dimensions and distances from front, rear and side property lines _____
- c) Area of lot or lots included in the project _____
- d) Zoning district lines and portion of lot in different zoning district (if applicable) _____
- e) Names of all abutters as they appear on the most recent tax list _____
- f) The location of all permanent survey monuments _____
- g) Not less than 3 permanent benchmarks, preferably triangulated, shall be shown _____
- h) Plan must be stamped, dated and signed by a Registered Land Surveyor in the Commonwealth of Massachusetts _____

4. GRADING AND DRAINAGE PLAN

- a) Existing and proposed contours in one foot intervals of elevation _____
- b) Location of existing and proposed storm drainage structures _____
- c) Profile showing proposed utilities in relation to the ground surface _____
- d) Erosion control measures such as haybales and siltation fencing _____
- e) Plan must be stamped, dated and signed by a Registered Professional Engineer in the Commonwealth of Massachusetts _____

5. UTILITIES SITE PLAN

- a) Building location and elevations _____
- b) Existing utilities on project site and in abutting street _____
- c) Location, depth, size, (slope where applicable) and material of:
 - Water service and hydrants _____
 - Gas service _____
 - Sanitary sewer connection (pipe to be SRD-35 PVC, green) _____
 - Storm drain installations _____
 - Electric service _____
 - Fire alarm connection _____
 - Telephone service _____
- d) Number utility structures such as manholes and catch basins for identification purposes _____
- e) Detail specifications for installation of all utilities including street pavement restoration as per current DPW standards _____
- f) Flow direction arrows on drain and sewer lines _____
- g) Plan must be stamped, dated and signed by a Registered Professional Engineer in the Commonwealth of Massachusetts _____

6. LANDSCAPING/PARKING PLAN

- a) Proposed landscaping of property _____
- b) Size, type and location of proposed plant materials with botanical names _____
- c) Consider the impact for plantings at their maturity size as relates to sight distances _____
- d) Landscaping plan shall be coordinated with the grading plan _____
- e) Tree planting and shrub planting details _____
- f) Hardscape details such as walkways and patios _____
- g) See attached listing of undesirable plants as prepared by the Town Horticulturalist _____
- h) Plan must be stamped, dated and signed by a Registered Landscape Architect in the Commonwealth of Massachusetts _____
- i) No bushes or trees of any kind shall be planted within 10 feet in any direction of a Fire Department connection or a Master Fire Alarm box. Connections include hydrants, standpipes and sprinkler feeds on the outside of buildings. _____
- j) Parking lot plans shall include dimensions of parking spaces, maneuvering aisles, islands, turning radii, percentage of landscaped open space, percentage of interior landscaping, appropriate number of handicapped parking spaces, and directional flow arrows. All parking spaces shall be numbered _____

GENERAL PLAN COMMENTS

- a) All plans must be stamped, signed and dated by a Registered Professional Engineer, or Architect in the Commonwealth of Massachusetts responsible for the particular plan's contents _____
- b) Title Blocks shall provide the name of project, job site location, architects and engineer responsible for plan contents, date and plan scale _____
- c) All plans must be numbered and titled _____
- d) All dates of revisions shall be included _____
- e) Provide retaining wall design details _____
- f) Provide locus plan drawn at a scale of 1" = 500' showing the relation of the project to adjoining properties within a radius of ¼ mile _____
- g) The cover sheet shall provide the names, mailing addresses and phone numbers of the land owner, building owner, architects and engineers and project contact person, and Table of Contents _____
- h) Location of all mechanical systems must be shown _____

SUBMITTALS

- a) Drain calculations showing capacities of the existing and proposed drain systems _____
- b) Runoff calculations for the 10, 25 and 100 year storm event for storm drains, leaching basins or holding areas _____
- c) Post development rate of peak runoff less than pre-development rate of peak runoff _____
- d) Information showing that the DEP Stormwater Management Standards will be met _____
- e) Operation and maintenance plan for drainage system _____
- f) Evaluation of existing municipal systems capacities _____
- g) Quantification and documentation of infiltration/inflow reduction measures _____
- h) Quantification and documentation of water conservation measures _____
- i) Written statement from a Registered Professional Engineer in the Commonwealth of Massachusetts regarding the adequacy of the water flow for the fire protection system _____
- j) Construction area to be fenced _____
- k) Traffic Management Plan during construction period _____
- l) Area of construction worker and equipment parking _____
- m) Materials staging area _____

UNDESIRABLE PLANTS FOR LANDSCAPE DESIGNS SUBMITTED WITHIN
THE TOWN OF WELLESLEY

TREES:

* <i>Acer platanoides</i>	Norway Maple
* <i>Acer pseudoplatanus</i>	Sycamore Maple
<i>Acer saccharinum</i>	Silver Maple
* <i>Ailanthus altissima</i>	Tree-of-Heaven
<i>Elaeagnus angustifolia</i>	Russian-olive
<i>Morus alba</i>	White Mulberry
* <i>Phelodendron amurense</i>	Amur Cork-tree
<i>Populus alba</i>	White Poplar
<i>Pyrus c. 'Bradford'</i>	Bradford Pear
<i>Pyrus c. 'New Bradford'</i>	New Bradford Pear
* <i>Robinia pseudoacacia</i>	Black Locust
<i>Tsuga canadensis</i>	Eastern Hemlock

SHRUBS:

<i>Alnus glutinosa</i>	Common Alder
* <i>Berberis thunbergii</i>	Japanese Barberry
* <i>Berberis vulgaris</i>	Common Barberry
* <i>Elaeagnus umbellata</i>	Autumn-olive
* <i>Euonymus alatus</i>	Burning Bush
* <i>Frangula alnus</i>	Glossy Buckthorn
* <i>Ligustrum obtusifolium</i>	Border Privet
<i>Ligustrum sinense</i>	Chinese Privet
<i>Ligustrum vulgare</i>	Common Privet
* <i>Lonicera maackii</i>	Amur Honeysuckle
* <i>Lonicera morrowii</i>	Morrow Honeysuckle
* <i>Lonicera tatarica</i>	Tatarian Honeysuckle
* <i>Lonicera x bella</i>	Bell's Honeysuckle
* <i>Rhamnus cathartica</i>	Common Buckthorn
* <i>Rosa multiflora</i>	Multiflora Rose

VINES:

* <i>Ampelopsis brevipedunculata</i>	Porcelain Ampelopsis
* <i>Celastrus orbiculatus</i>	Chinese Bittersweet
* <i>Cynanchum spp.</i>	Swallow-worts
* <i>Humulus japonicus</i>	Japanese Hops
* <i>Lonicera japonica</i>	Japanese Honeysuckle
* <i>Polygonum perfoliatum</i>	Mile-a-minute Vine
<i>Wisteria sinensis</i>	Chinese

ORNAMENTALS:

* <i>Aegopodium podagraria</i>	Goutweed
* <i>Iris pseudacorus</i>	Yellow Flag Iris
* <i>Lythrum salicaria</i>	Purple Loosestrife
* <i>Phalaris arundinaceae</i>	Ribbon Grass

* Indicates species listed *A Guide to Invasive Plants in MA*



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TOWN OF WELLESLEY

ROBERT W. LEVY
WALTER B. ADAMS
DEREK B. REDGATE

OFFICIAL DEVELOPMENT PROSPECTUS

Applicable to Major Construction Projects
Submitted Under Section XVIA of the Zoning Bylaw
And Comprehensive Permit Projects Submitted
Under Chapter 40B

Date: _____

Year/Number: _____

I. IDENTIFICATION

Petitioner: _____

Address: _____

Telephone: _____

Land Owner of Record: _____

Location of Property: _____

Proposed Use of Property: _____

Zoning Districts: (Including all overlay districts) _____

Are any other special permits or variances, other than Site Plan Approval
required for this project? Yes _____ No _____

If yes, what is required? _____

II. DESCRIPTION

Describe in detail the plan to be executed under the appropriate categories below

1. Land Area _____
2. Square footage of proposed construction footprint _____
3. Square footage of existing building footprint _____
4. Square footage of total structure footprint _____
5. Total floor area of existing building _____
6. Total floor area of proposed construction _____
7. Total floor area after proposed construction completed _____
8. Floor area ratio: (Commercial)
9. Number of Buildings _____
10. Number of Stories of each Building _____
11. Height of each Building _____
12. Number of Parking Spaces: (Existing/Proposed)
Standard _____ / _____ Compact _____ / _____ Handicapped _____ / _____
Covered _____ / _____ Open _____ / _____
Total (Existing and proposed) _____
Total Number Required _____
13. Number of handicapped sidewalk curb cuts provided _____
14. Lot coverage in square feet (%)

	Before	After
1) Buildings	()	()
2) Drives & Parking	()	()
3) Other uses (identify uses and coverage) (Sidewalks)	()	()
15. Open Space

1) Landscaped area	()	()
2) Natural (i.e. woods, fields)	()	()
3) Recreational	()	()

A. Residential Construction

1. Number of Dwelling Units

Efficiency _____ One Bedroom _____ Two Bedroom _____
Three Bedroom _____ Other _____

2. How many units will be provided with handicapped access to
bathrooms, toilets, entrances, egresses, etc.? _____

3. Density in square feet of land per dwelling unit.
Existing _____ Proposed _____

4. Density in square feet of land per person:
Existing _____ Proposed _____

III. TRAFFIC IMPACT ANALYSIS AND DATA

(Explain basis for data entered)

If, as a result of the proposed construction, the following conditions will
exist, Questions 1-5 must be answered:

- a. If the floor area of the building exceeds 10,000 sf; or
- b. If 50 or more vehicle trips will be generated by the completed
project in any single hour of the day.

1. Projected traffic generation of proposed new development:

a. Peak Day	In	Out	Total
24-Hour	_____	_____	_____
Am Peak Hour	_____	_____	_____
PM Peak Hour	_____	_____	_____
b. Typical or Average Day			
24-Hour	_____	_____	_____
Am Peak Hour	_____	_____	_____
PM Peak Hour	_____	_____	_____

2. Current two-way traffic flows on frontage street(s):

24 Hour AM Peak Hour PM Peak Hour

Street _____

Street _____

3. Data compiled by: _____

4. Date of data compilation: _____

5. Comment on adequacy of drive entrances & exits with respect to sight distance and other traffic operations considerations on frontage street(s)

Locations through which 30 or more vehicles approach from a single direction in any single hour of the day.

(List intersections and operational problems):

List possible hazardous pedestrian and bicycle crossings:

6. Has a separate Traffic Study been submitted? Yes _____ No _____
- IV. PUBLIC UTILITIES - (Quantitative, state basis for data entered)
- A. Estimated water consumption _____ gal/day
- B. Number of Fire Hydrants - existing within 200 ft _____ Proposed _____
- C. Estimated discharge to sewer system _____ gal/day
- D. Sewer Disposal - will any proposed on-site individual sewage disposal systems be designed to receive more than 110 gallons of sewage per quarter acre per day? Yes _____ No _____
- E. Refuse disposal _____ lbs. or tons/day
1. Proposed method of handling _____
2. What provisions will be made to facilitate the recycling of solid waste? _____
- F. Service Voltage _____ Service Amperage _____
1. Estimated peak electrical consumption _____ kw
- a. Heating Season _____ kw b. Cooling Season _____ kw
2. Estimated annual electric energy consumption _____ kw
3. Three Phase Service _____ Single Phase Service _____
- G. Are energy efficient appliances to be used? _____
- H. What R-Factors will be used in insulation and glazing for walls and ceilings? _____

I. What energy source will be used for heating water?
Electric _____ Gas _____ Fuel Oil _____ Other _____

J. Will electric resistance heating or heat pumps be used? Yes ___ No ___

K. Will the facility include an emergency electric generator?
Yes ___ No ___

If YES, would you be willing to run it to reduce your peak load?

Yes ___ No ___

V. FIRE PROTECTION

A. *Fire flow presently available at site _____

B. *Total floor area of building (Largest single building if more than one building) _____

C. Type of Building Construction _____

D. *Required fire flow for building (Maximum required for a single building if more than one building) _____

E. *If required fire flow (D) exceeds available fire flow (A), describe plans to provide required fire flow (D)

F. Describe access for fire apparatus to building (s) _____

*Written statement indicating these figures signed by a registered professional engineer must accompany submittal.

VI. ENVIRONMENTAL IMPACT

A. What percentage of the property is Wetlands _____
Floodplains _____

Will either be altered as a result of the project? _____

B. Will the proposed development contribute in any way to pollution of groundwater, surface water, or waterway: Yes ___ No ___

Oil ___ Salt ___ Chemicals ___ Other ___

Explain

Describe proposed measures to eliminate or minimize such pollution:

C. Does the proposed development involve storage of any of the following materials above or below the ground?

- _____ deicing chemicals or other related materials
- _____ commercial fertilizers and other related materials
- _____ hazardous materials
- _____ liquid petroleum products

If YES to any of the above, list specific materials to be stored:

D. Impact on surface drainage

- 1a. Current rate of peak runoff _____ cubic ft/second
 - b. Current volume of runoff _____ cubic feet or acre-feet

 - 2a. Post-development rate of peak runoff _____ cfs
 - b. Post-development volume of runoff _____ cubic feet or acre-feet
- (Design storm and rainfall intensity should be cited for #1 & #2)

3. Describe measures to eliminate or minimize any increase in rate of runoff _____

4. Might the project result in significant changes in existing drainage patterns? Will any abutting or other property be adversely affected by the changes? _____

E. Does the proposed structure include installation of floor drains?
Yes _____ No _____ If YES, how many? _____

F. Will the project affect the condition, use, or access to any existing public open space or recreation area? If so, how?

G. Does the proposed development involve outside lighting? Yes ___ No ___
if YES, state height of lighting fixtures _____

Will the outside lighting shine directly on abutting premises?
Yes ___ No ___

If YES, explain

Describe proposed steps to minimize this impact _____

H. Might any site or structure of historic or archeological significance
be affected? Yes ___ No ___

Describe _____

I. Will the project require the removal of any street trees protected
under M.G.L. Ch. 87? Yes ___ No ___

If YES, how many? _____

J. Will the project involve blasting or pile driving? Yes ___ No ___

1. What is the approximate volume of the material to be removed?

Where will this material be disposed? _____

K. Is an Environmental Notification Form required to be filed under
M.G.L. Ch. 30, Section 61-62H, the Mass. Environmental Policy Act?

Yes ___ No ___

VII. IMPACT OF WATER SUPPLY

A. Will the project result in an increase of 10,000 square feet or more
of impervious area within a Water Supply Protection District defined
by Section XIVE of the Zoning Bylaw? Yes ___ No ___

If so, does it satisfy the design and operation standards of Section
XIVE? Yes ___ No ___

B. Will the project result in finished exterior grades lower than the
existing grade and less than 5 feet of soil overburden above the
maximum ground water elevation within a Water Supply Protection
District? Yes ___ No ___

C. Will catch basins be installed? Yes ___ No ___
If so, how many? _____

Do catch basins presently exist? Yes ___ No ___
If so, how many? _____

Are catch basins fitted with oil and grease traps? Yes ___ No ___
How many? Existing _____ Proposed _____

D. Will water saving appliances be used or water conservation devices be used in all plumbing? Yes ___ No ___

VIII. FINANCIAL IMPACT

A. Estimated Building Permit Valuation _____

B. Estimated assessed value _____



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WALTER B. ADAMS
DEREK REDGATE

Date: _____

ZBA: _____

Petition for:	Residential Fee	Commercial & Municipal Fee
Variance	_____ \$200	_____
Special Permit	_____ \$200	<u> X </u> \$500
Special Permit/Findings	_____ \$200	_____
Special Permit Renewals	_____ \$150	_____
Signs	_____	_____ \$300
Site Plan Approval without PSI	_____	_____ \$2,000 & Fire Department Consulting Fee
Site Plan Approval with PSI	_____	<u> X </u> \$3,500
Appeals	_____ \$200	_____ \$300
Comprehensive Permit	_____	_____ \$750
Publication & Mailing Fees/All Petitions	_____ \$25	_____ \$25
Petitioner assumes all costs for Peer Review		

Property Location: 900 Worcester Street Zoning District: SR10: Single Residence 10,
 Property located in a: Historic District Yes No Flood Plain Protection
 Wetlands Protection Area Water Supply Protection
 Water Supply Protection District Commercial Recreation Overlay

Applicable Section(s) of the Zoning Bylaw: _____

Explanation of Request: _____

Requested Relief:

_____ Lot Area	_____ Front Yard Depth (Street Setback)
_____ Lot Coverage	_____ Side Yard Width (Side Line Setback)
_____ Frontage	_____ Rear Yard Depth (Rear Line Setback)
_____ Front Yard Width	_____ Other _____

OWNER OF PROPERTY: Town of Wellesley

MAILING ADDRESS: 525 Washington Street Wellesley, MA

PHONE: WORK: 781-879-9210 HOME: _____

SIGNATURE OF OWNER:

PETITIONER (If different than Owner): Wellesley Sports Center, LLC

MAILING ADDRESS: 41 North Road, Suite 100A Bedford, MA 01730

PHONE: WORK: _____ HOME: _____

**ZONING BOARD OF APPEALS
SITE PLAN SUBMITTAL
TIMELINE**

**PRELIMINARY MEETING WITH DPW
(Preliminary Engineering & Landscape Plans)**

**OTHER MEETINGS AS REQUIRED WITH:
DRB, MLP, FIRE DEPT., WPC & BOH**

**ONE FULL SET OF ENGINEERING & LANDSCAPE PLANS TO
DPW**

**10 WEEKS PRIOR TO
HEARING**

DPW RESPONSE TO APPLICANT ON PLANS

**10 DAYS AFTER
RECEIPT OF PLANS**

13 COPIES OF SUBMITTAL TO THE ZBA

**6 WEEKS PRIOR TO
HEARING**

**PLANS MUST BE APPROVED BY DPW OR ZBA HEARING
CONTINUED**

**10 DAYS PRIOR TO
HEARING**

ZBA HEARING

abutters_id_field	abutters_owner1	abutters_owner2	abutters_address	abutters_town	abutters_state	abutters_zip	abutters_bookpage	abutters_location
158-99	Commonwealth of Massachusetts	Mass Highway Department	10 Park Plaza	Boston	MA	02116		Worcester St.
181-106	Town of Wellesley	Natural Resources Department	525 Washington St.	Wellesley	MA	02482	5444-16	340 R Weston Rd
182-12	Hammer, Laurie		24 Bay View Road	Wellesley	MA	02482	31855-91	24 Bay View Rd
182-13	Chinitz, Leigh M &		28 Bay View Road	Wellesley	MA	02482	14216-386	28 Bay View Rd
182-14	Lumiewicz, John R &	Reilly, Erin C. Trustees	30 Bay View Road	Wellesley	MA	02482	7048-335	30 Bay View Rd
182-15	Kidik, Charles S & Patricia	Beckman, Sharon L	33 Bay View Road	Wellesley	MA	02482	7421-643	33 Bay View Rd
182-16	Sarni, James L, III		29 Bay View Road	Wellesley	MA	02482	25223-536	29 Bay View Rd
182-17	Vig, Katherine W L, Trustee	Katherine W L Vig 2015 Fam Trust	24 Shadow Lane	Wellesley	MA	02482	8409-187	24 Shadow Lane
182-18	Hess, Donna E		19 Bay View Road	Wellesley	MA	02482	5952-400	19 Bay View Rd
182-27	Barrett, Robert W & Joan M	Barrett, Robert W & Joan M	14 Shadow Lane	Wellesley	MA	02482	18907-451	14 Shadow Lane
182-28	Goldman, Jennifer L		18 Shadow Lane	Wellesley	MA	02482	-	18 Shadow Lane
182-29	Davis, Richard &	Davis, Robert	23 Shadow Lane	Wellesley	MA	02482		23 Shadow Lane
182-30	Barrett, Michelle Sterk &	Barrett, Timothy	21 Shadow Lane	Wellesley	MA	02482	12639-215	21 Shadow Lane
182-31	Hart, Taylor J &	Brannelly, Jill M	19 Shadow Lane	Wellesley	MA	02482	-	19 Shadow Lane
182-32	Humphreys, David & Tracy		15 Shadow Lane	Wellesley	MA	02482	9328-236	15 Shadow Lane
182-33	Miao, Harry H &	She, Lei	11 Shadow Lane	Wellesley	MA	02482	25394-565	11 Shadow Lane
182-40-1A	Wayne Office Park, LLC	c/o Haynes Management, Inc	34 Washington St., Ste 7	Wellesley	MA	02481	13195-433	892 -1A Worcester St.
182-40-1B	Wayne Office Park, LLC	c/o Haynes Management, Inc	34 Washington St., Ste 7	Wellesley	MA	02481	13195-433	888 -1B Worcester St.
182-40-1C	Wayne Office Park, LLC	c/o Haynes Management, Inc	34 Washington St., Ste 7	Wellesley	MA	02481	16386-209	888 -1C Worcester St.
182-40-1D	Wayne Office Park, LLC	c/o Haynes Management, Inc	34 Washington St., Ste 7	Wellesley	MA	02481	13195-433	888 -1D Worcester St.
182-40-2A	Wayne Office Park, LLC	c/o Haynes Management, Inc	34 Washington St., Ste 7	Wellesley	MA	02481	13195-433	892 -2A Worcester St.
182-40-2B	Wayne Office Park, LLC	c/o Haynes Management, Inc	34 Washington St., Ste 7	Wellesley	MA	02481	13195-433	888 -2B Worcester St.
182-40-2C	Wayne Office Park, LLC	c/o Haynes Management, Inc	34 Washington St., Ste 7	Wellesley	MA	02481	16386-209	888 -2C Worcester St.
182-40-3B	Wayne Office Park, LLC	c/o Haynes Management, Inc	34 Washington St., Ste 7	Wellesley	MA	02481	13195-433	888 -3B Worcester St.
182-40-3C	Wayne Office Park, LLC	c/o Haynes Management, Inc	34 Washington St., Ste 7	Wellesley	MA	02481	16386-209	888 -3C Worcester St.
182-40-GB	Associated General	Contractors of Mass Inc	888 Worcester St	Wellesley	MA	02482	6036-572	888 -GB Worcester St.
182-40-GC	Wayne Office Park, LLC	c/o Haynes Management, Inc	34 Washington St., Ste 7	Wellesley	MA	02481	16386-209	888 -GC Worcester St.
182-40-GD	Wayne Office Park, LLC	c/o Haynes Management, Inc	34 Washington St., Ste 7	Wellesley	MA	02481	13195-433	888 -GD Worcester St.
182-76	Town of Wellesley		525 Washington St.	Wellesley	MA	02482		47 Russell Rd
192-1	Clifford, Joan Ellen		34 Bay View Road	Wellesley	MA	02482		34 Bay View Rd
192-10	Town of Wellesley		525 Washington St.	Wellesley	MA	02482	2654-459	900 Worcester St.
192-11	Canoni, Gary R & Barbara P		1 Dale Street	Wellesley	MA	02482	12620-286	2 Dale St.
192-12	Canoni, Gary R & Barbara P		1 Dale Street	Wellesley	MA	02482		1 Dale St.
192-13	Town of Wellesley	Sewer Department	20 Municipal Way	Wellesley	MA	02481		3 Dale St.
192-14	Town of Wellesley	Sewer Department	20 Municipal Way	Wellesley	MA	02481		5 Dale St.
192-15	Sancomb, Herbert A & Marilyn E, Trstees	Herbert A Sancomb Rev Trust	930 Worcester Street	Wellesley	MA	02482	6598-411	926 Worcester St.
192-16	Sancomb, Herbert A & Marilyn E, Trstees	Herbert A Sancomb Rev Trust	930 Worcester Street	Wellesley	MA	02482	23882-207	930 Worcester St.
192-18-E	Zhang, Jian & Dongning Bai	Herbert A Sancomb Rev Trust	1 Ottaway Circle	Wellesley	MA	02482	10103-111	1 Ottaway Circle
192-19	Town of Wellesley	Natural Resources Department	525 Washington St.	Wellesley	MA	02482		929 Worcester St.
192-2	Mariani, Peter H & Linda M		36 Bay View Road	Wellesley	MA	02482	15131-218	36 Bay View Rd
192-20	Hsiao Chang & Zheng Guo		925 Worcester Street	Wellesley	MA	02482	-	925 Worcester St.
192-21	O'Kane, William J, Jr		4 Lexington Road	Wellesley	MA	02482	14636-233	4 Lexington Rd
192-22	Lin, Dalí &	Pai, Jing Yi	10 Lexington Rd	Wellesley	MA	02482	23757-116	10 Lexington Rd
192-23	Vernon, Stanley &	Rubin, Beverly	9 Lexington Road	Wellesley	MA	02482	5858-330	9 Lexington Rd
192-24	3 Lexington RD LLC		46 Winter Street	Lexington	MA	02420	6779-55	3 Lexington Rd
192-25	Heaton, Richard B & Elizabeth L		917 Worcester Street	Wellesley	MA	02482		917 Worcester St.
192-27	Town of Wellesley	Natural Resources Department	525 Washington St.	Wellesley	MA	02482		5 R Dale St.
192-28	Wellesley Conservation Council Inc.		PO Box 81129	Wellesley	MA	02481		49 R Russell Rd
192-29	Commonwealth of Massachusetts	Mass Highway Department	10 Park Plaza	Boston	MA	02116		Worcester St.

192-3	Hodge, Thomas	38 Bay View Road	Wellesley	MA	02482	-	38 Bay View Rd
192-30	Town of Wellesley	525 Washington St.	Wellesley	MA	02482		47 R Russell Rd
192-4	Feingold, Joseph, Trustee	42 Bay View Road	Wellesley	MA	02482	30360-582	42 Bay View Rd
192-5	Grignaffini, Louis A & J Michelle	44 Bay View Road	Wellesley	MA	02482	10883-714	44 Bay View Rd
192-6	Meng, Song	45 Bay View Road	Wellesley	MA	02482	10903-742	45 Bay View Rd
192-7	Hall, George J &	41 Bay View Road	Wellesley	MA	02481	23838-185	41 Bay View Rd
192-8	Buzzell, Gregory T & Anne G	39 Bay View Road	Wellesley	MA	02482	-	39 Bay View Rd
192-9	Brambilla, Gabriele &	35 Bay View Road	Wellesley	MA	02482	8587-564	35 Bay View Rd
200-37	Commonwealth of Massachusetts	10 Park Plaza	Boston	MA	02116		Worcester St.

1047

WELLESLEY SPORTS CENTER LLC

41 NORTH RD STE 203
BEDFORD, MA 01730

BELMONT SAVINGS BANK
53-7176/2113

7/26/2017

PAY TO THE
ORDER OF Town of Wellesley

\$ **3,500.00

Three Thousand Five Hundred and 00/100***** DOLLARS

Town of Wellesley
525 Washington Street
Wellesley, Ma 02482



Isabel Bove
AUTHORIZED SIGNATURE

MEMO

⑈001047⑈ ⑆211371764⑆ 756013354⑈

Security features. Details on back.



WELLESLEY SPORTS CENTER LLC

1047

Town of Wellesley

Date Type Reference
7/26/2017 Bill

Original Amt.
3,500.00

Balance Due
3,500.00

7/26/2017
Discount

Payment
3,500.00

Check Amount

3,500.00

Belmont Checking 33

3,500.00

WELLESLEY SPORTS CENTER LLC

41 NORTH RD STE 203
BEDFORD, MA 01730

BELMONT SAVINGS BANK
53-7176/2113

7/26/2017

PAY TO THE ORDER OF Town of Wellesley

\$500.00**

Five Hundred and 00/100***** DOLLARS

Town of Wellesley
525 Washington Street
Wellesley, Ma 02482



Debra Bove
AUTHORIZED SIGNATURE

MEMO

⑈001043⑈ ⑆211371764⑆ 756013354⑈

Security features. Details on back.



WELLESLEY SPORTS CENTER LLC

Town of Wellesley

Date: 7/26/2017
Type: Bill
Reference:

Original Amt. 500.00

Balance Due 500.00

7/26/2017
Discount
Check Amount

Payment
500.00
500.00

Belmont Checking 33

500.00

1044

WELLESLEY SPORTS CENTER LLC

41 NORTH RD STE 203
BEDFORD, MA 01730

BELMONT SAVINGS BANK
53-7176/2113

7/26/2017

PAY TO THE ORDER OF Town of Wellesley

\$ **500.00

Five Hundred and 00/100 ***** DOLLARS

Town of Wellesley
525 Washington Street
Wellesley, Ma 02482



MEMO

AUTHORIZED SIGNATURE

⑈001044⑈ ⑆211371764⑆ 756013354⑈

Security features. Details on back.



WELLESLEY SPORTS CENTER LLC

1044

Town of Wellesley

Date	Type	Reference	Original Amt.	Balance Due	7/26/2017 Discount	Payment
7/26/2017	Bill		500.00	500.00		500.00
					Check Amount	500.00

Belmont Checking 33

500.00

1.0 – PROJECT SUMMARY

The proposed redevelopment of 900 Worcester Street in the Town of Wellesley, Massachusetts consists of a complete site demolition and the construction of a 101,356 square foot sports complex with off-street parking and infrastructure to support the development on a site of approximately 7.8± acres in size. The project is required to obtain several permits from various departments and include the following:

- Special Permit – Project of Significant Impact (Sec. XVIA) from the Planning Board (received on July 11, 2017) ;
- Special Permit – Flood Plain District (Sec. XIVB) from the Zoning Board of Appeals;
- Special Permit – Water Supply Protection District (Sec. XIVE) from the Zoning Board of Appeals;
- Design Review – Project Approval (Sec. XVIA) from the Design Review Board (pending approval);
- Site Plan Review – Project Approval (Sec. XVIA) from the Zoning Board of Appeals;
- Notice of Intent – (Article 44) from the Wetlands Protection Committee and MassDEP (conditional letter of permitting issued on July 31, 2017; Order pending approval);
- Application for Permit to Access State Highway from MassDOT.

2.0 – EXISTING CONDITIONS

2.1 – EXISTING SITE DEVELOPMENT

The Town of Wellesley Assessor's office currently identifies the site as Map 192 Lot 10 with a total area of approximately 7.8± acres and a street address of 900 Worcester Street. The site is the location of the former Saint James Church which was owned by the Roman Catholic Archbishop of Boston. The Town of Wellesley purchased the property and has been the owner of record since November 2014. The church and rectory buildings were razed by the Town around November 2015. The property is located in the SR-10 Single Residence Zoning District and Water Supply Protection District as shown on the current Zoning Map. The Town recently approved the Commercial Recreation Overlay District, which encompasses the entire site, at Special Town Meeting on April 3, 2017.



Figure 1 - Google Earth

The property is situated on the eastbound side of Route 9 near the Wellesley/Natick town line and is bounded by Worcester Street (Route 9) to the north, professional office buildings to the east, and residential properties to the south and Dale Street to the west. The site currently has direct access via two (2) curb cuts along Worcester Street and one (1) curb cut on Dale Street. The site was fully developed and included two (2) buildings with building footprints of 9,776 sf (Church) and 2,356 sf (Rectory). These two buildings were previously razed by the Town. The site still contains a large parking lot with approximately 290 parking spaces. The entire site is covered by approximately 50% impervious surfaces which includes paved parking lot and vehicle and pedestrian access areas. The rear portion of the site is undeveloped and contains woodlands with an isolated vegetated wetland pocket. The wetland line was approved and received an Order of Resource Area Delineation (ORAD) on August 21, 2014 (See MassDEP #324-755). There is also Bordering Land Subject to Flooding (BLSF) which is associated with the Flood Zone A, located on the westerly portion of the site. The northeasterly corner of the site is located with the 200-ft Riverfront Area associated with Boulder Brook which is located on the northerly side of Worcester Street.

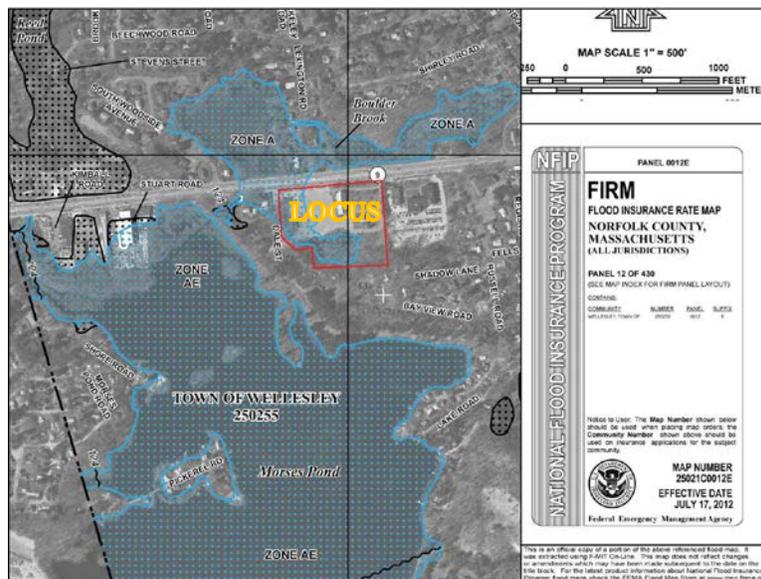


Figure 2 - FEMA Firmette

The site topography indicates the site is fairly flat with a gradual slope in the north-south direction. Steeper slopes exist along the entire southerly property line separating the residential development of Bay View Road from the project site. Elevations on the developed portion of the site range from elevation 135 to elevation 129 (Town of Wellesley Datum). Elevations along the southerly property line range from elevation 170 to elevation 129 (Town of Wellesley Datum). The majority of the site currently slopes to a low point within the parking lot on the westerly side and eventually into the isolated wetland pocket. Stormwater runoff drains via sheet flow uncontrolled and untreated into the wetlands. A small portion of the site on the easterly portion drains into an existing leaching catch basin with no visible outlet.

2.2 – EXISTING SITE UTILITIES AND MUNICIPAL DEMAND

2.2.1 – STORMWATER

The site topography indicates the site is fairly flat to steep slopes on the southerly property line. The majority of the site slopes to a low point in the westerly portion of the parking lot and eventually sheet flows into the isolated wetland. Stormwater drains uncontrolled and untreated into the wetlands. A small portion of the site drains by sheet flow into a leaching catch basin located on the easterly side of the site.

Worcester Street drainage system consists of several catch basins and manholes which are piped within the layout and eventually discharge to Boulder Brook and into Morse Pond.

2.2.2 – SANITARY SEWER

The site is currently serviced by two (2) existing sewer services. One (1) service for the church and one (1) service for the rectory. The existing sewer main is currently located along the southerly side of Worcester Road. The sewer service from the rectory is tied into the existing main while the sewer service from the church is connected to an existing sewer manhole located in the sidewalk and eventually tied into the main. Based on the survey information the current sewer main in front of the site ranges in elevation from 127± to 124±. There is also an existing sewer main located on Dale Street. The existing sewer flows are calculated as follows:

Table 2.2.2.1 – Calculated Existing Sewage Flows per The State Environmental Code, Title V

Type of Establishment	Min. Flow	Size	Calculated Flow	Design Flow
Residential Dwelling (Rectory)	110 gpd/bedroom	4,231 sf (assume 5 bedrooms)	550 gpd	550 gpd
Place of Worship without kitchen (Church)	3 gpd/seat	17,622 sf (assume 500 seats)	1,500 gpd	1,500 gpd
Total				2,050 gpd or (0.003 cfs)

Assuming a peaking factor of three (3), the adjusted sewage flow is estimated to be 6,150 gpd (0.01 cfs).

2.2.3 – WATER

The site is currently serviced by two (2) existing water services. One (1) service for the church and one (1) service for the rectory. The existing water main is currently located along the northerly side of Worcester Street eastbound lane. There is also an existing water main located on Dale Street. The site is covered by two (2) existing hydrants along the frontage of Worcester Street and one (1) hydrant on Dale Street. Water usage is estimated by using half of the sewage flow values and adding 10% to the projected sewage values to account for water consumption.

Table 2.2.3.1 – Calculated Water Flows

Type of Establishment	Calculated Sewage Flows	½ Sewage Flows	10%	Design Flow
Residential Dwelling (Rectory)	550 gpd	275 gpd	27.5 gpd	303 gpd
Place of Worship without kitchen (Church)	1,500 gpd	750 gpd	75 gpd	825 gpd
Total				1,128 gpd or (0.78 gpm)

Assuming a peaking factor of three (3), the maximum water usage is estimated to be 3,384 gpd (2.35 gpm).

2.2.4 – ELECTRICAL

The site is currently serviced by Wellesley Municipal Light Plant via overhead electrical wires and utility poles which are located on the southerly side of Worcester Street. A&M does not have record information on the electrical demands produced by the former church buildings.

2.2.5 – GAS

National Grid Gas currently has a gas main along Worcester Street and on Dale Street. The applicant is in communication with National Grid to determine the exact size and location of the main for serviceability. More detailed information will be provided when available. A&M does not have record information on the gas demands produced by the former church buildings.

2.3 – OTHER SITE CHARACTERISTICS

Several environmental and regulatory factors have been evaluated in terms of effects on the redevelopment potential for the site which include the following:

- Wetland Resource Areas;
- Flood Plain;
- MEPA Permit Thresholds.

2.3.1 – WETLAND RESOURCE AREAS

The project site currently has an isolated vegetated wetland pocket, approximately 6,395 sf located on the southerly side of the site. The wetland line was approved and received an ORAD on August 21, 2014 (See MassDEP #324-755). The wetland line was delineated by Steve Ivas of Ivas Environmental. The isolated wetland has a 100-ft buffer zone, a 25-ft No Disturbance Zone and a Limited Disturbance Zone per the Town's Wetland Protection By-Law and Wetlands Protection Regulations. The northeast corner of the site is also located within the 200-ft Riverfront Area associated with Boulder Brook which is located on the northerly side of Worcester Street. The site includes previously-degraded Riverfront Area consisting of graded areas, paving, and maintained landscaping. According to the latest NHESP Atlas (13th Edition October 2008) there are no Priority Habitats of Rare Species, no Estimated Habitats of Rare Wildlife, no Certified Vernal Pools and no Potential Vernal Pools located on the property.

An application for Notice of Intent under the local bylaw has been filed with the Wetlands Protection Committee.

2.3.2 – FLOOD PLAIN

According to the latest FEMA Flood Insurance Rate Map (25021C0012E, dated July 17, 2012) the westerly portion of the site is located within a special flood hazard area subject to inundation by the 1% annual chance flood "Zone A", no base flood elevation determined. The area is protected as BLSF and compensatory storage shall be provided for all flood storage volume that will be lost as the result of a proposed project within BLSF, when in the judgement of the issuing authority said loss will cause an increase or will contribute incrementally to an increase in the horizontal extent and level of flood waters during peak flows.

2.3.3 – MEPA PERMIT THRESHOLDS

The project site will trigger one of the MEPA review thresholds in 301 CMR 11.03 under Section (6) Transportation due to the following:

- 13. Generation of 2,000 or more new ADT on roadways providing access to a single location;*

The current site, former location of St. James Church, has been vacant for several years and the buildings recently razed. The dilapidated remnants of the parking lot remain, but the painted parking spaces have faded substantially. Based on historic aerial maps, there appears to be availability for approximately 290 cars.

An Environmental Notification Form was filed with the MEPA offices. A Certificate was issued by the Agency on July 21, 2017 that no further review is required for the project.

3.0 – PROPOSED CONDITIONS

3.1 – PROPOSED OVERVIEW

The proposed redevelopment project will consist of a complete site demolition and the construction of a 101,937 square foot sports complex with off-street parking and infrastructure to support the development on a site of approximately 7.8± acres in size. The sports complex will include two (2) ice rinks, swimming pool, an athletic sports field, several locker rooms, an elevated track, strength and conditioning room, therapy room, conference rooms and spectator viewing areas. Parking will be provided along the westerly, northerly and easterly side of the building and will consist of 355 parking spaces at a 82%/18% full size to compact size ratio as allowed under the zoning bylaw. The existing driveway curb cuts along Worcester Street will be slightly modified to accommodate the proposed development. An existing mid-block crosswalk curb cut onto Route 9 will be eliminated. The existing curb cut onto Dale Street will be eliminated. A bus drop-off and queuing area will be provided on the northerly side of the building and a marked passenger vehicle drop-off area will be provided on the westerly side of the building. A stormwater management system is being proposed that will consist of standard practices as well as the implementation of Low Impact Development (LID) techniques. The proposed LID measures include porous pavement, country drainage, grass swales and rain gardens. The proposed system has been designed to comply with the new MA MS4 General Permit regulations for redevelopment which will become effective on July 1, 2017, the applicable Town of Wellesley regulations, and the Massachusetts Stormwater Standards for redevelopment. The proposed system reduces the rate and volume of runoff at all existing design points during all storm events and complies with the water quality standards as presented in the Massachusetts Department of Environmental Protection (Mass DEP) Policy on stormwater runoff to the maximum extent practicable.

3.2 – PROPOSED SITE UTILITIES AND MUNICIPAL DEMAND

The information below was submitted to the Wellesley Planning Board under a ‘Project of Significant Impact’ application.

3.2.1 – STORMWATER

A hydrologic study of the site was conducted in order to evaluate the impact of the peak rate of runoff and runoff volume of the proposed redevelopment as compared to the existing development at the design points. Based on the topography, it was determined the design points are the isolated wetland and the leaching catch basin. The site remains isolated in nature and does not discharge stormwater to the surrounding roadways or piping networks with the exception of small portions of sheet flow that occurs at the current site driveways. With this premise in place, A&M prepared a stormwater plan that does not increase offsite runoff. The 2014 Ivas Environmental reports noted that the isolated wetland system was controlled by groundwater flow. Under proposed conditions, the predominance of stormwater is recharged to groundwater that will continue to feed the wetland area.

The study concluded that the proposed rates of runoff and runoff volumes at the wetland is less than the existing conditions analysis. Please refer to the following tables:

Table 3.2.1.1 – Design Point 1 Existing vs Proposed peak rate of runoff (Wetlands)

Design Storm	Existing (cfs)	Proposed (cfs)	Difference (cfs)
Water Quality (0.8")	0.00	0.00	0.00
2-year	1.78	0.00	-1.78 (100%)
10-year	8.46	0.05	-8.41 (99.4%)
25-year	13.49	0.28	-13.21 (97.9%)
100-year	20.33	0.85	-19.48 (95.8%)

Table 3.2.1.2 – Design Point 1 Existing vs Proposed runoff volume (Wetlands)

Design Storm	Existing (ac-ft)	Proposed (ac-ft)	Difference (ac-ft)
Water Quality (0.8")	0.000	0.000	0.0 (100%)
2-year	0.210	0.000	-0.21 (100%)
10-year	0.634	0.023	-0.611 (96.3%)
25-year	0.955	0.061	-0.894 (93.6%)
100-year	1.397	0.129	-1.268 (90.7%)

The leaching catch basin has been eliminated under proposed conditions. The remaining stormwater controls have been designed to retain and infiltrate all storm events up to and including the 100-year storm event. Emergency overflows have been provided in both Retain-It system and will be directed towards the isolated wetland.

The stormwater management design incorporates Best Management Practices (BMP's) to protect down gradient points and measures to reduce peak rates of runoff from the site between existing and proposed conditions. The stormwater design incorporates LID techniques, a CDS hydrodynamic separator for stormwater from portions of the parking lot and into the Retain-It concrete chambers design with an overflow into the isolated wetlands. The building downspouts will be directly connected into the Retain-It chambers, since the runoff is considered clean roof runoff and no treatment is required. The proposed layout, grading and the drainage system will reduce the total site runoff rate, volume and total suspended solids discharging off-site. The developed site will meet and exceed the criteria set forth in the Mass DEP Stormwater Technical handbook as well as the MA MS4 General Permit. Proposed BMP's include implementing a sweeping program, the CDS unit, bio-retention/rain gardens, grass channels, porous pavement and the underground infiltration chambers. The combination of these BMP's will remove greater than 80% of TSS from the anticipated stormwater runoff. The project will improve the water quality and quantity leaving the site and increase groundwater recharge.

Given the low lying nature of the property, a connection to the existing Route 9 drain infrastructure is infeasible. All stormwater is handled onsite. The westerly parking field, approximately 60,000 square feet is comprised of porous asphalt. The cross section of the asphalt will provide a filter media and a storage media. The filter traps and removes any oils and gases that would come from parked cars and allow for evaporation. Stormwater would be retained in the gravel section and allowed to recharge into the groundwater. The added benefit of the porous asphalt is to accommodate any flooding that may occur given its location in the flood plain. The water would be allowed to penetrate the asphalt wearing course as opposed to surface ponding that is currently experienced on the lot and along Dale Street.

The mid-section of the property, or roughly 40,000 square feet, is directed to a series of rain gardens. The rain gardens allow for the introduction of vegetative material that acts as the stormwater filter prior to groundwater recharge. In higher storm events, the water overflows into a catch basin system connected to other onsite storage areas.

The easterly portion of the site is approximately 156,000 square feet with the proposed facility occupying roughly 65% of the area. Clean roof runoff from the facility will be collected via gutters and downspouts. These will be connected into a subsurface recharge field. The parking surface around the building

perimeter graded to move stormwater into a water quality hydrodynamic separator that removes oils, gases, and total suspended solids. The building does not require water quality treatment under the stormwater regulations. The combined water flows will be directed to a subsurface recharge field comprised on Retain-It precast concrete chambers, or approved equal. The chambers provide a temporary holding cell allowing for the slow recharge of stormwater into the ground in the area of the soil with the well-draining soils. The infiltration chambers alone have a total volume of 44,475 cubic foot capacity (below the emergency overflow weir).

All totaled, there will be no stormwater runoff from the property in any direction or into the municipal system.

Methodology

The peak rate of runoff was determined using techniques and data found in the following:

1. Urban Hydrology for Small Watersheds – Technical Release 55 by the United States Department of Agriculture Soils Conservation Service, June 1986. Runoff curve numbers and 24-hour precipitation values were obtained from this reference.
2. HydroCAD[®] Stormwater Modeling System by HydroCAD Software Solutions LLC, version 10.18. The HydroCAD program was used to generate the runoff hydrographs for the watershed areas, to determine discharge/stage/storage characteristics for the infiltration systems, to perform drainage routing and to combine the results of the runoff hydrographs.
3. Soil Survey of Norfolk and Suffolk Counties, Massachusetts by United States Department of Agriculture, National Resource Conservation Service. Soil types and boundaries were obtained from this reference and includes the following soils:



Figure 3 - Soil's Map

- 253D Hinckley loamy sand, 15-35% slopes Hydrologic Soil Group "A"
- 260B Sudbury fine sandy loam, 2-8% slopes Hydrologic Soil Group "B"
- 602 Urban Land, 0-15% slopes

Soil test pits conducted by Gale Associates during the 2015 site assessment categorized the easterly portion of the site as well draining sandy soils. The westerly portion of the site under the parking field, was poor draining with a high water table. Additional geotechnical work was conducted by McArdle Gannon Associates, Inc. in May and is detailed in the Geotechnical Engineering Report dated June 2017 and is included herewith.

4. Rainfall Data for each of the storm events was based on the National Weather Service Technical Paper 40 (TP-40) 24-hour rainfall maps as published in the TR-55 book. The total rainfall for each event is shown in the following table:

Table 3.2.1.3 – Rainfall

Water Quality	2-year	10-year	25-year	100-year
0.8 inches	3.10 inches	4.60 inches	5.50 inches	6.60 inches

Closed Drainage System Computational Methods

The closed drainage system calculations determine the rate of runoff, the time of concentration and the rainfall intensity for the drainage basin. The calculations were performed for a 25-year storm event. The following standards were used:

1. The Rational Formula ($Q = CIA$) was used to determine the flow to each structure.
Q = Flow cubic feet per second (CFS)
C = Runoff coefficients
I = Rainfall Intensity (inches per hour)
A = Drainage Area (acres)
2. The runoff coefficients used are as follows:
Impervious (pavement and roofs) = 0.9
Grassed = 0.40
Bare Ground and gravel = 0.50
Landscape = 0.4
Wooded = 0.2
3. The intensity for each area was determined by the Steel Formula for a 25-year frequency storm. The Steel Formula is:
 $I = k/(t+b)$
I = Intensity
k = 230 (25 yr)
t = Time of Concentration
b = 30 (25 yr)
4. The times of concentration were calculated using a nomograph provided in “Design, Volume 1,” by Seelye, 1960. A minimum time of concentration of ten (10) minutes was utilized.
5. The Manning’s formula was utilized to calculate the capacity of the individual pipes in the closed drainage system. The Manning’s formula is:
 $Q = (A_p) (1.486/n) (s^{1/2}) (h^{2/3})$
Q = Flow in CFS
A_p = Cross-sectional area of the pipe (square feet)
n = Roughness coefficient
s = slope of the pipe (ft/ft)
h = hydraulic radius

The closed drainage system, as designed, is capable of handling the design flow as calculated, as well as maintaining a design velocity of between 2.0 feet per second (fps) and 12.0 fps.

Using low impact design techniques, A&M was able to minimize the amount of drain structures that will be used on the property.

3.2.2 – SANITARY SEWER

The proposed project will abandon all existing sewer connections and is proposing a new sewer service. The main plumbing for the sports complex will be via a new eight (8) inch connection into the existing sewer manhole located within the existing sidewalk. The proposed sewer flows are estimated to be 11,732 gallons per day (0.02 cfs) based on 314 CMR 7.00 and 310 CMR 15.00. The sewage flows are calculated as follows:

Table 3.2.2.1 – Calculated Sewage Flows per The State Environmental Code, Title V

Type of Establishment	Min. Flow	Size	Calculated Flow	Design Flow
Office	75 gpd/1000 sf or 200 gpd minimum	14,425 sf	1,081.8 gpd	1,082 gpd
Skating Rink	5 gpd/seat or 3,000 gpd minimum	700 seats	3,500 gpd	3,500 gpd
Swimming Pool	10 gpd/person	360 users (max) 200 seats	5,600 gpd	5,600 gpd
Gymnasium (field)	25 gpd/participant	50 participants	1,250 gpd	1,250 gpd
Gymnasium (field)	3 gpd/spectator	100 spectators	300 gpd	300 gpd
Total				11,732 gpd or (0.02 cfs)

Assuming a peaking factor of three (3), the adjusted sewage flow is estimated to be 35,196 gpd (0.05 cfs). This is an increase of 29,046 over pre-development conditions. The peak demand assumes that the facility is fully occupied with hosted events occurring on all sports surfaces. The operational needs of the facility are such that it is unlikely that a large pool event would be hosted simultaneous with a large hockey event. The careful scheduling of the facility will minimize the potential of a sewer demand of 11,732 or the peak demand of 35,196 gpd.

3.2.3 – WATER

The proposed project will abandon all existing water service connections and is proposing two (2) new connections on the eight (8) inch main in Worcester Street. Domestic water and fire protection service will be via a new four (4) inch CLDI tap connection and a six (6) inch CLDI tap connection, respectively. In lieu of a peak water demand calculation based on a plumbing fixture unit count, the daily water usage for the project is estimated at 6,453 gpd (4.5 gpm) which is estimated by using half of the sewage flow values and adding 10% to the projected sewage values to account for water consumption. Assuming a peak factor of three (3) the adjusted water usage is 19,359 gpd (13.4 gpm). A more accurate estimate of domestic water demand will be provided by the owner as the building design progresses.

Table 3.2.3.1 – Calculated Water Flows

Type of Establishment	Calculated Sewage Flows	½ Sewage Flows	10%	Design Flow
Office	1,082 gpd	541 gpd	54 gpd	595 gpd
Skating Rink	3,500 gpd	1,750 gpd	175 gpd	1,925 gpd
Swimming Pool	5,600 gpd	2,800 gpd	280 gpd	3,080 gpd
Gymnasium (field)	1,550 gpd	775 gpd	78 gpd	853 gpd
Total				6,453 gpd or (4.5 gpm)

One time demands including filling of the pool and ice rinks would be coordinated directly with the water superintendent to minimize long term pressure drops in the service main during filling. At a maximum, these would occur once annually.

3.2.4 – ELECTRICAL

A preliminary analysis of the project was conducted by Dacon Corporation and the mechanical engineering team. The project is anticipated to require a 2500 Amp 277/480 volt 3 phase 4 wire complete with all distribution panelboards, dry-type step down transformers and safety switches for equipment. Additional amperage will be required for the proposed site lighting and will be provided when the design has been finalized. The primary source of electrical load is based on the heating and cooling elements to run the facility. The applicant is also coordinating the installation of solar panels on the roof of the proposed building lessening the demand load on the Wellesley Municipal Light Plant. Further information on the electrical usage will be provided by others under separate cover as the design is finalized.

During construction temporary meters would be requested by the contractor.

3.2.5 – GAS

The applicant is currently communicating with National Grid Gas to determine the exact size and location of the main on Worcester Street. The gas demand has not been calculated by would be provided by a national vendor.

3.2.6 – REFUSE DISPOSAL

The proposed sports complex facility will utilize private haulers to remove solid waste from the property. An enclosed dumpster area is being proposed along the back of the building. The vehicles will have adequate access along the easterly side of the building. The waste will be brought to a licensed disposal facility in accordance with all applicable Federal, State and Local regulations. The concession area will utilize a recycling program for the plastic water bottles and soda cans. No negative impact is expected as a result of this construction on the Town of Wellesley refuse disposal program.

3.2.7 – BUILDING OCCUPANT SAFETY

As part of the building construction, a full new fire alarm system will be installed meeting all applicable codes. Portions of the building will also be serviced by a sprinkler system. These systems will be in accordance with the National Fire Protection Association regulations. The applicant will be required to submit fire protection drawings for review through the Wellesley Fire Department prior to the issuance of the building permit.

3.2.8 – PEDESTRIAN SAFETY

The proposed project is proposing to relocate the existing bituminous concrete sidewalk by moving it further southerly away from the vehicles traveling easterly along Worcester Street. Additional pedestrian access ways, cross-walks and accessible routes will be provided internally. The facility's site design is integrated into the Route 9 corridor for any pedestrians that may utilize it. Cement concrete sidewalks will be provide along the perimeter of the southerly parking lot as well as the northerly and westerly side of the building.

The primary pedestrian interaction is the arrival and departure of sports teams. They would typically arrive via school bus or passenger car. School buses are provided a dedicated queuing location that places visitors directly onto a sidewalk leading to the front door. Similarly, passenger drop offs will be accommodated directly at the front door via a 40 foot wide marked access point. A striped and marked pedestrian path within the parking field will bring visitors to the facility in a well-lit and clearly marked path. Directional signs will be using throughout the facility to maximize efficiency.

ADA accessible parking spaces will be located near the main entrance. The applicant is also proposing a new crosswalk on Worcester Street connecting pedestrians to Lexington Road. Crossing of Route 9 would be coordinated through off-site signal improvements and pedestrian beacons. Visitors arriving to the facility by bicycle are being provided an exterior bike rack for temporary storage. All sidewalks

associated with this project are being fully reconstructed to ensure hazardous conditions, cracks, and potholes are removed.

There are no public transportation stops in vicinity of the project.

No negative impact is expected as a result of this construction and the proposed improvements will increase the pedestrian's safety along Worcester Street.

3.2.9 – SITE LIGHTING

The proposed project is planning to install LED lights to illuminate the parking lot. The lights have been positioned and designed to avoid light pollution onto adjacent properties. The main parking area will utilize twenty (20) foot high poles atop a light pole base with 2.5-foot reveal for a total mounting height of 22.5 feet. The lights on the westerly side of the building will have a mounting height of 20.5 feet, while the light on the northerly and easterly side will be set at 18.5 feet.

3.3 – OTHER SITE CHARACTERISTICS

3.3.1 – WETLAND RESOURCE AREAS

The proposed project will be required to obtain a waiver from the Town of Wellesley Wetlands Protection By-Law for work within the 25-ft No Disturbance Zone. The By-Law also protects the remaining 75-ft of the buffer zone which is designated as a Limited Disturbance Zone. The proposed southwest corner of the building will be located right on the 25-ft No Disturbance Zone. It is assumed during construction that additional work will be required within the No Disturbance Zone to be able to construct the footing, foundation walls and the exterior portion of the building.

As part of the PSI review process, the Wellesley Fire Department requested access around the entirety of the building. This results in the access roadway that surrounds the building. The portion of the roadway directly adjacent to the building shall be constructed of a stabilized reinforced turf product (Grasspave or similar) to allow for vehicle loading. This construction encroaches further into the 25' wetland resource area buffer. The roadway construction requires a filling of approximately 336 square feet of isolated vegetated wetland area that will be replicated on the northerly IVW system at a 2:1 ratio.

Construction of the roadway allows the applicant to create a 7,000+/- square foot wetland planting area that will be seeding and hydraulically connected via open bottom culvert to the existing IVW. The area will be planted/seeded with a wetland mix.

The applicant is also proposing a chamber system comprised of 62 Retain-It chambers that provide appropriate compensatory storage as required under the by-law, the flood plain district, and the wetlands protection Act. Please refer to the attached compensation tables.

A small portion of the northeasterly corner of the site is located within the 200 Foot Riverfront Area associated with Boulder Brook. This area is already considered a previously-degraded Riverfront Area consisting of graded areas, paving, and maintained landscaping. The applicant is proposing to modify the curb cut by narrowing the entrance and creating additional landscape areas.

During the site design, A&M reviewed several building layout configurations to avoid all impacts to the wetland resource areas. The size of the building is dictated by the lease agreements and design parameters of the 900 Worcester Street committee through the multiple years of negotiations. Its position on the easterly part of the site is required given the existence of the flood plain on the westerly lands. It's separation from the easterly property line (60') is required by property line setbacks noted in the fire code. The only potential variable on the site layout is the rotation of the building to set the long face of the

building along the Route 9 corridor. This option however, creates an awkward separation of the parking fields that complicates internal site circulation. The building in this position would lessen the relief needed from the NRC, but the resultant site design would expose the wetland areas to vehicle exposure. While all precautions would be taken to prevent runoff towards the wetland area, the construction of the building is a permanent stabilization approach with “clean” roof runoff, that should it flow to the wetland area, would not be detrimental.

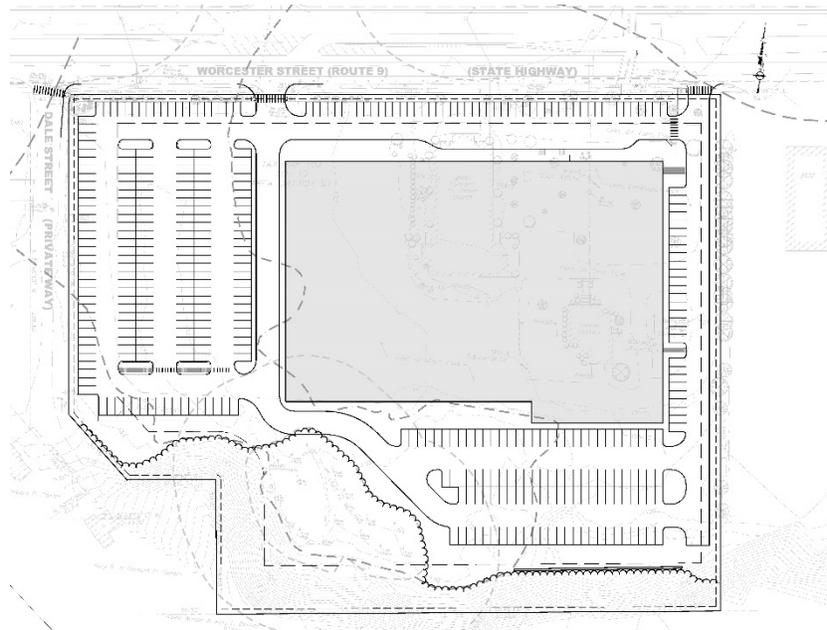


Figure 4 - Conceptual Layout

3.3.2 – FLOOD PLAIN

The proposed project will be constructed within the Flood Zone. The applicant is proposing to maintain the existing grades along the westerly portion of the site to minimize flood plain impacts. A filling is required for construction of the building and access roadways. Compensation for the flood plain, as described above under wetland impacts, is provided through 62 Retain-It stormwater vaults that will be used for temporary storage of flood waters.

3.3.3 – MEPA PERMIT THRESHOLDS

The applicant submitted an Environmental Notification Form on June 13, 2017 and received a Certificate on July 21, 2017 stating that the project does not require an Environmental Report.

3.4 – CONSTRUCTION TRAFFIC MANAGEMENT PLAN

3.4.1 – ACCESS AND SITE MANAGEMENT

The site will be secured and completely enclosed by a temporary construction fence. Access for construction vehicle and personnel will occur off Worcester Street in the vicinity of the existing curb cuts. Temporary construction facility, equipment, office trailer, dumpster, portable sanitary facilities will be located within the footprint of the existing pavement and relocated accordingly as construction progresses. All products of demolition will be removed from the site and legally disposed of in accordance with applicable Federal, State and Locals regulations. Similarly, all materials entering the site will be reviewed against standard specifications to ensure no detrimental import materials are brought into the Water Supply Protection District.

Construction is anticipated to take 12 months with an aggressive groundbreaking scheduled to begin in the Fall of 2017.

Task	Estimated Duration	Description
1	5 days	<ul style="list-style-type: none"> • Stake limit of work, establish perimeter erosion control, install silt sacks in existing catch basins, install construction fencing; • Pre-construction conference with the developer, site contractor, design engineer and interested town officials prior to the start of any site work; • Install construction entrance and establish staging area.
2	15 days	<ul style="list-style-type: none"> • Tree clearing, grub & stump, strip and stockpile existing topsoil; • Remove & dispose of existing concrete surfaces; • Remove & dispose of existing utilities and infrastructure.
3	45 days	<ul style="list-style-type: none"> • Earthwork for footings and foundation; • Install required structural fill; • Form footing, pour concrete; • Form foundations, pour concrete.
4	60 days	<ul style="list-style-type: none"> • Earthwork for pavement, drainage, utilities and retaining wall; • Install drainage structures and underground infiltration chambers; • Install utilities, light pole base, etc.
5	240 days	<ul style="list-style-type: none"> • Exterior and Interior work on the building structure and infrastructure.
6	30 days	<ul style="list-style-type: none"> • Fine grade; • Installation of bituminous concrete surfaces; • Installation of cement concrete surfaces.
7	30 days	<ul style="list-style-type: none"> • Spread topsoil; • Commence soil preparation, plant trees, shrubs, etc. • Install soil amendments; • Seed and mulch areas.
8	60 days	<ul style="list-style-type: none"> • Upon establishment of suitable turf cover, commence removal of temporary erosion control devices as areas become stabilized and the threat of erosion is removed.

Note: Durations are approximate days and are subject to final detailing and review once a general contractor has been selected for the project.

3.4.2 – CONSTRUCTION OPERATION

Security

Temporary construction fencing shall be installed along the perimeter to limit access to the property by non-authorized vehicles. The fence will be panelized to allow for relocation and adjustments that may arise during the length of construction. Access to the work zone will be through a double gate located at the construction area for access and construction vehicles only. No staging or queuing shall be allowed on Worcester Street.

Construction Activities

All construction activities will be completed in accordance with the Zoning regulations and requirements of Local, State and Federal regulations.

Dust and Dirt Control

The Contractor shall be required to establish a stabilized construction entrance and wash down area to prevent construction material tracking onto adjacent roadways. All vehicles entering/exiting shall be washed down to prevent traffic and importing materials into the Water Supply Protection District as well as to prevent materials on-site from being carried off-site. The stabilized entrance will adhere to standard passive truck practices to prevent tracking of the sediment onto adjacent roadways. Roadways shall be monitored by the site contractor and cleaned as necessary during the construction period. Site watering will be implemented as necessary to prevent windblown dust from leaving the property.

A wash down/retention pond area shall be constructed adjacent to the stabilized entrance. This area will provide containment of any material that adheres to the construction traffic. Large trucks shall be required to wash down when entering and exiting the property to minimize import of material and tracking along the Route 9 roadway.

Construction Hours

The anticipated construction activities will take place Monday thru Friday between the hours of 7:00 AM and 5:00 PM. Operation of 'noisy' equipment shall not commence until 8:00 am. There may be an occasional requirement to work on a Saturday between the hours of 8:00 AM and 3:00 PM. If a Saturday is required, both the Police and Fire Departments will be notified. Work on Sundays is not anticipated, however, if necessary based on conditions, will be requested through the appropriate representatives of the Towns of Wellesley allowed to authorize it.

Deliveries/Truck Traffic/Parking Management

The primary activity associated with the project is the excavation, relocation, importing and exporting of earth materials and construction debris (pavement). These vehicles may range from 10 wheel dump trucks to 18 wheel trailer trucks dependent on the materials. Access to the construction area is solely through the construction access roadway located along Worcester Street.

Truck traffic is anticipated to use the Route 9 roadway to provide access to Route 95 or Route 90 for conveyance of materials to and from the site. Use of local roadways is not anticipated and will be discouraged through construction management oversight.

3.4.3 – EROSION AND SEDIMENT CONTROL

The site will be enclosed with a staked silt fence or wattle to prevent incidental conveyance of sediment from disturbed areas off-site or into the Municipal/State drainage system. All existing drainage inlets adjacent to the site will have silt sacks installed prior to any construction activities. A stabilized construction entrance will be installed in the vicinity of the existing/proposed curb cut. The erosion and control measures will remain in place until all construction activities are complete and all disturbed areas have been stabilized. The contractor will be required to inspect all controls regularly to ensure that they are working properly and to see if they need to be cleaned and/or replaced on an as-needed basis. The proposed project will disturb greater than one (1) acre of land, therefore the project will require the filing of a National Pollutant Discharge Elimination System (NPDES) Stormwater Construction General Permit. A stormwater Pollution Prevention Plan (SWPPP) will be prepared prior to any construction activity. The SWPPP will prescribe in detail the performance standards to which the contractor for the project will be responsible for. The SWPPP will be maintained at the construction trailer on-site throughout the duration of the project.

4.0 – TRANSPORTATION

4.1 – TRANSPORTATION IMPACT ASSESSMENT

A detailed Traffic Impact and Access Study (TIAS) report has been prepared by MDM Transportation Consultants, Inc. and is located in Appendix B. A quick summary of the TIAS is as follows:

Trip generation for the development is projected to only moderately increase traffic activity on area roadways relative to existing/baseline conditions with no material impact to operating conditions at primary study intersections. This assessment indicates that there is ample capacity at these study locations to accommodate these project-related traffic increases without the need for major infrastructure enhancements.

4.2 – PARKING

The proposed development will provide a total of 355 parking spaces. The 355 parking spaces are broken down further by providing 8 handicap accessible spaces, 64 compact and 283 regular size spaces. The proposed parking supply meets the Town requirement. The Owner is also proposing bicycle parking near the entrance of the building.

Off-Street Parking Requirements per Commercial Recreation Overlay District			
Type	Size	Min. Space Per	Min. Space
Seats	1050 seats	1 space / 3 seats	350 spaces
Building Square Footage	129,716 sf	1 space / 1000 sf	130 spaces
Total			350 spaces

Note: *At a minimum no less than one (1) parking space per 1,000 sf of floor area of buildings.

5.0 – ENVIRONMENTAL IMPACT

5.1 – STORMWATER MANAGEMENT

STANDARD #1

No new stormwater conveyances (e.g. outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.

The existing on-site drainage system currently does not have any stormwater controls. All stormwater currently flows uncontrolled and untreated into either the wetlands or a leaching catch basin. The proposed drainage system will be designed to avoid direct discharge into the wetlands. The system will be designed with an emergency overflow into the wetlands for storms exceeding the design storm. All discharges from impervious surfaces will be treated.

STANDARD #2

Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for discharges to land subject to coastal storm flowage as defined in 310 CMR 10.04.

Calculations have been provided to show that the proposed redevelopment will not cause an increase in peak discharge rates or runoff volume. Refer to the HydroCAD calculations provided within Appendix A of this report for detailed breakdowns of each study point.

STANDARD #3

Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures including environmentally sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.

The USDA Soil Survey of Norfolk and Suffolk Counties was used to determine soil types on site as well as on-site soil investigations done by Gale Associates in 2015. The rear/undeveloped portion of the site is identified as Hinckley loamy sand with a hydrologic soil group “A” and the front/developed portion of the site is identified as Urban Land with no defined hydrologic rating. For the purposes of stormwater evaluation, A&M has assumed the front portion of the site to be a Hydrologic Soil Group B. Infiltration rates vary for the site and are as defined by the Rawls Rates in the Massachusetts Stormwater Handbook.

The required recharge rates for each soil classification are as follows:

Table 5.1.1 – Recharge Volume per Hydrologic Soil Group (HSG)

	HSG A	HSG B	HSG C	HSG D
Required Recharge	0.60 inches	0.35 inches	0.25 inches	0.10 inches

Table 5.1.2 – Existing vs Proposed Impervious Surface

	Existing Conditions		Proposed Conditions	
	HSG A	HSG B	HSG A	HSG B
Impervious Area	11,433 sf	128,092 sf	53,291 sf	185,959 sf
Increase			+41,858 sf	+57,867 sf

Under proposed conditions, the project will introduce approximately 2.28 acres (99,725 sf) of new impervious surface included the building and parking area. All runoff that flows from impervious areas (parking lot) will be picked up by either the rain gardens or the proposed closed drainage system. The required recharge volume is given by the following equation:

$$R_v = F \times IA \text{ (Equation 1 Stormwater Handbook Volume 3)}$$

where R_v = Required Recharge Volume, ft³
 F = Target Depth factor
 IA = Impervious drainage area

$$R_v = F \times IA$$

$$= (0.60 \text{ inches})(1\text{foot}/12 \text{ inches})(41,858 \text{ sf}) + (0.35 \text{ inches})(1\text{foot}/12 \text{ inches})(57,867 \text{ sf})$$

$$= 3,781 \text{ cubic feet}$$

For this project, all impervious surfaces shall be recharged through onsite infiltration via the proposed rain gardens, porous asphalt and the underground infiltration chambers. The infiltration chambers alone have a total volume of 44,475 cubic foot capacity (below the emergency overflow weir). The entire stormwater management system has been design to recharge all storm events up to an including the 100-year event.

The basin drawdown time is defined as:

$$\text{Time}_{\text{drawdown}} = R_v / (K)(\text{bottom area})$$

where R_v = Required Recharge Volume, ft³
 K = Saturated Hydraulic Conductivity (Rawls table)
 Bottom area = bottom area of recharge structure

Table 5.1.3 – Drawdown Calculation

System	R_v	K	Bottom Area	$\text{Time}_{\text{drawdown}}$
Porous Pavement	21,829 cf	0.17 in/hr	60,636 sf	25.41 hrs
ReTain-It System 1	31,363 cf	2.41 in/hr	20,852 sf	7.48 hrs
ReTain-It System 2	10,106 cf	2.41 in/hr	7,124 sf	7.06 hrs

Where “the vertical separation from the bottom of an exfiltration system to seasonal high groundwater is less than four (4) feet *and* the recharge system is proposed to attenuate the peak discharge from a 10-year or higher 24-hour storm” a mounding analysis is required. “In such cases the mounding analysis must demonstrate that the *Required Recharge Volume* is fully dewatered within 72 hours. This project has been classified as redevelopment under the stormwater standards and is required to meet the stormwater standards to the maximum extent practicable, therefore a mounding analysis has not been completed.

STANDARD 4

Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This Standard is met when:

- a. Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan, and thereafter are implemented and maintained;*
- b. Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook and*
- c. Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook*

All runoff that flows through or along any impervious area will be treated in a manner such that 80% (min.) of the total suspended solids are removed. Parking lot sweeping shall be performed in order to remove at least 5% of TSS. Sweeping shall comply with Table 7 for a minimum of 5% removal. Also the site will employ a proprietary treatment device (Contech VSHS36), deep sump hooded catch basins, rain garden, porous asphalt, grass channel and an underground infiltration chambers to achieve and exceed the required 80% TSS removal. Refer to the TSS Removal Calculation Worksheets included in this report.

TSS Removal Rate	High Efficiency Vacuum Sweeper – Frequency of Sweeping	Regenerative Air Sweeper – Frequency of Sweeping	Mechanical Sweeper (Rotary Broom)
10%	Monthly Average, with sweeping scheduled primarily in spring and fall	Every 2 Weeks Average, with sweeping scheduled primarily in spring and fall.	Weekly Average, with sweeping scheduled primarily in spring and fall.
5%	Quarterly Average, with sweeping scheduled primarily in spring and fall.	Quarterly Average, with sweeping scheduled primarily in spring and fall.	Monthly Average, with sweeping scheduled primarily in spring and fall.
0%	Less than above	Less than above	Less than above

STANDARD 5

For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt, and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by the Department to be suitable for such uses as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53 and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.

The proposed project is not a Land Use with Higher Potential Pollutant Loads and therefore Standard 5 does not apply.

STANDARD 6

Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area, require the use of the specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook. A discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, taking into account site-specific factors. Stormwater discharges to Outstanding Resource Waters and Special Resource Waters shall be removed and set back from the receiving water or wetland and receive the highest and best practical method of treatment. A “storm water discharge” as defined in 314 CMR 3.04(2)(a)1 or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00. Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of a public water supply.

The project site does not discharge to or near a critical area therefore Standard 6 does not apply.

STANDARD 7

A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural best

management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.

This project has been classified as redevelopment under the stormwater standards and is required to meet the stormwater standards to the maximum extent practicable. The proposed stormwater management system has been designed to meet all of the stormwater standards that are applicable and provide an improvement over the existing conditions of the site. At present, the site does not contain any stormwater controls or treatment and all stormwater sheet flows uncontrolled to the isolated wetlands. The stormwater management design incorporates Best Management Practices (BMP's) to protect down gradient points and measures to reduce peak rates of runoff from the site. The stormwater design incorporates LID techniques, a CDS hydrodynamic separator for stormwater from portions of the parking lot and into the Retain-It concrete chambers design with an overflow into the isolated wetlands. The building downspouts will be directly connected into the Retain-It chambers, since the runoff is considered clean roof runoff and no treatment is required. The proposed layout, grading and the drainage system will reduce the total site runoff rate, volume and total suspended solids discharging off-site

STANDARD 8

A plan to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan) shall be developed and implemented.

An Erosion Control plan has been incorporated with the design plans. Also, the project requires a Stormwater Pollution Prevention Plan. This plan will be prepared and submitted prior to construction of the proposed roadways. The SWPPP shall also be kept on file as required under the NPDES Construction General Permit program.

STANDARD 9

A long-term operation and maintenance plan shall be developed and implemented to ensure that stormwater management systems function as designed

An operations and maintenance (O&M) plan has been included in this report that outlines the general maintenance for the stormwater systems during and after construction.

STANDARD 10

All illicit discharges to the stormwater management system are prohibited.

No illicit discharges exist on site. The storm water management system proposed shall not be connected to the wastewater management system and shall not be contaminated by contact with process wastes, raw materials, toxic pollutants, hazardous substances, oil, or grease per Massachusetts DEP Storm Water Standard 10. A signed statement shall be provided by the owner in concurrence with issuance of the final site plan.

5.2 – STORMWATER MANAGEMENT SYSTEM MAINTENANCE

In accordance with the standards set forth by the Stormwater Management Policy issued by the Department of Environmental Protection (DEP), Allen & Major Associates, Inc. (A&M) has prepared the following Operation and Maintenance plan for the proposed stormwater management system for Wellesley Sports Center, LLC.

This plan focuses on post construction maintenance of the on-site drainage system. Operation and Maintenance (O&M) practices discussed below are recommendations made by the Design Engineer based on available reference material on Best Management Practices (BMP's) and experience. The property owner is responsible for implementation of the plan, and is encouraged to revise / supplement this plan accordingly based on actual site conditions. All inspection reports shall be submitted to the Town Engineer annually.

This plan is broken into two major sections. The first section describes construction-related erosion and sedimentation controls. The second section is devoted to a post-development operation and maintenance plan.

Basic Information

Proponent: Wellesley Sports Center, LLC.
Address: 41 North Road, Suite 203
City: Bedford, MA 01730

Section 1 Construction Activities

1. Contact the Wellesley Engineering Department at least three (3) days prior to start of construction.
2. Install the wattles, silt fence, construction fencing and silt sacks in the catch basins as shown on the Erosion and Sediment Control Plan.
3. All erosion and sedimentation controls shall be in accordance with DEP's Erosion and Sedimentation Control guidelines revised through May 2003 and the USDA SCS Erosion and Sedimentation Control in site development dated September 1983.
4. Site access shall be achieved only from the designated construction entrance.
5. All erosion control measures shall be inspected weekly and after any rainfall event greater than 0.5", and shall be maintained, repaired or replaced as required or at the direction of the owner's engineer, or the Town Engineer.
6. Sediment accumulation up-gradient of the wattles and silt fence greater than 6" in depth shall be removed and disposed of in accordance with all applicable regulations.
7. If it appears that sediment is exiting the site, additional silt sacks shall be installed in all catch basins adjacent to the site as directed by the Engineer. Sediment accumulation on all adjacent catch basin inlets shall be removed and the silt sack replaced if torn or damaged.
8. The contractor shall comply with the General and Erosion Notes as shown on the Site Development Plans.
9. All disturbed areas shall be stabilized with mulch or seed immediately upon completion of the construction activity that disturbed the soil or at 6 months whichever is less.
10. All slopes greater than 3:1 shall be stabilized with an erosion control blanket.
11. The contractor shall keep on site additional silt fence and hay bales to mitigate any emergency condition.
12. All proposed drainage structures (catch basins, manholes, etc.) should be cleaned at the end of construction and any time the sediment within the structures equals 12" deep.
13. All newly installed inlets shall be protected during construction by installing silt sacks.

14. The contractor shall be responsible for preventing any silt or sediment from entering the infiltration systems.

Section 2 Post-Development Activities

1. The entire project area shall be stabilized with vegetation upon completion of construction and prior to removal of the erosion control devices.
2. Salt for de-icing on the paved areas during the winter months shall be limited to the minimum amount practicable. Sand containing the minimum amount of calcium chloride (or approved equivalent) needed for handling may be applied as part of the routine winter maintenance activities.
3. The closed drainage system shall be inspected every 6 months. If more than 18" of sediment is found within the drainage structures, manholes or catch basins the structures shall be cleaned and the sediment removed and disposed of.
4. CDS specific maintenance shall be as follows:
 - A. Inspections shall be performed twice per year (e.g. spring and fall).
 - B. A visual inspection should ascertain that the system components are in working order and there are no blockages or obstructions in the inlet and separation screen. The inspection should also quantify the accumulation of hydrocarbons, trash and sediment in the system. Measuring pollutant accumulation can be done with a calibrated dipstick, tape measure or other measuring instrument.
 - C. Access to the CDS unit is typically achieved through two manhole access covers. One opening allows for inspection and cleanout of the separation chamber and isolated sump. The other allows for inspection and cleanout of sediment captured and retained outside the screen.
 - D. Cleaning is required once the sediment depth reaches 75% of capacity in the isolated sump or when an appreciable level of hydrocarbons and trash has accumulated.
 - E. Cleaning should be done during dry weather conditions when no flow is entering the system. The use of a vacuum truck is generally the most effective and convenient method of removing pollutants from the system. Simply remove the manhole covers and insert the vacuum hose into the sump. The system should be completely drained down and the sump fully evacuated of sediment. The area outside the screen should also be cleaned out if pollutant build-up exists in this area.
 - F. The system should be cleaned out immediately in the event of an oil or gasoline spill.
 - G. Motor oil and other hydrocarbons that accumulate on a more routine basis should be removed when an appreciable layer has been captured. To remove these pollutants, it may be preferable to use absorbent pads since they are usually less expensive to dispose than the oil/water emulsion that may be created by vacuuming the oil layer.
 - H. Trash and debris can be netted out to separate it from other pollutants. The screen should be power washed to ensure it is free of trash and debris.
5. Work within any drainage structures shall performed in accordance with the latest OSHA regulations, and only by individuals with appropriate OSHA certification.
6. Subsurface Infiltration Structure (ReTain-It) will be inspected within the first three months after construction within 72 hours of a half-inch storm event to ensure it is draining properly. Thereafter, the filter should be inspected for sediment, trash and debris at least twice per year. Trash, debris, and visible sediment should be removed. The filter should also be inspected annually within 72 hours of a half-inch storm event to ensure it is draining properly. Inspection can be accomplished by using the observation well, inspection port, and/or access structure for underground chamber systems. Adjust the inspection interval based on previous observation of sediment accumulation and high water elevations. Conduct jetting and vactoring annually or when inspection shows that maintenance is necessary.

7. Bio-Retention / Rain Gardens will be inspected within the first three months after construction; thereafter the filter will be inspected 2 times per year to ensure that the filter is draining properly. Mulch and vegetation should be refreshed, pruned, or replaced annually. Any undesirable woody vegetation or accumulated sediment must be removed.
8. Grass Drainage Channels should be inspected within the first three months after construction to ensure proper vegetation is established; thereafter, inspect 2 times per year (preferably in Spring and Fall) to ensure they are working in their intended fashion and that they are free of sediment and debris. Remove any obstructions to flow, including accumulated sediments and debris and vegetated growth. Repair any erosion of the ditch lining. Vegetated ditches will be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable and correct any erosion of the channel's bottom or side slopes.
9. Pervious Pavement area will be inspected within the first three months after construction; thereafter the paving area will be inspected 2 times per year to ensure that it is clear of accumulated sediment and debris and permeability will be assessed. The pervious pavement area will be swept monthly using a vacuum sweeping machine. The surface will be inspected annually for deterioration or spalling. No winter sand will be used on the pervious pavement area and salt will be kept to a minimum.

Winter maintenance of porous asphalt per the University of New Hampshire Stormwater Center

- Plow after every storm. Special plow blades may be used to prevent scarring but are not necessary. Raised blade is not recommended
- Up to ~75% net salt reductions for porous asphalt have been documented.
USE SALT REDUCTION NUMBERS WITH CAUTION!!!
- • Excess salt application maybe needed during challenging storm events. Salt reductions typically occur between storm events with no black ice formation.
- Salt reduction amounts are site specific and are affected by degree of shading and hours of operation.
- Apply anti-icing treatments prior to storms. Anti-icing has the potential to provide the benefit of increased traffic safety at the lowest cost and with less environmental impact.
- Apply deicing treatments during, and after storms as necessary to control compact snow and ice not removed by plowing.
- Sand application should be limited since its use will increase the need for vacuuming.
- Mixed precipitation and compact snow or ice is problematic for all paved surfaces, but is particularly problematic for porous surfaces. This is corrected by application of excess deicing chemicals.
- Recommended posting of signs indicating difference of performance after sunrise and sunset.

During Event

- Apply standard amounts of deicing agents during storm events.
- Amounts will be adjusted based on site specific requirements, hours of operation, and degree of shading.
- Additional Deicing may be required during challenging storm events.

Between Storms

- Deicing is NOT required for black ice development. Meltwater readily drains through porous surfaces thereby preventing black ice.
- Night time deicing may require additional maintenance activities.
- Daytime deicing may be minimal once pavement is exposed to sunlight.

10. Check Dams, Rip Rap and Level Spreaders will be inspected twice per year for erosion, debris accumulation, and unwanted vegetation. Erosion will be stabilized and sediment, debris, and woody vegetation will be removed
11. Maintenance Responsibilities - All post-construction maintenance activities shall be documented and kept on file and made available upon request. Copies of the maintenance logs shall be submitted to the Department of Public Works.

5.3 – LONG-TERM POLLUTION PREVENTION

As required under stormwater Standard 4, the project requires the “development and implementation of suitable practices for source control and pollution prevention. These measures must be identified in a long term pollution prevention plan. The plan shall include the proper procedures for the following:

- good housekeeping;
- storing materials and waste products inside or under cover;
- vehicle washing;
- routine inspections and maintenance of stormwater BMPs;
- spill prevention and response;
- maintenance of lawns, gardens, and other landscaped areas;
- storage and use of fertilizers, herbicides, and pesticides;
- pet waste management;
- operation and management of septic systems (where applicable); and
- proper management of deicing chemicals and snow.

The proposed project consists of the construction of a sports complex, parking facility and infrastructure to support the development. Upon completion of the projects the maintenance and pollution prevention activities will be the responsibility of the property owner. The Pollution prevention items noted herein shall be followed post construction. Additional constraints shall be followed per the Stormwater Pollution Prevention Plan prepared at the time of construction.

Good Housekeeping	
<p>The following good housekeeping practices will be followed onsite during the construction project:</p> <ul style="list-style-type: none"> • An effort will be made to store only the amount of material required to do the job. • All materials stored onsite will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure. • Products will be kept in their original containers with the original manufacturer's label. • Substances will not be mixed with one another unless recommended by the manufacturer. • Whenever possible, all of a product will be used up before disposing of the container. • Manufacturer's recommendations for proper use and disposal will be followed. • The site superintendent will inspect daily to ensure proper use and disposal of materials onsite. 	
Hazardous Products	
<p>These practices are used to reduce the risks associated with hazardous materials:</p> <ul style="list-style-type: none"> • Products will be kept in the original containers unless they are not re-sealable. • Original labels and material safety data will be retained; they contain important product information. • If surplus product must be disposed of, manufacturers or local and State recommended methods for proper disposal will be followed. 	
Product Specific Practices	
<p>The following product specific practices will be followed onsite:</p>	
Petroleum Products	
<p>All onsite vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers that are clearly labeled. Any asphalt substances used onsite will be applied according to the manufacturer's recommendations.</p>	
Fertilizers	
<p>Fertilizers used will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked into the soil to limit exposure to stormwater. Storage will be in a covered shed. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.</p>	
Paints	
<p>All containers will be tightly sealed and stored when not required for use. Excess paint will not be discharged to the storm sewer system but will be properly disposed of according to the manufacturer's instructions or State and local regulations.</p>	

Concrete Trucks
Concrete Trucks will not be allowed to wash out or discharge surplus concrete or drum wash water on the site.
Spill Control Practices
In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and clean-up:
<ul style="list-style-type: none">• Manufacturers' recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.• Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite. Equipment and materials will include but not be limited to brooms, dustpans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.• All spills will be cleaned up immediately upon discovery.• The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.• Spills of toxic or hazardous substances will be reported to the appropriate State or local government agency, regardless of the size.• The spill prevention plan will be adjusted to include measure to prevent this type of spill from reoccurring and how to clean up the spill if there should be another. A description of the spill, what caused it, and the cleanup measure will also be included.• The Site Superintendent responsible for the day-to-day site operation will be the spill prevention and cleanup coordinator.

Waste Disposal
All trash and construction debris from the site will be deposited in the dumpster. The dumpster will meet all local and State solid waste management regulations. All trash and construction debris from the site will be deposited in the dumpster. No construction waste materials will be buried onsite. All personnel will be instructed regarding the correct procedure for waste disposal. Notices stating these practices will be posted in the office trailer and the individual who manages day-to-day site operations, will be responsible for seeing that these practices are followed.
Hazardous Waste
All hazardous waste materials will be disposed of in the manner specified by local or State regulation or by the manufacturer. Site personnel will be instructed in these practices and the individual whom manages day-to-day site operations, will be responsible for seeing that these practices are followed.
Sanitary Waste
All sanitary waste will be collected from the portable units a minimum of once per week by a licensed sanitary waste management contractor, as required by the local or State regulation.
Pet Waste
The Owner shall implement a cleanup program where pet owners must put the pet waste into bags and dispose of the waste in the trash.
Sanitary Waste (septic)
There is no septic component to this project that will require long term maintenance.

Landscaping
1) Mulching and Netting – Mulching will provide immediate protection to exposed soils during the period of short construction delays, or over winter months through the application of plant residues, or other suitable materials, to exposed soil areas. In areas which have been seeded either for temporary or permanent cover, mulching should immediately follow seeding. On steep slopes, mulch must be supplemented with netting. The preferred mulching material is straw.
Mulch (Hay or Straw) Materials and Installation
a) Straw has been found to be one of the most effective organic mulch materials. The specifications for straw are described below, but other material may be appropriate. The straw should be air-dried; free of undesirable seeds & coarse materials. The application rate per 1,000 sq.ft. is 90-100 lbs. (2-3 bales) and the application rate per acre is 2 tons (100-120 bales). The application should cover about 90% of the surface. The use of straw mulch is appropriate where mulch is maintained for more than three months. Straw mulch is subject to wind blowing unless anchored, is the most commonly used mulching material, and has the best microenvironment for germinating seeds.
Mulch Maintenance
a) Inspect after rainstorms to check for movement of mulch or erosion. If washout, breakage, or erosion occurs, repair surface, reseed, remulch, and install new netting.

- b) Straw or grass mulches that blow or wash away should be repaired promptly.
- c) If plastic netting is used to anchor mulch, care should be taken during initial mowings to keep the mower height high. Otherwise, the netting can wrap up on the mower blade shafts. After a period of time, the netting degrades and becomes less of a problem.
- d) Continue inspections until vegetation is well established.

Vehicle Washing & Construction Access

A stabilized construction entrance has been provided to help reduce vehicle tracking of sediments. Any paved streets adjacent to the site entrance will be swept daily to remove any excess mud, dirt or rock tracked from the site. Dump trucks hauling material from the construction site will be covered with a tarpaulin.

- 1) **Stabilized Construction Entrance** – An existing stabilized construction entrance shall be used for the duration of construction activity for this project.

Construction Entrance Inspection/Maintenance

- a) The entrance should be maintained in a condition that will prevent tracking or flowing of sediment onto adjacent properties. This may require periodic topdressing with additional stone
- b) The construction entrance and sediment disposal area shall be inspected weekly and after heavy rains or heavy use.
- c) Mud and sediment tracked or washed onto public road shall be immediately removed.
- d) Once mud and soil particles clog the voids in the gravel and the effectiveness of the gravel pad is no longer satisfactory, the pad must be topdressed with new stone. Replacement of the entire pad may be necessary when the pad becomes completely clogged.
- e) If washing facilities are used, the sediment traps should be cleaned out as often as necessary to assure that adequate trapping efficiency and storage volume is available.
- f) The pad shall be reshaped as needed for drainage and runoff control.
- g) Broken road pavement on adjacent access roadways shall be repaired immediately.
- h) All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization is achieved or after the temporary practices are no longer needed. Trapped sediment shall be removed or stabilized on site. Disturbed soil areas resulting from removal shall be permanently stabilized.

- 2) **Construction Road Stabilization** – Existing internal construction roads shall be used for the duration of construction activity for this project. Additional construction road shall be constructed as required with the following requirements:

The proposed stabilization of existing gravel and/or paved roadways will provide a means for construction vehicles to move around the site without causing significant erosion. The road stabilization will significantly speed up on-site work and generally improve site efficiency and working conditions during adverse weather. The construction roads will be stabilized at the beginning of construction and maintained throughout construction. The stabilized construction road will not be located in a cut or fill area until after grading has been performed. Some of the stone used will remain in place for use as part of the final base course of the road. The permanent roadway and cul-de-sac will be paved as soon as possible.

Construction Road Stabilization Design/Construction Requirements

- a) A 6-inch course of 2 to 4-inch crushed rock, gravel base, or crushed surfacing base course should be applied immediately after grading or the completion of utility installation. The temporary roads should follow the contour of the natural terrain to the maximum extent possible and/or the existing gravel and/or paved roadways. Slope should not exceed 15 percent. Roadways should be carefully graded to drain to the edge of the road, forcing storm water to travel the shortest route. Provide drainage swales on each side of the roadway in the case of a crowned section, or one side in the case of a super-elevated section.
- b) Drain inlets should be protected to prevent sediment-laden water entering.
- c) Areas adjacent to culvert crossings and steep slopes should be seeded and mulched.
- d) Dust control should be used when necessary. (Please refer to page 15 of 19)

Construction Road Stabilization Inspection/Maintenance

- a) Inspect stabilized areas regularly, especially after large storm events. Add 2 to 4-inch crushed rock if necessary and restabilize any areas found to be eroding.

- b) All temporary erosion and sediment control measures should be removed with 30 days after final site stabilization is achieved or after the temporary practices are no longer needed.
- c) Trapped sediment should be removed or stabilized on site. Disturbed soil areas resulting from removal should be permanently stabilized.

Structural BMP Maintenance

- 1) **Temporary Diversion** – Temporary Diversion channels will be constructed alongside the proposed roadway until it is paved. The temporary diversion channels will route storm water to temporary sediment basins to remove sediment-laden storm water, before the storm water is allowed to discharge to the permanent detention basin. Check dams need to be utilized along the diversion channels. The maximum spacing of temporary diversion channels should be no greater than the following:

Land Slope (%)	Spacing (feet)
1% or less	300 ft
2%	200 ft
3% to 5%	150 ft
5% or greater	100 ft

Temporary Diversion Design/Construction Requirements

- a) The temporary diversion channel cross-section should have a top width between two and four feet, a minimum height of 1.5 ft, and side slopes between 2:1 and 4:1.
- b) The grade may be variable depending on the topography and must have a positive grade to the outlet. The maximum channel grade should be limited to 1.0 %.
- c) The diverted runoff will outlet through check dams and then to a temporary sediment basin.
- d) Diversions that are to serve longer than 30 working days should be seeded and mulched as soon as they are constructed, in order to preserve dike height and reduce maintenance.
- e) Once the temporary diversion channels are no longer needed, they should be brought to the design grade and permanently stabilized.

Temporary Diversion Inspection/Maintenance

- a) Inspect temporary diversion channels once a week and after every rainfall.
- b) Damage caused by construction traffic or other activity should be repaired before the end of each working day.
- c) Immediately remove sediment from the flow area and repair the diversion ridge.
- d) Check outlets carefully and make timely repairs as needed.
- e) When the area protected has been permanently stabilized, remove the ridge and the channel to blend with the natural ground level, and appropriately stabilize it.

- 2) **Check Dam** – Temporary check dams should be installed along the temporary diversion channels alongside the proposed roadway until it is paved. The check dams will lower the velocities of concentrated flows, thereby reducing erosion in the channel and promoting the settlement of sediments.

Check Dam Design/Construction Requirements

- a) Check dams can be constructed of stone, sand bags filled with pea-gravel, or logs. Provide a sump immediately upstream.
- b) The maximum spacing between the dams should be such that the toe of the upstream dam is at the same elevation as the top of the downstream dam.
- c) The stone must be placed by hand or mechanical placement (do not dump rock to form dam) to achieve complete coverage of the ditch or swale and to ensure that the center of the dam is lower than the edges. The stone used should be 2 to 4-inch size.
- d) Log check dams should be constructed of 4 to 6-inch diameter logs embedded into the soil at least 18 inches.

Check Dam Inspection/Maintenance

- a) Inspect after each rainfall event.

Erosion and Sediment Control Inspection and Maintenance Practices

The following are the inspection and maintenance practices that will be used to maintain erosion and sediment controls:

- All control measures will be inspected at least once each week and following any storm event of 0.5 inches or greater.
- All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of report.
- Built up sediment will be removed from haybales when it has reached a depth of 6-inches.
- Haybales will be inspected to ensure secured posts, continuous coverage and proper alignment.
- Temporary and permanent seeding and planting will be inspected for bare spots, washouts and to ensure healthy growth.
- A maintenance inspection report will be made after each inspection. A copy of the report form to be completed by the inspector is attached.
- The Site Superintendent will be responsible for inspection, maintenance and repair activities and reports.
- Personnel selected to aid the Site Superintendent in the above responsibilities will be knowledgeable in all of the inspection and maintenance practices necessary for keeping the erosion and sediment controls used onsite in good working order.

Non-Storm Water Discharges

During construction activities at the site, some water from the site will be suitable for discharge to the detention areas and/or temporary sediment basin areas. Non-stormwater discharges will be directed to recharge groundwater and to replenish wetland resource areas as follows:

- 1) Water from line flushing will be recharged if in compliance with MA Surface and Ground Water Quality Regulations.
- 2) Uncontaminated groundwater from de-watering excavations will also be recharged.

The construction de-watering and all non-stormwater discharges will be directed into a storm drain inlet equipped with a silt sack (or equivalent) inlet protection or a sediment basin. The developer and site general contractor will comply with the E.P.A.'s Final General Permit for Construction De-watering Discharges, (N.P.D.E.S., Section 402 and 40 C.F.R. 122.26(b)(14)(x)).

INVENTORY FOR POLLUTION PREVENTION PLAN

The materials and substances listed below are expected to be present on site during construction:

- | | |
|--|---|
| <ul style="list-style-type: none"> • Concrete • Detergents • Paints (enamel and latex) • Concrete • Tar | <ul style="list-style-type: none"> • Fertilizers • Petroleum Based Products • Cleaning Solvents • Wood • Masonry Block • Roofing Shingles |
|--|---|

SPILL PREVENTION

Material Management Practices

The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff.

Paints

All containers will be tightly sealed and stored when not required for use. Excess paint will not be discharged to the storm sewer system but will be properly disposed of according to the manufacturer's instructions or State and local regulations.

Concrete Trucks

Concrete Trucks will be allowed to wash out on-site to a designated area as directed by the Site Superintendent. Concrete waste will be disposed of in accordance with Federal, State and Local regulations.

Spill Control Practices

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and clean-up:

- Manufacturers' recommended methods for spill cleanup will be clearly posted and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite. Equipment and materials will include but not be limited to brooms, dustpans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.
- All spills will be cleaned up immediately upon discovery.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- Spills of toxic or hazardous substances will be reported to the appropriate State or local government agency, regardless of the size.
- The spill prevention plan will be adjusted to include measure to prevent this type of spill from reoccurring and how to clean up the spill if there should be another. A description of the spill, what caused it, and the cleanup measure will also be included.
- The Site Superintendent responsible for the day-to-day site operation will be the spill prevention and cleanup coordinator.

Deicing and Snow Removal

Relative to the agricultural area that surrounds the project, environmentally appropriate deicing tools will be used. Standard snow removal plowing techniques shall be used.

6.0 – CONCLUSION

The proposed project has been designed to avoid any alteration to the isolated wetlands and minimize disturbance to the 25-ft No Disturbance Zone. The site has been graded to minimize fill within the BLSF on the westerly portion to avoid increasing or contributing incrementally to the increase in the horizontal extent and level of flood waters during peak flows. This has been accomplished with the use of porous pavement and the creation of additional flood storage adjacent to the isolated wetland. The drainage system has been designed to capture, treat and infiltrate all storm events up to and including the 100-year event and eliminated discharging of untreated stormwater to the wetlands. The proposed project has also been designed to avoid any significant impact on the Town of Wellesley's municipal system which includes water, sewer, storm drain, electric distribution system and refuse disposal as illustrated by the issuance of a special permit by the Planning Board. The site has incorporated several features to accommodate the safety of pedestrians and vehicle which include bus drop-off area, standard car drop-off area and pedestrian accessible routes.