



CITY OF HAVERHILL CITY COUNCIL AGENDA

Tuesday, January 15, 2019 at 7:00 PM

Theodore A. Pelosi, Jr. Council Chambers, 4 Summer St, Room 202

1. OPENING PRAYER
2. PLEDGE OF ALLEGIANCE
3. APPROVAL OF MINUTES OF PRIOR MEETING
4. ASSIGNMENT OF THE MINUTES REVIEW FOR THE NEXT MEETING
5. ELECTION OF PRESIDENT OF COUNCIL:
6. ELECTION OF VICE PRESIDENT OF COUNCIL:
7. COMMUNICATIONS FROM THE MAYOR:
8. COMMUNICATIONS AND REPORTS FROM CITY OFFICERS AND EMPLOYEES:
9. UTILITY HEARING(S) AND RELATED ORDER(S)
10. HEARINGS AND RELATED ORDERS
11. PUBLIC PARTICIPATION- REQUESTS UNDER COUNCIL RULE 28
12. APPOINTMENTS:
 - 12.1. Confirming Appointments:
 - 12.2. Non-Confirming Appointments:
 - 12.3. Resignations
13. PETITIONS:
 - 13.1. Petition from John Thomas, Project Manager, on behalf of *Wildflower Solar, LLC* care of *Hexagon Energy LLC*, requesting a Hearing to grant a Special Permit for a Solar Energy Facility to be installed at 1037 Broadway ; Parcel ID: 574-1-16, to generate approximately 0.25 MW alternating current (AC) of solar energy **Hearing Feb 26th**
 - 13.2. Petition from Robert and Ann Hackett of 1007 Boston rd and Stephen Franciosa of 10 Merrimac st Seabrook; to discontinue the Portion of I Street located between Boston rd and Oxford av **Refer to Planning Board Council Hearing Mar 5th**
 - 13.3. Petition from Attorney Michael Migliori requesting a Hearing to grant a Special Permit to Johnson Construction Management for property located on 121-123 Portland st; Assessors Map 610, Block 490, Lots 21-22; to construct a three family residential building; located in the "RU" zoning district **Refer to Planning Board Council Hearing Mar 26th**
 - 13.4. Applications/Handicap Parking Sign - new
 - 13.4.1. Apostolos Koutoulas, *In Home Rehab & Wellness Associates*; at 356 Main st
 - 13.4.2. June M Childs, at 8 LeBlanc st
 - 13.5. Tag Days:
 - 13.5.1. *HHS Boys Swimming & Diving*, January 18, 19, 20
 - 13.5.2. *HHS Girls Basketball*, February 2 & 3
 - 13.5.3. *HHS Indoor Track*, February 9 & 10
 - 13.5.4. *Haverhill Girls Travel Basketball*, March 23 & 24
 - 13.5.5. *HHS Classical Academy Parents' Association*, March 29,30, 31
 - 13.5.6. *HHS Outdoor Track*, April 6 & 7
 - 13.5.7. *HHS Baseball*, April 19 & 20 (continued)



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- 13.5.8. *HHS Girls Lacrosse, April 27 & 28*
- 13.5.9. *Haverhill Elite Track, May 3,4,5*
- 13.5.10. *VFW Post 29, May 17 & 18*
- 13.5.11. *HHS Boys Volleyball, May 24 & 25*
- 13.5.12. *DAV Chapter 20, June 6,7,8*
- 13.5.13. *Korean War Veterans, September 5,6,7*
- 13.5.14. *HHS Cross Country, September 14 & 15*
- 13.5.15. *Haverhill Elite Cross Country, September 20, 21, 22*
- 13.5.16. *Haverhill Boys Travel Basketball, November 2 & 3*

13.6. One Day Liquor License:

13.7. Annual License Renewals

13.7.1. Hawker Peddlers License Renewals 2019

13.7.2. Coin-Op License Renewals 2019

- 13.7.2.1. *Kelley's Restaurant, 75 South Main st 1 Coin-op*
- 13.7.2.2. *RG's Pub I, 242 Winter st 1 Coin-op*
- 13.7.2.3. *Skateland, 19 Railroad av 12 Coin-ops*
- 13.7.2.4. *Cedarland, 931 Boston rd 25 Coin-ops*

13.7.3. Sunday Coin-Op License Renewals 2019

- 13.7.3.1. *Kelley's Restaurant, 1 Sunday Coin-op*
- 13.7.3.2. *RG's Pub, 1 Sunday Coin-op*
- 13.7.3.3. *Skateland, 12 Sunday Coin-ops*
- 13.7.3.4. *Cedarland, 25 Sunday Coin-ops*

13.7.4. Drainlayer License for 2019:

- 13.7.4.1. *John L Enos*
- 13.7.4.2. *Richard Golen*
- 13.7.4.3. *John C Jablonski*
- 13.7.4.4. *David Maynard*

13.7.5. Taxi Driver Licenses for 2019:

13.7.6. Taxi License

13.7.7. Junk Dealer License:

13.7.8. Pool Tables

13.7.9. Sunday Pool:

13.7.10. Bowling:

13.7.11. Sunday Bowling:

13.7.12. Buy & Sell Second Hand Articles

13.7.13. Buy & Sell Second Hand Clothing

13.7.14. Pawnbroker license:



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- 13.7.15. Buy & Sell Old Gold
- 13.7.16. Hawker/Peddler:
- 13.7.17. Roller Skating Rink:
- 13.7.18. Sunday Skating:
- 13.7.19. Theater
- 13.7.20. Exterior Vending Machines
- 13.7.21. Limousine/Livery License/Chair Cars – *new*
- 13.7.22. Hawker/Peddler Seasonal License

14. MOTIONS AND ORDERS:

15. "Statements of Interest" to replace roofs of 4 different Haverhill Schools

- 15.1. Order – Authorize Superintendent to submit to Mass School Building Authority the Statement of Interest Form dated January 15, 2019 for the **Golden Hill School**, 140 Boardman st – Priority 5 for replacement of a leaking, defective and obsolete roof
- 15.2. Order – Authorize Superintendent to submit to Mass School Building Authority the Statement of Interest Form dated January 15, 2019 for the **Haverhill High School**, 137 Monument st – Priority 5 for replacement of a leaking, defective and obsolete roof
- 15.3. Order – Authorize Superintendent to submit to Mass School Building Authority the Statement of Interest Form dated January 15, 2019 for the **Silver Hill School**, 675 Washington st – Priority 5 for replacement of a leaking, defective and obsolete roof
- 15.4. Order – Authorize Superintendent to submit to Mass School Building Authority the Statement of Interest Form dated January 15, 2019 for the **Moody School**, 59 Margin st – Priority 5 for replacement of a leaking, defective and obsolete roof

16. ORDINANCES (FILE 10 DAYS)

17. MONTHLY REPORT

- 17.1. Abatement report from Christine Webb, *City Assessor* for month of December 2018

18. COMMUNICATIONS FROM COUNCILLORS:

19. UNFINISHED BUSINESS OF PRECEDING MEETINGS :

- 19.1.1. Document 13-E; Communication from Councillor Macek requesting to present a citation to Roger LeMire for his community service
filed 12/05/2018



CITY OF HAVERHILL

CITY COUNCIL AGENDA

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19.1.2. Document 121-P; Communication from Councillor LePage requesting a discussion on the proposed Ordinance relating to Adult Use of Marijuana and Marijuana establishments and offers amendments. See Sections B (Applicability) and D (Evaluation Criteria) from the City of Somerville Ordinance

postponed from 12/11/2018

19.1.3. Document 103-BB; Ordinance Relating to Adult Use of Marijuana and Marijuana Establishments

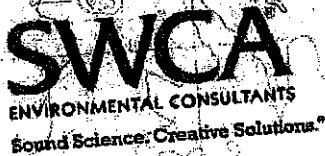
filed 12/12/2018

Related communication from Planning Board Clerk

20. COUNCIL COMMITTEE REPORTS AND ANNOUNCEMENT

21. DOCUMENTS REFERRED TO COMMITTEE STUDY

22. ADJOURN



Amherst Office
15 Research Drive
Amherst, Massachusetts 01002
Tel 413.256.0202 Fax 413.256.1092

JAN 08 2019

Hearing February 26
2019

13.1

January 8, 2019

Attn: Maria Bevilacqua
Haverhill City Clerk
City Hall
4 Summer Street
Haverhill, MA 01830

Re: Wildflower Solar, LLC.
Special Permit Application
1037 Broadway, Haverhill, MA

Dear Members of the City Council:

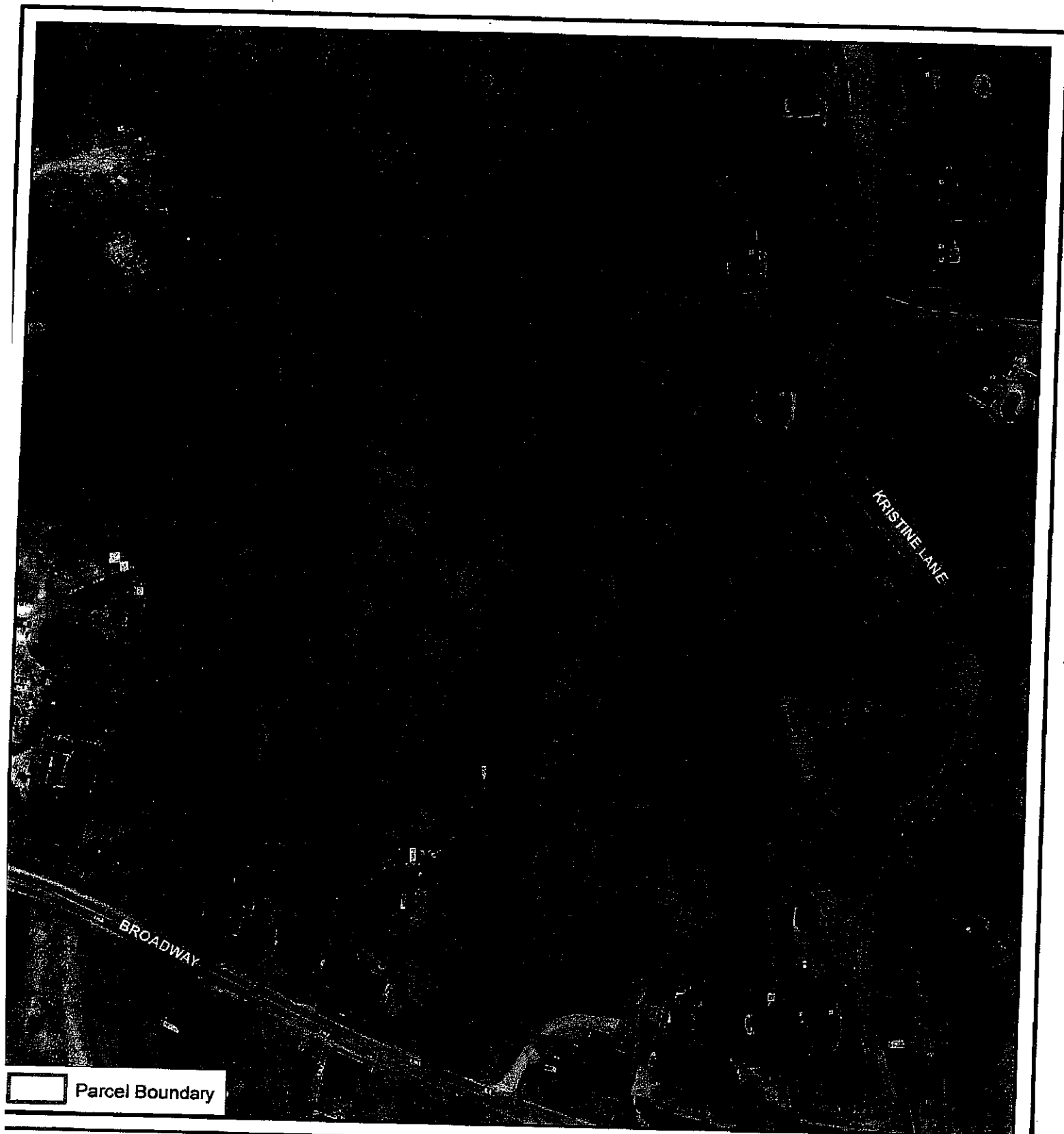
On behalf of Wildflower Solar, LLC. (Applicant), care of Hexagon Energy, LLC, SWCA Environmental Consultants ("SWCA") has prepared this Special Permit application for a solar energy facility to be installed at 1037 Broadway (Parcel ID: 574-1-16) in the City of Haverhill, Massachusetts. The proposed solar array is to be constructed on approximately 1.85 acres of a 14.5-acre parcel owned by Louise Boylan & Susan Boylan et al. The proposed array will be designed to generate approximately 0.25 MW alternating current (AC) of solar energy.

The Applicant is willing to waive the 65-day public hearing requirement as part of City Council process. SWCA is submitting twenty-five hard copies, and an electronic copy of this Special Permit application. We look forward to presenting this project to the City Council at the next available meeting. If you have any questions regarding this application, please do not hesitate to contact us at our office.

Sincerely,

John E. Thomas
Project Manager/Sr. Wetland Scientist

cc: Eric Tarpy, Haverhill Fire Deputy
Richard MacDonald, Haverhill Director of Inspectional Services
Christine M. Webb, Haverhill Assessor
Rob Moore, Haverhill Conservation Officer
William Pillsbury, Haverhill Planning Board



Parcel Boundary

SWCA
ENVIRONMENTAL CONSULTANTS

Figure 2. Orthophotograph

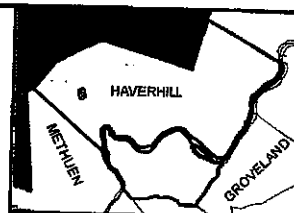
Wildflower Solar
1037 Broadway
Haverhill, MA

10 Oct 2018
SWCA Project No.: 50172

Data Source: Office of Geographic
Information (MassGIS)

USGS Color Ortho Imagery (2013/2014)

0 100 200
Feet



Latitude 42.79170° N
Longitude 71.14677° W

**Special Permit Application
Wildflower Solar, LLC.
1037 Broadway
Haverhill, Massachusetts**

JANUARY 2019

2018 JAN 10 AM 09:18:49 CDT

PREPARED FOR

Wildflower Solar, LLC.

PREPARED BY

SWCA Environmental Consultants

SWCA Project No.: 50172



Sound Science. Creative Solutions.®

Amherst Office
15 Research Drive
Amherst, Massachusetts 01002
Tel 413.258.0202 Fax 413.258.1092

January 8, 2019

Attn: Maria Bevilacqua
Haverhill City Clerk
City Hall
4 Summer Street
Haverhill, MA 01830

**Re: Wildflower Solar, LLC.
Special Permit Application
1037 Broadway, Haverhill, MA**

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Sincerely,

A handwritten signature in black ink, appearing to read "John E. Thomas".

John E. Thomas
Project Manager/Sr. Wetland Scientist

cc: Eric Tarpy, Haverhill Fire Deputy
Richard MacDonald, Haverhill Director of Inspectional Services
Christine M. Webb, Haverhill Assessor
Rob Moore, Haverhill Conservation Officer
William Pillsbury, Haverhill Planning Board



SWCA
ENVIRONMENTAL CONSULTANTS

Figure 1. USGS Topographic Map

**Wildflower Solar
1037 Broadway
Haverhill, MA**

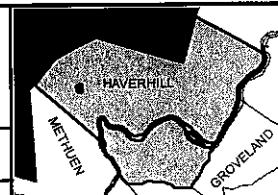
10 Oct 2018
SWCA Project No.: 50172

Data Source: Office of Geographic Information (MassGIS)

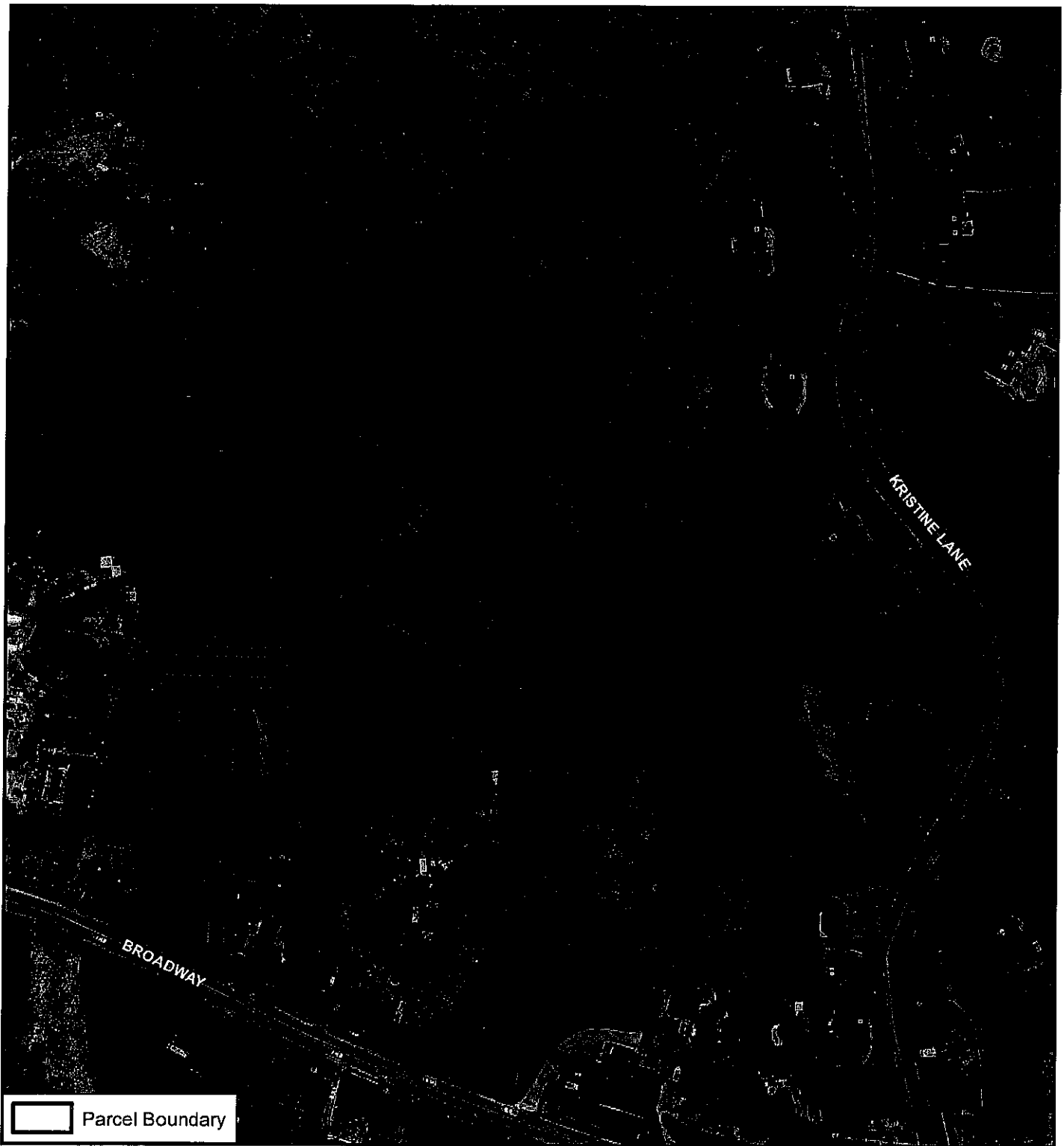
USGS Topographic Quadrangle Images

USGS Salem Depot Quadrangle

0 0.25 0.5 Miles



Latitude 42.79170° N
Longitude 71.14677° W



SWCA[®]
ENVIRONMENTAL CONSULTANTS

Figure 2. Orthophotograph

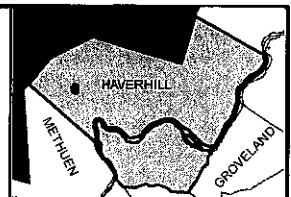
Wildflower Solar
1037 Broadway
Haverhill, MA

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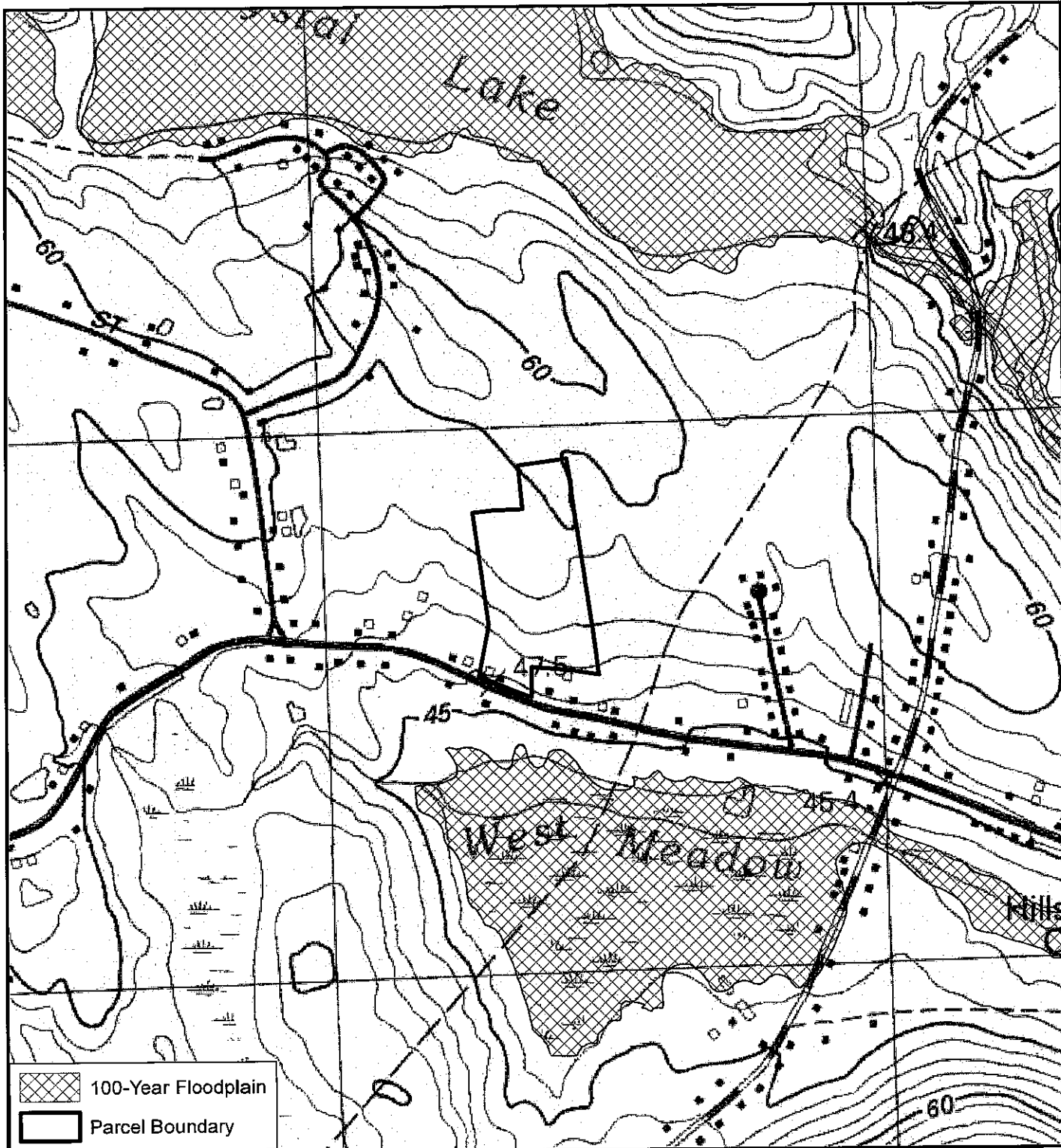
Data Source: Office of Geographic
Information (MassGIS)

USGS Color Ortho Imagery (2013/2014)

0 100 200
Feet



Latitude 42.79170° N
Longitude 71.14677° W



SWCA
ENVIRONMENTAL CONSULTANTS

Figure 3. 100-Year Floodplain

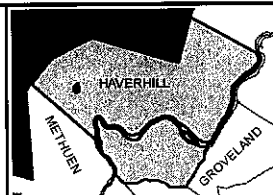
Wildflower Solar
1037 Broadway
Haverhill, MA

10 Oct 2018
SWCA Project No.: 50172

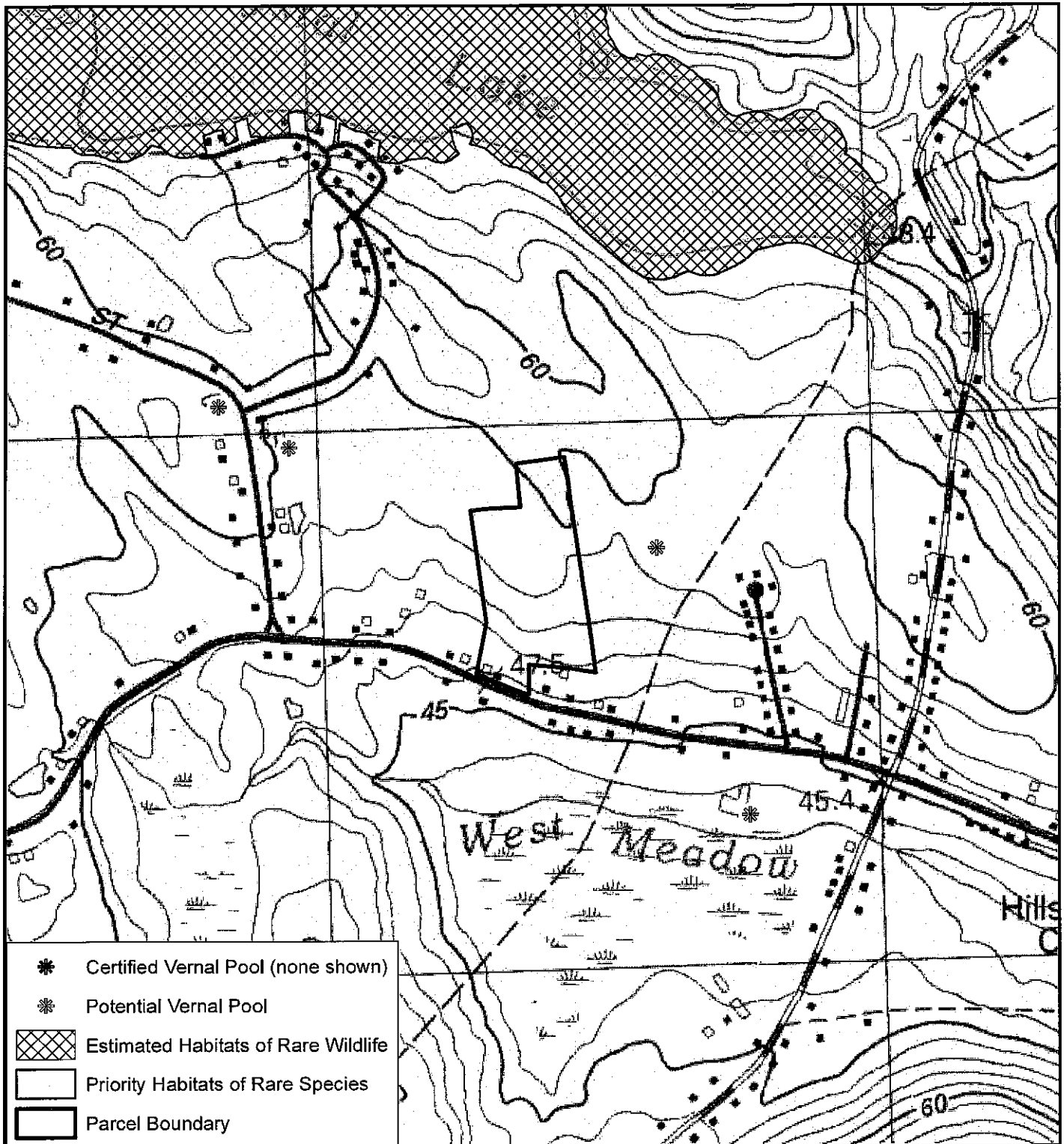
Data Source: Office of Geographic
Information (MassGIS)

FEMA National Flood Hazard Layer - 2017

0 500 1,000
Feet



Latitude 42.79170° N
Longitude 71.14677° W



SWCA
 ENVIRONMENTAL CONSULTANTS

Figure 4. NHESP

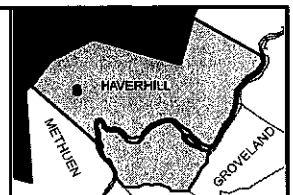
Wildflower Solar
 1037 Broadway
 Haverhill, MA

10 Oct 2018
 SWCA Project No.: 50172

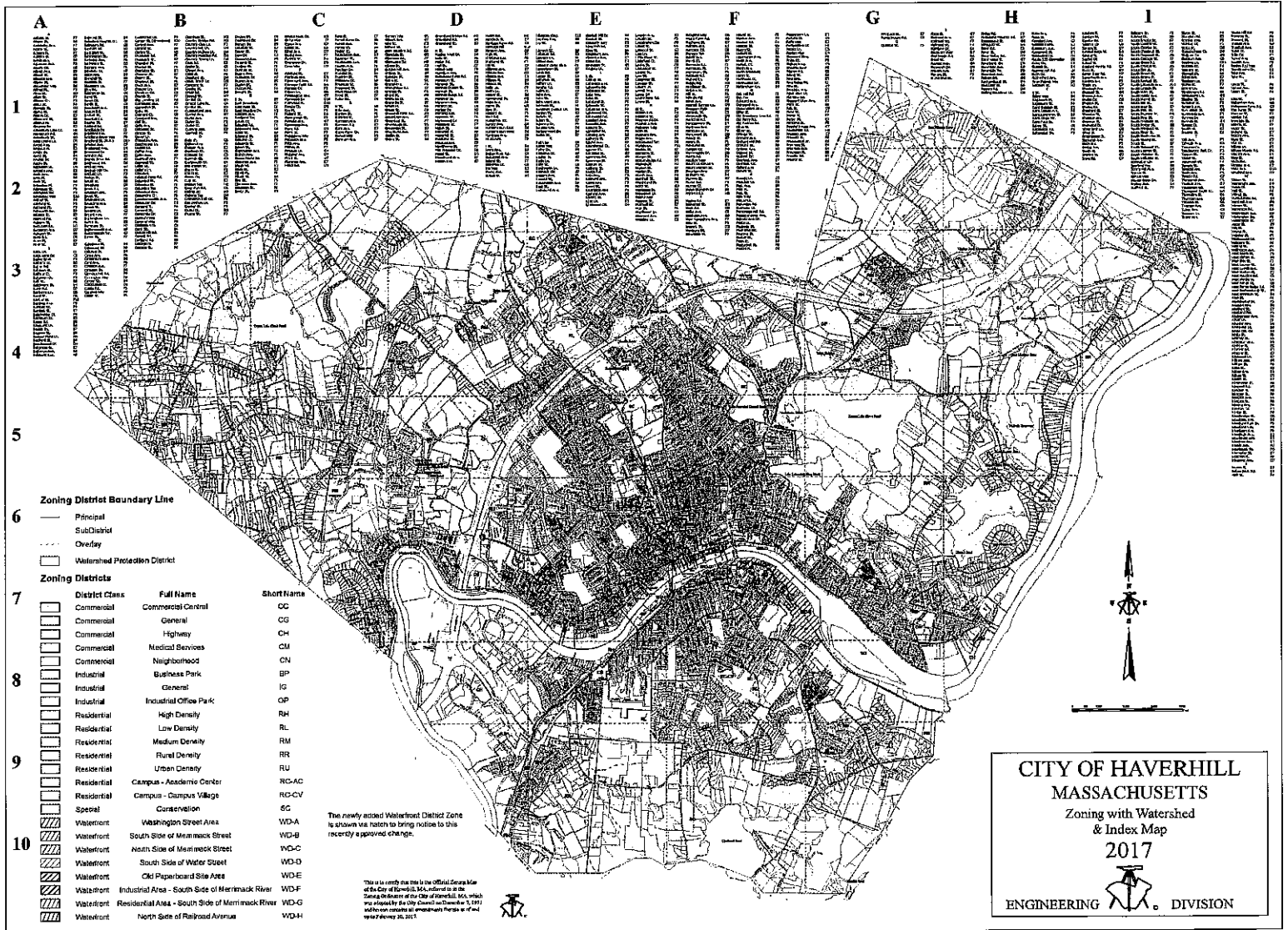
Data Source: Office of Geographic
 Information (MassGIS)

NHESP Priority and Estimated Habitats of
 Rare Species, 2017
 NHESP Certified Vernal Pools, Oct 2018
 NHESP Potential Vernal Pools

0 500 1,000
 Feet



Latitude 42.79170° N
 Longitude 71.14677° W



**SPECIAL PERMIT
APPLICATION
WILDFLOWER SOLAR, LLC
1037 BROADWAY
HAVERHILL, MA**

Prepared for

Wildflower Solar, LLC
722 Preston Avenue, Suite 102
Charlottesville, VA 22903
Attn: Daniel Bulka

Prepared by

SWCA Environmental Consultants
Amherst Office
15 Research Drive
Amherst, MA 01002
413.256.0202
www.swca.com

October 2018

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Figure 2	Orthophotograph
Figure 3	FEMA Flood Insurance Rate Map
Figure 4	NHESP Haverhill Zoning Map

Appendices

Appendix A	Application Form and Fees
Appendix B	Abutters Information
Appendix C	Lease Agreement
Appendix D	Equipment Specifications
Appendix E	Stormwater Report
Appendix F	Utility Agreement
Appendix G	Interconnection Diagram
Appendix H	Certificate of Liability Insurance

Permit Application Plan Set – Solar Development, Parcel 574-1-16

Permitting Plan Set prepared by SWCA Environmental Consultants with survey base map prepared and stamped by Langen Engineering and Environmental Services, Inc plan sets provided separately.

Sheet 1.0:	Cover Page
Sheet 2.0:	Existing Conditions
Sheet 3.0:	Erosion Control and Clearing Plan
Sheet 4.0:	Site Plan
Sheet 5.0:	Site Details
Sheet 5.1:	Site Details
Sheet 6.0	Existing Hydrology Plan
Sheet 6.1	Proposed Hydrology Plan

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1.0 INTRODUCTION

On behalf of Wildflower Solar, LLC, care of Hexagon Energy, LLC (Applicant), SWCA Environmental Consultants ("SWCA") has prepared this Special Permit application for a 250kW ground mounted solar facility to be installed at 1037 Broadway (Parcel ID: 574-1-16) in Haverhill, MA (Figure 1, Sheet 1.0). The proposed project is located on a 17.5-acre parcel owned by Louise and Susan Boyland. The project is proposed for a parcel that is zoned as a Rural Residential (RR)/ Rural Medium Density (RM) and is geographically located within Essex County in the western portion of the City of Haverhill. The proposed project includes the construction a solar generating facility to be constructed on 1.85 acres of the parcel (limit of array). The solar energy facility will be designed to generate approximately 0.25 MW AC (Alternating Current). Access to the solar electric facility will be from a constructed gravel driveway off Broadway.

This Special Permit / Site Plan Review application has been prepared in accordance with Chapter 255: Zoning – Article XVIII (Solar Energy Systems) for a Large-scale ground-mounted solar photovoltaic installation (LSGMSPI) within a residential district (§ 255-186 Applicability). Additionally, a Special Permit is required for LSGMSPI greater than 250 kW that occupy not less than three acres of land. As such, this document has been developed to support the application and illustrate compliance with the Haverhill Zoning and Article Bylaws. Copies of the Site Plan Review Application are provided in Appendix A.

The Applicant has entered an Exclusive Solar Use Rights and Lease Option Agreement with Ms. Boyland for the development, construction and operation of this project; this agreement serves as their approval for the construction of this project on their property. A copy of the signed lease agreement is presented in Appendix C. The application for a Special Permit is presented in Appendix A. In accordance with the subject regulations abutters located within 300 feet of the proposed project will be notified of the time and date of the public hearing to discuss this project. A copy of the abutters list is presented in Appendix B.

Access to the array will be from a proposed gravel driveway off Broadway Street. The new access driveway will be installed approximately 50 feet north of existing driveway to accommodate construction vehicles and project access. The location of the project is illustrated on Sheet 1.0 of the Permit Application Site Plans (site plans) and is also shown in Figure 1 (USGS Topographic Map) and Figure 2 (Orthophotograph).

SWCA has submitted a Notice of Intent (NOI) to the Haverhill Conservation Commission and the Massachusetts Department of Environmental Protection (MassDEP). SWCA have issued notification letters to the Fire Chief and Building Inspector for consultation prior to the Board of Appeals meeting on November 21, 2018.

The site survey was conducted by Langen Engineering and Environmental Services, Inc. The Engineering Plan Set, Stormwater Report and Stormwater Calculations were developed by SWCA and are provided with this Special Permit application. The overall site plan, developed by SWCA, illustrates the solar layout, sediment and erosion controls, areas of clearing, seeding and shade management.

SWCA is submitting nine hard copies and an original copy of the special permit application. Attached with this application are two checks addressed to the "City of Haverhill" for a regular meeting (\$180.00) and receipt from the Town Clerk (\$10.00). The Applicant understands that the Assessors Office will

certify the provided list of abutters, and the Board of Appeals will notify SWCA of the costs for advertising and mailing the notification of public hearing for the special permit.

2.0 SITE DESCRIPTION

2.1 General Description

The parcel where the project is proposed is partially located within Haverhill's Medium Density Residential District (RM) and partially within its Rural Density Residential District (RR). The parcel is within close proximity to Crystal Lake but is not located within Haverhill's Watershed Protection District. The parcel is located north of commercial/residential properties along Broadway, east of commercial property, south of Crystal Lake Open Space, and west of residences along Kristine Lane. The parcel contains a residence, detached garage, out-building structures, existing overgrown agricultural fields, and forested woodland. There are wetlands along the northeast and east boundaries of the parcel that are associated with an agricultural ditch, which is considered a jurisdictional intermittent stream. Existing conditions are illustrated on Sheet 2.

The proposed solar energy facility will be located entirely on land that is considered upland. No wetland resource areas will be directly impacted by this project. The remainder of the property consists of mixed hardwood forest, wetlands, and agricultural fields. The majority of the Project Area is vegetated by meadow grasses (*Festuca spp.*, *Poa spp.*, *Bromus spp.*, and *Lolium spp.*). The areas near the wetlands are generally vegetated by red maple (*Acer rubrum*), glossy buckthorn (*Frangula alnus*), Jewelweed (*Impatiens capensis*), sensitive fern (*Onoclea sensibilis*), cinnamon fern (*Osmunda cinnamomea*), eastern white pine (*Pinus strobus*), and spreading woodfern (*Dryopteris expansa*).

The Soil Maps for Essex County accessed through Web Soil Survey (NRCS, 2018) indicate the dominant soils within the proposed limit of disturbance are Whitman fine sandy loam, Montauk fine sandy loam, and Woodbridge fine sandy loam.

Whitman fine sandy loam, 0 to 3 percent slopes, extremely stony

The Whitman component makes up 81 percent of this map unit with slopes 0 to 3 percent. The Whitman series consists of very poorly drained soils occurring on drainageways, hills, ground moraines, depressions, drumlins and the parent material consists of Coarse-loamy lodgment till derived from gneiss, granite, and/or schist. Depth to a restrictive layer is more than 7 to 38 inches to densic material. Water movement in the most restrictive layer is very low to moderately low. Available water storage is low (about 3.0 inches). Depth to water table is approximately 0 to 6 inches. The soil is not flooded but is frequently ponded. Non-irrigated land capability classification is 7s. This soil is not prime farmland soil and does meet hydric criteria.

Montauk fine sandy loam, 3 to 8 percent slopes

The Montauk component makes up 85 percent of this map unit with slopes 3 to 8 percent. The Montauk series consists of well drained soils occurring on hills, ground moraines, drumlins, recessional moraines, and the parent material consists of coarse-loamy over sandy lodgment till derived from gneiss, granite, and/or schist. Depth to a restrictive layer is more than 20 to 39 inches to densic material. Water movement in the most restrictive layer is very low to moderately high. Available water storage is low (about 5.2 inches). Depth to water table is approximately 18 to 37 inches. The soil is not flooded or

ponded. Non-irrigated land capability classification is 2s. This soil is prime farmland soil and does not meet hydric criteria.

Woodbridge fine sandy loam, 3 to 8 percent slopes

The Woodbridge component makes up 82 percent of this map unit with slopes 3 to 8 percent. The Woodbridge series consists of moderately well drained soils occurring on hills, ground moraines, drumlins and the parent material consists of coarse-loamy lodgment till derived from gneiss, granite, and/or schist. Depth to a restrictive layer is more than 20 to 39 inches to densic material. Water movement in the most restrictive layer is very low to moderately low. Available water storage is low (about 3.6 inches). Depth to water table is approximately 18 to 30 inches. The soil is not flooded or ponded. Non-irrigated land capability classification is 2w. This soil is prime farmland soil and does not meet hydric criteria.

2.2 Special Resources

SWCA reviewed publicly available GIS databases as part of our site evaluation to determine if the project coincides with any sensitive environmental areas or resources. The information obtained is presented herein.

2.1.1 100–YEAR FLOODPLAIN

SWCA accessed the Flood Rate Insurance Map (FIRM) for the project location from the Federal Emergency Management Agency (FEMA) Flood Map Service Center and determined that there is no 100-year floodplain present on the parcel (250009C0067F effective July 03, 2012) (Figure 3).

2.1.2 RARE SPECIES AND UNIQUE HABITATS

In addition to the field observations, SWCA reviewed GIS data layers to determine if the project is located within or near Certified Vernal Pools, NHESP Estimated Habitats for Rare Wildlife (Estimated Habitats), and NHESP Priority Habitats (Priority Habitats) for Rare Species. There are no Certified Vernal Pools on the parcel (Figure 4). Although Potential Vernal Pool is associated with Wetland “A”, the proposed project is not anticipated to impact the area; therefore, no action is required for compliance with the Massachusetts Endangered Species Act (MESA) or NHESP.

2.1.3 AREAS OF ENVIRONMENTAL CONCERN AND OUTSTANDING RESOURCE WATERS

SWCA reviewed GIS data layers to determine if the project location coincides with Areas of Critical Environmental Concern (ACEC) and Outstanding Resource Waters (ORW). ACEC are areas designated in Massachusetts that receive special recognition because of the quality, uniqueness and significance of its natural and/or cultural resources. ORW are watershed areas that have been classified as such under the Massachusetts Surface Water Quality Standards. These watersheds constitute an outstanding resource as determined by their important socioeconomic, recreational, ecological and/or aesthetic values. Both ACEC and ORW have been identified so that they may be protected and maintained. SWCA determined that neither an ORW or ACEC is associated with the project or Project Site.

3.0 PROPOSED WORK

3.1 Solar Array Installation

In accordance with the City of Haverhill Zoning and Wetlands Ordinance the solar generating facility has been designed to minimize disturbance to the land and zoning setbacks and resource area buffer zones have been taken into consideration during the design of this project. The work includes installing a pile-driven mounting system that will be constructed using fixed tilt solar panels. The panels will be configured in abutting groups and the joints between the adjacent panels will be open to allow drainage from precipitation over relatively small areas, thereby reducing the chance of drip line erosion. The solar facility will include the following proposed design, purpose, and construction information:

250 KW Solar Generation Facility

The project is proposed within the central portion of the parcel and will include the construction and installation of a 250kW solar energy generation facility situated on 1.85 acres of existing overgrown pasture field. The layout will consist of fixed tilt solar panels and a 7-foot chain link perimeter fence. The fence will be installed 6 inches off the ground to promote a healthy corridor for wildlife passage. Equipment specifications are provided in Appendix D.

Energy from the array will be collected through an electrical conduit and directed to a transformer. The electrical conduits will extend underground from the inverter, beneath the access road, and out to Broadway Street. At this location the electrical conduit will “daylight” and connect to above ground poles at Broadway Street. Sheets 3.0 and 4.0 illustrate the location of the proposed work area, arrays, equipment pads/inverters and pole locations.

Although the existing access driveway off Broadway was initially selected for site access, a new access driveway will be installed to facilitate vehicular access to the project site. The proposed re-configuration currently provides the least amount of disturbance and relocation of roadway utilities. The new access driveway is proposed within the 100-foot structural setback. Erosion controls will be installed prior to construction along the access driveway and upgradient of the shade management areas to prevent erosion and sediment transport.

Visual impacts are not anticipated for the proposed project, as the existing vegetation extending beyond the shade management areas afford a sufficient natural buffer to the north, east, south, and west of the proposed project.

An interior vegetated 10-foot corridor will be maintained for access to the array and equipment. Soil disturbance and activities associated with shade management will be minimized within the 100-foot Buffer Zone (Refer to Section 5.5). Total limit of work on-site including solar arrays and inverters, work spaces, access driveway, and shade management areas will be 4.81 acres.

Once construction is complete, the area beneath the solar array will be reseeded with a solar array seed mix and the area between the array and surrounding fence will be seeded with a New England conservation/wildlife seed mix. Details of the seed mix are provided on Sheet 5.0 (Typical Cross Sections/Details) of the site plans.

3.2 Access Road Construction

Vehicular access will be achieved by installing a new 12-foot wide gravel driveway off Broadway. Although access will not require crossing a regulated resource area, the existing gravel driveway is

located within associated buffer zone (adjacent to BVW “B” as shown on Sheet 4.0). The gravel driveway will be fortified and constructed in a manner to permit construction and operations traffic. Note that erosion controls will be installed accordingly near the BVW “B” to prevent resource area impacts and sediment transport. The access drive improvements will be designed to the extent most practicable. The majority of the re-configured access driveway outside the buffer zone will be reinforced with permeable coarse/crushed gravel. All construction and future maintenance will be made by this route. Access route details and specifications are illustrated on Sheets 5.0 and 6.0.

3.3 Sediment and Erosion Control

Erosion control barriers consisting of staked straw wattles and/or silt fences will be installed throughout the project area, including the perimeters of the array and along the access driveway. Erosion control barriers will be installed prior to any site work and shall remain in place until all surfaces are stabilized and re-vegetated. Note that the erosion control barriers are to be placed specifically along or upgradient of the 50-foot No Disturbance Zone. Construction materials, debris, and sediment shall be kept on site and shall not be permitted to migrate beyond the limit of disturbance. A Stormwater Pollution Prevention Plan (SWPPP) will be prepared prior to the start of earth disturbance activities and submitted to the U.S. Environmental Protection Agency. See Sheet 3.0 Erosion Control and Clearing Plan.

3.4 Stormwater Management

As part of this permitting process, SWCA’s Professional Engineer prepared the Stormwater Management Report and the MassDEP Checklist for Stormwater Reports (Appendix E). This report was prepared based on the proposed project scope and the current and proposed site conditions. The checklist summarizes the elements that need to be addressed in the Stormwater Management Report and a summary of the components of this report are included in this Special Permit. There are no point source discharges proposed within the 100-foot buffer zone.

The parcel does not currently have a formal drainage management system as it consists of forested woodlands, overgrown agricultural fields, and pasture meadow. In constructing the array, 1.85 acres of meadow and agricultural fields will be converted for the solar generating facility. The stormwater model compares stormwater runoff between the current meadow cover type (upland and meadow grasses) and the post construction cover type of low growing meadow/wildflower vegetation. This low growing meadow/wildflower seed mix will be planted beneath the panels following the installation.

As part of the stormwater report and modeling, areas of impervious cover are evaluated. For this project a limited amount of impervious cover will be constructed. This will be associated with the equipment pad.

The modeling software utilized to evaluate pre-and post- construction conditions for this project was HydroCAD, and it evaluates the 2-year, 10-year and 100-year peak flow storm events (Sheets 6.0 and 6.1). The inclusion of roadside swales and a meadow/wildflower cover type in the stormwater modeling of these storm events is also included. Based on the results of the modeling proposed conditions flows for the project site are predicted to be equal or less than existing conditions for the stated storm events. There is no discharge of stormwater proposed within 100 feet of wetlands and there is no increase in the post development rate of runoff.

3.5 Future Maintenance

The function of the solar energy system depends upon reliable access to sunlight. It is therefore necessary to make sure that the system is not shaded or impaired. Since the solar facilities will be positioned within existing agricultural fields, no trees are anticipated to be cut for the project.

Once installed, the solar facility will require little maintenance. Vegetation under the panels will be mown at least once each year (i.e. November). Any degradation or breach of the perimeter fence will be repaired. After construction, a conservation and wildflower seed mix will be planted outside the fenced in area and a mix of grasses will be planted under the arrays. These areas will be left untouched unless large trees “move in” and begin to cause shading problems. In that case the tree would be cut, and the tree stump left in place.

Over time, wiring and modules may need to be replaced. No maintenance is anticipated which would affect wetland resources or the surrounding land use. No herbicides are proposed to be used. The access road will be maintained with additional gravel, as needed. Snow plowing will be avoided unless required for emergency and maintenance access.

Shade Management Area

Selective tree cutting for shade management purposes is proposed within areas of local and state jurisdictional resource areas. Approximately 1.18 acres of land containing deciduous and coniferous trees and shrubs will be cut within the buffer zone to BVW. These trees and shrubs are taller and will be cut so they do not shade the panels. Selective tree cutting is also proposed within the 25-foot No Disturbance Zone. Please note that the vegetational community within the Buffer Zone comprises mainly overgrown shrubs and meadow grasses. Stumps will not be removed and low growing shrubs and vegetation will remain in this zone. Supplemental plantings and a wildflower seed mix are proposed within the shade management areas. Sheet 3 illustrates the Shade Management Area.

Proposed Mitigation Area

To compensate for the selective tree cutting proposed within the 100-foot buffer zone and 25-foot No Disturbance Zone, the project proposes to plant additional lower growing trees and shrubs, and seed site areas with a wildflower seed mix. This will provide enhanced wildlife habitat and vegetation cover.

The proposed mitigation area will encompass 1.8 acres of the Shade Management Area (see Sheet 4.0) within the 100-foot buffer zone. The plantings will consist of Shadblow Serviceberry (*Amelanchier canadensis*), Black Spruce (*Picea mariana*), and Highbush Blueberry (*Vaccinium corymbosum*). Please note that if any of the aforementioned species become unavailable during the mitigation planting period (i.e. growing season), consultation with the Haverhill Conservation Commission will be made to determine an alternate species. No additional topsoil will be applied to the Shade Management Area. Additionally, to minimize soil disturbance within the 100-foot buffer zone, each shrub will be installed by hand. Please refer to Sheet 3 for information pertaining to the location and layout for plantings within the Shade Management Area.

4.0 COMPLIANCE WITH ARTICLE XXIII LARGE-SCALE GROUND-MOUNTED SOLAR PHOTOVOLTAIC INSTALLATIONS

The proposed project has been designed and will be constructed in compliance with the City of Haverhill Zoning Ordinance (Article XVIII) for Large Scale Solar Power Generation Installations (LSGMSPs). As required, this Special Permit application is being submitted for the construction of solar array on a residential zoned parcel.

SWCA provides a summary of the requirements or provides the specific requirement in italics and follows with a response as to how the project has been designed to meet the requirements. Notification of

this project has been made to the utility company and the Utility Agreement application is provided in Appendix F. The Special Permit fees are submitted with this application and a copy of the check is provided in Appendix A.

4.1 General Siting Standards

1. *Compliance with laws, bylaws, and regulations.*
 - The applicant will comply with all applicable laws, bylaws, and regulations for the development of a solar array on this property.
2. *Building Permit and Building Inspection.*
 - The LSGMSPI will not be constructed, installed or modified without first obtaining a Building Permit.
3. *The application for a building permit for a LSGMSPI must be accompanied by the fee required for a building permit and special permit and the fee as required for site plan approval.*
 - The Applicant acknowledges that there are fees associated with a building permit and the Board of Appeals permit applications.

4.2 Site Plan Review

Large-scale ground-mounted solar photovoltaic installations shall meet the requirements of this article. All plans and maps shall be prepared, stamped and signed by a professional engineer licensed to practice in Massachusetts. The project applicant shall provide the following documents in addition to or in coordination with those required for site plan review.

A. Site plan. The site plan must include the following:

1. *Property lines and physical features, including roads and topography, for the project site;*
 - Please refer to the Permitting Plan Set for Wildflower Solar, LLC. Sheets 1 through 8 dated 10/12/2018.
2. *Proposed changes to the landscape of the site, grading, vegetation clearing and planting, exterior lighting, screening vegetation or structures, including their height;*
 - Please refer to the Permitting Plan Set for Wildflower Solar, LLC. Sheets 1 through 8 dated 10/12/2018.
3. *Locations of wetlands, priority habitat areas defined by the Natural Heritage and Endangered Species Program (NHESP);*
 - Please refer to the Permitting Plan Set for Wildflower Solar, LLC. Sheets 1 through 8 dated 10/12/2018 and Figure 4.
4. *Locations of floodplains or inundation areas for moderate or high hazard dams;*

- Please refer to Figure 3.
- 5. *Locations of priority heritage landscapes and local or national historic districts;*
 - SWCA reviewed the Massachusetts Cultural Resource Information System (MACRIS) and determined that there are no documented historic resources on or to the parcel. The nearest recorded cultural resource is located over one mile from the parcel. The presence of archaeological resources on or near the property are unknown as the locations of archaeological resources are not publicly available.
- 6. *A list of any hazardous materials proposed to be located on the site in excess of household quantities and a plan to prevent their release to the environment as appropriate;*
 - There are no hazardous materials associated with this project that will be stored on the site.
- 7. *Blueprints or drawings of the solar installation signed by a professional engineer licensed to practice in the Commonwealth of Massachusetts showing the proposed layout of the system and any potential shading from nearby structures;*
 - Please refer to the Permitting Plan Set for Wildflower Solar, LLC. Sheets 1 through 8 dated 10/12/2018.
- 8. *One- or three-line electrical diagram detailing the solar installation, associated components, and electrical interconnection methods, with all National Electrical Code compliant disconnects and overcurrent devices;*
 - Please refer to Appendix G
- 9. *Documentation of the major system components to be used, including the electric generating components, transmission systems, mounting system, inverter, etc.;*
 - Please refer to Appendix D
- 10. *Name, address, and contact information for proposed system installer;*
 - This information will be provided to the Board of Appeals and Building Inspector prior to construction.
- 11. *Name, address, phone number and signature of the project applicant, as well as all co-applicants or property owners, if any;*
 - This information is provided within the Board of Appeals Application Form.
- 12. *The name, contact information and signature of any agents representing the project applicant;*
 - This information is provided within the Board of Appeals Application Form.
- 13. *Fire protection measures;*

- Consultation with the Fire Chief will be sought prior to construction.
- 14. *Storm drainage, including means of ultimate disposal and calculations;*
 - Appendix E provides the Stormwater management Report.
- 15. *Existing trees 10 inches in caliper or better and existing tree/shrub masses; proposed planting, landscaping, and screening. Every abutting property shall be visually screened from the project through any one or combination of the following: location, distance, plantings, existing vegetation and fencing. Said screening is not required to exceed six feet in height, and the applicant shall demonstrate that the proposal provides visual screening;*
 - Please refer to the Permitting Plan Set for Wildflower Solar, LLC. Sheets 1 through 8 dated 10/12/2018. Visual impacts are not anticipated for the proposed project, as the existing vegetation extending beyond the shade management areas afford a sufficient natural buffer to the north, east, south, and west of the proposed project.
- 16. *Certified list of abutters.*
 - Please refer to Appendix B. A certified abutters list will be provided prior to the Special Permit meeting.
- B. Site control.** The project applicant shall submit documentation of actual or prospective access and control of the project site sufficient to allow for construction and operation of the proposed solar installation.
 - A lease agreement with the property owner is provided in Appendix C.
- C. Operation and maintenance plan.** The project applicant shall submit a plan for the operation and maintenance of the large-scale ground-mounted solar photovoltaic installation, which shall include measures for maintaining safe access to the installation, stormwater management consistent with City's and DEP's stormwater regulations and vegetation controls, as well as general procedures for operational maintenance of the installation.
 - Please refer to Appendix E and Sheet 5.
- D. Zoning:** Zoning district designation for the parcel(s) of land comprising the project site [submission of a copy of a zoning map with the parcel(s) identified is suitable for this purpose].
 - The Haverhill Zoning Map is included with this application.
- E. Insurance.** The project applicant shall provide proof of liability insurance.
 - Please refer to Appendix H.
- F. Financial surety.** Applicants of large-scale ground-mounted solar photovoltaic installation projects shall provide a form of surety, either through escrow account, bond or otherwise, to cover the cost of removal in the event the City must remove the installation and remediate the landscape, in an amount and form determined to be reasonable by the Planning Director, but in no event to exceed more than 125% of the cost of removal and compliance with the additional requirements set forth herein, as determined by the project applicant and the City. Such surety

will not be required for municipal facilities. The project applicant shall submit a fully inclusive estimate of the costs associated with removal, prepared by a qualified engineer. The amount shall include a mechanism for calculating increased removal costs due to inflation.

- Final surety documents will be provided to the Board of Appeals prior to construction.
- G. Utility notification. No large-scale ground-mounted solar photovoltaic installation shall be constructed until evidence has been given to the Planning Director that the utility company that operates the electrical grid where the installation is to be located has been informed of the solar installation owner or operator's intent to install an interconnected customer-owned generator. Off-grid systems shall be exempt from this requirement.
 - Please refer to Appendix G.

4.3 Dimensional Requirements

The following dimensional and density requirements shall apply to all LSGMSPIs.

1. *Setbacks. For LSGMSPIs, front, side and rear setbacks shall be as follows:*
 - a. *Front yard: The front yard depth shall be at least 100 feet;*
 - b. *Side yard. Each side yard shall have a depth at least 100 feet;*
 - c. *Rear yard. The rear yard depth shall be at least 100 feet.*
- The above listed setback requirements for LSGMSPIs are acknowledged and are met. The array will be located more than 100 feet of the property lines to the rear, front, and side.
2. *Appurtenant Structures. All appurtenant structures to LSGMSPIs shall be subject to reasonable regulations concerning the dimensions and height of structures...*
- No appurtenant structures are proposed for this project beyond the equipment pad needed for power distribution purposes. The equipment pad is located within the fenced off array layout and would not require additional screening.

4.4 Design and Performance Standards

- A. *Lighting. Lighting of large-scale ground-mounted solar installations shall be consistent with local, state and federal law. Lighting of other parts of the installation, such as appurtenant structures, shall be limited to that required for safety and operational purposes, and shall be shielded from abutting properties. Lighting of the large-scale ground-mounted solar photovoltaic installations shall be directed downward and shall incorporate full cutoff fixtures to reduce light pollution.*
 - There is no lighting associated with this project.
- B. *Signage. Signs on large-scale ground-mounted solar photovoltaic installations shall comply with this Zoning Ordinance. A sign shall be required to identify the owner and provide a twenty-four-hour emergency contact phone number. Large-scale ground-mounted solar photovoltaic installations shall not be used for displaying any advertising except for reasonable identification of the manufacturer or operator of the solar installation.*

- Signs with emergency contact information will be placed on the fence at the entrance and other points along the fence. No other signage will be utilized at this project.
- C. *Utility connections. Electrical transformers or other utility interconnections shall be constructed as required by the utility provider and may be aboveground only if necessary. Reasonable efforts shall be made to place all utility connections from the large-scale ground-mounted solar photovoltaic installation underground (if feasible), depending on appropriate soil conditions, shape, and topography of the site and any requirements of the utility provider.*
 - Interconnection details are provided in Appendix G.
- D. *Roads. Access roads shall be constructed to minimize grading, removal of stone walls or street trees and minimize impacts to environmental or historic resources.*
 - The location and route of the access driveway was selected to the extent most practicable to minimize: impacts to environmental, tree removal, and the re-location of existing street utilities.
- E. *Control of vegetation. Herbicides may not be used to control vegetation at the large-scale ground-mounted solar photovoltaic installation. Mowing or the use of pervious pavers or geotextile materials underneath the solar array is a possible alternative.*
 - Herbicides are not anticipated to be required under pre and post construction conditions. Please see the Operation & Maintenance Plan in Appendix I.
- F. *Hazardous materials. Hazardous materials stored, used, or generated on site shall not exceed the amount for a very small quantity generator of hazardous waste as defined by the DEP pursuant to Mass DEP regulations, 310 CMR 30.000, and shall meet all requirements of the DEP, including storage of hazardous materials in a building with an impervious floor that is not adjacent to any floor drains to prevent discharge to the outdoor environment. If hazardous materials are utilized within the solar equipment then impervious containment areas capable of controlling any release to the environment and to prevent potential contamination of groundwater are required.*
 - No hazardous materials will be stored onsite throughout the tenure of the project.

4.5 Annual Reporting

The owner/operator of the large scale solar photovoltaic installation shall maintain the large scale solar photovoltaic installation and the site in good condition. This includes but is not limited to the maintenance of access roads, stormwater control measures, security measures and vegetation screening.

The Applicant understands that the site must be maintained in good condition and will comply with the requirements of the Town Bylaws.

6.0 SUMMARY

The proposed work is to construct a large-scale ground-mounted solar energy facility that will cover 1.85 acres of an 17.5-acre parcel located at 1037 Broadway (Lot 574-1-16) in Haverhill, Massachusetts. The installation has been designed to generate approximately 250kW of energy. The project has been designed to avoid jurisdictional resource areas to the greatest extent possible. The project has also been designed to meet the Massachusetts Stormwater Regulations, Massachusetts Wetlands Protection Act, and the Town of Haverhill Zoning Bylaws.

7.0 REFERENCES

- Bureau of Geographic Information (MassGIS). 2018. Areas of Critical Environmental Concern. Bureau of Geographic Information (MassGIS). Available at: <http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/acecs.html>
- Bureau of Geographic Information (MassGIS). 2018. Outstanding Resource Waters. Bureau of Geographic Information (MassGIS). Available at: <http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/orw.html>
- Gleason, H.A. and A. Cronquist. 1991. Manual of Vascular Plants of Northeastern United States and Adjacent Canada, Second Edition. The New York Botanical Garden.
- Jackson, Scott. 1995. Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act. Massachusetts Department of Environmental Protection.
- Magee, Dennis W. and Harry E. Ahles. 1999. Flora of the Northeast. University of Massachusetts Press, Amherst.
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X.
- Natural Heritage and Endangered Species Program (NHESP). 2018. NHESP Certified Vernal Pools. Bureau of Geographic Information (MassGIS). Available at: <http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/cvp.html>
- Natural Heritage and Endangered Species Program (NHESP). 2017a NHESP Estimated Habitats of Rare Wildlife. Bureau of Geographic Information (MassGIS). Available at: <http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/nhesp-estimated-habitats-of-rare-wildlife-.html>
- Natural Heritage and Endangered Species Program (NHESP). 2018. NHESP Priority Habitats of Rare Species. Bureau of Geographic Information (MassGIS). Available at: <http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/prihab.html>
- Office of Geographic Information (MassGIS). 2018. FEMA National Flood Hazard Layer. <https://docs.digital.mass.gov/dataset/massgis-data-fema-national-flood-hazard-layer>

Sorrie, Bruce and Paul Somers. 1999. The Vascular Plants of Massachusetts: A County Checklist. Natural Heritage and Endangered Species Program, Massachusetts Division of Fisheries and Wildlife.

United States Department of Agriculture. Natural Resources Conservation Service. 2010. Field Indicators of Hydric Soils in the United States, Version 7.0. L. M. Vasilas, G. W. Hurt, and C. V. Noble (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils Web Soil Survey of Hampden County, Massachusetts. United States Department of Agriculture, Soil Conservation Service, in cooperation with Massachusetts Agricultural Experiment Station

United States Department of Agriculture. Natural Resources Conservation Service (NRCS). 2018. Web Soil Survey. Retrieved at <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>

APPENDIX A

Application Form and Checks

EFFECTIVE
IMMEDIATELY

**NO APPLICATION WILL BE ACCEPTED
WITHOUT A WRITTEN BRIEF TO THE
BOARD, AS REQUIRED BY THE BOARD OF
APPEALS REGULATIONS**

BOARD OF APPEALS
ROOM 201- 4 SUMMER ST
HAVERHILL, MA
978-374-2330

APPLICANT Wildflower Solar, LLC.

LOCATION 1037 Broadway, Haverhill, MA

CUT-OFF DATE _____ PAPERS MUST BE FILED BY NOON OF THIS DATE

DATE OF MEETING 11/21/2018

BOARD OF APPEALS – APPLICANT’S PROCEDURE

- ROOM 210** **BUILDING INSPECTOR**
PICK UP APPLICATION AND CHECK LIST. BUILDING INSPECTOR WILL COMPLETE CHECK LIST GIVING LOCATION, ZONE OR PROPERTY, APPLICANT AND REASONS ACTION IS NEEDED. BUILDING INSPECTOR WILL ASSIST APPLICANT IN DRAFTING FRONT OF APPLICATIONS & SIGN COVER SHEET.
- ROOM 201** **BOARD CLERK**
BOARD CLERK WILL TYPE DRAFTED APPLICATION WHICH MUST BE REVIEWED & SIGNED BY THE APPLICANT.
- ROOM 214** **CITY ENGINEER**
THE ENGINEERING OFFICE WILL MAKE A REPRODUCIBLE MYLAR COPY OF EACH PLAN SHEET TO BE KEPT AND PLACED ON FILE. **PLEASE REFER TO THE SCHEDULE OF FEES FOR APPLICABLE FEES.**
- ROOM 115** **CITY ASSESSOR**
CITY ASSESSOR WILL INDICATE CORRECT PLAT, BLOCK, & LOT NUMBERS ON PARTIES AND STAMP COVER SHEET.
- ROOM 114** **CITY TREASURER**
APPLICANT WILL PAY THE CITY TREASURER **\$180.00** (check payable to the City of Haverhill) FOR REGULAR MEETING. APPLICANT WILL PAY THE CITY TREASURER \$230.00 FOR A SPECIAL MEETING. CITY TREASURER WILL STAMP APPLICATION.
- ROOM 118** **CITY CLERK**
APPLICANT WILL PAY CITY CLERK **\$10.00** (check payable to the City of Haverhill) **\$75.00** (check payable to Registry of Deeds) (\$30.00 if land court plan) CITY CLERK WILL STAMP COVER SHEET.
- ROOM 201** **BOARD CLERK**
RETURN ALL MATERIAL TO BOARD CLERK – BRIEF MUST BE SUBMITTED TO BOARD CLERK IN ORDER TO BE PLACED ON THE AGENDA

BUILDING INSPECTOR

ASSESSORS STAMP

CITY CLERK’S STAMP

TO ALL APPLICANTS FOR A VARIANCE OR SPECIAL PERMIT

In order for your application to be heard at the next scheduled Board of Appeals meeting, your application must be completed in full. The Haverhill Board of Appeals Rules and Regulations require that:

Every application for action by the Board shall be made on the official form accepted by the Board, which may be obtained from the office of the Building Inspector, Room 210, City Hall. Any communication for a variance, or special permit, including all incomplete applications, shall be treated as merely notice of intent to file a petition for a variance or special permit to seek relief, until such time as it is made on the official application form. All information called for by the application shall be furnished by the applicant in the manner herein prescribed. **NO APPLICATION SHALL BE CONSIDERED COMPLETE UNTIL THE APPLICANT HAS SATISFIED THE REQUIREMENTS OF THE BUILDING INSPECTOR, CITY TREASURER, THE ASSESSOR AND THE CLERK OF THE BOARD.**

The following steps should be taken by the applicant:

Application form received from the Building Inspector, Room 210, should be filled out **in pencil** by the Building Inspector. Items 2,3,6 & 7 may be filled in by the applicant.

A reproducible original and **NINE (9)** copies of the following must be submitted: **CERTIFIED** plot plan, drawn in ink, signed and stamped within one year of public hearing.

PLAN OF LAND TO ACCOMPANY PETITION

The Board shall require all petitions for variances, including **Dimensional Variances** and all petitions for **Special Permits** be accompanied by the reproducible original and **nine (9)** copies of the following described plot plan.

The plan shall contain:

- locus must appear on certified plot plan
- 8 ½" x 11" or larger drawn scale 1" = 40' or such smaller scale as may be necessary
- zoning districts
- north points
- name of streets
- names of property owners who abut the subject property
- existing property lines and exact location of existing buildings and any proposed additions and distances from adjacent buildings and property lines shall be shown on the plan which shall accurately be drawn in ink on Mylar or linen and signed and stamped by a registered Land Surveyor
- dimensions of the lot
- percentage of the lot covered by principal and accessory buildings
- the required parking spaces
- entrances, exits, driveways, planting strips, signs, etc.

All of the above must be certified as to accuracy of the lot lines, placement of original buildings and of proposals to provide additions to buildings, alterations to lot lines and/or parking, etc.

When a variance is requested to subdivide a parcel of land, the dimensions and areas of the surrounding lots may be taken from the deed or plotting plan for comparison of the size of lots the neighborhood, noted on the plan as such, and marked "approximate." Any plans presented with the petition shall remain a part of the records of the Board of Appeals.

When a petition is filed for a sign variance, the accompanying plan shall show, in addition to the location of the sign, the sign area and height in relation to the respective building height, size or length.

If living quarters are to be remodeled, or areas to be converted into living quarters, in addition to the required plot plan, **nine (9) copies** of the following described plan shall be furnished:

- (1) A floor plan of each floor on which remodeling is to be done or area converted into living quarters.
- (2) A floor plan showing the stairways, halls, door openings into the halls, and exit doors of each floors or floors where remodeling or converting is to be done.
- (3) An elevation of the parts of the building where outside stairways or fire escapes are to be located. The plans and elevations shall be clearly illustrated. The size of each plan shall be 11" x 17" x 22", it shall be drawn to scale $\frac{1}{2}" = 1'$.

An application for the Dimensional Variance, Use Variance, or Special Permit that requires the recording of a plan, must be accompanied by the recordable linen or Mylar plan, and said plan must contain **REGISTERED LAND SURVEYOR'S** seal and signature, and must comply with all other Recording Rules of the Registry of Deeds.

All plans and elevations presented with the application shall remain a part of the records of the Board of Appeals. The provision of the plan and the application form shall be the sole responsibility of the applicant.

TO ALL APPLICANTS FOR A VARIANCE OR SPECIAL PERMIT

- (1) The Assessor's office will prepare the list of abutters required by law and forward to the Board Clerk, who will notify all abutters and the owner/applicant by mail of the time and place the application will be considered by the Board. Abutters and owner/applicant will be sent copies of the agenda with the relevant item noted.
- (2) The owner or his representative (duly authorized in writing by the owner) must present the petition in person at the Board of Appeals meeting. Failure to do so may result in a negative decision by the Board of Appeals.
- (3) The Board Clerk shall ensure that the decision sheet is duly recorded at the Essex County South District Registry of Deeds and indexed in the grantor index under the name of the owner of record (registered land to be noted on the owners Certificate of Title).
- (4) If the applicant is not the owner, a written statement from the owner **MUST** be submitted indicating that it is permissible to seek a variance or special permit for the property.

- (5) Both applicant and abutters will be notified of the decision of the Board. Decisions will be filed with the City Clerk within 14 days by the Clerk of the Board of Appeals and copies of the decision will be sent out the same day.
- (6) The above is only a recording of the decision sheet in the City Clerk's Office. **PLEASE DO NOT APPLY FOR YOUR BUILDING PERMIT UNTIL YOU HAVE BEEN NOTIFIED THAT THE DECISION HAS BEEN RECORDED AT THE REGISTRY OF DEEDS.**

The decision sheets are sent to the Registry AFTER the 20 day appeal period has lapsed.

ESTIMATED TIME – SIX (6) WEEKS FROM DATE OF THE MEETING

- (7) If the city records show that Taxes, Water, Wastewater, and/or financial obligations are due on the subject property, building permits may be withheld until verification of an agreement to pay taxes or fees is received by the Building Inspector.
- (8) If house numbers or lots are not visible from the street, or clearly identified, unnecessary delays or negative action by the Board of Appeals may result.

CITY OF HAVERHILL - BOARD OF APPEALS
Information required to be filed as part of application to the Board

Every application for a variance or special permit or any appeal shall be supported by a written summary, setting forth in detail all facts relied upon by the applicant. This is particularly necessary in the case of a variance. The following points, based on General Laws, Chapter 40A, Section 10 and 14 should be clearly identified and factually supported:

- (a) The particular use proposed for the land or building.
- (b) The conditions especially affecting the property for which a variance is sought which do not affect, generally, the zoning district in which it is located.
- (c) Facts which make up the substantial hardship, financial or otherwise, which result from the literal enforcement of the applicable zoning restrictions with respect to the land or building for which a variance is sought.
- (d) Facts relied upon to support a finding that the relief sought will be desirable and without substantial detriment to the public good.
- (e) Facts relied upon to support a finding that the relief sought may be given without nullifying or substantially derogating from the intent or purpose of the zoning ordinance.

Before any variance is granted, the Board must find all of the following conditions to be present pursuant to section 255-75C of the Haverhill Zoning Ordinance:

1. Conditions and circumstances are unique to the applicant's lot, structure or Building and do not apply to the neighboring lands, structures or buildings in the same district.
2. Strict application of the provisions of this chapter would deprive the applicant of reasonable use of the lot, structure, or building in a manner equivalent to the use permitted to be made by other owners of their neighborhood lands, structures or buildings in the same district.
3. The unique conditions and circumstances are not the result of actions by the applicant taken subsequent to the adoption of this chapter.
4. Relief if approved, will not cause substantial detriment to the public good or impair the purposes and intent of this chapter.
5. Relief if approved, will not constitute a grant of special privilege inconsistent with the limitations upon other properties in the district.

The application and supporting written statement must clearly address these points.

PETITION FOR VARIANCE under the ZONING ORDINANCE

APPLICATION FOR SPECIAL PERMIT under the ZONING ORDINANCE

Notice: This application must be typewritten; filed in duplicate and accompanied by a plan or the affected premises; a copy of the refusal by the Building Inspector or other authority.

The undersigned, petitions the Board of Appeals to vary, in the manner and for the reasons hereinafter set forth, the application of the provisions of the zoning ordinance to the following described premises.

APPLICANT: Wildflower Solar, LLC. 1037 Broadway, Haverhill, MA

	<u>Full Name</u>	<u>Address</u>
OWNER:	<u>Susan Boyland</u>	<u>1037 BROADWAY HAVERHILL, MA</u>
	<u>Full Name</u>	<u>Address</u>

LESSEE:	<u>HEXAGON ENERGY, LLC</u>	<u>722 Preston Ave, Suite 102</u>
	<u>J. Scott Remer, Development Manager</u>	<u>Charlottesville, VA 22903</u>
	<u>Full Name</u>	<u>Address</u>

1. LOCATION OF PREMISES: 1037 Broadway, Haverhill, MA

2. ASSESSORS PLAT:	<u>574</u>	<u>.1</u>	<u>16</u>
	<u>Plat No.</u>	<u>Block No.</u>	<u>Lot No.</u>

2A. DEED OF PROPERTY RECORDED IN: Essex **REGISTRY**
BOOK: 7319 **PAGE:** 213

3. DIMENSIONS OF LOT: 17.5 acres

4. ZONING DISTRICTS IN WHICH PREMISES ARE LOCATED? Rural Residential/ Rural Medium

5. HOW LONG HAVE YOU OWNED THE ABOVE PREMISES? 1963

6. HOW MANY BUILDINGS ARE ON THE LOT? 1

7. GIVE SIZE OF EXISTING BUILDINGS: ~2,500

PROPOSED BUILDINGS: 0

8. STATE PRESENT USE OF PREMISES: Residential

9. STATE PROPOSED USE OF PREMISES: Solar Land Use Lease

10. GIVE EXTENT OF PROPOSED ALTERATIONS: Vegetation Management / Access driveway/
shade management efforts

11. HAS THERE BEEN A PREVIOUS APPEAL UNDER ZONING ON THESE PREMISES? N/A

IF SO WHEN? _____

12. NUMBER OF FAMILIES FOR WHICH BUILDING IS TO BE ARRANGED: N/A

NOTE: IF THE APPLICANT IS NOT THE OWNER, A STATEMENT MUST BE WRITTEN BY THE OWNER AUTHORIZING THE APPLICANT TO APPLY TO THE BOARD OF APPEALS

**BUILDING INSPECTOR'S CHECK LIST FOR
BOARD OF APPEALS ACTION NEEDED ON:**

LOCATION 1037 Broadway, Haverhill, MA
ZONE Rural Residential/Rural Medium Density
APPLICANT Wildflower Solar, LLC.

ACTION REQUIRED

☐ DIMENSIONAL VARIANCE
☐ LOT AREA
☐ LOT FRONTAGE
☐ LOT DEPTH
☐ SIDE YARD
☐ HEIGHT
☐ FLOOR AREA RATIO
☐ SIGN SIZE

☐ USE VARIANCE
☐ PARKING
☒ SPECIAL PERMIT
☐ FRONT YARD
☐ REAR YARD
☐ BUILDING COVERAGE
☐ OPEN SPACE
☐ OTHER _____

DATA TO BE INCLUDED ON APPLICATION:

3. PROVISION OF ZONING ORDINANCE UNDER WHICH PETITION FOR VARIANCE IS MADE:

IN MAKING ITS DECISION, THE BOARD SHALL SPECIFICALLY FIND THAT ALL OF THE FOLLOWING CONDITIONS HAVE BEEN MET. (FINDINGS MUST BE MADE ON ALL THREE TO HAVE A VALID DECISION.) (1) THAT THERE ARE UNIQUE CIRCUMSTANCES RELATIVE TO THE SOIL CONDITIONS, SOIL SHAPE, OR TOPOGRAPHY WHICH SPECIFICALLY AFFECT THE LAND OR STRUCTURE IN QUESTION, BUT NOT AFFECTING GENERALLY THE ZONING DISTRICT IN WHICH THE LAND OR STRUCTURE IS LOCATED; (2) THAT THE LITERAL ENFORCEMENT OF THE ORDINANCE WOULD INVOLVE SUBSTANTIAL HARDSHIP, FINANCIAL OR OTHERWISE; (3) THAT DESIRABLE RELIEF MAY BE GRANTED WITHOUT SUBSTANTIALLY DEROGATING FROM THE INTENT AND PURPOSE OF THE ZONING ORDINANCE OR BY LAW. (SEE ZONING ORDINANCE FOR ADDITIONAL REQUIREMENTS FOR GRANTING OF VARIANCE.)

3A. STATE REASON FOR VARIANCE: N/A

4. PROVISION OF ZONING ORDINANCE UNDER WHICH APPLICATION FOR SPECIAL PERMIT IS MADE
Solar Energy Facility

4A. REASON FOR SPECIAL PERMIT: Large Scale Ground Mounted Solar Photovoltaic Installation.

ABUTTERS LIST

APPLICANT Wildflower Solar, LLC.

PARTIES IN INTEREST CERTIFICATION FORM

I hereby certify to the Board of Appeals and/or City Council, that the below listed names and addresses constitutes a complete listing of the parties in interest, as taken from the most recent City of Haverhill Tax List respective to the property at 1037 Broadway, Haverhill, MA

as shown on Assessor's Plat 574 1 16
(Plat) (Block) (Lot #)

Chapter 40A of the Massachusetts General Laws defines "parties in interest" as the petitioner, abutters, owners of land directly opposite on any public or private street or way, and abutters to the abutters within three hundred feet of the property line of the petitioner as they appear on the most recently applicable tax list, not withstanding that the land of any such owner is located in another City or Town, the Planning Board of the city or town, and the Planning Board of every abutting city or town.

DATE _____ CITY ASSESSOR _____

	Name	Address
Owner:		
1.	Please refer to attached List.	
2.	Coordination with the Assessor will be sought to certify the abutters	
3.	are current.	
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		

APPENDIX B
Abutters Information

300 FT -Abutters	Property ID	Site Address	Owner	Owner 2	Owner Address	Owner City	Owner State	Owner Zip
1	539-439-7B	1002 BROADWAY	CARNES JOHN A-ETUX	CARNES LINDA C	1002 BROADWAY	HAVERHILL MA		01832
2	539-439-7C	1010 BROADWAY	VIOLETTE LAURIE A		1010 BROADWAY	HAVERHILL MA		01832
3	539-439-7D	1022 BROADWAY	CAVANAUGH WILLIAM ETAL	CAVANAUGH PATRICIA	1022 BROADWAY	HAVERHILL MA		01832
4	539-439-7E	BROADWAY	O'DEA MICHAEL F JR ETUX	O'DEA PAULA	6 DAIRY LANE	ANDOVER MA		01810
5	539-439-8	1036 BROADWAY	HUTCHINSON ERIK		1036 BROADWAY	HAVERHILL MA		01832
6	539-439-9A	BROADWAY	DUDLEY FRANK J	C/O NANCY O'NEILL	P.O. BOX 1181	WESTFORD MA		01886
7	539-439-9	1078 BROADWAY	DAWKINS DOUGLAS ETUX	DAWKINS ALLYSON	1078 BROADWAY	HAVERHILL MA		01830
8	539-439-9B	1046 BROADWAY	CHUPASKO JUDITH M		1046 BROADWAY	HAVERHILL MA		01832
9	574-1-17	BROADWAY	CITY OF HAVERHILL		4 SUMMER ST	HAVERHILL MA		01830
10	574-1-18	1047 BROADWAY	PORTALLA BRETT A		1047 BROADWAY	HAVERHILL MA		01832
11	574-1-19	1077 BROADWAY	DUDLEY FRANK J	C/O NANCY O'NEILL	P.O. BOX 1181	WESTFORD MA		01886
12	574-1-15	BROADWAY	CITY OF HAVERHILL	WATER WORKS DEPT	4 SUMMER ST	HAVERHILL MA		01830
13	574-1-12	1001 BROADWAY	EATON GAIL E ETAL	EATON JARED S	1003 BROADWAY	HAVERHILL MA		01832
14	574-1-13	1015 BROADWAY	SERRATORE REALTY LLC		1015 BROADWAY	HAVERHILL MA		01832
15	574-1-9	987 BROADWAY	FLEMING CHARLENE		987 BROADWAY	HAVERHILL MA		01832
16	574-1-10-18	41 KRISTINE LN	MUJEEB HAMAYON		41 KRISTINE LANE	HAVERHILL MA		01832
17	574-1-10-19	37 KRISTINE LN	HENNEBRY KEVIN M ETUX	WELLS HENNEBRY ANDREA M	37 KRISTINE LANE	HAVERHILL MA		01832
18	574-1-10-20	33 KRISTINE LN	MARTIN GEORGE-ETUX	MARTIN MELANIE	33 KRISTINE LANE	HAVERHILL MA		01832
19	574-1-10-21	29 KRISTINE LN	GRASSO KEVIN J-ETUX	GRASSO SUSAN M	29 KRISTINE LANE	HAVERHILL MA		01832
20	574-1-10-22	23 KRISTINE LN	VILLAREAL VICTOR P-ETAL	FERNANDEZ PATRICIA S	23 KRISTINE LANE	HAVERHILL MA		01832
21	574-1-10-23	25 KRISTINE LN	DESIMONE ANGELO ETALI	DESIMONE CAROL	25 KRISTINE LN	HAVERHILL MA		01832
22	574-1-10-24	9 KRISTINE LN	MCGUIRE KEVIN-ETAL	VINCENT MELISSA	9 KRISTINE LN	HAVERHILL MA		01832
23	574-1-10-25	5 KRISTINE LN	BLACKER 2015 FAMILY TRUST	BLACKER ROBERT J-TRUSTEE	5 KRISTINE LANE	HAVERHILL MA		01832
24	574-1-10-2	6 KRISTINE LN	LAROSA LISA A-ETUX	LACRETA JAMES J	6 KRISTINE LANE	HAVERHILL MA		01832
25	574-1-10-3	10 KRISTINE LN	BELL ERICK D-ETUX	BELL KATRINA Y	10 KRISTINE LN	HAVERHILL MA		01832
26	574-1-10-4	18 KRISTINE LN	HARDY BENJAMIN ETUX	HARDY GRETCHEN	18 KRISTINE LANE	HAVERHILL MA		01832
27	574-1-10-5	18 KRISTINE LN	COELHO RICHARD B-ETUX	COELHO LISA N	18 KRISTINE LANE	HAVERHILL MA		01832
28	574-1-10-6	22 KRISTINE LN	LUONGO JOHN J-ETUX	LUONGO JANET R	22 KRISTINE LANE	HAVERHILL MA		01832
29	574-1-10-7	28 KRISTINE LN	THE HUDSON REALTY TRUST	HUDSON DIANE L TRUSTEE	28 KRISTINE LANE	HAVERHILL MA		01832
30	574-1-10-8	34 KRISTINE LN	BELFIORE KEVIN ETUX	BELFIORE KATIE	34 KRISTINE LN	HAVERHILL MA		01832
31	574-1-10-9	38 KRISTINE LN	SANTIAGO ADRIAN-ETUX	SANTIAGO LISSETTE	38 KRISTINE LN	HAVERHILL MA		01832
32	574-1-10-10	42 KRISTINE LN	ENNIS DAVID A-ETAL	MANZELLI MARY H	42 KRISTINE LN	HAVERHILL MA		01832
33	574-1-12B	997 BROADWAY	MILLER HARRY B-ETUX	MILLER STACIE	997 BROADWAY	HAVERHILL MA		01832-8816

300 Foot Abutters



Property Information
Property ID 574-1-16
Location 1037 BROADWAY
Owner BOYLAND LOUISE S



MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Haverhill, MA makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Parcels updated March 1, 2016
Properties updated March 1, 2016

1" = 624 ft
Report a map error

APPENDIX C

Lease Agreement

65

PD-8


SO. ESSEX #97 Bk:36459 Pg:408
01/09/2018 09:09 MEMO Pg 1/5

**MEMORANDUM OF
SOLAR ENERGY SITE LEASE AGREEMENT**

PARTIES:

OWNER/GRANTOR: SUSAN BOYLAN
 1037 BROADWAY
 HAVERHILL, MA 01832

DEVELOPER/GRANTEE: HEXAGON ENERGY, LLC
 722 PRESTON AVE, STE 102
 CHARLOTTESVILLE, VA 22903

PREPARED BY: J. Scott Remer

RETURN TO: Hexagon Energy, LLC
 Attn: Scott Remer
 722 Preston Ave, Ste 102
 Charlottesville, VA 22903

✓

EXHIBIT C
MEMORANDUM OF OPTION

**PREPARED BY AND RECORDING REQUESTED BY
AND WHEN RECORDED RETURN TO:**

**Hexagon Energy, LLC
722 Preston Ave., Suite 102
Charlottesville, VA 22903**

(Space Above for Recorder's Use)

**MEMORANDUM OF OPTION AGREEMENT
FOR SOLAR ENERGY SITE LEASE**

THIS MEMORANDUM OF OPTION AGREEMENT FOR SOLAR ENERGY SITE LEASE (this "Memorandum") is made and entered into as of DECEMBER 17, 2017 by and between Hexagon Energy, LLC, a Virginia limited liability company ("Developer"), and SUSAN BOYLAN, ("Owner").

Recitals

A. Owner and Developer are parties to that certain Option Agreement for Solar Energy Site Lease, dated concurrently herewith ("Option Agreement"), pursuant to which Owner has granted to Developer an exclusive option to lease that certain real property more particularly described on Schedule "1" attached hereto (the "Property").

B. Owner and Developer now desire to provide for public notice of the existence of the Option Agreement and Developer's rights thereunder.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. Grant of Option. Owner hereby grants to Developer the exclusive option to lease the Property (the "Option") upon the terms and subject to the terms and conditions set forth in the Option Agreement.

2. Term of the Option. Subject to the terms and conditions set forth in the Option Agreement, the term of the Option expires and this Memorandum will automatically terminate and be of no further force or effect as of DECEMBER 17, 2018, subject to up to two (2) twelve (12) month extension options pursuant to the terms and conditions of the Option Agreement.

3. Conflict of Provisions. This Memorandum is prepared for the purpose of recordation and shall not alter or affect in any way the rights and obligations of Developer and Owner under the Option Agreement. In the event of any inconsistency between this Memorandum of Option and the Option Agreement, the terms of the Option Agreement shall control.

IN WITNESS WHEREOF, the parties have executed this Memorandum as of the date first set forth above.

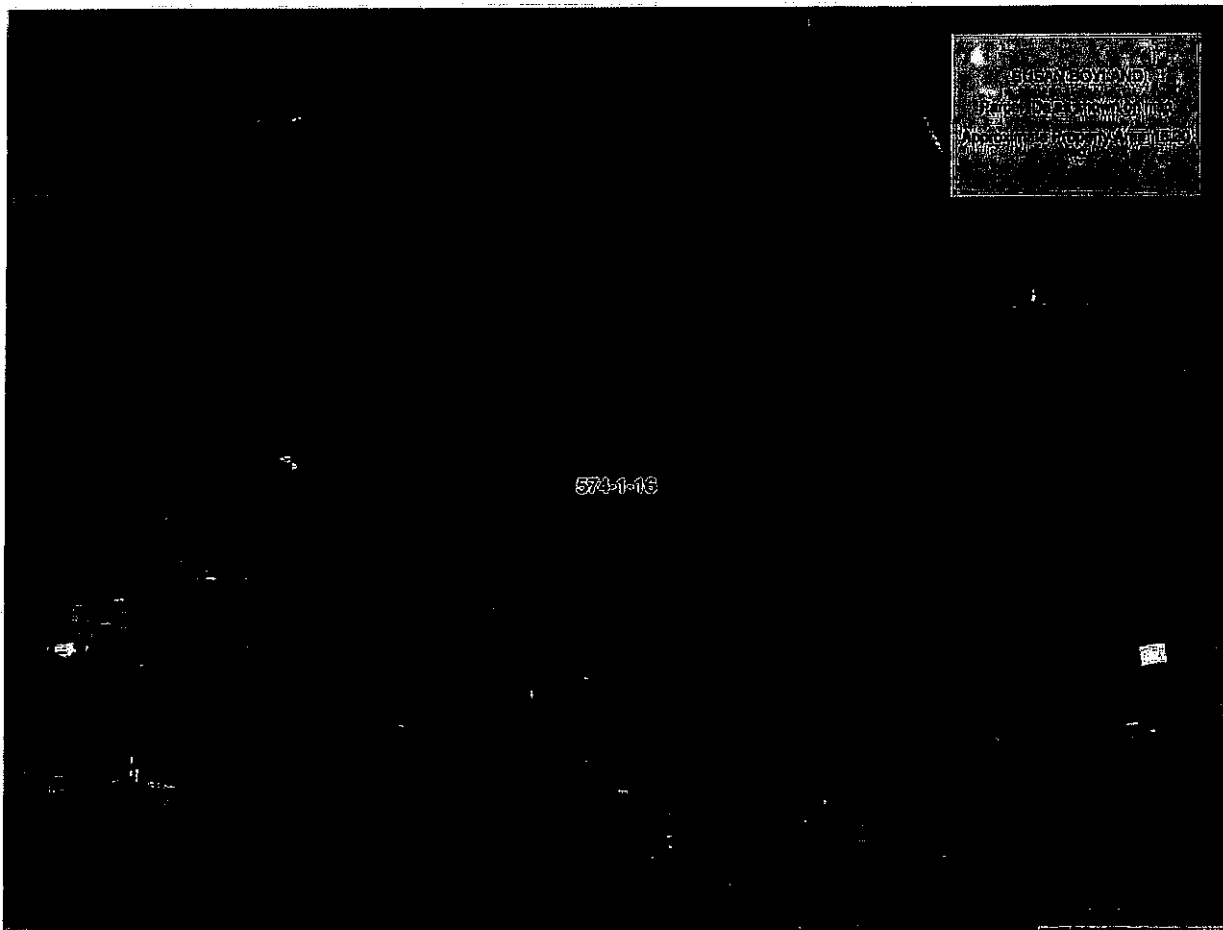
"Owner"	"Developer"
SUSAN BOYLAN	HEXAGON ENERGY, LLC, a Virginia limited liability company
By: <u><i>Susan Boylan</i></u>	By: <u><i>Drew Price</i></u>
Name: <u><i>Susan Boylan</i></u>	Name: <u><i>DREW PRICE</i></u>
Title: <u><i>Owner</i></u>	Title: <u><i>MANAGING DIRECTOR</i></u>

Schedule "1"
to
Memorandum of Option Agreement

Legal Description

All of that certain real property in the City of Haverhill, Commonwealth of Massachusetts, described as follows:

All of those certain real properties along Broadway in the City of Haverhill, also referred to by Parcel ID 574-1-16, consisting of approximately 16.2 acres, identified in orange below. To be revised with a metes and bounds survey to be completed by Developer. ✓



COMMONWEALTH OF MASSACHUSETTS)
) ss.
CITY OF HAVERHILL)

On the 14 day of December, 2017, before the undersigned, personally appeared SUSAN BOYLAN personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument, and acknowledged to me that he executed the same.

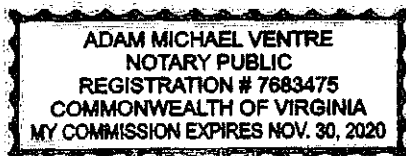
NOTARIAL SEAL

[Signature]
Name: Jennifer Oliver
Notary - State of MASS
My Commission Expires: 2.3.2023
Notary Registration No.:

STATE OF VIRGINIA)
) ss.
CITY OF CHARLOTTESVILLE)

On the 17th day of December, 2017, before the undersigned, personally appeared Drew Price personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument, and acknowledged to me that he executed the same.

NOTARIAL SEAL



[Signature]
Name: Adam Ventre
Notary - State of Virginia
My Commission Expires: 11/30/2020
Notary Registration No.: 7683475

APPENDIX D

Equipment Specifications



PVI 50TL PVI 60TL

FEATURES

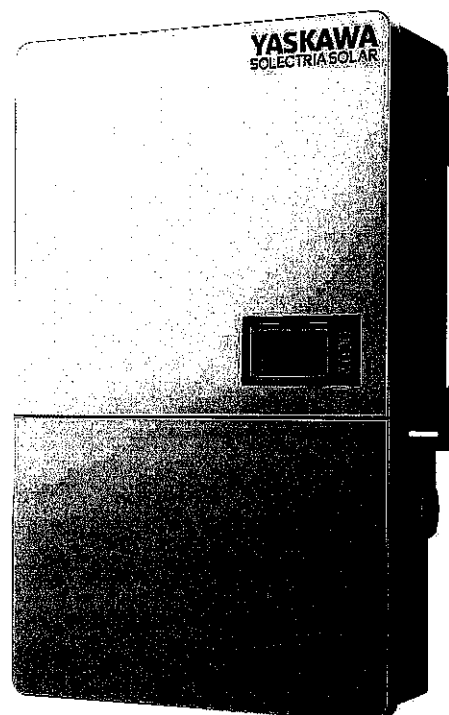
- NEC 2014 compliant (arc fault and rapid shutdown)
- Compliant with UL1741SA
- 3 MPPTs with 5 inputs each
- Integrated DC and AC disconnects
- AC terminals compatible with copper and aluminum conductors
- Modbus communications
- Internal data logger
- 0 - 90° installation orientation
- Remote firmware upgrades
- Remote diagnostics

OPTIONS

- H4 wiring box
- Shade cover
- DC combiners bypass
- Web-based monitoring

3-PH TRANSFORMERLESS STRING INVERTERS

Yaskawa - Solectria Solar's PVI 50TL and PVI 60TL are grid-tied, transformerless three-phase inverters designed for ground mount, rooftop and carport arrays and can be installed from 0 - 90 degrees. The PVI 50/60TL inverters are NEC 2014 compliant and are the most reliable, efficient and cost effective in their class. They come standard with AC and DC disconnects, three MPPTs, a 15-position string combiner, remote diagnostics, remote firmware upgrades and various protection features. Options include H4 wiring box, shade cover, DC combiner fuse bypass, and web-based monitoring.



SPECIFICATIONS	PVI 50TL	PVI 60TL
DC Input		1000 VDC
Absolute Maximum Open Circuit Voltage		200-950 VDC
Operating Voltage Range	480-850 VDC	540-850 VDC
Max Power Input Voltage Range (MPPT)		3
MPP Trackers	36 A per MPPT (108 A)	38 A per MPPT (114 A)
Maximum Operating Input Current		60 A per MPPT (180 A)
Maximum Available PV Current (Isc x 1.25)	75 kW (25 kW per MPPT)	90 kW (30 kW per MPPT)
Maximum PV Power		330 V
Start Voltage		
AC Output		480 VAC, 3Ø+/PE/N
Nominal Output Voltage		-12%/+10%
AC Voltage Range (Standard)	50 kW	60 kW
Continuous Output Power	61 A	73 A
Maximum Output Current		0 A
Maximum Backfeed Current		60 Hz
Nominal Output Frequency		57-63 Hz
Output Frequency Range		Unity, >0.99 (adjustable 0.8 leading / 0.8 lagging)
Power Factor		55 A
Fault Current Contribution (1 Cycle RMS)		< 3%
Total Harmonic Distortion (THD) @ Rated Load		
Performance		99.0%
Peak Efficiency		98.5%
CEC Efficiency		< 2 W
Tare Loss		-22°F to +140°F (-30°C to +60°C) Derating occurs over +122°F (+50°C)
Ambient Temperature Range		No low temp minimum to +158°F (+70°C)
Storage Temperature Range		0-95%
Relative Humidity (non-condensing)		< 60 dBA @ 1 m at room temperature
Audible Noise		13,123 ft (4,000 m) Derating from 9,842.5 ft (3,000 m)
Operating Altitude		UL 1741:2010, UL 1699B, CSA-C22.2 #107.1-01, IEEE1547; FCC PART15; UL 1741SA
Safety Listings & Certifications		ETL
Testing Agency		
Mechanical		15 A standard (20, 25, 30 A accepted*)
15 Fused Positions (5 positions per MPPT)		Standard, fully-integrated
AC/DC Disconnect		Type 4X
Enclosure Rating		Polyester powder coated aluminum
Enclosure Finish		0-90° from horizontal (vertical, angled, flat)
Mounting Method**		39.4 x 23.6 x 10.24 in. (1,000 x 600 x 260 mm)
Dimensions (H x W x D)		Inverter: 123.5 lbs (56 kg); Wiring Box: 33 lbs (15 kg)
Weight		
Communications		Standard, Internal
Data Logger Hardware		Optional
SolrenView Monitoring Service		Optional, External
Revenue Grade Meter/Monitoring		RS-485 Modbus RTU
Communication Interface		Standard
Remote Firmware Upgrades		Standard
Remote Diagnostics		
Features & Protections		Standard
Arc-Fault Detection		L/HVRT, L/HFRT, Soft Start, Volt-Var, Frequency-Watt and Volt-Watt
Smart Grid Features		
Warranty		10 year
Standard		15, 20 year; extended service agreement
Optional		

*Yaskawa - Solectria Solar does not supply the optional fuses
 **Shade cover accessory required for installation angles of 75 degrees or less

YASKAWA
SOLECTRIA SOLAR

www.solectria.com | inverters@solectria.com | 978.683.9700

Q.PLUS L-G4.2 320-345

Q.ANTUM SOLAR MODULE

The Q.ANTUM solar module Q.PLUS L-G4.2 with power classes up to 345 Wp is the strongest module of its type on the market globally. Powered by 72 Q CELLS solar cells Q.PLUS L-G4.2 was specially designed for large solar power plants to reduce BOS costs. But there is even more to our polycrystalline modules. Only Q CELLS offers German engineering quality with our unique triple Yield Security.



LOW ELECTRICITY GENERATION COSTS

Higher yield per surface area and lower BOS costs thanks to higher power classes and an efficiency rate of up to 17.6 %.



INNOVATIVE ALL-WEATHER TECHNOLOGY

Optimal yields, whatever the weather with excellent low-light and temperature behavior.



ENDURING HIGH PERFORMANCE

Long-term yield security with Anti-PID Technology¹, Hot-Spot-Protect and Traceable Quality Tra.Q™.



LIGHT-WEIGHT QUALITY FRAME

High-tech aluminum alloy frame, certified for high snow (5400 Pa) and wind loads (2400 Pa).



A RELIABLE INVESTMENT

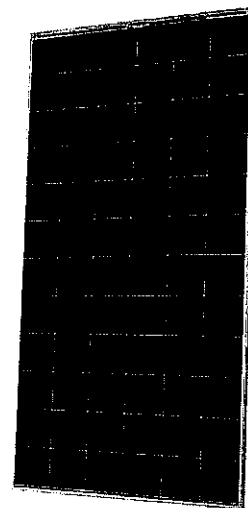
Inclusive 12-year product warranty and 25-year linear performance guarantee².

THE IDEAL SOLUTION FOR:



Ground-mounted solar power plants

Engineered in **Germany**



Q CELLS
Best polycrystalline solar module 2013
QPR-03 235
151 modules tested

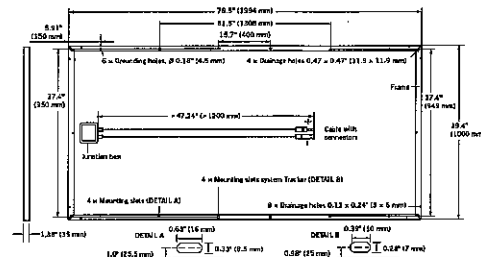
¹ APT test conditions: Cells at -1000V against grounded, with conductive metal foil covered module surface, 25 °C, 168h

² See data sheet on rear for further information.

 **CELLS**

MECHANICAL SPECIFICATION

Format	78.5 in × 39.4 in × 1.38 in (including frame) (1994 mm × 1000 mm × 35 mm)
Weight	52.9 lb (24 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Anodised aluminum
Cell	6 × 12 Q.ANTUM solar cells
Junction box	3.35-4.13 in × 2.36-3.15 in × 0.59-0.67 in (85-105 mm × 60-80 mm × 15-17 mm), Protection class ≥ IP67, with bypass diodes
Cable	4 mm ² Solar cable; (+) ≥ 47.24 in (1200 mm), (-) ≥ 47.24 in (1200 mm)
Connector	Amphenol H4, IP68



ELECTRICAL CHARACTERISTICS

POWER CLASS			320	325	330	335	340	345
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ (POWER TOLERANCE +5W / -0W)								
Minimum	Power at MPP ²	P _{MPP} [W]	320	325	330	335	340	345
	Short Circuit Current*	I _{SC} [A]	9.39	9.44	9.49	9.54	9.59	9.64
	Open Circuit Voltage*	V _{OC} [V]	46.17	46.43	46.68	46.94	47.20	47.46
	Current at MPP*	I _{MPP} [A]	8.79	8.85	8.91	8.97	9.03	9.09
	Voltage at MPP*	V _{MPP} [V]	36.39	36.70	37.02	37.33	37.63	37.93
	Efficiency ²	η [%]	≥16.0	≥16.3	≥16.5	≥16.8	≥17.1	≥17.3
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NOC ³								
Minimum	Power at MPP ²	P _{MPP} [W]	237.2	241.0	244.7	248.4	252.1	255.8
	Short Circuit Current*	I _{SC} [A]	7.57	7.61	7.65	7.69	7.73	7.77
	Open Circuit Voltage*	V _{OC} [V]	43.08	43.32	43.56	43.81	44.05	44.29
	Current at MPP*	I _{MPP} [A]	6.89	6.94	6.99	7.04	7.09	7.14
	Voltage at MPP*	V _{MPP} [V]	34.44	34.72	35.01	35.29	35.56	35.83

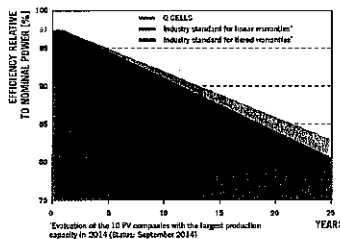
¹ 1000 W/m², 25°C, spectrum AM 1.5G

² Measurement tolerances STC ±3%; NOC ±5%

³ 800 W/m², NOCT, spectrum AM 1.5G

* typical values, actual values may differ

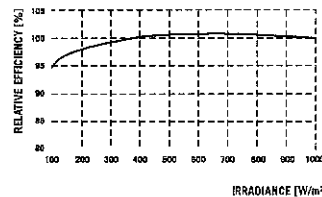
Q CELLS PERFORMANCE WARRANTY



At least 97 % of nominal power during first year. Thereafter max. 0.6% degradation per year.
At least 92 % of nominal power after 10 years.
At least 83 % of nominal power after 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Q CELLS sales organisation of your respective country.

PERFORMANCE AT LOW IRRADIANCE



The typical change in module efficiency at an irradiance of 200 W/m² in relation to 1000 W/m² (both at 25°C and AM 1.5G spectrum) is -1.5% (relative).

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I _{SC}	α	[%/K]	+0.04	Temperature Coefficient of V _{OC}	β	[%/K]	-0.29
Temperature Coefficient of P _{MPP}	γ	[%/K]	-0.40	Normal Operating Cell Temperature	NOCT	[°F]	113 ± 5.4 (45 ± 3 °C)

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V _{sys}	[V]	1500 (IEC) / 1500 (UL)	Safety Class	II
Maximum Series Fuse Rating	[A DC]	15	Fire Rating	C / Type 1
Max Load (UL) ²	[lbs/ft ²]	75 (3600 Pa)	Permitted module temperature on continuous duty	-40°F up to +185°F (-40°C up to +85°C)
Load Rating (UL) ²	[lbs/ft ²]	33 (1600 Pa)	² see installation manual	

QUALIFICATIONS AND CERTIFICATES

IEC 61215 (Ed.2); IEC 61730 (Ed.1), Application class A
This data sheet complies with DIN EN 50380.



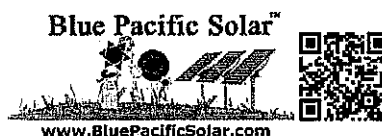
PACKAGING INFORMATION

Number of Modules per Pallet	29
Number of Pallets per 40' Container	22
Pallet Dimensions (L × W × H)	81.3 × 45.3 × 46.9 in (2065 × 1150 × 1190 mm)
Pallet Weight	1671 lbs (758 kg)

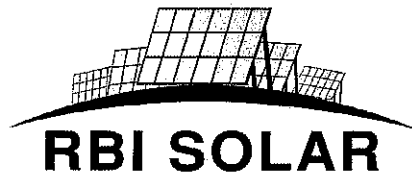
NOTE: Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product.

Hanwha Q CELLS USA Corp.
300 Spectrum Center Drive, Suite 1250, Irvine, CA 92618, USA | TEL +1 949 748 59 96 | EMAIL q-cells-usa@q-cells.com

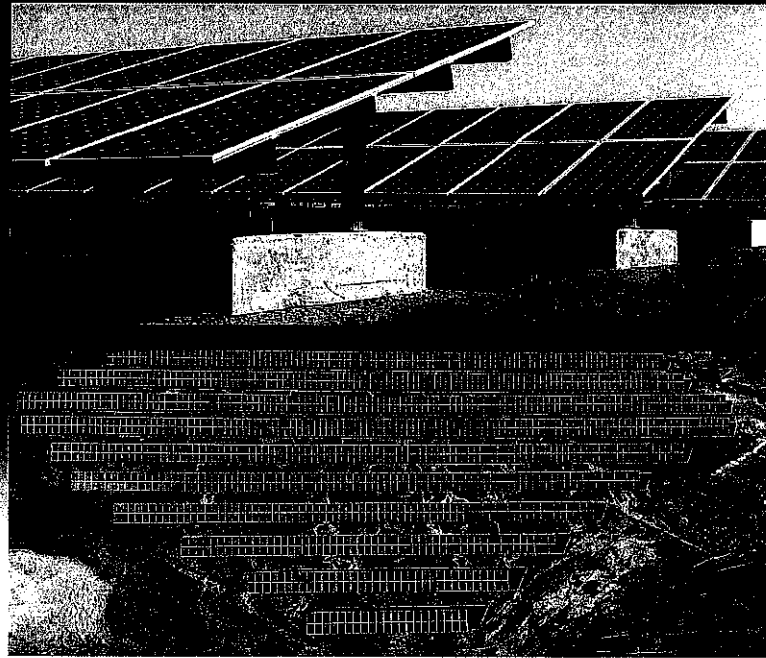
Engineered in Germany



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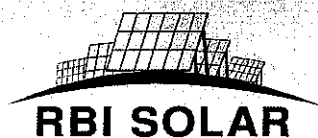


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RBI Solar's ground mount solar systems are designed and engineered for each customer's site specific conditions to minimize the field installation labor by eliminating field welding, drilling, or other on-site fabrication. Our meticulous project planning and precise execution combine to provide you with solar racking solutions that are tailored to the unique conditions of your location while reducing your overall total project costs. RBI provides a wide range of PV mounting systems in various sizes to offer freedom and flexibility to support every type of PV module.

Why choose RBI Solar?

Single-source solutions aide in reduction of overall total project costs

Streamlined production process

Wider selection of component parts

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Uses less steel without sacrificing strength

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Follow contours to mitigate civil/site work

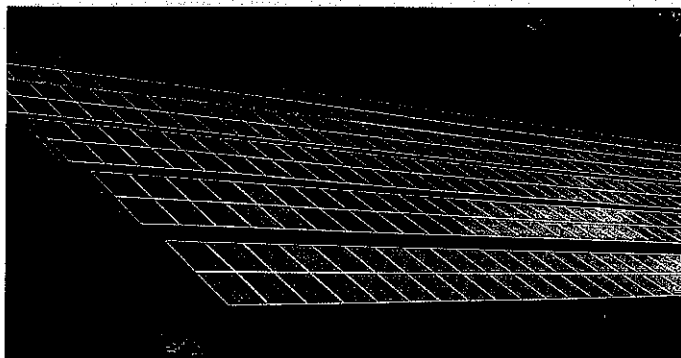
Nationwide installation services

ETL Classified to UL Standard 2703

20-yr limited warranty

85+ years manufacturing experience & bankable financial backing





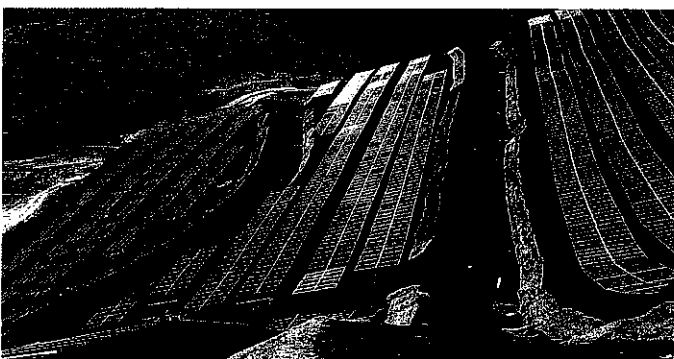
Ground Mount Solutions

- Customizable, site-specific solutions
- Multiple foundations available
- ETL classified to UL Standard 2703



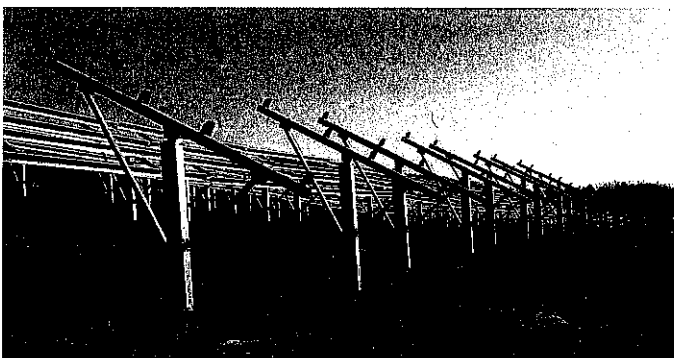
Ballasted Mounting Solutions

- Two ballast foundation offerings
- Perfect for landfills, brownfields and non-penetrable sites



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- Licensed in-house engineers
- Structural and foundation design
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- Code compliance
- On-site pile testing



Manufacturing

- Multiple manufacturing facilities
- National & International capabilities
- ARRA compliant availability

Installation

- Dedicated Project & Construction Managers
- Highly skilled & specialized installation crews
- Company-owned post driving equipment

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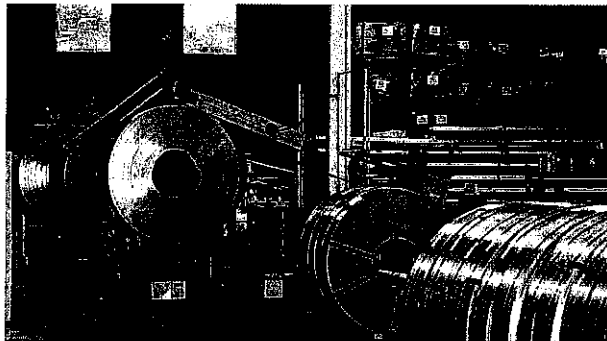
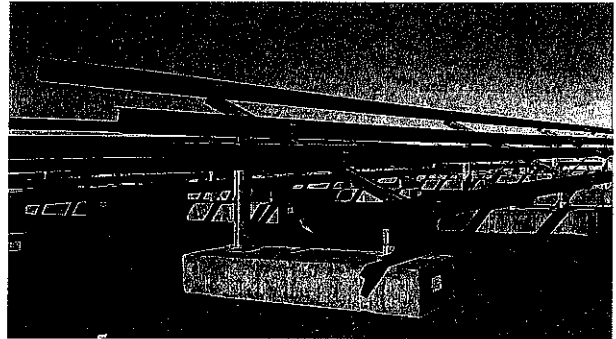
DESIGN

RBI Solar's in-house designers provides complete structural and foundation design. It is our focus to deliver the most effective and efficient racking solution for each project's site specific conditions.



ENGINEERING

Our licensed in-house engineers incorporate and analyze data from certified geotechnical reports, on-site pile testing and all applicable codes/loading considerations when designing each individual project.



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Having multiple state-of-the-art manufacturing facilities with vertical integration and refined manufacturing protocol, ensure RBI Solar delivers on overall quality of product with reduced lead times for material delivery to job sites.



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Certificate of Compliance

Certificate: 70145966

Master Contract: 259363

Project: 70145966

Date Issued: 2017-07-06

Issued to: Solectria Renewables,LLC
360 Marrimack St.Bldg 9,
Lawrence,
MA,01843,
USA

Attention: Mr. James Worden

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Issued by: Kyle Song
Kyle Song

PRODUCTS

CLASS - C531109 - POWER SUPPLIES-Distributed Generation Power Systems Equipment

CLASS - C531189 - POWER SUPPLIES-Distributed Generation-Power Systems Equipment - Certified to U.S. Standards

Transformerless Grid Support Utility Interactive Inverter, PVI 50TL-480 and PVI 60TL-480 permanently connected.

Note:

For details related to rating, size, configuration, etc., reference should be made to the CSA Certification Record, Certificate of Compliance Annex A, or the Descriptive Report.



Certificate: 70145966

Master Contract: 259363

Project: 70145966

Date Issued: 2017-07-06

APPLICABLE REQUIREMENTS

CSA C22.2 No. 107.1-01 - General Use Power Supplies

*UL 1741 - Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources (Second Edition, Revision September 7, 2016)

CSA TIL M-07 - Interim Certification Requirements for Photovoltaic (PV) DC Arc-Fault Protection (Issue Number 1, March 11, 2013)

UL 1699B - Outline of Investigation for Photovoltaic (PV) DC Arc-Fault Circuit Protection (Issue Number 2, January 14, 2013)

*Note: Conformity to UL 1741 (Second Edition, Revision September 7, 2016) includes compliance with applicable requirements of IEEE 1547-2003 (R2008), IEEE 1547.1-2005(R2011), California Rule 21 and Supplement SA.



Supplement to Certificate of Compliance

Certificate: 70145966

Master Contract: 259363

*The products listed, including the latest revision described below,
are eligible to be marked in accordance with the referenced Certificate.*

Product Certification History

Project	Date	Description		
70145966	2017-07-06	Multiple Listing.		
		Original Report	Model No.	Listee Model No
		70128097	CPS SCA50KTL-DO/US-480	PVI 50TL-480
		70128097	CPS SCA60KTL-DO/US-480	PVI 60TL-480

APPENDIX E
Stormwater Report

Stormwater Management Report for Hexagon Energy's Broadway Street Solar Site

Prepared for

Hexagon Energy, LLC

Prepared by

SWCA Environmental Consultants

October 2018



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



10-12-2018

Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

- ☒ New development
- ☐ Redevelopment
- ☐ Mix of New Development and Redevelopment



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Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- ☒ No disturbance to any Wetland Resource Areas
- ☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- ☐ Reduced Impervious Area (Redevelopment Only)
- ☐ Minimizing disturbance to existing trees and shrubs
- ☒ LID Site Design Credit Requested:
 - ☐ Credit 1
 - ☒ Credit 2
 - ☐ Credit 3
- ☒ Use of "country drainage" versus curb and gutter conveyance and pipe
- ☐ Bioretention Cells (includes Rain Gardens)
- ☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- ☐ Treebox Filter
- ☐ Water Quality Swale
- ☐ Grass Channel
- ☐ Green Roof
- ☐ Other (describe): _____

Standard 1: No New Untreated Discharges

- ☒ No new untreated discharges
- ☐ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- ☐ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.



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Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

- ☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.
- ☐ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.
- ☒ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

- ☐ Soil Analysis provided.
- ☐ Required Recharge Volume calculation provided.
- ☒ Required Recharge volume reduced through use of the LID site Design Credits.
- ☐ Sizing the infiltration, BMPs is based on the following method: Check the method used.
 - ☐ Static
 - ☐ Simple Dynamic
 - ☐ Dynamic Field¹
- ☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.
- ☐ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.
- ☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.
- ☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:
 - ☐ Site is comprised solely of C and D soils and/or bedrock at the land surface
 - ☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
 - ☐ Solid Waste Landfill pursuant to 310 CMR 19.000
 - ☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.
- ☐ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.
- ☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

¹ 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.



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Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

- ☐ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.
- ☐ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
 - Provisions for storing materials and waste products inside or under cover;
 - Vehicle washing controls;
 - Requirements for routine inspections and maintenance of stormwater BMPs;
 - Spill prevention and response plans;
 - Provisions for maintenance of lawns, gardens, and other landscaped areas;
 - Requirements for storage and use of fertilizers, herbicides, and pesticides;
 - Pet waste management provisions;
 - Provisions for operation and management of septic systems;
 - Provisions for solid waste management;
 - Snow disposal and plowing plans relative to Wetland Resource Areas;
 - Winter Road Salt and/or Sand Use and Storage restrictions;
 - Street sweeping schedules;
 - Provisions for prevention of illicit discharges to the stormwater management system;
 - Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
 - Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
 - List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.
- ☐ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.
 - ☐ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:
 - ☐ is within the Zone II or Interim Wellhead Protection Area
 - ☐ is near or to other critical areas
 - ☐ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
 - ☐ involves runoff from land uses with higher potential pollutant loads.
 - ☒ The Required Water Quality Volume is reduced through use of the LID site Design Credits.
 - ☐ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.



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Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

- ☐ The BMP is sized (and calculations provided) based on:
 - ☐ The ½" or 1" Water Quality Volume or
 - ☐ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.
- ☐ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.
- ☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

- ☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.
- ☐ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted **prior** to the discharge of stormwater to the post-construction stormwater BMPs.
- ☒ The NPDES Multi-Sector General Permit does **not** cover the land use.
- ☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.
- ☐ All exposure has been eliminated.
- ☐ All exposure has **not** been eliminated and all BMPs selected are on MassDEP LUHPPL list.
- ☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

- ☐ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.
- ☐ Critical areas and BMPs are identified in the Stormwater Report.



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Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

- ☐ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:
 - ☐ Limited Project
 - ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
 - ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
 - ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
 - ☐ Bike Path and/or Foot Path
 - ☐ Redevelopment Project
 - ☐ Redevelopment portion of mix of new and redevelopment.
- ☐ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.
- ☐ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
 - Construction Period Operation and Maintenance Plan;
 - Names of Persons or Entity Responsible for Plan Compliance;
 - Construction Period Pollution Prevention Measures;
 - Erosion and Sedimentation Control Plan Drawings;
 - Detail drawings and specifications for erosion control BMPs, including sizing calculations;
 - Vegetation Planning;
 - Site Development Plan;
 - Construction Sequencing Plan;
 - Sequencing of Erosion and Sedimentation Controls;
 - Operation and Maintenance of Erosion and Sedimentation Controls;
 - Inspection Schedule;
 - Maintenance Schedule;
 - Inspection and Maintenance Log Form.
- ☒ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.



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Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

- ☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has **not** been included in the Stormwater Report but will be submitted **before** land disturbance begins.
- ☐ The project is **not** covered by a NPDES Construction General Permit.
- ☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.
- ☒ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

- ☐ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:
 - ☐ Name of the stormwater management system owners;
 - ☐ Party responsible for operation and maintenance;
 - ☐ Schedule for implementation of routine and non-routine maintenance tasks;
 - ☐ Plan showing the location of all stormwater BMPs maintenance access areas;
 - ☐ Description and delineation of public safety features;
 - ☐ Estimated operation and maintenance budget; and
 - ☐ Operation and Maintenance Log Form.
- ☐ The responsible party is **not** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:
 - ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
 - ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

- ☐ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;
- ☐ An Illicit Discharge Compliance Statement is attached;
- ☐ NO Illicit Discharge Compliance Statement is attached but will be submitted **prior to** the discharge of any stormwater to post-construction BMPs.

STORMWATER MANAGEMENT REPORT FOR HEXAGON ENERGY'S BROADWAY STREET SOLAR SITE

Prepared for

Hexagon Energy, LLC
722 Preston Avenue, Suite 102
Charlottesville, VA 22903

Prepared by

SWCA Environmental Consultants
15 Research Drive
Amherst, MA 01002



October 2018

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ATTACHMENTS

- A. NRCS Soil Survey Data
- B. NOAA Atlas 14 Precipitation Values
- C. Existing HydroCAD Output
- D. Proposed HydroCAD Output

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1. INTRODUCTION

The following narrative describes the stormwater management analysis for the proposed solar generating facility to be constructed at 1037 Broadway in Haverhill, MA. This submittal is intended to address both the State and Local rules addressing stormwater management. This application seeks authorization to discharge under the jurisdiction of the Haverhill Planning Board Guidelines and the MADEP Stormwater Standards. The proposed impervious cover consists of one concrete equipment pad.

The area where the solar arrays are proposed is a mix of forested areas and open fields. The area within the panel footprint will be transitioned to a native meadow ground cover.

2. PROJECT DESCRIPTION

SWCA Environmental Consultants has prepared this hydrologic analysis for an approximately 250 kW (AC) solar energy collection system to be installed on an existing wooded and open field area off of Broadway in the Town of Haverhill. The pile-driven system will be installed on the subject site as shown in the project drawings.

The system will be located on Parcel 574-1-16 (17.5 acres). The property where the work will be completed is owned by Louise Boyland. The interconnection will be on Broadway near the proposed entrance.

3. RECEIVING WATERS

In general, surface water flows outward south and east from the site to upland and wetland areas surrounding the site. As shown on Sheet 6.0 (Existing Hydrology) this was analyzed with a series of subwatersheds numbered sequentially across the project area. There was no central body of water that was considered a receiving water so the boundaries of the parcel or wetland line were used as final points of discharge for the purposes of analysis and permitting definition.

4. EXISTING CONDITIONS

As noted the site is a mix of existing wooded areas and open fields/pasture land. There is no formal stormwater system on the existing site.

Soils within the study limits are a mix of Hydrologic Soil Groups (HSG). The following map units were identified in the project area by NRCS soil mapping. Any soils with a dual HSG rating were assumed to be in the undrained (lower) condition.

Table 1. NRCS Map Units and Hydrologic Soil Groups for Analysis Area

SOIL MAP UNIT	HYDROLOGIC SOIL GROUP	MAP UNIT NAME
300B	C	Montauk Fine Sandy Loam
310B	D	Woodbridge Fine Sandy Loam (Rated C/D)

Sheets 6.0 and 6.1 show the location of NRCS mapped soil units on site and their hydrologic soil groups. In addition to the soils information presented on the drawings the output from the NRCS online mapping is included as Attachment A.

5. EXISTING DRAINAGE

The site is currently inactive with no formal drainage management. The existing project area was divided into multiple subcatchments for modeling of the site hydrology. The existing subwatershed drainage boundaries, time of concentration flow paths, soil types, and land use are shown in plan view and listed in the summary table on Sheet 6.0.

The predicted flows from the existing 11.4 acre analysis area were calculated for the 2, 10, and 100 year design events, using the NOAA Atlas 14 rainfall data for this location (3.2", 5.0", and 7.9" respectively). The precipitation reference is included as Attachment B.

The existing flows for each subcatchment and the entire site are shown below. For the modeled return events, the "Site Total" value for both pre- and post-construction is the arithmetic sum of the peak flows from each subwatershed (as opposed to a modeled total that would account for timing). The HydroCAD modeling output for existing conditions is included as Attachment C. The summary table on Sheet 6.0 also presents the acreage, curve number, and time of concentration for each subcatchment.

Table 2. Existing Conditions Inputs and Modeled Flows by Subcatchment

Subwatershed	Area (AC)	CN	TC (MIN)	2-Year Peak Flow (CFS)	10-Year Peak Flow (CFS)	100-Year Flow (CFS)
1	1.94	73	6	2.1	5.1	10.6
2	3.31	78	9	4.3	9.3	18.0
3	4.76	74	18	3.8	9.2	19.0
4	1.39	79	7	2.0	4.3	8.3
Site Total	11.40	76		12.2	27.9	55.9

6. PROPOSED STORMWATER MANAGEMENT

6.1. Design Constraints

As described above, the proposed project site is wooded with a portion as field and pasture. The conversion of the current land use to a deep rooted pollinator meadow is accounted for in the modeling, with the assumption that these areas will be transitioned to a native seed mix. The area inside the fence is categorized as a meadow cover type.

6.2. Summary of Impervious Acreages

According to the MADEP Stormwater Standards and the Haverhill Planning Board rules the applicant seeks authorization to construct impervious cover consisting of one equipment pad on the south side of the project

area. There is a gravel access road proposed for the project from Broadway to reach the array. There is only a limited amount of new impervious cover proposed for the project (~650 sq-ft).

7. COMPLIANCE WITH THE STORMWATER STANDARDS

Each of the MADEP Stormwater Standards is summarized below, refer to the completed checklist placed inside the front cover for additional information for each criteria. The project encroaches on wetland buffer areas, which is addressed in a Notice of Intent (NOI) that will be submitted to MassDEP and the Town Conservation Commission. No wetland impacts are proposed.

7.1. LID Site Design Credits

The equipment pad and enclosures will be draining towards qualified pervious areas within the project. The Applicant requests that LID Site Design Credit 2 be considered and granted for this application. For Credit 2, the site design provides for rooftop runoff to be directed to a qualified pervious area. In this case the equipment pads and enclosures can be considered rooftops, with a vegetated pervious surface present in the adjacent area.

7.2. Standard 1: No New Untreated Discharges

There are no outlets proposed for this project.

7.3. Standard 2: Peak Rate Attenuation

HydroCAD modeling software was used to determine the predicted peak flow rates for each of the subcatchments using the previously stated ground cover assumptions. The table below presents the modeled flow rates for each design storm, these values along with the proposed conditions curve numbers, times of concentration, and subwatershed areas are also shown in the summary table on Sheet 6.1.

Proposed conditions flows for the project site are predicted to be equal or less than existing conditions for the design storms modeled after a retention basin was accounted for at the south end of the access road. This will collect drainage from the eastern portion of the array and the entire length of the access road. Presented below are the predicted proposed conditions flows. A percentage comparison of the pre- and post-development flows is also included. The full HydroCAD modeling output for proposed conditions is included as Attachment D.

Table 3. Proposed Conditions Inputs and Modeled Flows by Subcatchment.

Subwatershed	Area (AC)	CN	TC (MIN)	2-Year Peak Flow (CFS)	10-Year Peak Flow (CFS)	100-Year Flow (CFS)
1	1.94	73	6	2.1	5.1	10.6
2	3.31	78	16	3.6	7.8	15.2
3	4.76	74	24	3.4	8.2	16.8
4	1.39	81	12	1.9	4.0	7.4
Site Total	11.40	76		11.0	25.1	50.0
% Change	0			-10%	-10%	-11%

7.4. Standard 3: Recharge

As noted above LID Site Design Credit 2 is requested to acknowledge the fact that the proposed impervious equipment pad and enclosures will be directed towards qualified pervious areas. This would satisfy standard 3.

7.5. Standard 4: Water Quality

As noted above LID Site Design Credit 2 is requested to acknowledge the fact that the proposed impervious equipment pad and enclosures will be directed towards qualified pervious areas. This would satisfy standard 4.

7.6. Standard 5: Land Uses with Higher Potential Pollutant Loads (LUHPPLs)

This project is not considered an industrial discharge associated with the Multi-Sector General Permit and its relevant Standard Industrial Classification (SIC) codes. There are no LUHPPLs proposed as part of this project.

7.7. Standard 6: Critical Areas

This parcel is not located in a Zone II or Interim Wellhead Protection Area. The project is not proposing to discharge to or in close proximity to a critical area.

7.8. Standard 7: Redevelopment

This project is not considered a redevelopment project with respect to the State stormwater definition of property "redevelopment".

7.9. Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

Although a Stormwater Pollution Prevention Plan is not included with this submittal, it will be required prior to commencing earth disturbance activities. The permit plan set does include plan sheets that show the location of proposed erosion prevention and sediment control measures. This is accompanied by a details sheet with construction phase notes. The proposed planting for the project and final stabilization measures are also shown on the Site Plans.

As noted, the SWPPP will be prepared and submitted prior to commencing construction. The SWPPP will have a detailed description of the measures proposed for preventing erosion and controlling sedimentation. The general plan for preventing erosion and controlling sediment will generally proceed as follows.

Erosion control measures shall be installed and operational prior to significant vegetation clearing or earth disturbance. Installed measures shall be inspected weekly and after heavy rains by a qualified professional experienced in erosion and sedimentation control techniques until the site is completely stabilized.

It is the Contractor's responsibility not to undertake more than that magnitude of work that can be safely and adequately controlled by the methods at their disposal. The Contractor's approach must emphasize preventing erosion before it occurs as opposed to treating sediment-laden stormwater runoff.

The Contractor shall immediately correct all deficiencies, including, but not limited, to washout, overtopping, clogging due to sediment, and erosion. The contractor shall review the location of erosion control barriers in areas where construction activity causes drainage runoff to ensure that they are properly located for effectiveness. Where deficiencies exist, such as overtopping or washout, additional staking or compost material shall be installed. Contractor shall remove sediment deposits when they reach 50% capacity/depth.

Any exposed soils shall be stabilized with a covering of straw mulch, or a temporary cover of rye or other grass to prevent erosion and sedimentation. Drainage ditches, if applicable, shall be hydro-seeded with a perennial grass mixture. Any stabilization materials such as jute netting shall be firmly anchored to prevent them from being washed from slopes by rain or flooding. Preference should be given to biodegradable materials.

Typical stabilization practices that may be implemented at the site include the following:

- Temporary Stabilization:

- temporary or permanent seeding
- straw mulching
- hydroseeding w/tackifier
- erosion control blankets
- soil roughening

- Perimeter Controls:

- silt fence
- straw bales
- wattles

- Stabilized Construction Entrance (anti-tracking pad)

- Dust Control

- Sediment Basin

7.10. Standard 9: Operation and Maintenance Plan

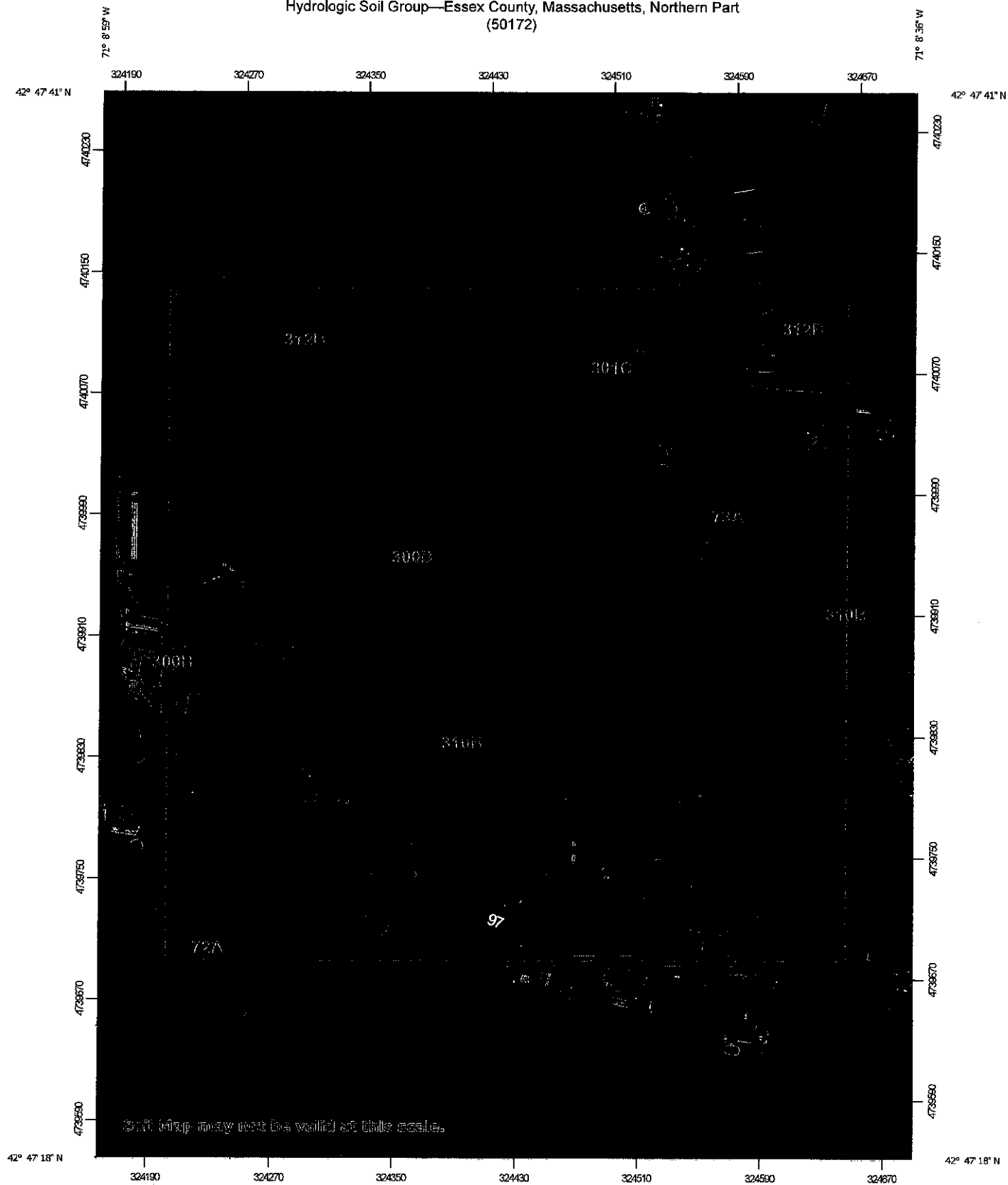
A plan for operation and maintenance is not included as there is no formal stormwater system proposed.

7.11. Standard 10: Prohibition of Illicit Discharges

There shall be no illicit discharges to the site or surrounding receiving waters or wetlands, which could include but is not limited to wastewater discharges, discharge of stormwater contaminated by contact with process wastes, raw materials, toxic pollutants, hazardous substances, oil, or grease.

ATTACHMENT A
NRCS Soil Survey Data

Hydrologic Soil Group—Essex County, Massachusetts, Northern Part (50172)



Do not map away from the wall at this scale.

Map Scale: 1:3,430 if printed on A portrait (8.5" x 11") sheet.



0 50 100 200 300 Meters

0 150 300 600 900 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84


































Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

9/28/2018
Page 1 of 4

Hydrologic Soil Group—Essex County, Massachusetts, Northern Part
(50172)

MAP LEGEND

	Area of Interest (AOI)		A
	A/D		C/D
	B		D
	B/D		Not rated or not available
	C		
	C/D		
	D		
	Not rated or not available		
Soil Rating Lines		Water Features	
	A		Streams and Canals
	A/D		
	B	Transportation	
	B/D		Rails
	C		Interstate Highways
	C/D		US Routes
	D		Major Roads
	Not rated or not available		Local Roads
Soil Rating Points		Background	
	A		Aerial Photography
	A/D		
	B		
	B/D		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Essex County, Massachusetts, Northern Part
Survey Area Data: Version 14, Sep 7, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 29, 2014—Sep 19, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
72A	Whitman loam, 0 to 3 percent slopes	D	0.3	0.5%
73A	Whitman fine sandy loam, 0 to 3 percent slopes, extremely stony	D	9.8	20.2%
300B	Montauk fine sandy loam, 3 to 8 percent slopes	C	6.2	12.7%
301C	Montauk fine sandy loam, 8 to 15 percent slopes, very stony	C	2.4	4.9%
310B	Woodbridge fine sandy loam, 3 to 8 percent slopes	C/D	26.6	54.5%
312B	Woodbridge fine sandy loam, 0 to 8 percent slopes, extremely stony	C/D	3.5	7.2%
Totals for Area of Interest			48.7	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

ATTACHMENT B
NOAA Atlas 14 Precipitation Values



NOAA Atlas 14, Volume 10, Version 2
Location name: Haverhill, Massachusetts, USA*
Latitude: 42.7914°, Longitude: -71.1466°
Elevation: 180.35 ft**
* source: ESRI Maps
** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps & aeriels](#)

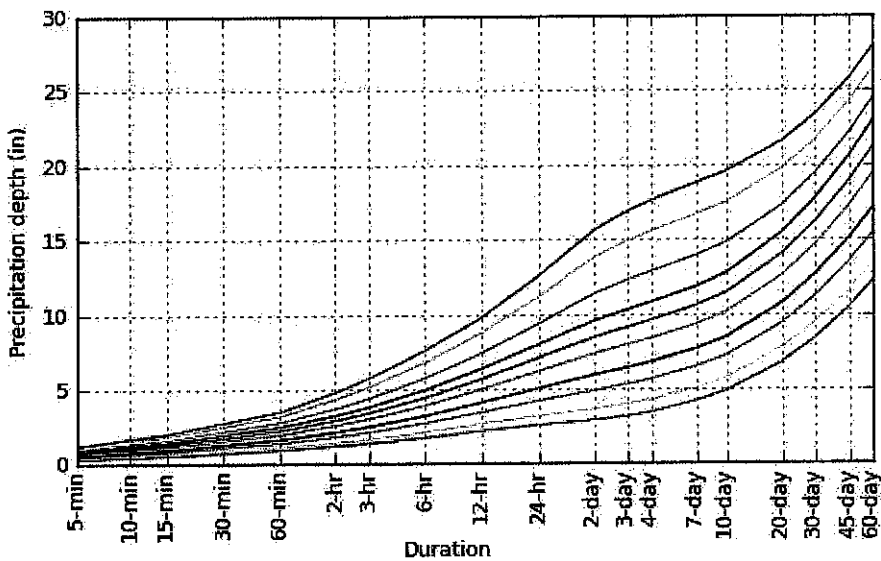
PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.311 (0.241-0.395)	0.371 (0.287-0.471)	0.468 (0.362-0.597)	0.549 (0.422-0.704)	0.660 (0.491-0.884)	0.746 (0.544-1.02)	0.832 (0.589-1.18)	0.937 (0.630-1.36)	1.08 (0.697-1.61)	1.18 (0.747-1.81)
10-min	0.440 (0.342-0.560)	0.525 (0.407-0.668)	0.663 (0.512-0.846)	0.778 (0.597-0.998)	0.935 (0.696-1.25)	1.06 (0.771-1.44)	1.18 (0.835-1.67)	1.33 (0.893-1.92)	1.52 (0.987-2.28)	1.67 (1.06-2.56)
15-min	0.518 (0.402-0.658)	0.618 (0.479-0.785)	0.780 (0.603-0.995)	0.915 (0.703-1.17)	1.10 (0.819-1.47)	1.24 (0.907-1.70)	1.39 (0.982-1.96)	1.56 (1.05-2.26)	1.79 (1.16-2.69)	1.97 (1.25-3.01)
30-min	0.713 (0.554-0.907)	0.850 (0.659-1.08)	1.07 (0.829-1.37)	1.26 (0.967-1.62)	1.52 (1.13-2.03)	1.71 (1.25-2.34)	1.91 (1.35-2.70)	2.15 (1.45-3.11)	2.47 (1.60-3.70)	2.71 (1.71-4.14)
60-min	0.909 (0.705-1.16)	1.08 (0.839-1.38)	1.37 (1.06-1.75)	1.60 (1.23-2.06)	1.93 (1.44-2.58)	2.18 (1.59-2.98)	2.43 (1.72-3.44)	2.74 (1.84-3.96)	3.14 (2.03-4.71)	3.45 (2.18-5.27)
2-hr	1.17 (0.915-1.48)	1.40 (1.10-1.78)	1.78 (1.39-2.26)	2.10 (1.62-2.68)	2.54 (1.90-3.39)	2.87 (2.11-3.92)	3.21 (2.30-4.56)	3.67 (2.48-5.30)	4.29 (2.79-6.40)	4.76 (3.02-7.24)
3-hr	1.35 (1.06-1.70)	1.63 (1.28-2.05)	2.08 (1.62-2.63)	2.45 (1.90-3.12)	2.97 (2.24-3.96)	3.36 (2.49-4.59)	3.76 (2.72-5.35)	4.34 (2.94-6.24)	5.11 (3.33-7.60)	5.70 (3.62-8.63)
6-hr	1.72 (1.36-2.16)	2.09 (1.65-2.62)	2.69 (2.11-3.38)	3.18 (2.49-4.02)	3.86 (2.93-5.13)	4.39 (3.27-5.97)	4.92 (3.58-6.97)	5.71 (3.88-8.16)	6.76 (4.41-9.99)	7.55 (4.82-11.4)
12-hr	2.16 (1.72-2.68)	2.64 (2.09-3.28)	3.42 (2.71-4.27)	4.07 (3.20-5.11)	4.96 (3.79-6.55)	5.65 (4.23-7.64)	6.34 (4.63-8.94)	7.37 (5.02-10.5)	8.73 (5.72-12.8)	9.76 (6.25-14.6)
24-hr	2.55 (2.04-3.15)	3.17 (2.53-3.92)	4.17 (3.33-5.19)	5.01 (3.97-6.26)	6.16 (4.74-8.11)	7.05 (5.32-9.50)	7.94 (5.85-11.2)	9.32 (6.37-13.2)	11.1 (7.32-16.3)	12.5 (8.04-18.6)
2-day	2.87 (2.31-3.53)	3.63 (2.93-4.47)	4.88 (3.92-6.02)	5.91 (4.72-7.34)	7.33 (5.69-9.62)	8.43 (6.42-11.3)	9.53 (7.10-13.4)	11.4 (7.80-16.0)	13.8 (9.08-20.0)	15.6 (10.1-23.1)
3-day	3.14 (2.55-3.85)	3.96 (3.21-4.86)	5.30 (4.27-6.52)	6.41 (5.14-7.94)	7.94 (6.18-10.4)	9.12 (6.97-12.2)	10.3 (7.70-14.5)	12.3 (8.45-17.2)	14.9 (9.85-21.6)	16.9 (10.9-24.9)
4-day	3.41 (2.77-4.17)	4.25 (3.45-5.21)	5.64 (4.56-6.92)	6.78 (5.45-8.37)	8.36 (6.53-10.9)	9.57 (7.34-12.8)	10.8 (8.09-15.1)	12.8 (8.85-17.9)	15.6 (10.3-22.5)	17.6 (11.4-25.9)
7-day	4.15 (3.39-5.05)	5.03 (4.11-6.12)	6.46 (5.26-7.90)	7.65 (6.19-9.40)	9.29 (7.29-12.0)	10.6 (8.12-14.0)	11.8 (8.87-16.4)	13.9 (9.63-19.3)	16.7 (11.1-24.0)	18.8 (12.1-27.5)
10-day	4.83 (3.96-5.85)	5.73 (4.70-6.96)	7.20 (5.88-8.78)	8.43 (6.84-10.3)	10.1 (7.95-13.0)	11.4 (8.79-15.0)	12.7 (9.52-17.5)	14.8 (10.3-20.4)	17.5 (11.6-25.0)	19.5 (12.7-28.5)
20-day	6.76 (5.60-8.16)	7.76 (6.41-9.37)	9.39 (7.72-11.4)	10.7 (8.78-13.1)	12.6 (9.92-16.0)	14.0 (10.8-18.2)	15.5 (11.5-20.8)	17.3 (12.1-23.8)	19.8 (13.2-28.1)	21.6 (14.0-31.3)
30-day	8.38 (6.96-10.1)	9.45 (7.84-11.4)	11.2 (9.26-13.5)	12.7 (10.4-15.4)	14.7 (11.6-18.5)	16.2 (12.5-20.8)	17.7 (13.1-23.5)	19.4 (13.6-26.6)	21.7 (14.6-30.7)	23.4 (15.2-33.8)
45-day	10.4 (8.70-12.5)	11.6 (9.66-13.9)	13.5 (11.2-16.2)	15.1 (12.4-18.2)	17.2 (13.6-21.5)	18.9 (14.5-24.1)	20.6 (15.2-26.9)	22.1 (15.6-30.1)	24.2 (16.3-34.1)	25.8 (16.8-37.1)
60-day	12.2 (10.2-14.5)	13.4 (11.2-16.0)	15.4 (12.8-18.5)	17.1 (14.1-20.6)	19.4 (15.4-24.1)	21.1 (16.9-26.8)	22.9 (16.9-29.8)	24.4 (17.2-33.1)	26.4 (17.8-37.1)	27.9 (18.2-40.1)
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.										

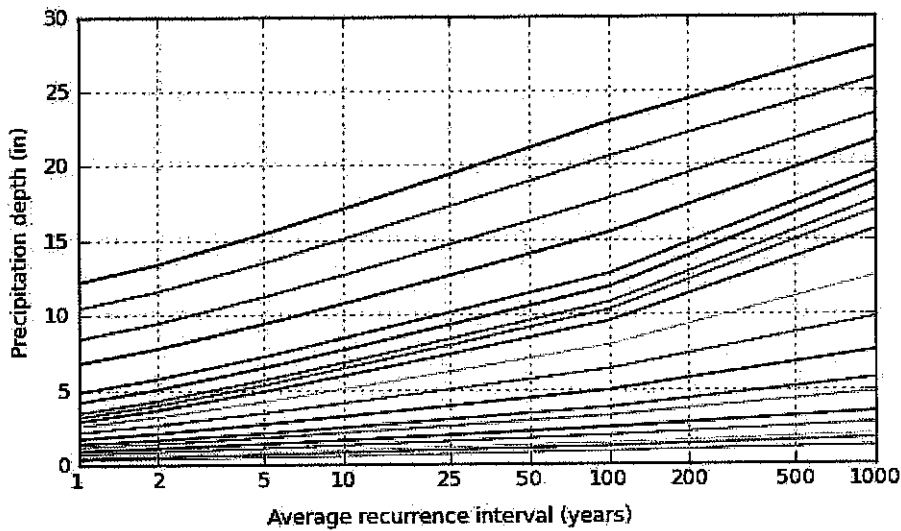
[Back to Top](#)

PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 42.7914°, Longitude: -71.1466°



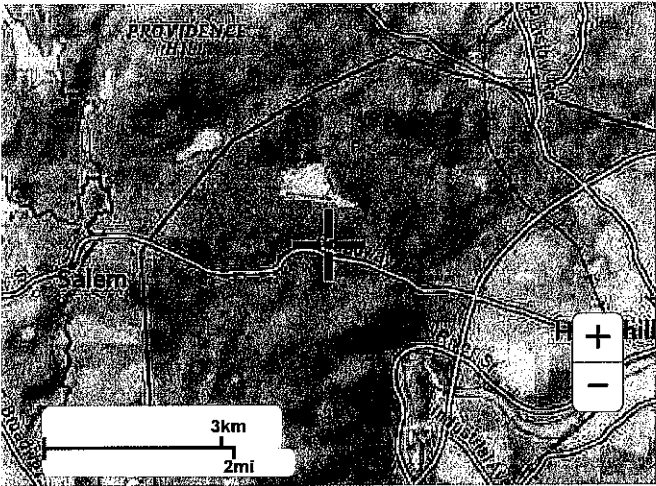
Average recurrence interval (years)	
1	—
2	—
5	—
10	—
25	—
50	—
100	—
200	—
500	—
1000	—



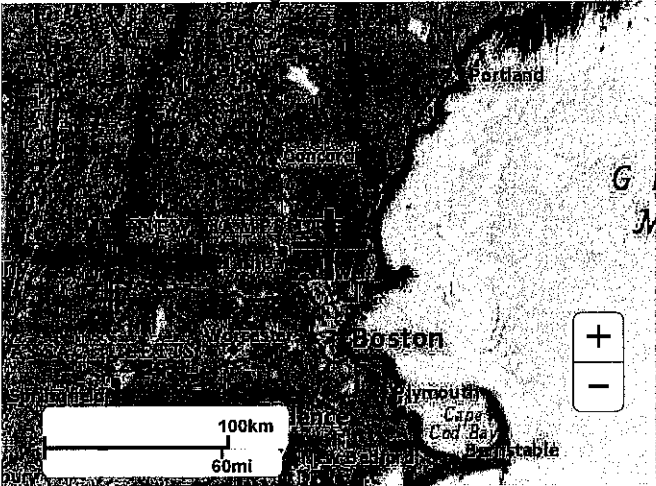
Duration	
5-min	—
10-min	—
15-min	—
30-min	—
60-min	—
2-hr	—
3-hr	—
6-hr	—
12-hr	—
24-hr	—
2-day	—
3-day	—
4-day	—
7-day	—
10-day	—
20-day	—
30-day	—
45-day	—
60-day	—

Maps & aerials

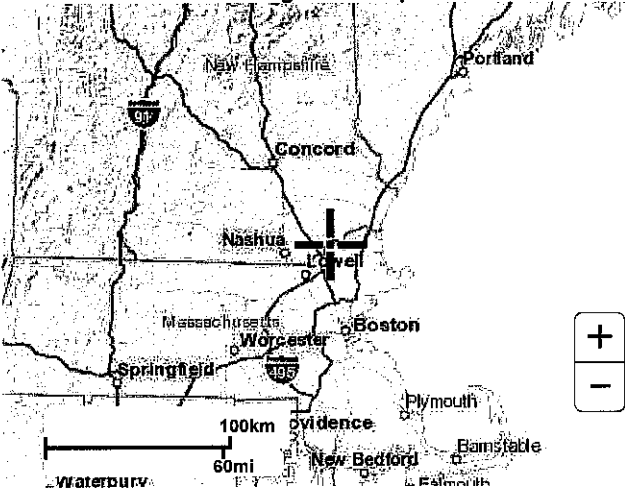
Small scale terrain



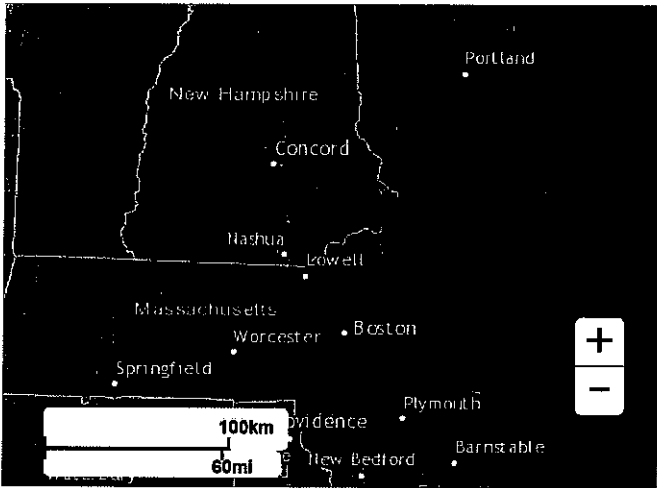
Large scale terrain



Large scale map



Large scale aerial

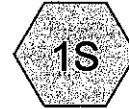


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ATTACHMENT C
Existing HydroCAD Output



1



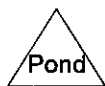
3



2



4



Routing Diagram for 50172_WILDFLOWER-EX

Prepared by SWCA, Printed 10/11/2018

HydroCAD® 10.00-22 s/n 08712 © 2018 HydroCAD Software Solutions LLC

50172_WILDFLOWER-EX

Prepared by SWCA

Printed 10/11/2018

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Page 2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
64,559	74	Pasture/grassland/range, Good, HSG C (2S, 3S)
123,886	80	Pasture/grassland/range, Good, HSG D (1S, 2S, 3S)
145,239	70	Woods, Good, HSG C (1S, 2S, 3S)
102,210	77	Woods, Good, HSG D (1S, 2S, 3S)
60,407	79	Woods/grass comb., Good, HSG D (4S)
496,301	76	TOTAL AREA

50172_WILDFLOWER-EX

Prepared by SWCA

Printed 10/11/2018

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Page 3

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
209,798	HSG C	1S, 2S, 3S
286,503	HSG D	1S, 2S, 3S, 4S
0	Other	
496,301		TOTAL AREA

50172_WILDFLOWER-EX

Type III 24-hr 2-YEAR Rainfall=3.20"

Prepared by SWCA

Printed 10/11/2018

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Page 4

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: 1

Runoff Area=84,596 sf 0.00% Impervious Runoff Depth=0.98"

Flow Length=170' Slope=0.0350 '/' Tc=5.5 min CN=73 Runoff=2.09 cfs 6,928 cf

Subcatchment 2S: 2

Runoff Area=144,017 sf 0.00% Impervious Runoff Depth=1.27"

Flow Length=400' Slope=0.0300 '/' Tc=9.1 min CN=78 Runoff=4.27 cfs 15,282 cf

Subcatchment 3S: 3

Runoff Area=207,281 sf 0.00% Impervious Runoff Depth=1.04"

Flow Length=1,140' Slope=0.0350 '/' Tc=17.9 min CN=74 Runoff=3.83 cfs 17,922 cf

Subcatchment 4S: 4

Runoff Area=60,407 sf 0.00% Impervious Runoff Depth=1.34"

Flow Length=450' Slope=0.0600 '/' Tc=7.1 min CN=79 Runoff=2.03 cfs 6,729 cf

Total Runoff Area = 496,301 sf Runoff Volume = 46,861 cf Average Runoff Depth = 1.13"**100.00% Pervious = 496,301 sf 0.00% Impervious = 0 sf**

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Type III 24-hr 2-YEAR Rainfall=3.20"

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Summary for Subcatchment 1S: 1[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 2.09 cfs @ 12.10 hrs, Volume= 6,928 cf, Depth= 0.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, $dt=0.05$ hrs

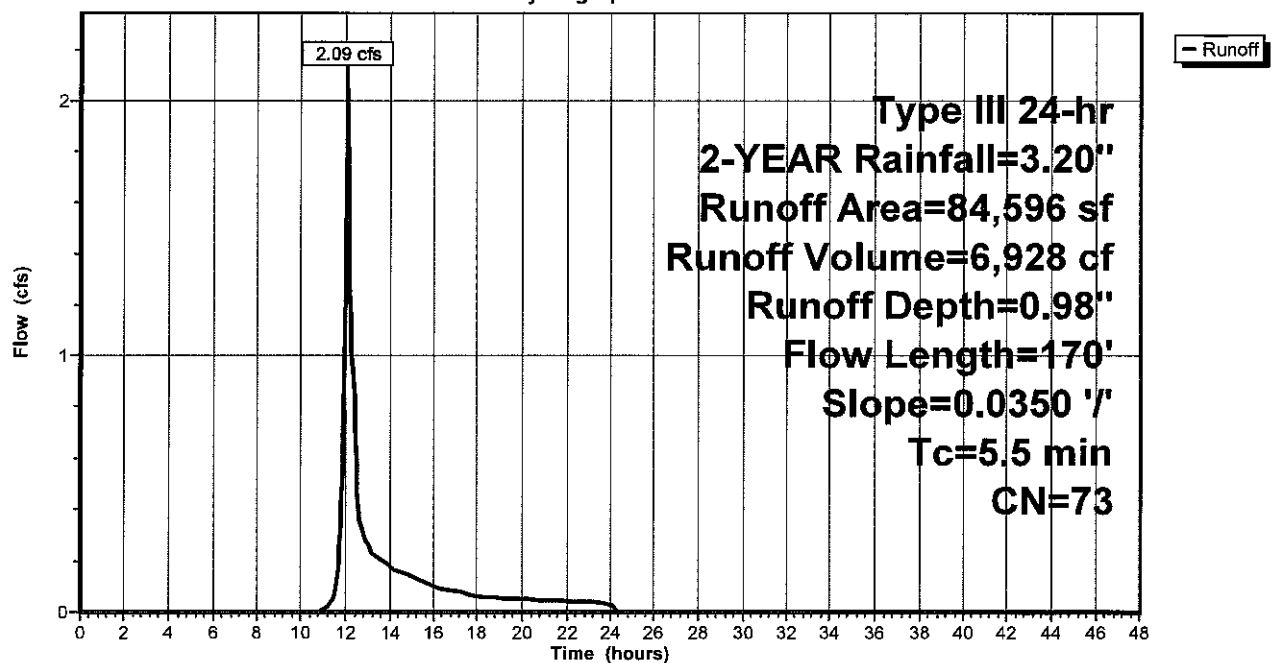
Type III 24-hr 2-YEAR Rainfall=3.20"

Area (sf)	CN	Description
46,059	70	Woods, Good, HSG C
34,048	77	Woods, Good, HSG D
4,489	80	Pasture/grassland/range, Good, HSG D
84,596	73	Weighted Average
84,596		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	50	0.0350	0.21		Sheet Flow, Range $n=0.130$ $P_2=3.20"$
1.5	120	0.0350	1.31		Shallow Concentrated Flow, Short Grass Pasture $K_v=7.0$ fps
5.5	170	Total			

Subcatchment 1S: 1

Hydrograph



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Type III 24-hr 2-YEAR Rainfall=3.20"

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Summary for Subcatchment 2S: 2

Runoff = 4.27 cfs @ 12.14 hrs, Volume= 15,282 cf, Depth= 1.27"

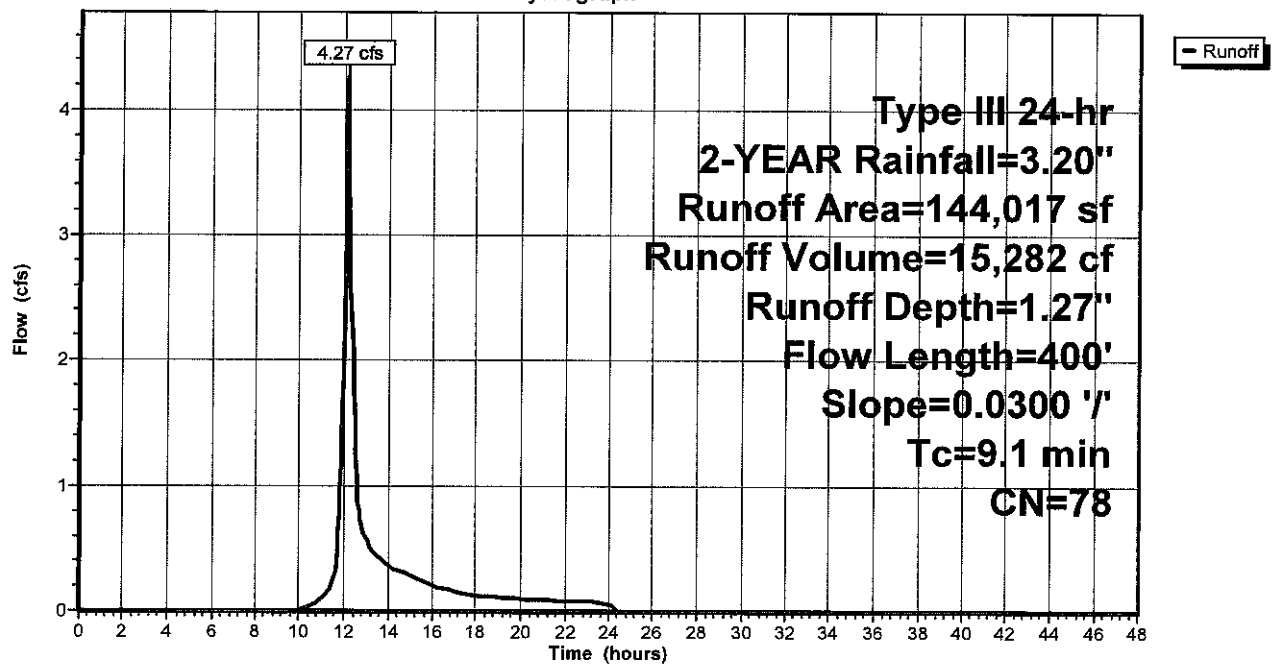
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YEAR Rainfall=3.20"

Area (sf)	CN	Description
13,032	70	Woods, Good, HSG C
30,774	77	Woods, Good, HSG D
14,314	74	Pasture/grassland/range, Good, HSG C
85,897	80	Pasture/grassland/range, Good, HSG D
144,017	78	Weighted Average
144,017		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	50	0.0300	0.20		Sheet Flow, Range n= 0.130 P2= 3.20"
4.8	350	0.0300	1.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
9.1	400	Total			

Subcatchment 2S: 2

Hydrograph



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Type III 24-hr 2-YEAR Rainfall=3.20"

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Summary for Subcatchment 3S: 3

Runoff = 3.83 cfs @ 12.27 hrs, Volume= 17,922 cf, Depth= 1.04"

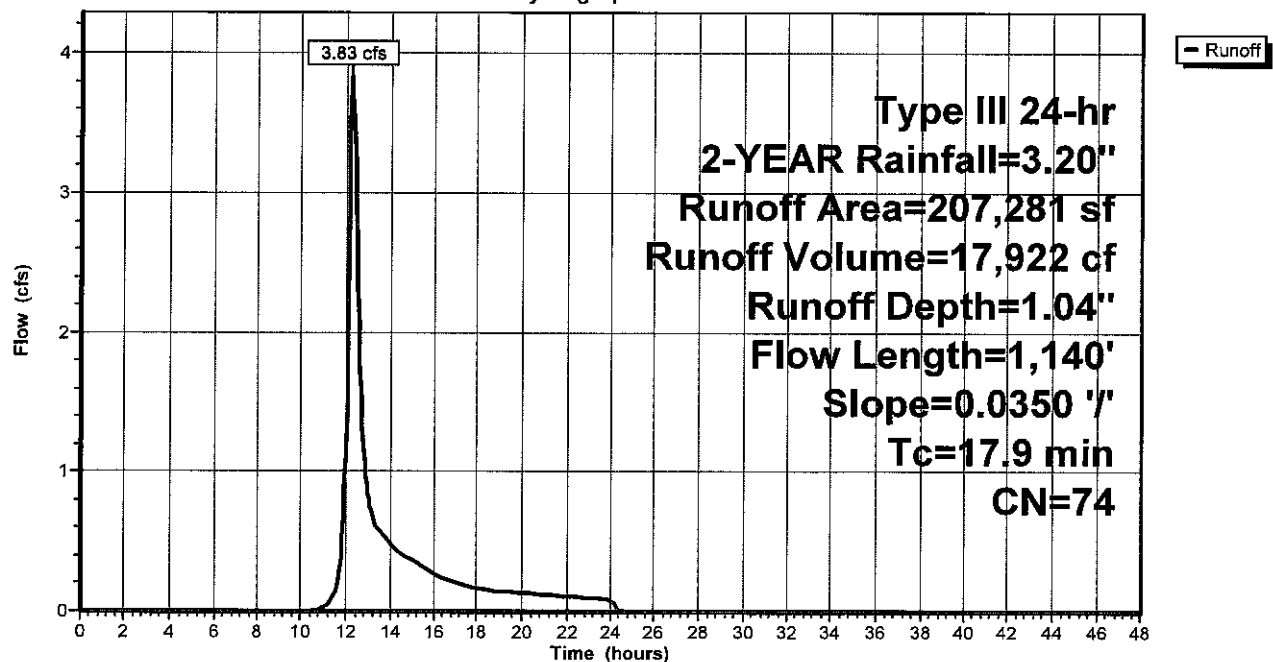
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YEAR Rainfall=3.20"

Area (sf)	CN	Description
86,148	70	Woods, Good, HSG C
37,388	77	Woods, Good, HSG D
50,245	74	Pasture/grassland/range, Good, HSG C
33,500	80	Pasture/grassland/range, Good, HSG D
207,281	74	Weighted Average
207,281		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	50	0.0350	0.21		Sheet Flow, Range n= 0.130 P2= 3.20"
13.9	1,090	0.0350	1.31		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
17.9	1,140	Total			

Subcatchment 3S: 3

Hydrograph



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Type III 24-hr 2-YEAR Rainfall=3.20"

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Summary for Subcatchment 4S: 4

Runoff = 2.03 cfs @ 12.11 hrs, Volume= 6,729 cf, Depth= 1.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

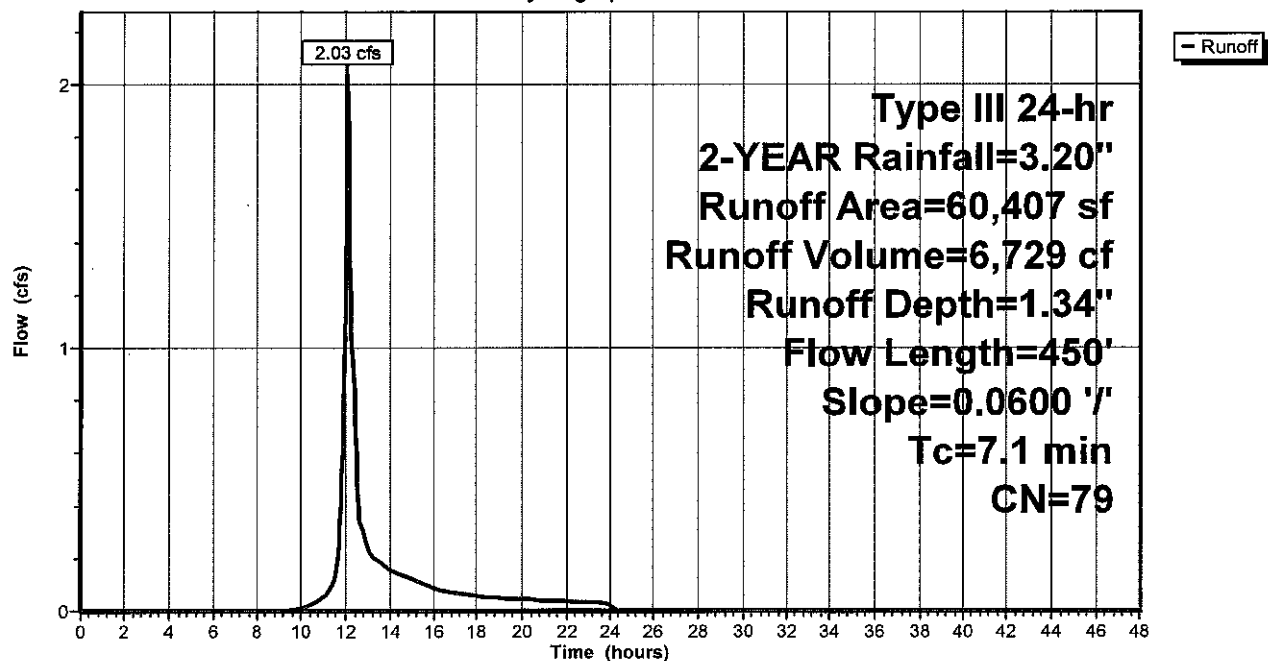
Type III 24-hr 2-YEAR Rainfall=3.20"

Area (sf)	CN	Description
60,407	79	Woods/grass comb., Good, HSG D
60,407		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	50	0.0600	0.26		Sheet Flow, Range n= 0.130 P2= 3.20"
3.9	400	0.0600	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.1	450	Total			

Subcatchment 4S: 4

Hydrograph



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Type III 24-hr 10-YEAR Rainfall=5.00"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: 1Runoff Area=84,596 sf 0.00% Impervious Runoff Depth=2.28"
Flow Length=170' Slope=0.0350 '/ Tc=5.5 min CN=73 Runoff=5.12 cfs 16,076 cf**Subcatchment 2S: 2**Runoff Area=144,017 sf 0.00% Impervious Runoff Depth=2.71"
Flow Length=400' Slope=0.0300 '/ Tc=9.1 min CN=78 Runoff=9.28 cfs 32,544 cf**Subcatchment 3S: 3**Runoff Area=207,281 sf 0.00% Impervious Runoff Depth=2.36"
Flow Length=1,140' Slope=0.0350 '/ Tc=17.9 min CN=74 Runoff=9.21 cfs 40,839 cf**Subcatchment 4S: 4**Runoff Area=60,407 sf 0.00% Impervious Runoff Depth=2.80"
Flow Length=450' Slope=0.0600 '/ Tc=7.1 min CN=79 Runoff=4.33 cfs 14,103 cf**Total Runoff Area = 496,301 sf Runoff Volume = 103,563 cf Average Runoff Depth = 2.50"**
100.00% Pervious = 496,301 sf 0.00% Impervious = 0 sf

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Type III 24-hr 10-YEAR Rainfall=5.00"

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Summary for Subcatchment 1S: 1[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 5.12 cfs @ 12.09 hrs, Volume= 16,076 cf, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, $dt=0.05$ hrs

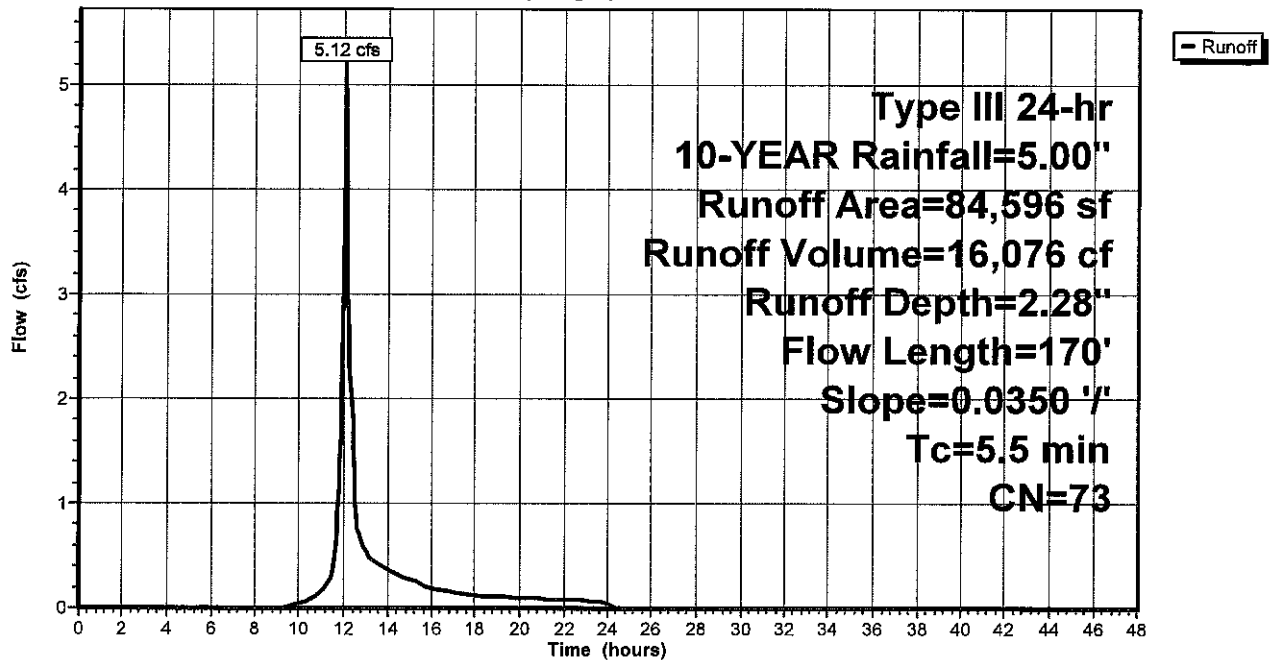
Type III 24-hr 10-YEAR Rainfall=5.00"

Area (sf)	CN	Description
46,059	70	Woods, Good, HSG C
34,048	77	Woods, Good, HSG D
4,489	80	Pasture/grassland/range, Good, HSG D
84,596	73	Weighted Average
84,596		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	50	0.0350	0.21		Sheet Flow, Range $n=0.130$ $P_2=3.20"$
1.5	120	0.0350	1.31		Shallow Concentrated Flow, Short Grass Pasture $K_v=7.0$ fps
5.5	170	Total			

Subcatchment 1S: 1

Hydrograph



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Type III 24-hr 10-YEAR Rainfall=5.00"

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Summary for Subcatchment 2S: 2

Runoff = 9.28 cfs @ 12.13 hrs, Volume= 32,544 cf, Depth= 2.71"

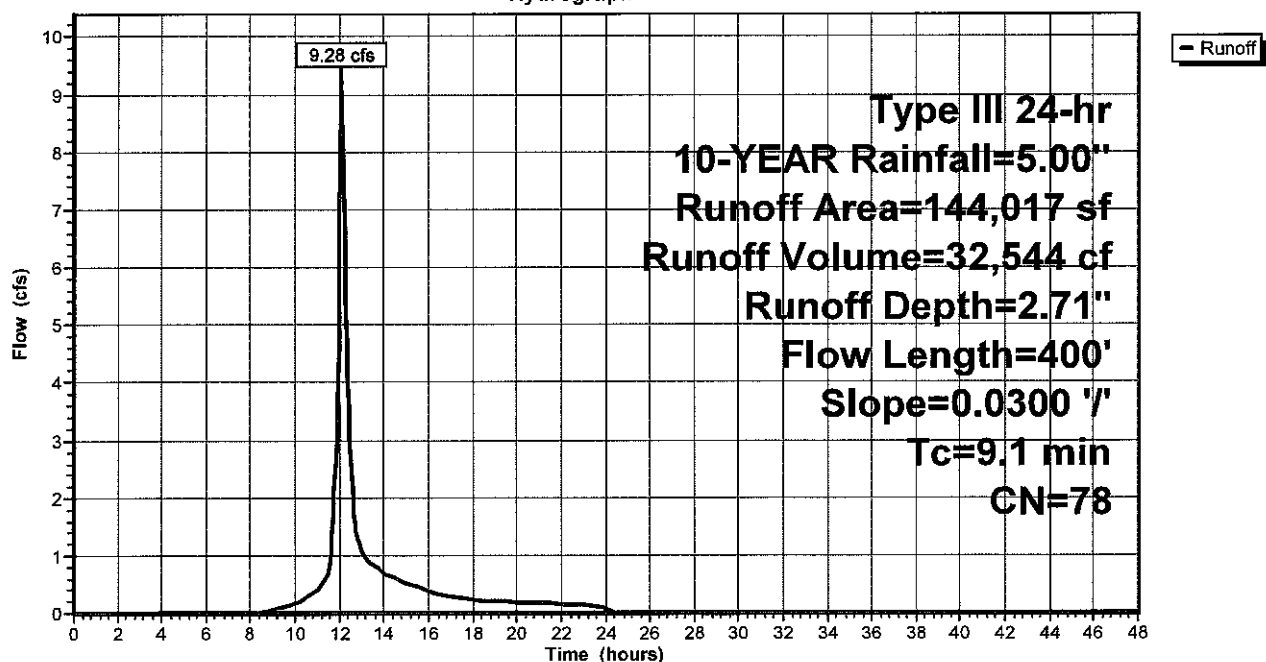
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YEAR Rainfall=5.00"

Area (sf)	CN	Description
13,032	70	Woods, Good, HSG C
30,774	77	Woods, Good, HSG D
14,314	74	Pasture/grassland/range, Good, HSG C
85,897	80	Pasture/grassland/range, Good, HSG D
144,017	78	Weighted Average
144,017		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	50	0.0300	0.20		Sheet Flow, Range n= 0.130 P2= 3.20"
4.8	350	0.0300	1.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
9.1	400	Total			

Subcatchment 2S: 2

Hydrograph



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Type III 24-hr 10-YEAR Rainfall=5.00"

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Summary for Subcatchment 3S: 3

Runoff = 9.21 cfs @ 12.25 hrs, Volume= 40,839 cf, Depth= 2.36"

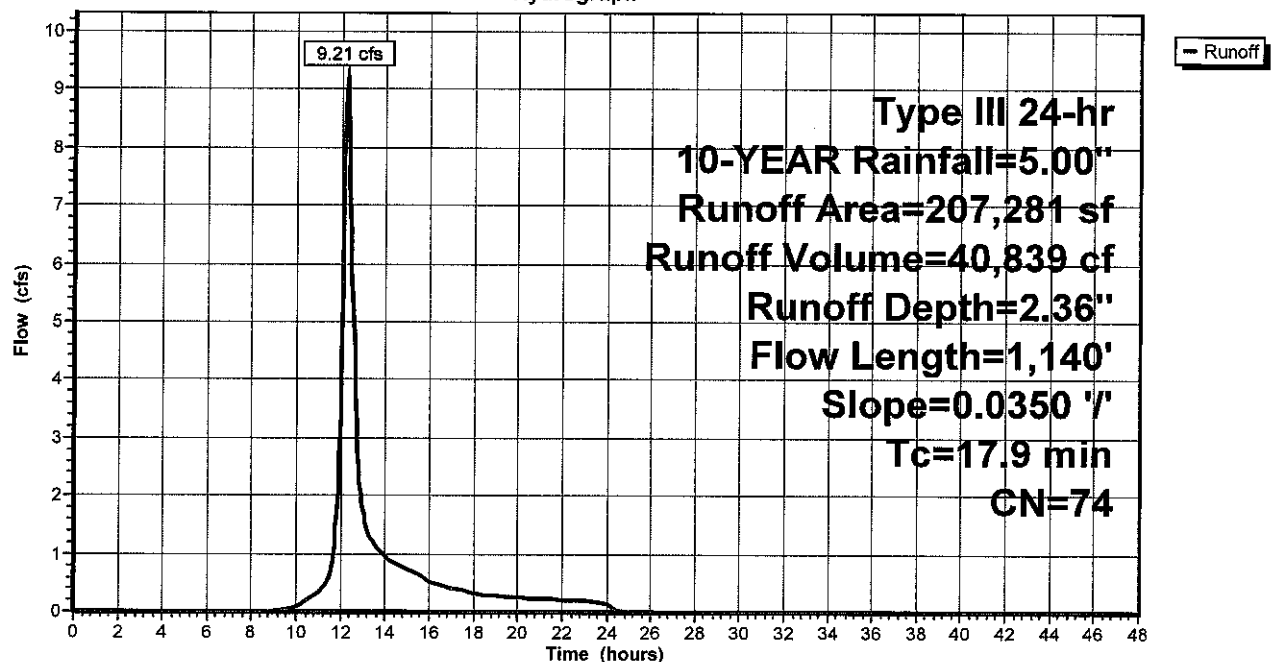
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YEAR Rainfall=5.00"

Area (sf)	CN	Description
86,148	70	Woods, Good, HSG C
37,388	77	Woods, Good, HSG D
50,245	74	Pasture/grassland/range, Good, HSG C
33,500	80	Pasture/grassland/range, Good, HSG D
207,281	74	Weighted Average
207,281		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	50	0.0350	0.21		Sheet Flow, Range n= 0.130 P2= 3.20"
13.9	1,090	0.0350	1.31		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
17.9	1,140	Total			

Subcatchment 3S: 3

Hydrograph



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Type III 24-hr 10-YEAR Rainfall=5.00"

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Summary for Subcatchment 4S: 4

Runoff = 4.33 cfs @ 12.11 hrs, Volume= 14,103 cf, Depth= 2.80"

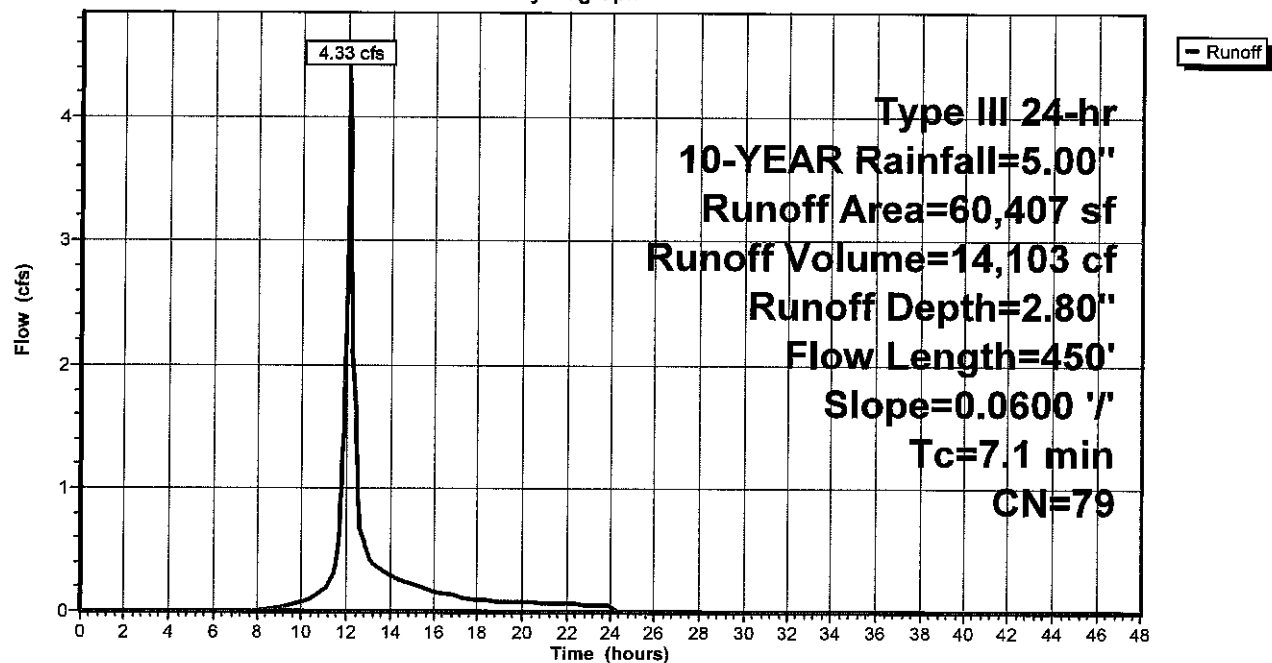
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YEAR Rainfall=5.00"

Area (sf)	CN	Description
60,407	79	Woods/grass comb., Good, HSG D
60,407		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	50	0.0600	0.26		Sheet Flow, Range n= 0.130 P2= 3.20"
3.9	400	0.0600	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.1	450	Total			

Subcatchment 4S: 4

Hydrograph



50172_WILDFLOWER-EX*Type III 24-hr 100-YEAR Rainfall=7.90"*

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: 1 Runoff Area=84,596 sf 0.00% Impervious Runoff Depth=4.72"
Flow Length=170' Slope=0.0350 '/' Tc=5.5 min CN=73 Runoff=10.63 cfs 33,284 cf

Subcatchment 2S: 2 Runoff Area=144,017 sf 0.00% Impervious Runoff Depth=5.30"
Flow Length=400' Slope=0.0300 '/' Tc=9.1 min CN=78 Runoff=17.96 cfs 63,591 cf

Subcatchment 3S: 3 Runoff Area=207,281 sf 0.00% Impervious Runoff Depth=4.84"
Flow Length=1,140' Slope=0.0350 '/' Tc=17.9 min CN=74 Runoff=18.95 cfs 83,540 cf

Subcatchment 4S: 4 Runoff Area=60,407 sf 0.00% Impervious Runoff Depth=5.41"
Flow Length=450' Slope=0.0600 '/' Tc=7.1 min CN=79 Runoff=8.26 cfs 27,258 cf

Total Runoff Area = 496,301 sf Runoff Volume = 207,674 cf Average Runoff Depth = 5.02"
100.00% Pervious = 496,301 sf 0.00% Impervious = 0 sf

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Type III 24-hr 100-YEAR Rainfall=7.90"

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Summary for Subcatchment 1S: 1[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 10.63 cfs @ 12.08 hrs, Volume= 33,284 cf, Depth= 4.72"

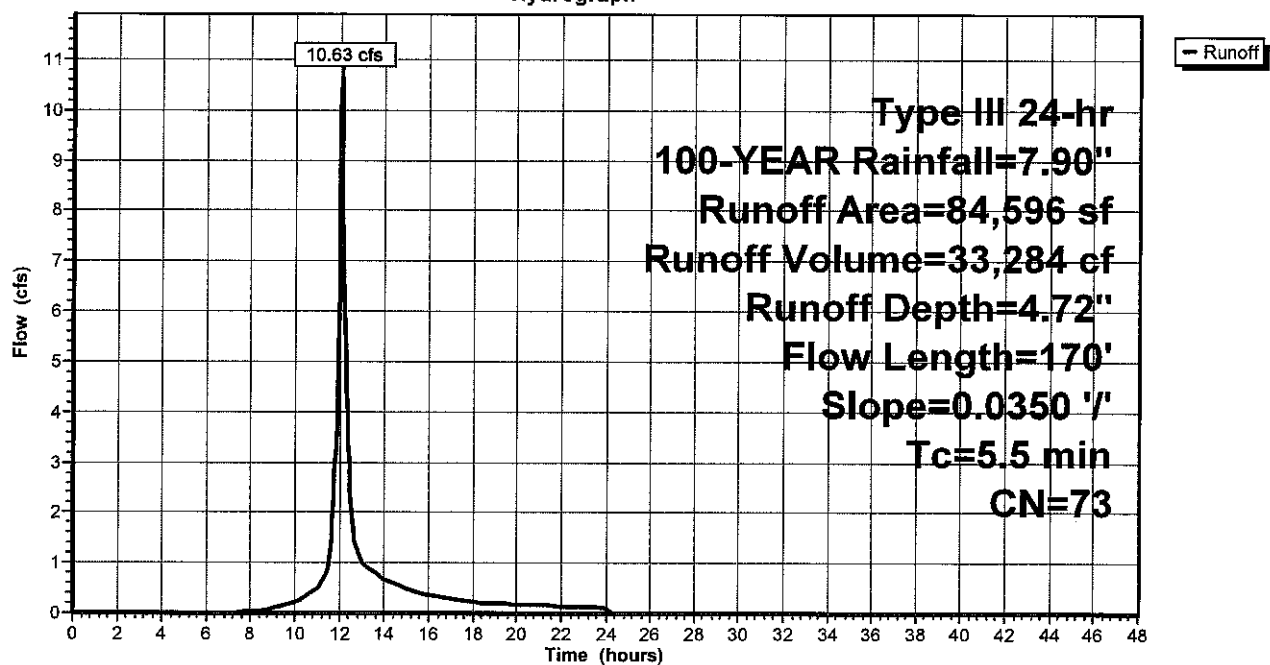
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, $dt=0.05$ hrs
Type III 24-hr 100-YEAR Rainfall=7.90"

Area (sf)	CN	Description
46,059	70	Woods, Good, HSG C
34,048	77	Woods, Good, HSG D
4,489	80	Pasture/grassland/range, Good, HSG D
84,596	73	Weighted Average
84,596		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	50	0.0350	0.21		Sheet Flow, Range $n=0.130$ $P2=3.20''$
1.5	120	0.0350	1.31		Shallow Concentrated Flow, Short Grass Pasture $K_v=7.0$ fps
5.5	170	Total			

Subcatchment 1S: 1

Hydrograph



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Type III 24-hr 100-YEAR Rainfall=7.90"

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Summary for Subcatchment 2S: 2

Runoff = 17.96 cfs @ 12.13 hrs, Volume= 63,591 cf, Depth= 5.30"

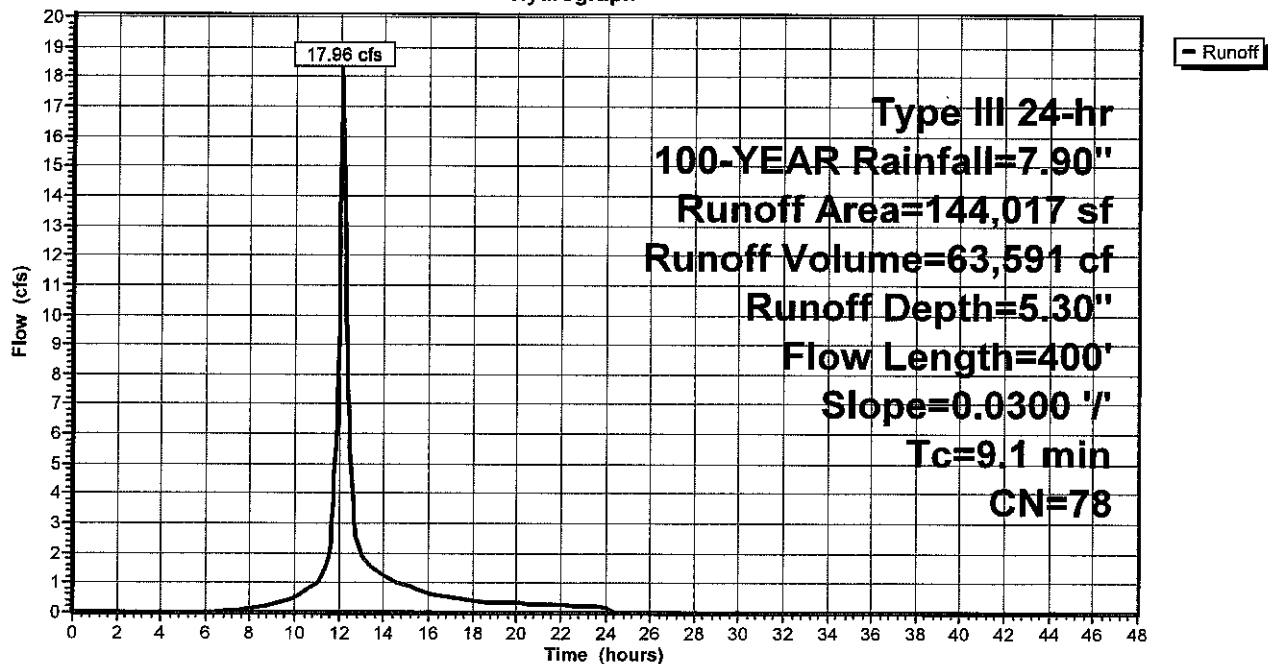
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-YEAR Rainfall=7.90"

Area (sf)	CN	Description
13,032	70	Woods, Good, HSG C
30,774	77	Woods, Good, HSG D
14,314	74	Pasture/grassland/range, Good, HSG C
85,897	80	Pasture/grassland/range, Good, HSG D
144,017	78	Weighted Average
144,017		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	50	0.0300	0.20		Sheet Flow, Range n= 0.130 P2= 3.20"
4.8	350	0.0300	1.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
9.1	400	Total			

Subcatchment 2S: 2

Hydrograph



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Type III 24-hr 100-YEAR Rainfall=7.90"

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Summary for Subcatchment 3S: 3

Runoff = 18.95 cfs @ 12.25 hrs, Volume= 83,540 cf, Depth= 4.84"

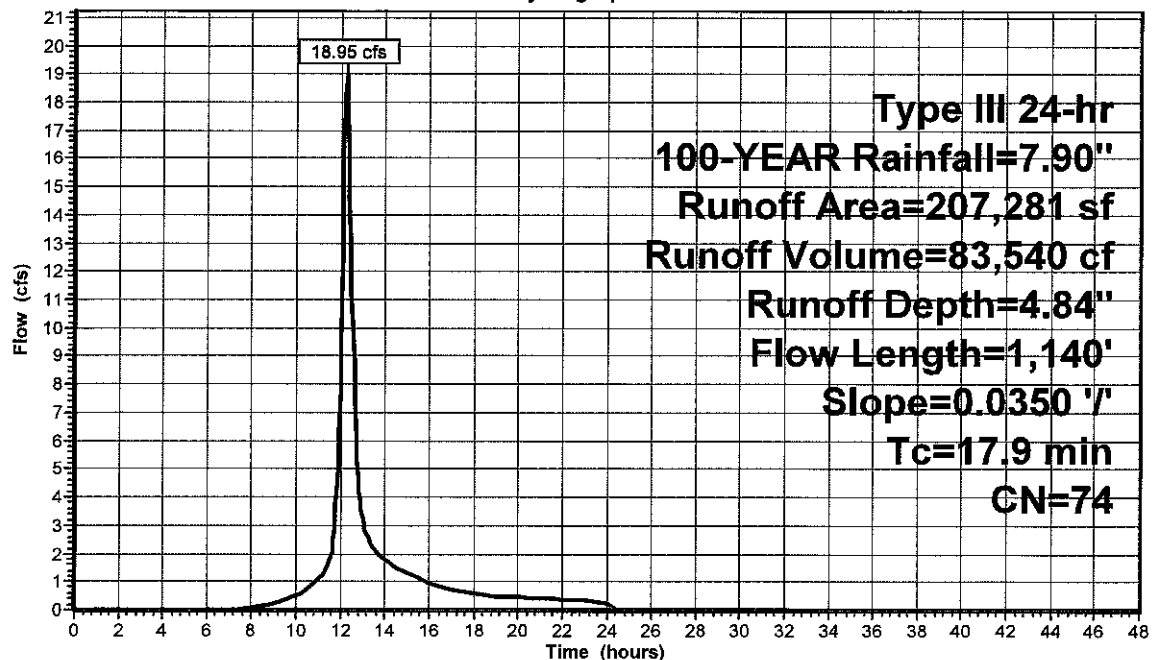
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-YEAR Rainfall=7.90"

Area (sf)	CN	Description
86,148	70	Woods, Good, HSG C
37,388	77	Woods, Good, HSG D
50,245	74	Pasture/grassland/range, Good, HSG C
33,500	80	Pasture/grassland/range, Good, HSG D
207,281	74	Weighted Average
207,281		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	50	0.0350	0.21		Sheet Flow, Range n= 0.130 P2= 3.20"
13.9	1,090	0.0350	1.31		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
17.9	1,140	Total			

Subcatchment 3S: 3

Hydrograph



- Runoff

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Type III 24-hr 100-YEAR Rainfall=7.90"

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Summary for Subcatchment 4S: 4

Runoff = 8.26 cfs @ 12.10 hrs, Volume= 27,258 cf, Depth= 5.41"

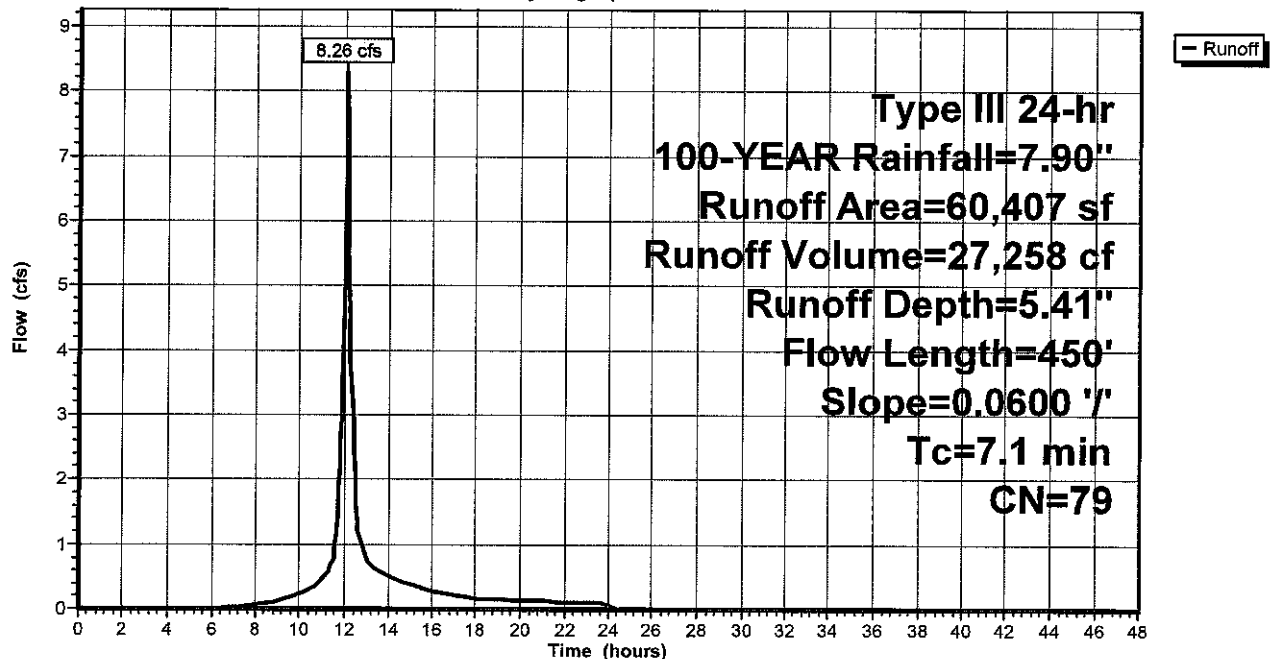
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-YEAR Rainfall=7.90"

Area (sf)	CN	Description
60,407	79	Woods/grass comb., Good, HSG D
60,407		100.00% Pervious Area

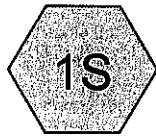
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.2	50	0.0600	0.26		Sheet Flow, Range n= 0.130 P2= 3.20"
3.9	400	0.0600	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.1	450	Total			

Subcatchment 4S: 4

Hydrograph



ATTACHMENT D
Proposed HydroCAD Output



1



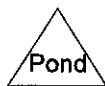
2



3



4



Routing Diagram for 50172_WILDFLOWER-PR

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Page 2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
5,703	96	Gravel surface, HSG D (2S, 4S)
52,787	71	Meadow, non-grazed, HSG C (2S, 3S)
26,536	78	Meadow, non-grazed, HSG D (2S, 3S, 4S)
29,665	74	Pasture/grassland/range, Good, HSG C (3S)
108,471	80	Pasture/grassland/range, Good, HSG D (1S, 2S, 3S)
117,565	70	Woods, Good, HSG C (1S, 2S, 3S)
94,194	77	Woods, Good, HSG D (1S, 2S, 3S)
9,781	72	Woods/grass comb., Good, HSG C (2S)
51,599	79	Woods/grass comb., Good, HSG D (4S)
496,301	76	TOTAL AREA

50172_WILDFLOWER-PR

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Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
209,798	HSG C	1S, 2S, 3S
286,503	HSG D	1S, 2S, 3S, 4S
0	Other	
496,301		TOTAL AREA

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Type III 24-hr 2-YEAR Rainfall=3.20"

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Page 4

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: 1

Runoff Area=84,596 sf 0.00% Impervious Runoff Depth=0.98"

Flow Length=170' Slope=0.0350 '/' Tc=5.5 min CN=73 Runoff=2.09 cfs 6,928 cf

Subcatchment 2S: 2

Runoff Area=144,017 sf 0.00% Impervious Runoff Depth=1.27"

Flow Length=400' Slope=0.0300 '/' Tc=15.5 min CN=78 Runoff=3.58 cfs 15,282 cf

Subcatchment 3S: 3

Runoff Area=207,281 sf 0.00% Impervious Runoff Depth=1.04"

Flow Length=1,140' Slope=0.0350 '/' Tc=24.0 min CN=74 Runoff=3.40 cfs 17,922 cf

Subcatchment 4S: 4

Runoff Area=60,407 sf 0.00% Impervious Runoff Depth=1.47"

Flow Length=450' Slope=0.0600 '/' Tc=12.0 min CN=81 Runoff=1.93 cfs 7,395 cf

Total Runoff Area = 496,301 sf Runoff Volume = 47,527 cf Average Runoff Depth = 1.15"**100.00% Pervious = 496,301 sf 0.00% Impervious = 0 sf**

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Type III 24-hr 2-YEAR Rainfall=3.20"

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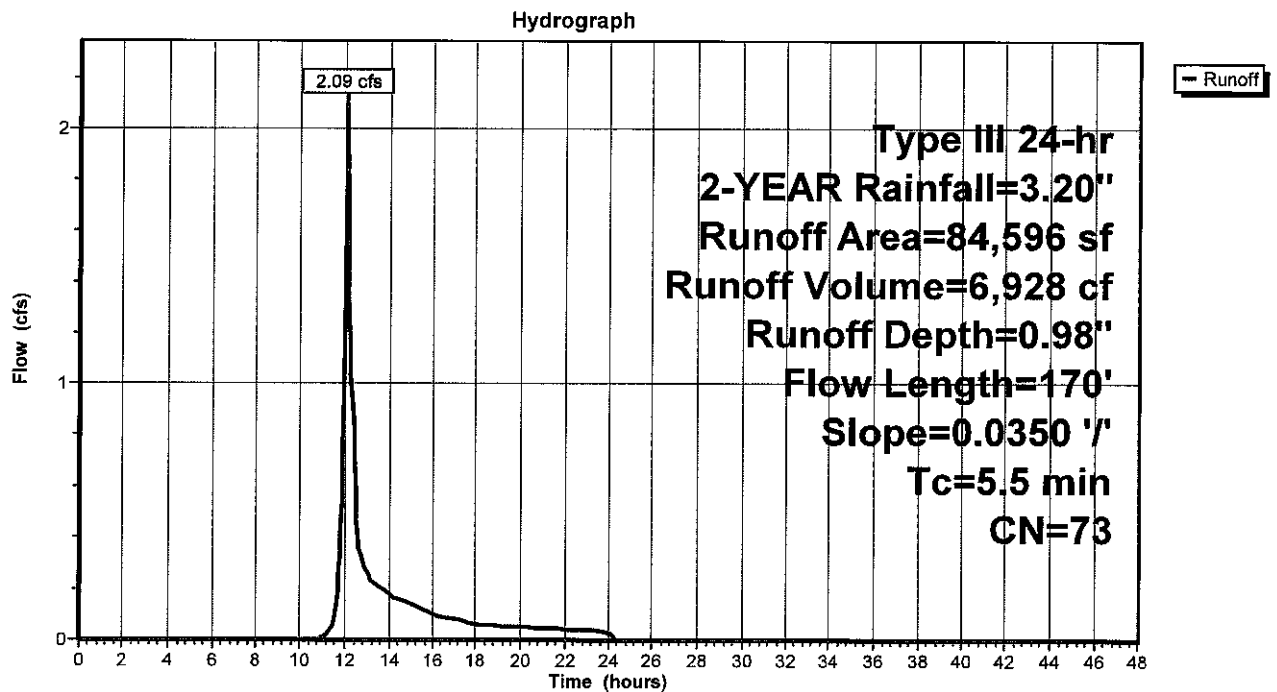
Summary for Subcatchment 1S: 1[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 2.09 cfs @ 12.10 hrs, Volume= 6,928 cf, Depth= 0.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, $dt=0.05$ hrs
Type III 24-hr 2-YEAR Rainfall=3.20"

Area (sf)	CN	Description
46,059	70	Woods, Good, HSG C
34,048	77	Woods, Good, HSG D
4,489	80	Pasture/grassland/range, Good, HSG D
84,596	73	Weighted Average
84,596		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	50	0.0350	0.21		Sheet Flow, Range $n=0.130$ $P_2=3.20"$
1.5	120	0.0350	1.31		Shallow Concentrated Flow, Short Grass Pasture $K_v=7.0$ fps
5.5	170	Total			

Subcatchment 1S: 1

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Type III 24-hr 2-YEAR Rainfall=3.20"

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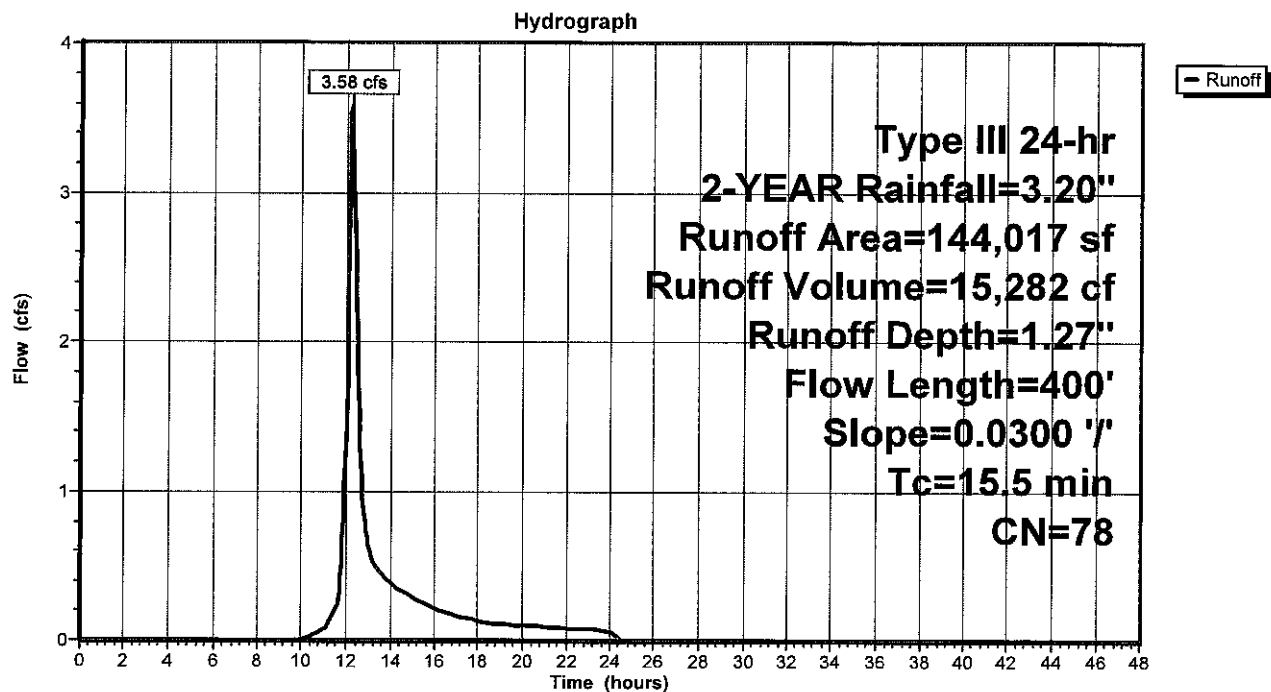
Summary for Subcatchment 2S: 2

Runoff = 3.58 cfs @ 12.22 hrs, Volume= 15,282 cf, Depth= 1.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YEAR Rainfall=3.20"

Area (sf)	CN	Description
27,272	77	Woods, Good, HSG D
73,921	80	Pasture/grassland/range, Good, HSG D
15,306	78	Meadow, non-grazed, HSG D
172	96	Gravel surface, HSG D
3,997	70	Woods, Good, HSG C
13,568	71	Meadow, non-grazed, HSG C
9,781	72	Woods/grass comb., Good, HSG C
144,017	78	Weighted Average
144,017		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	50	0.0300	0.08		Sheet Flow, Grass: Bermuda n= 0.410 P2= 3.20"
4.8	350	0.0300	1.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
15.5	400	Total			

Subcatchment 2S: 2

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Type III 24-hr 2-YEAR Rainfall=3.20"

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Summary for Subcatchment 3S: 3

Runoff = 3.40 cfs @ 12.36 hrs, Volume= 17,922 cf, Depth= 1.04"

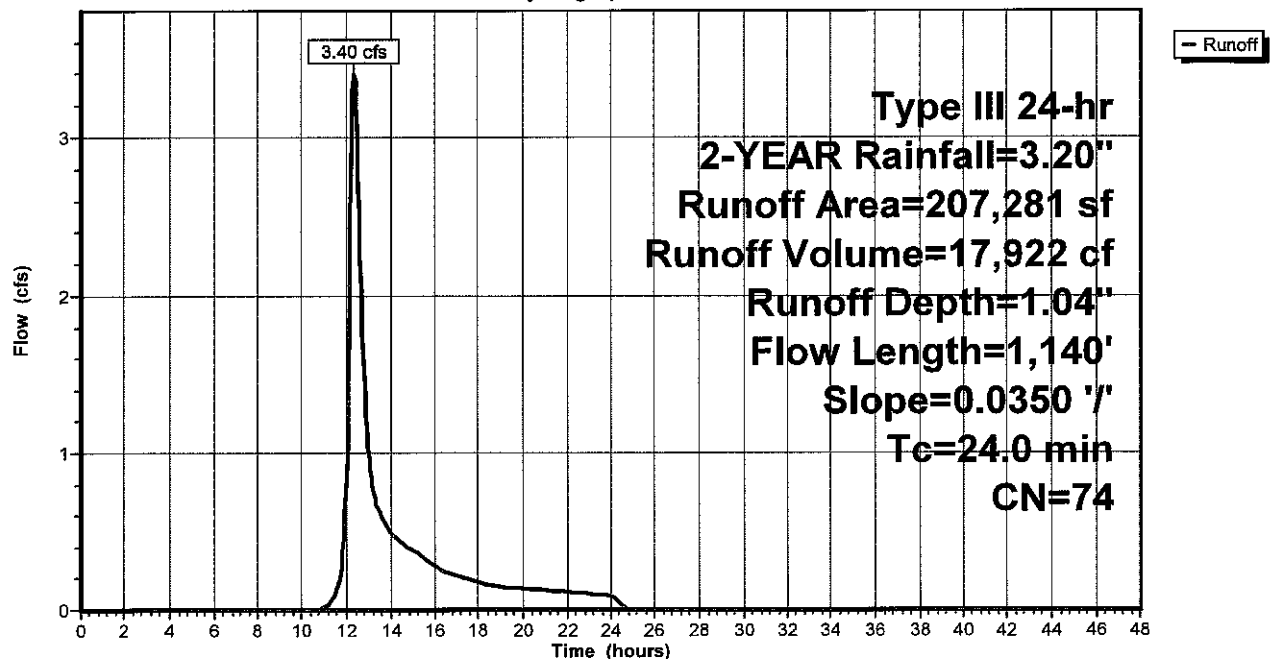
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YEAR Rainfall=3.20"

Area (sf)	CN	Description
67,509	70	Woods, Good, HSG C
29,665	74	Pasture/grassland/range, Good, HSG C
39,219	71	Meadow, non-grazed, HSG C
32,874	77	Woods, Good, HSG D
7,953	78	Meadow, non-grazed, HSG D
30,061	80	Pasture/grassland/range, Good, HSG D
207,281	74	Weighted Average
207,281		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	50	0.0350	0.08		Sheet Flow, Grass: Bermuda n= 0.410 P2= 3.20"
13.9	1,090	0.0350	1.31		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
24.0	1,140	Total			

Subcatchment 3S: 3

Hydrograph



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Type III 24-hr 2-YEAR Rainfall=3.20"

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Summary for Subcatchment 4S: 4

Runoff = 1.93 cfs @ 12.17 hrs, Volume= 7,395 cf, Depth= 1.47"

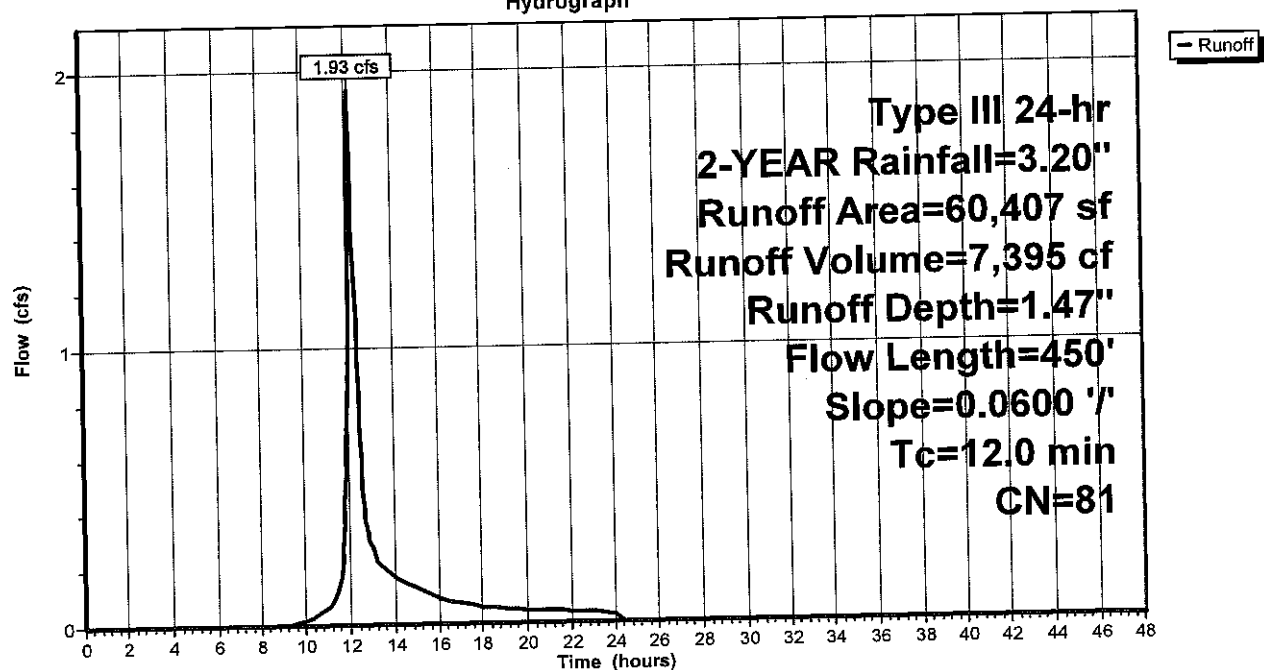
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YEAR Rainfall=3.20"

Area (sf)	CN	Description
3,277	78	Meadow, non-grazed, HSG D
5,531	96	Gravel surface, HSG D
51,599	79	Woods/grass comb., Good, HSG D
60,407	81	Weighted Average
60,407		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	50	0.0600	0.10		Sheet Flow, Grass: Bermuda n= 0.410 P2= 3.20"
3.9	400	0.0600	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
12.0	450	Total			

Subcatchment 4S: 4

Hydrograph



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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: 1 Runoff Area=84,596 sf 0.00% Impervious Runoff Depth=2.28"
Flow Length=170' Slope=0.0350 '/' Tc=5.5 min CN=73 Runoff=5.12 cfs 16,076 cf

Subcatchment 2S: 2 Runoff Area=144,017 sf 0.00% Impervious Runoff Depth=2.71"
Flow Length=400' Slope=0.0300 '/' Tc=15.5 min CN=78 Runoff=7.83 cfs 32,544 cf

Subcatchment 3S: 3 Runoff Area=207,281 sf 0.00% Impervious Runoff Depth=2.36"
Flow Length=1,140' Slope=0.0350 '/' Tc=24.0 min CN=74 Runoff=8.15 cfs 40,839 cf

Subcatchment 4S: 4 Runoff Area=60,407 sf 0.00% Impervious Runoff Depth=2.99"
Flow Length=450' Slope=0.0600 '/' Tc=12.0 min CN=81 Runoff=3.96 cfs 15,028 cf

Total Runoff Area = 496,301 sf Runoff Volume = 104,487 cf Average Runoff Depth = 2.53"
100.00% Pervious = 496,301 sf 0.00% Impervious = 0 sf

Summary for Subcatchment 1S: 1[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 5.12 cfs @ 12.09 hrs, Volume= 16,076 cf, Depth= 2.28"

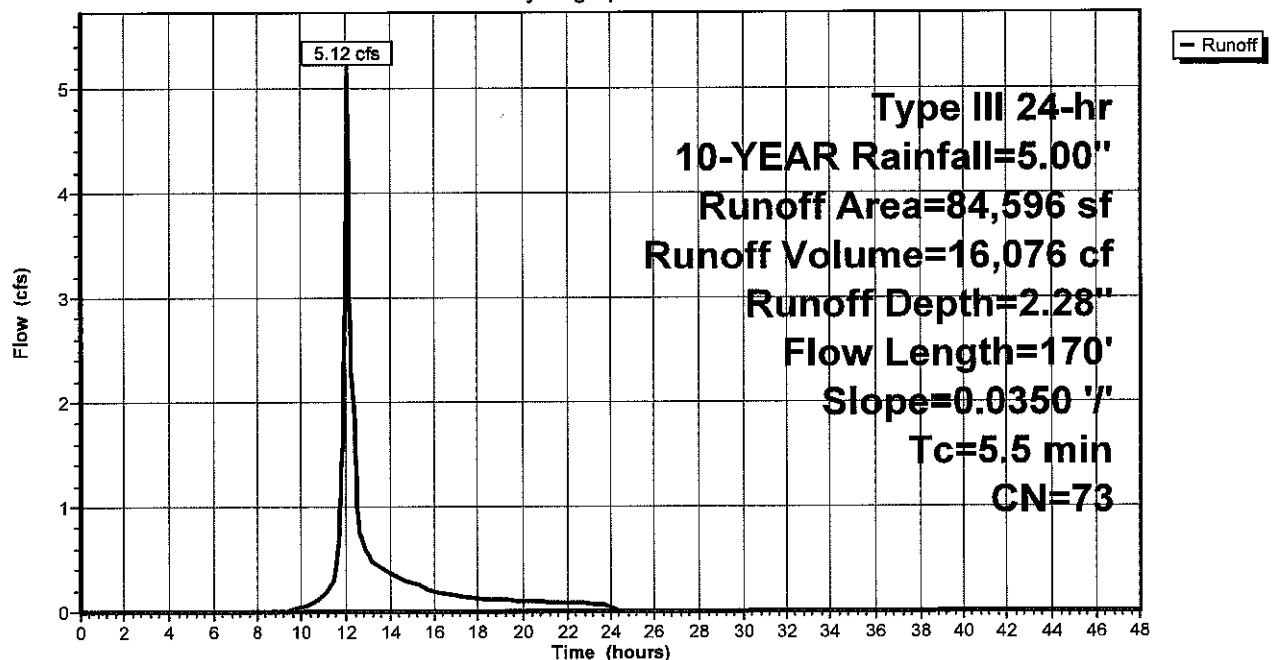
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, $dt=0.05$ hrs
Type III 24-hr 10-YEAR Rainfall=5.00"

Area (sf)	CN	Description
46,059	70	Woods, Good, HSG C
34,048	77	Woods, Good, HSG D
4,489	80	Pasture/grassland/range, Good, HSG D
84,596	73	Weighted Average
84,596		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	50	0.0350	0.21		Sheet Flow, Range $n=0.130$ $P2=3.20"$
1.5	120	0.0350	1.31		Shallow Concentrated Flow, Short Grass Pasture $K_v=7.0$ fps
5.5	170	Total			

Subcatchment 1S: 1

Hydrograph



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Type III 24-hr 10-YEAR Rainfall=5.00"

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Summary for Subcatchment 2S: 2

Runoff = 7.83 cfs @ 12.22 hrs, Volume= 32,544 cf, Depth= 2.71"

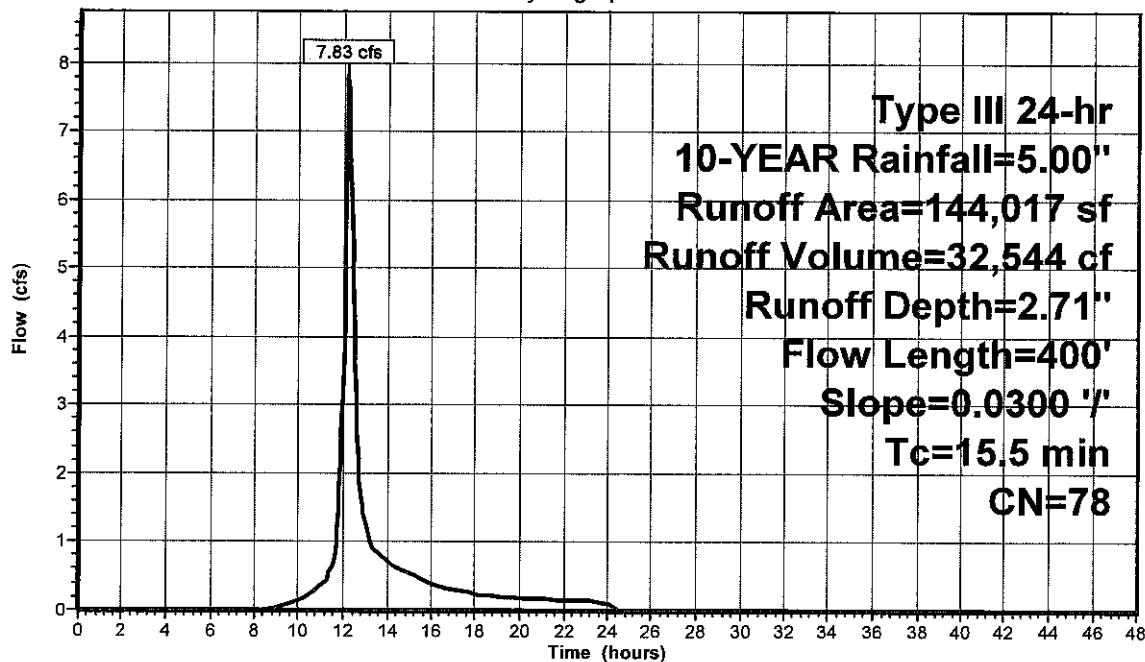
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YEAR Rainfall=5.00"

Area (sf)	CN	Description
27,272	77	Woods, Good, HSG D
73,921	80	Pasture/grassland/range, Good, HSG D
15,306	78	Meadow, non-grazed, HSG D
172	96	Gravel surface, HSG D
3,997	70	Woods, Good, HSG C
13,568	71	Meadow, non-grazed, HSG C
9,781	72	Woods/grass comb., Good, HSG C
144,017	78	Weighted Average
144,017		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	50	0.0300	0.08		Sheet Flow, Grass: Bermuda n= 0.410 P2= 3.20"
4.8	350	0.0300	1.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
15.5	400	Total			

Subcatchment 2S: 2

Hydrograph



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Type III 24-hr 10-YEAR Rainfall=5.00"

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Summary for Subcatchment 3S: 3

Runoff = 8.15 cfs @ 12.34 hrs, Volume= 40,839 cf, Depth= 2.36"

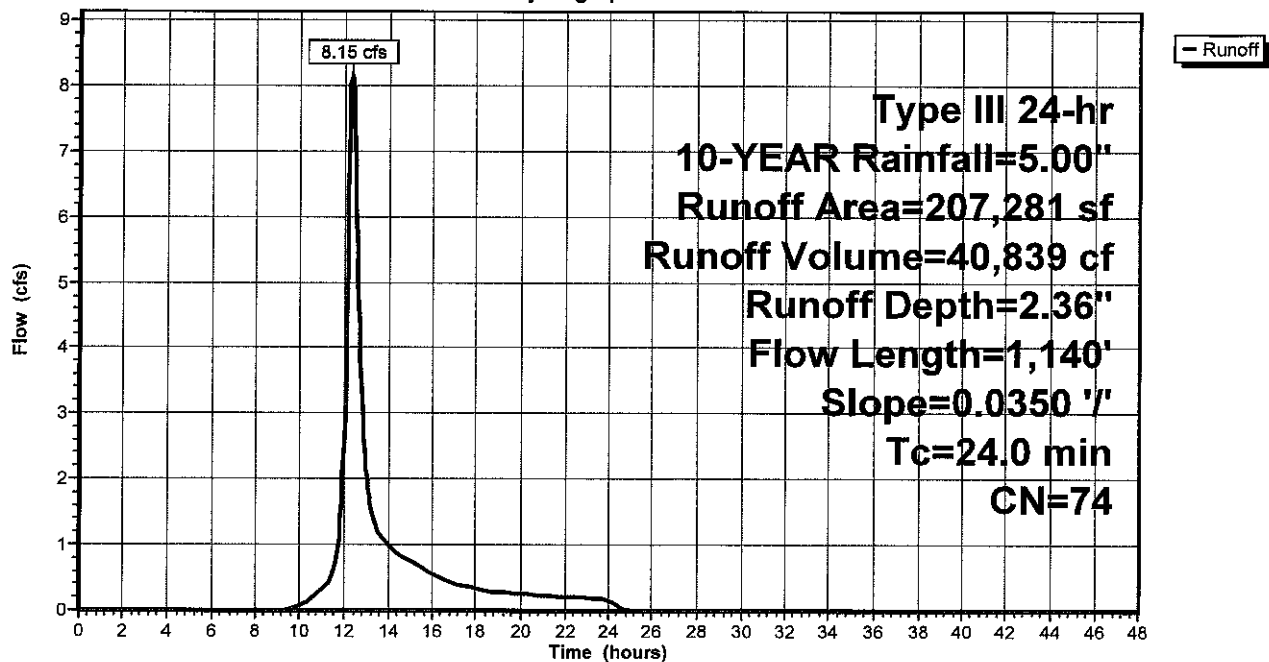
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YEAR Rainfall=5.00"

Area (sf)	CN	Description
67,509	70	Woods, Good, HSG C
29,665	74	Pasture/grassland/range, Good, HSG C
39,219	71	Meadow, non-grazed, HSG C
32,874	77	Woods, Good, HSG D
7,953	78	Meadow, non-grazed, HSG D
30,061	80	Pasture/grassland/range, Good, HSG D
207,281	74	Weighted Average
207,281		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	50	0.0350	0.08		Sheet Flow, Grass: Bermuda n= 0.410 P2= 3.20"
13.9	1,090	0.0350	1.31		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
24.0	1,140	Total			

Subcatchment 3S: 3

Hydrograph



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Type III 24-hr 10-YEAR Rainfall=5.00"

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Summary for Subcatchment 4S: 4

Runoff = 3.96 cfs @ 12.17 hrs, Volume= 15,028 cf, Depth= 2.99"

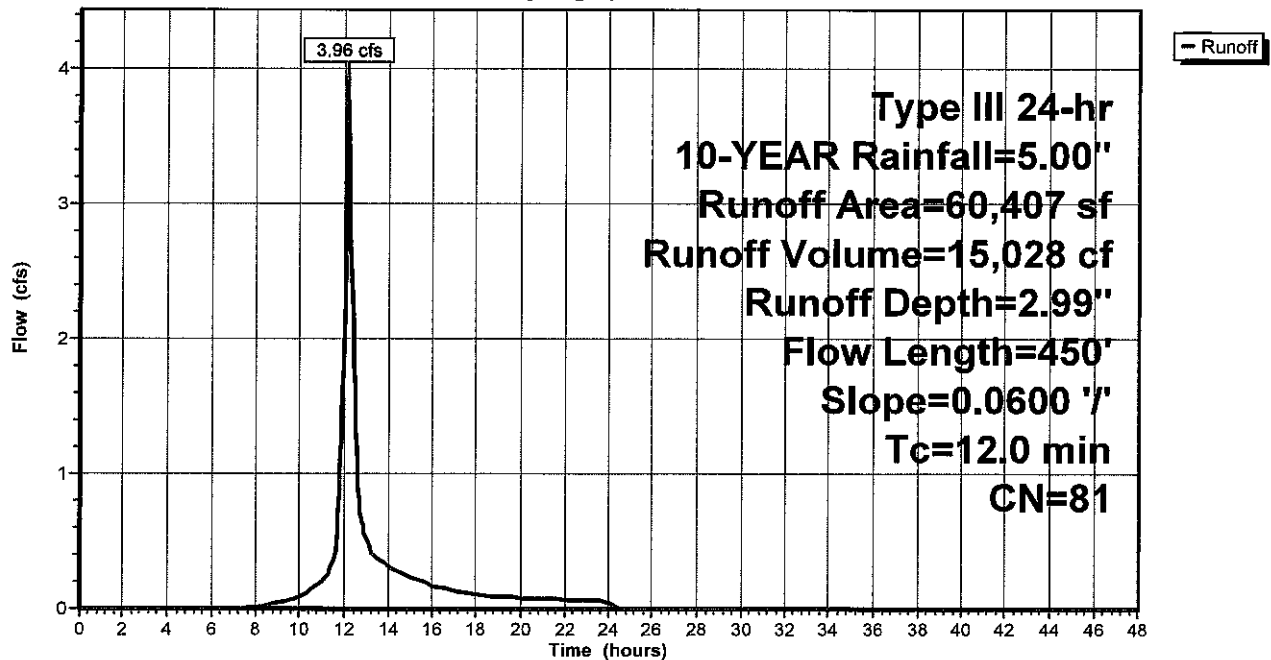
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YEAR Rainfall=5.00"

Area (sf)	CN	Description
3,277	78	Meadow, non-grazed, HSG D
5,531	96	Gravel surface, HSG D
51,599	79	Woods/grass comb., Good, HSG D
60,407	81	Weighted Average
60,407		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	50	0.0600	0.10		Sheet Flow, Grass: Bermuda n= 0.410 P2= 3.20"
3.9	400	0.0600	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
12.0	450	Total			

Subcatchment 4S: 4

Hydrograph



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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: 1 Runoff Area=84,596 sf 0.00% Impervious Runoff Depth=4.72"
Flow Length=170' Slope=0.0350 '/ Tc=5.5 min CN=73 Runoff=10.63 cfs 33,284 cf

Subcatchment 2S: 2 Runoff Area=144,017 sf 0.00% Impervious Runoff Depth=5.30"
Flow Length=400' Slope=0.0300 '/ Tc=15.5 min CN=78 Runoff=15.19 cfs 63,591 cf

Subcatchment 3S: 3 Runoff Area=207,281 sf 0.00% Impervious Runoff Depth=4.84"
Flow Length=1,140' Slope=0.0350 '/ Tc=24.0 min CN=74 Runoff=16.78 cfs 83,540 cf

Subcatchment 4S: 4 Runoff Area=60,407 sf 0.00% Impervious Runoff Depth=5.65"
Flow Length=450' Slope=0.0600 '/ Tc=12.0 min CN=81 Runoff=7.38 cfs 28,431 cf

Total Runoff Area = 496,301 sf Runoff Volume = 208,847 cf Average Runoff Depth = 5.05"
100.00% Pervious = 496,301 sf 0.00% Impervious = 0 sf

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Type III 24-hr 100-YEAR Rainfall=7.90"

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Summary for Subcatchment 1S: 1[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 10.63 cfs @ 12.08 hrs, Volume= 33,284 cf, Depth= 4.72"

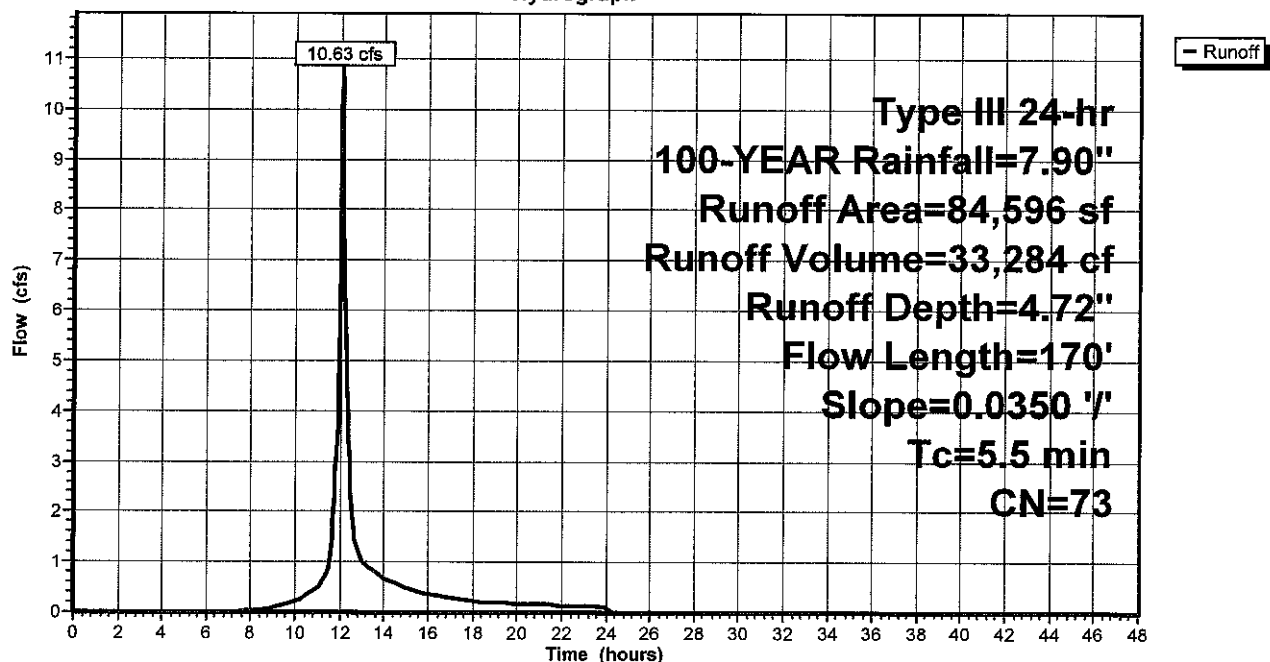
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, $dt = 0.05$ hrs
Type III 24-hr 100-YEAR Rainfall=7.90"

Area (sf)	CN	Description
46,059	70	Woods, Good, HSG C
34,048	77	Woods, Good, HSG D
4,489	80	Pasture/grassland/range, Good, HSG D
84,596	73	Weighted Average
84,596		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	50	0.0350	0.21		Sheet Flow, Range $n = 0.130$ $P2 = 3.20"$
1.5	120	0.0350	1.31		Shallow Concentrated Flow, Short Grass Pasture $K_v = 7.0$ fps
5.5	170	Total			

Subcatchment 1S: 1

Hydrograph



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Type III 24-hr 100-YEAR Rainfall=7.90"

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Summary for Subcatchment 2S: 2

Runoff = 15.19 cfs @ 12.21 hrs, Volume= 63,591 cf, Depth= 5.30"

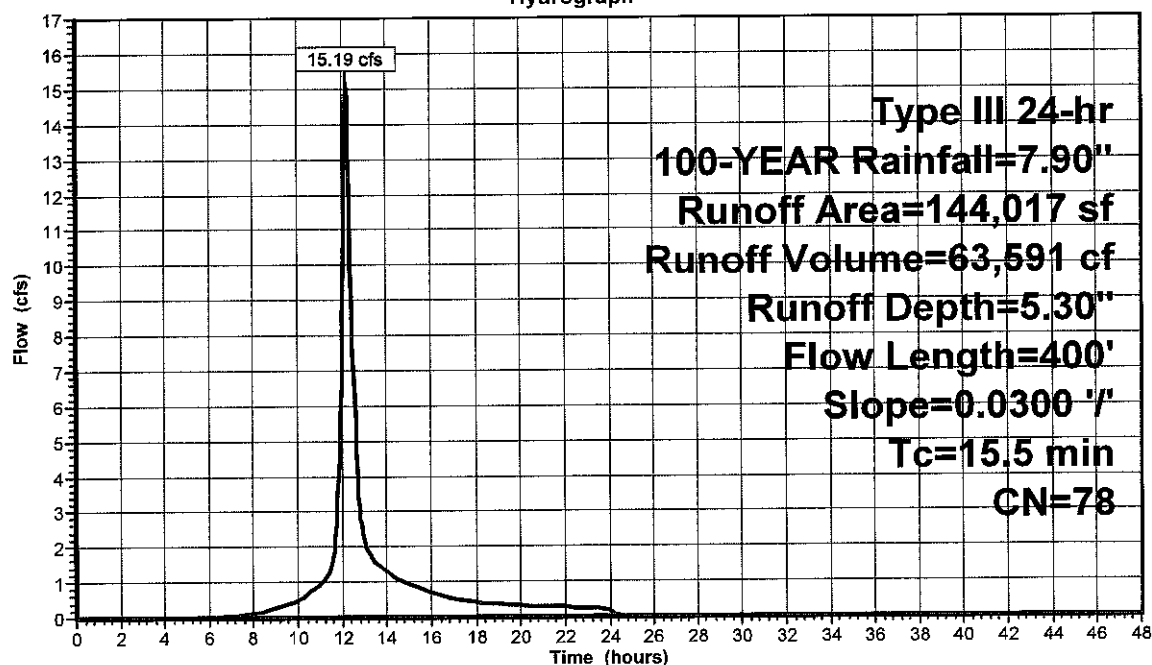
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-YEAR Rainfall=7.90"

Area (sf)	CN	Description
27,272	77	Woods, Good, HSG D
73,921	80	Pasture/grassland/range, Good, HSG D
15,306	78	Meadow, non-grazed, HSG D
172	96	Gravel surface, HSG D
3,997	70	Woods, Good, HSG C
13,568	71	Meadow, non-grazed, HSG C
9,781	72	Woods/grass comb., Good, HSG C
144,017	78	Weighted Average
144,017		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.7	50	0.0300	0.08		Sheet Flow, Grass: Bermuda n= 0.410 P2= 3.20"
4.8	350	0.0300	1.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
15.5	400	Total			

Subcatchment 2S: 2

Hydrograph



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Type III 24-hr 100-YEAR Rainfall=7.90"

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Summary for Subcatchment 3S: 3

Runoff = 16.78 cfs @ 12.33 hrs, Volume= 83,540 cf, Depth= 4.84"

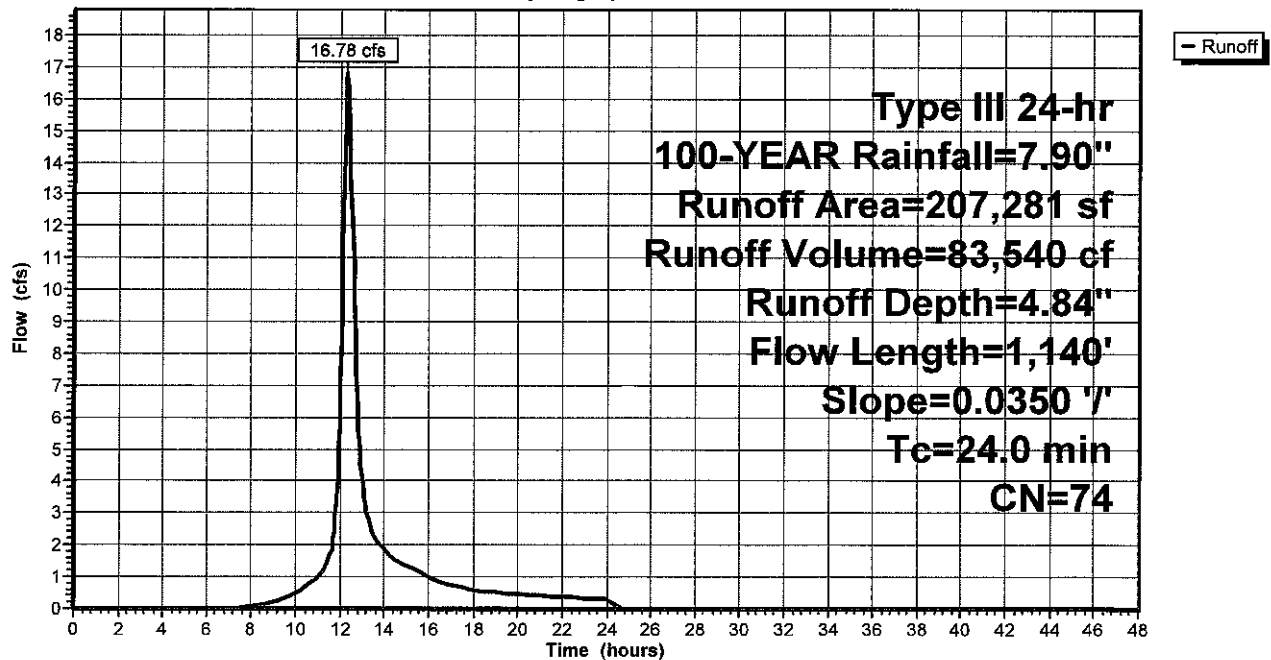
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-YEAR Rainfall=7.90"

Area (sf)	CN	Description
67,509	70	Woods, Good, HSG C
29,665	74	Pasture/grassland/range, Good, HSG C
39,219	71	Meadow, non-grazed, HSG C
32,874	77	Woods, Good, HSG D
7,953	78	Meadow, non-grazed, HSG D
30,061	80	Pasture/grassland/range, Good, HSG D
207,281	74	Weighted Average
207,281		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	50	0.0350	0.08		Sheet Flow, Grass: Bermuda n= 0.410 P2= 3.20"
13.9	1,090	0.0350	1.31		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
24.0	1,140	Total			

Subcatchment 3S: 3

Hydrograph



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Type III 24-hr 100-YEAR Rainfall=7.90"

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Summary for Subcatchment 4S: 4

Runoff = 7.38 cfs @ 12.16 hrs, Volume= 28,431 cf, Depth= 5.65"

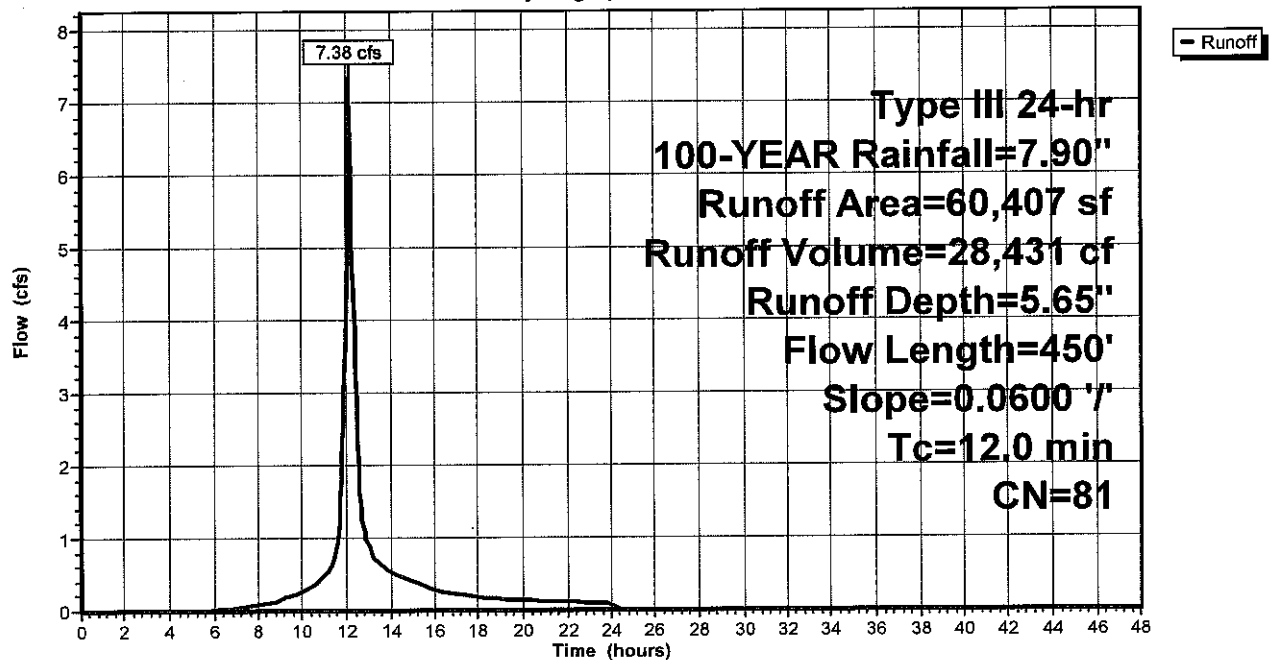
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-YEAR Rainfall=7.90"

Area (sf)	CN	Description
3,277	78	Meadow, non-grazed, HSG D
5,531	96	Gravel surface, HSG D
51,599	79	Woods/grass comb., Good, HSG D
60,407	81	Weighted Average
60,407		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1	50	0.0600	0.10		Sheet Flow, Grass: Bermuda n= 0.410 P2= 3.20"
3.9	400	0.0600	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
12.0	450	Total			

Subcatchment 4S: 4

Hydrograph



APPENDIX F
Utility Agreement

Exhibit C - Generating Facility Expedited/Standard Process Interconnection Application**Contact Information (TYPE or PRINT):**Date Prepared: 12/18/17**Legal Name and Address of Interconnecting Customer**Interconnecting Customer: Wildflower Solar, LLCContact Person: Nicholas FordMailing Address: 722 Preston Ave Suite 102City: CharlottesvilleState: VirginiaZip Code: 22903Telephone (Daytime): 4349875452

(Evening): _____

Facsimile Number: _____

E-Mail Address: nford@hexagon-energy.com**Ownership Information** (include % ownership by any electric utility): 0%**Site Control:** Does the Interconnecting Customer have site control?☒ Yes ☐ No**Confidentiality Statement:** "I agree to allow information regarding the processing of my application (without my name and address) to be reviewed by the Massachusetts DG Working Group that is exploring ways to further expedite future interconnections." ☒ Yes ☐ No**Group Study Agreement:** "I understand and agree if my project becomes part of a Group Study, the Company is authorized to share my contact information and project details with other parties that are also involved in the Group Study." ☒ Yes ☐ No**Host Retail Customer Contact Information** (complete any that are different than Interconnecting Customer information above): ☒ Yes ☐ No**Host Retail Customer Contact Information** (complete any that are different than Interconnecting Customer information above):

Retail Customer: _____

Contact Person: _____

E-Mail Address: _____

Telephone: _____

Landowner Name (if neither Interconnecting Customer nor Customer): Susan Baylan

Landowner email: _____

Landowner telephone: _____

Landowner Mailing Address: 1037 BroadwayCity: HaverhillState: MAZip Code: 01832**Alternative Contact Information** (e.g., system installation contractor or coordinating company, if appropriate):

Company Name: _____

Contact Person: _____

Mailing Address: _____

City: _____

State: _____

Zip Code: _____

Telephone (Daytime): _____

(Evening): _____

Facsimile Number: _____

E-Mail Address: _____

Electrical Contractor Contact Information (if appropriate):

Name: _____

E-mail Address: _____

Mailing Address: _____

Telephone: _____

City: _____

State: _____

Zip Code: _____

Interconnection Seminars: "I have attended one of the utility-hosted Interconnection Seminars." (Recommended) ☐ Yes ☒ No**Interconnection Tariff:** "I have reviewed the entire MDPU 1248 Standards for Interconnection of DG." (Recommended) ☒ Yes ☐ No**Facility Information (TYPE or PRINT):**

Please provide all Pre-Application Reports (either mandatory or optional as per MDPU 1248) as attachments.

Address of Facility: 1037 BroadwayCity: HaverhillState: MAZip Code: 01832**Single Parcel:** Will the Facility be constructed on a single parcel of land?☒ Yes ☐ No

Authorized/Proposed generation capacity already exists (check all that apply):

☐ On Current Account ☐ On Same Legal Parcel of Land ☐ In Same Building/Structure

If any apply, include existing generation capacity on design diagrams, and provide Application Number(s): _____

Electric Service Company: National Grid Account Number: 819 063 204 Meter Number: _____Work Request Number (For Upgrades or New Service): 256 365 14

MTC ID: _____

System Design Capacity: Nominal 250 (kW_{AC}) 288 (kVA)Maximum 250 (kW_{AC}) 250 (kVA)For Solar PV provide the DC-STC rating: 222 361 (kW_{DC})

Exhibit C - Generating Facility Expedited/Standard Process Interconnection ApplicationPrime Mover: ☒ Photovoltaic ☐ Reciprocating Engine ☐ Fuel Cell ☐ Turbine ☐ Other: _____Energy Source: ☒ Solar ☐ Wind ☐ Hydro ☐ Diesel ☐ Natural Gas ☐ Fuel Oil ☐ Other: _____

IEEE 1547.1 (UL 1741) Listed?

☒ Yes ☐ No

1) Generating Unit Type 1

Manufacturer: Solectria Model Name and Number: PVI 50TL Quantity: 10 5

AC Rating:

Nominal: 50 (kW) 50 (kVA) 480 (AC Volts)Maximum: 50 (kW) 50 (kVA) 480 (AC Volts)☐ Single or ☒ Three Phase

2) Generating Unit Type 2 (if applicable)

Manufacturer: _____ Model Name and Number: _____ Quantity: _____

AC Rating:

Nominal: _____ (kW) _____ (kVA) _____ (AC Volts)

Maximum: _____ (kW) _____ (kVA) _____ (AC Volts)

☐ Single or ☐ Three Phase

3) Generating Unit Type 3 (if applicable)

Manufacturer: _____ Model Name and Number: _____ Quantity: _____

AC Rating:

Nominal: _____ (kW) _____ (kVA) _____ (AC Volts)

Maximum: _____ (kW) _____ (kVA) _____ (AC Volts)

☐ Single or ☐ Three PhaseDoes this project need an air quality permit from the DEP? ☐ Yes ☒ No ☐ Not Sure

If "Yes", have you applied for it?

☐ Yes ☐ No

Planning to Export Power?

☒ Yes ☐ No

Is this a Cogeneration Facility?

☐ Yes ☒ NoAnticipated Export Power Purchaser: National GridExport Form? ☒ Qualifying Facility (QF) ☐ Net Metering ☐ Other (explain): _____Estimated Install Date: 11/30/2018 Estimated In-Service Date: 12/31/2018Agreement Need By: 6/1/2018*If net metering, please refer to Schedule Z of the Standards for Interconnection of Distributed Generation. Please note that if under the public cap, all off-takers must be a Municipality or other Governmental Entity (as defined in 220 C.M.R. 18.02) and therefore be certified by the DPU.***Application Process****Interconnecting Customer Signature:**

"I am opting to forego the Expedited Process. Please review this application under the Standard Process."

☐ Yes ☒ No

I hereby certify that, to the best of my knowledge, all of the information provided in this application is true:

Signature: [Signature] Title: Director of Engineering Date: 5/10/2018
12/19/2017

Please attach any documentation provided by the inverter manufacturer describing the inverter's UL 1741 listing.

All Application Materials Received (For Company use only):

The information provided in this application is complete, all attachments and supplemental application materials have been received, and the application may proceed to the initial/screening review stage of the interconnection process:

Signature: _____ Title: _____ Date: _____

Application ID number: _____

Exhibit C - Generating Facility Expedited/Standard Process Interconnection Application**Generating Facility Technical Detail**

Information on components of the generating facility that are currently Listed

	Equipment Type	Manufacturer	Model	National Standard
1.				
2.				
3.				
4.				
5.				
6.				

Total Number of Generating Units in Facility? _____

Generator Unit Power Factor Rating: 1 (0.8 lead/lag adjustable)Max Adjustable Leading Power Factor? 0.8 Max Adjustable Lagging Power Factor? 0.8**Generator Characteristic Data (for all inverter-based machines)**Max Design Fault Contribution Current? 55 A ☐ Instantaneous or ☒ RMSHarmonics Characteristics: <3% THD

Start-up power requirements: _____

Generator Characteristic Data (for all rotating machines)

Rotating Frequency: _____ (rpm) Neutral Grounding Resistor (If Applicable): _____

Additional Information for Synchronous Generating Units

Synchronous Reactance, Xd: _____ (PU) Transient Reactance, X'd: _____ (PU)

Subtransient Reactance, X''d: _____ (PU) Neg Sequence Reactance, X2: _____ (PU)

Zero Sequence Reactance, Xo: _____ (PU) kVA Base: _____ (PU)

Field Voltage: _____ (Volts) Field Current: _____ (Amps)

Additional information for Induction Generating Units

Rotor Resistance, Rr: _____ Stator Resistance, Rs: _____

Rotor Reactance, Xr: _____ Stator Reactance, Xs: _____

Magnetizing Reactance, Xm: _____ Short Circuit Reactance, Xd'': _____

Exciting Current: _____ Temperature Rise: _____

Frame Size: _____

Total Rotating Inertia, H: _____ Per Unit on kVA Base: _____

Reactive Power Required In Vars (No Load): _____

Reactive Power Required In Vars (Full Load): _____

Additional information for Induction Generating Units that are started by motoring

Motoring Power: _____ (kW) Design Letter: _____

Exhibit C - Generating Facility Expedited/Standard Process Interconnection Application**Interconnection Equipment Technical Detail** Date: _____

Will a transformer be used between the generator and the point of interconnection?

☒ Yes ☐ No

Will the transformer be provided by Interconnecting Customer?

☒ Yes ☐ No**Transformer Data** (if applicable, for Interconnecting Customer-Owned Transformer):Nameplate Rating: 250 500 (kVA)☐ Single or ☒ Three Phase
250 500 kVA BaseTransformer Impedance: 5.75 (%) on a

If Three Phase:

Transformer Primary: 13,200 (Volts)☐ Delta ☐ Wye ☒ Wye-Grounded ☐ Other: _____Transformer Secondary: 480 (Volts)☐ Delta ☐ Wye ☒ Wye-Grounded ☐ Other: _____**Transformer Fuse Data** (if applicable, for Interconnecting Customer-Owned Fuse):

(Attach copy of fuse manufacturer's Minimum Melt & Total Clearing Time-Current Curves)

Manufacturer: _____ Type: _____ Size: _____ Speed: _____

Interconnecting Circuit Breaker (if applicable):

Manufacturer: _____ Type: _____ Load Rating: _____ (Amps)

Interrupting Rating: _____ Trip Speed: _____ (Cycles)

Interconnection Protective Relays (if applicable):

If microprocessor-controlled, List of Functions and Adjustable Setpoints for the protective equipment or software:

	Setpoint Function	Minimum	Maximum
1.	See Single Line Diagram	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____

If discrete components (Enclose copy of any proposed Time-Overcurrent Coordination Curves):

Manufacturer: _____ Type: _____ Style/Catalog No.: _____ Proposed Setting: _____

Manufacturer: _____ Type: _____ Style/Catalog No.: _____ Proposed Setting: _____

Manufacturer: _____ Type: _____ Style/Catalog No.: _____ Proposed Setting: _____

Manufacturer: _____ Type: _____ Style/Catalog No.: _____ Proposed Setting: _____

Manufacturer: _____ Type: _____ Style/Catalog No.: _____ Proposed Setting: _____

Manufacturer: _____ Type: _____ Style/Catalog No.: _____ Proposed Setting: _____

Current Transformer Data (if applicable):

(Enclose copy of Manufacturer's Excitation & Ratio Correction Curves)

Manufacturer: _____ Type: _____ Accuracy Class: _____ Proposed Ratio Connection: _____

Manufacturer: _____ Type: _____ Accuracy Class: _____ Proposed Ratio Connection: _____

Potential Transformer Data (if applicable):

Manufacturer: _____ Type: _____ Accuracy Class: _____ Proposed Ratio Connection: _____

Manufacturer: _____ Type: _____ Accuracy Class: _____ Proposed Ratio Connection: _____

Exhibit C - Generating Facility Expedited/Standard Process Interconnection Application**General Technical Details**

Submit all of the customer's Interconnection Application materials and proposed design diagrams using the following process:

1. Email the following materials to National Grid at Distributed.Generation@nationalgrid.com:
 - a. ☒ P.E.-stamped One-Line Diagram (and ☐ Three-Line Diagram if applicable), including:
 - i. ☒ Schematics for all (internal & redundant) protection and control circuits, relay current circuits, relay potential circuits, and alarm/monitoring circuits (if applicable)
 - b. ☒ Site Plan, which indicates the precise physical location of the proposed:
 - i. ☐ Generating Facility
 - ii. ☐ AC Utility Disconnect Switch
 - iii. ☐ All meters (utility- and customer-owned)
 - iv. ☐ Related interconnection equipment
 - c. ☒ Technical Specifications (pdf files only)
 - d. ☒ Exhibit C (this form) – completed and signed (available on the website)
 - e. ☒ Legal Information Document – completed (available on the website)
 - f. ☐ Schedule Z (net metering only) – completed, initialed, and signed (available on the website)
 - g. ☐ Copy of electric bill (if applicable)
 - h. ☒ Copy of any Pre-Application Reports related to this application (if applicable)
 - i. ☒ Copy of Interconnection Application fee check
 - j. ☐ Any other information pertinent to this Interconnection Application (if applicable)
2. Mail the ☒ Interconnection Application fee check and the ☒ first two pages of the signed copy of this Interconnection Application form to:

National Grid
Attn: Distributed Generation
40 Sylvan Rd
Waltham, MA 02451

Note: The Schedule Z may be updated as needed at any point prior to the Authorization to Interconnect.

Refer to National Grid's Distributed Generation website for more detailed instructions:

Massachusetts:

Residential: http://www.nationalgridus.com/masselectric/home/energyeff/distributed_generation.asp

Commercial: http://www.nationalgridus.com/masselectric/business/energyeff/distributed_generation.asp

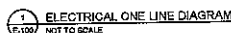
Nantucket:

Residential: http://www.nationalgridus.com/nantucket/home/energyeff/distributed_generation.asp

Commercial: http://www.nationalgridus.com/nantucket/business/energyeff/distributed_generation.asp

APPENDIX G

Interconnection Diagram

[illegible]

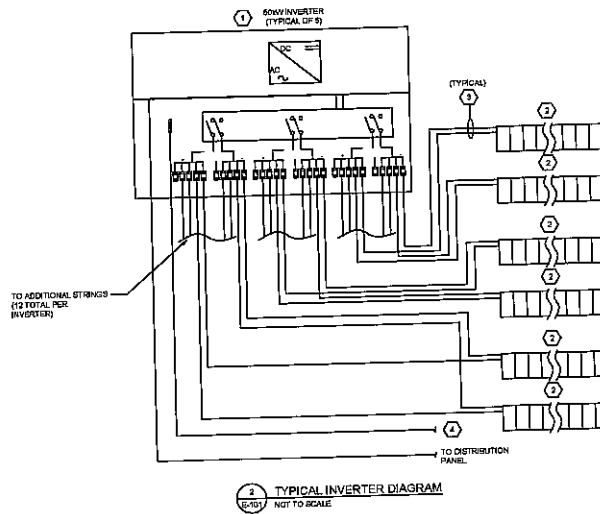
RELAY FUNCTIONS			
RELAYMENT	PROTECTOR FUNCTION	TIME	DESCRIPTION
27-1	50% OF NOMINAL (50%)	1.5s	UNDERVOLTAGE RELAY
27-2	50% OF NOMINAL (50%)	1	UNDERVOLTAGE RELAY
27-3	50% OF NOMINAL (50%)	2s	UNDERVOLTAGE RELAY
28-1	110% OF NOMINAL (110%)	1s	OVERVOLTAGE RELAY
28-2	110% OF NOMINAL (110%)	1.5s	OVERVOLTAGE RELAY
211-1	57.5%	2s	UNDERFREQUENCY RELAY
211-2	58.5%	100s	UNDERFREQUENCY RELAY
211-3	59.5%	2s	UNDERFREQUENCY RELAY
211-4	62%	1	UNDERFREQUENCY RELAY
21P	-	-	OVER CURRENT RELAY
51-1	-	-	OVER CURRENT RELAY
51C	-	-	VOLTAGE CONTROL RELAY

* SETTINGS TO BE COORDINATED WITH UTILITY

QUEST NO.: 1 OF 2

KEYED NOTES (1), (2), (3)

1. 500W SPECTRA PV 50TL INVERTERS, DERATED TO 485W (TYPICAL OF 6).
2. (18) 335W MODULES WIRED IN SERIES, EACH MODULE INCLUDES 2 #10 AND OUTDOOR RATED QUICK CONNECTS FOR MODULE INTERCONNECTION. DO NOT REMOVE THE QUICK CONNECTS, OTHERWISE THE MODULE WARRANTY AND THE UL LISTING MAY BE INVALIDATED.
3. STRONG WIRING CONNECTORS TO MATCH MODULE MANUFACTURER'S SPECIFICATIONS, PROVIDE CONDUIT FOR ALL EXPOSED DC STRONG WIRING AND PROVIDE SUPPORTS AS PER CONDUIT SUPPORT DETAIL AND NEC REQUIREMENTS.
4. #6 AWG BARE GROUNDING CONDUCTOR LINE WILL BE USED TO CONNECT THE METAL RACKING AND MODULES TO THE INVERTER.



PROJECT: 00000000
 DRAWING: 00000000
 DATE: 00/00/00

DISCLAIMER NOTE:
 1. IF THIS DRAWING DOES NOT CONTAIN THE ORIGINAL SEAL OF THE PROFESSIONAL ENGINEER, IT IS NOT A VALID DOCUMENT AND NO LIABILITY IS ASSUMED FOR THE INFORMATION SHOWN.
 2. THIS DRAWING HAS BEEN PREPARED AS AN "AS-BUILT" DOCUMENT, BASED ON THE DRAWING IF IT IS PLOTTED AS ANY OTHER DATE.

HEXAGON ENERGY

711 PINE STREET
 SUITE 100
 CHARLESTON, VA 23011
 TEL: 800-451-1234

NO.	DATE	REVISION DESCRIPTION
1	00/00/00	PRELIMINARY DESIGN
2	00/00/00	DESIGN REVISIONS
3	00/00/00	
4	00/00/00	
5	00/00/00	
6	00/00/00	
7	00/00/00	
8	00/00/00	
9	00/00/00	
10	00/00/00	

DRAWING:
 240KW (DC) / 240 KW (AC)
 GROUND MOUNTED
 PHOTOVOLTAIC SYSTEM
 WILDFLOWER SOLAR, LLC
 HAVERHILL, MA 01832
 ESSEX COUNTY

NO.	DATE	REVISION DESCRIPTION
1	00/00/00	PRELIMINARY DESIGN
2	00/00/00	DESIGN REVISIONS
3	00/00/00	
4	00/00/00	
5	00/00/00	
6	00/00/00	
7	00/00/00	
8	00/00/00	
9	00/00/00	
10	00/00/00	

ELECTRICAL ONE LINE DIAGRAM
E-101
 2 OF 2

APPENDIX H
Certificate of Liability



HEXAENE-01

JSAMS

DATE (MM/DD/YYYY)
09/26/2018

CERTIFICATE OF LIABILITY INSURANCE

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Cincinnati Insurance Company
Cincinnati Customer Care Center
P.O. Box 145496
Cincinnati, OH 45250-5496

CONTACT Jennifer Sams
PHONE (A/C, No, Ext): (877) 687-1291 FAX (A/C, No): (513) 881-8114
E-MAIL ADDRESS: CincinnatiCerts@cinfin.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Cincinnati Insurance Company	10677
INSURER B : Cincinnati Casualty Company	28665

INSURED
Hexagon Energy LLC
722 PRESTON AVE
STE 102
CHARLOTTESVILLE, VA 22903-4400

INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input checked="" type="checkbox"/> LOC OTHER:			EPP 0374580	02/17/2016	02/17/2019	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 500,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
A	<input type="checkbox"/> AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY			EPP 0374580	02/17/2016	02/17/2019	EACH OCCURRENCE \$ AGGREGATE \$
	<input type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> EXCESS LIAB DED <input type="checkbox"/> RETENTION \$						<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N <input checked="" type="checkbox"/> N	N/A	EWC 0374643	02/17/2018	02/17/2019	E.L. EACH ACCIDENT \$ 100,000 E.L. DISEASE - EA EMPLOYEE \$ 100,000 E.L. DISEASE - POLICY LIMIT \$ 500,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

Wildflower Solar, LLC
1037 Broadway
Haverhill, MA 01832

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Jennifer Sams

WILDFLOWER SOLAR, LLC

HEXAGON ENERGY

722 PRESTON AVENUE, SUITE 102

CHARLOTTESVILLE, VA 22903

TOWN OF HAVERHILL, MASSACHUSETTS

SHEET INDEX

1.0 COVER

2.0 EXISTING CONDITIONS

3.0 EROSION CONTROL AND CLEARING PLAN

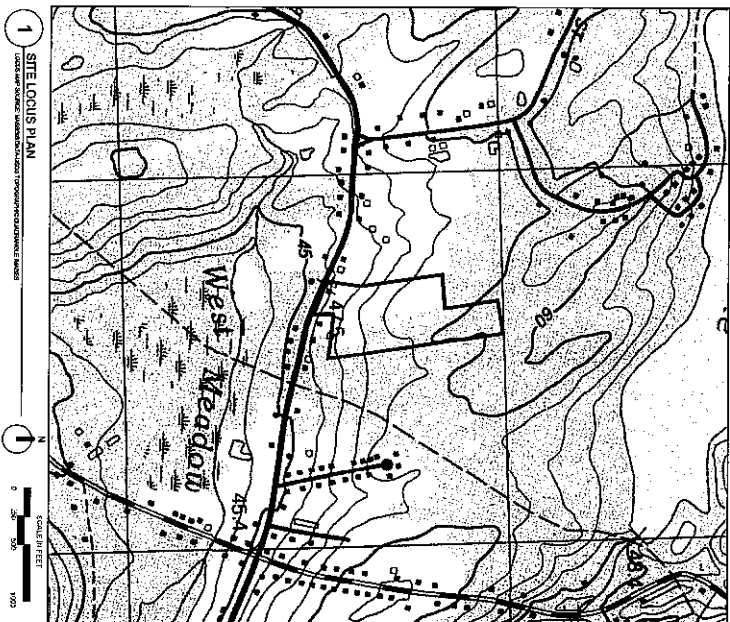
4.0 SITE PLAN

5.0 SITE DETAILS

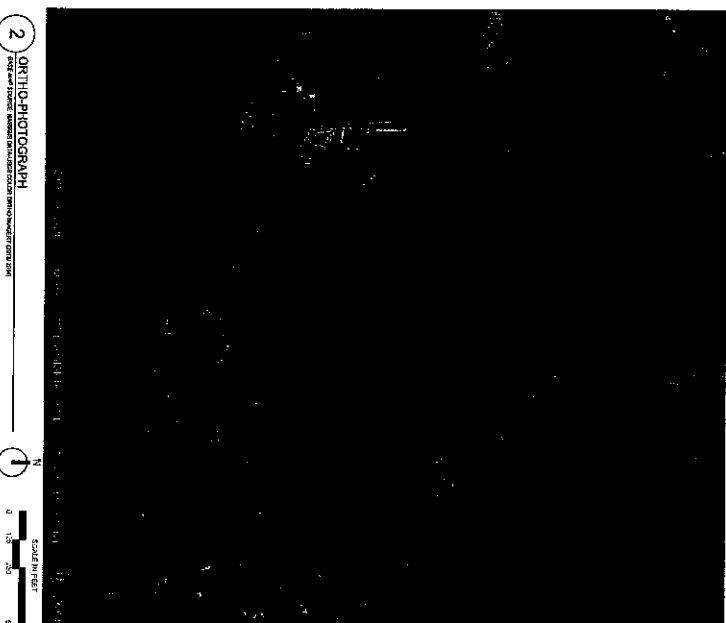
5.1 SITE DETAILS

6.0 EXISTING HYDROLOGY PLAN

6.1 PROPOSED HYDROLOGY PLAN

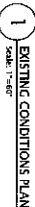


1 STELOCUS PLAN



2 ORTHO-PHOTOGRAPH

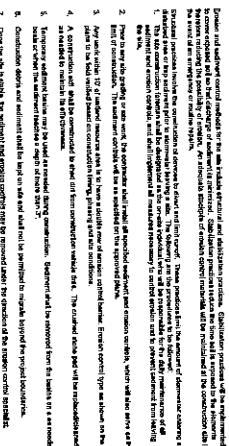
[illegible]





1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY OFF-ROAD STORAGE OF STAGING AREA. THE CONTRACTOR SHALL PROVIDE A STABILIZED CONSTRUCTION ENTRANCE FOR EACH OFF-ROAD STORAGE AREA.
2. STONE SIZE TO BE 2" TO 3" IN DIA.
3. THE ABOVE-MENTIONED STABILIZATION SHALL BE CONSIDERED TO BE USED OFF-ROAD, OFF-ROAD STORAGE, OR STAGING AREA, IF REQUIRED, AND OBTAINED BY THE CONTRACTOR.

2 STABILIZED CONSTRUCTION ENTRANCE
Scale: NTS



3. Other Considerations

- [illegible]

OPERATION AND MAINTENANCE PLAN

Orbiting around OSM plans

- [illegible]

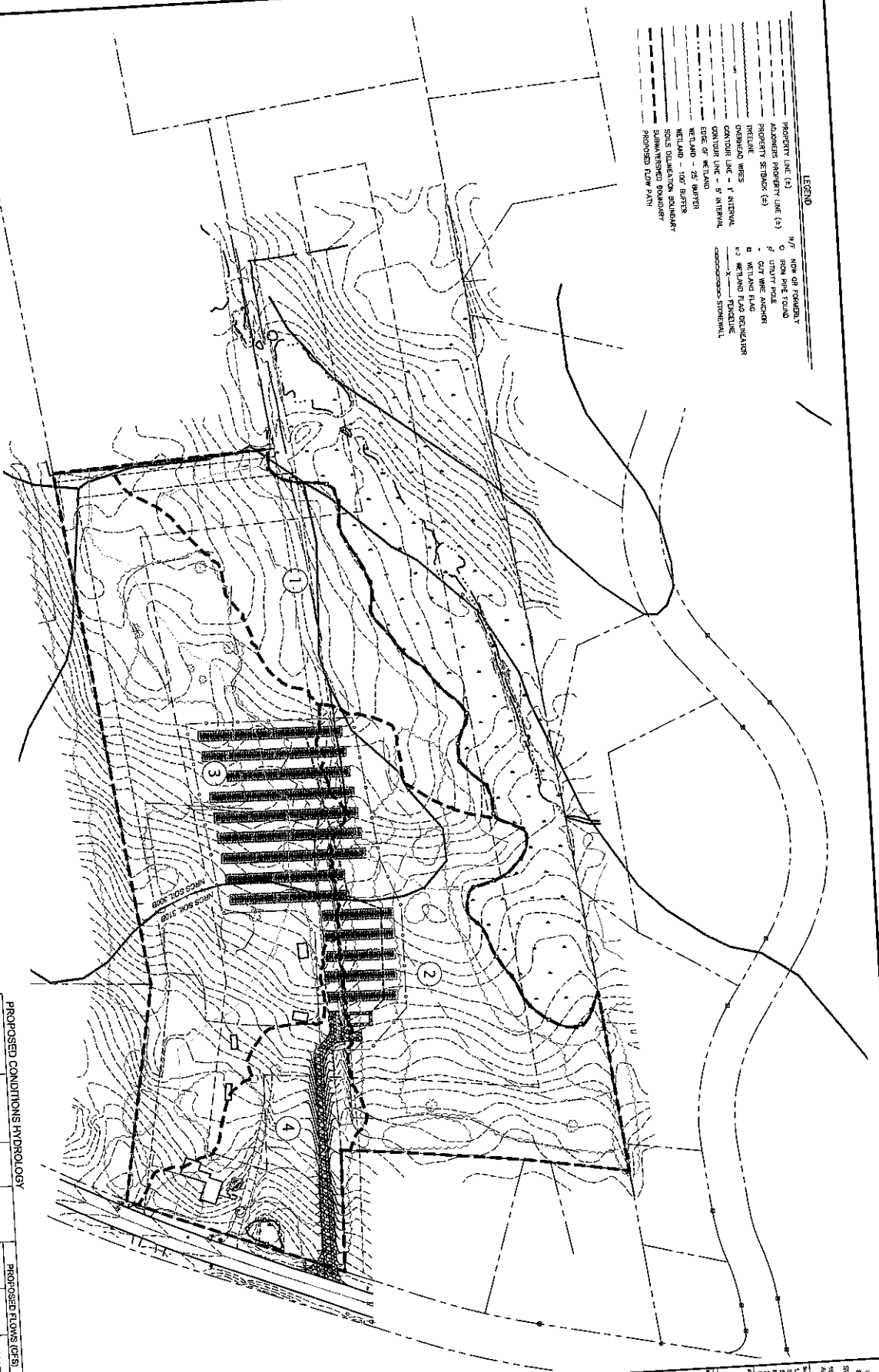
Verpackungen als Information für

1. Vegetation within the solar array, under and around the energy collecting panels and inside the perimeter fence, a strip of vegetation immediately outside of the fence line, and any other location throughout the site, shall be mowed annually at or on Section 5.1.
2. Shrub management by selective tree cutting shall be performed as needed.

Collective Tree Cultivation

1. No. In the case of a well-being test, the defendant is required to show that the defendant is a person who is a member of the community and is a person who is a member of the community and is a person who is a member of the community.
2. There will be no evidence that the defendant is a person who is a member of the community and is a person who is a member of the community and is a person who is a member of the community.
3. Contributions (Contributions) per year, or an amount that is not a contribution, or an amount that is not a contribution, or an amount that is not a contribution.

- LEGEND**
- PROPERTY LINE (2)
 - ADJOINING PROPERTY LINE (2)
 - PROPERTY SETBACK (2)
 - TREELINE
 - OVERHEAD WIRES
 - CONTOUR LINE - 1' INTERVAL
 - CONTOUR LINE - 5' INTERVAL
 - WETLAND - 25' BUFFER
 - WETLAND - 100' BUFFER
 - SOIL DELINEATION BOUNDARY
 - SOIL DELINEATION BOUNDARY
 - PROPOSED FLOW PATH
 - W/F
 - NON-DEVELOP
 - UTILITY POLE
 - OUT WIRE ANCHOR
 - WETLAND FLAG
 - WETLAND FLAG DETECTOR
 - PERMANENT
 - TEMPORARY



SOIL TABLE

SOIL MAP UNIT	USGS	MAP UNIT NAME
300B	C	MONTAUK FINE SANDY LOAM
310B	D	WOODBRIDGE FINE SANDY LOAM (PAVED C/D)

PROPOSED CONDITIONS HYDROLOGY

SUBWATERFRESH AREA (ACRES)	CN	TC (MIN.)	2-YR	10-YR	100-YR
1	1.64	7.3	3.7	7.7	13.5
2	1.64	7.3	3.7	7.7	13.5
3	1.64	7.3	3.7	7.7	13.5
4	1.64	7.3	3.7	7.7	13.5
5	1.64	7.3	3.7	7.7	13.5
6	1.64	7.3	3.7	7.7	13.5
7	1.64	7.3	3.7	7.7	13.5
8	1.64	7.3	3.7	7.7	13.5
9	1.64	7.3	3.7	7.7	13.5
10	1.64	7.3	3.7	7.7	13.5
11	1.64	7.3	3.7	7.7	13.5
12	1.64	7.3	3.7	7.7	13.5
13	1.64	7.3	3.7	7.7	13.5
14	1.64	7.3	3.7	7.7	13.5
15	1.64	7.3	3.7	7.7	13.5
16	1.64	7.3	3.7	7.7	13.5
17	1.64	7.3	3.7	7.7	13.5
18	1.64	7.3	3.7	7.7	13.5
19	1.64	7.3	3.7	7.7	13.5
20	1.64	7.3	3.7	7.7	13.5
21	1.64	7.3	3.7	7.7	13.5
22	1.64	7.3	3.7	7.7	13.5
23	1.64	7.3	3.7	7.7	13.5
24	1.64	7.3	3.7	7.7	13.5
25	1.64	7.3	3.7	7.7	13.5
26	1.64	7.3	3.7	7.7	13.5
27	1.64	7.3	3.7	7.7	13.5
28	1.64	7.3	3.7	7.7	13.5
29	1.64	7.3	3.7	7.7	13.5
30	1.64	7.3	3.7	7.7	13.5
31	1.64	7.3	3.7	7.7	13.5
32	1.64	7.3	3.7	7.7	13.5
33	1.64	7.3	3.7	7.7	13.5
34	1.64	7.3	3.7	7.7	13.5
35	1.64	7.3	3.7	7.7	13.5
36	1.64	7.3	3.7	7.7	13.5
37	1.64	7.3	3.7	7.7	13.5
38	1.64	7.3	3.7	7.7	13.5
39	1.64	7.3	3.7	7.7	13.5
40	1.64	7.3	3.7	7.7	13.5
41	1.64	7.3	3.7	7.7	13.5
42	1.64	7.3	3.7	7.7	13.5
43	1.64	7.3	3.7	7.7	13.5
44	1.64	7.3	3.7	7.7	13.5
45	1.64	7.3	3.7	7.7	13.5
46	1.64	7.3	3.7	7.7	13.5
47	1.64	7.3	3.7	7.7	13.5
48	1.64	7.3	3.7	7.7	13.5
49	1.64	7.3	3.7	7.7	13.5
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52	1.64	7.3	3.7	7.7	13.5
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60	1.64	7.3	3.7	7.7	13.5
61	1.64	7.3	3.7	7.7	13.5
62	1.64	7.3	3.7	7.7	13.5
63	1.64	7.3	3.7	7.7	13.5
64	1.64	7.3	3.7	7.7	13.5
65	1.64	7.3	3.7	7.7	13.5
66	1.64	7.3	3.7	7.7	13.5
67	1.64	7.3	3.7	7.7	13.5
68	1.64	7.3	3.7	7.7	13.5
69	1.64	7.3	3.7	7.7	13.5
70	1.64	7.3	3.7	7.7	13.5
71	1.64	7.3	3.7	7.7	13.5
72	1.64	7.3	3.7	7.7	13.5
73	1.64	7.3	3.7	7.7	13.5
74	1.64	7.3	3.7	7.7	13.5
75	1.64	7.3	3.7	7.7	13.5
76	1.64	7.3	3.7	7.7	13.5
77	1.64	7.3	3.7	7.7	13.5
78	1.64	7.3	3.7	7.7	13.5
79	1.64	7.3	3.7	7.7	13.5
80	1.64	7.3	3.7	7.7	13.5
81	1.64	7.3	3.7	7.7	13.5
82	1.64	7.3	3.7	7.7	13.5
83	1.64	7.3	3.7	7.7	13.5
84	1.64	7.3	3.7	7.7	13.5
85	1.64	7.3	3.7	7.7	13.5
86	1.64	7.3	3.7	7.7	13.5
87	1.64	7.3	3.7	7.7	13.5
88	1.64	7.3	3.7	7.7	13.5
89	1.64	7.3	3.7	7.7	13.5
90	1.64	7.3	3.7	7.7	13.5
91	1.64	7.3	3.7	7.7	13.5
92	1.64	7.3	3.7	7.7	13.5
93	1.64	7.3	3.7	7.7	13.5
94	1.64	7.3	3.7	7.7	13.5
95	1.64	7.3	3.7	7.7	13.5
96	1.64	7.3	3.7	7.7	13.5
97	1.64	7.3	3.7	7.7	13.5
98	1.64	7.3	3.7	7.7	13.5
99	1.64	7.3	3.7	7.7	13.5
100	1.64	7.3	3.7	7.7	13.5



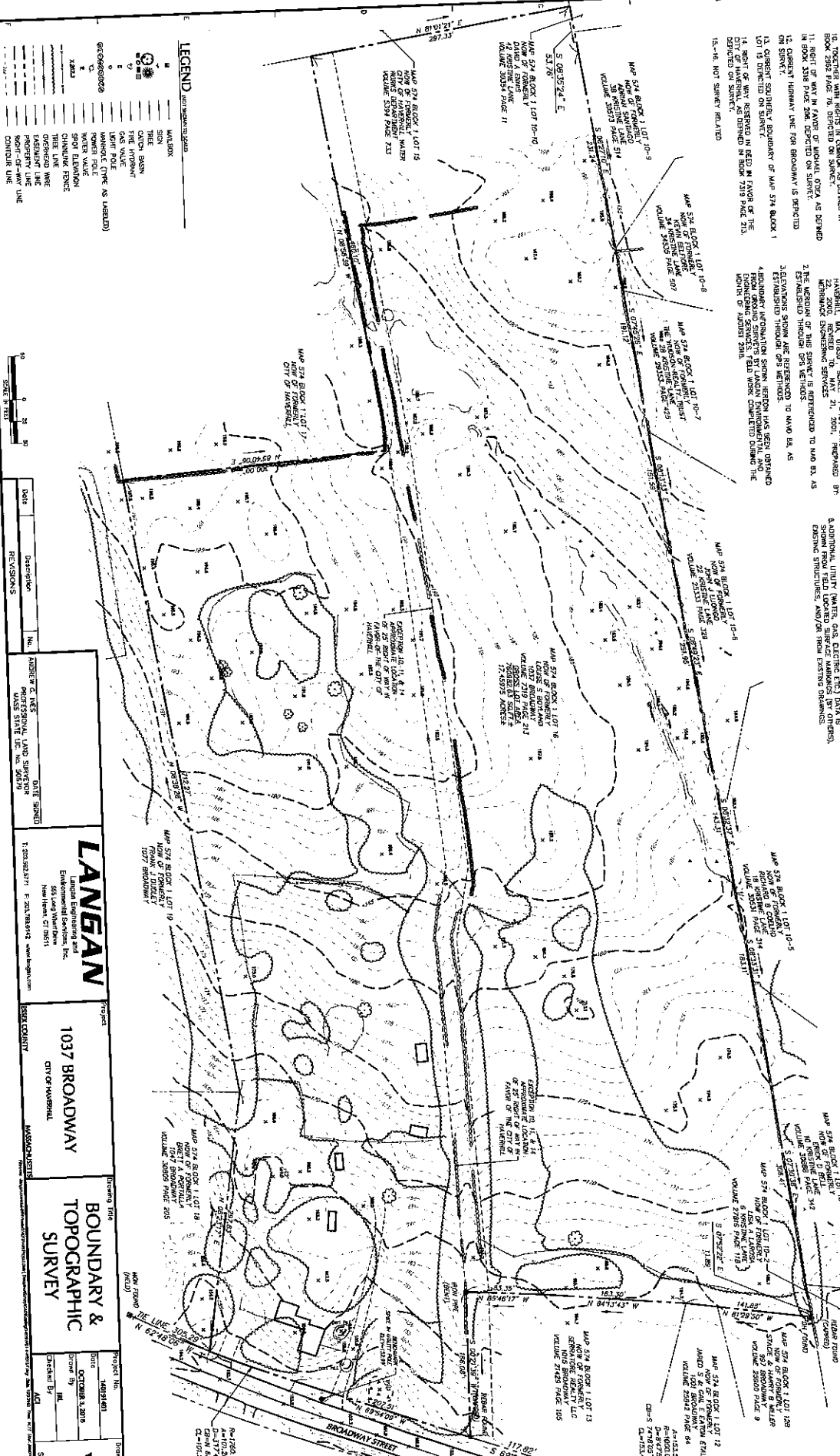
SWCA
ENVIRONMENTAL CONSULTANTS
1400 Main Street
Barnstable, MA 01903
(508) 366-1000
www.swca.com

PROJECT INFORMATION
Project Name: [REDACTED]
Project Location: [REDACTED]
Project Number: [REDACTED]
Project Date: [REDACTED]

DESIGNER INFORMATION
Designer Name: [REDACTED]
Designer Title: [REDACTED]
Designer Contact: [REDACTED]

APPROVALS
[REDACTED]
[REDACTED]
[REDACTED]

1. HAS SUBJECT A BASIS FROM EXISTING PROPERTY CONDITIONS AND BASIS OF THE SUBJECT SITE USED INFORMATION AND THE FOLLOWING REFERENCES:
 - A. AFFIDAVIT FOR TITLE INSURANCE ISSUED BY PINELLY TITLE INSURANCE COMPANY, COMMITMENT NUMBER 2770906, DEFECTIVE OFF SET ALIGHT 4, 2018 PARCEL# 6 SECTION B.
 - 1.-4. NOT SURVEY RELATED
 5. SURVEY PROVIDED
 - 6.-7. NOT SURVEY RELATED
 8. MAP REFERENCED IN #1.
 9. DOES NOT PERTAIN TO SUBJECT PARCEL.
 10. TOGETHER WITH RIGHTS IN COMMON AS DERIVED IN BOOK 2285 PAGE 7B, DERIVED ON SURVEY.
 11. RIGHT OF WAY IN FAVOR OF WILKIE OCEA AS DERIVED IN BOOK 2318 PAGE 30B, DERIVED ON SURVEY.
 12. CURRENT HAWAIIAN LANE BROADWAY IS DERIVED ON SURVEY.
 13. CURRENT BEACH DRIVE DERIVED OF MAP 574 BOOK 1
 14. DOES NOT SURVEY
 15. OF WAY REFERENCED IN DEED IN FAVOR OF THE CITY OF HAWAIIAN, AS DERIVED IN BOOK 2319 PAGE 213, DERIVED ON SURVEY.
 - 15.-16. NOT SURVEY RELATED

[illegible][illegible][illegible][illegible]

Heating March 5 2019
ROBERT D. HARB
ATTORNEY AT LAW
17 WEST STREET
HAVERHILL, MASSACHUSETTS 01830

TEL: (978) 373-5611
FAX: (978) 373-7441
EMAIL: bobharb@aol.com

13.2
Of Counsel
Alfred J. Cirome

December 26, 2018

Haverhill City Council
4 Summer Street
Haverhill, MA 01830

Re: Petition of Discontinue a Portion of I Street, Haverhill, MA

To the Members of the Haverhill City Council:

Robert E. Hackett and Ann P. Hackett of 1007 Boston Road, Haverhill, MA and Stephen Franciosa of 10 Merrimac St., Seabrook, NH hereby petition the Haverhill City Council to discontinue a portion of I Street located between Boston Road and Oxford Avenue, as set forth in the Plan filed herewith entitled "Discontinuance & Easement Plan of a Portion of 'I' ST. Located in Haverhill, Mass, Date: 12/6//2018, Scale: 1" = 40'" and which portion is more particularly described in the legal descriptions enclosed herewith. Said portion of I Street to be discontinued contains a total of 9,600 square feet \pm all as shown on said Plan.

The Council will note that the land on Boston Road abutting said portion of I Street requested to be discontinued is owned by the Petitioners, Robert E. Hackett and Ann P. Hackett.

The City Engineer has reviewed this Plan and at the request of the City Engineer, the entire portion of I Street located between Boston Road and Oxford Avenue is requested to be discontinued. Also, at the request of the City Engineer a 10' Utility Easement is to be reserved in the Northeast portion of I Street as shown on said Plan and a 10' Utility Easement is to be given to the City by the Owner of Lots 59-60, all as shown on said Plan. I am advised the Plan filed herewith meets the criteria of the City Engineer.

Enclosed are 30 sets of the Plan and the filing fee of \$150, payable to the City of Haverhill

Respectfully submitted,

Robert E. Hackett
Robert E. Hackett

Ann P. Hackett
Ann P. Hackett

Stephen Franciosa
Stephen Franciosa

Robert D. Harb
Attorney For Stephen Franciosa

Robert D. Harb
ATTORNEY AT LAW
17 WEST STREET
HAVERHILL, MASSACHUSETTS 01830

TEL: (978) 373-5611
FAX: (978) 373-7441
EMAIL: robharb@aol.com

Of Counsel
Alfred J. Cirome

January 9, 2019

Haverhill City Council
4 Summer Street
Haverhill, MA 01830

Re: Petition of Discontinue a Portion of I Street, Haverhill, MA

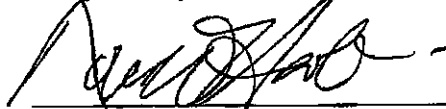
Waiver of Hearing Date Requirement

To the Members of the Haverhill City Council:

As requested, Applicant waives the 65 day hearing requirement.

Respectfully submitted,

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Robert D. Harb', is written over a horizontal line.

Attorney Robert D. Harb

FOR Street Order

2018JAN07PM1211HNUCITYC

PARCEL A

A certain tract of land being the southwesterly portion of "I" Street at it's intersection with Boston Road. Shown as Parcel A on a plan entitled, "Discontinuance & Easement Plan of A Portion of "I" Street, located in Haverhill, Mass., Scale: 1" = 40' and dated 12/6/2018," prepared by Christiansen and Sergi.

More particularly bounded:

Bounded on the southeast by Boston Road twenty (20) feet;

Bounded on the northeast by Parcel B one hundred and twenty (120) feet plus or minus;

Bounded on the northwest by Parcel C twenty (20) feet;

Bounded on the southwest by land n/f Hackett one hundred and twenty (120) feet plus or minus;

Parcel A contains 2,400+/- square feet.

PARCEL B

A certain tract of land being the southeasterly portion of "I" Street at it's intersection with Boston Road. Shown as Parcel B on a plan entitled, "Discontinuance & Easement Plan of A Portion of "I" Street, located in Haverhill, Mass., Scale: 1" = 40' and dated 12/6/2018," prepared by Christiansen and Sergi.

More particularly bounded:

Bounded on the southeast by Boston Road twenty (20) feet;

Bounded on the northeast by land n/f Hackett one hundred and twenty (120) feet plus or minus;

Bounded on the northwest by Parcel D twenty (20) feet;

Bounded on the southwest by Parcel A one hundred and twenty (120) feet plus or minus;

Parcel B contains 2,400+/- square feet.

PARCEL C

A certain tract of land being the northwesterly portion of "I" Street at it's intersection with Oxford Ave. Shown as Parcel C on a plan entitled, "Discontinuance & Easement Plan of A Portion of "I" Street, located in Haverhill, Mass., Scale: 1" = 40' and dated 12/6/2018," prepared by Christiansen and Sergi.

More particularly bounded:

Bounded on the southeast by Parcel A twenty (20) feet;

Bounded on the northeast by Parcel D one hundred and twenty (120) feet plus or minus;

Bounded on the northwest by Oxford Ave twenty (20) feet;

Bounded on the southwest by land n/f Clifford one hundred and twenty (120) feet plus or minus;

Parcel C contains 2,400+/- square feet.

PARCEL D

A certain tract of land being the northeasterly portion of "I" Street at it's intersection with Oxford Ave. Shown as Parcel D on a plan entitled, "Discontinuance & Easement Plan of A Portion of "I" Street, located in Haverhill, Mass., Scale: 1" = 40' and dated 12/6/2018," prepared by Christiansen and Sergi.

More particularly bounded:

Bounded on the southeast by Parcel B twenty (20) feet;

Bounded on the northeast by land n/f Davidowicz one hundred and twenty (120) feet plus or minus;

Bounded on the northwest by Oxford Ave twenty (20) feet;

Bounded on the southwest by Parcel C one hundred and twenty (120) feet plus or minus;

Parcel D contains 2,400+/- square feet.

Utility Easement

A 20' wide "Utility Easement" as shown on a plan entitled, "Discontinuance & Easement Plan of A Portion of "I" Street, located in Haverhill, Mass., Scale: 1" = 40' and dated 12/6/2018," prepared by Christiansen and Sergi. Being partially on Parcel D and partly on land n/f of Davidowicz.

More particularly bounded:

Bounded on the southeast by Parcel B ten (10) feet and land n/f Hackett ten (10) feet;

Bounded on the northeast by land n/f Davidowicz one hundred and twenty (120) feet plus or minus;

Bounded on the northwest by Oxford Ave twenty (20) feet;

Bounded on the southwest by Parcel C one hundred and twenty (120) feet plus or minus;

Containing 2,400+/- square feet

Hearing March 26 2019

FIGRELLLO & MIGLIORI
ATTORNEYS AT LAW

KAREN L. FIGRELLLO
kfigrelllo@fimilaw.com

FIREHOUSE CONDOMINIUMS
18 ESSEX STREET
HAVERHILL, MASSACHUSETTS 01832
TEL 978/373-3003 FAX 978/373-3066

MICHAEL J. MIGLIORI
mmigliori@fimilaw.com

13.3

January 8, 2019

Hand Delivered

John A. Michitson, President
Haverhill City Council
City Hall
4 Summer Street
Haverhill, MA 01830

Re: Special Permit
Owner: Gagnon Family Trust
Applicant: Johnson Construction Management
121-123 Portland Street
Parcel ID: 610-490-21 & 22

Dear President Michitson:

Please be advised this office represents Johnson Construction Management regarding the property located at 121-123 Portland Street and being shown on Haverhill Assessor's Map 610 Block 490 Lots 21-22.

The premises consist of 11,945 square feet of land.

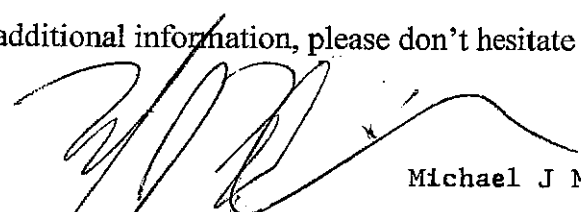
Johnson Construction Management is requesting a Special Permit from the City of Haverhill to construct a three-family residential building. The Haverhill Zoning Ordinance Chapter 255 Section 80 requires a Special Permit in light of the three-family use.

The property is shown in Haverhill Assessor's Map 610 Block 490 Lot 21-22 and is located in the "RU" Zoning District.

Kindly refer this matter to the Planning Board for a hearing on February 13, 2019 and schedule a subsequent hearing to be held before the City Council. I have enclosed the appropriate plans, reports and fees in connection with the requested Special Permit.

The applicant further agrees to waive the statutory requirement for the Haverhill City Council to hold a hearing on the matter within sixty-five (65) days.

Should you have any questions or need any additional information, please don't hesitate to contact me.

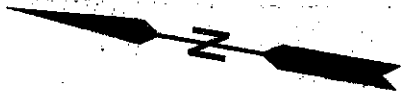


Michael J Mogliori

Enc.

ASSESSOR REFERENCE

MAP 610 BLOCK 490 LOTS 21-22



N/F
VICTOR SILVA ETUX
MAP 610 BLOCK 490 LOT 6A

N/F
BGW FAMILY REAL
MAP 610 BLOCK 4

LOTS 21-

A=11,945 S.F.

30' SE

N/F
127 PORTLAND STREET
REALTY TRUST
MAP 610 BLOCK 490 LOT 23

PARKING SPACE

(P1)

100.0'±

10' SETBACK

31'

112.0'±

25'

20' SETBACK

105.0'±

UNIT 1

UNIT 2

UNIT 3

(P1)

(P3)

(P5)

(P2)

(P4)

(P6)

DRIVE

DRIVE

PORTLAND STREET

HAVERHILL PLANNING BOARD

HAVERHILL CITY COUNCIL

DATE:

DATE:

13.3

ZONING DISTRICT RU 3 FAMILY	REQUIRED	PROPOSED
AREA	11,700 S.F.	11,975 S.F.
FRONTAGE	80'	105'
LOT DEPTH	100'	100'
LOT WIDTH	62.5	106'
FRONT SETBACK	20'	21'
SIDE SETBACK	10'	16'
REAR SETBACK	30'	31'
MAX.BDLG.COV.	30%	25%
MIN.OPEN SP.	40%	60%
PARKING	1.5 /UNIT-5	6 SPACES

NOTE: ALL DIMENSIONS TO BE CONFIRMED
BY SURVEY AREA PER ASSESSOR.

SPECIAL PERMIT PLAN PREPARED FOR **JOHNSON CONSTRUCTION MANAGEMENT**

LOCATED IN
HAVERHILL, MASS



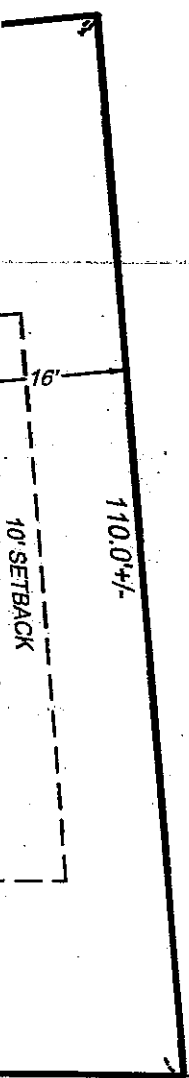
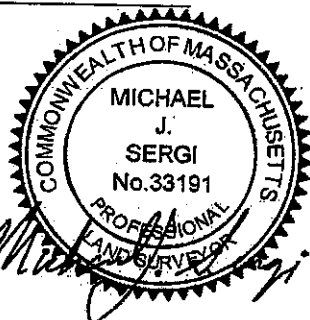
DATE: 12/16/2018 SCALE: 1" = 20'



PROFESSIONAL ENGINEERS & LAND SURVEYORS
CHRISTIANSEN & SERGI
A DIVISION OF THE MORIN CAMERON GROUP, INC.
160 SUMMER STREET, HAVERHILL, MASSACHUSETTS 01830
WWW.CSI-ENGR.COM TEL. 978-373-0310 FAX. 978-372-3960

DWG.NO. 3796.001.006

N/F
HENRIE REALTY
TRUST
MAP 610 BLOCK 20



APPLICATION FOR HANDICAP PARKING SIGN

*NEW ☒
 *RENEWAL ☐

13,4,1

DATE OF REQUEST 1-2-19 DATE OF APPROVAL _____

NAME: In Home Rehab + Wellness Associates

ADDRESS: 356 Main Street, Haverhill, MA 01830

TELEPHONE #: 978-837-0323 (Apostolos Koutoulas cell phone #)

VEHICLE TYPE: N/A

PLATE #: N/A

Do you currently have off street parking at your residence? Yes ☒ No ☐

If yes, why is there a need for a handicap parking sign? _____

Did you have a handicap parking sign at a previous address? Yes ☒ No ☐

If yes, location? _____

x [Signature]
Applicant Signature

- Please include a copy of your current handicap placard or handicap registration, along with this application.

☒ Approve ☐ Denied

Reason for denial

[Signature]
Chief of Police Signature

☐ Approve ☐ Denied

Reason for denial

City Council Approval

Please allow for a minimum of thirty (30) days for sign placement upon approval of City Council.

*ORDINANCE WILL EXPIRE 24 MONTHS FROM DATE OF APPROVAL.

MAIL OR DELIVER COMPLETED APPLICATION TO CHIEF OF POLICE, 40 BAILEY BLVD.

January 2 2019

Mayor James J Fiorentini

4 Summer St #100

Haverhill MA 01830

Dear Mayor Fiorentini,

I met with you in this last year to discuss adding of a crosswalk in front of my business at 356 Main St, and to possibly add Handicap Parking space. At this time, I decided to wait on the HP space but I am in the process of creating a new business at this location for In Home Nursing and Rehabilitation care.

In order to obtain the proper licensing from the state, I need to have Handicap parking for patients. Unfortunately 356 Main street does not have off street parking .

This is why I am requesting your assistance in obtaining this space. There is also a chiropractor and another home care agency in the building next door to my business who could also benefit from this addition.

So I officially request a HP In front of my building for my patients/visitors handicap disable clients that needed easier access to the clinic.

I would still request a cross walk near my building but I understand this may have to wait till the spring.

I would appreciate your assistance in this request and look forward to hearing from you.

Sincerely,



Apostolos Koutoulas Administrator LPTA/CLT



In Home Nursing

In Home Nursing and Rehabilitation

356 Main Street, Haverhill, MA 01830

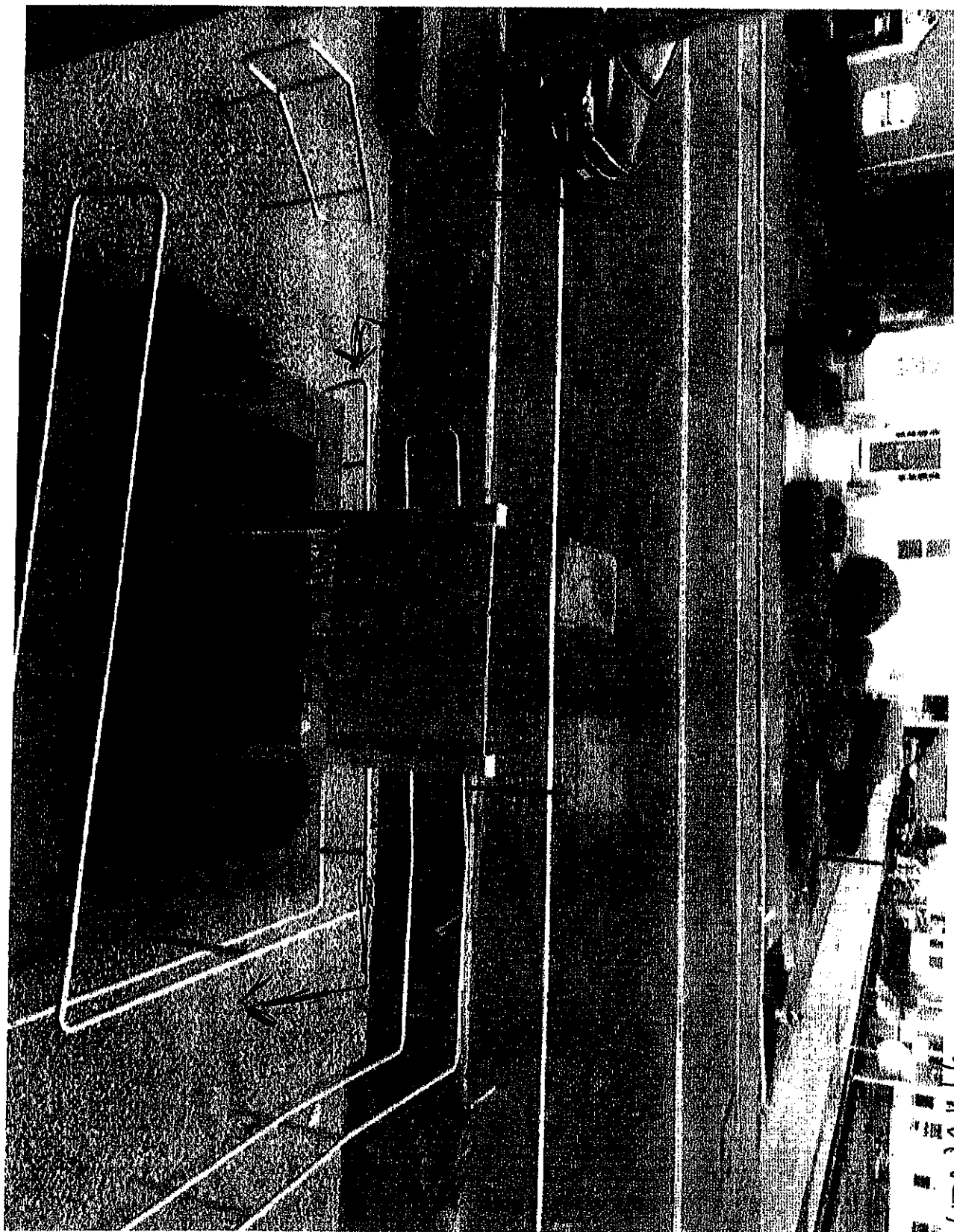
Phone: (978) 849-3142

Fax: (978) 849-3143

MA@InHomeNursing.net

356 MAIN STREET.

HAVEORTHILL



To: Chief Denaro
From: Officer Powell
Date: January 8, 2019
RE: Handicap Parking sign application

Sir,

I have spoken with Apostollos Koitouls, owner of In Home Rehab & Wellness Associates located at 356 Main St. in regards to his application for a handicap parking sign. He advised me that they have several handicapped patients. I also inspected the location. At this time I would recommend that a sign(s) be placed at the location.

Respectfully Submitted,

A handwritten signature in black ink, appearing to be 'L. Powell', with a long horizontal stroke extending to the right.

Officer L. Powell #8

CITY OF HAVERHILL
APPLICATION FOR HANDICAP PARKING SIGN

10 55783742401

P.01/01

*NEW ☒
*RENEWAL ☐

13,42

DATE OF REQUEST 9.4.18 DATE OF APPROVAL _____

NAME: June M Childs

ADDRESS: 8 Le Blanc ST Haverhill

TELEPHONE #: 978 452 7946

VEHICLE TYPE: CADDIE

PLATE #: P121

Do you currently have off street parking at your residence? Yes No

If yes, why is there a need for a handicap parking sign? _____

Did you have a handicap parking sign at a previous address? Yes No

If yes, location? _____

x June M Childs
Applicant Signature

- Please include a copy of your current handicap placard or handicap registration, along with this application.

✓ Approve _____ Denied

Alan R. D. [Signature] Reason for denial

Chief of Police Signature

_____ Approve _____ Denied

_____ Reason for denial

City Council Approval

Please allow for a minimum of thirty (30) days for sign placement upon approval of City Council.

*ORDINANCE WILL EXPIRE 24 MONTHS FROM DATE OF APPROVAL.

MAIL OR DELIVER COMPLETED APPLICATION TO CHIEF OF POLICE, 40 BAILEY BLVD.

To: Chief Denaro

From: Officer Powell

Date: January 8, 2019

RE: Handicap Parking sign application

Sir,

I have spoken with June Childs of 8 Leblanc St. in regards to her application for a handicap parking sign. I also inspected the location. At this time it appears that she meets all the requirements for a handicap sign and I would recommend that a sign be placed at the location.

Respectfully Submitted,

A handwritten signature in black ink, appearing to be 'L. Powell', written in a cursive style.

Officer L. Powell #8



Haverhill

13,5,1

City Clerk's Office, Room 118
Phone: 978-374-2312 Fax: 978-373-8490
cityclerk@cityofhaverhill.com

Date: 11/21/19

Honorable President and Members of the Municipal Council:

The undersigned respectfully asks to receive a license for **TAG DAYS**
pursuant to Chapter 227 of Haverhill City Code

Organization: Haverhill High School Applicant's Name: Christine O'Leary
Applicant's Residence (must be Haverhill resident): Boys Swimming and Diving
Applicant's Signature: [Signature] 5 Byron St
Bradford MA 01835

(3 CONSECUTIVE DAYS ONLY)

Date of Tag Day Request(s): January 18, 19, 20
Canister: _____ Tag: ✓ Fee: \$ N/C

ON STREET LOCATIONS ARE NO LONGER PERMITTED - SEE DOC . 47 OF 2017

OFF STREET LOCATIONS - PLEASE SPECIFY

Bunkin Market Basket Royal nails
Heavenly Albi's

***A LETTER FROM THE PRIVATE PROPERTY OWNER GRANTING PERMISSION FOR
USE OF THE LISTED LOCATIONS IS REQUIRED AT THE TIME OF THE APPLICATION**

**A sample of the badge being used by those tagging and a sample of the tag being issued by the
Organization must be filed with the City Clerk's Office at the time of the application**

Office Use Only

Recommendation by Police Chief: ✓ Approved
_____ Denied

[Signature]
Police Chief

In Municipal Council, _____

Attest: _____
City Clerk



Haverhill

13,512

City Clerk's Office, Room 118
 Phone: 978-374-2312 Fax: 978-373-8490
 cityclerk@cityofhaverhill.com

Date: 1/2/18

Honorable President and Members of the Municipal Council:

The undersigned respectfully asks to receive a license for **TAG DAYS**
 pursuant to Chapter 227 of Haverhill City Code

Organization: HHS Girls Basketball Applicant's Name: Tara Helmer
 Applicant's Residence (must be Haverhill resident): 60 ROTHCR.
 Applicant's Signature: Tara Helmer

(3 CONSECUTIVE DAYS ONLY)

Date of Tag Day Request(s): 2/2 & 2/3

Canister: _____ Tag: ☒ Fee: \$ 0

ON STREET LOCATIONS ARE NO LONGER PERMITTED - SEE DOC. 47 OF 2017

OFF STREET LOCATIONS - PLEASE SPECIFY

① market Basket - all ④ One Stop Market
 ② Heavenly Donuts - Bradford & Plaistow line
 ③ Dunkin Donuts - Plaistow line ⑤ Duffy's Diner

***A LETTER FROM THE PRIVATE PROPERTY OWNER GRANTING PERMISSION FOR
 USE OF THE LISTED LOCATIONS IS REQUIRED AT THE TIME OF THE APPLICATION**

**A sample of the badge being used by those tagging and a sample of the tag being issued by the
 Organization must be filed with the City Clerk's Office at the time of the application**

Office Use Only

Recommendation by Police Chief: ☒ Approved
☐ Denied

Alan R. [Signature]

Police Chief

In Municipal Council, _____

Attest: _____
 City Clerk



Haverhill

13,5,3

City Clerk's Office, Room 118
Phone: 978-374-2312 Fax: 978-373-8490
cityclerk@cityofhaverhill.com

Date: Jan 2, 2019

Honorable President and Members of the Municipal Council:

The undersigned respectfully asks to receive a license for **TAG DAYS**
pursuant to Chapter 227 of Haverhill City Code

Organization: HHS Indoor Track Applicant's Name: Gwen Miner
Applicant's Residence (must be Haverhill resident): 62 Brockton Ave, Haverhill
Applicant's Signature: Gwen Miner

(3 CONSECUTIVE DAYS ONLY)

Date of Tag Day Request(s): Feb 9, 10 2019

Canister: ☒ Tag: _____ Fee: \$ _____

ON STREET LOCATIONS ARE NO LONGER PERMITTED – SEE DOC . 47 OF 2017

OFF STREET LOCATIONS - PLEASE SPECIFY

3 Market Baskets
2 Heavenly Donuts
Duffy's Diner
One Stop

***A LETTER FROM THE PRIVATE PROPERTY OWNER GRANTING PERMISSION FOR
USE OF THE LISTED LOCATIONS IS REQUIRED AT THE TIME OF THE APPLICATION**

**A sample of the badge being used by those tagging and a sample of the tag being issued by the
Organization must be filed with the City Clerk's Office at the time of the application**

Office Use Only

Recommendation by Police Chief: ☒ Approved
_____ Denied

Alan R. P. [Signature]

Police Chief

In Municipal Council, _____

Attest: _____
City Clerk



Haverhill

13,5,4

City Clerk's Office, Room 118
Phone: 978-374-2312 Fax: 978-373-8490
cityclerk@cityofhaverhill.com

Date: 1/7/19

Honorable President and Members of the Municipal Council:

The undersigned respectfully asks to receive a license for **TAG DAYS**
pursuant to Chapter 227 of Haverhill City Code

Organization: Girls Haverhill Travel Basketball Applicant's Name: Samantha Cerasuolo-Hackett
Applicant's Residence (must be Haverhill resident): 13 Allen St. Haverhill 01835
Applicant's Signature: Sam Cerasuolo-Hackett

(3 CONSECUTIVE DAYS ONLY)

Date of Tag Day Request(s): 3/23 + 3/24

Canister: _____ Tag: ☒ Fee: \$ 20.00

ON STREET LOCATIONS ARE NO LONGER PERMITTED - SEE DOC. 47 OF 2017

OFF STREET LOCATIONS - PLEASE SPECIFY

Market Basket (Westgate - Stadium)
Heavenly

***A LETTER FROM THE PRIVATE PROPERTY OWNER GRANTING PERMISSION FOR
USE OF THE LISTED LOCATIONS IS REQUIRED AT THE TIME OF THE APPLICATION**

**A sample of the badge being used by those tagging and a sample of the tag being issued by the
Organization must be filed with the City Clerk's Office at the time of the application**

Recommendation by Police Chief: ☒ Approved Ala R. D. [Signature]
☐ Denied
Office Use Only
Police Chief

In Municipal Council, _____

Attest: _____
City Clerk



Haverhill

13,5,5

City Clerk's Office, Room 118
Phone: 978-374-2312 Fax: 978-373-8490
cityclerk@cityofhaverhill.com

Date: Jan 2, 2019

Honorable President and Members of the Municipal Council:

The undersigned respectfully asks to receive a license for **TAG DAYS**
pursuant to Chapter 227 of Haverhill City Code

Organization: HHS Classical Academy Parent's Assoc. Applicant's Name: Gwen Miner

Applicant's Residence (must be Haverhill resident): 62 Brackett Ave, Haverhill

Applicant's Signature: Gwen Miner

(3 CONSECUTIVE DAYS ONLY)

Date of Tag Day Request(s): March 29, 30, 31, 2019

Canister: ☒ Tag: _____ Fee: \$ _____

ON STREET LOCATIONS ARE NO LONGER PERMITTED - SEE DOC . 47 OF 2017

OFF STREET LOCATIONS - PLEASE SPECIFY

3 Market Baskets
2 Heavenly Donuts
Duffy's Diner
One Stop

***A LETTER FROM THE PRIVATE PROPERTY OWNER GRANTING PERMISSION FOR
USE OF THE LISTED LOCATIONS IS REQUIRED AT THE TIME OF THE APPLICATION**

**A sample of the badge being used by those tagging and a sample of the tag being issued by the
Organization must be filed with the City Clerk's Office at the time of the application**

Office Use Only

Recommendation by Police Chief: ☒ Approved
_____ Denied

Alan R. D. [Signature]

Police Chief

In Municipal Council, _____

Attest: _____
City Clerk



Haverhill

13.5.6

City Clerk's Office, Room 118
Phone: 978-374-2312 Fax: 978-373-8490
cityclerk@cityofhaverhill.com

Date: Jan 2, 2019

Honorable President and Members of the Municipal Council:

The undersigned respectfully asks to receive a license for **TAG DAYS**
pursuant to Chapter 227 of Haverhill City Code

Organization: HHS outdoor trade Applicant's Name: Gwen Miner
Applicant's Residence (must be Haverhill resident): 62 Brockton Ave, Haverhill
Applicant's Signature: Gwen Miner

(3 CONSECUTIVE DAYS ONLY)

Date of Tag Day Request(s): April 6-7, 2019

Canister: ☒ Tag: _____ Fee: \$ _____

ON STREET LOCATIONS ARE NO LONGER PERMITTED – SEE DOC . 47 OF 2017

OFF STREET LOCATIONS - PLEASE SPECIFY

3 Market Baskets
2 Heavenly Donuts
Duffy's Diner
One Stop

***A LETTER FROM THE PRIVATE PROPERTY OWNER GRANTING PERMISSION FOR
USE OF THE LISTED LOCATIONS IS REQUIRED AT THE TIME OF THE APPLICATION**

**A sample of the badge being used by those tagging and a sample of the tag being issued by the
Organization must be filed with the City Clerk's Office at the time of the application**

Office Use Only

Recommendation by Police Chief: ☒ Approved
_____ Denied

Alan R. [Signature]

Police Chief

In Municipal Council, _____

Attest: _____
City Clerk



Haverhill

13.5.7

City Clerk's Office, Room 118
Phone: 978-374-2312 Fax: 978-373-8490
cityclerk@cityofhaverhill.com

Date: 1/2/19

Honorable President and Members of the Municipal Council:

The undersigned respectfully asks to receive a license for **TAG DAYS**
pursuant to Chapter 227 of Haverhill City Code

Organization: HHS Baseball Applicant's Name: Larry O'Brien
Applicant's Residence (must be Haverhill resident): 24 Merrimack
Applicant's Signature: [Signature]

(3 CONSECUTIVE DAYS ONLY)

Date of Tag Day Request(s): 4/19 + 4/20

Canister: _____ Tag: _____ Fee: \$ 0

ON STREET LOCATIONS ARE NO LONGER PERMITTED – SEE DOC. 47 OF 2017

OFF STREET LOCATIONS - PLEASE SPECIFY

Market Basket (3)
Heavenly's Donuts (2)
One Stop Broadway

Papa John's
Shamrock Westgate Liquors
Henry's Liquors
US Post Office (2)

***A LETTER FROM THE PRIVATE PROPERTY OWNER GRANTING PERMISSION FOR
USE OF THE LISTED LOCATIONS IS REQUIRED AT THE TIME OF THE APPLICATION**

**A sample of the badge being used by those tagging and a sample of the tag being issued by the
Organization must be filed with the City Clerk's Office at the time of the application**

Office Use Only

Recommendation by Police Chief: ☒ Approved
_____ Denied

[Signature]

Police Chief

In Municipal Council, _____

Attest:

City Clerk

2019JAND2am1118HAYCITYC



Haverhill

13.5.8

City Clerk's Office, Room 118
Phone: 978-374-2312 Fax: 978-373-8490
cityclerk@cityofhaverhill.com

Date: 1/2/19

Honorable President and Members of the Municipal Council:

The undersigned respectfully asks to receive a license for **TAG DAYS**
pursuant to Chapter 227 of Haverhill City Code

Organization: A.H.S. GIRLS LAX Lacrosse Applicant's Name: Debra Sullivan
Applicant's Residence (must be Haverhill resident): 71 Ashworth Ter.
Applicant's Signature: Debra D. Sullivan

(3 CONSECUTIVE DAYS ONLY)

Date of Tag Day Request(s): April 27th + 28th

Canister: _____ Tag: ✓ Fee: \$ N/C

ON STREET LOCATIONS ARE NO LONGER PERMITTED – SEE DOC. 47 OF 2017

OFF STREET LOCATIONS - PLEASE SPECIFY

M.B.S.
Marks Deli
Dunkin Donuts

***A LETTER FROM THE PRIVATE PROPERTY OWNER GRANTING PERMISSION FOR
USE OF THE LISTED LOCATIONS IS REQUIRED AT THE TIME OF THE APPLICATION**

**A sample of the badge being used by those tagging and a sample of the tag being issued by the
Organization must be filed with the City Clerk's Office at the time of the application**

Office Use Only

Recommendation by Police Chief: ✓ Approved
_____ Denied

Alan R. [Signature]

Police Chief

In Municipal Council, _____

Attest:

City Clerk



Haverhill

13,519

City Clerk's Office, Room 118
Phone: 978-374-2312 Fax: 978-373-8490
cityclerk@cityofhaverhill.com

Date: **JAN 02 2019**

Honorable President and Members of the Municipal Council:

The undersigned respectfully asks to receive a license for **TAG DAYS**
pursuant to Chapter 227 of Haverhill City Code

Organization: Haverhill Elite Track Applicant's Name: Stephanie Crapsey
Applicant's Residence (must be Haverhill resident): 77 Old Yankee rd
Applicant's Signature: [Signature]

(3 CONSECUTIVE DAYS ONLY)

Date of Tag Day Request(s): May 3, 4, 5 2019
Canister: Tag: ✓ Fee: \$ 30.00

ON STREET LOCATIONS ARE NO LONGER PERMITTED - SEE DOC. 47 OF 2017

OFF STREET LOCATIONS - PLEASE SPECIFY

Market Basket (3)
Dunkin Donuts

Heavenly Donuts

***A LETTER FROM THE PRIVATE PROPERTY OWNER GRANTING PERMISSION FOR
USE OF THE LISTED LOCATIONS IS REQUIRED AT THE TIME OF THE APPLICATION**

**A sample of the badge being used by those tagging and a sample of the tag being issued by the
Organization must be filed with the City Clerk's Office at the time of the application**

Office Use Only

Recommendation by Police Chief: ✓ Approved
 Denied

[Signature]

Police Chief

In Municipal Council,

Attest:
City Clerk



Haverhill

13.5,10

City Clerk's Office, Room 118
Phone: 978-374-2312 Fax: 978-373-8490
cityclerk@cityofhaverhill.com

Date: 1/2/2019

Honorable President and Members of the Municipal Council:

The undersigned respectfully asks to receive a license for **TAG DAYS**
pursuant to Chapter 227 of Haverhill City Code

Organization: VFW Post 29 Applicant's Name: Keith Gopsill

Applicant's Residence (must be Haverhill resident): 41 Lincoln Ave.

Applicant's Signature: [Signature]

(3 CONSECUTIVE DAYS ONLY)

Date of Tag Day Request(s): 5/17 + 5/18

Canister: _____ Tag: _____ Fee: \$ 20.00

ON STREET LOCATIONS ARE NO LONGER PERMITTED – SEE DOC . 47 OF 2017

OFF STREET LOCATIONS - PLEASE SPECIFY

Market Basket ③

***A LETTER FROM THE PRIVATE PROPERTY OWNER GRANTING PERMISSION FOR
USE OF THE LISTED LOCATIONS IS REQUIRED AT THE TIME OF THE APPLICATION**

**A sample of the badge being used by those tagging and a sample of the tag being issued by the
Organization must be filed with the City Clerk's Office at the time of the application**

Office Use Only

Recommendation by Police Chief: ☒ Approved
_____ Denied

[Signature]

Police Chief

In Municipal Council, _____

Attest: _____
City Clerk



Haverhill

13,511

City Clerk's Office, Room 118
Phone: 978-374-2312 Fax: 978-373-8490
cityclerk@cityofhaverhill.com

Date: 1/2

Honorable President and Members of the Municipal Council:

The undersigned respectfully asks to receive a license for **TAG DAYS**
pursuant to Chapter 227 of Haverhill City Code

Organization: HHS Boys Volleyball Applicant's Name: Vincent Petros

Applicant's Residence (must be Haverhill resident): 95 Homestead Street

Applicant's Signature: [Signature]

(3 CONSECUTIVE DAYS ONLY)

Date of Tag Day Request(s): 5/24, 5/25

Canister: X Tag: X Fee: \$ 0

ON STREET LOCATIONS ARE NO LONGER PERMITTED - SEE DOC. 47 OF 2017

OFF STREET LOCATIONS - PLEASE SPECIFY

Market Basket(s) - All Three
Heavenly Donut - Both
Donuts

***A LETTER FROM THE PRIVATE PROPERTY OWNER GRANTING PERMISSION FOR
USE OF THE LISTED LOCATIONS IS REQUIRED AT THE TIME OF THE APPLICATION**

**A sample of the badge being used by those tagging and a sample of the tag being issued by the
Organization must be filed with the City Clerk's Office at the time of the application**

Recommendation by Police Chief: ✓ Approved [Signature] Office Use Only
_____ Denied
Police Chief

In Municipal Council, _____

Attest: _____
City Clerk



Haverhill

13,512

City Clerk's Office, Room 118
Phone: 978-374-2312 Fax: 978-373-8490
cityclerk@cityofhaverhill.com

Date: _____

Honorable President and Members of the Municipal Council:

JAN 02 2019

The undersigned respectfully asks to receive a license for **TAG DAYS**
pursuant to Chapter 227 of Haverhill City Code

Organization: DAV - Chapter 20 Applicant's Name: Russ Chaput
Applicant's Residence (must be Haverhill resident): 56 Brandy Brook rd
Applicant's Signature: Russell R. Chaput

(3 CONSECUTIVE DAYS ONLY)

Date of Tag Day Request(s): June, 6, 7, 8 2019
Canister: _____ Tag: L Fee: \$ 30.00

ON STREET LOCATIONS ARE NO LONGER PERMITTED - SEE DOC. 47 OF 2017

OFF STREET LOCATIONS - PLEASE SPECIFY

Heavenly Donuts Post Office
Market Baskets (3)

***A LETTER FROM THE PRIVATE PROPERTY OWNER GRANTING PERMISSION FOR
USE OF THE LISTED LOCATIONS IS REQUIRED AT THE TIME OF THE APPLICATION**

**A sample of the badge being used by those tagging and a sample of the tag being issued by the
Organization must be filed with the City Clerk's Office at the time of the application**

Office Use Only

Recommendation by Police Chief: ☒ Approved
☐ Denied

Alan R. D. [Signature]

Police Chief

In Municipal Council, _____

Attest: _____
City Clerk



Haverhill

13,513

City Clerk's Office, Room 118
Phone: 978-374-2312 Fax: 978-373-8490
cityclerk@cityofhaverhill.com

Date: _____

Honorable President and Members of the Municipal Council:

JAN 02 2019

The undersigned respectfully asks to receive a license for **TAG DAYS**
pursuant to Chapter 227 of Haverhill City Code

Organization: Korean War Veterans Applicant's Name: Russ Chaput
Applicant's Residence (must be Haverhill resident): 56 Brandy Brook rd
Applicant's Signature: Russell V. Chaput

(3 CONSECUTIVE DAYS ONLY)

Date of Tag Day Request(s): September 5, 6, 7 2019
Canister: _____ Tag: ✓ Fee: \$ 30.00

ON STREET LOCATIONS ARE NO LONGER PERMITTED - SEE DOC. 47 OF 2017

OFF STREET LOCATIONS - PLEASE SPECIFY

Heavenly Donuts Post office
Market Baskets (3)

***A LETTER FROM THE PRIVATE PROPERTY OWNER GRANTING PERMISSION FOR
USE OF THE LISTED LOCATIONS IS REQUIRED AT THE TIME OF THE APPLICATION**

**A sample of the badge being used by those tagging and a sample of the tag being issued by the
Organization must be filed with the City Clerk's Office at the time of the application**

Office Use Only

Recommendation by Police Chief: ✓ Approved
_____ Denied

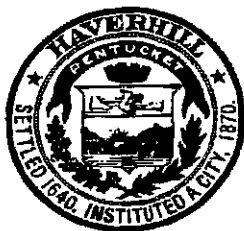
Al R. DeLoe

Police Chief

In Municipal Council, _____

Attest: _____

City Clerk



Haverhill

13,5,14

City Clerk's Office, Room 118
Phone: 978-374-2312 Fax: 978-373-8490
cityclerk@cityofhaverhill.com

Date: Jan 2, 2019

Honorable President and Members of the Municipal Council:

The undersigned respectfully asks to receive a license for **TAG DAYS**
pursuant to Chapter 227 of Haverhill City Code

Organization: HHS cross country Applicant's Name: Gwen Miner

Applicant's Residence (must be Haverhill resident): 62 Brockton Ave, Haverhill

Applicant's Signature: Gwen Miner

(3 CONSECUTIVE DAYS ONLY)

Date of Tag Day Request(s): Sept 14-15, 2019

Canister: ☒ Tag: _____ Fee: \$ _____

ON STREET LOCATIONS ARE NO LONGER PERMITTED - SEE DOC. 47 OF 2017

OFF STREET LOCATIONS - PLEASE SPECIFY

3 Market Baskets
2 Heavenly Donuts
Duffy's Piner
One Stop

***A LETTER FROM THE PRIVATE PROPERTY OWNER GRANTING PERMISSION FOR
USE OF THE LISTED LOCATIONS IS REQUIRED AT THE TIME OF THE APPLICATION**

**A sample of the badge being used by those tagging and a sample of the tag being issued by the
Organization must be filed with the City Clerk's Office at the time of the application**

Office Use Only

Recommendation by Police Chief: ☒ Approved
_____ Denied

Alan R. D. [Signature]

Police Chief

In Municipal Council, _____

Attest: _____

City Clerk



Haverhill

13,515

City Clerk's Office, Room 118
Phone: 978-374-2312 Fax: 978-373-8490
cityclerk@cityofhaverhill.com

JAN 02 2019

Honorable President and Members of the Municipal Council:

The undersigned respectfully asks to receive a license for **TAG DAYS**
pursuant to Chapter 227 of Haverhill City Code

Organization: Haverhill Elite Cross Country Applicant's Name: Stephanie Crapsey
Applicant's Residence (must be Haverhill resident): 77 Old Yankee rd
Applicant's Signature: [Signature]

(3 CONSECUTIVE DAYS ONLY)

Date of Tag Day Request(s): Sept. 20, 21, 22 2019
Canister: _____ Tag: ✓ Fee: \$ 30.00

ON STREET LOCATIONS ARE NO LONGER PERMITTED - SEE DOC. 47 OF 2017

OFF STREET LOCATIONS - PLEASE SPECIFY

Market Basket (3)
Dunkin Donuts

Heavenly Donuts

***A LETTER FROM THE PRIVATE PROPERTY OWNER GRANTING PERMISSION FOR
USE OF THE LISTED LOCATIONS IS REQUIRED AT THE TIME OF THE APPLICATION**

**A sample of the badge being used by those tagging and a sample of the tag being issued by the
Organization must be filed with the City Clerk's Office at the time of the application**

Office Use Only

Recommendation by Police Chief: ✓ Approved
_____ Denied

[Signature]
Police Chief

In Municipal Council, _____

Attest: _____
City Clerk



Haverhill

13.5.16

City Clerk's Office, Room 118
Phone: 978-374-2312 Fax: 978-373-8490
cityclerk@cityofhaverhill.com

Date: 11/7/19

Honorable President and Members of the Municipal Council:

The undersigned respectfully asks to receive a license for **TAG DAYS**
pursuant to Chapter 227 of Haverhill City Code

Organization: Haverhill Boys Travel Basketball Applicant's Name: Samantha Grasuolo-Hackett
Applicant's Residence (must be Haverhill resident): 13 Allen St - Haverhill 01835
Applicant's Signature: Sam Grasuolo-Hackett

(3 CONSECUTIVE DAYS ONLY)

Date of Tag Day Request(s): 11/2 + 11/3

Canister: _____ Tag: ✓ Fee: \$ 20.00

ON STREET LOCATIONS ARE NO LONGER PERMITTED - SEE DOC. 47 OF 2017

OFF STREET LOCATIONS - PLEASE SPECIFY

Market Basket Westgate + Stadium
Heavenly

***A LETTER FROM THE PRIVATE PROPERTY OWNER GRANTING PERMISSION FOR
USE OF THE LISTED LOCATIONS IS REQUIRED AT THE TIME OF THE APPLICATION**

**A sample of the badge being used by those tagging and a sample of the tag being issued by the
Organization must be filed with the City Clerk's Office at the time of the application**

Office Use Only

Recommendation by Police Chief: ✓ Approved
_____ Denied

Ala R. P. [Signature]

Police Chief

In Municipal Council, _____

Attest: _____
City Clerk



137.2.2

City of Haverhill

JAN 04 2019

Date: _____

Honorable President and Members of the Municipal Council:

The undersigned respectfully asks that s/he may receive a license for:

Number of devices

☒ Coin-Operated Machine: \$100- (1)

☐ Pinball Machine: _____

☐ Other: _____

Effective Date: Jan 1 2019

Expiration Date: December 31, 2019

NEW ☐ RENEWAL ☒

Fee: 100.00

Vendor's Name: A+P vending

Vendor's Address: Rowley, MA

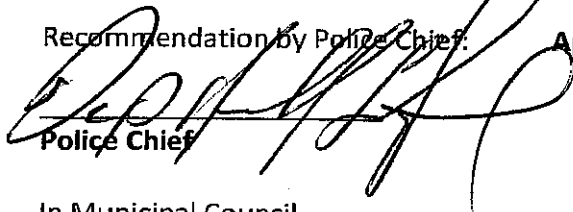
Business Name: RG's Pub

Business Address: 242 Winter st

Owner's Name: Russell Littlefield

Recommendation by Police Chief:

Approved ☒ Denied ☐


Police Chief

In Municipal Council, _____

Attest:

City Clerk

In accordance with City of Haverhill Code, Chapter 104, Automatic Amusement Devices

-Please complete back of this application-



13,723

City of Haverhill

DEC 28 2018

Date: _____

Honorable President and Members of the Municipal Council:

The undersigned respectfully asks that s/he may receive a license for:

Number of devices

__ Coin-Operated Machine: 12

__ Pinball Machine: _____

__ Other: _____

Effective Date: Jan 1 2019

Expiration Date: December 31, 2019

NEW _____ RENEWAL X

Fee: \$1200.00

Vendor's Name: Marc Pyche

Vendor's Address: 19 Railroad av

Business Name: Skateland

Business Address: 19 Railroad av - PO Box 5270, 01835

Owner's Name: MARC PYCHE

Recommendation by Police Chief: Approved X Denied _____

[Signature]
Police Chief

In Municipal Council, _____

Attest:

City Clerk

In accordance with City of Haverhill Code, Chapter 104, Automatic Amusement Devices

-Please complete back of this application-



City of Haverhill

Date: 12/24/18

Honorable President and Members of the Municipal Council:

The undersigned respectfully asks that s/he may receive a license for:

Number of devices

☒ Coin-Operated Machine: 25 X \$100.00 = \$ 2,500.00

☐ Pinball Machine: _____

☐ Other: _____

Effective Date: J9n 12019

Expiration Date: December 31, 2019

NEW ☐ RENEWAL ☒

Fee: \$2,500.00

Vendor's Name: The Amazeement Center

Vendor's Address: 880 Boston Rd, Haverhill MA 01835

Business Name: Cedarland

Business Address: 931 Boston rd.

Owner's Name: Ed & Zoe Veasey

Recommendation by Police Chief

Approved ☒ Denied ☐

Police Chief

In Municipal Council, _____

Attest:

City Clerk

In accordance with City of Haverhill Code, Chapter 104, Automatic Amusement Devices

-Please complete back of this application-

2018DEC31 11:24 AM CTM

13, 2, 3, 1



Date: 1/2/19

[illegible]**Number of devices**

X Coin-Operated Machine: 1 Shoe Box

Pinball Machine:

Other:

Effective Date: Jan 12 2019

Expiration Date: December 31, 2019

NEWRENEWAL ~~X~~

Fet 74 20.00

Vendor's Name: manchester music

Vendor's Address: 62 hove" st manchester n h

Business Name: Kelley's Restaurant

Business Address: 75th South Main St

Owner's Name: Joyce Morhart

Recommendation by Police Chief: Approved Denied

Police Chief

In Municipal Council, _____

Attest:

City Clerk

In accordance with City of Haverhill Code, Chapter 104, Automatic Amusement Devices

-Please complete back of this application-

APPLICATION FOR SUNDAY LICENSE



City of Haverhill

JAN 04 2019

Date: _____

Honorable President and Members of the Municipal Council:

The undersigned respectfully asks that s/he may receive a license for:

✓ **Coin-Operated Machine:** 20 ① *Number of devices*
____ **Pinball Machine:** _____
____ **Other:** _____

Effective Date: Jan 1 2019

Expiration Date: December 31, 2019

NEW _____ RENEWAL ✓

Fee: \$20.00

Vendor's Name: A + P Vending

Vendor's Address: Rowley, MA

Business Name: RG's Pub

Business Address: 242 Winter St

Owner's Name: Russell Littlefield

Recommendation by Police Chief: Approved ✓ Denied _____

[Signature]
Police Chief

In Municipal Council, _____

Attest:

City Clerk

In accordance with City of Haverhill Code, Chapter 104, Automatic Amusement Devices

-Please complete back of this application-

APPLICATION FOR SUNDAY LICENSE



City of Haverhill

DEC 28 2018

Date: _____

Honorable President and Members of the Municipal Council:

The undersigned respectfully asks that s/he may receive a license for:

Number of devices

☒ Coin-Operated Machine: 12

☐ Pinball Machine: _____

☐ Other: _____

Effective Date: Jan 1 2019

Expiration Date: December 31, 2019

NEW ☐

RENEWAL ☒

Fee: \$1240.00

Vendor's Name: Mare Pyche

Vendor's Address: 19 Railroad av

Business Name: SkateLand

Business Address: 19 Railroad av

Owner's Name: MARE PYCHE

Recommendation by Police Chief:

Approved ☒ Denied ☐

Police Chief

In Municipal Council, _____

Attest: _____

City Clerk

In accordance with City of Haverhill Code, Chapter 104, Automatic Amusement Devices

-Please complete back of this application-

APPLICATION FOR SUNDAY LICENSE



City of Haverhill

Date: 12/24/18

Honorable President and Members of the Municipal Council:

The undersigned respectfully asks that s/he may receive a license for:

Number of devices

☒ Coin-Operated Machine: 25 x \$20.00 = \$500.00

☐ Pinball Machine: _____

☐ Other: _____

Effective Date: Jan 1 2019

Expiration Date: December 31, 2019

NEW ☐ RENEWAL ☒

Fee: \$500.00

Vendor's Name: The Amazement Center

Vendor's Address: 880 Boston Rd, Haverhill MA 01835

Business Name: Cedarland

Business Address: 931 Boston rd

Owner's Name: Ed & Zoe Veasey

Recommendation by Police Chief:

Approved ☒ Denied ☐


Police Chief

In Municipal Council, _____

Attest:

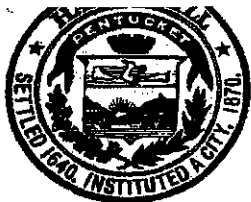
City Clerk

In accordance with City of Haverhill Code, Chapter 104, Automatic Amusement Devices

-Please complete back of this application-

13,734

2018DEC14 12:44:00 PM C:\CITY



13,741

Haverhill

City Clerk's Office, Room 118
Phone: 978-374-2312 Fax: 978-373-8490
cityclerk@cityofhaverhill.com

* Bond current to 11/2019

Date 12.20.18

HONORABLE PRESIDENT AND MEMBERS OF THE MUNICIPAL COUNCIL:

THE UNDERSIGNED RESPECTFULLY ASKS THAT HE MAY RECEIVE A LICENSE FOR **DRAINLAYER**

Drainlayer's Name: John L. Enos Signature: John L. Enos
Business Name: T Ford Co. Inc.
Business Address: 124 Tenney St.
City Georgetown State MA Zip 01833
Business Phone: 978 352 5606 Fax: 978 352 7943

Must Complete Additional Personal Information on Back

NEW/RENEWAL:

No.

Fee

Bonds on File:

Approved ☒

Denied ☐

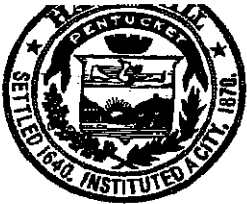
[Signature]
City Engineer

In Municipal Council, _____ 20____

Attest:

City Clerk

2018DEC310W11234AVCITYC



Haverhill

City Clerk's Office, Room 118
Phone: 978-374-2312 Fax: 978-373-8490
cityclerk@cityofhaverhill.com

13.7.4.3

Date 1-6-19

HONORABLE PRESIDENT AND MEMBERS OF THE MUNICIPAL COUNCIL:

THE UNDERSIGNED RESPECTFULLY ASKS THAT HE MAY RECEIVE A LICENSE FOR DRAINLAYER

Drainlayer's Name: JOHN C. JABLONSKI Signature: [Signature]
Business Name: JABLONSKI & SONS, INC.
Business Address: 167 WILLOW AVE / ~~HAVERHILL~~
City HAVERHILL State MA Zip 01835
Business Phone: 978-372-7136 Fax: 978-322-9970

Must Complete Additional Personal Information on Back

NEW/RENEWAL: RENEWAL

No. 100
Fee ✓
Bonds on File: ✓

Approved ✓
Denied _____

[Signature]
City Engineer

In Municipal Council, _____ 20____

Attest:

City Clerk

2019JAN10AM08:36HAVERHILLCITYC




Haverhill

City Clerk's Office, Room 118
Phone: 978-374-2312 Fax: 978-373-8490
cityclerk@cityofhaverhill.com

Date 12/26/18

HONORABLE PRESIDENT AND MEMBERS OF THE MUNICIPAL COUNCIL:

THE UNDERSIGNED RESPECTFULLY ASKS THAT HE MAY RECEIVE A LICENSE FOR **DRAINLAYER**

Drainlayer's Name: David Maynard Signature: 
Business Name: Maynard Construction
Business Address: 22 Dustin Drive
City Che. Barnstead State NH Zip 03225
Business Phone: 978-375-7228 Fax: 603-776-7228

Must Complete Additional Personal Information on Back

NEW/RENEWAL:

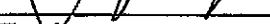
No. _____

Fee 100-

Bonds on File: 1

Approved

Denied


City Engineer

In Municipal Council, _____ 20

Attest:

City Clerk



DOCUMENT

CITY OF HAVERHILL

In Municipal Council

1511

ORDERED:

Resolved: Having convened in an open meeting on January 15, 2019, prior to the Statement of Interest submission closing date, the City Council of the City of Haverhill, in accordance with its charter, by-laws, and ordinances, has voted to authorize the Superintendent to submit to the Massachusetts School Building Authority the Statement of Interest Form dated January 15, 2019 for the **Golden Hill School, located at 140 Boardman Street, Haverhill, Massachusetts**, which describes and explains the following deficiencies and the priority category(s) for which an application may be submitted to the Massachusetts School Building Authority: i.e., **Priority 5 for replacement of a leaking, defective and obsolete roof**; and hereby further specifically acknowledges that by submitting this Statement of Interest Form, the Massachusetts School Building Authority in no way guarantees the acceptance or the approval of an application, the awarding of a grant or any other funding commitment from the Massachusetts School Building Authority, or commits the City to filing an application for funding with the Massachusetts School Building Authority.



DOCUMENT

CITY OF HAVERHILL

In Municipal Council

15.2

ORDERED:

Resolved: Having convened in an open meeting on January 15, 2019, prior to the Statement of Interest submission closing date, the City Council of the City of Haverhill, in accordance with its charter, by-laws, and ordinances, has voted to authorize the Superintendent to submit to the Massachusetts School Building Authority the Statement of Interest Form dated January 15, 2019 for the **Haverhill High School, located at 137 Monument Street, Haverhill, Massachusetts**, which describes and explains the following deficiencies and the priority category(s) for which an application may be submitted to the Massachusetts School Building Authority: i.e., **Priority 5 for replacement of a leaking, defective and obsolete roof**; and hereby further specifically acknowledges that by submitting this Statement of Interest Form, the Massachusetts School Building Authority in no way guarantees the acceptance or the approval of an application, the awarding of a grant or any other funding commitment from the Massachusetts School Building Authority, or commits the City to filing an application for funding with the Massachusetts School Building Authority.



DOCUMENT

153

CITY OF HAVERHILL

In Municipal Council

ORDERED:

Resolved: Having convened in an open meeting on January 15, 2019, prior to the Statement of Interest submission closing date, the City Council of the City of Haverhill, in accordance with its charter, by-laws, and ordinances, has voted to authorize the Superintendent to submit to the Massachusetts School Building Authority the Statement of Interest Form dated January 15, 2019 for the **Silver Hill School, located at 675 Washington Street, Haverhill, Massachusetts**, which describes and explains the following deficiencies and the priority category(s) for which an application may be submitted to the Massachusetts School Building Authority: i.e., **Priority 5 for replacement of a leaking, defective and obsolete roof**; and hereby further specifically acknowledges that by submitting this Statement of Interest Form, the Massachusetts School Building Authority in no way guarantees the acceptance or the approval of an application, the awarding of a grant or any other funding commitment from the Massachusetts School Building Authority, or commits the City to filing an application for funding with the Massachusetts School Building Authority.



DOCUMENT

CITY OF HAVERHILL

In Municipal Council

15.4

ORDERED:

Resolved: Having convened in an open meeting on January 15, 2019, prior to the Statement of Interest submission closing date, the City Council of the City of Haverhill, in accordance with its charter, by-laws, and ordinances, has voted to authorize the Superintendent to submit to the Massachusetts School Building Authority the Statement of Interest Form dated January 15, 2019 for the **Moody School, located at 59 Margin Street, Haverhill, Massachusetts**, which describes and explains the following deficiencies and the priority category(s) for which an application may be submitted to the Massachusetts School Building Authority: i.e., **Priority 5 for replacement of a leaking, defective and obsolete roof**; and hereby further specifically acknowledges that by submitting this Statement of Interest Form, the Massachusetts School Building Authority in no way guarantees the acceptance or the approval of an application, the awarding of a grant or any other funding commitment from the Massachusetts School Building Authority, or commits the City to filing an application for funding with the Massachusetts School Building Authority.

JAMES J. FIORENTINI
MAYOR



CITY OF HAVERHILL
MASSACHUSETTS

CITY HALL, ROOM 100
FOUR SUMMER STREET
HAVERHILL, MA 01830
PHONE 978-374-2300
FAX 978-373-7544
MAYOR@CITYOFHAVERHILL.COM
WWW.CI.HAVERHILL.MA.US

January 11, 2019

City Council President John A. Michitson and Members of the Haverhill City Council

Dear Mr. President and Members of the Haverhill City Council:

Attached are four "Statements of Interest" to replace the roofs at four different schools: the Moody School, the Silver Hill School, the Golden Hill School and Haverhill High School.

A Statement of Interest is the document we submit to the state to ask the state to pay for a portion of funding new roofs.

I will submit more information once I have received it.

Very truly yours,

James J. Fiorentini
Mayor

JJF/lyf



12.11

CITY OF HAVERHILL
ASSESSORS OFFICE - ROOM 115
Phone: 978-374-2316 Fax: 978-374-2319
Assessors@cityofhaverhill.com

January 10, 2019

TO: MEMBERS OF THE HAVERHILL CITY COUNCIL:

In accordance with Municipal Ordinance, Chapter 7,
entitled "Assessor" as follows:

The Board of Assessors shall file monthly with the
City Council a copy of the report submitted to the
Auditor showing a summary of the above abated
amounts for that month.

Attached herewith is the report for the month of
December as filed in the Assessors Office.

Very truly yours,

Christine Webb, MAA
Assessor

13-E
CITY COUNCIL

13-E



JOHN A. MICHITSON
PRESIDENT
THOMAS J. SULLIVAN
VICE PRESIDENT
JOSEPH J. BEVILACQUA
MELINDA E. BARRETT
COLIN F. LEPAGE
TIMOTHY J. JORDAN
WILLIAM J. MACEK
MARY ELLEN DALY O'BRIEN
MICHAEL S. MCGONAGLE

CITY OF HAVERHILL
HAVERHILL, MASSACHUSETTS 01830-5843

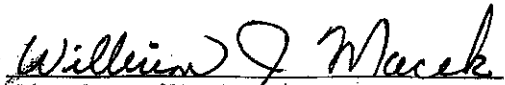
19.1.19

CITY HALL, ROOM 204
4 SUMMER STREET
TELEPHONE: 978 374-2328
FACSIMILE: 978 374-2329
www.ci.haverhill.ma.us
citycnci@cityofhaverhill.com

January 4, 2019

Mr. President and Members of the City Council:

Councillor Macek requests to present a citation to Roger LeMire for his community service.


City Councillor William J. Macek

IN CITY COUNCIL: January 8 2019
POSTPONED TO JANUARY 15 2019

121-P
CITY COUNCIL

121-P



JOHN A. MICHITSON
PRESIDENT
THOMAS J. SULLIVAN
VICE PRESIDENT
JOSEPH J. BEVILACQUA
MELINDA E. BARRETT
COLIN F. LePAGE
TIMOTHY J. JORDAN
WILLIAM J. MACEK
MARY ELLEN DALY O'BRIEN
MICHAEL S. MCGONAGLE


CITY OF HAVERHILL
HAVERHILL, MASSACHUSETTS 01830-5843

1.9.12
CITY HALL, ROOM 204
4 SUMMER STREET
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www.ci.haverhill.ma.us
citycndcl@cityofhaverhill.com

December 7, 2018

TO: Mr. President and Members of the City Council:

Councillor LePage requests a discussion on the proposed ordinance relating to Adult Use of Marijuana and Marijuana establishments and offers amendments. See attached sections B (Applicability) and D (Evaluation Criteria) from the City of Somerville ordinance.


City Councillor Colin LePage

IN CITY COUNCIL: December 11 2018
POSTPONED TO JANUARY 15 2019
Attest:

City Clerk

CITY OF SOMERVILLE
ORDINANCE NO. 2018-_____
In Board of Aldermen _____

AN ORDINANCE AMENDING CHAPTER 9, SECTION 9-3(b)
OF THE SOMERVILLE CODE OF ORDINANCES
AND ADDING SECTION 2-221 TO CHAPTER 2, DIVISION 4
REGARDING ADULT USE MARIJUANA ESTABLISHMENTS

WHEREAS, By vote at the State election on November 8, 2016, the voters of the Commonwealth approved legislation regulating commerce in marijuana, marijuana accessories, and marijuana products and for the taxation of proceeds from sales of such products. It also authorized cities and towns to adopt reasonable restrictions on the time, place, and manner of operating marijuana businesses; and,

WHEREAS, Currently, the City of Somerville Code of Ordinance does not specify any license requirements for persons or entities seeking to operate adult use marijuana establishments in the City; and,

WHEREAS, The Legislature of the Commonwealth has determined that cities and towns in Massachusetts should not be permitted to outright prohibit adult-use marijuana facilities without a city-wide referendum vote;

WHEREAS, The Licensing Commission of the City of Somerville may grant local licenses for adult-use marijuana establishments regulated under section 34 of chapter 94C of the General Laws and 935 CMR 500.

THEREFORE, be it adopted by the Board of Aldermen, in session assembled, that the below listed sections of the Somerville Code of Ordinances are hereby amended and created as identified.

Chapter 9, Offenses and Miscellaneous Provisions, Sec. 9-3 (b) of the Code of Ordinances is hereby amended as follows:

(b) No person shall give, sell, deliver or consume marijuana or tetrahydrocannabinol, unless licensed by the Licensing Commission and the Commonwealth of Massachusetts Cannabis Control Commission and also permitted under Sections SZO 7.15 or 7.16.

Section 2-221 - Adult Use Marijuana Licenses is hereby added under DIVISION 4. LICENSING COMMISSION:

Sec. 2-221. ADULT USE MARIJUANA LICENSES

A. Definitions

An adult-use marijuana establishment shall be considered to be one of the following:

(The following definitions are as defined by 935 CMR 500: Adult Use of Marijuana, as amended.)

Marijuana Establishment means a Marijuana Cultivator, Craft Marijuana Cooperative, Marijuana Product Manufacturer, Marijuana Retailer, Independent Testing Laboratory, Marijuana Research

Facility, Marijuana Transporter, or any other type of licensed marijuana-related business, except a medical marijuana treatment center.

Independent Testing Laboratory means a laboratory that is licensed by the Commission and is:

- (a) accredited to the International Organization for Standardization 17025 (ISO/IEC 17025: 2017) by a third-party accrediting body that is a signatory to the International Laboratory Accreditation Accrediting Cooperation mutual recognition arrangement or that is otherwise approved by the Commission;
- (b) independent financially from any Medical Marijuana Treatment Center (RMD), Marijuana Establishment or licensee for which it conducts a test; and
- (c) qualified to test cannabis or marijuana in compliance with 935 CMR 500.160 and M.G.L. c. 94C, § 34.

Marijuana Cultivator means an entity licensed to cultivate, process and package marijuana, and to transfer marijuana to other Marijuana Establishments, but not to consumers.

Craft Marijuana Cooperative means a Marijuana Cultivator comprised of residents of the Commonwealth and organized as a limited liability company, limited liability partnership, or cooperative corporation under the laws of the Commonwealth. A cooperative is licensed to cultivate, obtain, manufacture, process, package and brand cannabis or marijuana products to transport marijuana to Marijuana Establishments, but not to consumers.

Marijuana Product Manufacturer means an entity licensed to obtain, manufacture, process and package cannabis or marijuana products and to transfer these products to other Marijuana Establishments, but not to consumers.

Marijuana Research Facility means an entity licensed to engage in research projects by the Commission.

A Marijuana Research Facility may cultivate, purchase or otherwise acquire marijuana for the purpose of conducting research regarding marijuana products.

- (b) A research facility may be an academic institution, nonprofit corporation or domestic corporation or entity authorized to do business in the Commonwealth.
- (c) Any research involving humans must be authorized by an Institutional Review Board.
- (d) A research facility may not sell marijuana cultivated under its research license.
- (e) All research regarding marijuana must be conducted by individuals 21 years of age or older.

Marijuana Retailer means an entity licensed to purchase and transport cannabis or marijuana product from Marijuana Establishments and to sell or otherwise transfer this product to Marijuana Establishments and to consumers. Retailers are prohibited from delivering cannabis or marijuana products to consumers; and from offering cannabis or marijuana products for the purposes of on-site social consumption on the premises of a Marijuana Establishment.

Marijuana Transporter means an entity, not otherwise licensed by the Commission, that is licensed to purchase, obtain, and possess cannabis or marijuana product solely for the purpose of transporting, temporary storage, sale and distribution to Marijuana Establishments, but not to consumers. Marijuana Transporters may be an Existing Licensee Transporter or Third Party Transporter.

Microbusiness means a co-located Marijuana Establishment that can be either a Tier 1 Marijuana Cultivator or Product Manufacturer or both, in compliance with the operating procedures for each license. A Microbusiness that is a Marijuana Product Manufacturer may purchase no more than 2,000 pounds of marijuana per year from other Marijuana Establishments.

B. Applicability

(i) Any persons or entity seeking to operate any type of adult-use marijuana establishment, except for a marijuana transporter, shall require a local license from the Licensing Commission. The number of such available licenses for marijuana retailers shall be no less than 20% of the number of liquor licenses issued in the City, pursuant to G.L. c. 138, § 15 (commonly known as package stores). Applicants shall provide any other information required by the Licensing Commission.

There shall be a temporary cap of no more than 12 adult marijuana retail establishments, which cap shall expire after 24 months. This cap may be lifted or modified at any time, or extended, through amendment of this ordinance.

(ii) Priority Applications

The Licensing Commission shall consider an application for licensure from only a priority applicant within two years from the date of passage of this Ordinance, unless an applicant is seeking a non-retail license. For Marijuana Retailer licenses, there are two groups of priority applicants that are known as Group A and Group B. During the two year priority period, the Licensing Commission shall only issue a license to an applicant in Group B if, after issuance, there will be an equal or greater number of currently active licenses held by entities that were licensed as applicants from Group A. Two years after the date of passage of this Ordinance the Licensing Commission shall continue to prioritize priority applicants, but may consider a Marijuana Retailer application from a non-priority applicant. At no time shall the Licensing Commission issue more Marijuana Retailer licenses to non-priority applicants than are currently valid and issued to priority applicants.

In order to be considered a priority applicant in Group A, the persons(s) or entity applying must meet at least one of the following criteria:

- An Economic Empowerment Applicant certified by the Commonwealth of Massachusetts Cannabis Control Commission (CCC), or separately certified by the Somerville Licensing Commission to meet the criteria specified in 935 CMR 500.101(1)(e)2.a-f;
- Owned by a Somerville resident(s) or entities with a majority (at least 50%) of its ownership made up of Somerville residents; or,
- Cooperatively owned entities.

A Registered Marijuana Dispensary (RMD) currently operating within the City of Somerville that will continue selling medicinal products shall be considered a priority applicant in Group B.

C. Application Requirements

An applicant in any category of Marijuana Establishment shall file, in a form and manner specified by the Licensing Commission, an application for licensure as a Marijuana Establishment. The application shall consist of the same three packets as required by the CCC pursuant to 935 CMR 500.101: an

Application of Intent packet; a Background Check packet; and a Management and Operations Profile packet. The applicant may file individual packets separately or as a whole.

Particular types of Marijuana Establishments that require additional specific requirements to be submitted to the CCC pursuant to 935 CMR 500.101 shall also be submitted to the Licensing Commission.

The application will not be considered to be complete until the Licensing Commission determines that each individual packet is complete and notifies the applicant that each packet is complete.



D. Evaluation Criteria

The Licensing Commission shall grant licenses with the goal of ensuring that the needs of the Commonwealth are met with regard to access, quality, and community safety. Applications shall be evaluated based on the Applicant's:

- Demonstrated compliance with the laws and regulations of the Commonwealth and the City of Somerville;
- Consistency to community values outlined in SomerVision; and,
- Thoroughness of response to the application requirements.

The Licensing Commission shall consider all of the following factors in its evaluation of applicants:

- A commitment to help monitor health impacts to the neighborhood and on the local youth population;
- Inclusion of an inventory of or manufactures locally/regionally grown products;
- Employment of local residents and offers competitive wages and benefits to employees;
- Use of sustainable green/renewable energy practices;
- The criminal records of the persons or owners of entities (except for marijuana-related infractions); and
- Quality of relationship with the community.

The Licensing Commission shall also consider the recommendation of the Economic Development Division of OSPCD and the Health and Human Services Department on each application that is submitted.

E. FEES

The Licensing Commission may establish fees for such licenses.

F. INSPECTIONS

The City of Somerville Health and Human Services Department shall conduct inspections to ensure compliance with state and local regulations.

G. CONDITIONS

Licenses for Marijuana Establishments issued by the Licensing Commission shall only be valid so long as each entity signs a Community Host Agreement with the City of Somerville, receives a Final License from the CCC within six months after receiving the license from the Licensing Commission, and the

Final License from the CCC remains valid and current. The Licensing Commission may impose additional reasonable restrictions and conditions as to the operation under the license.

H. TRANSFERABILITY OF LICENSE

Any license granted under this ordinance shall be a personal privilege and shall not be assignable or transferable.

I. REVOCATION

The Licensing Commission may modify, suspend or revoke any license for just cause, after reasonable notice and a hearing.

J. ENFORCEMENT

The provisions of this ordinance may be enforced by the Director of Health and Human Services and Superintendent of Inspectional Services, by noncriminal disposition pursuant to G. L. c. 40, § 21D. Each day on which a violation exists shall be deemed a separate offense. Any person, firm, corporation, association or other entity violating any provision of this article may be punished in accordance with the provisions of Section 1-11.

K. EXPIRATION OF LICENSE

Unless otherwise specified by the Licensing Commission, each license shall expire five years after the issuing of such license. A license issued under this ordinance may be renewed by the Licensing Commission.

L. SEVERABILITY

The provisions of this article are severable, and if any part of this article should be held invalid by a court of competent jurisdiction, such invalidity shall not affect the remainder of the article and the remainder of the article shall stay in full force and effect.

APPROVED:

President
Board of Aldermen

103-BB



DOCUMENT 103-BB

File 10 days
(8 octavo pages)

CITY OF HAVERHILL

In Municipal Council

19.1.3

~~ORDERED~~

MUNICIPAL ORDINANCE

CHAPTER 255

AN ORDINANCE RELATING TO ADULT USE OF MARIJUANA AND MARIJUANA ESTABLISHMENTS

IT ORDAINED by the City Council of the City of Haverhill that Chapter 255, of the Code of the City of Haverhill, as amended, being and is hereby further amended by deleting Article XIX in its entirety and inserting in its place the following:

Article XIX – Licensed Marijuana Establishments Overlay Zone

A. Purposes.

1. To provide for the placement of adult use marijuana establishments in appropriate places and under specific conditions in accordance with the provisions of Massachusetts General Law Chapter 94G, Regulation of the Use and Distribution of Marijuana Not Medically Prescribed.
2. To minimize any adverse impacts of adult use marijuana establishments on adjacent properties, dense or concentrated residential areas, school and other places where children congregate, and other sensitive land uses.
3. To regulate the siting, design, placement, access, security, safety, monitoring, modification and discontinuance of adult use marijuana establishments.
4. To provide applicants, owners and operators with clear guidance regarding adult use marijuana establishments siting, design, placement, access, security, safety, monitoring, modification and discontinuance.

B. Definitions.

1. Craft Marijuana Cooperative: A marijuana cultivator comprised of residents of the commonwealth organized as a limited liability company or limited liability partnership under the laws of the commonwealth, or an appropriate business structure

CITY OF HAVERHILL


MASSACHUSETTS CITY SOLICITOR'S OFFICE

145 South Main Street
Bradford, MA 01835
(978) 373-2360
FAX: 978/891-5424
EMAIL: billcoxlaw@aol.com

**WILLIAM D. COX, JR.
CITY SOLICITOR**

December 6, 2018

TO: John Michitson, President and Members of the Haverhill City Council

FROM: William D. Cox, Jr., Esq., City Solicitor 

RE: Ordinance - Licensed Marijuana Establishments Overlay Zone

Attached please find the proposed Ordinance to allow for the establishment of a Licensed Marijuana Establishments Overlay Zone as previously discussed with the Council's Administration and Finance Committee. I am today submitting the revised Ordinance for the consideration and action by the full Council after review by the Planning Board.

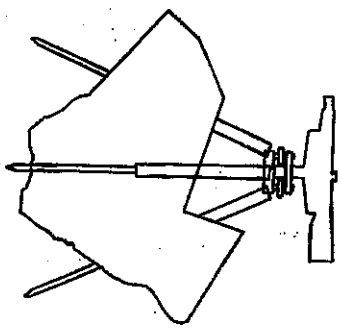
Should you have any questions or concerns, please do not hesitate to contact me.

cc: James J. Fiorentini, Mayor
William Pillsbury, Director of Planning and Economic Development

CITY OF HAVERHILL MASSACHUSETTS

Licensed Marijuana Establishments Overlay Zone Map

2018



ENGINEERING © DIVISION

12-7-18

4 Summer Street
Haverhill, MA 01830
Phone: (978) 374-2312
Fax (978) 373-8490

Fax

To: KATIE - GAZETTE

From: MARIA BEVILACQUA
City Clerk's Office

Fax: 978-685-2432

Date: December 7 2018

Phone: 978-946-2157

Pages: 2

re: Ad - Ordinance re. Adult CC:
use of marijuana + marijuana establishments

☐ Urgent

☒ For Review

☐ Please Comment

☐ Please Reply

☐ Please Recycle

Hi Katie -
please run this ad for next
gazette issue (from Dec 11 agenda)

Thanks!

Maria

978-420-3624



DOCUMENT

CITY OF HAVERHILL

In Municipal Council December 11 2018

~~ORDERED~~

MUNICIPAL ORDINANCE

CHAPTER

An Ordinance Relating To Adult Use of Marijuana and Marijuana Establishments

Since this Ordinance exceeds in length eight octavo pages of ordinary book print, in lieu of advertising, it is published by the City Council in a municipal bulletin, placed on file in the City Clerk's Office and posted on the municipal bulletin in City Hall.

PLACED ON FILE for at least 10 days, Refer to Planning Board January 9, 2019 to come back to Council January 15, 2019

Attest:

City Clerk

103-BB
as determined by the Cannabis Control Commission, and that is licensed to cultivate, obtain, manufacture, process package and brand marijuana and marijuana products to deliver marijuana or Marijuana Establishments but not to consumers.

2. Independent Testing Laboratory: A laboratory that is licensed by the commission and is: (i) accredited to the most current International Organization for Standardization 17025 by a third-party accrediting body that is a signatory to the International Laboratory Accreditation Accrediting Cooperation mutual recognition arrangement or that is otherwise approved by the commission; (ii) independent financially from any medical marijuana treatment center or any license or marijuana establishment for which it conducts a test; and (iii) qualified to test marijuana in compliance with 935 CMR 500.160 and M.G.L. c.94C, S34.
3. Licensed Marijuana Establishment (LME): A marijuana cultivator, testing laboratory, marijuana product manufacturer, marijuana retailer, or any other type of licensed marijuana-related business.
4. Marijuana Cultivator: An entity licensed to cultivate, process, and package marijuana; to deliver marijuana to marijuana establishments; and to transfer marijuana to other marijuana establishments but not consumers.
5. Marijuana Product Manufacturer: An entity licensed to obtain, manufacture, process, and package marijuana and marijuana products; to deliver marijuana and marijuana products to marijuana establishments, and to transfer marijuana and marijuana products to other marijuana establishments but not consumers.
6. Marijuana Micro-Business: A marijuana establishment that is licensed to act as a: licensed marijuana cultivator in an area less than 5,000 square feet; licensed marijuana product manufacturer, and licensed marijuana delivery service in compliance with the operating procedures for each such license.
7. Marijuana Products: Products that have been manufactured and contain marijuana or an extract from marijuana, including concentrated forms or marijuana and products composed of marijuana and other ingredients that are intended for use or consumption, including edible products, beverages, topical products, ointments, oils and tinctures.
8. Marijuana Research Facility: An entity licensed to engage in research projects by the Cannabis Control Commission.
9. Marijuana Retailer: An entity licensed to purchase and deliver marijuana and marijuana products from marijuana establishments and to deliver, sell, or otherwise transfer marijuana and marijuana products to marijuana establishments and to

103-BB

consumers. Marijuana retailers may be in the form of a storefront or a social consumption establishment.

10. Social Consumption Establishment: A marijuana retailer licensed to purchase marijuana and marijuana products from marijuana establishments and to sell marijuana and marijuana products on its premises only to consumers or allow consumers to consume marijuana and marijuana products on its premises only.

C. Applicability.

1. No adult use marijuana establishment shall be permitted except in compliance with the provisions of this section.
2. If any provision of this section or the application of any such provision to any person or circumstance shall be held invalid, the remainder of this section, to the extent it can be given effect, or the application of those provisions to persons or circumstances other than those to which it is held invalid, shall not be affected thereby, and to this end the provisions of this section are severable.

D. Designated Locations of Marijuana Establishments.

1. *Eligible Zones*: Certain groups of LME's shall be eligible for different zoning areas designated in the attached City Engineer's Map entitled "Licensed Marijuana Establishments Overlay Zone with Street Index" dated December 7, 2018, and as amended from time to time. This map is hereby made a part of the Zoning Ordinance and is on file in the office of the City Clerk. Those zones shall be as follows:

<u>District Full Name</u>	<u>Short Name</u>
Licensed Marijuana Establishments – No Exclusions	LME-NE
Licensed Marijuana Establishments – No Retail Sales	LME-NR
Licensed Marijuana Establishments – Retail Sales Only	LME-RO
Medical Marijuana Overlay District – No Exclusions	MMOD

2. *Buffer Zone*: No LME outside the Waterfront District Area (WDA) shall be located within 500 feet of the following pre-existing structures or uses: any school attended by children under the age of 18, licensed childcare facility, municipally owned and operated park or recreational facilities (not including bikeways, boardwalks, pedestrian paths, or other facilities primarily used for non-vehicular modes of travel), churches or places of worship, libraries, playground or play field, or youth center.
3. *Notification*: Applicants seeking to establish an LME within the Waterfront District Area (WDA) must notify adjacent property owners, as well as any pre-existing licensed childcare facility for children under the age of 18, church or place of worship, or youth center, within 300 feet of the proposed site of the initial application for a special permit.

- 103-BB
4. No LME shall be located within on-half (1/2) mile of another licensed LME. The City Council may modify or waive this requirement.

E. Designated Number of Marijuana Establishments.

1. The total number of all Marijuana Retailers or Social Consumption Establishments may not exceed twenty (20%) of the number of licensed package and liquor stores within the City.
2. In the event that the number of licensed packaged liquor stores within the City decreases, an Marijuana Retailer or Social Consumption Establishment, if then exceeding twenty (20%) as noted in Subsection E,1 may remain in operation.
3. There shall be no restrictions on the number of any particular type of establishment permitted within the City, other than as regulated in Subsection E,1.

F. Special Permit Required.

1. No LME shall be operated or expanded without first obtaining a Special Permit from the City of Haverhill Special Permit Granting Authority in accordance with Chapter 255-80.
 - a. The Special Permit Granting Authority for any LME shall be the City Council.
 - b. A special permit shall only be valid for use by the Applicant and will become null and void upon the sale or transfer of the license of a LME or change in the location of the business.
 - c. In the event that the Commonwealth's licensing authority suspends the license or registration of a marijuana establishment, the Special Permit shall be so suspended by the City until the matter is resolved to the satisfaction of said licensing authority.
 - d. The special permit shall be considered null and void if meaningful construction and operation has not begun on within 1 year of obtaining said permit, as determined by the Building Inspector.

G. Site Plan Review.

1. Applications to operate or expand an LME shall be subjected to Site Review in accordance with the City of Haverhill Code, Chapter 255-68. The Site Plan shall be submitted in conjunction with the Special Permit application and joined to the final approval for the Special Permit.

H. General Requirements.

1. *Outside Storage:* No outside storage of marijuana, marijuana products, related supplies, or educational materials is permitted.

- 163-BB
2. *Visibility of activities:* All activities of any LME shall be conducted indoors.
 3. *Paraphernalia:* Devices, contrivances, instruments, and paraphernalia for inhaling or otherwise consuming marijuana, including, but not limited to, rolling papers and related tools, water pipes, and vaporizers may be lawfully sold at a marijuana retailer. No retail marijuana, marijuana products, or paraphernalia shall be displayed or kept in a retail marijuana store so as to be visible from outside of the license premises.
 4. *Hours of Operation:* In no event shall marijuana retailers, social consumption establishments, or microbusinesses be open and/or operating and dispensing product between the hours of 9:00pm and 9:00am and not opening before 12:00pm/noon on Sundays.
 5. *On-Site Consumption of Marijuana:* The use, consumption, ingestion or inhalation of marijuana or marijuana products shall only be permitted at social consumption establishments and research facilities, within the confines of the building. On-site consumption is prohibited on or within the premises of any other LME.
 6. *Sale of Alcohol:* LME's are prohibited from selling alcoholic beverages.

I. Design Requirements.

1. The following are required for all proposed operations of an LME, consistent with Subsection D:
 - a. *Permanent Location:* Each LME and any part of its operation, including but not limited to, cultivation, processing, packaging, and sales, shall be operated from a fixed location within a fully enclosed building. No marijuana establishment shall be permitted to operate from a moveable, mobile, or transitory location.
 - b. *Lighting:* Outdoor light levels shall exceed one (1) foot-candle along property lines, nor ten (10) foot-candles for any location on the property. Any light poles, new or existing, may not exceed eighteen (18) feet in overall height. All outdoor light fixtures must be shielded and aimed down in order to prevent light trespass onto adjacent properties. The Special Permit Granting Authority may modify this requirement if, upon recommendation by the Police Chief, it is required for adequate safety and security.
 - c. *Landscaping:* The proposed site shall provide landscaping to harmonize the LME with abutting uses. Landscaping shall be provided as per the requirements listed in Code Article VI, 255-24 & 25. Trees and shrubs may be clustered. Landscaping must consist of native, non-invasive plant species. The City Council may modify or waive this requirement.
 - d. *Drive-Through Facilities:* LME's are prohibited from installing an on-site drive through facility.
 - e. *Fencing:* Fencing may be required if determined necessary by the City Council. The location, height and type of fencing may be determined by the City Council as a condition of the Special Permit approval. In no instance shall barbed-wire fencing be permitted.

- 103-BB
- f. *Waste Disposal:* There shall be no outdoor storage of waste, including dumpsters, for any marijuana retailer. All waste generated shall be secured indoors, to be serviced by a professional janitorial company, or medical waste company.
 - g. *Ventilation:* All LME's must ventilate in a manner so as that no pesticides, insecticides, or other chemicals or products used in cultivation or processing are dispersed into the outside atmosphere. Ventilation must also ensure that no odor from marijuana processing or consumption can be detected by a person with an unimpaired and otherwise normal sense of smell at the exterior of the LME or at any adjoining use or property.

J. Filing Requirements.

1. Applications to permit an LME must be submitted to the City Council, or their designee(s). Such applications for LME's shall include the following:
 - a. *Site Plan:* A site plan shall be submitted that includes all information required per Code Chapter 255-80 (c), and must also include the following.
 - i. The names, mailing addresses, phone numbers, email addresses, and signatures of the applicant, owner, and operator.
 - ii. Physical address (if one exists), and the map, lot, and block number of the proposed site.
 - b. *Security Plan:* A security plan shall be submitted, to ensure the safety of employees, patrons, and the public to protect the premises from theft or other criminal activity. The security plan shall be reviewed and approved by the local Police Chief, or their designee. The plan must include the following: An interior floorplan (including secured areas, windows, doors, etc...), exterior lighting, fencing (if any), gates (if any), alarms, and any other security measures requested by the Police Chief.
 - c. *Traffic Study:* The City Council may require a traffic study that includes an analysis of traffic generation, circulation, and off-street parking demand to determine sufficient parking and optimum configuration for site ingress and egress.
 - d. *State License:* A copy of the license or registration as an LME from the Massachusetts Cannabis Control Commission or documentation that demonstrates that said facility and its owner/operators qualify and are eligible to receive a Certification of Registration and meet all of the requirements of an LME in accordance with the regulations adopted by the Commission, as amended.
 - e. *Proof of Site Control:* Evidence that the Applicant has site control and the right to use the site for an LME in the form of a deed, valid lease, or purchase & sale agreement or a notarized statement from the property owner certifying the Applicant has firm site control.

- 103-B B
- f. *Odor Control:* The odor control plan proposed adequately provides for the ongoing safe operation of the establishment and minimizes any adverse impacts to abutting properties from odor-emitting activities to be conducted on-site.
 - g. *10 Percent Contribution:* A list shall be submitted that lists all persons or entities contributing 10% or more of the initial capital to operate the LME, including capital in the form of land or buildings.

K. Discontinuance of Use.

1. Any LME under this Section shall be required to remove all material, plants, equipment, and other paraphernalia in compliance with regulations established by the Cannabis Control Commission within thirty (30) days after the expiration or voiding of its license.
2. The City Council may require the Marijuana Establishment to fund an escrow account in an amount sufficient to adequately support the dismantling and winding down of the Marijuana Establishment within sixty (60) days of final approval of the Special Permit.

L. No City Liability, Indemnification.

1. The Applicant and all licensees waive and release the City, its elected officials, employees, and agents from any liability for injuries, damages, or liabilities of any kind that result from any arrest or prosecution of the LME owners, operators, employees, clients, or customers for a violation of state or federal laws, rules, or regulations.
2. The Applicant, in receiving approvals issued pursuant to this chapter, and all licensees, jointly and severally, if more than one, agree to indemnify, defend and hold harmless the City, its elected officials, employees, attorneys, agents, insurers and self-insurance pool against all liability, claims and demands on account of any injury, loss or damage, including, without limitation, claims arising from bodily injury, personal injury, sickness, disease, death, property loss or damage or any other loss of any kind whatsoever, arising out of or in any manner connected with the operation of the LME that is subject of the approval/license.

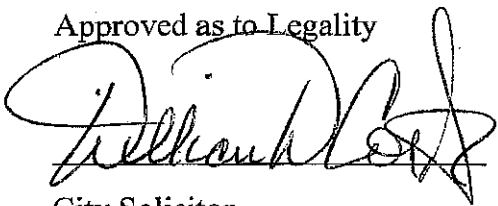
M. Annual Inspection

1. Any operating LME within the City shall be inspected annually by the Building Inspector, or their designee, to ensure compliance with this Section, and with any conditions imposed by the City Council as a condition of the Special Permit approval.
2. The first annual inspection shall be more than one (1) year after beginning operation, but before two (2) years of beginning operation.

103-BB
N. Other Laws Remain Applicable.

1. At all times while a permit is in effect the licensee shall possess all required licenses.
2. To the extent that the state has adopted or adopts in the future any additional or stricter law or regulation governing the cultivation, manufacturing, testing or retail of marijuana or marijuana products, the additional or stricter regulation shall control the LME in the City. Compliance with any applicable state law or regulation shall be deemed an additional requirement for issuance or denial of any license under this chapter, and noncompliance with any applicable state law or regulation shall be grounds for revocation or suspension of any license issued hereunder.
3. Any LME may be required to demonstrate, upon demand by law enforcement officers of the City of Haverhill and/or the local licensing authority, the source and quantity of any marijuana found upon the license premises are in full compliance with any applicable state law or regulation.
4. The issuance of any license pursuant to this chapter shall not be deemed to create an exception, defense or immunity to any person in regard to any potential criminal liability the person may have for the cultivation, possession, sale, distribution, or use of marijuana.
5. Prior to the issuance of a Special Permit, the LME must have entered into a Host Community Agreement (HCA) with the City. If, upon review by the City Council, the LME is found to not be fully in compliance with the HCA, the Special Permit and/or the local license may be suspended or rescinded."

Approved as to Legality



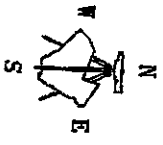
City Solicitor

PLACED ON FILE for at least 10 days and REFER TO PLANNING BOARD JANUARY 9 2019

TO COME BACK TO CITY COUNCIL: JANUARY 15 2019

Attest:

City Clerk



City Of Haverhill, MA
Engineering -- Division
Date produced: 11/28/2018

Amesbury Road East Area - ME-NE Zone

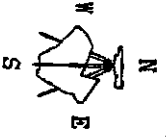
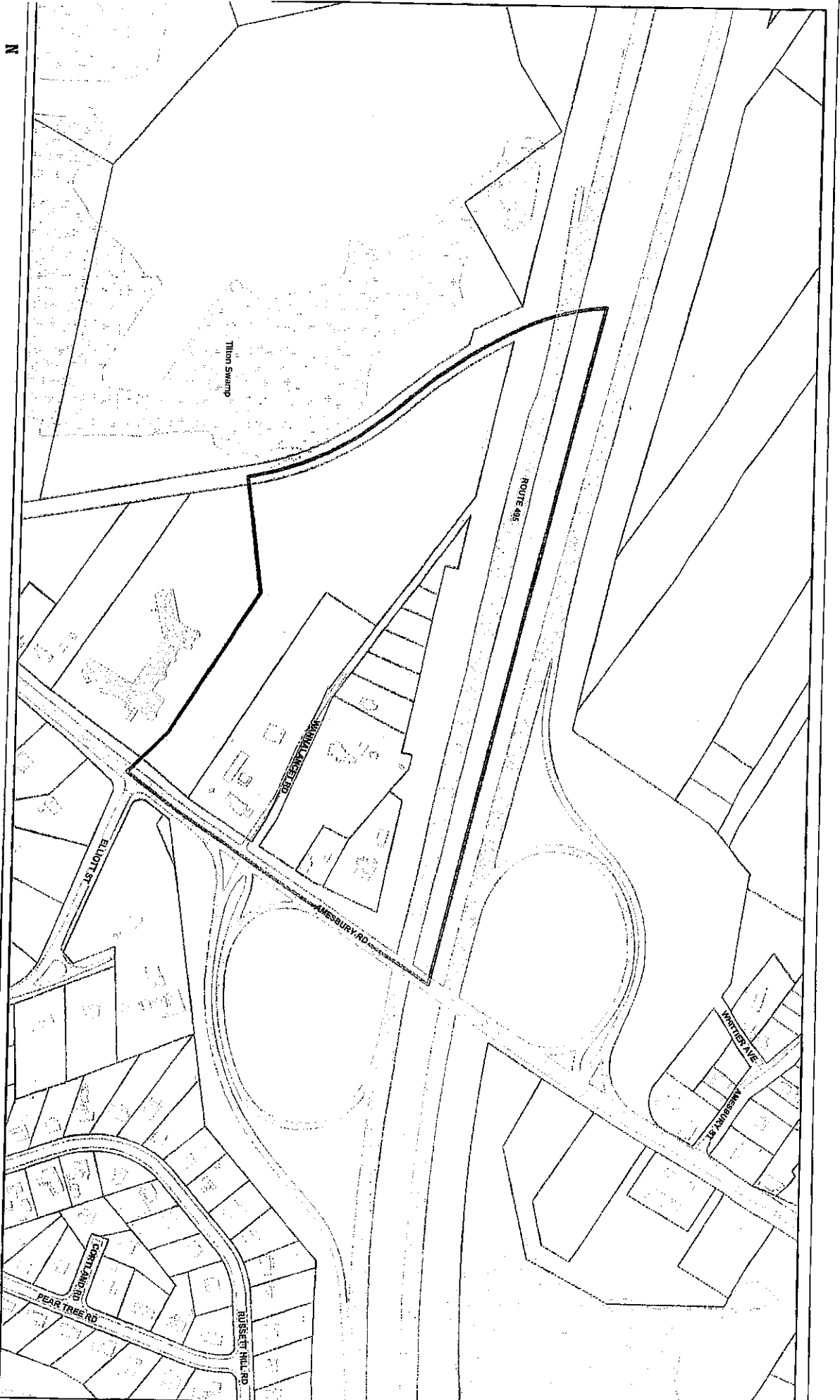
0 170 340 680 Feet

1 inch = 250 feet



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City Of Haverhill, MA
Engineering -- Division
Date produced: 11/30/2018

Amesbury Road West Area - ME-NE Zone

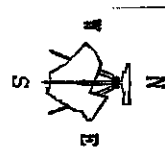
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1 inch = 250 feet

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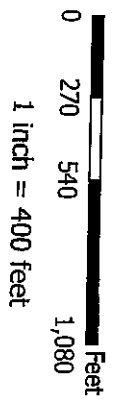




Broadway Area (North Side) - MMOD-NE Zone

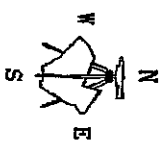
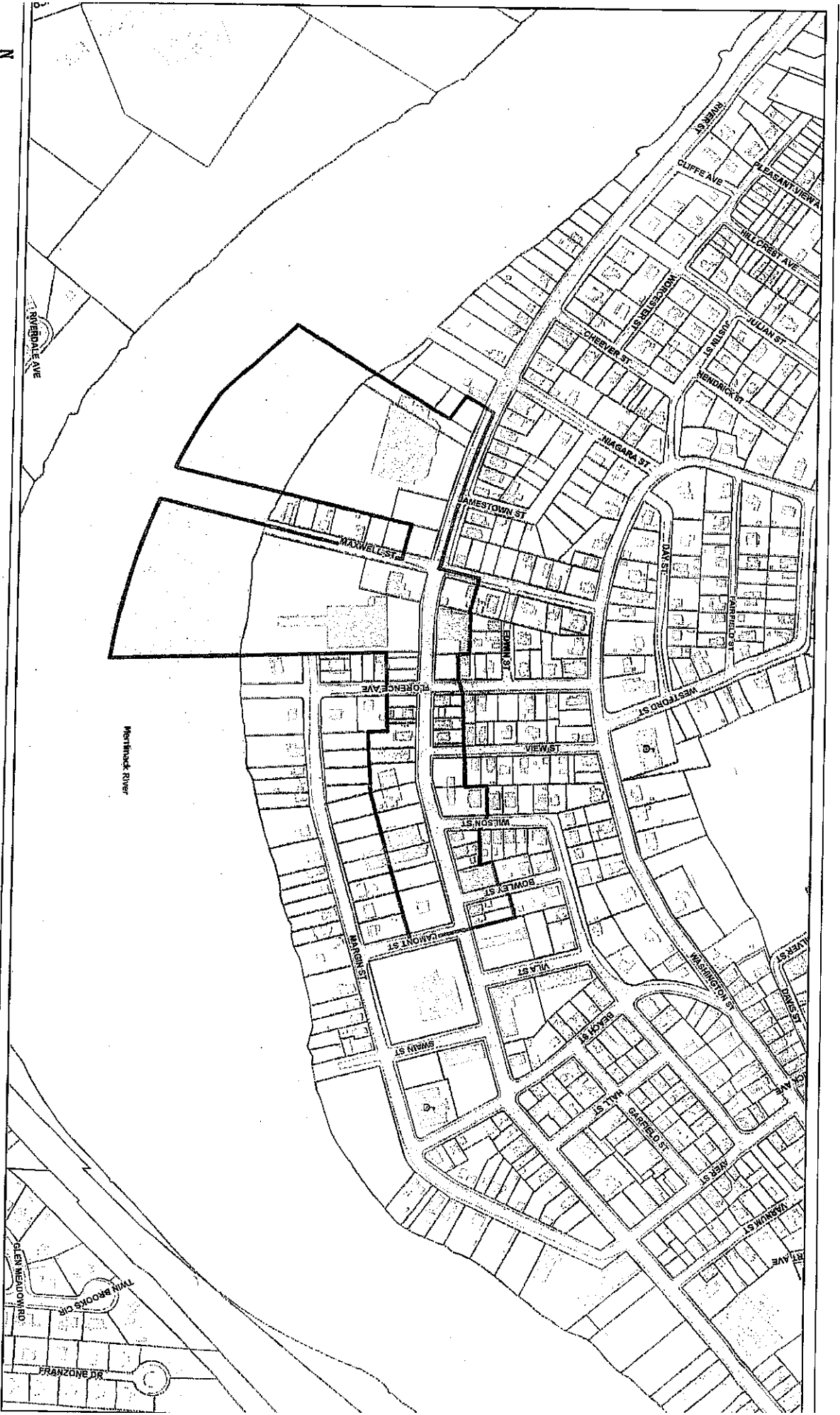


City Of Haverhill, MA
Engineering -- Division
Date produced: 1/12/2018



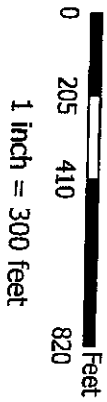
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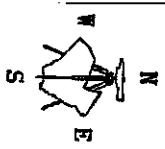
City of Haverhill, MA
Engineering --- Division
Date produced: 1/12/2018

River Street Area - ME-NE Zone



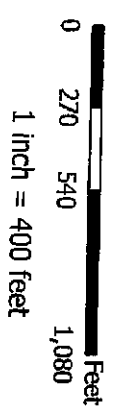
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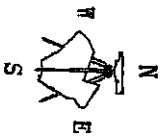
City Of Haverhill, MA
Engineering — Division
Date produced: 11/29/2018

South Main Street Area - ME-NR Zone



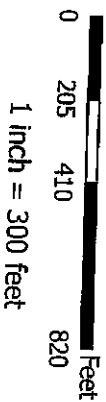
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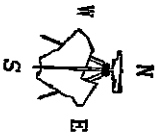
City Of Havenhill, MA
Engineering -- Division
Date produced: 11/28/2018

Knipe Road Area - ME-RO Zone



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The City expressly disclaims any liability that may result from use of this map.





City Of Haverhill, MA
Engineering - Division
Date produced: 11/28/2018

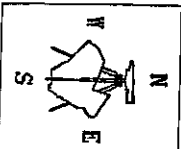
Plaistow Road Area - ME-RO Zone

0 270 540 1,080 Feet
1 inch = 400 feet



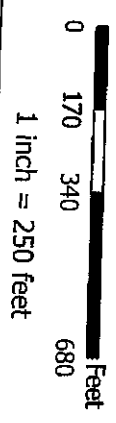
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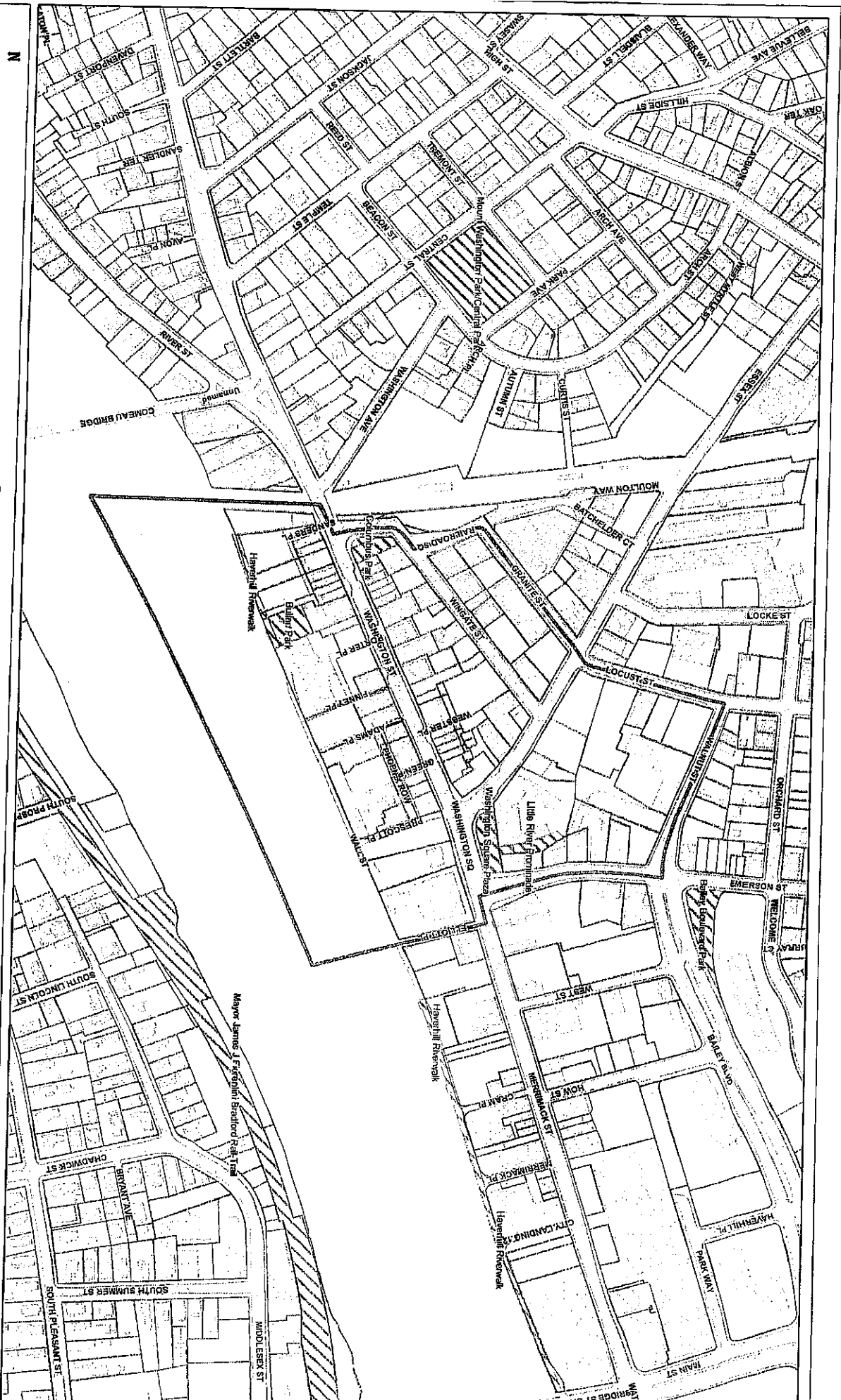


City of Haverhill, MA
Engineering — Division
Date produced: 12/7/2018

Waterfront District Area-WDA - ME-RO Zone



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The City reserves the right to modify this map without notice.





Haverhill

Planning Board

Phone: 978-374-2330 Fax: 978-374-2315

January 10, 2019

Linda Koutoulas
City Clerk, Room 118
City of Haverhill

Members Present: Bill Evans, Karen Buckley, April DerBoghosian, Esq., Alison Colby-Campbell, Bob Driscoll, Paul Howard, Karen Peugh and Ken Cram

Members Absent: Jack Everette

Also Present: Lori Robertson, Head Clerk

RE: **Ordinance – Licensed Marijuana Establishments Overlay Zone**

Please be advised, the Haverhill Planning Board at its meeting held on 1/9/19 at 7:00 p.m. in the City Council Chambers voted to recommend the above stated ordinance as submitted without any changes. I anticipate having the minutes ready for you on Monday, January 14, 2019. I will email a copy to the City Council members.

Signed:

Lori Robertson

Head Clerk

IL

MICHAEL S. MCGONAGLE
 MARY ELLEN DALY O'BRIEN
 WILLIAM J. MACEK
 TIMOTHY J. JORDAN
 JOLIN F. LEPAGE
 LINDA E. BARRETT
 JOSEPH J. BEVILACQUA
 J. SULLIVAN
 PRESIDENT
 NT
 MICHITSON



CITY OF HAVERHILL
 HAVERHILL, MASSACHUSETTS 01830-5843

CITY HALL, ROOM 204
 4 SUMMER STREET
 TELEPHONE: 978 374-2328
 FACSIMILE: 978 374-2329
 www.ci.haverhill.ma.us
 citycncl@cityofhaverhill.com

DOCUMENTS REFERRED TO COMMITTEE STUDY

38-F	Communication from Councillors Barrett and LePage requesting to discuss double poles in the City			
38-W	Communication from Councillor Barrett requesting to give an update on response from MBTA/Keolis & US EPA about idling trains in Bradford	A & F	9/6/16, 11/31/16, 1/17/17, 5/11/17, 10/24/17	3/15/16
26E	City of Haverhill - Mayor's Recommendations, Capital Improvement Program - 2016-2020	Citizen Outreach		4/5/16 1/31/17
10-B	Communication from President Michitson asking to request from Mayor status of facility improvements to public buildings and parks to comply with American w/ Disabilities Act (ADA)	A & F Citizen Outreach	11/3/16, 5/11/2017, 7/25/17, 2/15/18	5/31/16 2/15/18
10-U	Communication from President Michitson requesting discussion on next steps to provide comprehensive long range plan for Haverhill	Citizen Outreach	1/31/17, 8/15/17	1/3/17 1/31/17
58-G	Communication from President Michitson requesting to present an update on the meeting with group homes stakeholders to address severe problems in Haverhill	Public Safety		1/31/17 8/15/17 5/2/17
7-M	Communication from Councillor Daly O'Brien re: street parking change after storms by providing alternate street parking the night after storm to improve plowing & clearing in inner city streets	Citizen Outreach		1/16/18
38-D	Communication from Councillors Sullivan and Barrett requesting an update on City's emergency management plan and status of working generators in all public building in City	Public Safety		3/20/18
63-W	Communication from Councillor Macek requesting discussion on creation of comprehensive City-wide plan for establishment of 55+ housing overlay zoning districts	Planning & Dev.		7/10/18 9/5/18
82	Ordinance re: Vehicles & Traffic - Amend Ch. 240-108, Article XVI, Central Business District Parking - Fees, Rate and Terms	A & F		7/10/18
8-B	Ordinance re: Vehicles & Traffic - Amend Ch. 240-108, Article XVI, Central Business District Parking - Chart	A & F		7/10/18
93-L	Communication from President Michitson requesting to introduce Dave Labrode to discuss street tree plantings	NRPP		8/7/18
2-C	Ordinance re: Vehicles & Traffic; Central Business District Parking Fees Rates and Terms	A & F		8/21/18
93-W	Communication from Councillor Sullivan and Bevilacqua request to discuss possibility of entering into an agreement with Lorraine Post 29 VFW to rehab and lease Clement Farm House located at 1314 Main St., Haverhill	NRPP		9/11/18
93-Z	Communication from Council President Michitson requesting to address the impact of the Moratorium on National Grid gas installations	A & F		9/18/18
107-N	Communication from Councillor Macek requesting to discuss Micro-paving			

DOCUMENTS REFERRED TO COMMITTEE STUDY (cont.)

121-F	Communication from Councillors Barrett & Bevilacqua requesting to introduce Maria Zangari to discuss illegal hunting concerns in Atlanta St. area	Public Safety	10/20/18
103-B	Ordinance re: Adult Use of Marijuana and Marijuana Establishments	A & F	11/13/18
121-H	Communication from Councillor Bevilacqua requesting to introduce discussion re: Haverhill Youth Soccer with David Lefcourt, Pres. & Edward Felker, Chair Field Committee	NRPP	12/4/18