

BOARD OF SELECTMEN
May 14, 2013
Needham Town Hall
Agenda

	6:45	Informal Meeting with Citizens <i>One or more members of the Board of Selectmen will be available between 6:45 and 7:00 p.m. for informal discussion with citizens. While not required, citizens are encouraged to call the Selectmen's Office at (781) 455-7500 extension 204 in advance to arrange for an appointment. This enables the Board to better assure opportunities for participation and respond to citizen concerns.</i>
1.	7:00	Public Hearing – Hotel Alcohol License, 80 B Street <ul style="list-style-type: none"> • Michael Gendrin, Manager Residence Inn by Marriott Needham
2.	7:00	Department of Public Works <ul style="list-style-type: none"> • Proclamation – “National Public Works Week”
3.	7:05	Execution of Water Pollution Abatement Trust Loan <ul style="list-style-type: none"> • David Davison, Assistant Town Manager/Finance • Evelyn Pones, Treasurer & Collector
4.	7:15	Solar Energy Exploratory Committee Update <ul style="list-style-type: none"> • Liz Driscoll, Chair SEEC • Hank Haff, Project Manager, Public Facilities Construction • Ann Dorfman, RTS Superintendent
5.	7:45	Town Manager <ul style="list-style-type: none"> • Town Manager Report
6.	8:00	Board Discussion <ul style="list-style-type: none"> • Consideration of All Alcohol Licenses for Restaurants having under 100 seats • Committee Reports
7.	8:15	Executive Session – Exception 3

CONSENT AGENDA *=Backup attached

1.	Accept a \$100 donation made to the Needham Fire Department from the Fidelity Charitable Gift Fund to be used for the Student Awareness of Fire Education program.
2.	Accept with gratitude the donation of \$181,612.25 from the Needham Sports Council on behalf of the Greene's Field Fundraising Committee.
3.*	Approve a One Day Special Wines & Malt Beverages license for Suzanne Kajunski of Needham Pool & Racquet Club to hold its new member reception on Friday, June 14, 2013 from 6:00 p.m. to 9:00 p.m. at Needham Pool & Racquet Club, 1550 Central Avenue, Needham.
4.*	Approve application for a 2013 Common Victualler license from Zucchini Gold, LLC d/b/a The Rice Barn, located at 1037 Great Plain Avenue, Needham.

5.*	Approve application for a 2013 Public Entertainment license on Sundays from Jeffrey Friedman, of Needham Farmers Market, Inc., located on front lawn of First Parish Church, 23 Dedham Avenue, Needham.
6.*	Approve application for a 2013 Sale of Second Hand Articles license from Segaloff's Jewelers, located at 20 Chestnut Street, #5.
7.*	Grant permission for the Community Center of Needham to hold a community-wide luminary event (meet and stroll) on Sunday, November 3, 2013 between 4:00 p.m. and 7:00 p.m. with a set-up time of 12:00 p.m. Participants would gather first at the Town Common and the stroll would conclude back at Town Common. Permission has been given from Police, Fire, Park & Recreation, and DPW.
8.*	Ratify a request from Caroline Genco and Brendan Genco of the CCG Foundation to use the Newman School parking lot as a rest stop along the route of "The Christina Clarke Genco Foundation's Mother's Day Memorial Bike Ride" event to be held on Sunday, May 12, 2013 from 8:00 a.m. to 4:00 p.m. The route that the riders will take through Needham has been approved by the following departments: DPW, Police, Fire and Park and Recreation.
9.	Accept donation of 300 Hoodsie Ice Cream cups, and 300 spoons at a value of \$125 for the Memorial Day observation to be held on May 27, 2013 from Roche Brothers, Needham.
10.	Accept \$650 in donations received for The Needham Health Department's Domestic Violence Action Committee fund from the following: Magda & Avner Butnaru, Needham Women's Club, Jennifer H & Donald W. Schroeder, Alan K. Stern & Lori I. Tenser, Susan C. & Warren P. Kirk, Marilyn Brooks, Karen Goldsmith, Mariele Fortè, Ann C. MacFate, David J. & June B. Smith, Claire Blum, and Miriam Grodberg.
11.	Accept the following donations made to the Needham Public Library during the period February 8, 2013 – May 8, 2013: Mary Bilder donated the following books in honor of Eleanor and Lucy Mackey: ZOOology by Joelle Jolivet (\$19.00), and Almost Everything by Joelle Jolivet (\$20.00); The following people made donations in memory of Bertha Marram: Dan Alford and Barbara St. Onge (\$50.00), Marian Novick and Marc Gorenstein (\$50.00), Sabra and Steve Sherry (\$25.00), Susan Davies and Richard Talkov (\$200.00), Carolyn Carey (\$100.00), Nancy Fischer (\$15.00), Wellesley College Trustees (\$125.00); Marc Mandel of the Needham Channel gave the library DVDs 25-85 of Jack Cogswell's program, <i>Talk of the Town</i> (priceless); The Krieger Family donated a copy of Giambattista Bodoni's <i>Manual of Typography</i> (\$70.00); Needham Bank donated \$250.00 for the library's 125 th Anniversary Celebration; Authors Beverly Ford & Stephanie Schorow gave the library a copy of their book, <i>The Boston Mob Guide</i> (\$16.99); The following people made donations in memory of Shirley G. Muther: Marjorie Tucker (\$25.00), Alice Rapkin (\$10.00), CSL International of Beverly, MA (\$100.00), The Molloy Family (\$100.00), Leslie & Charles McGowan (\$25.00), Mildred & William Galvin (\$100.00), George & Christine Hoffmeister (\$25.00), Hope Cruickshank (\$25.00), Connie Owens (\$30.00), Faye Lasher (\$25.00), Linda McCusker (\$20.00), Suzanne Mack (\$100.00), Pete & Jo Belval (\$25.00), Charlotte Sidell (\$50.00), Leslie Owen (\$50.00), The Gallagher Family (\$100.00), Jean Lindblad (\$50.00), Catherine & Roy Prout (\$20.00), Elizabeth Paulette-Coughlin and husband (\$200.00), Virginia Blondell (\$40.00), Jennifer & Michael Borislow (\$50.00), Lillian C. Fader (\$25.00), Katie & Steve Palmer (\$100.00), and Virginia Lacy (\$100.00); Nina Borromeo gave the library two copies of her new Children's Book, <i>Lucy the Wonder Weenie</i> (\$9.00); George Markarian gave the library a copy of <i>The Massachusetts Tree Wardens' and Foresters' Association: The Centennial Year, 1913 – 2013</i> (\$50.00); Cathy &

	Barbara Collishaw donated \$25.00 in memory of Mary E. DiMasi; Marc Mandell and Derick Risner gave the library the following DVDs: <i>The Millen-Faber Gang</i> and <i>Needham Public Library 125th Anniversary Celebration March 16, 2013.</i>					
12.*	Approve Applications for Weekday and Sunday Entertainment Licenses from The Rotary Club of Needham for a carnival to be held in the General Dynamics parking lot on June 6 through June 9, 2013.					
13.	Approve and sign Ambulance Abatement for \$515.					
14.	Accept gift of Town flag, pole and stand from the Melick Foundation. The flag is for the stage in Powers Hall.					
15.*	Water and Sewer Abatement Order #1161.					
16.*	Approve Minutes March 5, 2013 (Executive Session) and April 23, 2013.					
17.	Approve a request from Michelle Harris, of PLGA Foundation d/b/a A Kids Brain Tumor Cure, to ride a small portion of its "Geared Up for Kids 2013" bike ride through Needham. The bike ride will be starting and ending at PTC, 140 Kendrick Street. Riders will take a right out of the parking lot and proceed into Newton where the ride will primarily take place. A Needham Police detail has been hired for the Needham portion of the event.					
18.	Approve continuation of the experimental Traffic Regulation in accordance with the Needham Traffic Rules and Regulations Section 3-6 for Great Plain Avenue for the period May 17, 2013 to June 16, 2013: One Handicap Parking spot, and one 15 minute Parking spot, in front of the former Eaton Square Right of Way adjacent to MBTA Right of Way.					
19.	Accept a \$1500 donation made to the Needham Health Department's Gift of Warmth fund from The Congregational Church of Needham Outreach Committee.					
20.*	Approve and authorize the Chair to sign \$15,000 grant from the Massachusetts Housing Partnership, 40B Technical Assistance Grant, for the Zoning Board of Appeals.					
21.	Grant permission for the following residents to hold a Block Party:					
	Name	Address	Party Location	Date	Rain Date	Time
	Carter Center for Children	800 Highland Ave	Carter Center for Children	6/8/13		1:30-5:00PM
	Julie Vanderklish	71 Ardmore Road	Corner of Ardmore/Taylor St in cul-de-sac	6/22/13	6/23/13	4-8PM
	Andrew Allen	955 Webster	900 Block of Webster	7/20/13	7/27/13	12-3PM
	Jeffrey Steiger	119 Whitman Road	End of Grove St @ Charles River St-In front of 541 Grove	6/9/13		3:30-7:30PM
	Stephanie Arendell	41 Kimball St	Corner of Grant and Kimball	6/7/13	6/8/13	5:30-9:00PM
	Jennifer Berk	10 Hollow Ridge Road	Hollow Ridge Road	6/22/2013		3pm-dusk



**Board of Selectmen
TOWN OF NEEDHAM
AGENDA FACT SHEET**

MEETING DATE: 5/14/2013

Agenda Item	Public Hearing – New All Alcoholic Beverages License - Hotel Colwen Management, Inc., d/b/a Residence Inn by Marriott Needham located at 80 B St.
Presenter(s)	Roy Cramer, Attorney Stephen Miller, Attorney Terrance Bickhardt, Sr. Vice President, Colwen Management

1.	BRIEF DESCRIPTION OF TOPIC TO BE DISCUSSED				
<p>Attorney Roy Cramer will present an application for an All Alcoholic Beverage License for a Hotel: Colwen Management, Inc. d/b/a Residence Inn by Marriott Needham, located at 80 B Street, Michael W. Gendrin – proposed manager. The licensed premise will contain approximately 5,340 sq. ft. on the first floor of the hotel consisting of bar and dining/lounge seating on the side; dining/function room in the rear; service and food prep areas in the center, and storage in the rear, with a total seating capacity of 150 patrons. The premise has a main entrance/exit in the front and additional exits on the sides and in the rear. Abutters were notified of public hearing and there are no spiritual or educational organizations located within the required radius.</p> <p>The applicant also seeks the waiver of Town of Needham Regulations for the Sale of Alcoholic Beverages: Section 7.3 Operation of a Restaurant for twelve month period immediately preceding application.</p>					
2.	VOTE REQUIRED BY BOARD OF SELECTMEN	YES	NO		
<p>That the Board of Selectmen vote to approve the application for a new All Alcohol License Innolder/Hotel for Colwen Management, Inc., d/b/a Residence Inn by Marriott Needham located at 80 B St., Michael W. Gendrin, Manager, including a waiver for Section 7.3 of the Town of Needham Regulations for the Sale of Alcoholic Beverages, a 2013 Common Victualler License, Innkeeper License and to forward the approved Alcohol License application to the ABCC for approval.</p>					
3.	BACK UP INFORMATION ATTACHED	YES	NO		
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> a) Cover Letters b) Retail Alcoholic Beverages License c) Manager Application d) Consent of Directors e) Articles of Organization f) Legal Notice g) Site Plan </td> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> h) Abutter List i) Affidavit of Abutter Mailing j) Lease Agreement k) Common Victualler Application l) Innholders Application m) Menu </td> </tr> </table> <p style="text-align: right;"><i>Complete application on file in the Office of the Town Manager</i></p>				<ul style="list-style-type: none"> a) Cover Letters b) Retail Alcoholic Beverages License c) Manager Application d) Consent of Directors e) Articles of Organization f) Legal Notice g) Site Plan 	<ul style="list-style-type: none"> h) Abutter List i) Affidavit of Abutter Mailing j) Lease Agreement k) Common Victualler Application l) Innholders Application m) Menu
<ul style="list-style-type: none"> a) Cover Letters b) Retail Alcoholic Beverages License c) Manager Application d) Consent of Directors e) Articles of Organization f) Legal Notice g) Site Plan 	<ul style="list-style-type: none"> h) Abutter List i) Affidavit of Abutter Mailing j) Lease Agreement k) Common Victualler Application l) Innholders Application m) Menu 				

McDERMOTT, QUILTY & MILLER LLP

131 OLIVER STREET - 5TH FLOOR
BOSTON, MASSACHUSETTS 02110

TELEPHONE: 617-946-4600
FACSIMILE: 617-946-4624

April 19, 2013

VIA HAND DELIVERY

Town of Needham
Board of Selectmen
1471 Highland Avenue
Needham, MA 02492

Attn: Sandy Cincotta

**Re: New License Application
Innholders All-Alcoholic Beverages License
Colwen Management, Inc. d/b/a Residence Inn by Marriott Needham
80 B Street, Needham, MA 02494**

Dear Ms. Cincotta:

Enclosed please find **one (1) set of original** documents regarding the above-referenced application as referenced herein below:

1. ABCC Application Forms;
2. ABCC Personal Information Forms and CORI Forms;
3. ABCC Manager of Record Application and Related Documents;
4. Town of Needham Licensing Forms;
5. Corporate Vote;
6. Corporate Documents;
7. Floor Plans;
8. Lease Agreement; and
9. Menu.

Also enclosed please find a check made payable to the ABCC in the amount of \$200.00 and a check made payable to the Town of Needham in the amount of \$150.00.

We respectfully request that this matter be placed on the next available public hearing agenda, which I understand is scheduled for Tuesday, May 14, 2013.

Sandy Cincotta
April 19, 2013
Page Two

As always, thank you for your time and consideration. Please do not hesitate to contact me with any questions or requests for additional information.

Sincerely,



Karen D. Simão, Esq.

KDS/ets
Enclosures

FRIEZE CRAMER ROSEN & HUBER LLP
COUNSELLORS AT LAW

60 WALNUT STREET, WELLESLEY, MASSACHUSETTS 02481

781-943-4000 • FAX 781-943-4040

RECEIVED
TOWN OF NEEDHAM
BOARD OF SELECTMEN

2013 APR 22 P 2: 26

ROY A. CRAMER

781-943-4030

RAC@I28LAW.COM

April 22, 2013

BY HAND

and

scincotta@needhamma.gov

Board of Selectmen

Town of Needham

1471 Highland Avenue

Needham, MA 02492

Attn: Ms. Sandy Cincotta

Re: New Liquor License Application
Innholders All-Alcoholic Beverages License
Colwen Management, Inc. d/b/a Residence Inn by Marriott Needham
80 B Street, Needham, Massachusetts 02494

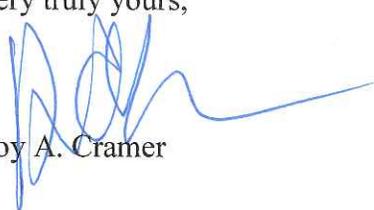
Dear Board Members and Ms. Cincotta:

Reference is made to the Application of Colwen Management, Inc. d/b/a Residence Inn by Marriott Needham for an Innholders All-Alcoholic Beverages License. As you are aware, the proposed Manager will be Michael Gendrin.

Since Mr. Gendrin is not the licensee named in a common victualler's license and has not operated a restaurant and function room having a minimum seating capacity of 100 for the 12 month period immediately preceding the filing of this application, a waiver is requested from Section 6.4 of the Regulations for the Sale of Alcoholic Beverages.

Thank you for your cooperation.

Very truly yours,


Roy A. Cramer



The Commonwealth of Massachusetts
 Alcoholic Beverages Control Commission
 239 Causeway Street
 Boston, MA 02114
www.mass.gov/abcc

Print Form

**RETAIL ALCOHOLIC BEVERAGES LICENSE APPLICATION
 MONETARY TRANSMITTAL FORM**

APPLICATION SHOULD BE COMPLETED ON-LINE, PRINTED, SIGNED, AND SUBMITTED TO THE LOCAL LICENSING AUTHORITY.

ECRT CODE: RETA

CHECK PAYABLE TO ABCC OR COMMONWEALTH OF MA: \$200.00

(CHECK MUST DENOTE THE NAME OF THE LICENSEE CORPORATION, LLC, PARTNERSHIP, OR INDIVIDUAL)

CHECK NUMBER

IF USED EPAY, CONFIRMATION NUMBER

A.B.C.C. LICENSE NUMBER (IF AN EXISTING LICENSEE, CAN BE OBTAINED FROM THE CITY)

LICENSEE NAME

ADDRESS

CITY/TOWN STATE ZIP CODE

TRANSACTION TYPE (Please check all relevant transactions):

- | | | | |
|--|---|---|---|
| <input type="checkbox"/> Alteration of Licensed Premises | <input type="checkbox"/> Cordials/Liqueurs Permit | <input type="checkbox"/> New Officer/Director | <input type="checkbox"/> Transfer of License |
| <input type="checkbox"/> Change Corporate Name | <input type="checkbox"/> Issuance of Stock | <input type="checkbox"/> New Stockholder | <input type="checkbox"/> Transfer of Stock |
| <input type="checkbox"/> Change of License Type | <input type="checkbox"/> Management/Operating Agreement | <input type="checkbox"/> Pledge of Stock | <input type="checkbox"/> Wine & Malt to All Alcohol |
| <input type="checkbox"/> Change of Location | <input type="checkbox"/> More than (3) \$15 | <input type="checkbox"/> Pledge of License | <input type="checkbox"/> 6-Day to 7-Day License |
| <input type="checkbox"/> Change of Manager | <input checked="" type="checkbox"/> New License | <input type="checkbox"/> Seasonal to Annual | |
| <input type="checkbox"/> Other <input type="text"/> | | | |

THE LOCAL LICENSING AUTHORITY MUST MAIL THIS TRANSMITTAL FORM ALONG WITH THE CHECK, COMPLETED APPLICATION, AND SUPPORTING DOCUMENTS TO:

**ALCOHOLIC BEVERAGES CONTROL COMMISSION
 P. O. BOX 3396
 BOSTON, MA 02241-3396**

APPLICATION FOR RETAIL ALCOHOLIC BEVERAGE LICENSE

RECEIVED
TOWN OF NEEDHAM
BOARD OF SELECTMEN

City/Town

2013 APR 19 A 9 38

1. LICENSEE INFORMATION:

A. Legal Name/Entity of Applicant:(Corporation, LLC or Individual)

B. Business Name (if different) : C. Manager of Record:

D. ABCC License Number (for existing licenses only) :

E. Address of Licensed Premises: City/Town: State: Zip:

F. Business Phone: G. Cell Phone:

H. Email: I. Website:

J. Mailing address (If different from E.): City/Town: State: Zip:

2. TRANSACTION:

- New License
- New Officer/Director
- Transfer of Stock
- Issuance of Stock
- Pledge of Stock
- Transfer of License
- New Stockholder
- Management/Operating Agreement
- Pledge of License

The following transactions must be processed as new licenses:

- Seasonal to Annual
- (6) Day to (7)-Day License
- Wine & Malt to All Alcohol

IMPORTANT ATTACHMENTS (1): The applicant must attach a vote of the entity authorizing all requested transactions, including the appointment of a Manager of Record or principal representative.

3. TYPE OF LICENSE:

- \$12 Restaurant
- \$12 Hotel
- \$12 Club
- \$12 Veterans Club
- \$12 General On-Premises
- \$12 Tavern (No Sundays)
- \$15 Package Store

4. LICENSE CATEGORY:

- All Alcoholic Beverages
- Wine & Malt Beverages Only
- Wine or Malt Only
- Wine & Malt Beverages with Cordials/Liqueurs Permit

5. LICENSE CLASS:

- Annual
- Seasonal

6. CONTACT PERSON CONCERNING THIS APPLICATION (ATTORNEY IF APPLICABLE)

NAME: Karen D. Simao, Esq. / McDermott, Quilty & Miller LLP

ADDRESS: 131 Oliver Street, 5th Floor

CITY/TOWN: Boston STATE: MA ZIP CODE: 02110

CONTACT PHONE NUMBER: (617) 946-4600 FAX NUMBER: (617) 946-4624

EMAIL: ksimao@mqmlp.com

7. DESCRIPTION OF PREMISES:

Please provide a complete description of the premises to be licensed. Please note that this must be identical to the description on the Form 43.

Approximately 5,340 sq. ft. On first floor of hotel, bar and dining/lounge seating on the side; dining/function room in the rear; service and food prep areas in center; storage in the rear; main entrance/exit in front, additional exits on the sides and in the rear.

Total Square Footage: +/- 5,340 sq. ft. Number of Entrances: 1 (One) Number of Exits: 9 (Nine)

Occupancy Number: TBD by Building Department Seating Capacity: 150

IMPORTANT ATTACHMENTS (2): The applicant must attach a floor plan with dimensions and square footage for each floor & room.

8. OCCUPANCY OF PREMISES:

By what right does the applicant have possession and/or legal occupancy of the premises? Final Lease

IMPORTANT ATTACHMENTS (3): The applicant must submit a copy of the final lease or documents evidencing a legal right to occupy the premises.

Other:

Landlord is a(n): LLC Other:

Name: SXC Needham Hotel LLC Phone: (603) 623-8811

Address: 1359 Hooksett Road City/Town: Hooksett State: NH Zip: 03106

Initial Lease Term: Beginning Date Upon Completion Ending Date 05/01/2023

Renewal Term: N/A of Hotel Construction Options/Extensions at: N/A Years Each

Rent: \$12,000.00 Per Year Rent: \$1,000.00 Per Month

Do the terms of the lease or other arrangement require payments to the Landlord based on a percentage of the alcohol sales?
Yes No

IMPORTANT ATTACHMENTS(4):

1. If yes, the Landlord is deemed a person or entity with a financial or beneficial interest in this license. Each individual with an ownership interest with the Landlord must be disclosed in §10 and must submit a completed Personal Information Form attached to this application.
2. Entity formation documents for the Landlord entity must accompany the application to confirm the individuals disclosed.
3. If the principals of the applicant corporation or LLC have created a separate corporation or LLC to hold the real estate, the applicant must still provide a lease between the two entities.

9. LICENSE STRUCTURE:

The Applicant is a(n): Other :

If the applicant is a Corporation or LLC, complete the following: Date of Incorporation/Organization:

State of Incorporation/Organization: Date of Registration in Massachusetts: 01/16/2002

Is the Corporation publicly traded? Yes No

10. INTERESTS IN THIS LICENSE:

List all individuals involved in the entity (e.g. corporate stockholders, directors, officers and LLC members and managers) and any person or entity with a direct or indirect, beneficial or financial interest in this license (e.g. landlord with a percentage rent based on alcohol sales).

IMPORTANT ATTACHMENTS (5):

- A. All individuals or entities listed below are required to complete a [Personal Information Form](#).
- B. All shareholders, LLC members or other individuals with any ownership in this license must complete a [CORI Release Form](#).

Name	All Titles and Positions	Specific # of Stock or % Owned	Other Beneficial Interest
Mark R. Stebbins	Treasurer, Director & Shareholder	33.33%	N/A
Mark R. Schleicher	Director & Shareholder	33.33%	N/A
Leo Xarras	CEO, Director & Shareholder	33.33%	N/A
*SEE ADDITIONAL SPACE			

*If additional space is needed, please use last page.

11. EXISTING INTEREST IN OTHER LICENSES:

Does any individual listed in §10 have any direct or indirect, beneficial or financial interest in any other license to sell alcoholic beverages? Yes No **If yes, list said interest below:**

Name	License Type	Licensee Name & Address
*SEE ADDITIONAL SPACE	<input type="text" value="Please Select"/>	
	<input type="text" value="Please Select"/>	

*If additional space is needed, please use last page.

12. PREVIOUSLY HELD INTERESTS IN OTHER LICENSES:

Has any individual listed in §10 who has a direct or indirect beneficial interest in this license ever held a direct or indirect, beneficial or financial interest in a license to sell alcoholic beverages, which is not presently held? Yes No If yes, list said interest below:

Name	Licensee Name & Address	Date	Reason Terminated
			Please Select
			Please Select
			Please Select

13. DISCLOSURE OF LICENSE DISCIPLINARY ACTION:

Have any of the disclosed licenses to sell alcoholic beverages listed in §11 and/or §12 ever been suspended, revoked or cancelled? Yes No If yes, list said interest below:

Date	License	Reason of Suspension, Revocation or Cancellation

14. CITIZENSHIP AND RESIDENCY REQUIREMENTS FOR A (§15) PACKAGE STORE LICENSE ONLY :**A.) For Individual(s):**

1. Are you a U.S. Citizen? Yes No
2. Are you a Massachusetts Residents? Yes No

B.) For Corporation(s) and LLC(s) :

1. Are all Directors/LLC Managers U.S. Citizens? Yes No
2. Are a majority of Directors/LLC Managers Massachusetts Residents? Yes No
3. Is the License Manager or Principal Representative a U.S. Citizen?

C.) Shareholder(s), Member(s), Director(s) and Officer(s):

- 1.. Are all Shareholders, Members, Directors, LLC Managers and Officers involved at least twenty-one (21) years old? Yes No

15. CITIZENSHIP AND RESIDENCY REQUIREMENTS FOR (§12) RESTAURANT, HOTEL, CLUB, GENERAL ON PREMISE, TAVERN, VETERANS CLUB LICENSE ONLY:**A.) For Individual(s):**

1. Are you a U.S. Citizen? Yes No

B.) For Corporation(s) and LLC(s) :

1. Are a majority of Directors/LLC Managers **NOT** U.S. Citizen(s)? Yes No
2. Is the License Manager or Principal Representative a U.S. Citizen? Yes No

C.) Shareholder(s), Member(s), Director(s) and Officer(s):

- 1.. Are all Shareholders, Members, Directors, LLC Managers and Officers involved at least twenty-one (21) years old? Yes No

Additional Space

Please note which question you are using this space for.

10. Interests in this License:

Henry B. Stebbins	Secretary	0%	N/A
Terrance Bickhardt	Senior Vice President	0%	N/A
Michael W. Gendrin	Manager of Record	0%	N/A

11. Existing Interest in Other Licenses:

Colwen Management, Inc.	Section 12 Hotel	Renaissance Hotel at Patriot Place, 28 Patriot Place, Foxborough, MA
Colwen Management, Inc.	Section 12 Hotel	Residence Inn by Marriott - Worcester, 503 Plantation Street, Worcester, MA
Colwen Management, Inc.	Section 12 Hotel	Courtyard by Marriott - Worcester, 72 Grove Street, Worcester, MA
Colwen Management, Inc.	Section 12 Hotel	Residence Inn by Marriott - Chelsea/Boston, 200 Maple Street, Chelsea, MA

16. COSTS ASSOCIATED WITH LICENSE TRANSACTION:

A. Purchase Price for Real Property:

B. Purchase Price for Business Assets:

C. Costs of Renovations/Construction:

D. Initial Start-Up Costs:

E. Purchase Price for Inventory:

F. Other: (Specify)

G: TOTAL COST

H. TOTAL CASH

I. TOTAL AMOUNT FINANCED

*N/A - Application for New Innholders All-Alcoholic Beverages License

IMPORTANT ATTACHMENTS (G): Submit any and all records, documents and affidavits including loan agreements that explain the source(s) of money for this transaction. Sources of cash must include a minimum of three (3) months of bank statements.

The amounts listed in subsections (H) and (I) must total the amount reflected in (G).

17. PROVIDE A DETAILED EXPLANATION OF THE FORM(S) AND SOURCE(S) OF FUNDING FOR THE COSTS IDENTIFIED ABOVE (INCLUDE LOANS, MORTGAGES, LINES OF CREDIT, NOTES, PERSONAL FUNDS, GIFTS):

N/A

*If additional space is needed, please use last page.

18. LIST EACH LENDER AND LOAN AMOUNT(S) FROM WHICH "TOTAL AMOUNT FINANCED" NOTED IN SUB-SECTIONS 16(I) WILL DERIVE:

A.

Name	Dollar Amount	Type of Financing
N/A		

*If additional space is needed, please use last page.

B. Does any individual or entity listed in §19 as a source of financing have a direct or indirect, beneficial or financial interest in this license or any other license(s) granted under Chapter 138? Yes No

If yes, please describe:

19. PLEDGE: (i.e. COLLATERAL FOR A LOAN)

A.) Is the applicant seeking approval to pledge the license? Yes No

1. If yes, to whom:

2. Amount of Loan: 3. Interest Rate: 4. Length of Note:

5. Terms of Loan :

B.) If a corporation, is the applicant seeking approval to pledge any of the corporate stock? Yes No

1. If yes, to whom:

2. Number of Shares:

C.) Is the applicant pledging the inventory? Yes No

If yes, to whom:

IMPORTANT ATTACHMENTS (7): If you are applying for a pledge, submit the pledge agreement, the promissory note and a vote of the Corporation/LLC approving the pledge.

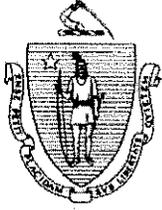
20. CONSTRUCTION OF PREMISES:

Are the premises being remodeled, redecorated or constructed in any way?_If YES, please provide a description of the work being performed on the premises: Yes No

Landlord responsible for complete hotel build-out.

21. ANTICIPATED OPENING DATE:

IF ALL OF THE INFORMATION AND
ATTACHMENTS ARE NOT COMPLETE
THE APPLICATION WILL BE
RETURNED



The Commonwealth of Massachusetts
 Alcoholic Beverages Control Commission
 239 Causeway Street
 Boston, MA 02114
 www.mass.gov/abcc

MANAGER APPLICATION

All proposed managers are required to complete a Personal Information Form, and attach a copy of the corporate vote authorizing this action and appointing a manager.

1. LICENSEE INFORMATION:

Legal Name of Licensee: Business Name (dba):
 Address:
 City/Town: State: Zip Code:
 ABCC License Number: Phone Number of Premise:
 (If existing licensee)

2. MANAGER INFORMATION:

A. Name: B. Cell Phone Number:
 C. List the number of hours per week you will spend on the licensed premises:

3. CITIZENSHIP INFORMATION:

A. Are you a U.S. Citizen: Yes No B. Date of Naturalization:
 C. Court of Naturalization:
 (Submit proof of citizenship and/or naturalization such as Voter's Certificate, Birth Certificate or Naturalization Papers)

4. BACKGROUND INFORMATION:

A. Do you now, or have you ever, held any direct or indirect, beneficial or financial interest in a license to sell alcoholic beverages? Yes No
 If yes, please describe:
 B. Have you ever been the Manager of Record of a license to sell alcoholic beverages that has been suspended, revoked or cancelled? Yes No
 If yes, please describe:
 C. Have you ever been the Manager of Record of a license that was issued by this Commission? Yes No
 If yes, please describe:
 D. Please list your employment for the past ten years (Dates, Position, Employer, Address and Telephone):

Signature: Date: curate:

Additional Space

Please note which question you are using this space for.

4 (D) Background Information:

2011-2013, General Manager, Residence Inn Foxborough, 250 Foxborough Blvd., Foxborough, MA
2010-2011, General Manager, TownePlace Suites North Kingstown, 55 Gate Road, North Kingstown, RI
2010-2010, General Manager, Hampton Inn New Bedford-Fairhaven, 1 Hampton Way, Fairhaven, MA
2007-2010, Assistant General Manager, Residence Inn Foxborough, 250 Foxborough Blvd., Foxborough, MA
2006-2007, General Manager, Comfort Inn North Dartmouth, 171 Faunce Corner Road, North Dartmouth, MA
2003-2006, Assistant General Manager, Residence Inn North Dartmouth, 181 Faunce Center Road, North Dartmouth, MA
2000-2003, Front Office Manager, Hawthorn Suites Franklin, 835 Upper Union Street, Franklin, MA

Colwen Management, Inc.

Consent of Directors

The undersigned, being all of the Directors of Colwen Management, Inc. a New Hampshire corporation organized and existing under the New Hampshire Business Corporation Act (NH REA 293-A) (the "Corporation"), do hereby consent that the following actions be taken without a meeting pursuant to New Hampshire 293-A: such actions to be effective as of the date hereof:

RESOLVED: That the Corporation file all necessary applications with the Commonwealth of Massachusetts Alcoholic Beverage Control Commission and the City of Needham, MA for an Alcoholic Beverage License for Retail sale at the Residence Inn by Marriott in Needham, Massachusetts, and take all other actions, and execute and deliver such documents, affidavits and certificates, as may be necessary or beneficial to obtain such Alcoholic Beverage License for Retail Sale.

RESOLVED: That Michael Gendrin, General Manager of the Residence Inn by Marriott is hereby authorized to serve as Manager of Record of the Hotel.

RESOLVED: That Terrence Bickhardt, Senior Vice President of Colwen Management, Inc. is authorized to take all actions required to apply for and maintain an Alcoholic Beverage License for Retail Sale.

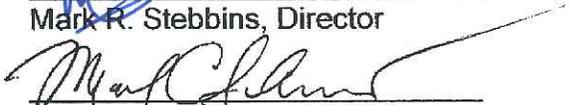
Executed this 8 day of April, 2013.



Leo Xarras, Chairman & Director



Mark R. Stebbins, Director



Mark C. Schleicher, Director

Colwen Management, Inc.

Consent of Directors

The undersigned, being all of the Directors of Colwen Management, Inc. a New Hampshire corporation organized and existing under the New Hampshire Business Corporation Act (NH REA 293-A) (the "Corporation"), do hereby consent that the following actions be taken without a meeting pursuant to New Hampshire 293-A: such actions to be effective as of the date hereof:

RESOLVED: That the Corporation file all necessary applications with the Commonwealth of Massachusetts Alcoholic Beverage Control Commission and the City of Needham, MA for an Alcoholic Beverage License for Retail sale at the Residence Inn by Marriott in Needham, Massachusetts, and take all other actions, and execute and deliver such documents, affidavits and certificates, as may be necessary or beneficial to obtain such Alcoholic Beverage License for Retail Sale.

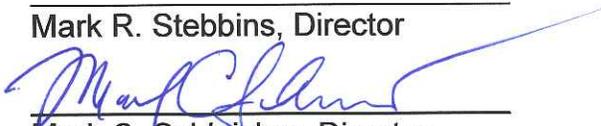
RESOLVED: That Michael Gendrin, General Manager of the Residence Inn by Marriott is hereby authorized to serve as Manager of Record of the Hotel.

RESOLVED: That Terrence Bickhardt, Senior Vice President of Colwen Management, Inc. is authorized to take all actions required to apply for and maintain an Alcoholic Beverage License for Retail Sale.

Executed this 8 day of April, 2013.

Leo Xarras, Chairman & Director

Mark R. Stebbins, Director



Mark C. Schleicher, Director

The Commonwealth of Massachusetts

William Francis Galvin
Secretary of the Commonwealth
One Ashburton Place, Boston, Massachusetts 02108-1512

FOREIGN CORPORATION CERTIFICATE

(General Laws, Chapter 181, Section 4)

Examiner

Name
Approved

We, Wendell Butcher, *President / ~~Vice President~~
and Henry B. Stebbins, ~~Clerk~~ / *Assistant Clerk or *Secretary / ~~Asst. Secretary~~
of Colwen Management, Inc.
(Exact name of corporation)

in compliance with the provisions of General Laws, Chapter 181, Section 4, certify as follows:

1. Exact name of the corporation, including any words or abbreviations indicating incorporation or limited liability:

Colwen Management, Inc.

2. If the exact name of the corporation is not available for use in the Commonwealth of Massachusetts, state the name the corporation *will use* to transact business in the Commonwealth of Massachusetts:

3. The corporation is organized under the laws of:

New Hampshire

4. The date of its organization is:

June 7, 2001

5. The location of its principal office is:

**66 Hanover Street, Suite 301
Manchester, NH 03101**

6. The activities of the corporation within the Commonwealth of Massachusetts are:
A management company providing multi-unit management operation and brand support and sales and market review for hotels.

C
M
R.A.

7. The location of its office in Massachusetts, if any, is:

None

8. The name and street address of the resident agent of the Corporation in the Commonwealth of Massachusetts is:
CT Corporation System, 101 Federal Street, Boston, MA 02109

9. The date on which the corporation's fiscal year ends is:

December 31st

10. If the corporation's existence is other than perpetual, state the duration of existence:

N/A

P.C.

*Delete the inapplicable words.

11. The name and business address of the officers and directors of the corporation are as follows:

	NAME	BUSINESS ADDRESS
President:	Wendell Butcher	20 Millstone Drive, Windham, NH 03087
*Vice President:	N/A	
Treasurer:	Mark R. Stebbins	1359 Daniel Webster Highway, Hooksett, NH 03106
Clerk or Secretary:	Henry B. Stebbins	66 Hanover St., Suite 301, Manchester, NH 03101
*Assistant Clerk or Assistant Secretary:	N/A	
Directors:	Colin Nadeua Wendell Butcher Mark R. Stebbins Mark C. Schleicher	3 Cheyenne Circle, Andover, MA 01810 20 Millstone Drive, Windham, NH 03087 1359 Daniel Webster Highway, Hooksett, NH 03106 P.O. Box 590, Norwich, VT 05055

**Please provide the name and business address of the Vice President and Assistant Clerk/ Assistant Secretary if they are executing this certificate.*

12. Please indicate the fees a Massachusetts corporation would be required to pay to register to do business in the state of incorporation:

\$85.00

13. Attached to this certificate shall be a Certificate of Legal Existence of such foreign corporation issued by an officer or agency properly authorized in the state or country in which such foreign corporation was organized or other evidence of legal existence acceptable to the Secretary. If such certificate or other evidence of such legal existence is in language other than English, a translation thereof, under oath of the translator, shall also be attached.

SIGNED UNDER THE PENALTIES OF PERJURY, this 3rd day of January, 20 02.

Wendell Butcher, *President / ~~*Vice President~~

Henry B. Stebbins, *Clerk / ~~*Assistant Clerk~~ or *Secretary / ~~*Assistant Secretary~~

**Delete the inapplicable words.*

State of New Hampshire
Department of State

CERTIFICATE OF EXISTENCE

I, William M. Gardner, Secretary of State of the State of New Hampshire, do hereby certify that COLWEN MANAGEMENT, INC. is a New Hampshire corporation duly incorporated under the laws of the State of New Hampshire on JUNE 7, 2001. I further certify that all fees required by the Secretary of State's office have been paid and that articles of dissolution have not been filed.

IN TESTIMONY WHEREOF, I hereto
set my hand and cause to be affixed
the Seal of the State of New Hampshire,
this 31st day of December A.D. 2001



William M. Gardner
Secretary of State



777459

2607

THE COMMONWEALTH OF MASSACHUSETTS
FOREIGN CORPORATION CERTIFICATE
(General Laws, Chapter 181, Section 4)

I hereby approve the within Foreign Corporation Certificate and, the filing fee in the amount of \$ 300 having been paid, said certificate is deemed to have been filed with me this 7th day of January, 20 02.



WILLIAM FRANCIS GALVIN
Secretary of the Commonwealth

COMMONWEALTH OF MASSACHUSETTS
CORPORATION DIVISION
02 JAN -7 PM 1:10

TO BE FILLED IN BY CORPORATION
Photocopy of document to be sent to:

Henry B. Stebbins, Esquire
Stebbins, Lazos & Van Der Beken, P.A.
66 Hanover Street, Suite 301, Manchester, NH 03101
Telephone: (603) 627-3700

**F
FPC**

The Commonwealth of Massachusetts

William Francis Galvin
Secretary of the Commonwealth
One Ashburton Place, Boston, Massachusetts 02108-1512

FORM MUST BE TYPED **Certificate of Amendment** FORM MUST BE TYPED
(General Laws Chapter 156D, Section 15.04; 950 CMR 113.49)

(1) Exact name of corporation: Colwen Management, Inc.
(as contained in the Division's records)

(2) Registered office address: 155 Federal Street, STE 700, Boston, MA 02110
(number, street, city or town, state, zip code)

(3) This amendment shall change:

(check appropriate box(es))

the corporation's name to: _____

the period of the corporation's duration to: _____

the state or country of its incorporation to*: _____

the street address of its principal office to: _____

the fiscal year end to: _____

the activities conducted by the foreign corporation in the commonwealth: _____

its officers and directors: See attached

other _____

The name must satisfy the requirements of G.L. Chapter 156D, Section 15.06.

** If the amendment includes a change of its corporate name, or the state or country of its incorporation, attach a certificate evidencing the changes duly authenticated by the secretary of state or other official having custody of the corporate records in the state or country under whose law it is incorporated. If the certificate is in a foreign language, a translation thereof under oath of the translator shall be attached.*

This certificate is effective at the time and on the date approved by the Division, unless a later effective date not more than 90 days from the date of filing is specified: _____

Signed by: HB Jell _____
(signature of authorized individual)

- Chairman of the board of directors,
- President,
- Other officer,
- Court-appointed fiduciary,

on this 10th day of April, 2013

Colwen Management, Inc.

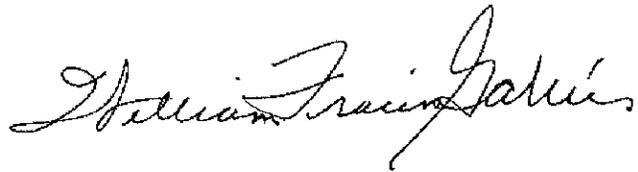
Officers and Directors

<u>Name</u>	<u>Position</u>	<u>Business Address</u>
Mark Schleicher	Director	249 Bragg Hill Road Norwich, VT 05055
Mark R. Stebbins	Director	1359 Hooksett Road Hooksett, NH 03106
Leo Xarras	Director & CEO	One Tara Boulevard Nashua, NH 03060
Mark R. Stebbins	Treasurer	1359 Hooksett Road Hooksett, NH 03106
Henry B. Stebbins	Secretary	66 Hanover Street Manchester, NH 03101
Terrance Bickhardt	Sr. V.P.	One Tara Boulevard Nashua, NH 03060

THE COMMONWEALTH OF MASSACHUSETTS

I hereby certify that, upon examination of this document, duly submitted to me, it appears that the provisions of the General Laws relative to corporations have been complied with, and I hereby approve said articles; and the filing fee having been paid, said articles are deemed to have been filed with me on:

April 11, 2013 11:12 AM

A handwritten signature in cursive script that reads "William Francis Galvin". The signature is written in black ink and is centered on the page.

WILLIAM FRANCIS GALVIN

Secretary of the Commonwealth



TOWN OF NEEDHAM

TOWN HALL
1471 Highland Avenue
Needham, MA 02492-2669

Office of the
BOARD OF SELECTMEN

TEL: (781) 455-7500
FAX: (781) 449-4569
TDD: (781) 455-7558

LEGAL NOTICE

TOWN OF NEEDHAM

Application for an All Alcohol Liquor License in a Hotel

Notice is hereby given pursuant to Massachusetts General Laws, Chapter 138, that Colwen Management, Inc. d/b/a Residence Inn by Marriott Needham, Michael W. Gendrin, Manager, has applied for a license to sell alcoholic beverages of the following kind: All Alcohol in a Hotel located at 80 B Street. The premise has approximately 5,340 sq. ft. on the first floor of the hotel consisting of bar and dining/lounge seating on the side; dining/function room in the rear; service and food prep areas in center, and storage in the rear, with a total seating capacity of 150 patrons. The premise has a main entrance/exit in the front and additional exits on the sides and in the rear.

IT IS ORDERED that a public hearing be held for said application at the Office of the Board of Selectmen acting as the Needham Licensing Authority located in the Town Hall, 1471 Highland Avenue on the 14th day of May 2013 at 7:00 o'clock p.m.

Board of Selectmen
Licensing Board for the Town of Needham

Advertised: Needham Times
Thursday, May 2, 2013

DINING / FUNCTION ROOM B
506 SF
24'-0" x 21'-3"
MAX OCCUPANCY: 73
SEATS PROVIDED: 32

STAIR #1
178 SF

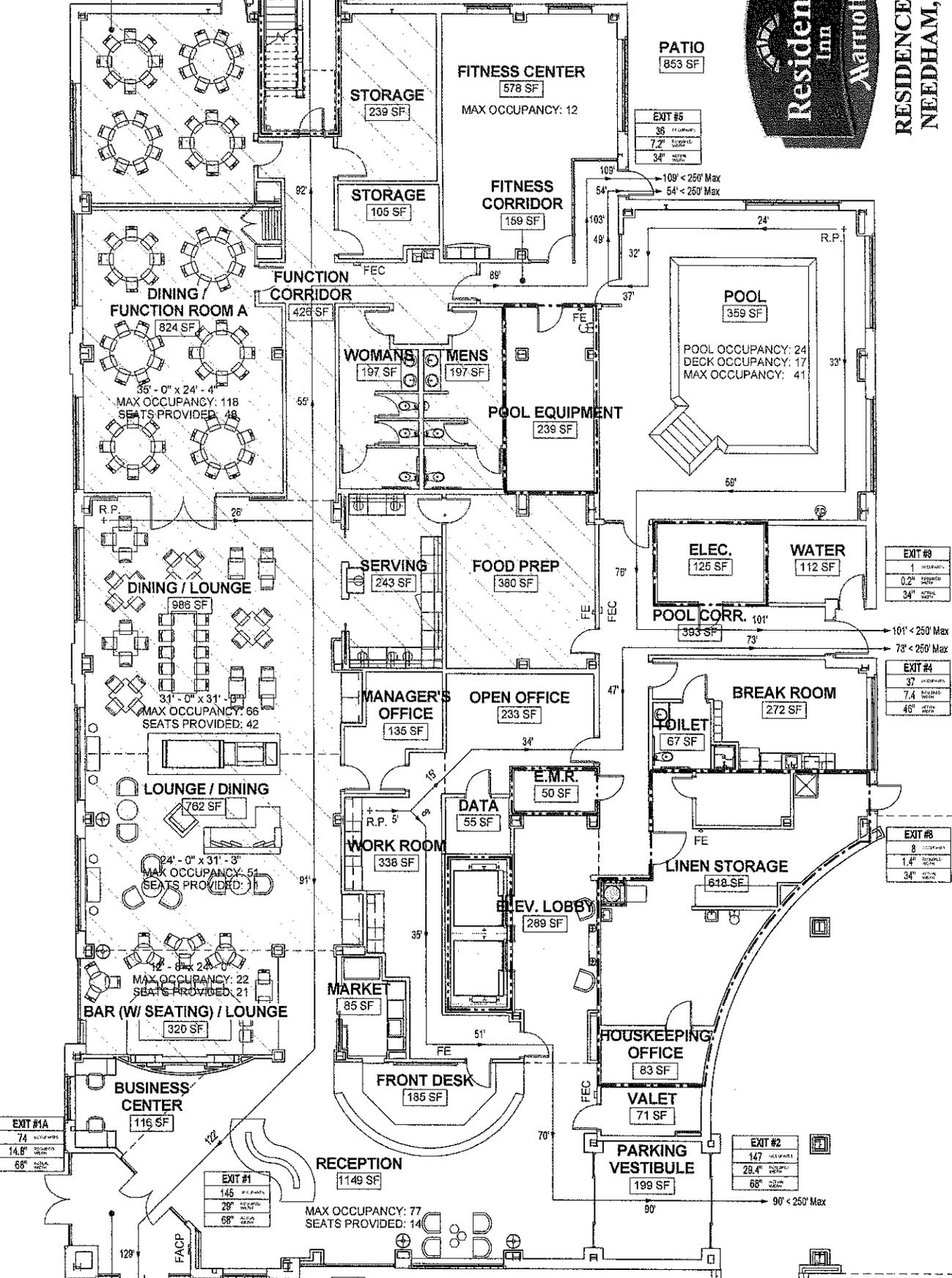
STAIR #1
60 OCCUPANCY
15' CLEARANCE
48" WIDTH

EXIT #6
107' CLEARANCE
21.4' WIDTH
34" RAMP WIDTH

* - OCCUPANT LOAD OF EXIT #6 BASED ON 1ST FLOOR OCC LOAD > UPPER FLOOR OCC LOAD



**RESIDENCE INN
NEEDHAM, MA**



EXIT #9
1 OCCUPANCY
0.2' CLEARANCE
34" RAMP WIDTH

EXIT #4
37 OCCUPANCY
7.4' CLEARANCE
46" RAMP WIDTH

EXIT #8
8 OCCUPANCY
1.4' CLEARANCE
34" RAMP WIDTH

EXIT #2
147 OCCUPANCY
28.4' CLEARANCE
68" RAMP WIDTH

EXIT #1
145 OCCUPANCY
28' CLEARANCE
68" RAMP WIDTH

EXIT #1A
74 OCCUPANCY
14.8' CLEARANCE
68" RAMP WIDTH

EXIT #1B
74 OCCUPANCY
14.8' CLEARANCE
68" RAMP WIDTH

= LICENSED AREA (5,340 FT²)
TOTAL SEATING = 150

1 LIFE SAFETY PLAN - 1ST FLOOR
LS-3 3/32" = 1'-0"

80 B STREET

COPY

<u>PARCEL ID</u>	<u>St No.</u>	<u>Street</u>	<u>Owner Names</u>	<u>Owner Address</u>	<u>Mailing Address</u>	<u>OWNER CITY</u>	<u>State</u>	<u>OWNER ZIP</u>
199/001.0-9999-9999.0	0	ROUTE 128	COMMONWEALTH OF MASSACHUSETTS DEPT. OF PUBLIC WORKS - MDC	10 PARK PLAZA	BOSTON	MA	MA	02116
199/300.0-0011-0000.0	151	THIRD AVE	NEEDHAM EXPRESS LIMITED PARTNERSHIP C/O DANAC CORP	7501 WISCONSIN AVE	BETHESDA	MD	MD	20814
199/300.0-0014-0000.0	9	B ST	COCA COLA REFRESHMENTS C/O PROPERTY TAX DEPT - NAT 11	PO BOX 1734	ATLANTA	GA	GA	30301
199/300.0-0015-0000.0	410	FIRST AVE	CFRI/ NEEDHAM PORTFOLIO,LLC C/O NORMANDY GAP-V NEEDHAM,LLC	53 MAPLE AVE	MORRISTOWN	NJ	NJ	07960
199/300.0-0016-0000.0	66	B ST	NORMANDY GAP-V DEVELOPMENT NEEDHAM	53 MAPLE AVE	MORRISTOWN	NJ	NJ	07960
199/300.0-0017-0000.0	156	B ST	GENERAL DYNAMICS C4 SYSTEMS INC GENERAL DYNAMICS NETWORK SYSTEMS IN	77 A STREET - BLDG. 24	NEEDHAM	MA	MA	02494
199/300.0-0019-0000.0	0	A ST	GENERAL DYNAMICS C4 SYSTEMS INC GENERAL DYNAMICS NETWORK SYSTEMS	77 A ST	NEEDHAM HTS	MA	MA	02494
199/300.0-0027-0000.0	77	A ST	GENERAL DYNAMICS C4 SYSTEMS, INC. GENERAL DYNAMICS NETWORK SYSTEMS, I	77 A STREET - BLDG. 24	NEEDHAM	MA	MA	02494
199/300.0-0028-0000.0	37	A ST	NORMANDY GAP - V 37 A NEEDHAM, LLC C/O NORMANDY GAP-V DEVEL NEEDHAM LLC	53 MAPLE AVE	MORRISTOWN	NJ	NJ	07960-5219
199/300.0-0029-0000.0	360	FIRST AVE	NORMANDY GAP-V DEVELOPMENT NEEDHAM	53 MAPLE AVE	MORRISTOWN	NJ	NJ	07960
199/300.0-0030-0000.0	300	FIRST AVE	ROBERTS, PAUL G., JR. C/O 300 FIRST AVE REALTY LLC	60 WELLS AVE SUITE 100	NEWTON	MA	MA	02459
199/300.0-0031-0000.0	250	FIRST AVE	NEEDHAM DEVELOPMENT CORP TR 250 FIRST REALTY TRUST	250 FIRST AVE- STE 200	NEEDHAM	MA	MA	02494-2805
199/300.0-0032-0000.0	40	A ST	FORTY A LIMITED PARTNERSHIP	P.O. BOX 95	WESTWOOD	MA	MA	02090
199/300.0-0033-0000.0	72	A ST	DIGITAL FIRST AVENUE, LLC	128 FIRST AVENUE	NEEDHAM	MA	MA	02494
199/300.0-0033-0001.0	72	A ST	DIGITAL 128 FIRST AVENUE, LLC	128 FIRST AVENUE	NEEDHAM	MA	MA	02494
199/300.0-0033-0002.0	128	FIRST AVE	PARTNERS HEALTHCARE SYSTEM, INC	PRUDENTIAL TOWER 800 BOYLSTON	BOSTON	MA	MA	02119

<u>PARCEL ID</u>	<u>St No.</u>	<u>Street</u>	<u>Owner Names</u>	<u>Owner Address</u>	<u>OWNER CITY</u>	<u>State</u>	<u>OWNER ZIP</u>
✓ 199/300.0-0034-0000.0	110	A ST	HATOUN, ANTOINE G., TRUSTEE THE INTEX REALTY TRUST	110 A STREET	NEEDHAM	MA	02494
✓ 199/300.0-0047-0000.0	200	FIRST AVE	200 FIRST AVENUE, LLC	197 FIRST AVE, SUITE 300	NEEDHAM	MA	02494
✓ 199/300.0-0067-0000.0	0	A ST	130-150 A STREET LLC	197 FIRST AVENUE SUITE 300	NEEDHAM	MA	02494

Certified as list of parties in interest under Mass. General Laws and Needham Zoning By-Law, to the Best of our knowledge
 For the Needham Board of Assessors: 

AFFIDAVIT OF NOTICE OF MAILING TO ABUTTER AND OTHERS

To the Licensing Board

For the Town of Needham Date May 7, 2013

I, Roy A. Cramer hereby certify that the following is a true list of the persons shown upon the Assessor's most recent valuation list as the owners of the property abutting the proposed location for an alcoholic beverages license at:

Residence Inn, 80 B Street, Needham, MA 02492

And that the following schools, churches or hospitals are located within the radius of five hundred (500) feet from said proposed location:

<div style="border: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border: 1px solid black; height: 20px;"></div>	<div style="border: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border: 1px solid black; height: 20px;"></div>
--	--

If there are none, please so state: To the best of my knowledge, there are no schools, churches or hospitals located within 500 ft. from the proposed location.

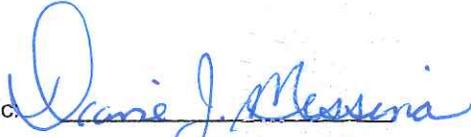
I also certify that the notice of this application/petition concerning an alcoholic beverages license was given to the above by mailing to each of them within three (3) days after publication of same, a copy of the advertisement is attached below. Also attached are the registered receipts/return registered receipts, bearing signatures of persons receiving said notice.

Signed and subscribed to under the penalties of perjuries:

Printed: Roy A. Cramer, Esq. c/o Frieze Cramer Rosen & Huber LLP, 60 Walnut Street, Wellesley, MA 02481

Written: 

Date: May 7, 2013

Notary Public: 
My Commission Expires: 11/25/2016



LEASE AGREEMENT

This **Lease Agreement** (hereinafter the "Lease") is entered into as of this 15 day of April 2013 (the "Effective Date") by and between SXC Needham Inn, LLC, a New Hampshire limited liability company, whose address is P.O. Box 4430, Manchester, NH 03108 ("Landlord") and COLWEN MANAGEMENT INC., a New Hampshire corporation ("Tenant") whose mailing address is 1 Tara Blvd, Suite 401, Nashua, NH 03060.

1. Property: Landlord is the owner of the Residence Inn by Marriott Hotel (the "Hotel"), located at 80 B Street, Needham, MA. Landlord, for and in consideration of the rent and other consideration set forth herein, hereby leases to Tenant and Tenant hereby leases from Landlord, a portion of the Hotel that is specifically identified as the lobby bar and lounge area located on the ground floor of the Hotel, as generally shown on Exhibit "A" attached hereto (the "Leased Premises").

2. Use: The Leased Premises shall be used and occupied by Tenant solely as a lobby bar/lounge and for no other purpose without Landlord's prior written consent.

3. Term: The term (the "Term") of the Lease shall continue until the earlier of (i) May 1, 2023, (ii) termination of that certain Hotel Management Agreement between Landlord and Tenant dated as of the ("Hotel Management Agreement"), (iii) failure of Tenant to maintain a liquor license for the Leased Premises allowing service of alcoholic beverages within the Leased Premises and adjacent areas, or (iv) mutual agreement of Landlord and Tenant to terminate this Lease.

4. Rent: Tenant covenants to pay as rent ("Rent") to Landlord the sum of ONE THOUSAND DOLLARS (\$1,000.00) per month, payable in advance and delivered to Landlord on the first day of each calendar month, with Rent prorated in the event of a partial first or last month. For purposes of this paragraph, monthly Rent shall be deemed paid when received by the Landlord. Tenant shall be responsible for the payment of all sales tax due on Rent and shall remit such tax to Landlord together with each payment of Rent. Tenant shall have no direct liability under this Lease for payment of real property taxes or assessments related to the Leased Premises.

5. Insurance: Tenant shall maintain commercial liability coverage, workers compensation insurance, casualty insurance and such other forms of insurance and in such amounts as shall be agreed upon by the parties, naming Landlord as an insured under all such policies and providing standard waiver of subrogation clauses in favor of Landlord.

6. Maintenance, Condemnation: Tenant shall maintain the Leased Premises in its current or better condition during the Term of the Lease. Tenant shall perform no structural alterations or additions to the Leased Premises without the prior written consent of Landlord. Landlord shall under no circumstances have any obligation to maintain, repair, or replace any portion of the Leased Premises. Tenant's sole recourse in the event of the loss of any portion of the Leased Premises due to a casualty or taking of any kind shall be to terminate the Lease.

7. Compliance with Laws: Tenant shall at all times comply with all applicable federal, state, county and local laws, ordinances, rules and regulations and perform no operations unless in full compliance with applicable permits and licenses (all the foregoing being collectively referred to herein as "Laws").

8. **Assignment and Subletting:** Tenant may not assign this Lease or sublet all or any part of the Leased Premises without first securing Landlord's written consent.

9. **Quiet Enjoyment:** Provided that Tenant is not in breach of any term, covenant or provision of the Lease, including, but not limited to the payment of Rent, Tenant shall peacefully and quietly hold and enjoy the Leased Premises.

10. **Subordination:** Tenant agrees to subordinate this Lease to the lien of any mortgage now existing or which the Landlord may secure in the future. Nothing in this Lease shall be construed to permit or empower Tenant to encumber the title or interest of Landlord in the Leased Premises in any matter whatsoever.

11. **Turnover:** Upon expiration or earlier termination of the Lease, Tenant shall remove the Tenant's property, vacate the Leased Premises, and turn over possession thereof to Landlord in clean condition, ordinary wear and tear excepted.

12. **Binding Agreement:** This Lease and each of its covenants and conditions shall be binding upon and inure to the benefit of the parties hereto and their assigns and successors in interest.

13. **No Agency:** Nothing in this Lease shall be construed to create an agency, partnership, employment, or joint venture relationship between the parties. The relationship of the parties is that of landlord and tenant.

14. **Default/Breach:** In the event that Tenant fails in its performance of any condition, covenant or obligation under any part of this Lease, such event shall be deemed an Event of Default if Tenant fails to cure such event within thirty (30) days after receipt of written notification from Landlord. If an Event of Default is not cured within the applicable cure period, Landlord shall have the following remedies available, which may be exercised jointly or independently:

- a. terminate the Lease upon thirty (30) days written notice to Tenant;
- b. exercise remedies available to Landlord at law or in equity.

15. **Notices:** Notices, requests and demands given hereunder shall be written and hand delivered to the Tenant by Landlord, or to Landlord by Tenant, or alternatively sent by U.S. Mail, postage prepaid, certified or registered, return receipt requested, or by Federal Express or similar overnight courier service, addressed to the party, at its respective address set forth above or to such other address of which notice is hereafter given. All notices shall be effective upon actual delivery.

16. **Time is of Essence:** It is understood and agreed that time is of the essence under this Lease.

17. **Estoppel Certificate:** Each party shall upon request from the other give or exchange with the other estoppel certificates which shall confirm that the Lease is in full force and effect, that neither party is in default and/or such other information regarding the Lease as may be reasonable, appropriate and factual.

18. **Severability:** The rights of the parties under the Lease shall be cumulative, and failure on the part of either party to exercise promptly any rights given hereunder shall not operate to waive any such rights.

19. **Amendment:** No modifications, addition, or addenda to this Lease shall be valid unless in writing and signed by Landlord and Tenant.

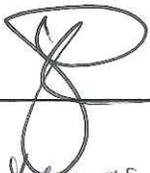
20. **Attorneys' Fees:** In the event of litigation between Landlord and Tenant, the prevailing party will be entitled to recover its reasonable legal and other expenses including court costs.

21. **Waiver of Jury Trial:** LANDLORD AND TENANT HEREBY WAIVE TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM BROUGHT BY EITHER OF THEM AGAINST THE OTHER ON ALL MATTERS ARISING OUT OF THIS LEASE OR THE USE AND OCCUPANCY OF THE PREMISES.

IN WITNESS WHEREOF, Landlord and Tenant have hereunto executed this Lease as of the day and year first above written.

TENANT:

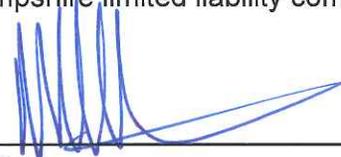
Colwen Management Inc.
a New Hampshire corporation

By:  _____
Ned Kanas, Chairman & CEO

Print Name

LANDLORD:

SXC Needham Inn LLC
New Hampshire limited liability company

By:  _____
its
Mark R. Stebbins

Print Name

Exhibit "A"

Depiction of the Leased Premises



TOWN OF NEEDHAM

For Calendar Year: 2013

APPLICATION/ RENEWAL FOR A COMMON VICTUALLER LICENSE

RECEIVED
TOWN OF NEEDHAM
BOARD OF SELECTMEN
2013 APR 19 AM 9:52

The undersigned hereby applies for a Common Victualler License in accordance with the provisions of the Statutes relating thereto:

Name of Corporation: Colwen Management Inc.

Name of Establishment (d/b/a): Residence Inn by Marriott- Needham

If business is a Corporation / Corporate Name and Officers: Leo Xarras, Chairman & CEO

Mark R. Stebbins, Director & Treasurer; Mark C. Schleicher, Director

If business is not a Corporation, Name of Owner: _____

Email Address: mgendrin@colwenhotels.com

Address of Establishment: 80 B Street

Contact Person (name who will receive notices under this license): Michael Gendrin, General Manager

Mailing Address (of contact person), if different from Establishment: _____

Establishment's Days of Operation: 7 days per week

Establishment's Hours of Operation: 11 am to 12 midnight on secular days; noon to

midnight on Sunday

Manager: Michael Gendrin # of Staff: _____ # of Seats: 150

Telephone Number: 781-444-5750 Fax Number: _____

Signature of Owner: _____ Date: 4/2/2013

(If corporation, signature of a duly authorized agent of the corporation)

A certificate of insurance showing evidence that the applicant has workers' compensation insurance must be included with this completed application.

If you currently hold an alcoholic beverages license, you must provide a copy of a certificate of liquor liability insurance in the minimum amount of \$100,000/person/\$1,000,000 aggregate for personal injury and \$100,000 per occurrence for property damage before your alcoholic beverages license will be renewed.

Pursuant to MGL Ch. 62C, Sec. 49A:

I certify under the penalties of perjury that I, to my best knowledge and belief, have read and am in compliance with the contents of M.G.L. Chapter 62C, Section 49A (on reverse side of this application).

[Signature]
Signature of Applicant (Mandatory) Leo Xarras

[Signature]
By Corporate Officer (if applicable)

02-0526858

4/1/2013

Either a Social Security Number

Date (required)

This License will not be issued unless this certification clause is signed by the applicant.



TOWN OF NEEDHAM

For Calendar Year: 2013

APPLICATION/ RENEWAL FOR A COMMON VICTUALLER LICENSE

The undersigned hereby applies for a Common Victualler License in accordance with the provisions of the Statutes relating thereto:

Name of Corporation: Colwen Management Inc.

Name of Establishment (d/b/a): Residence Inn by Marriott- Needham

If business is a Corporation / Corporate Name and Officers: Leo Xarras, Chairman & CEO
Mark R. Stebbins, Director & Treasurer; Mark C. Schleicher, Director

If business is not a Corporation, Name of Owner: _____

Email Address: mgendrin@colwenhotels.com

Address of Establishment: 80 B Street

Contact Person (name who will receive notices under this license): Michael Gendrin, General Manager

Mailing Address (of contact person), if different from Establishment: _____

Establishment's Days of Operation: 7 days per week
11 am to 12 midnight on secular days; noon to

Establishment's Hours of Operation: midnight on Sunday

Manager: Michael Gendrin # of Staff: 90 ^{Hotel} # of Seats: 150
Restaurant

Telephone Number: 781-444-5750 Fax Number: _____

Signature of Owner: _____ Date: 4/15/2013

(If corporation, signature of a duly authorized agent of the corporation)

A certificate of insurance showing evidence that the applicant has workers' compensation insurance must be included with this completed application.

If you currently hold an alcoholic beverages license, you must provide a copy of a certificate of liquor liability insurance in the minimum amount of \$100,000/person/\$1,000,000 aggregate for personal injury and \$100,000 per occurrence for property damage before your alcoholic beverages license will be renewed.

Pursuant to MGL Ch. 62C, Sec. 49A:

I certify under the penalties of perjury that I, to my best knowledge and belief, have read and am in compliance with the contents of M.G.L. Chapter 62C, Section 49A (on reverse side of this application).

T. Stebbins
Signature of Applicant (Mandatory) By Corporate Officer (if applicable)

02-0526858 4/15/13
Either a Social Security Number Date (required)

This License will not be issued unless this certification clause is signed by the applicant.



TOWN CLERK
NEEDHAM, MA 02492

2013 APR 05 AM 8:34

BUSINESS CERTIFICATE 7875
EXPIRATION DATE 4-5-17
 New Renewal

The Commonwealth of Massachusetts

Theodora K. Eaton, MMC.
Town Clerk

Town of Needham
1471 Highland Avenue, Needham, MA 02492
Tel: 781-455-7510/7511 Fax: 781-449-1246

4/2, 2013

In conformity with the provisions of Chapter one hundred and ten, Section five of the General Laws, as amended, the undersigned hereby declare(s) that a business under the title of Residence Inn by Marriott Needham is conducted at

Number 80 B Street
Hotel/Restaurant-lounge Needham 02492 781-444-5750
Type of Business Town Zip Code Telephone Number

by the following named persons.

Full Name	Residence	F.I.D. Number Or Social Security Number
<u>Colwen Management, Inc</u>	<u>1 Tara Blvd. Suite 401</u>	<u>02-0526858</u>
<u></u>	<u>Nashua, NH 03060</u>	<u></u>
<u></u>	<u></u>	<u></u>
<u></u>	<u></u>	<u></u>

Signed
(Signature) Leo Xarras, Chairman & CEO (Signature)

(Signature) (Signature)

Merrimack ss. The Commonwealth of Massachusetts State of New Hampshire 4/2, 2013

Personally appeared before me the above-named Leo Xarras and made oath that the foregoing statement is true.

A certificate issued in accordance with this section shall be in force and effect for four years from the date of issue and shall be renewed each four years thereafter so long as such business shall be conducted and shall lapse and be void unless so renewed. A statement under oath must be filed with the City/Town Clerk upon discontinuing, retiring or withdrawing from such business or partnership. (M.G.L. Chapter 110, s. 5 and Ch. 337 of the Acts of 1983)

My Commission Expires: 11/9/2016
(Seal)



Notary Public
Title



For Calendar Year: 2013

TOWN OF NEEDHAM

APPLICATION/RENEWAL FOR AN INNKEEPER LICENSE

The undersigned hereby applies for a License in accordance with the provisions of the Statutes relating thereto:

Name of Inn/Hotel: Colwen Management, Inc. o/b/a Residence Inn by Marriott Needham

Applicant (must be an individual): N/A

If business is a Corporation / Corporate Name and Officers: SEE ATTACHED

If business is not a Corporation, Name of Owner: N/A

Address of Inn/Hotel: 80 B Street, Needham, MA 02494

Mailing Address (if different from establishment): SAME

Email Address: c/o mgendrin@colwenhotels.com

Telephone Number: 781-444-5750 Fax Number: _____

Signature of Applicant: T.B. dr Date: 4/15/13

A certificate of insurance showing evidence that the applicant has workers' compensation insurance must be included with this completed application.

Pursuant to M.G.L. Ch. 62C, Sec. 49A:

I certify under the penalties of perjury that I, to my best knowledge and belief, have read and am in compliance with the contents of M.G.L. Chapter 62, Section 49A (on reverse side of this application).

T.B. dr
Signature of Applicant (Mandatory)

[Signature]
By Corporate Officer
(if applicable)

02-0526858
Either a Social Security Number
or Federal Identification Number
Must Be Supplied

4/15/13
Date (required)

This License will not be issued unless this certification clause is signed by the applicant.

Residence Inn by Marriott

Evening Dining Menu

Soup Du Jour 6

Ask your server for today's selection

Fresh Field Green Salad 6

Arugula salad topped with red onions, cucumbers, croutons, walnuts and dried cranberries

Classic Caesar Salad 8

Add Grilled Chicken Breast 10

Fresh Romaine lettuce with shredded Parmesan cheese and herbed croutons

Hot Spinach and Artichoke Dip 7

Served with tortilla chips

Chili Con Queso 6

Beef chili dip with red beans, topped with sour cream and fresh cheddar cheese

Buffalo Chicken Wings 8

Delicious chicken wings with a spicy wing sauce. Served with celery and baby carrots with cool bleu cheese dressing.

Barbecued Chicken Breast Sandwich 9

Grilled chicken breast basted with barbecue sauce, topped with lettuce, fresh tomatoes and red onions.

Served with chips and dill pickles

Jumbo Burger 8

With American Cheese 9

Classic beef burger topped with lettuce, red onions and fresh tomatoes. Served with chips and dill pickles

Garden Burger 7

Veggie burger topped with lettuce, fresh tomatoes, and red onions.

Served with chips and dill pickles.

\$9.50

Peppermint Mocha Hot Chocolate

Godiva, Chocolate liquors, Peppermint Schnapps, Hot chocolate

Champagne Mojito

Champagne, Bacardi Rum, Simple syrup, Fresh mint, limes

Hot Toddy

Brandy, Hot water, Honey, Fresh lemon, Nutmeg and Cinnamon

Jolly Rancher Martini

Watermelon vodka, Apple pucker, Cranberry juice

Snowflake Martini

Baileys, Whipped vodka, Butterscotch Schnapps

Sunset Martini

Whipped vodka, Pineapple juice, Sour mix, Grenadine



**Board of Selectmen
TOWN OF NEEDHAM
AGENDA FACT SHEET**

MEETING DATE: 5/14/2013

Agenda Item	NATIONAL PUBLIC WORKS WEEK PROCLAMATION
Presenter(s)	Richard P. Merson, DPW Director

1.	BRIEF DESCRIPTION OF TOPIC TO BE DISCUSSED		
	Proclaim the week of May 19 th through May 25 th as National Public Works Week.		
2.	VOTE REQUIRED BY BOARD OF SELECTMEN	<input checked="" type="checkbox"/> _X_ YES	<input type="checkbox"/> _ _ NO
	<i>To approve and sign the Proclamation for National Public Works Week May 19-May 25, 2013.</i>		
3.	BACK UP INFORMATION ATTACHED	<input checked="" type="checkbox"/> X_ YES	<input type="checkbox"/> _ _ NO
	(Describe backup below)		
	a. Proclamation		

PROCLAMATION

WHEREAS Public Works services provided in our community are an integral part of our citizens everyday lives; and

WHEREAS The support of an understanding and informed citizenry is vital to the efficient operation of public works systems and programs such as water, sewers, drains, streets and highways, traffic control, public buildings, solid waste disposal, recycling, parks and forestry, and snow removal; and

WHEREAS The health, safety and comfort of this community greatly depend on these facilities and services; and

WHEREAS The quality and effectiveness of these facilities, as well as their planning, design and construction, are vitally dependent upon the efforts and skill of public works officials; and

WHEREAS The efficiency of the qualified and dedicated personnel who staff public works departments is materially influenced by the people's attitude and understanding of the importance of the work they perform; now therefore

BE IT RESOLVED that the Board of Selectmen does hereby proclaim the week of May 19th through May 25th as **NATIONAL PUBLIC WORKS WEEK** in the Town of Needham and calls upon all citizens and civic organizations to acquaint themselves with the problems involved in providing our public works and to recognize the contributions which public works employees make every day to our health, safety, comfort, and quality of life.

Signed this the 14th day of May in the year 2013.

BOARD OF SELECTMEN

Daniel P. Matthews, Chairman

John A. Bulian, Vice-Chairman

Maurice P. Handel, Clerk

Matthew Borrelli



**Board of Selectmen
TOWN OF NEEDHAM
AGENDA FACT SHEET**

MEETING DATE: 05/14/2013

Agenda Item	Execution of Water Pollution Abatement Trust Loan
Presenter(s)	David Davison, ATM/Finance Director Evelyn Poness, Treasurer Rick Merson, Director of Public Works

1.	BRIEF DESCRIPTION OF TOPIC TO BE DISCUSSED		
<p>The Board will be asked to execute the documents for the permanent financing of the Reservoir B Sewer Pumping Station project through the MWPAT. The Board approved the loan agreement with the Trust at its meeting of May 22, 2012. The interim Note with the Trust will mature on May 22, 2013. The Board will need to sign both the Certificate and the actual Bond.</p>			
2.	VOTE REQUIRED BY BOARD OF SELECTMEN	YES	(NO)
<p>Proposed Form of Motions:</p> <p>None Required</p>			
3.	BACK UP INFORMATION	YES	(NO)
<p>(Describe backup below)</p> <p>a. Documents will be brought to the meeting</p>			

dbd 05/10/2013



**Board of Selectmen
TOWN OF NEEDHAM
AGENDA FACT SHEET**

MEETING DATE: 5/14/2013

Agenda Item	Solar Energy Exploratory Committee Update
Presenter(s)	Liz Driscoll, Chair SEEC Hank Haff, Project Manager, Public Facilities Construction Ann Dorfman, RTS Superintendent

1.	BRIEF DESCRIPTION OF TOPIC TO BE DISCUSSED		
	Ms. Driscoll, Mr. Haff and Ms. Dorfman will update the Board on the progress made to date by the Solar Energy Exploratory Committee.		
2.	VOTE REQUIRED BY BOARD OF SELECTMEN	YES	NO
	None		
3.	BACK UP INFORMATION ATTACHED	YES	NO
	Solar Energy Exploratory Committee Progress Repot, 5/14/2013		

Solar Energy Exploratory Committee



Progress Report to

Town of Needham

Board of Selectmen

5/14/2013

Town of Needham

Solar Energy Exploratory Committee

Progress Report to the Board of Selectmen – 5/14/2013

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Needham Solar Energy Exploratory Committee – Progress Report

Ownership Model Comparisons

Solar Photovoltaic (PV) Images

Figure #1 - Recycle Transfer Station (RTS) Plan with Wetland Setbacks

Figure #2 - Preliminary Solar PV Layout Plan

Figure #3 – Preliminary Slope Analysis Plan

Attachments

Attachment A – Draft Project Schedule

Attachment B – Memos from P. Carey regarding the Parks & Recreation study and meetings of the “Re-use of Landfill” –3/28/2013, 10/23/2000, 2/9/2000,11/5/1999

Attachment C – Draft Owner’s Agent Solicitation

Attachment D – Draft Request for Proposal (RFP) for Power Purchase Agreement (PPA)

Attachment E – Draft Solar Photovoltaic Zoning District Overlay

Figure #4 – Setback Study – A-1

Figure #5 – Setback Study – B-1

Attachment F – Guide to Developing Solar Photovoltaics at Massachusetts Landfills (Massachusetts Department of Energy Resources (DOER) Green Communities – prepared by Nexamp)

Attachment G – Bay State Consultants - Solar Feasibility Report – March 15, 2012

Attachment H – Questions & Answers - Ground-Mounted Solarvoltaic Systems

DRAFT (6 – 5/9/13)
Needham Solar Exploratory Committee Progress Report

The following report of the Solar Exploratory Committee (the “**Committee**”) sets forth the findings of the Committee, with respect to the question of whether the Town of Needham (the “**Town**”) should pursue the development of solar energy facilities at the 10 acre, capped landfill site (the “**Site**”) at the Needham Recycling and Transfer Station (the “**RTS**”).

Executive Summary

The Committee’s preliminary findings indicate that a solar facility at the Site could provide (1) a long term, fixed price source of power supply to the Town, which if power prices continue to escalate as they have historically, could net large savings to the Town over the next 20 to 30 years, (2) a clean source of power, offsetting the Town’s carbon footprint, and (3) a productive use for a heretofore untapped Town asset, the capped landfill. If developed in partnership with a private developer, out-of-pocket costs to the Town would likely be limited to engineering, permitting site work and legal contract negotiation, and the development should not impact the Town’s bonding capacity. The Committee has prepared a draft Project Schedule, a copy of which appears at **Attachment A**, for your reference in connection with this report.

The Committee’s report first discusses solar as the best alternative use of the Site. Second, it describes the most attractive form of ownership model for development, through a partnership with a private developer (the so-called PPA Model, which is further described and defined below). Third, it outlines the bid (Requests for Proposal (“**RFP**”)) process and certain timing considerations and known impediments to the development. Finally, the report concludes that if the Town is to pursue this project “time is of the essence.” In the next several years, certain economic incentives currently available to developers may not be present, and the state-wide net metering cap may be met, which would make it more difficult for the Town to use the power generated.

The Committee has been meeting on the 2nd and 4th Wednesday of the month since December 17, 2012. The Committee invited the following guests to their meetings to share their expertise with the Committee: Joanne Bissetta, Green Communities Coordinator; Orlando Pacheco, Lancaster Town Manager; David Murphy, VP Tighe & Bond Consulting Engineers; Jared Connell, Project Developer Borrego Solar; Michael Greis, GreenNeedham. The Committee has also visited the Town of Canton’s Solar PV installation, a 5.5MW facility on 15 acres of Canton’s capped landfill and met with the Town Manager, Bill Friel, and the developer, Frank McMahon of Southern Sky Renewable.

Findings:

* **Best Alternative Use of Site is for Solar Facility.** The Site might fit 2 to 4 megawatts (“MW”) of solar generation (the “**Project**”).¹ Several engineers, developers and other solar experts have noted that the topography of the Site (relatively flat and unshaded top), the fact that the cap was installed after 1990 and that it is near high voltage power lines, should make solar development of the Site attractive to developers. The Site is not suitable for recreational use, as the Needham Park and Recreation Department has studied the Site and found that (i) it is too

windy for sports use, (ii) parking and access on Saturdays would be incompatible with current traffic at the RTS, and (iii) based on a survey of Town sports teams, the teams do not want to play at the Site.² (See **Attachment B**)

* **Town Should Pursue Development of the Site Through a PPA Model.** The Committee considered two ways the Town could develop a solar facility: (1) with the Town as developer, owner and operator of the facility (the “**Ownership Model**”), or (2) through a power purchase agreement or a net metering agreement (a “**PPA**”), where the Town would lease the Site to a commercial developer, the developer would develop, own and operate the Project, and the Town would purchase power from the Project at a fixed price (with an escalator) over a term of years and might also collect income from the lease of the land (the “**PPA Model**”).³

Under the Ownership Model, the Town would pay to develop the Project. The Committee understands that current prices of small scale ground mount PV installations are around \$3.00/W installed; for a 3MW facility on the Site the approximate cost might be \$9,000,000 plus engineering and approval costs of around \$1,000,000; total cost of approximately \$10,000,000. Under the Ownership Model, the Town would: (i) generate its own net metering credits, which would offset power used at other Town locations, (ii) produce and sell Massachusetts Solar Carve-out Renewable Attributes (“**SRECs**”) (discussed in greater detail below), and (iii) be liable for ongoing costs of operations, maintenance and capital repairs.

Under the PPA model, the developer would lease the land and develop the Project and obtain its own financing. The Town would pay the developer for net metering credits (for energy produced) throughout the term of the Project under the PPA, which would likely start with a fixed price that is lower than current prices, and would escalate at some agreed upon rate. The developer would be liable for ongoing costs of operations, maintenance and capital repairs and would assume the price risk, as well as reward, associated with the sale of the SRECs. The developer would be able to take advantage of tax credits and accelerated depreciation, benefits that are not available to the Town. The PPA, which would guarantee income to the developer, would assist the developer in obtaining construction financing for the Project on a project finance basis.⁴ The Town’s expenses in this model would likely be limited to preliminary engineering, permitting and site work and consulting and legal costs relating to the RFP and negotiation of the PPA and Site lease.

The Committee believes that the Town should pursue the PPA Model for a number of reasons:

(a) **Town Goals in Pursuing Solar.** As mentioned above, the Town’s goals for developing a solar facility are (1) to provide for a stable, relatively inexpensive source of long term power supply to offset potential future power price fluctuations, (2) to develop a clean source of power, and (3) to productively use the capped landfill. The Town may not be in a position to take on large upfront capital expenses, risks associated with the development or ongoing operations, maintenance and capital costs. The PPA Model would limit upfront costs to the Town and would be consistent with these goals.

(b) **Lack of Expertise.** Most towns (including Needham) lack the level of expertise to develop their own larger projects, and the vast majority of municipalities in Massachusetts that are installing solar at capped landfills, are using the PPA Model. We learned from the engineers that the development will be a process involving State and local permitting (MassDEP Post Closure permit, Planning Board Special Permit, Conservation Commission DOA, Building and Electric Permit), interconnection permit with the utility (NSTAR) and the Committee does not believe the Town has staffing that could commit to the development of the Site by the Town. Engineering consultants would need to be hired with a cost equal to or greater than those for the Salt Shed Project. The PPA Model takes advantage of the expertise of third party private developers to run the development aspects of the Project.

(c) **Economic Reasons for Private Developer (PPA Model):**

(1) **Tax Incentives not Available to Town.** Various tax incentives are available to the private developer (Investment Tax Credits (“ITCs”) and accelerated depreciation (6 year) through federal modified accelerated cost recovery system), for which the Town would not qualify. ITCs provide a federal tax credit of 30% of eligible system costs to investor in qualifying project, if installed by December 30, 2016 (currently 10% thereafter). The Town (because it is a municipality and not a taxpayer) could not take advantage of either of these incentives.

(2) **Uncertainty around SREC Revenue.** Another source of revenue relating to the proposed solar development comes through the Massachusetts Solar renewable energy certificate program, under which the owner of the solar units can earn SRECs that may then be transferred to certain retail electricity suppliers for a fee.⁵ Although in theory there is a floor price of \$285 and a ceiling of \$550 (such supplier’s alternative compliance fee), this is a developing market, and the first clearing auction for SRECs is scheduled for this summer. Prices for privately sold SRECs have fluctuated wildly over the last several years from \$110-\$360. A private developer would likely be in a better position than the Town to value and sell the SRECs.

(3) **PPA Model Fixes Costs.** While the PPA Model offers upside to the developer, the model would benefit the Town by offering price stability. Historically, the price of power has risen over time. The PPA would fix costs of power for 20 – 25 years, with an annual escalator, which would result in positive offset from Town budget. Current estimates of savings resulting from a 20 year PPA vary, but the Committee believes the Town might net between \$1.4-\$6.5 million in power cost savings over 20 years.⁶ Estimated savings are based on current cost of power to Town through the TransCanada contract, and estimated power costs under PPA of \$0.11- \$0.14 per Kwh (these costs may be lower or higher, depending on the terms of the lease, which might generate revenues to the Town, but would be offset by higher power prices). The RFP bids process will supply a better understanding of the specific cost savings to the Town.

(4) **No Negative Impact on Town’s Bonding Capacity.** While the Ownership model has the potential for a higher return to the Town of Needham, this comes with greater risk and demand for capital resources. A large capital investment by

the Town could negatively impact the Town's bonding capacity. The Committee notes that Lancaster, which has a landfill with usable area one-quarter the size of the useable area on Needham's landfill, is one of very few Towns within the Commonwealth to adopt the Ownership Model. Their financial model was aided by a \$500,000 grant from the Federal Government and low interest "Stimulus" funded bonds, neither of which are available to the Town of Needham at this time.

*** Next Steps to Pursue the PPA Model; RFPs.**

(a) **Owner's Agent.** To confirm and pursue the PPA Model to develop the Project, the Committee is considering hiring an "Owner's Agent", which would consult with the Committee and provide guidance through the RFP process and negotiations of the PPA and lease or other arrangement. The Owner's Agent could be hired through a list of pre-qualified consultants maintained by the Massachusetts Department of Energy Resources (DOER), The Committee recommends soliciting three quotes as required by MGL ch. 30B procurement requirements. The Owner's Agent is anticipated to cost \$12,500, and could be hired by the Town utilizing pre-allocated funds for the Committee's use. (A draft solicitation is found in **Attachment C**).

(b) **RFP for PPA.** The Owner's Agent would assist the Town to prepare the PPA RFP, which would be based on the similar RFPs used by other towns within the state. It would require qualifications and experience of bidders, in addition to price, as part of the bid. The Committee would have the Owner's Agent review the RFP and advise on the preference of using MGL c. 25A Section 11C of 111 versus MGL c. 30B, section 16 procurement methods. (A draft RFP is found in **Attachment D**)

*** Time is of the Essence.** If the Town decides to proceed with the Project there are a number of reasons that we should act now:

(a) **Net Metering Cap.** The Green Communities Act of 2008 (the "Act") established a solar carve-out program that requires the local utility, NSTAR, to take the power produced by our Project and offset it against the amount of power used by the Town. The Act contains net metering caps of 400-MW split between public and private suppliers. Solar photovoltaic ("PV") capacity within the state has surged from 3-MW to over 250-MW in the past five years. While the cap applicable to municipal solar power production (200-MW) has not yet been met, it may be met by 2014, if it is not increased by the state. If this cap is met, the Town may not be able to interconnect and offset its power demand. The Board of Selectmen should encourage the local House and Senate representatives to extend the Green Communities Act which is currently being considered by the State Legislature and Governor.

(b) **SREC Program Cap.** The state SREC program contains a cap on the number of projects that may generate SRECs, which may be met in the next year. Although the SRECs would accrue to the developer under the PPA model, failure of the Project to participate in the SREC program would adversely affect the cost of power to the Town under the PPA.

(c) **Project Schedule.** A project of this scale is likely to take about three years from the issuance of the RFP for a PPA and lease, to the time of connection to the grid. (A draft Project Schedule is found in **Attachment A**)

* **Consideration of Rooftop Solar.** Bay State Consultants (“BSC”) in 2012 estimated that the Town of Needham had a public sector demand for power of about 6.6 MW per year. This number is based upon a conservative estimate of 75% of the prior year’s total Town of Needham electrical energy demand. The Project at the RTS could potentially provide between 2.0 MW and 4.0 MW of new capacity. To meet the rest of the Town’s power demand through solar power production and net metering, BSC suggested negotiating a PPA with a third party provider on a site outside of the Town of Needham and/or installing solar PV panels on other building rooftops within the town. Nominated Solar Sites included the following buildings: High School, Eliot School, Broadmeadow School, Newman School and the Pollard School. BSC estimated that the combined capacity of these buildings was about 663KW from solar PV. (See **Attachment G**)

While possible to include these smaller rooftop projects within the PPA RFP, the Committee recommends such projects be optional for the selected developer because of the permitting, structural design and potential installation complications for each site. Without a structural analysis of each location it is not possible for the Committee to confirm that all of these roofs would be viable solar PV sites. Moreover, there are far more developers with experience in rooftop installation of PV so separating these projects may lead to more competitive bidding for these rooftop installations. The Town should also consider designing future school roofs to include solar PV panels or, at a minimum, ensure that new roofs are designed with the structural capacity to receive solar PV in the future.

*** Known Impediments to Development**

(a) **Zoning By-Law Change** -- To proceed with the Project, the Town must amend the Zoning By-laws to permit (i) development of solar PV on the Site, and (ii) a lease or license in ownership of the parcel so that a developer could lease the capped portion of the landfill for a term of to 25 years, with up to two five year extensions. Such an amendment would need to be approved by Special Town Meeting in November 2013. (A draft Solar Photovoltaic Zoning District Overlay is found in **Attachment E**)

(b) **Town By-law Change** -- The Town would also need to amend the Town of Needham By-laws Section 2.1.3 – Contractual Procedures – to add the following:

“Lease of public lands and/or buildings for the installation of solar photovoltaics for electric generation – 30 years.”

Most PPA solar projects installed in Massachusetts have an agreement term of between 20 and 25 years with either one or two five-year extension clauses. The term of the agreement is based upon the financial model and the life-efficiency of the current PV technology, and would not be known until bids are evaluated in the RFP process.

(c) **Interconnection** – While the local electricity provider is required to respond to Interconnection requests promptly, interconnection is both a time consuming and expensive process, and the private developer may not initiate the process until 2014, following November 2013 Special Town Meeting.

(d) **Conservation Commission** – A preliminary review of the solar PV site was conducted with the Conservation Director. The Site is outside of the 100 foot wetland buffer zone and the 200 foot riverfront buffer zone. Construction access may require a Request for Determination of Applicability, but not a full Notice of Intent.

(e) **MassDEP Post Closure Use Permit** – The Town Department of Public Works would need to cooperate with the selected developer in securing the required Post Closure Use permits from the Department of Environmental Protection (“**DEP**”). The expense of this and other DEP permits would be borne by the developer. The DEP has been very supportive of such projects in other towns.

(f) **Other Considerations** -- The Committee has included for the Town’s reference, (i) a Guide to developing Solar Photovoltaics at Massachusetts Landfills, which outlines a number of other considerations that will need to be addressed, and was developed by the Commonwealth, and (ii) information on ground-mounted Solar PV Systems. (Please see **Attachments F and H**). Also attached is the Solar Feasibility Report prepared by Bay State Consultants dated March 15, 2012 (see **Attachment G**).

Conclusions:

This report summarizes the knowledge gained by the Committee with respect to feasibility of the Project. If the Town should choose to go forward with the development of a 2MW-4MW solar facility at the RTS, the Town may want to hire an “Owner’s Agent”, which would assist the Town in the RFP process for the PPA. The Committee continues to have questions around the Town RFP process for the Project and timing. Because definitive pricing at the RFP stage will determine whether Project economics merit the development and because the Project may be less feasible if delayed, the Committee feels that the Town would benefit by promptly engaging in the RFP process. The Town will need to place at least three warrant articles on the November 2013 Special Town Meeting agenda: 1) Zoning By-Law Change, 2) Town By-Law Change and 3) Authorization for the Board of Selectmen, acting through the Town Manager, to proceed with the PPA and or PPA with lease agreement for the installation of solar PV which is in the best interest of the Town of Needham. The Town should bear in mind that the PPA and lease, permitting and interconnection process could take two to three years to complete.

The Committee will continue to work with the Town Manager and Town Departments this summer to refine the financial model, refine the project schedule, potentially engage an Owner’s Agent, draft final language for the PPA RFP, and prepare final draft the language for the November 2013 Special Town Meeting Warrant Articles. A final draft report of the Committee will be presented at the end of the summer.

End Notes:

¹ [Bay State Consultants “*Solar Feasibility Report*” March 15, 2012, projected a minimum of 2MW for the Solar Land Fill but the Canton, MA example might project a potential doubling of that output per acre.

² “Needham RTS/ Former Landfill Access Study” Report to the Needham Park & Recreation Commission; prepared by Weston & Sampson, Fall, 2004, Memos from P. Carey regarding the Parks & Recreation study and meetings of the “Re-use of Landfill” –3/28/2013, 10/23/2000, 2/9/2000, 11/5/1999 copies of which are attached hereto as **Attachment B**.

³ <http://www.epa.gov/greenpower/buygp/solarpower.htm>

⁴ <http://www.epa.gov/greenpower/buygp/sppa.htm>

⁵ An SREC is a Massachusetts Solar Carve-out Renewable Attribute, which is commonly referred to as a Solar Renewable Energy Credit, and equates to 1,000KwHr of renewable energy. Solar power producers may sell SRECs on the open market to retail electricity suppliers that do not meet the Massachusetts Solar Carve-out Minimum Standard requirement, which is a requirement that a total annual sales of such suppliers include a certain minimum percentage of electrical energy produced through solar facilities. If such suppliers do not meet this requirement through the purchase of SRECs, they are obligated to make an Alternative Minimum Compliance payment of \$550 (per SREC required) in 2013.

⁶ This estimate is based on production of between 2-4MW; net cost savings (including lease income): 3-8 cents/kw; and an estimated annual savings of between \$75-\$320,000.

ATTACHMENTS

Attachment A -- Draft Project Schedule

Attachment B -- Park and Recreation Memoranda

Attachment C -- Draft Owner's Agent Solicitation

Attachment D -- Draft RFP for Power Purchase Agreement (PPA)

Attachment E -- Draft Solar Photovoltaic Zoning District Overlay

Attachment F -- Guide to developing Solar Photovoltaics at Massachusetts Landfills

Attachment G -- Bay State Consultants- March 15, 2012- Solar Feasibility Report

Attachment H -- Questions & Answers: Ground-Mounted Solar Photovoltaic Systems

Solar Photovoltaic (PV) Images



Dartmouth, MA – Capped Landfill Solar PV Installation Opened May 2013 -



Canton,
MA

Capped
Landfill
Solar PV
Opened
2013

5.5MW



Converts DC power to AC current and Interconnects to the Power Grid



Inverters &
Transformers



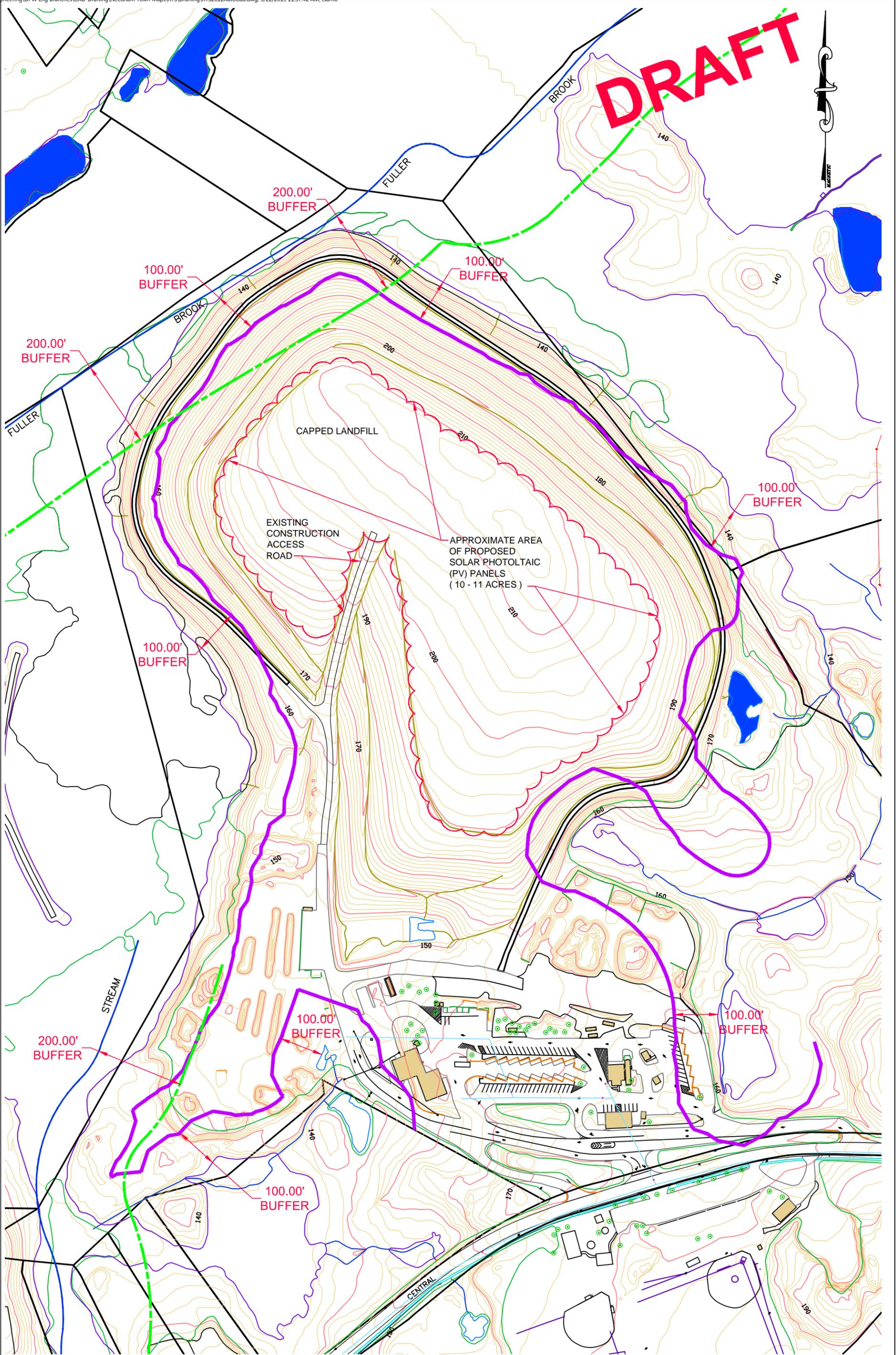
Connection
to the Power
Grid



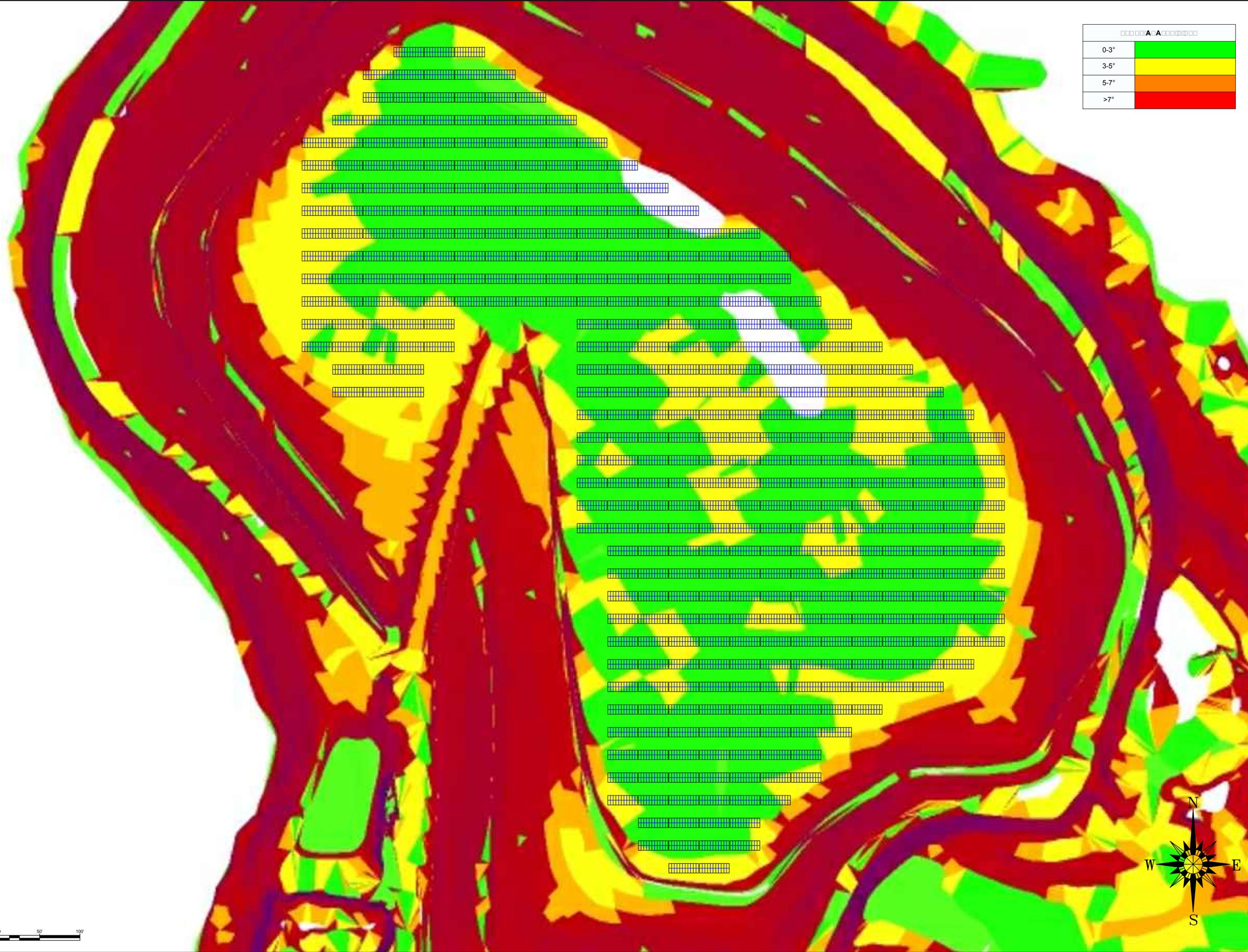
Gravel base and
access drive

Ownership Model	Town Owned	Town Leased	PPA	Prepaid PPA ***not widely used
Description	Town enters into agreement with Developer to build and operate facility for term of years (20) [could have separate builder and operator]	Town enters into agreement with Developer to build, own [and operate] facility for term of years (20) Leases panels to Town [could have separate builder and operator]	Town enters into agreement with Developer to build, own and operate facility for term of years (20); payment made over term of years, as detailed below	Town enters into agreement with Developer to build, own and operate facility for term of years (20); payment made in advance as detailed below
Who owns Panels	Town	Developer, leased by Town	Developer	Developer (but Developer likely grants security interest in panels to town to secure prepaid performance)
Price of Power	Power is free; O&M cost is for town's account	Town pays lease payments on panels	PPA fixes price of power to town over years, may contain escalator	Payment is made upfront for power for term of years; pricing should be more competitive than regular PPA, since no debt component
Who Gets Tax Benefits	N/A because Town not eligible for ITC	?	Developer can take advantage of ~Investment Tax Credit (30% of basis) ~MACRs	Negotiable -- Developer can take advantage of ~Investment Tax Credit (30% of basis) ~MACRs
Maintenance and Repair -- Who is liable if panels are damaged	Third party O&M or town employees Casualty -- Town (insurance)	Third party O&M ?[depends on lease?]	Developer Casualty -- Developer (insurance)	Developer Casualty -- Developer (insurance)
Debt Service	Town expense <i>[discuss whether can be financed outside debt cap]</i>	Developer expense	Developer expense	Town expense <i>[discuss whether can be financed outside debt cap]</i>

<p>SRECs (Solar Renewable Energy Credits) [generated in MA for production of 1 MWh of solar energy, purchase is required by energy providers in MA, auction floor pricing is at \$300 (-\$15 charge), current market is between \$110 - 190 per SREC [Alternative Compliance Payment (ACP) Rate is \$550/MWh for Compliance Year 2013, so that is highest anyone should pay for SRECs]; first every SREC Auction is scheduled for July 2013]</p>	<p>Town keeps SRECs, can sell for its own profit; Lancaster was able to make condition of purchasing power for town that utility had to buy its SRECS at \$295</p> <p><i>[NB: SREC availability capped at 400 MW of capability, will need to get in queue soon to take advantage of program. Currently program is for 10 years of SRECs, may change to 8 years.]</i></p>	<p>Town keeps SRECs, can sell for its own profit</p>	<p>Developer keeps SRECs, can sell for its own profit</p>	<p>Developer keeps SRECs, can sell for its own profit</p>
<p>Net Metering</p>	<p>Town's issue <i>[NB: another item that is capped, and for which there is a queue -- municipalities have higher cap than private owners, but both are filling, need to do sooner rather than later, although may be expanded in future]</i></p>	<p>?Developer's issue?</p>	<p>Developer's issue</p>	<p>Developer's issue</p>
<p>Other Communities' Approach</p>	<p>Lancaster</p>		<p>Waltham?</p>	



ProjectNumber ARCH D (24.00 X 36.00 inches) 2013-03-19



0-3°	
3-5°	
5-7°	
>7°	



RGS ENERGY
 Commercial Division of Real Goods Solar, Inc.
 833 W. South Boulder Road
 Louisville, CO 80027 USA
 Tel: +1 (888) 367-6527

PROJECT INFORMATION
 2.65 DC MW STC
 8976 HANWHA (TBD)
 295W
 Racking:
 BALLASTED GM

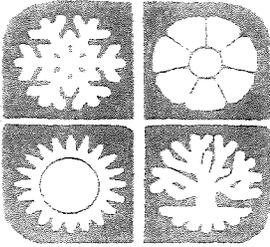
REVISIONS	DATE	DESCRIPTION
1	3/19/2013	PRELIMINARY DRAFT

PROJECT LOCATION
 NEEDHAM LANDFILL
 NEEDHAM, MA
 42.279477° N, -71.260725° W
 TOWN OF NEEDHAM, MA
 DEPARTMENT OF PUBLIC WORKS

PROJECT INFORMATION
 ProjectNumber
 10%
 PRELIM.
 SL
 PD
 2013-03-19 1" = 50' 1

TITLE
 SLOPE ANALYSIS

DRAWING
 PV-A02



NEEDHAM PARK AND RECREATION COMMISSION

Public Services Administration Building (PSAB)
500 Dedham Avenue
Needham, MA 02492-2699

Tel: (781) 455-7550

Fax: (781) 453-2510

Patricia M. Carey, C.P.R.P.
Director
Karen A. Peirce, C.P.R.P.
Assistant Director

Recorded Community Information – (781) 444-7212

MEMORANDUM

TO: Rick Merson, Director of Public Works
Ann Dorfman, Superintendent of Recycling and Solid Waste Division

FROM: Patricia M. Carey, CPRP, Director

RE: Re-Use of Landfill

DATE: March 28, 2013

In the late 1990's, the Board of Selectmen appointed the Park and Recreation Commission to serve as a study committee for the re-use of the capped landfill.

The initial part of the study was for the Commission and interested residents to learn more about closed landfills and how they can be re-used. They invited residents to tour the top of the landfill on six occasions, with five tours held in the fall of 1999 and one tour held in the fall of 2000.

The most common recommendation was to use the top of the landfill for passive recreation: kite flying, star gazing and walking trails were often noted. Many people just wanted a place for families to enjoy time together.

Less common, but mentioned, were more active recreation opportunities: athletic fields, driving range, skate park, and winter sledding or tubing.

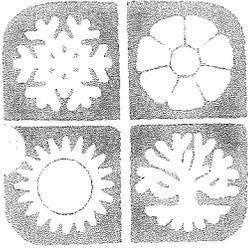
When discussing the opportunities for athletic fields with the youth sports programs at that time, most were more inclined to recommend for another sport, but not for their own programs. A major reason for that was the amount of wind which impacts the direction of balls for most activities. Secondly, the top of the plateau is only 10 acres with sloping sides, so that there wouldn't be space to build a complex but just a limited number of fields. Since that time, the Commission has held annual discussions with sports organization on the availability of athletic fields, and more effort has been put into improving existing spaces through renovations and enhanced maintenance rather than adding to the inventory.

In 2002, the Park and Recreation Commission undertook an access study of the landfill. The major challenge for this study was find options to move traffic around the active

Recycling and Transfer Station and find options for parking. The options indicated whether it was for passive uses, typically with limited traffic, or for more active uses, with greater traffic and parking needs. The most expensive options related to the active use. This was due to the need to create a different access drive, which is challenging with the way that Central Avenue is built. It also required more capacity for parking on the landfill, reducing the amount of space available for athletic fields. The Park and Recreation Commission did not continue on the study of the landfill, as decisions need to be made on the needs of the RTS and Department of Public Works for use of the entire property before decisions can be made on new recreational uses.

The 2007 Open Space and Recreation Plan indicates discussions brought forth the need to develop a plan for the closed landfill, but no specific goals were placed in the plan indicating what type of use should be studied for the landfill.

The current members of the Park and Recreation Commission were not on the board at the time of the landfill studies, but all are aware of the discussions that were held. They have not placed the development of athletic fields on the landfill on a list of goals.



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Patricia M. Carey, C.L.P.

Director

Meagan S. Ivers
Assistant Director

M E M O R A N D U M

TO: Kris Carbonneau, DPW Landfill Engineer

FROM: Patricia M. Carey, CLP, Director

RE: Update on Landfill Reuse Study

DATE: October 23, 2000

The following is an update on the status of the Landfill Reuse Study. In June, 1999, the Needham Board of Selectmen appointed the Park and Recreation Commission as the study committee for the reuse of the landfill. A member of the Board of Selectmen works with the Commission, in order to keep a communication link between the two boards.

The Park and Recreation Commission began gathering information, to help each member understand the various issues related to the closing and the process to follow for any reuse activity. Some have visited other sites, and new information is shared with the Commission at each of their meetings.

In October of 1999, with the Selectmen's approval, the Commission held five Sunday afternoon tours of the landfill. Over 250 people attended during the five weeks, and at the conclusion, many filled out a survey looking for reuse suggestions. Prior to the tours, suggestions for reuse from the public were very broad and included many options for the top of the landfill that would not be seriously considered, i.e. a recreation building. After the tours, which included education about the site, and with subsequent information shared through various avenues including newspaper articles, the suggestions from the public became more relevant to the site. The handout given to participants made it clear that there was no opportunity to access the landfill without participating in periodic tours offered by the Town.

In May of 2000, Town Meeting approved funding for the Commission to hire a firm to help study access to the site. The current access is through the Recycling and Transfer Station, and would preclude many reuse options that would have a traffic load that would interfere with the RTS. This study will be done over the winter and will suggest an

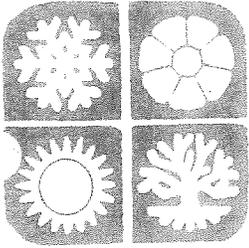
alternate access route, and availability of parking. That information will assist the Park and Recreation Commission in reducing the current wide variety of reuse options into a smaller group to make decisions on, and subsequently, recommendations to the Board of Selectmen. The recommendations will also need to be coordinated with the future uses of the Recycling and Transfer Station.

Due to many requests, and in an effort to continue the education campaign, one additional tour was held, yesterday, and about 40 people attended. Some people brought binoculars and cameras, and 3 families brought kites to the tour. The majority of people walked to the top, toured the approximate 10-acre plateau, and came back down within a half-hour of time.

The Park and Recreation Commission does not have one type of reuse at the "top of the list" at this time, as without the access information, it is difficult to judge what type of reuse activity would fit on the site. As a next step, the Commission would want to work with an engineering firm to review possible reuse options. The studied options would be chosen based on the information gained during the access study. The chosen firm would be one familiar with landfill closings and reuse plans, as well as the state guidelines on reuse.

I will keep you up to date on the progress of the study. I'd be happy to provide further information if you need it.

Thank you.



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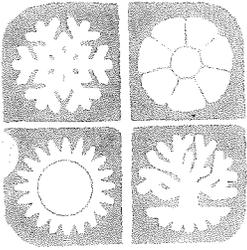
Patricia M. Carey, C.L.P.
Director

Meagan S. Ivers
Assistant Director

LANDFILL REUSE

The Needham Park and Recreation Commission appreciates the comments offered in writing about the future of the landfill. The Commission welcomes all additional comments from Town Meeting members and Needham residents. *As of May 3, 2000, twenty-five people attending Town Meeting offered the following choices. They are listed in random order.*

- Passive recreation; rollerblading.
- Picnic area with grills, tables, shelters. Good for group B-B-Q's and just good view point – especially in leaf season.
- Leave as is; passive recreation; family activity.
- Leave as is.
- Golf driving range.
- A portion of area for a dog run/park – even a couple of acres would be sufficient; winter recreation, also.
- Passive recreation.
- Athletic fields; passive recreation; family activity; winter recreation.
- Passive recreation; family activity; golf driving range; winter recreation.
- Athletic fields; passive recreation.
- Leave as is.
- Golf driving range; winter recreation.
- I'd prefer that no permanent structures be put up there, but have a small area to park and have mowed fields for walking, kite flying, informal sports such as frisbee, sledding or cross country skiing in winter. Passive recreation; family activity; winter recreation.
- Leave as is.
- Passive recreation.
- Passive recreation; family activity.
- Great big YMCA. This would serve as a community center and place to bring family for active recreation and exercise. We don't have that now. Golf driving range; winter recreation.
- Athletic fields; family activity.
- Leave as is or passive recreation.
- Athletic fields; pitch and putt, mini golf.
- Athletic fields; passive recreation; family activity.
- Leave as is.
- Golf driving range; activity building for teens with space and video games. No skate park.
- Passive recreation; family activity.
- Golf driving range – summer; winter recreation – winter.



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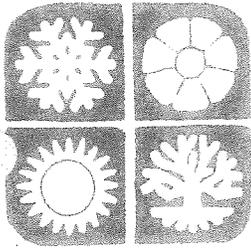
**LANDFILL REUSE PUBLIC HEARING
February 9, 2000**

Notes from Meeting

Ten Needham residents attended the Commission's public hearing, held at the Newman School. Park and Recreation Commission Chairman Phil Robey welcomed the participants and gave an update on the Commission's study of the possible uses of the closed landfill. Participants were then welcomed to share their thoughts for the land. The Commission answered questions from the participants related to the landfill, and presented a handout of information. The participants expressed the following ideas, and they will be added to the other ideas already generated by Needham residents.

- Incorporate more than one idea at the site, keeping the needs of children in mind and giving them options that they don't have, today.
- Make the site multi-use. Create a study of that section of town, including the Nike Site, and try to create a connection to that parcel of land.
- More open space and affordable housing is needed in Needham. Create a revenue generating use, i.e. a golf driving range. After the costs of operating the project are taken care of, put the profits into a community preservation fund.
- Create an athletic center, utilizing a bubble concept, that would provide year round resources for children. A driving range would only interest a small group of people, whereas the bubbled athletic center would interest a wider range of people throughout the year.
- Use this opportunity to add something unique to the town, i.e. a drive-in movie theatre during the warmer months, converting to winter activities in the colder months. As there are no drive-in movie theatres in the area, it would have a better chance to thrive, than an activity that is available locally, i.e. a driving range.
- The number of people of all ages interested in golf continues to grow, and a driving range would have a great chance at success. Use the extra funds created by the project to fund other needs of the town.

- Create a driving range that would be of interest to people of many ages.
- Be aware of the neighbors, who already are affected by the noise and lights from Claxton Field. Recently, a dirt bike was on top of the landfill, and the noise penetrated the local neighborhoods. There is a tremendous amount of wildlife in the area, including deer.
- If a driving range is created, make sure it is of good quality. Golfers have come to expect well maintained driving ranges, so a simple one may not draw in the number of participants needed to make it operate successfully.



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Director

Meagan S. Ivers

Assistant Director

MEMORANDUM

TO: Park and Recreation Commission
Ted Owens, Selectman

FROM: Patricia M. Carey, CLP, Director

RE: Tally of Landfill Tour Responses

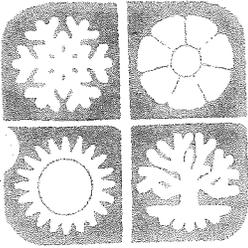
DATE: November 5, 1999

Five tours of the landfill were held in September and October, with 258 recorded visitors.

Of that number, 183 written responses were given. More than one response was recorded for 131 people. By age group, there were 24 Seniors responding; 98 Adults; 6 Teens; 33 Children; 11 Families; and 11 of unknown ages.

	S	A	T	C	F	?	TOTAL
Leave as is	3	6	1	3	0	1	14
Athletic Fields	3	33	2	14	4	5	61
Passive Recreation	16	57	0	11	1	6	91
Family Activity	11	47	1	13	3	4	74
Driving Range	2	36	2	6	2	5	53
Winter Recreation	8	39	1	9	2	3	62
Trails	3	6	0	0	1	1	11
Skate Park	5	18	2	6	6	2	39

S=Seniors; A=Adults; T=Teens; C=Child; F=Family; ?=unknown age group



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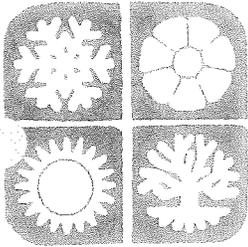
INDIVIDUAL COMMENTS

From Landfill Tours

September, October, 1999

Mini Bike Park
Outdoor Theatre or Grazing
Picnic Tables
Outdoor Music
Fourth of July Festival
Sightseeing
Ice Skating Course
Football Field
Festival Field
Open Air Theatre
Exercise Course
Drive In Movie Theatre
Batting Cages
Playground/Recreation Park
Wildflowers/Community Garden
9 hole Golf Course
Mountain Bike Course
Educational Recycling Center
Kite Flying

Grazing
Community Garden
Vegetable Gardens
Open one night a month for astronomers
Star Gazing
Ice Skating Rink
Fire Station for SW Needham
Walking range, similar to High School
Historical Museums
Birding
Volleyball
Fitness stations on walking/jogging trails
Astronomical Observatory at night
Wildlife Refuge
Model Airplane Field
Paracourse
Dog Park
ATV Trails



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Meagan S. Ivers
Assistant Director

**Landfill Tour #6
October 22, 2000**

Number of Visitors: 33

Survey Answers:

Adult/Teen/Child	#1 winter recreation; #2 mountain bike/walking trails; #3 passive recreation
Senior	passive recreation; winter recreation
Senior	passive recreation; winter recreation
Senior	family activities
Adult/Child	family activities
Adult	family activities; skateboarding, some place for teens to come
?	athletic fields – limited to 2 so other activities can take place; passive recreation; family activities
Child	passive recreation
Senior	golf driving range
Adult	passive recreation; NO to athletic fields, family activities and golf driving range
Adult	leave as is



**Permanent Public Building Committee
Public Facilities Department - Construction
Town of Needham**

500 Dedham Avenue
Needham, MA 02492
781 455-7550
781 453-2510 fax

May 9, 2013 - **DRAFT(2)**

Mr. _____
Company _____
Address _____
Address _____

RE: Owner's Agent Services – Needham Solar Photovoltaic Project -

Dear _____;

The Town of Needham - Solar Energy Exploratory Committee (SEEC) and the Town Manager are requesting a proposal with qualifications (RFP) from your firm for consulting services for an "Owner's Agent" to advise and assist the town with the procurement of a developer who will design, install and operate a Solar Photovoltaic array on the Town of Needham's Capped Landfill at 1407 Central Ave, Needham, MA.

Background

Bay State Consultants provided the Town of Needham with a "Solar Feasibility Report" in March 2012 which identified both the appetite and the opportunity for economic benefits to the town for the installation of Solar Photovoltaics at six sites in Needham. The report identified five school rooftops and the capped landfill as the most promising opportunities. The capped landfill located behind the Recycle and Transfer Station (RTS) at 1407 Central Ave in Needham offered the largest single opportunity with a land area of 10 to 11 acres of level surface at the top of the landfill that was capped and closed in 1998-9. A Solar PV capacity of at least 2 MW was noted, with a potential of up to 3 MW pending review of the Interconnection capacity with the existing NSTAR feeder system on Central Ave.

The Town of Needham approved the appointment of a Solar Energy Exploratory Committee in November Special Town Meeting 2012. The SEEC charge is "...to evaluate options for installing solar technology on public property, including specifically the Town's closed landfill site and other parcels or structures, as appropriate. The Exploratory Committee will evaluate options, costs, benefits and implementation and operating considerations, and make recommendations to the Board of Selectmen." Since the first meeting in December 2012 the SEEC has reviewed the background materials; held discussions with the regional representative of Mass Department of Energy Resources (DOER) - Green Communities; reviewed the existing Zoning By-laws; drafted a Solar Photovoltaic Zoning District Overlay; analyzed the potential Conservation Commission constraints of the site and determined that it is outside the wetlands and riverfront buffer zones; met with several Solar Developers and Engineering companies; visited solar PV installations; drafted a Developer RFP for a Power Purchase Agreement (PPA); and discussed the different

financing options with several local Town Managers who have Solar PV systems currently installed and operating.

The Committee is prepared to make a recommendation to the Board of Selectmen to proceed first with the RTS Capped Landfill site and seeks a consultant's review of the draft materials prepared to date, and assistance with the procurement and evaluation process moving forward.

Scope of Owner's Agent Services

The Attachment A – Scope of Work for Owner's Agent outlines the scope of services being requested by this RFP.

Project Schedule

The following schedule milestones are anticipated for the scope of this project:

Owners Agent RFP Issued: __/__/2013

Response to RFP: __/__/2013

Interview Date (if required): __/__/2013

Selection of Owner's Agent: __/__/2013

Final Developer PPA –RFP: __/__/2013

Analysis of bids: __/__/2014

Draft & Negotiate Memorandum of Understanding: __/__/2014

Review of final Zoning By-Law amendment: __/__/2013

Review of Developer's Engineering Plans: __/__/2014

Fee

The owners Agent fee for these services shall not exceed \$12,500, and shall be payable in monthly installment related to the stages of work on the project. The Consultant shall provide a proposed fee for services on this project broken into the stages noted in the Scope of Service.

Submittal Requirements

The Owner's agent shall submit the qualifications of the company and the qualifications of the individual consultants who will be working on the Needham. The qualifications package shall include prior relevant experience with the following issues:

- Consulting services to towns and other public entities regarding Solar PV- PPA agreements with successful installations
- Consulting services and knowledge about solar PV on capped landfill sites
- Financial analysis expertise and success on similar projects
- Knowledge of the current Massachusetts General Laws regarding procurement of Solar PV on landfills or related projects
- Knowledge of the State Solar Carve out program; net-metering caps, SRECS, tax incentives and how they could affect this project
- Similar project experience

Submission Deadline:

Due date for the Response: __/__/2013

One hard copy should be delivered to:

Town of Needham

Public Facilities Department – Construction

500 Dedham Ave

Needham, MA 02492

Attention: Hank Haff, Project Manager

(A Digital copy in PDF format shall be included on a CD within the package)

Selection Process

The SEEC will review the responses and if necessary interview one or more shortlisted applicants to make a recommendation to the Town Manager for the selection of a consultant. The Town will consider both qualifications and fee in the selection of a preferred consultant. The Town reserves the right to reject all proposals if it is in the best interest to the Town of Needham.

We appreciate your interest in this project.

Sincerely,

Elizabeth Driscoll, Chair
Town of Needham
Solar Energy Exploratory Committee

Attachments:

Attachment A – Scope of Services

Attachment B – Preliminary Schedule (TBD)

Attachment C – Sample Town of Needham Contract (TBD)

Draft (3) – for discussion - SEC 4/11/2013

Attachment A - Scope of Work for Owner's Agent

Town of Needham - Solar Exploratory Committee

Scope of Work

Below is the proposed scope of work that outlines the technical support that the Owner's Agent will provide to the Town of Needham through a contract with the Town Manger as part of work of the Solar Exploratory Committee (SEC) for their report to the Board of Selectmen (BOS).

This scope of work will have a not-to-exceed budget of \$ 12,500.

Phase I – Investigation and Analysis Draft RFQ

(1) RTS Solar Project Review and Comment

Review and comment on the Needham RTS Solar PV site and existing documents to confirm the capacity of the Site for Solar Photovoltaic array with a target minimum of 2MW generation capacity, including the preliminary layout of PV array, connection to transmission and site access. Review all permitting issues related to the site including the proposed Solar Overlay District zoning amendment, Conservation Commission letter, need for MassDEP Modification of Landfill requirements, Mass EPA requirements (if any), Building Permit and Electric Permit criteria. Assist the town in evaluating the construction and financing model for either self-financing, bidding Power Purchase Agreements (PPA) or other model and assist in preparing documents for presentation of recommendations to the Needham Board of Selectmen.

Update the SEC and BOS on any recent changes in the Massachusetts Department DOER solar carve-out program or other Federal programs that will influence the scope and/or schedule of the Developer RFP.

(2) Rooftop Solar PV Analysis (not applicable at this time)

(3) RFP Development

Assist the Solar Exploratory Committee with the final draft of a RFP/RFQ (with qualifications) for private developers to team with the Town of Needham for the installation of solar PV at the RTS that will result in the best return for the Town of Needham. Review Power Purchase Agreements (PPA) and Solar Renewable Energy Certificate (SREC) market conditions and net metering expectations to estimate project costs and benefits (e.g., likely PPA rate, anticipated annual savings, 20-year contract value). Work with SEC to help finalize and release the RFP per proper procurement guidelines. Attend any pre-bid conferences to help answer vendors' technical questions as required.

Phase II – Procurement

(4) Pre-Bid

Represent project team at pre-bid conference, record and draft responses to technical questions for any RFP addenda and provide additional assistance as requested such as answering questions pertaining to the procurement process.

(5) Bid Evaluation

Provide an overview to the bid evaluation team on the risks of Power Purchase Agreements (PPA) for consideration in the development and review of bid documents, including net metering, change-in-law provisions, decommissioning and other assurances, and Solar Renewable Energy Certificates (SRECs). Conduct a review of bid responses for technical and financial specifics and qualifications to

ensure that proposals are thorough and that bidder experience is suitable for the project. Develop economic model to compare the estimated value of various bidders' proposals. If needed, draft clarifying questions for developers to facilitate a fair and equal comparison of bids. Address bid evaluation team's technical, financial, and process-related questions as necessary throughout the bid evaluation process.

(6) Memorandum of Understanding (MOU)

Help draft and negotiate a Memorandum of Understanding (MOU) for the selected developer, prior to initiation of engineering studies by the selected vendor.

(7) Engineering Review

Help review vendor proposed designs and power purchase rate and discuss alternatives.

(8) Contract Negotiations

Support Needham during contract negotiations with the selected vendor. Work will include reviewing draft contracts and identifying provisions that are advantageous, or disadvantageous to Needham. Likely to require several rounds of contract reviews and negotiating with vendors.

(9) Quality Assurance Review and Support

(Pending further funding by Board of Selectmen)

(A) Electrical Design Review

Review electrical design documents for compliance with the Massachusetts Electrical Code (MEC). Comments and concerns will be forwarded to the Developer for discussion and resolution.

(B) Pre-Construction Meeting With Developer and Electrical Subcontractor

Conduct a meeting between the Town, Owners' Agent, the Developer and the Electrical Subcontractor to review the design and how the Subcontractor intends to implement it. Issues such as DC wire management that are not addressed in the design, but are the responsibility of the Subcontractor, will be addressed. The commissioning plan will also be addressed at the meeting.

(C) Commissioning and Inspection

Observe the commissioning of each system and perform an inspection for compliance with contractual terms and the MEC. A report of inspection findings and commissioning observations will be completed and forwarded to the Town of Needham..

**REQUEST FOR PROPOSALS [or QUALIFICATIONS]
ENERGY MANAGEMENT SERVICES
Town of Needham
1471 Highland Ave, Needham, MA 02492**

1. SOLICITATION AND PROPOSAL PROCESS

The Town of Needham (the “*Issuer*”) is soliciting proposals, under M.G.L. c. 25A, § 11C [or § 11I], from solar energy developers (“*bidders*”) to install and operate a solar photovoltaic energy system (“*Solar Energy System*” or “*System*”) at 1407 Central Ave, Needham, MA (on top of the capped landfill at the RTS) (the “*Premises*”) and furnish the Issuer with solar-generated electricity produced by the System. Sealed proposals from bidders, as required in accordance with all terms and specifications contained herein, will be received by Kate Fitzpatrick, Town Manager, Town of Needham, 1471 Highland Ave, Needham, MA 02492 until: [TIME, DATE].

A Mandatory Pre-Bid Conference will commence on [DATE] at [TIME] at [LOCATION]. Only prospective bidders attending the Mandatory Pre-Bid Conference will be permitted to submit proposals. Following the Mandatory Pre-Bid Conference, non-mandatory tours of the Premises will be offered by the Issuer.

Proposals must be submitted in a sealed outer package addressed to Kate Fitzpatrick, Town Manager, Town of Needham, 1471 Highland Ave, Needham, MA 02492. Within each envelope or package, the bidder shall enclose one (1) complete copy of this Request for Proposals [including Qualifications] (“*RFP*”) and a cover letter with the signature, name, and title of the person authorized to commit the bidder to the terms of the proposal.

The bidder’s proposal shall include a “*Non-Price Proposal*” and a “*Price Proposal*.”

The Non-Price Proposal (three (3) hard copies and one (1) CD-ROM in Adobe Acrobat (pdf) format) shall be placed in a separate sealed envelope within the outer package marked with the bidder’s *company name*, and plainly marked in the lower left hand corner: “Solar Energy System Non-Price Proposal - Hold for Public Opening.”

The Price Proposal (one (1) hard copy and one (1) CD-ROM in Adobe Acrobat (pdf) format) shall be placed in a separate sealed envelope within the outer package marked with the bidder’s *company name* and “Solar Energy System Price Proposal - Hold for Post Evaluation.”

It is the bidder’s responsibility to see that its proposal is delivered within the time and at the place prescribed. No proposals shall be opened by the Issuer until the time set for opening (the “*Public Opening*”). Proposals may be withdrawn upon written request (on the letterhead of the bidder and signed by the person signing the proposal) and must be received prior to the Public Opening. Proposals may be modified in the same manner. No proposal or modification thereof received after the Public Opening will be considered.

All proposals should be written in ink or typed. If there is any correction with whiteout, the person signing the proposal must initial the correction.

No selected bidder shall discriminate against any employee or applicant for employment because of a physical or mental handicap for any position for which the employee or applicant is qualified and, in the event of noncompliance, the Issuer may declare the selected bidder in breach and take any necessary legal recourse including termination or cancellation of any contract awarded pursuant to this RFP.

A bidder filing a proposal thereby certifies that (1) no officer, agent, or employee of the Town of Needham has a pecuniary interest in the proposal or has participated in contract negotiations on the part of the Issuer; (2) the proposal is made in good faith without fraud, collusion, or connection of any kind with any other prospective bidder for the same RFP, and (3) the prospective bidder is competing solely on its own behalf without connection with, or obligation to, any undisclosed person or firm.

The right is reserved, as the interest of the Issuer may require, to reject any or all proposals, to waive any technical defect or informality in proposals received, and to accept or reject any proposal or portion thereof.

All questions pertaining to this RFP should be referred to Hank Haff, Project Manager, Public Facilities – Construction, 500 Dedham Ave, Needham, MA 02492; telephone #781-455-7550; e-mail: hhaff@needhamma.gov prior to [TIME] on [DATE].

One (1) copy of this RFP [or RFQ] will be furnished to bidders on request.

It is the bidder's responsibility to check prior to the Public Opening for any updates issued as a result of questions or changes needed in this RFP.

2. SCHEDULE

Bidders' Registration Due for Pre-Bid Conference and Site Visit	[DATE]
Mandatory Pre-Bid Conference	[DATE]
Non-Mandatory Site Visits	[DATE]
Questions Due to Issuer	[DATE]
Responses to Questions/Addenda Issued	[DATE]
Proposals Due to Issuer	[DATE]
Public Opening of Proposals	[DATE]

Final Negotiations	[DATE]
Selection by Contract Award	[DATE]

3. GENERAL TERMS AND CONDITIONS

3.1 **Receipt and Opening of Bid.** Sealed bids/proposals will be accepted by Kate Fitzpatrick, Town Manager, Town of Needham, 1471 Highland Ave, Needham, MA 02492 until the time indicated on the advertisement for bids [and/or in Proposed Schedule above] for the services designated in the specifications and will then be publicly opened and read.

3.2 **Form of Bid.** Bids must be submitted on and in accordance with the forms attached to this RFP as Appendix A. No change shall be made in the phraseology of the form or in the item or items mentioned herein. The bid must contain the name and proper address of the bidder, be signed by a responsible member of the bidder with his/her signature and official title, and include certification of site visitation, following the form of Appendix A1. Except as otherwise provided in this RFP, bids that are incomplete, contain any omissions, erasures, alterations, additions or irregularities of any kind may be rejected.

3.3 **Submission of Bids.**

(a) Packages containing bids must be sealed and addressed as specified in Section 1 above.

(b) The Issuer shall decide when the specified time has arrived to open bids and no bid received thereafter will be considered.

(c) Any bidder may withdraw or modify its bid by written request at any time prior to the advertised time of the Public Opening. Telephonic bids, amendments or withdrawals will not be accepted.

(d) Unless otherwise specified, no bid may be withdrawn for a period of sixty (60) days from the Public Opening. Negligence on the part of the bidder in preparing the bid confers no rights for the withdrawal of the bid after it has been opened.

(e) Bids received prior to the Public Opening will be securely kept unopened. No responsibility will attach to an officer or person for the premature opening of a bid not properly addressed and identified.

(f) Any deviation from the specifications must be noted in writing and attached as a part of the bid. The bidder shall indicate the item or part with the deviation and indicate how the bid will deviate from specifications.

(g) Any bidder taking exception to, or questioning any of the provisions, procedures, conditions or specifications herein stated should make such exceptions known to Hank Haff, Project Manager, Public Facilities – Construction, 500 Dedham Ave, Needham, MA 02492; telephone #781-455-7550; e-mail: hhaff@needhamma.gov in writing, by [TIME, DATE].

(h) Any change or interpretation made as a result thereof will be mailed or emailed to all prospective bidders. Should a bidder still not be satisfied, the bidder may, in the bid, set out and stipulate the exception, with enough explanation to be understood by the Issuer and, within the stipulation, the INCREASE or DECREASE in the bid price because of the exception shall be stated. The Issuer may, at its discretion, accept or reject any or all exceptions.

3.4 Prices. Bidders shall state the Price Proposal in the manner as designated in the form attached to this RFP as Exhibit C of Appendix B. In the event there is a discrepancy between the price written in words and written in figures, the prices written in words shall govern.

3.5 Term. Discounts for a period less than [X] days may not be considered.

3.6 Massachusetts Sales Tax. Town of Needham is exempt from the payment of Massachusetts Sales Tax.

3.7 Federal Excise Taxes. Town of Needham is exempt from the payment of any excise or federal transportation taxes. The Price Proposal must be exclusive of taxes and will be so construed.

3.8 Award and Contract. The Issuer will utilize an evaluation system and will decide on a preferred bidder. It is the responsibility of each bidder to provide information, evidence or exhibits that clearly demonstrate the bidder's ability to satisfactorily respond to project requirements and the factors listed on the proposal forms.

A responsible bidder is a bidder that demonstrably possesses the skill, ability, financial resources, and integrity necessary to faithfully perform the work called for in this RFP. Each responsive proposal from a responsible bidder will be evaluated solely according to the criteria set forth in this RFP and ranked on capability. Each Non-Price Proposal will be assigned a rating of *highly advantageous*, *advantageous*, *not advantageous*, or *unacceptable* with respect to each criterion, and the reasons for each rating will be set forth in writing or by checklist. A composite rating for each Non-Price Proposal will be set forth in writing, along with the reasons for the rating. The evaluation committee will determine the most advantageous proposal from a responsible bidder, taking into consideration the Non-Price Proposal ratings and Price Proposal.

The Issuer will negotiate with the top-ranked bidder relative to scope, services, fee and payment schedules. If an agreement cannot be reached with the top-ranked bidder, those negotiations will be ended and negotiations will be undertaken with the second-ranked bidder, and so on down the list until an agreement is reached. The Issuer will negotiate a contract with the selected bidder at

compensation that the Issuer determines is fair, competitive, and reasonable. If the contract is awarded to a bidder that did not submit the lowest price, the evaluation committee will set forth a written explanation of the reasons for the award.

A written award (or acceptance of bid) mailed (or otherwise furnished) to the selected bidder shall, unless otherwise specified, be deemed to constitute a binding contract without further action by either party.

Proposals will be opened at the Public Opening in the presence of two (2) or more witnesses at the time stated. At the Public Opening, the Issuer shall prepare a register of proposals for public inspection. A bidder may correct, modify, or withdraw a proposal by written notice to the Hank Haff, Project Manager, Public Facilities – Construction, 500 Dedham Ave, Needham, MA 02492; telephone #781-455-7550; e-mail: lhaff@needhamma.gov prior to Public Opening. After the Public Opening, a bidder may not change the price or any other provision of the proposal in a manner prejudicial to the interest of, or to, fair competition. The Issuer may waive minor informalities or allow the bidder to correct them. The Issuer may permit a bidder to withdraw an offer if a mistake is evident on the face of the document but the intended correct offer is not similarly evident.

The Issuer may cancel this procurement when it determines that cancellation serves the best interests of the public. The Issuer may reject, in whole or in part, any and all energy savings measures, when it determines that rejection serves the best interests of the public.

The Issuer shall award a contract by written notice to the selected bidder as soon as possible after the Public Opening, unless the time for contract award is extended by mutual agreement between the Issuer and the selected bidder. All substantive inquiries from prospective bidders concerning this RFP must be submitted in writing and may be shared with other prospective bidders. All responses to substantive questions shall be in writing, will be simultaneously distributed to all recipients of the RFP, and will be made available to all interested parties.

Each proposal submitted in response to this RFP is subject to all of the contract terms and any contract awarded will incorporate all of these contract terms.

Every proposal must be in two parts, submitted in separate, clearly marked, sealed envelopes: (1) Non-Price Proposal; and (2) Price Proposal.

The **Non-Price Proposal** must consist of the following documents:

(a) Documentation evidencing that the bidder is responsible, demonstrably possessing the skill, ability and integrity necessary to faithfully perform the work required by a particular contract, based upon a determination of competent workmanship and financial soundness in accordance with section 44D of chapter 149.

(b) Any **DCAM or other** certificates of eligibility and update statements.

- (c) Certification of financial interest disclosure and of non-collusion, signed and submitted on the form attached to this RFP as Appendix A1.
- (d) Certification of compliance with state tax laws, reporting of employees and contractors, and withholding and remitting of child support, as required by M.G.L. ch. 62C, § 49A, signed and submitted on the form attached to this RFP as Appendix A2.
- (e) Letter of transmittal, signed by an individual authorized to bind the bidder contractually, certifying that the bidder will, if accepted for a contract award execute a contract in accordance with the terms of this proposals within five (5) business days of the notice of award.
- (f) Certification that the bidder, if awarded a contract, will guarantee completion of all work required within due dates or the time periods needed.
- (g) Any other documents required, but not included in the Price Proposal.

The **Price Proposal** must include a price that includes the furnishing of all materials, services, labor, performance and payment bonds, insurance, and other costs incurred in the performance the contract, signed by an individual authorized to bind the bidder contractually, and submitted on the form attached to this RFP as Exhibit C of Appendix B.

After a composite rating has been assigned for each proposal on the basis of the evaluation criteria in this section, the evaluation committee shall review the Price Proposals and determine the most advantageous proposal, taking into consideration the Non-Price Proposal ratings and the price. If the evaluation committee selects a proposal other than the lowest-priced proposal, the evaluation committee shall explain in writing why the added benefits of the proposal justify its higher price. The award of a contract to any bidder whose Non-Price Proposal was rated *unacceptable* with respect to one or more criteria will be conditioned on the negotiation of the revisions recommended by the evaluation committee at no increase in the proposed price.

Based upon the results of this review and interview process (if applicable), a ranking recommendation will be submitted to the **Needham Town Manager** for approval. The top-ranked bidder(s) from the list approved by **Needham Town Manager** will be contacted for an agreement. If an agreement cannot be reached, negotiations with other bidders, in order of their ranking, will be conducted until an agreement can be reached. The Issuer reserves the right to waive any and all informalities and to award the proposal on the basis of the above procedures to the bidder it deems most qualified.

Submission of a proposal shall be conclusive evidence that the bidder has examined the Premises and the contract documents and is familiar with all the conditions of this procurement. Upon finding any omissions or discrepancy in the proposal documents, the bidder shall notify the Issuer immediately so that any necessary addenda may be issued. Failure of the bidder to completely investigate the Premises and/or to be thoroughly familiar with the contract documents

(including plans, specifications and all addend) shall in no way relieve the bidder from any obligation with respect to the proposal.

3.9 Any firm providing services to or doing business with the Town of Needham shall be an Equal Employment Employer.

3.10 The Issuer reserves the right to reject any and all bids, to waive any technical defect or informality in the bids received and to accept the bid deemed to be most favorable to the best interests of the Town of Needham. The Issuer reserves the right to cancel the contract at any time should key personnel or sub-consultants presented in the proposal, or subsequent written or oral representations as assigned a significant percentage of their time, not actually be doing work as represented. Upon satisfactory notice, the Issuer may, at its option, accept replacement persons or sub-consultants.

3.11 For construction projects in excess of \$[REDACTED], the selected bidder will be required to provide a surety bond equal to [REDACTED]% of the contract price.

3.12 Prevailing Wages. The selected bidder and any sub-contractor(s) shall comply with the provisions of Massachusetts General Laws, pertaining to the “Prevailing Wage Laws” for all municipal funded projects. As required, the selected bidder and/or any sub-contractor(s) must certify and submit weekly payroll forms to Town of Needham Accountant c/o Hank Haff, Project Manager, Public Facilities Department – Construction, 500 Dedham Ave, Needham, MA 02492.

3.13 None of the services covered by the contract shall be assigned in full or in part, or subcontracted without the prior approval of the Issuer. If any work is to be subcontracted, a subcontracting plan must be submitted as part of the proposal.

3.14 This contract will be for the services described below; however, this agreement should not be considered exclusive. As deemed necessary, the Issuer reserves the right to obtain these services from any other vendor.

3.15 Unless otherwise specified all costs listed are firm for the term of the contract.

3.16 Neither party shall be liable for any inability to perform its obligations under any subsequent agreement due to war, riot, insurrection, civil commotion, fire, flood, earthquake, storm or other act of God.

3.17 Insurance. The selected bidder(s) shall be required to provide the Issuer with proof of insurance submitted to the Issuer as follows:

(a) General Liability Insurance in the amount of Two [2] million dollars each occurrence.

(b) Automobile Liability Insurance in the amount of Two [2] million dollars combined single limit.

(c) Massachusetts Worker’s Compensation Insurance in the amount of statutory limits.

(d) Professional Liability Insurance in the amount of one million dollars per occurrence and combined aggregate of two [2] million dollars.

(e) Town of Needham must be named as an additional insured.

3.17 The selected bidder shall hold harmless, defend, and indemnify the Town of Needham and its officers, agents and employees against all claims, demands, actions and suits (including all attorneys’ fees and costs) brought against any of them arising from the selected bidder’s work or any subcontractor’s work under the contract.

3.18 Notification of the parties shall be considered to have been constructively received when it is mailed via the United States Postal Service or delivered in hand to the parties as stated in the contract, or emailed, which shall be presumed by the Issuer to be successfully delivered unless a notice of failure to deliver is received back to the Issuer.

3.19 If any of the General Terms and Conditions set forth in this Section 3 is held to be invalid or unenforceable, it will be construed to have the broadest interpretation which would make it valid and enforceable under such holding. Invalidity or unenforceability of a term or condition will not affect any of the other General Terms And Conditions.

3.20 Each and every provision and clause required by law to be inserted in any subsequent contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the contract shall forthwith be physically amended to make such insertion or correction.

3.21 **“Bid”** shall also mean proposal, quotation, bid, offer, qualification/experience statement, and services. **“Bidders”** shall also mean vendors, offerors, bidders, or any person or firm responding to this RFP [or RFQ].

3.22 All contracts entered into by the Issuer shall be governed by the Laws of the State of Massachusetts. Any disputes shall be resolved within the venue of the State of Massachusetts.

3.23 The selected bidder will comply with all Federal, State and Municipal Laws, ordinances, rules and/or regulations including Labor Laws and those against discrimination.

3.24 The bid should be inclusive of all costs including overhead, travel, local transportation, supplies and materials.

3.25 As set forth in Section 5 below, in addition to the conditions set forth above, the bidder must comply with any requirements associated with participation by Town of Needham in the Commonwealth Solar initiative administered by the Massachusetts Department of Energy Resources. (?)

4. PURPOSE

The Issuer desires to purchase solar-generated electricity for use by the Issuer in one or more buildings located on the Premises, all as set forth in Exhibit A (“*Description of the Premises*”) of Appendix B attached to this RFP. The Issuer seeks proposals from entities in the business of financing, installing, owning, operating and maintaining solar power electric generation facilities to finance, install, own, operate and maintain a solar power electric generation facility (the “*System*”), as more particularly set forth in Exhibit B (“*Description of the System*”) of Appendix B attached hereto, on the Premises (the “*Project*”). As owner of the Premises, the Issuer seeks to grant to the selected bidder a license pursuant to an energy management services contract (“*EMS Contract*”), in the form of Appendix B attached hereto, to allow the selected bidder to undertake the Project for the purposes and subject to the conditions set forth herein, all as further set forth in Exhibit C (the “*EMS Contract Provisions*”) of Appendix B attached hereto. The Issuer desires to purchase from the selected bidder all of the electricity generated by the System for a period of [] years (the “*Term*”) for use in the building(s) or site operated by the Issuer which will house the System (the “*Facility*”), and otherwise in accordance with the terms of the EMS Contract, all as more specifically set forth in Exhibit D (the “*Solar License Agreement Provisions*”) of Appendix B attached hereto.

For the most recent two (2) years [or three (3) years], accurate energy consumption data for the Facility is provided in Appendix C attached to this RFP.

[*RFQ must include a statement as to whether the Project will generate sufficient energy savings to fund the full cost of the Project. See M.G.L. ch. 25A, § 11I(c)(4)]

The selected bidder will own the System and will be responsible for the design, engineering, permitting, installation, testing, operation, maintenance, repair and decommissioning of the System, including, without limitation, procurement of the solar photovoltaic equipment and related services (the “*Solar Energy System Assets*”).

5. BACKGROUND

The Project has been initiated by the Issuer with the assistance of the Massachusetts Technology Collaborative (“*MTC*”) through MTC’s Commonwealth Solar initiative.

5.1 **Issuer.** [INSERT INFORMATION ABOUT THE PUBLIC ENTITY, ITS AUTHORIZATION FOR THIS PROJECT, ETC.]

5.2 **MTC.** MTC is the state’s quasi-public development agency for renewable energy and the innovation economy. MTC administers the John Adams Innovation Institute and the Renewable Energy Trust (“*RET*” or the “*Trust*”). As its name suggests, MTC uses a

collaborative approach to achieving its mission, bringing together leaders from industry, academia, and government to advance technology-based solutions that lead to economic growth and a cleaner environment in Massachusetts. For additional information about MTC and its programs and initiatives, please visit MTC's website at <http://www.masstech.org/>.

5.3 **Commonwealth Solar.** MTC administers Commonwealth Solar, which was announced in December 2007 and became operational in January 2008. Among other things, this new initiative provides rebates to public buildings on a first-come, first-served basis for design and construction of solar photovoltaic energy projects up to 500 kilowatts in size. The initiative provides grant funding, through a competitive process, to assist with feasibility studies and design and construction of renewable energy projects, including wind energy, hydroelectric, and biomass energy. Projects must have an installed capacity of greater than 10 kilowatts and consume more than 25% of the renewable energy generated by the project onsite. Grant levels vary based on the characteristics of each project. For more information, please visit MTC's website at www.masstech.org/solar. Participation by [PUBLIC ENTITY] in Commonwealth Solar imposes additional obligations in connection with the construction on the System. Each bidder must account for and agree to comply with these obligations in its proposal.

6. PROJECT SITE AND EXISTING SITE CONDITIONS

6.1 **Property Description.** The Premises is described in Exhibit A ("*Description of the Premises*") of Appendix B of attached to this RFP [or RFQ].

6.2 **Site Conditions.** The EMS Contract provides further descriptive detail on the Premises. Before submitting a proposal, each bidder will be responsible for obtaining such additional studies and data concerning conditions (surface, subsurface and underground facilities) at the Premises or otherwise, which may affect the bidder's ability to comply with obligations under the Solar License Agreement Provisions or which the bidder otherwise reasonably deems necessary to develop a proposal to undertake the Project in accordance with the terms and conditions of this RFP.

7. SCOPE OF WORK TO BE ADDRESSED

7.1 **Key Project Elements.** The selected bidder and the Issuer will enter into an EMS Contract in the form of Appendix B hereto, pursuant to which the selected bidder will: (a) obtain from the Issuer the right to install, operate and maintain the System on the Premises, and (b) sell the electric power generated by the System to the Issuer.

The selected bidder will be responsible for designing, financing, operating and maintaining the System, and obtaining all necessary permits and approvals (e.g., building permits).

At the end of the Term, the selected bidder will retain ownership of the System and be required to remove the System, unless the Issuer decides to negotiate a new EMS Contract with the selected bidder or exercise any right of purchase that is included in the EMS Contract. The EMS Contract includes a requirement for the posting of a financial assurance mechanism to ensure that the System is removed.

The EMS Contract is a standard performance-based contract involving the generation and purchase of guaranteed quantities of electricity at a specified price. The bidder's proposal must include:

- (a) guaranteed annual electricity output (kWh/yr); and
- (b) annual system degradation factor,

in the form of Exhibit C of Appendix B hereto.

It is expected that the selected bidder will pursue tax credits and incentives, rebates, and other benefits that are available and/or may become available in the future. The bidder's proposal shall include a plan for the disposition and/or assignment of: (a) any environmental or other attributes (such as RECs, greenhouse gas offsets, or forward capacity market payments) that are generated in connection with the operation of the System; (b) any tax credits or incentives generated in connection with the operation of the System; and (c) any grants or rebates obtained in connection with the installation of the System (such as from Commonwealth Solar). If the Issuer applies for a rebate from Commonwealth Solar, the selected bidder shall comply with any requirements (such as insurance, etc.) that are associated with that program.

The bidder's proposal shall include a plan for how it will allocate any financial impacts on its Price Proposal caused by changes in law.

The generation capacity of the System generally should not exceed the expected "base load" electric consumption requirements of the Facility in order to ensure that the majority of the electricity produced is used on-site. To the extent that generation is not coincident with Facility load, the bidder's proposal must include a plan for the disposition of any power in excess of what will be purchased by Issuer (e.g., net metering, offsets, or sale into the wholesale power grid for the selected bidder's own account).

7.2 Role of the Issuer. To facilitate the development of the Project, the Issuer shall:

- (a) provide reasonable access to the Premises to obtain data (whether required or reasonably requested by the bidder) under an access agreement substantially in the form attached hereto as Appendix D;
- (b) grant to the selected bidder a license to allow the selected bidder to undertake the Project, as more specifically set forth in the Solar License Agreement Provisions;
- (c) provide access for the installation, maintenance, and ongoing operation of the System;
- (d) to the extent reasonable and appropriate, provide information to the selected bidder to assist the selected bidder in securing any remaining permits for the Project, including but not limited to local board approvals; and

(e) cooperate with the selected bidder to the extent reasonable and appropriate on remaining issues with respect to access, construction and interconnection.

7.3 Role of MTC. [INSERT TEXT] (NA?)

8. PRELIMINARY PROJECT SCHEDULE

Following are key milestones for the Project and the required and desired completion dates.

Milestone	Milestone Date
Secure System Equipment and Assets	Desired by [DATE]
Completion of Balance of System Design	Desired by [DATE]
Mechanical Completion	Desired by [DATE]
Substantial Completion	Desired by [DATE]
Commercial Operation Date	Desired by [DATE]
Final Completion	Desired by [DATE]
[INSERT OTHER MILESTONES AS DESIRED]	

9. MINIMUM EVALUATION CRITERIA

At a minimum, bidders shall provide the following information.

- (a) Timely submission of proposal.
- (b) Correctly following the terms and conditions of this RFP.
- (c) A Letter of Transmittal signed by the individual authorized to negotiate for and to submit a proposal, and any related votes of the corporation or Board of Directors as necessary as proof of authorization.
- (d) Completed disclosure of beneficial interest in real property transaction as required.
- (e) Fully executed forms as provided in this RFP (Appendix A).
- (f) A copy of the appropriate licenses and/or approvals required by Federal, State, and/or local authorities.

(g) A statement that the bidder is not debarred, suspended or otherwise prohibited from practice by any Federal, State, or local agency.

Proposals will be evaluated by the Issuer, using comparative criteria set forth as follows:

9.1 Non-Price Proposal

9.1.1 Approach and Schedule. Proposal shall include an explanation of how the bidder will approach the various tasks, including scheduling, methods and sources.

- a. Unacceptable:
No proposal
- b. Not Advantageous:
Incomplete proposal
- c. Advantageous:
Complete proposal
- d. Highly Advantageous:
Most extensive and clear proposal

9.1.2 Bidder Qualifications and Experience. Specialized experience is required in a series of work areas. Proposals must clearly demonstrate full knowledge, understanding, and experience in the methods, techniques and guidelines required for the performance of the required work. All elements within this factor are of equal importance. Capacity and capability of the bidder to perform the work on schedule and be responsive to the Issuer's concerns should be clear. The Issuer may evaluate the bidder's ability to form successful working relationships and communications with the Issuer.

- a. Unacceptable:
No proposal
- b. Not Advantageous:
Incomplete proposal
- c. Advantageous:
Complete proposal
- d. Highly Advantageous:
Most extensive and clear proposal

9.1.3 Personnel Qualifications and Availability. Specialized experience is required of the proposed project personnel to undertake the work assignments. Proposals must clearly demonstrate the capability, academic background, training, certifications and experience of the proposed personnel (not just of the bidder). The availability of the proposed staff is also

of crucial importance and must be demonstrated. Specific project responsibility of staff to be assigned to the Project must be included, as well as professional background and caliber of previous experience of key persons and of each consultant to be assigned to the Project.

If sub-consultants will be employed, similar information must be provided and the portions to be sub-consulted must be identified. (There is no penalty for use of sub-consultants; the qualifications of the entire team will be evaluated.)

- a. Unacceptable:
No proposal
- b. Not Advantageous:
Incomplete proposal
- c. Advantageous:
Complete proposal
- d. Highly Advantageous:
Most extensive and clear proposal

9.1.4 Performance Record of Bidder. A list of references of at least three (3) recent contracting officers on projects of a similar nature, magnitude and complexity; references must include telephone number and affiliation, as well as a brief explanation of referenced work. The bidder shall indicate the individuals on staff who had responsibility for each project and whether or not these people are still employed by the bidder.

- a. Unacceptable:
No proposal
- b. Not Advantageous:
Incomplete proposal
- c. Advantageous:
Complete proposal
- d. Highly Advantageous:
Most extensive and clear proposal

9.1.5 Project Understanding. The bidder must demonstrate a comprehension of the role and function of this contract in meeting the needs of the Issuer.

In addition to the understanding of the scope and approach, the bidder must demonstrate the following, which will be considered in the selection:

- knowledge of current issues and state-of-the-art technologies.

- experience demonstrated on similar projects.
 - working knowledge of the geographic area as evidenced by prior work experience in the region.
 - demonstrated expertise and ability for rapid turnaround and flexibility on short-term projects.
 - capability to effectively direct multiple simultaneous work assignments.
 - ability to integrate and utilize interdisciplinary study teams effectively on assignments requiring a variety of skills and expertise from in-house resources.
 - ability to provide the necessary skills and expertise from in-house resources.
- a. Unacceptable:
No proposal
 - b. Not Advantageous:
Incomplete proposal
 - c. Advantageous:
Complete proposal
 - d. Highly Advantageous:
Most extensive and clear proposal

9.1.6 Thoroughness of Proposal

- a. Unacceptable:
No proposal
- b. Not Advantageous:
Incomplete proposal
- c. Advantageous:
Complete proposal
- d. Highly Advantageous:
Most extensive and clear proposal

9.1.7 Other Relevant Issues. The Issuer may evaluate importance of other relevant issues presented by the bidder.

- a. Unacceptable:
N/A
- b. Not Advantageous:
Self-serving presentations that do not improve and advance the goals of this RFP [or RFQ]
- c. Advantageous:
Presentations that do improve and advance the goals of this RFP [or RFQ]
- d. Highly Advantageous:
Presentations that significantly improve and advance the goals of this RFP [or RFQ]

9.2 Price Proposal. The bidder's Price Proposal must include:

- (a) electricity price (\$/kWh),
- (b) annual electricity price increase factor,
- (c) maximum electricity price,
- (d) liquidated damages provisions, and
- (e) any other required financial information,

all in the form of Exhibit C of Appendix B hereto.

- a. Unacceptable:
No price proposal
- b. Not advantageous:
High price per kWh, with no maximum
- c. Advantageous:
Low price per kWh, up to a maximum amount
- d. Highly Advantageous:
Low price per kWh, up to a maximum amount, and disposition of other attributes, credits, incentives, grants and rebates to the Issuer

10. APPENDICES

Appendix A - Proposal Forms

Appendix A1 – Bidder Contact Information

Appendix A2 – Certificate of Non-Collusion

Appendix A3 – Attestation Regarding Filing of Tax Returns

Appendix B – Energy Management Services Contract

Appendix C – Energy Consumption Data

APPENDIX A1
BIDDER INFORMATION FORM

TO: Town of Needham
1471 Highland Ave
Needham, MA 02492

The undersigned has read the Request for Proposals [or Qualifications] (RFP) [or (RFQ)] and has carefully examined all specifications/evaluation criteria therein. The undersigned certifies that he/she has visited the site and that there are no known obstacles to prevent the execution of an agreement with the Town of Needham. The undersigned acknowledges that the Town of Needham may reject all proposals, or waive portions of the RFP for all proposals, if it deems it in the best interests of the public.

Signature: _____

Bidder information:

Name:
Address:
Role with the Organization:
Organization Address:

APPENDIX A2
CERTIFICATE OF NON-COLLUSION

The undersigned certifies, under penalties of perjury, that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word “person” shall mean any natural person, business, partnership, corporation, union, committee, club or other organization, entity, or group of individuals.

(Signature)

(Name of person signing proposal)

(Name of business)

APPENDIX A3
ATTESTATION REGARDING FILING OF TAX RETURNS

TO: Town of Needham
1471 Highland Ave
Needham, MA 02492

Pursuant to M.G.L. ch. 62C, § 49A, I certify under the penalties of perjury that the undersigned bidder, to the best of his/her knowledge and belief, has filed all state tax returns and paid all state taxes required under law.

Social Security Number or
Federal Identification Number

Signature of Individual or Officer

Date

Name of Corporation

SOLAR PHOTOVOLTAIC ZONING DISTRICT OVERLAY

1.0 Purpose

The purpose of this bylaw is to promote the creation of new large-scale ground-mounted solar photovoltaic installations by providing standards for the placement, design, construction, operation, monitoring, modification and removal of such installations that address public safety, minimize impacts on scenic, natural and historic resources. [It is correct to remove the financial assurances provision here]

The provisions set forth in this section shall apply to the construction, operation, maintenance and/or repair of large-scale ground-mounted solar photovoltaic installations.

1.1 Applicability

This section applies to large-scale ground-mounted solar photovoltaic installations proposed to be constructed after the effective date of this section. This section also pertains to physical modifications that materially alter the type, configuration, or size of these installations or related equipment.

2.0 Definitions

Designated Location: The locations permitted shall be within the Large-Scale Ground Mounted Solar Photovoltaic Overlay District (which is coincident [coterminous?] with the Temporary Meteorological Towers Overlay District), hereinafter referred to as “the Overlay”.

Large-Scale Ground-Mounted Solar Photovoltaic Installation: A solar photovoltaic system that is structurally mounted on the ground and is not roof-mounted and has a minimum nameplate capacity of 250kW DC

On-Site Solar Photovoltaic Installation: A solar photovoltaic installation that is constructed at a location where other uses of the underlying property occur. Joint ownership, land lease and/ or equipment lease is allowed for said installation without constituting a Land Subdivision under this By-law.

Rated Nameplate Capacity: The maximum rated output of electric power production of the Photovoltaic system in Direct Current (DC).

3.0 General Requirements for all Large Scale Solar power Generation Installations

A Large-Scale Ground-Mounted Solar Photovoltaic Installation is allowed in the Overlay.

The following requirements are common to all solar photovoltaic installations to be sited in the Overlay.

3.1 Compliance with Laws, Ordinances and Regulations

The construction and operation of all large scale solar photovoltaic installations shall be consistent with all applicable local, state and federal requirements, including but not limited to all applicable safety, construction, electrical, and communications requirements. All buildings and fixtures forming part of a solar photovoltaic installation shall be constructed in accordance with the State Building Code.

3.2 Building Permit and Building Inspection

No large scale solar photovoltaic installation shall be constructed, installed or modified as provided in this section without first obtaining a building permit.

3.3 Fees

The application for a building permit for a large scale solar photovoltaic installation must be accompanied by the fee required for a building permit.

3.4 Site Plan Review

Ground-mounted large scale solar photovoltaic installations with 250 kW or larger of rated nameplate capacity shall undergo site plan review prior to construction, installation or modification. as provided in this section

3.4.1 General

All plans and maps shall be prepared, stamped and signed by a Professional Engineer licensed to practice in Massachusetts.

3.4.2 Required Documents

In addition to the documents required for Site Plan Review, the project proponent shall also provide the following additional documents:

- (a) Blueprints or drawings of the solar photovoltaic 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
- (b) Documentation of the major system components to be used, including the PV panels, mounting system, inverter, and associated electrical components.
- (c) [My notes indicated we were excluding this as well.]
- (d) Documentation of actuator prospective access and control of the project site (see also Section 3.5);

[My notes indicate we were deleting this.]

3.6 Utility Notification

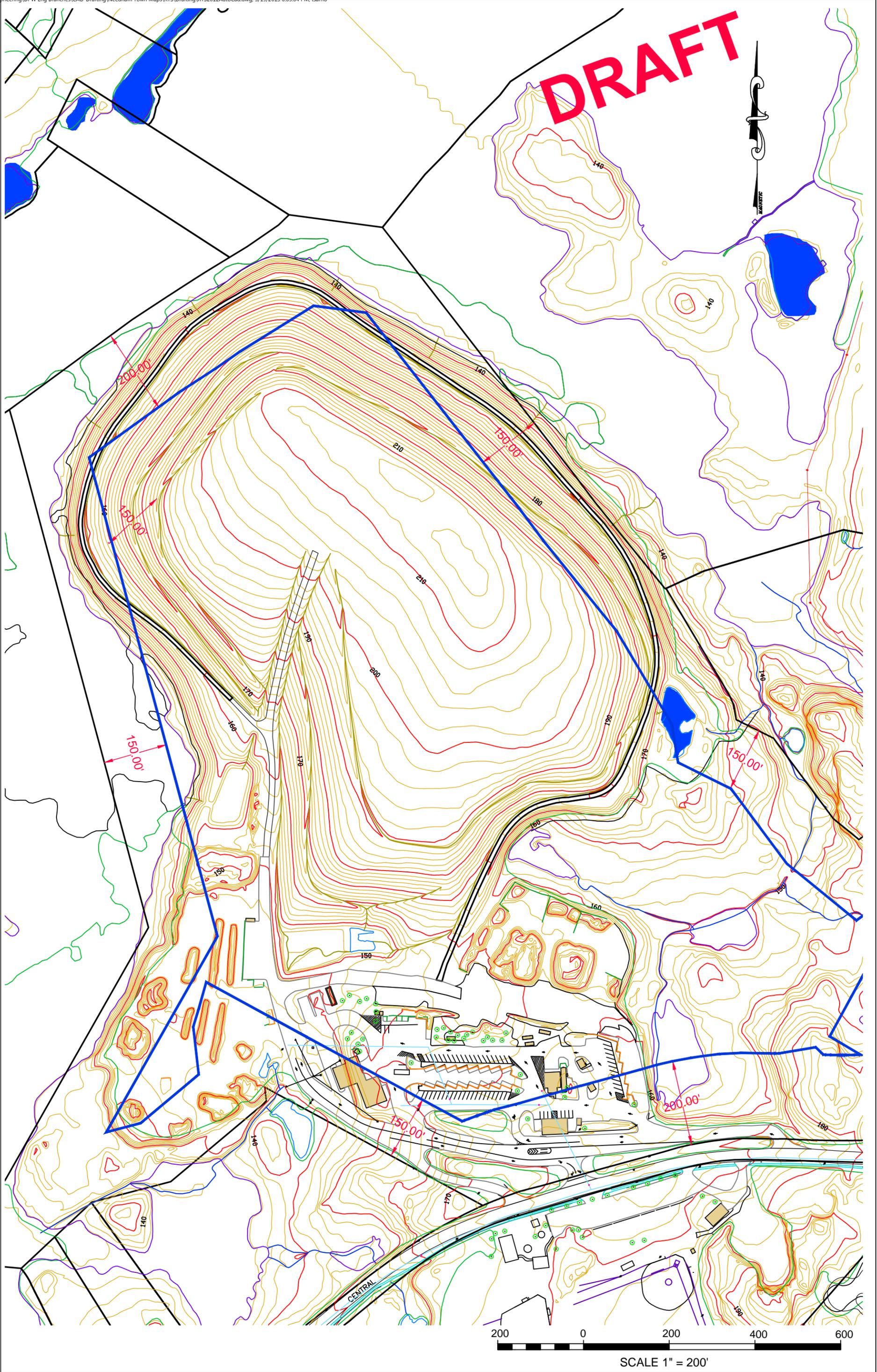
No large-scale ground-mounted solar photovoltaic installation shall be constructed until evidence has been given to the Site Plan Review Authority that the utility company that operates the electrical grid where the installation is to be located has been informed of the solar photovoltaic installation owner or operator's intent to install an interconnected customer-owned generator. Off-grid systems shall be exempt from this requirement.

3.8 Dimension and Density Requirements

3.8.1 Setbacks

For large-scale ground-mounted solar photovoltaic installations, front, side and rear setbacks shall be as follows:

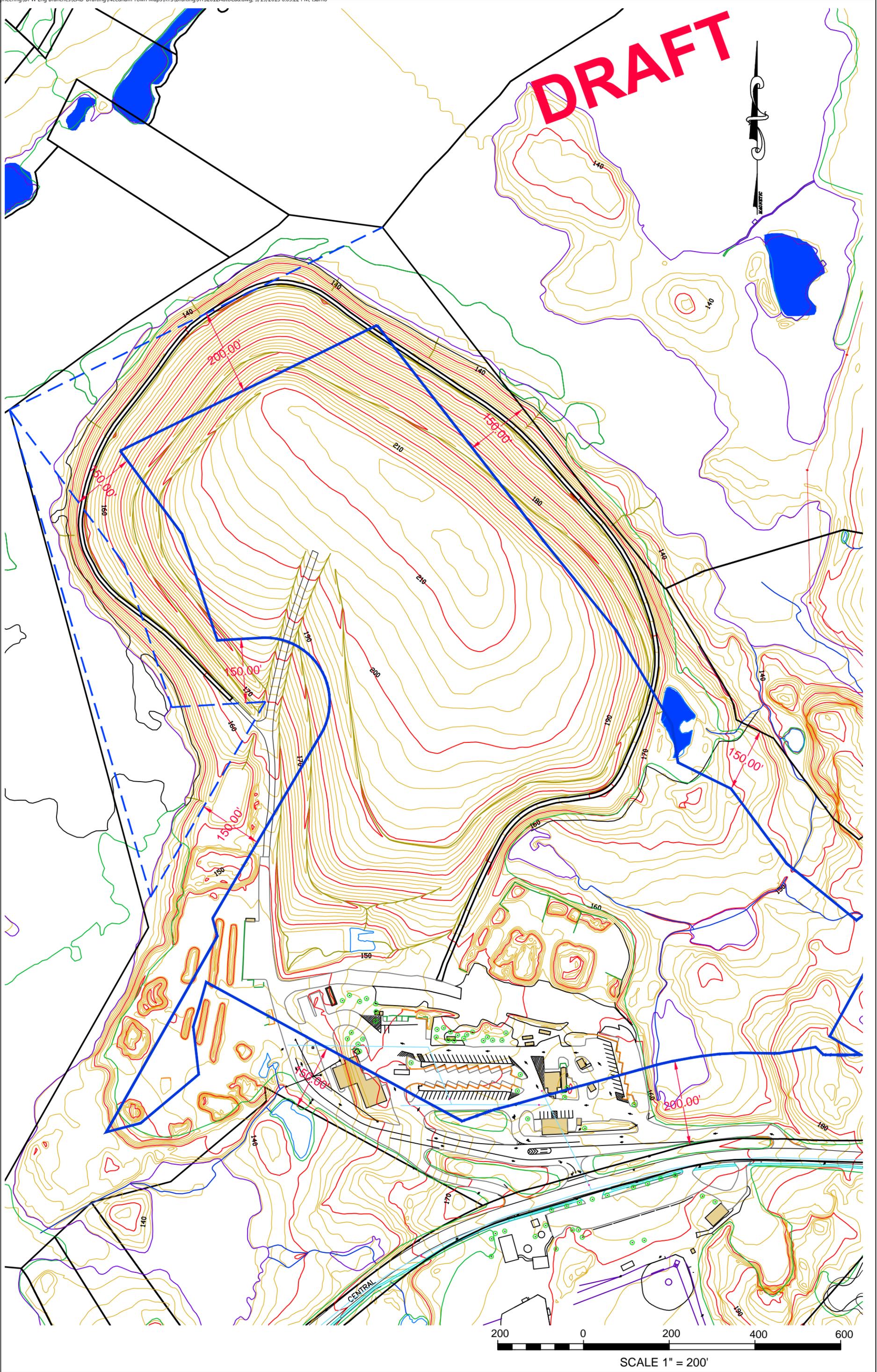
- (a) Front yard: The front yard setback shall be at least 200 feet;
- (b) Side yard. Each side yard setback shall be at least 100 feet;
- (c) Rear yard. The rear yard setback shall be at least 200 feet;
- (d) Separation Distance: No separation distance is required between structures for ground mounted Solar Photovoltaic panels
- (e) Height: Height shall be determined by each individual panel measured to the grade level beneath that panel and shall not exceed the height allowed within the underlying district.
- (f) Transition Areas: As long as the setbacks noted above are respected no further "Transition Area" (per 4.2.8) is required.
- (g) Parking Requirement: No additional parking is required for this use as long as there is no full-time employee required following installation of the Solar PV.



DRAFT



SCALE 1" = 200'



The Guide to Developing **Solar Photovoltaics** at Massachusetts Landfills



Commonwealth of Massachusetts

Deval L. Patrick, Governor

Timothy P. Murray, Lieutenant Governor

Richard K. Sullivan Jr., Secretary



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Introduction

There has never been a more opportune time for municipalities to develop solar photovoltaic (PV) systems on landfill sites.

- » Municipalities are seeking additional, creative ways to leverage underperforming assets to save money or generate new revenues.
- » Massachusetts has a robust market for Solar Renewable Energy Certificates (SRECs) generated by solar PV production.
- » Investor-owned utilities in Massachusetts allow net metering, which allows projects to capture retail rates for electricity produced by qualifying renewable energy projects.
- » Electricity produced by an onsite solar PV system can provide a hedge against volatile energy prices.

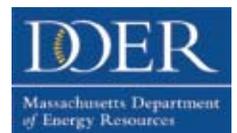
This guidebook has been published to help municipal officials identify, evaluate, and pursue opportunities to harness the sun's power to generate electricity and revenue from undeveloped landfill space. Topics covered include: physical requirements of PV systems; PV system economics; landfill considerations; public procurement; and PV system development, design, and installation.

This guidebook was prepared by Nexamp, Inc. on behalf of the Massachusetts Department of Energy Resources (DOER).

About DOER

DOER's mission is to create a cleaner energy future for the Commonwealth, economically and environmentally, including:

- » achieving all cost-effective energy efficiencies;
- » maximizing development of cleaner energy resources;
- » creating and leading implementation of energy strategies to assure reliable supplies and improve relative cost; and
- » supporting clean tech companies and spurring clean energy employment.



DOER is an agency of the Massachusetts Executive Office of Energy and Environmental Affairs (EEA).

About Nexamp

As a leading solar independent power producer, Nexamp develops, builds, owns, and operates distributed and utility-scale solar projects for private and public sector clients and partners.

Nexamp delivers integrated solutions—from project development and financing through construction and asset management—to ensure that our clients and partners maximize the value of their solar energy investments.



Module #1: How Does Solar Electricity Work?

The Basics

Solar photovoltaic (PV) systems convert sunlight directly into electricity. When sunlight strikes the semiconductor material in a solar cell electrons are freed and begin to flow. This flow of electrons creates an electric current, or electricity. The more intense the sunlight striking the panel, the greater the amount of electricity produced.

The solar cell is the basic block of PV technology. Solar cells are aggregated to form a PV module or panel. One or more modules are wired together into strings, or groups of panels. Strings are connected to an inverter, which converts the direct current (DC) produced by panels into the alternating current (AC) used by electrical devices in the United States. Figures 1, 2, and 3 show some typical solar cells, panels, and inverters.

Electricity production from PV systems is primarily a function of PV panel orientation, tilt, and DC to AC conversion losses. These factors are described in greater detail below. The capacity of a system is described in terms of the instantaneous amount of power it can produce, expressed in watts, or kilowatts (kW). In Massachusetts, 1 kW (DC) of PV capacity, at the optimal orientation and tilt for maximum annual production, can produce between 1,000 and 1,500 kilowatt-hours (kWh) of electricity annually. These production estimates account for the fact that the sun shines more in the summer than in the winter, and not at all at night. As a point of comparison, a residential

customer might see an average monthly use of 500-750 kWh, and the average residential system of 3 kW produces 3,000-4,500 kWh per year.

A good rule of thumb when sizing systems is that 1 kilowatt of PV requires 100 square feet of unobstructed area for a pitch roof, and up to 130 square feet for open land. For ground-mount systems, each megawatt (MW) of installed capacity typically needs 4-5 acres. Larger systems are somewhat more cost effective than smaller systems due to economies of scale associated with system design, installation, and interconnection.

How Is Electricity Production from a PV System Maximized?

Shading

The amount of sunlight, measured as insolation, that a PV system experiences impacts overall system performance. PV system design should avoid placing solar panels in areas that are shaded at any point during the day in order to maximize insolation. In particular, it is important to maximize solar access from May-September, when production is highest. The only exceptions are up to ninety minutes after sunrise in the morning and ninety minutes before sunset in the afternoon. The most common features that cause shading are trees, buildings, telecommunications structure, or rooftop HVAC systems. Ground-mount systems risk shading from grasses and other vegetation.

Figure 1: Solar Cell (photo: US Department of Energy / NREL)



Figure 2: Solar Module (photo: US Department of Energy / NREL)

Figure 3: 500-kilowatt Inverter (photo: Solectria Renewables)





Figure 4: Massachusetts-manufactured Panel Claw Mounting System (photo: Nexamp)

Well-designed PV systems avoid panel-to-panel shading except near sunrise or sunset. The modules will also face seasonal snow coverage, which will vary depending on the height and tilt of modules, depth of snow coverage and other weather conditions (e.g., a slight thaw can create icing conditions that prevent snow from sliding off the modules). While snow typically melts and slides off tilted modules, there may be short periods when the array is covered and the array does not produce electricity.

Orientation

PV systems are oriented in a south-facing direction in order to maximize power production. For roof-mounted projects, it may be possible to get up to 95 percent of optimal production even if the roof faces Southeast or Southwest. For ground-mounted arrays, system design should optimize the orientation to be facing as close to true south as possible. Note: True south differs from magnetic south in Massachusetts.

Solar PV arrays must be designed to meet site-specific conditions and to optimize production.

Tilt

The tilt angle of a PV system is another key variable that impacts power production. Maximizing generation based on tilt angle can be a very site-specific and project-specific exercise. PV layout and tilt angles can be optimized to achieve different goals, so understanding project objectives at an early stage can help guide the design process. For example, at Massachusetts latitudes, a tilt angle of 36 degrees will typically maximize annual generation. However, installing a



Figure 5: High-density Pre-cast Concrete System (photo: Solar FlexRack)

system at a 5-degree tilt can maximize summer production, and still achieve more than 80 percent of the production achieved by a 36 degree tilt angle. Optimizing tilt and production may provide benefits to customers that for example pay higher electricity rates in the summer months or at certain periods of the day.

Similarly, there may be opposing design considerations for a maximum tilt angle (36 degrees) and a tilt angle closer to 10 or 20 degrees. Systems with a higher tilt angle require more spacing between rows to prevent

panel to inter-panel shading, and may have higher structural engineering requirements in order to comply with state wind load requirements. While a 36-degree tilt maximizes annual production per kW of

installed capacity, a lesser tilt of 20 degrees would provide an annual production of nearly 95 percent of that maximum, and would allow for the installation of more modules in the same area. Therefore, pursuing a larger project with a smaller tilt angle may be more cost advantageous for some projects.

Trackers

Most New England PV installations rely on a “stationary” design, meaning the systems do not track the movement of the sun. However, systems do exist that track the path of the sun to increase production, but the added cost of installing and maintaining a tracking system often outweighs the net increase in system production realized by a tracking system in New England. To maximize the production of electricity, the

design of individual PV installations must consider (and optimize) the factors of shading, orientation, and module tilt.

What Hardware Is Included?

A typical solar PV system consists of three primary components: solar panels; inverters; and a mounting system. Different options are available for each of these components, and it is important to choose the options that best fit the site conditions.

Modules

Solar modules vary in size (dimensions), DC capacity (amount of instantaneous DC energy produced in Watts), efficiency (amount of energy produced per square unit area, typically listed as Watts/square meter), and location of manufacture. Panels typically come with a 5-year minimum workmanship warranty, and a production guarantee of 90% of maximum rated capacity after 10 years, and 80% of maximum rated capacity after 25 years.

Inverters

Inverters are the heart of a well-built PV array. Inverters convert DC electricity produced by the solar panels into AC electricity to be transmitted to the grid. Typical inverters come with a minimum 5 year warranty, although 10 years is quickly becoming the industry standard.

Mounting System

Ground mounted PV arrays typically use one of three common mounting structures, a low density concrete block ballasted system (see Figure 4 for a system that sits on top of the ground without penetrating the soil),

a high density pre-cast concrete system (see Figure 5 for a system that uses pre-cast concrete blocks to hold modules and the racking in place), and a driven pile mounting structure (see Figure 6). The mounting system must be optimized for specific site concerns, including lift, snow shedding, wetlands, water table, and permitting issues, in addition to subsurface issues such as landfill, stone, or other potential impediments. For typical landfill sites, the ideal mounting system is more likely to be a non-penetrating system than a system with ground penetrations.

Roof mounted PV arrays can be developed to meet a range of site-specific conditions. Common mounting types include non-roof penetrating systems for standing seam metal roofs and rubber membrane roofs, while other mounting solutions may rely on roof penetrations. The solar industry has developed solutions to address most scenarios, including flat and pitched roofs, and metal, rubber, and other roof material types.

Qualified integrators and developers should be able to provide guidance on appropriate mounting solutions for a diversity of sites.

Additional System Components

In addition to the three primary components highlighted above, a PV array will require additional hardware including DC wiring, combiner boxes, disconnects, meters, transformers, and AC wire. The placement of additional equipment must be optimized based on soil conditions, footprint, and other site-specific concerns. Many municipalities will also choose to install a data acquisition system with a web-based interface so that municipal officials, citizens, schools, and other stakeholders can view information about the solar array and the power it is generating.



Figure 6: Driven Pile Mounting Structure
(photo: Solar FlexRack)

Module #2: What Incentives Are Available for Solar?

Various state and federal policies are available to improve the economics of installing and owning large-scale solar PV arrays. This module outlines some of these key incentives and policy mechanisms, some of which apply to municipal projects, while others apply only to systems owned by for-profit entities. The incentives available for projects owned by for-profits are indirectly available to municipalities through a third-party ownership model, explained in more detail in Module #4.

The list of incentives that follows is not meant to be comprehensive, but instead to highlight the key considerations for embarking on a solar PV project in Massachusetts.

Note: The information provided here is for general information only, and should not be relied upon with regard to a specific project without consultation with town counsel.

Solar Renewable Energy Certificates

In 2010, as outlined by the Massachusetts Green Communities Act of 2008 and in support of Governor Deval Patrick's goal of installing 250 MW of solar generation capacity by 2017, the Massachusetts Department of Energy Resources established regulations that promote solar installation and generation in Massachusetts, within the Commonwealth's existing Renewable Portfolio Standard. Under the "Solar Carve-out," Massachusetts's retail electric suppliers are required to buy Solar Renewable Energy Certificates (SRECs) for an increasing portion of the electricity they deliver each year. SRECs are created as qualifying solar installations generate electricity. One SREC is created for every 1,000 kWh (1 MWh) of electricity generated by a qualifying Massachusetts PV array.

In support of Governor Patrick's goal of installing 250 MW of solar PV by 2017, the Solar Renewable Energy Certificate, or environmental attribute of the energy produced by the solar array, can be sold at a premium.

The Solar Carve-out creates a market demand for SRECs. The advent of SRECs creates an additional potential revenue stream for qualified solar projects. SRECs have a minimum value of \$285/MWh and a price ceiling of up to \$550/MWh, depending on market conditions.

The owner of a solar PV array can sell SRECs generated by the project directly to the retail electric suppliers or work with a broker who will help them identify buyers of those SRECs. SRECs can be sold each quarter at spot market prices, or projects can enter into long-term purchase agreements that provide assurance for long-term system revenue. More detail is included in Appendix B.

Net Metering

Customers of Massachusetts' investor-owned utilities, National Grid, NSTAR, Western Massachusetts Electric Company, and Unitil, have the option of selling net excess electricity generation from a qualifying solar project via net metering. Net metering allows a project host to offset its electricity usage with electricity generated on-site, reducing the amount of electricity the customer must buy from the distribution company. For customers that produce more electricity than they consume in any given month, credits accrue and can be carried forward and applied to future months' bills. Credits also may be transferred to another customer of the same distribution utility as long as they are within the same service territory and ISO-NE (the regional electricity grid operator) load zone. The value of each kilowatt-hour is worth more as a net-metered credit under this policy than if the kWh was sold to the utility grid at the clearing price. Additional detail on transaction types for selling net metering credits is included in Module #4.

In Massachusetts, there are several categories of net metering facilities. "Class I" facilities are generally defined as systems up to 60 kW in capacity. "Class II" facilities are generally defined as systems greater than 60 kW and up to 1 megawatt (MW) in capacity that generate electricity from agricultural products, solar energy, or wind energy. "Class III" facilities are generally defined as systems greater than 1 MW and up to 2 MW in capacity and that generate electricity from agricultural products, solar energy or wind energy.

Under current net metering rules, net metered facilities must be located behind a customer's meter, but only a minimal amount of onsite electricity load is required. A legislative amendment enacted in late 2010 established a new definition for "a net metering facility of a municipality or other governmental entity." As provided for in the legislation, this category of net metered facility must be either Class II or Class III and must be owned by a municipality or governmental entity, or the entity must use all of the facility's output. The legislation also capped the aggregate amount of capacity a municipality or other governmental entity may net meter at 10 MW.

Customers of Municipal Light Plant Departments (MLPs) may be eligible for net metering and are encouraged to contact their local MLP to learn more about what options are available to them.

Federal Investment Tax Credit

Qualified solar PV projects are eligible for a federal investment tax credit of up to 30% of eligible system costs, if installed by December 31, 2016. The tax credit can be taken and applied against the federal tax obligation of a for-profit entity. The 30% tax credit will sunset at the end of 2016 and revert to a 10% tax credit which has no expiration date.

For more information, please visit:
<http://www.dsireusa.org/documents/Incentives/US02F.htm>

Accelerated Depreciation / Bonus Depreciation

Under the federal Modified Accelerated Cost Recovery System (MACRS), businesses are able to recover investments in eligible property through depreciation reductions. Solar PV is specifically eligible for a 6-year accelerated depreciation schedule if the system is installed by 2016. Moreover, for systems installed in 2012, bonus depreciation is available. For systems installed in 2012, businesses can depreciate 50% of the value of the system in the 2012 tax year, with the remaining value depreciated over years 2-5 of the project lifetime based on the MACRS schedule.

For more information, please visit
http://www.irs.gov/irb/2011-16_IRB/ar10.html

Note: Massachusetts does not allow the deduction at IRC § 168(k) for bonus depreciation. A Massachusetts taxpayer that claims bonus depreciation under IRC 168(k) for federal purposes must calculate a separate depreciation schedule for purposes of claiming depreciation on the Massachusetts tax return. See *Technical Information Release 03-25, Depreciable Business Assets; Modifications for Decoupling from Federal Bonus Depreciation*.

Link to Massachusetts Business Related Credits:
<http://www.mass.gov/dor/individuals/filing-and-payment-information/guide-to-personal-income-tax/credits/business-related-credits.html>

Summary

More information about these incentives can be found online at: <http://www.dsireusa.org>. The site is periodically updated to include new information and changes in incentives. For example, there are federal tax credit bond offerings that are available when authorized by Congress, such as Clean Renewable Energy Bonds and Qualified Energy Conservation Bonds.

Module #3: Considerations for Designing and Developing Solar on a Landfill

Solar PV development on landfills offers a significant opportunity for municipalities in Massachusetts. The Commonwealth has more than 490 landfills, 466 of which are now inactive or closed. More than 40 have received post-closure use permit approvals from MassDEP, including 20 projects with solar PV specific uses totaling more than 42.8 MW.

Although not every landfill is suitable to host a solar PV system, municipal landfills with advantageous site characteristics may provide an opportunity for cities and towns to generate revenue from otherwise undevelopable land. Table 1 (left) outlines some of the key advantages and challenges associated with siting solar PV projects on landfills.

Module #3 will address each of the primary challenges listed in Table 1 in greater detail.

Getting Started: Feasibility Assessment

As a first step, municipalities seeking to evaluate the potential for pursuing solar on a landfill should determine whether any existing permit or site limitations preclude, prevent, or limit post-closure activity at the landfill. Limitations may be a result of:

- » a landfill’s site assignment, issued by the local Board of Health
- » a landfill’s approved closure plan, and closure certification approval from the Massachusetts Department of Environmental Protection (MassDEP) which applies only to landfills closed after 1990
- » incomplete landfill assessment or capping
- » release of hazardous materials or oil, resulting in either a compliance issue or an Activity and Use Limitation
- » zoning issues, given that the site’s existing zoning may not be a permitted use

If a landfill was not closed and capped in accordance with a MassDEP approval, or if a landfill was closed and capped before 1990, an environmental assessment (required by 310 CMR 19.150) and MassDEP closure permit (pursuant to 310 CMR 19.151) may be required prior to developing a solar PV array as a post closure activity. These assessment and corrective action requirements may be done concurrently with the post closure development of the site, provided that the site development is done in accordance with a MassDEP approval. Information about a landfill’s cap status, permits obtained, and Board of Health determinations should be available at your MassDEP Regional Office, and local Board of health, respectively.

The environmental permits that may be required in order to develop a solar PV array on a properly closed and capped landfill are listed below:

- » Solid Waste Post-Closure Use Permit (MassDEP)
- » Wetland Notice of Intent (NOI) and Order of Conditions (Local Conservation Commission)
- » Wetlands Protection Act Request for Determination (Local Conservation Commission)
- » Massachusetts Environmental Policy Act (MEPA) filing may be required if the project exceeds certain thresholds (regulated by the Executive Office of Energy and Environmental Affairs, MEPA Unit). More details about what might trigger a MEPA review are included in 301 CMR 11.00 MEPA Regulations.

Table 1: Landfill Siting Advantages and Challenges	
Advantages	Challenges
Large, open space	Permitting restrictions
Access for construction	Settlement issues
Remote location	Cap Restrictions
Limited shading	Weight/Load limits
Inexpensive open space	System design
New use for otherwise unusable land	Distance to interconnection
Increased site monitoring	Topography and slope

- » EPA Stormwater Permit may be required for construction activities for storm water management and erosion control.
- » National Pollution Discharge Elimination System (NPDES) permit for storm water run off due to construction activity may be required when more than one acre of land is disturbed.
- » Massachusetts Endangered Species Act (MESA) protects rare species and their habitats. The MA Natural Heritage and Endangered Species program provides maps that can be used to determine whether a project falls in a priority habitat or estimated habitat.

See Appendix C for additional information on these permits.

Potential applicants for a Solid Waste Post-Closure Use Permit are strongly encouraged to schedule a “pre-application” meeting with the MassDEP prior to preparing the post-closure use permit application. The MassDEP has experience working with municipalities on solar projects at landfill sites, and can help guide a municipality’s early development efforts. Contact information for the MassDEP Regional Offices is included in Appendix C.

Existing Site Conditions

As part of any feasibility assessment, the host municipality will need to inspect the landfill to evaluate a number of potential issues that may impact site development, including management of storm water, landfill gas, and settlement. Storm water and landfill gas management issues can be mitigated by system design, but settlement should be evaluated early in the feasibility process. Inspectors will need to carefully evaluate past settlement as a potential obstacle to the project. If a landfill has recently ceased accepting waste primary settlement may pose a fatal flaw for the project. If a landfill has been closed for a significant period of time, typically on the order of 10 to 15 years, much of the primary settlement may have already occurred. The extent and timing of settlement will vary from landfill to landfill depending on the depth of waste, type of waste, and operational history.

Pittsfield Wastewater Treatment Plant:
1.58-MW Solar PV Array (photo: Nexamp)



How Does Construction & Operation of Solar PV Affect Landfill Management?

In preparation for its review of proposed solar projects on landfills, the MassDEP will request a variety of documentation describing existing conditions and proposed PV design (the post-closure use). Documentation will include site plans, closure plans, and a summary of previous environmental assessment findings. The post-closure use design plans will need to include a site plan, detailed solar PV designs (stamped by a Professional Engineer), a narrative report that outlines the technical analysis of the PV system, and a review of any anticipated impacts to the site resulting from the proposed changes. MassDEP is looking for projects that: coordinate the designs of multiple experts; integrate well with the function of the existing landfill cap/cover system; do not increase the potential for erosion; do not create new exposures to landfill gas; and provide access for site maintenance.

Applicants to the MassDEP for post-closure use permits can be either the host municipality itself, or a third-party on behalf of the municipality. It may be difficult to issue an RFP and negotiate a land lease, CPA, or other arrangement with a third-party entity without having first addressed the outstanding permit(s).

If the landfill was previously assessed and properly closed, agency review typically takes 2-6 months. If the site has not been assessed and properly closed, agency review may take longer.

The MassDEP will evaluate a PV system post-closure use permit application with a focus on two primary criteria:

- » maintaining the integrity of landfill's final cover system, and
- » no adverse impact to public health, safety and the environment.

The post-closure use permit application will be approved only if the proposed PV system meets

MassDEP's criteria for post-closure use of landfills (310 CMR 19.143). In order for MassDEP to determine if the proposed project meets the post-closure use criteria, the MassDEP will scrutinize four major aspects of the PV system design:

- » Settlement & stability
- » Storm water controls
- » Landfill gas management
- » Monitoring and maintenance

Settlement: PV System Foundation

Solid waste engineers often characterize landfill settlement into two categories: existing settlement and projected settlement. An engineer should be able to identify existing settlement through a site inspection process. Similarly, a solid waste engineer should be able to estimate predicted settlement using a number of important variables, such as compression, biodegradation, and creep. Finally, the impact due to predicted settlement from the designed solar PV array can be assessed and reviewed with the MassDEP. The PV system foundation will need to prevent ponding and generally keep water out of the landfill while maintaining the integrity of the final cover system to control gas emissions.

The foundation design must be stable, capable of accommodating the loading of the system itself, and flexible enough to adjust for potential site settlement.

Storm Water

Storm water needs to be controlled in order to maintain and prevent erosion of the landfill final cover system; and to prevent adverse impacts to abutters and the surrounding environment. The post-closure use permit application needs to contain a depiction of all existing storm water erosion control systems as well as any alterations to that system associated with the post-closure use activity. The type and complexity of additional storm water controls, to facilitate the post-closure use will vary widely depending on the existing storm water system design, proposed foundations,

Existing and projected ground settlement are a key concern for technical design, and needs to be evaluated early in the development process in order to assess potential impacts to the project.

increase in impervious areas, proposed changes to topography (i.e. construction roads), and adjacent receptors (i.e. wetlands). The MassDEP has indicated that modules should not be considered impervious surfaces. In addition, MassDEP currently requires that landfill storm water controls manage the peak discharge of a 24-hour, 25 year storm event and evaluate for the 24-hour, 100 year storm event for flooding. If storm water discharges to surface water wetlands, additional permitting and or standards may apply. Vegetative cover is often used for stormwater management so there may be restrictions on the area of the landfill that can be covered by the PV system foundation.

Landfill Gas Management

MassDEP also reviews the impact of the PV array on the landfill gas management plan. MassDEP evaluates the site's existing gas control system, gas characteristics, and gas migration pathways. The MassDEP team considers the impact of the proposed PV system design on that landfill gas management system, to ensure: protection of public health (by preventing the release of toxic compounds into ambient air); public safety (by preventing explosion, fire, or asphyxiation); and the welfare of the community (by preventing nuisance odors).

Typically all post-closure uses incorporate a combination of engineering controls, management controls and monitoring to ensure landfill gas does not pose an unacceptable safety or health risk.

Engineering Controls: Every building, inverter, transformer, and every subsurface utility conduit located on or in close proximity to a landfill becomes a new "landfill gas receptor." The construction of buildings on a landfill is strictly controlled. All building shall be above grade structures and be designed to prevent the accumulation of gas within the structure. Buildings may require: gas monitoring and warning devices; vapor barriers; and/or venting systems. To the extent feasible utility lines should be located above ground when located on or in close proximity to landfills. Subsurface utilities need to be designed to minimize the potential for landfill gas to enter the conduit and create a safety (explosion, fire) or health hazard.

Management Controls and Monitoring: The owner and their contractors need to ensure all necessary precautions are taken to protect health and safety of workers and the general public during both construction and maintenance of the PV system. In some cases, when there is limited landfill assessment data, landfill gas sampling and/or a risk assessment may be required to evaluate post-closure use exposure pathways. However, in many cases, a site-specific OSHA health and safety plan that includes worker training, management controls and landfill monitoring will be sufficient. Most landfills will have pre-existing monitoring wells, and the design and construction of the PV array will have to ensure there is no disturbance or obstruction of monitoring wells.

PV system designers and builders should be well versed in the challenges associated with developing and building projects on landfills. Designers and builders will have to work closely with the landfill's solid waste engineer to ensure seamless system operation.

Post-Closure Use Operations, Monitoring and Maintenance

Finally, the MassDEP will review the proposed PV array design to confirm that long-term maintenance can be performed as required after the PV array is constructed. The PV array designer will need to ensure that water cannot penetrate and landfill gas cannot escape from the landfill. A poorly designed system may incur future costs due to instability, erosion, cap breakdown, or vegetation overgrowth.

Additional details about the tasks associated with pursuing and obtaining a post-closure use permit from the MassDEP are included in Appendix C.

PV Design Considerations at Landfills

Installing solar PV projects on landfill sites gives rise to additional solar-specific design and construction issues. Consultants, designers, and builders should all be well-versed in the technical issues associated with developing a solar project on a landfill. Solar-specific technical concerns include the following:

- » Topography and Usable Area: Often, only the flat surface of a landfill is appropriate for usage for solar. While it may be technically feasible in certain cases to develop mounting structures for the sloped sides, usually the cost of engineering and custom mounting structures is too high to be economically feasible. Ideally, the landfill will have a large flat area or if there is a moderate slope, a large south facing orientation.
- » Location of Wiring: DC and high voltage wiring, which may be installed in below ground conduit in typical ground-mounted projects, may need to be run above ground to avoid penetrating the landfill cap. There may be a limit on depth of excavation allowed.
- » Load Limits: The weight of the PV array will likely be affected by the load limit of the cap. This weight load limit will likely also affect construction, and could prevent high weight trucks, cranes, and related equipment from accessing portions of a site, creating additional logistics considerations.
- » Settlement: Concrete pads for inverters, transformers, and other transmission equipment may need to be placed off of the landfill cap itself because of settlement issues, weight, and a concern about electrical equipment over the landfill. MassDEP has reviewed and approved solar project designs that incorporate adjustable supports to account for landfill settlement. Inspection operations need to include assessment of landfill settlement due to the stresses that could be induced in the array support system. However, if settlement causes ponding, settled areas must be repaired.
- » Storm Water Management and Erosion Control: a vegetative cap is often used for storm water management and erosion control. There may be restrictions on how much area the PV system foundation can cover without either requiring a remedial measure or storm water analysis by a professional engineer.

Construction Considerations

The construction of the PV array must take into account unique considerations of building on a landfill. Maintaining the integrity of the landfill cap and the gas management system are primary concerns. The construction considerations include:

- » limiting the depth of excavation, depending on the depth of the cover
- » avoiding the usage of heavy equipment on certain areas of the landfill
- » restrictions on laydown areas
- » maintaining erosion controls
- » maintaining stormwater controls
- » soil and/or groundwater testing if hazardous materials or petroleum products have been released on the site
- » robust health and safety plans
- » cap repair plans
- » monitoring of on-landfill construction

Post-Closure Use Maintenance Considerations

If the PV array design does not call for replacement of the existing vegetative cover system (typically grass), there is a risk that shading from PV array will have deleterious effects on the underlying vegetation. During PV array operations and maintenance, reseeding and/or additional erosion control measures may be necessary depending on the response of the vegetation to reduced sunlight. The extent of the problem will depend largely on the design of the PV array and the ability of the existing vegetation to handle reduced sunlight. Potential negative impacts associated with shading from solar array components can be mitigated by implementing erosion controls, planting vegetation on undeveloped portions of the property, or planting low-growth, low light flora beneath the solar modules.

Installing a PV system will make some of these maintenance issues more difficult, and planning for that process will need to occur as part of the post-closure use permit process. Maintenance tasks like grass mowing, gas system repair, landfill gas management hardware upkeep, and site inspections require access to certain onsite equipment. The PV array will need to be designed to allow access to existing infrastructure, and to allow for certain upkeep requirements to occur unimpeded.

One advantage for municipalities developing solar on their landfill is the increased site monitoring that comes with the secondary use. PV array inspectors can be trained to look for landfill final cover damage and can identify necessary repairs before they become major problems. Landfill final cover system inspection and maintenance could also be rolled into an agreement with a third-party vendor responsible with PV system upkeep. This vendor would have an increased interest in ensuring site security and management, and would want to actively address any settlement issues.

Cathartes Private Investments:
Construction of 4.5-MW Solar PV Array (photo: Nexamp)



Cathartes Private Investments:
4.5-MW Solar PV Array (photo: Les Vants Aerial Photo Service)



Module #4: What Ownership Structures and Strategies Can We Use to Develop a Landfill Solar PV Array?

There are multiple development and ownership structures that can be used to develop solar energy projects on municipal property. In addition, new strategies are continually evolving. The following module summarizes some of the more traditional approaches that are used by municipalities. It is intended to provide general background for municipalities seeking to understand the range of options available for developing PV projects on municipal property.

Typical Development Tasks

Today, an average MW-scale solar project may take between twelve and twenty-four months to develop and build. Some of the first large-scale solar projects in Massachusetts, built in the mid-2000s, took as many as five years to develop, but the industry has gained significant experience since then. Whereas the Brockton Brightfields solar project, built in 2006 on a former brownfield site (see Case Study #1 for more details) took more than six years to develop, the Easthampton landfill project (see Case Study #2) took closer to two years.

Some of the major tasks included in developing solar projects include:

- » Site selection
- » Feasibility assessment
- » Conceptual design
- » Energy and attribute (e.g., SRECs) offtake agreements
- » Permitting and Interconnection Application
- » Engineering
- » Equipment Procurement
- » Project finance
- » Construction
- » Interconnection
- » Long-term system operations and management

Whether a municipality wants to own a renewable energy project or simply host a project, it needs to understand and assess which of these tasks it has the expertise to perform/manage on its own, and which need to be subcontracted.

Municipal Ownership

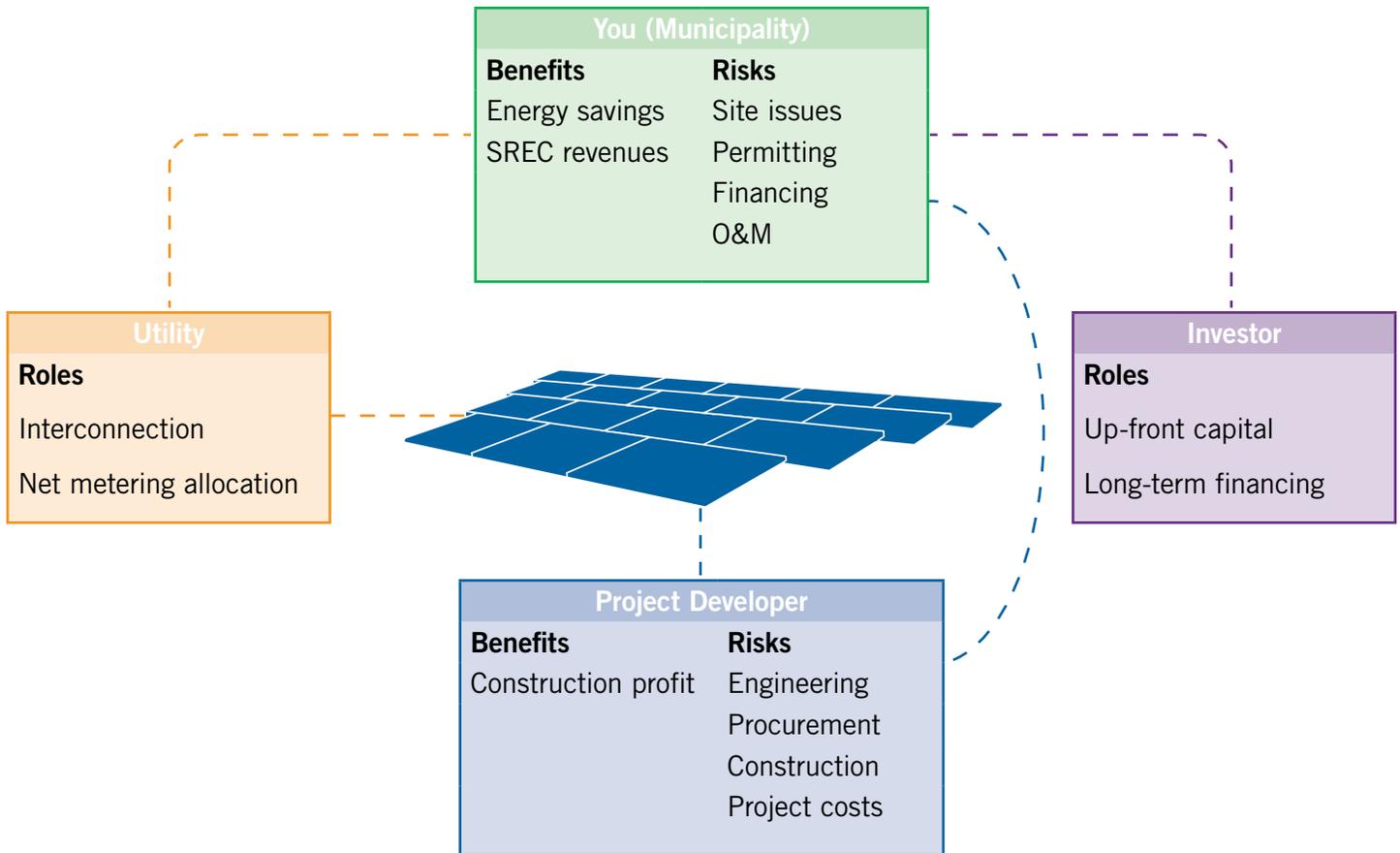
One common development structure for solar projects at municipal sites is the standard municipal ownership model. In this approach, the municipality serves as the developer, financier, builder, and owner of the PV system. As owner, the municipality enjoys all of the direct benefits resulting from the project, including electricity savings and revenues from SREC sales. Subcontractors are generally used for most or all of the project tasks, but the subs need to be managed by municipal officials or volunteers, and the quality of their work product needs to be verified at each step. An owner's engineer can help the municipality with the subcontractor selection and management.

The structure of a municipally developed and owned project typically follows one of two paths: design-build or design-bid-build. In the design-build framework, the municipality issues a single request for proposals (RFP) or request for qualifications (RFQ) for a firm that can engineer, design, build, and manage all aspects of system implementation. In the design-bid-build framework, a separate design firm is hired to provide upfront project analysis, a conceptual design, and other engineering services. Based on the findings of the design firm, a second procurement is then issued to hire a traditional Engineering, Procurement, and Construction (EPC) firm that will manage the balance of the project design and construction tasks.

Both approaches have advantages and disadvantages. The design-build framework requires that a certain level of due diligence be completed by the municipality prior to issuing the RFP. This enables potential bidders to have sufficient information on topics related to site characteristics, interconnection, landfill considerations, permitting requirements, and other project details. In practice, sometimes design-build RFPs are issued with information that is insufficient for potential bidders to prepare comprehensive, accurate bids. This places upward pressure on bid prices. In some cases, an incomplete or unrealistic RFP will result in low/no response from experienced bidders. In contrast to the design-build approach, the design-bid-build development style may provide bidding EPC firms with helpful upfront information about the project that can guide the estimating and scheduling process.

The risks and benefits of developing a municipally owned project are outlined in Figure 7, below:

Figure 7: Municipal Ownership Model



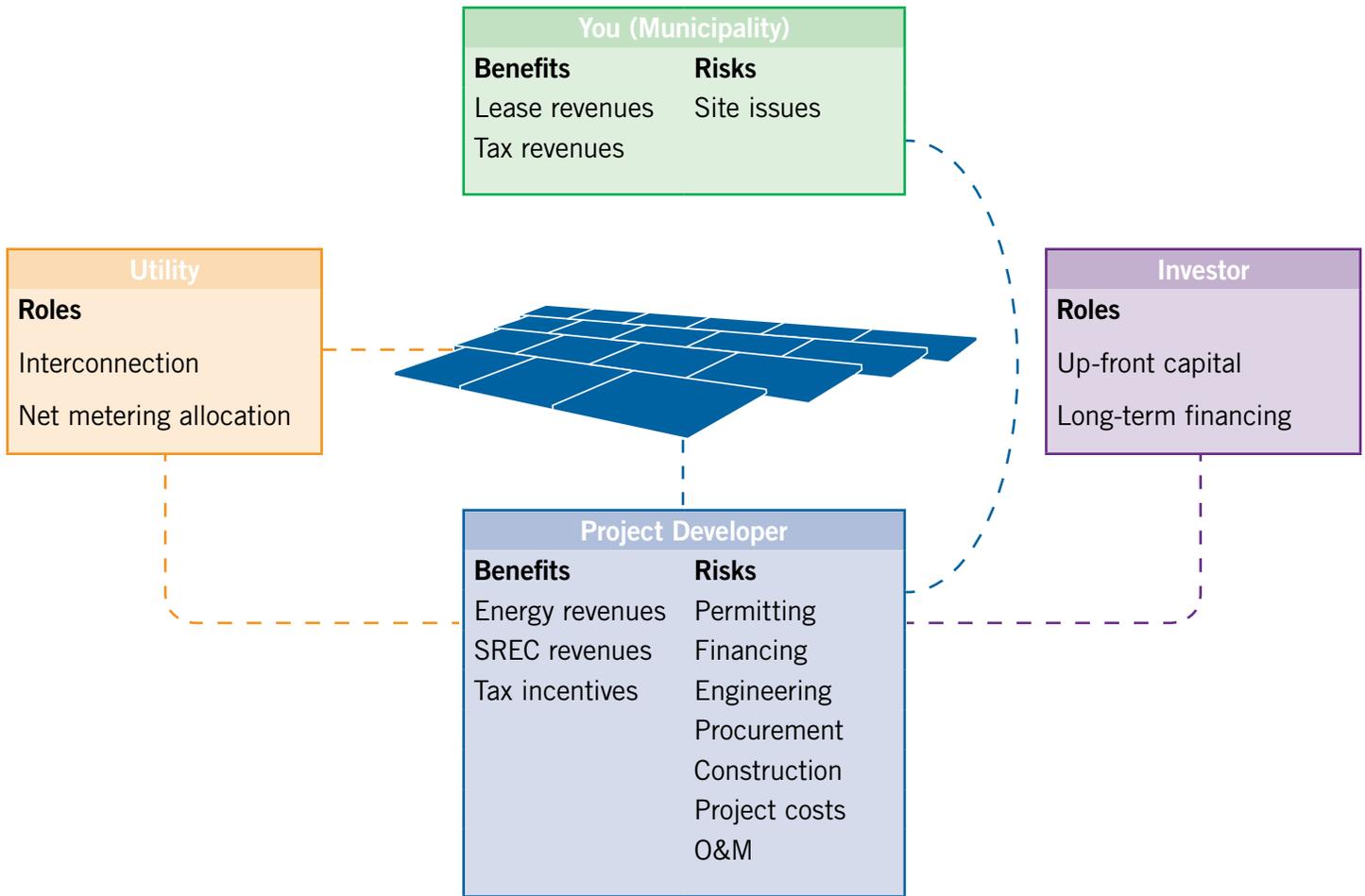
Land Lease

The land lease scenario is significantly different from the municipal ownership scenario, in that much of the risk and responsibility is shifted away from the municipality to the project developer/owner. In a land lease scenario, the municipality selects a vendor to design, finance, build, own, operate and maintain a system at a municipally owned site. The vendor is responsible for all aspects of project development, assumes all risks, and claims much of the project revenue. In exchange, the project developer/owner negotiates a land lease with the host municipality.

The value of the land lease may vary by developer and project site, so municipalities should expect this to be an important point of negotiation in the vendor RFP/selection phase. In some cases, a power purchase agreement may also be negotiated with the host municipality, separate from the lease payment, or the lease payment may be included as part of the PPA. If included as part of the PPA, then the negotiation over the price for electricity should contemplate the inclusion of that payment.

The risks and benefits of developing a land lease project are shown in Figure 8 on the following page.

Figure 8: Land Lease Model Benefits and Risks



Greater Lawrence Sanitary District: 441-kW Solar PV Array
(photo: Gregg Shupe)



Power Purchase Agreement and Credit Purchase Agreement

Power purchase agreements, or PPAs, are common contract instruments used in energy project development, and valid PPAs are typically critical to project financing. In this case, the solar PPA is a contract between a project owner and project host through which the project host, the municipality, buys the electricity generated by the PV array from the owner at a predetermined rate. From the perspective of the municipality, traditional PPAs provide a known and predictable price of power, with the goal of long-term savings. From the standpoint of the project owner, the PPA provides a fixed revenue stream to finance project development, installation, and operation. PPAs in Massachusetts can be used in both investor-owned utility and may be used in some municipal light territories.

The precise terms of a PPA are subject to negotiation. As an electricity end user, the municipality signs an agreement with the project developer to pay a specific rate for every kWh produced by the system. PPAs may incorporate a fixed price a fixed price with an agreed upon escalator, or a price that is indexed to the actual retail cost of electricity (from the utility) for a fixed period of time. Key variables impacting the PPA include the site's potential for energy production and the credit-worthiness of the off-taker.

The second type of structure, the net-metering Credit Purchase Agreement (CPA), is similar to a PPA but is newer to the Massachusetts market. CPA transactions are enabled by the Green Communities Act of 2008. As previously outlined, solar energy systems located

in investor owned utility territories are allowed to transfer the value of their energy production (on a per kWh basis, as determined by the utility rate) to certain other customers via net-metering credits. These CPA transactions can take a number of different forms. In some cases, they may resemble more conventional PPA structures (e.g., fixed price/fixed period), but they may also incorporate strategies such as a fixed discount for a fixed period of time (i.e., the generator transfers 100% of the value of net-metering credits to the end user, and the end user pays the generator 95% of that value, for a guaranteed savings of 5%). From the standpoint of the municipality, there can be significant advantages to pursuing a Credit Purchase

Agreement, including reduced public procurement burden (discussed in greater detail in Module #7), reduced risk (fixed discount with no downside risk), and higher flexibility.

Performance Based Revenue Via Power Purchase/Net Metering Credit Purchase Agreements

Solar PV revenue models based on PPAs or CPAs share a similar risk and benefit profile as the land lease structure outlined previously, but it is important to understand where they differ. A fixed lease payment provides no risk to the host municipality: the payment is made from the project owner to the host municipality whether the system operates or not. By contrast, revenue-based payment may fluctuate if the system produces more or less power in a given year. However, a revenue-based structure (PPA or CPA) provides additional financial incentive to the developer to maximize system production, which helps to increase savings for the host customer.

Power Purchase Agreements (PPAs) and Net Metering Credit Purchase Agreements (CPAs) are two structures used to capture revenue from energy projects.

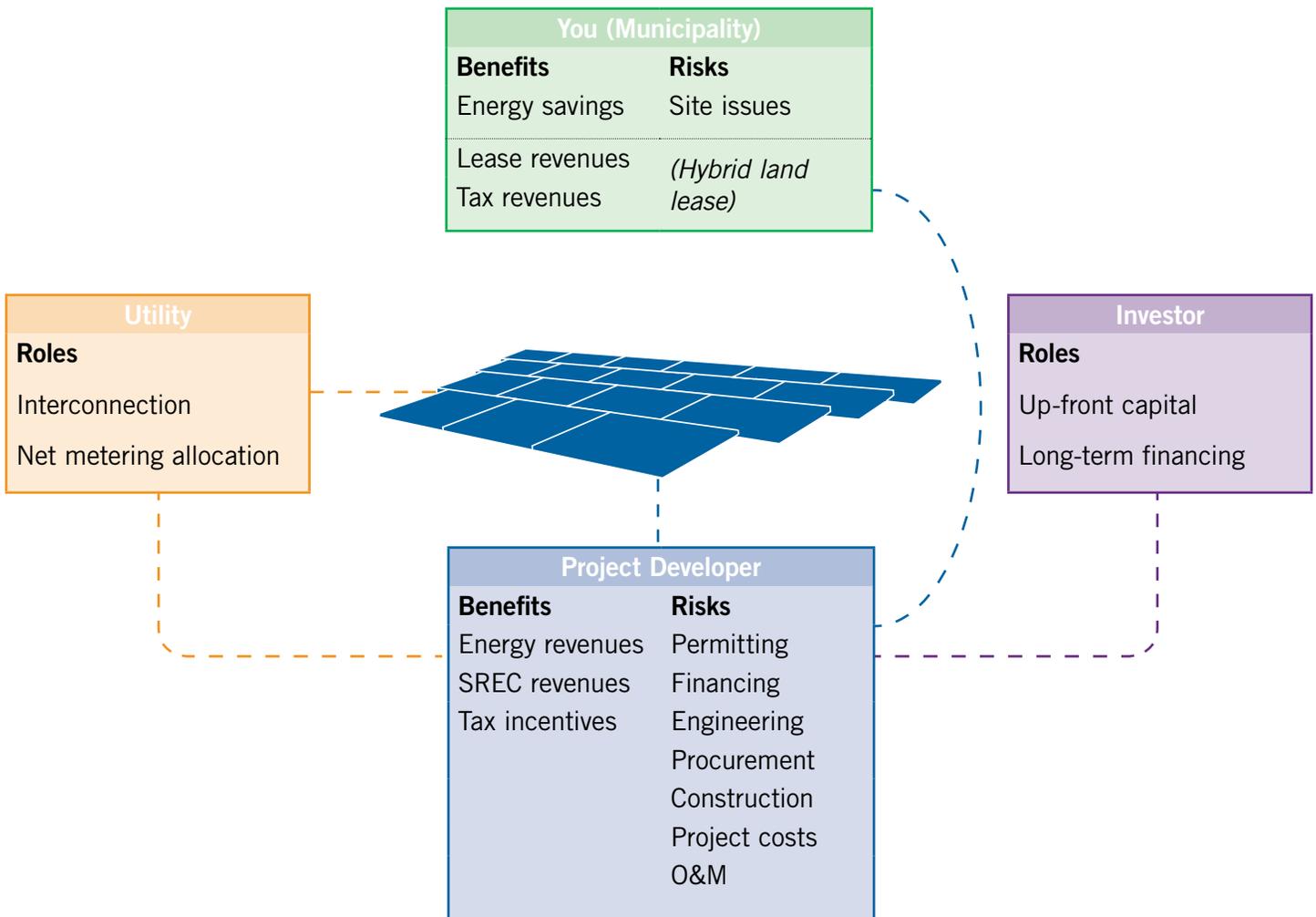
Hybrid Land Lease and CPA/PPA Revenue Structure

It is also important to note that a municipality may choose to negotiate a hybrid land lease and PPA/CPA structure. This type of project provides both guaranteed, low-risk revenue by way of a long-term land lease, and a performance based revenue stream that provides a hedge against long-term electricity prices.

This arrangement encourages the developer to design the system for long-term operation and adds value in the event of a system ownership change to the host municipality.

The risks and benefits of developing a power purchase / credit purchase style project are shown in Figure 9, below.

Figure 9: Power Purchase Agreement / Credit Purchase Agreement Model



Module #5: Development and Design Considerations

Careful consideration of site development and system design, from the initial planning phase straight through to the anticipated end-of-life for the project, is a prerequisite for the successful development and operation of large-scale solar PV projects. Failure to adequately address development and design concerns early in the project life cycle can result in unexpected costs, delays, underperformance, and lost revenue over the lifetime of the project.

What Else Do I Need to Know about Permitting?

The permitting process for any landfill construction project is inherently complex, due to the unique environmental concerns associated with such projects. A detailed list of the required permits, reviews and approvals, including estimated due dates, review periods, and expiration timeframes, should be developed and tracked throughout the project development process. This section summarizes the typical permits and approvals that are required for landfill-based solar PV projects in Massachusetts. Note that many of these permits and approvals have been highlighted in greater detail in Module #3.

Permitting Fees

In general, the permitting fees associated with landfill PV projects depend upon the size of the project. For example, building permit fees are often between 1.0% and 3.0% of the total costs of a project's eligible materials (i.e., permanent structures). Electrical permit fees are typically closer to 0.5% to 1.5% of the total cost of eligible materials (i.e., electrical components, including modules, inverters, and wiring). One exception is the MassDEP Post-Closure Use permit, which is subject to a fixed fee ("Minor": \$1,085; "Major": \$2,790) regardless of the project size. Fees for Requests for Determination of Applicability and Notices of Intent are determined by the local conservation commissions in the municipality where the site is located, and do vary. The costs in Table 2 are for illustrative purposes.

Table 2 highlights typical permitting costs for a sample 1-megawatt (MW) solar PV landfill project. The total installed project cost is assumed to be \$5,000,000, of which 5% of the total cost (\$250,000) is attributable to permanent structures, and 50% of the total cost (\$2,500,000) is attributable to electrical components.

Additional Permitting Details

MassDEP provides detailed guidelines for navigating the Post-Closure Use permitting process. The guidelines include an extensive list of required documentation, including: site plans, construction plans, storm water and erosion plans, stability analyses, utility infrastructure plans, monitoring and maintenance plans, and more. Complete requirements are available online at <http://www.mass.gov/dep/recycle/laws/lfpccguid.pdf>.

Massachusetts Environmental Policy Act (MEPA)

MEPA provides an opportunity for public review of potential environmental impacts from proposed projects that receive state financial support, or require one or more state permits or approvals and exceed specific regulatory thresholds.

If your community has received any state financial assistance for its renewable energy installation on a closed landfill, or the project is large enough to trigger one or more MEPA thresholds, you will need to file an Environmental Notification Form (ENF) with the MEPA Office. The thresholds most likely to apply are:

- » Direct alteration of 25 or more acres of land for anything other than accepted agricultural or forestry practices.
- » Creation of five or more acres of impervious area.
- » Alteration or disturbance of Priority Habitat or Estimated Habitat for one or more state-listed rare species of animals or plants. (See the separate discussion of the Natural Heritage and Endangered Species Program below.)
- » Location within a state-designated Area of Critical Environmental Concern (ACEC).

Table 2: Permitting Costs for Sample 1 MW Project (Total Cost: \$5,000,000)

MassDEP Post-Closure Use Permit (Major)	\$2,790
MEPA Environmental Notification Form	No charge
MassDEP Request for Determination of Applicability	\$300
MassDEP Notice of Intent	\$2,500
Building Permit (at 1.5%)	\$3,750
Electrical Permit (at 1%)	\$25,000
Total Permitting Fees	\$34,340+

- » Construction of a new electric generating facility with a capacity of 25 megawatts (MW) or more, or expansion of an existing facility by more than 25 MW.

The ENF will undergo public review and based on any comments received, the Secretary of Energy and Environmental Affairs may require avoidance, minimization or mitigation measures, or more in-depth study in the form of an Environmental Impact Report (EIR).

Even if your project does not trigger any of the thresholds above, there are other MEPA requirements that may apply, including:

- » If construction or expansion of the landfill was reviewed through the MEPA process and the facility was closed within five years of its most recent MEPA review, then you will need to file a Notice of Project Change with the MEPA Office for your post-closure use. If construction or expansion of the landfill was reviewed through the MEPA process and your project involves closing the landfill, then you may need to file a Notice of Project Change with the MEPA office for the closure and post-closure use.
- » Projects that affect nearby wetlands or require road construction or alteration exceeding specific thresholds also require MEPA review.

To learn more about the MEPA process or consult with state staff about how MEPA requirements or thresholds might apply to your project, visit: <http://www.env.state.ma.us/mepa/>

Massachusetts Natural Heritage & Endangered Species Program (NHESP)

Under the Massachusetts Endangered Species Act (MESA) and its implementing regulations, NHESP protects rare animal and plant species and their habitats. Specifically, NHESP reviews projects proposed within:

- » **Priority Habitats.** These are areas known to be populated by state-listed animal and/or plant species. Any project within a Priority Habitat is subject to NHESP regulatory review unless specifically exempt or “grandfathered.” You will need to file a MESA Project review Checklist, a project plan and description, a U.S. Geological Service (USGS) topographical map of the site, an assessor’s map, proof of ownership or authorization

for filing, photographs of the site, and a review fee based on acreage. NHESP will let you know within 30 days if your filing is complete, then will determine within the next 60 days – and often sooner – whether your project, as proposed, would result in a “take” of state-listed species. The vast majority of projects are allowed to proceed as proposed, while NHESP may require conditions

- » **Estimated Habitats.** These are a sub-set of Priority Habitats and are based on the geographical range of state-listed rare wetlands wildlife (not including plants). If your project is proposed within an Estimated Habitat and the local Conservation Commission requires you to file a Notice of Intent (NOI) under the Wetlands Protection Act, you will need to submit a copy of the NOI to NHESP. At the same time, you will also need to file for MESA review. You can do both concurrently through a streamlines NOI filing process. Within 30 days, NHESP will send its comments to the Conservation Commission, with copies to you, your consultants, and the Department of Environmental Protection (MassDEP).

Each atlas that NHESP develops to delineate Priority and/or Estimated Habitats is based on local observations of rare animals and plants within the last 25 years. To ensure adequate protection of rare species, NHESP does not disclose their exact locations.

Priority and/or Estimated Habitat maps are available through an interactive web viewer (see link below). In addition, NHESP provides maps of communities containing Priority and/or Estimated Habitats to local conservation commissions, building inspectors and planning boards.

NHESP encourages you to schedule a pre-filing consultation with its staff. You may also submit a MESA Information Request Form to learn more about rare species known to occur in and around your site. Communication early in the project development phase will help you avoid potential project changes and delays later on, and most likely will save you time and money in the long run.

Learn more about the NHESP review process and download a MESA Information Request Form:
http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/ mesa/ mesa_home.htm

Use the Priority and Estimated Habitat Interactive Web Viewer:
http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/ priority_habitat/online_viewer.htm

Review lists of rare animal and plant species in Massachusetts:
http://www.mass.gov/dfwele/dfw/nhesp/species_info/ mesa_list/ mesa_list.htm

Wetlands

As with the Environmental Notification Form, a Wetlands Protection Act Request for Determination of Applicability requires that site plans, project plans and project descriptions be submitted to the local conservation commission where the project is located. The applicant is responsible for publishing a public notification of the Request in newspaper(s) circulated in the municipality(ies) affected by the project. Instructions and forms are available online at <http://www.mass.gov/dep/water/approvals/wpaform1.pdf> with fee schedules available from the local conservation commissions.

Local Permits

Requirements for building and electrical permits vary by municipality. Municipal officials are encouraged to consult with the local building department and any other relevant departments to review these requirements prior to issuing construction RFP bid documents.

Is Zoning an Issue?

The municipality in which the project site resides will have a Table of Use Regulations that specifies approved land uses by zoning district. Depending upon the uses approved for a landfill's zoning district, a large-scale solar PV project may or may not be deemed an acceptable use of the land parcel. If the project does not qualify under the range of permissible uses, a special permit may be required, adding a review by the local Zoning Board of Appeals or Planning Board. Solar PV projects may also be permissible under the Chapter 40A Section 3 zoning exemption for solar energy facilities. Municipalities that have been designated as "Green Communities" may have as-of-right siting for solar PV projects. For a list of Green Communities, see

<http://www.mass.gov/energy/greencommunities>.

A copy of the Commonwealth's Model As-of-Right Zoning Bylaw is online at: <http://www.mass.gov/eea/docs/doer/green-communities/grant-program/solar-model-bylaw-mar-2012.pdf>.

Interconnection

The ability to connect a solar PV system to the electric grid and the associated cost of doing so can have a significant impact on project economics. Distributed generation projects, such as solar and wind systems located on landfills, must be reviewed by the local distribution utility to determine the technical viability of connecting the project to the grid. Key considerations of the utility include:

- » Voltage of nearby electric distribution lines
- » Presence of single phase vs. three phase power
- » Electricity usage of nearby end-users connected to the distribution grid
- » Nearby electricity generators that are connected to the distribution grid
- » Proximity to substations and other utility-owned hardware
- » Distance to and cost of upgrading distribution lines to handle proposed project

All of the costs associated with interconnecting a renewable energy facility to the distribution grid will be borne by the project itself. As such, it is important to understand at an early project stage the technical feasibility of interconnecting to the grid and the costs associated with that interconnection.

Separately, the voltage rating for a distribution line may dictate the maximum project size that can cost-effectively be installed in a given location. In Massachusetts, a rule of thumb is that a 5 kV transmission line can support only a few hundred kW of intermittent renewable generation capacity. The next step up, a 13 kV line, can typically only support up to 3 MW of renewable generation capacity. A 23 kV line may be able to support up to 6 MW of renewable generation capacity, depending on other variables. Determining the voltage of the power lines near the site will be important to understanding a potential limiting factor to system size – the line voltage. The carrying capacity of a line also includes other generators that may be using the line. For instance, if another nearby

Proximity to adequate transmission and distribution infrastructure is a primary consideration for project success, and needs to be evaluated early in the development process.

project has already applied to the utility for interconnection, they are given first rights to that carrying capacity, further limiting the maximum system size at a project site. Finally, it is worth noting that the interconnection of

a large scale solar array will require three-phase power.

In most cases, distribution lines can be upgraded and improved, but it is important to emphasize that those costs would be incurred by the project, and not the utility.

All investor-owned utilities in Massachusetts (which include: National Grid, NSTAR, Western Massachusetts Electric, and Unitil) are required to adhere to the Department of Public Utilities' (DPU) Utility Interconnection Tariff, which outlines a uniform process for seeking approval to connect DG facilities (e.g. solar PV) to the utility grid. The Massachusetts Department of Energy Resources (DOER) maintains a centralized resource for information on DG and interconnection, available online at <http://sites.google.com/site/masssdgic/>.

Municipal Light Departments (MLPs) are not required to participate under the DPU tariff, but they may have their own interconnection process in place. If the project site resides in MLP territory, consult with the utility to determine if an interconnection process exists, or, if not, if one is under development.

What Should I Be Looking for in System Design?

Finding suitable project sites represents just a portion of what is required to successfully develop and build large-scale solar PV projects. Of equal importance is the solar PV system itself, which must be carefully designed to provide reliable power output year after year for the entire life of the project—typically 30 years or more. This is of particular importance to the entity that will be relying upon revenues from system electricity and SREC production in the initial years, and it will also be important in the event of an ownership change in the project's later years.

Forecasting system production is of critical importance to solar PV system economics. Due to the long design life of a solar PV system, year-to-year performance estimates should be calculated to address long-term variables that may impact production, such as solar module power degradation and vegetation growth, so that you can understand system performance in both the short-term and long-term, and understand the value of the system's production in future years.

A qualified solar designer should be able to provide a performance estimate at the P_{50} level and the P_{90} level, which will be important to potential project financiers. P_{50} indicates an estimated level of power production that the system should exceed at least 50% of the time on an annual basis. P_{90} indicates an annual power production estimate that the system should exceed 90% of the time.

Module #6: What Is the Project Cost Profile?

When deciding to pursue a large-scale solar energy project, it is important to understand the nature of the costs involved, independent of the project development structure. The following section outlines the typical costs incurred during the development, installation, and operation phases of a large-scale solar PV project. These costs are current through 2011, and may change over time.

Design and Engineering

Design and engineering is a term used broadly to represent a host of project-related tasks. Some of the work performed during the design and engineering phase includes:

- » Site feasibility
- » Conceptual design
- » Interconnection management
- » Wetlands delineation
- » Permitting support
- » Buildable design
- » High voltage design
- » System cost estimating
- » System performance estimating
- » System optimization
- » Equipment selection

Design and engineering costs can vary significantly depending on site-specific conditions and system size, but is generally in the \$0.05/Watt to \$0.15/Watt range.

Permitting

As highlighted in Module #5, permitting requirements and expectations vary by municipality, and may or may not include a requirement to pursue a MassDEP capped landfill permit. Outside of the scope of design document preparation, permitting costs are often incurred on a time and materials basis. The permitting expenditures for a particular project are impacted by the size of the project, proximity to wetlands and floodplains, the required permits, the number of meetings attended in support of permit applications, and related tasks. The labor costs associated with permitting can represent a wide range, but developers typically plan for a range

of costs between \$0.05/Watt to \$0.15/Watt. This cost range does not include the cost of permitting fees, outlined in greater detail in Module #5.

Interconnection

Interconnection costs are typically incurred at three points in the project development process:

- » Application submission
- » System impact study (SIS)
- » System installation

For large-scale PV projects, utilities typically request an application fee of \$2,500 per meter at the time an initial interconnection application is filed.

Assuming that the utility identifies no major fatal flaws, the next step is a system impact study (SIS), to be performed by the utility and its consultants. The SIS may have a cost of \$25,000-\$100,000, depending on project size. The system impact study allows the utility to determine the feasibility of installing the proposed solar PV system on its distribution network. Included within the scope of the SIS is an assessment of the infrastructure upgrades potentially required to interconnect the system and the construction costs associated with those upgrades. Interconnection costs are borne by the project developer in the PPA model and by the municipality in the municipal ownership model.

The final cost of interconnection will depend on the equipment needed to interconnect the project. The cost of line upgrades (e.g. single phase to three phase power), reclosers, transfer trips, and other hardware needed to ensure the safety of the grid and of the project, will be borne by the project. The final cost of these upgrades may be between \$100,000 and \$2M (or more). A reasonable estimate of these costs is provided after the system impact study is performed to assess the ability of the transmission infrastructure to support the project.

Construction and Equipment

Construction costs are critical to the financial viability of a project. Some key construction costs include:

- » Modules
- » Inverters
- » Mounting
- » Installation labor
- » Site work
- » Road construction
- » Low voltage equipment
- » High voltage equipment
- » Conduit and conductors
- » Equipment rentals/storage/etc.
- » Security fence
- » Monitoring hardware

Construction costs can vary for a number of reasons. Decisions about technology and manufacturer selection, which take variables like quality and location into account, can often have significant impacts upon pricing. This is particularly true for major system components, such as panels, inverters, and mounting system. In addition, Massachusetts prevailing wage provisions may need to be considered.

The construction costs for a typical project will vary based on site-specific conditions. Excluding design, engineering, interconnection, permitting, and other items listed above, typical pricing is between \$3.25/Watt and \$4.50/Watt for a MW-scale PV project built in Massachusetts.

Operations & Maintenance

After a project has been constructed, an O&M agreement provides long-term assurance that the solar PV system will perform at an acceptable level over time. Typical pricing for an O&M agreement on a MW scale array is likely to fall between \$0.0125/Watt and \$0.025/Watt per year in the first 1-10 years of system operation. The cost of an O&M agreement may increase in years 10-25 of system operation. The higher end of the O&M range is likely to include features like system monitoring, as discussed below. Operations and Maintenance will be highlighted in greater detail in Module #8. These costs are borne by the developer in the PPA/CPA model and by the municipality in the self-ownership model.

System Monitoring

System monitoring provides assurance that the solar PV system is performing in accordance with its design specifications. System monitoring relies on a Data Acquisition System, or DAS. A DAS is a computer that monitors system production and notifies appropriate users when the system is not performing as expected so that a technical team can be dispatched. The long-term cost of monitoring varies by system, but is typically \$0.01/Watt to \$0.013/Watt per year. System monitoring will be described more fully in Module #8.

Insurance

For projects in the MW scale size range, system insurance is mandated by the utility, and is typically required by most financiers. Municipalities are allowed to self-insure, which removes this obligation. However, in the event that the system is to be built, owned, and maintained by a third-party, there may be insurance costs. Typical insurance premiums are between \$0.0075/Watt to \$0.0125/Watt per year.

Local Taxation

The following section on local property taxation applies only to development models in which the municipality is not the sole system owner.

General Property Tax

Most large-scale solar projects installed on governmentally owned landfills by third-party, for-profit entities, are subject to local property taxes. Property taxes in those cases are assessed by the municipality directly to the lessee, under M.G.L. c. 59, §2B. The solar property will either be assessed as personal property or as part of the real estate upon which it is sited, depending on the particular configuration of the array. If the array is specifically designed for the parcel, likely to remain on the parcel for its useful life, or significantly attached to the real estate it will be assessed as part of the realty. If the array is easily movable and panels may be swapped out periodically or transferred to a different site, it may be taxable as personal property. Concrete slabs or other foundations and structures would still be taxed as part of the real estate to the user, occupant or lessee of the real estate. Whether assessed as personal property or as part of the real estate, the tax rate for the property would be the same; i.e. at the municipality's single tax rate, or at

the commercial tax rate if the municipality has a split rate, since the property would be used commercially to produce electricity. Tax rates will vary by municipality. In any event, the local board of assessors should be consulted during the project development phase.

Although M.G.L. ch. 59 §5 (45) provides a property tax exemption for solar and wind energy systems, this exemption applies only to projects that are “being utilized as a primary or auxiliary power system for the purpose of heating or otherwise supplying the energy needs of property taxable” under chapter 59. The Department of Revenue’s Division of Local Services has interpreted this provision as requiring the use of the energy produced at or near the site of the taxable property and the exemption does not apply if energy is sold to the grid. For most landfill projects, there is limited onsite load for a solar energy project to serve, likely negating the property tax exemption.

Payment in Lieu of Taxes

According to M.G.L. c. 59, §38H(b), a Payment in Lieu of Tax, or PILOT, may be negotiated as a reasonable alternative to the property tax outlined above, if the owner is a generation company or wholesale generation company. See M.G.L. c. 164, §1 Definitions. A PILOT is a formal agreement between the municipality and a developer based on good faith negotiations, in which both sides agree to a valuation or tax payment structure and PILOT term which reasonably approximates what the taxes would be over the term of the agreement. PILOT payments are treated as property taxes for Proposition 2 ½ and tax classification purposes. They are subject to the municipality’s levy limit, and the values on which the payments are based are used to calculate its levy ceiling and minimum residential factor. PILOT agreements can be advantageous, providing the project developer/owner with a known and predictable payment stream (not subject to changing real estate or commodities pricing) and the host municipality with a similarly predictable revenue stream. Well-structured PILOT payments may allow both parties to achieve their own project-related goals over the project lifetime.

Tax Increment Financing

For municipalities that designate an area as having potential for the development of a Class I Renewable Portfolio Standard-eligible energy generating source, and have the area approved as an Economic

Opportunity Area and an Economic Target Area by the Economic Assistance Coordinating Council, the developer and the municipality may be able to negotiate a Tax Increment Finance (TIF) agreement. See MGL c. 40, Section 59, MGL c. 23A, Section 3D(a)(ii)(K) & MGL c. 25A, Section 11F, and 402 CMR 2.00 for more information. TIF agreements can reduce taxation of the system up to the full amount of the personal property located at the site and the incremental added value to the real estate for up to 20 years (5 years is the minimum) in exchange for providing specific benefits to the community. If a municipality is not already located in an Economic Target Area or cannot qualify to become one, the Undersecretary of Business Development would need to approve the project as being an “Exceptional Opportunity” for increased economic development in order for the company to pursue a TIF from the municipality. All TIFs must be approved by the Economic Assistance Coordinating Council. In addition, the municipality will need to formally approve the TIF by town meeting or other municipal legislative body. A TIF can be used in tandem with a PILOT to help offset the property tax burden on a project while providing alternative benefits to the municipality.

For further questions on local taxation and PILOTS contact the Massachusetts Department of Revenue at 617-626-2400 (Local Officials Only). For questions on TIFs, contact the Massachusetts Office of Business Development at 617-973-8534.

Module #7: How Do We Manage the Procurement Process?

Hosting a renewable energy project can provide real and tangible financial benefits to a municipality. Depending on the desired project structure and intended revenue sources, a municipality may need to use one or more specific sections of Massachusetts General Laws (M.G.L.) to manage the procurement. This section highlights the major procurement types and their applicable uses for a solar PV project. The following section provides the authors' interpretation of Massachusetts General Laws at the time of drafting, and should not be considered legal advice. Please consult your municipality's attorney to identify the proper methodology for your procurement situation.

What Does a Complete and Thorough Solicitation Include?

An advertised, competitive solicitation should be used for each phase of procurement as required by law and otherwise as a best practice. The solicitation should be carefully written to articulate the goals of the host municipality. Whether the goal of procurement is to select an owner's engineer, a designer, a designer and builder, or to enter into a Power Purchase Agreement (PPA)/ Credit Purchase Agreement (CPA), a well-written solicitation will help support project success. Thorough solicitations should include, as a minimum, the following:

- » Clearly articulated project goals
- » Realistic timeframes and development expectations
- » Evaluation and selection criteria
- » Available project details, including site analysis (size, space, location of interconnection, etc.) and site plan with boundaries and ownership information
- » Indication of how the proposed project complies with Massachusetts procurement law
- » Clearly articulated expectations on property tax and other costs to a developer
- » Inclusions and exclusions

- » Methodology by which proposal prices/revenues will be evaluated
- » Performance guarantees, if applicable
- » Draft Power Purchase Agreement, if applicable; caution should be used with any draft agreement provided by a potential developer
- » Time of performance and liquidated damages provisions
- » Transfer of ownership provisions, if applicable
- » Decommissioning provisions, if applicable

How Do I Select the Right Vendor for My Project?

Selecting the right vendor is a key element of project success. A qualified vendor should be experienced with solar energy and understand the key elements of the Massachusetts market. Important considerations during the solicitation review and follow-up interview phase include the vendor's:

- » Qualifications and experience, including certifications
- » Available personnel / capacity
- » Performance of record on similar projects
- » Installed capacity
- » Understanding of and experience with landfill specific design and construction issues
- » Customer references
- » Division of Capital Asset Management (DCAM) certification and score, if applicable
- » Project understanding
- » Thoroughness of proposal
- » Price proposal and/or analysis of costs and revenues
- » Massachusetts market knowledge
- » Technical capability
- » Ability to secure financing required to complete the project

Municipalities should carefully consider these and other criteria in reviewing solicitation responses. Multiple projects in Massachusetts have failed to move from the development phase to construction because municipalities were not convinced of a firm’s ability to offer a realistic price or complete the project within a realistic timeframe. Other projects have not come to fruition after a developer selection because the developer was unable to secure financing. Throughout the procurement process, municipalities need to be tuned in to not only the potential revenues that a project will bring to the host community, but also the ability of the proposer to fully develop, finance, install, and (if applicable) operate the proposed system for the entire life of the project.

Which Procurement Process Is Right for My Municipality?

The public law that applies to the procurement of a solar PV system on your jurisdiction’s landfill must be determined carefully. Your legal counsel should be consulted, and you may have to seek advice from state oversight agencies, principally the Inspector General’s Office, the Attorney General’s Office, and the Department of Energy Resources (DOER). You may want to obtain professional expertise to assist with the procurement process. The procurement of a professional expert may be subject to Chapter 30B.

For many of the development structures outlined in this guidebook, municipalities may be deciding between Chapter 25A, §§11C or 11I; Chapter 30B, §16; Chapter 149A, §§14-21; or M.G.L. c.164, §143(d) of the Massachusetts General Laws. In deciding which procurement method is most appropriate, each municipality must determine the option that best fits their situation, and procurements must adhere to Massachusetts General Laws.

More than one chapter may apply. If so, In order to determine which chapter is most beneficial, it is important to:

- » Determine the goals and objectives of the solar landfill project;
- » Enlist project, procurement, legal, and finance experts;
- » Evaluate the procurement options, along with the advantages and disadvantages of each, relative to the project goals and resources;
- » Seek assistance from the appropriate state agencies; and,
- » Seek model solicitation documents and follow best practices.

Table 3 outlines the different procurement options.

Table 3: Procurement Options						
	Chapter 25A, §§11C or 11I	Chapter 30B, §16	Chapter 149A, §§14-21	Chapter 30, §39M	Chapter 164, §143(d) (allows procurement of equipment and services using Chapter 30B)	Chapter 30B §§1(b)(32) and (33)
Municipally owned solar PV system, <\$5M	✓			✓	✓ (if <10 MW)	
Municipally owned solar PV system, ≥\$5M	✓		✓	✓	✓ (if <10 MW)	
Land Lease		✓				
Land Lease w/PPA or CPA	✓	✓				
PPA / CPA only						✓

Chapter 25A, §11C or §11I

Chapter 25A provides for procurement of energy management services and can apply to any of the development scenarios outlined in this guidebook. Section 11C and Section 11I apply both to projects to be built and owned by the municipality, and to third-party owned projects. Section 11C is a RFP process; whereas Section 11I a RFQ process. Both Section 11C and Section 11I are one-step processes, meaning the municipality issues one single RFP or RFQ for design-build services.

Procurements under Chapter 25A have very specific requirements that are detailed in the online instructions and guidance. Many communities have issued RFPs and RFQs for renewable energy specific services. The DOER posts model documents on its website.

The primary difference between the two is that an RFP process under Section 11C includes price as an evaluation criteria. It is possible to choose a company that is not the lowest bidder, but the selection process and criteria must be explained in the RFP. Section 11I is an RFQ process that allows a municipality to review proposals through an evaluation based on bidder qualifications and experience only. It should be noted that under Section 11I, a municipality may consider the compensation to be paid under the contract only during negotiations conducted once an apparent winning bidder (determined to be most qualified) has been identified. Table 4 provides a summary of the minimum requirements for evaluating proposals under the two different sections.

Both Sections 11C and 11I require that the municipality provide DOER with documentation of the solicitation as part of DOER's review process.

There are several advantages to using Chapter 25A, several of which have already been noted. Municipalities can streamline design and installation services through a single RFP or RFQ for design-build services. In addition, Chapter 25A can be used for all ownership scenarios, municipally-owned as well as third-party owned projects as part of a PPA or CPA. Third-party owned projects may not require any upfront capital costs and the developer/owner is responsible for financing, permitting, installation, operations and maintenance easing the burden on the municipality. Finally, Chapter 25A requires a performance guarantee. This means that over the life of the solar PV system, each year the installation must provide a minimum

amount of electricity generation as specified in the contract. Although other procurement paths may provide for design-build or for multiple ownership scenarios, the performance guarantee is unique to Chapter 25A. Chapter 25A can be use for ground-mounted or roof-top projects.

Chapter 30B, §16

Municipalities that seek to enter into a land lease with a third-party developer would likely manage procurement via Chapter 30B, §16, which is applicable to the purchase, sale, lease, or rental of landfills and other real property (including interests in real property). This chapter could also be used if a municipality wants to sell its property to a third party developer.

Chapter 149A, §§14-21

Chapter 149A, §§14-21, is an option that allows the use of the design-build alternative construction method for projects that are expected to cost \$5 million or more. Chapter 149A, §§14-21 may be one of the procurement tools available to municipalities that plan to build and own a renewable energy project. Chapter 149A, §§14-21 is a two-step process, with an RFQ phase and RFP phase.

Chapter 30, §39M

Chapter 30, §39M is another procurement tool available to municipalities that plan to build and own a solar PV project. Chapter 30, §39M governs all contracts for construction, reconstruction, alteration, remodeling, or repair that do not include work on a building when the estimated cost of the contract exceeds \$10,000. These contracts generally fall into the category of public works projects, or "horizontal construction" projects. Public works projects include not only the construction and repair of roads, bridges, water mains, sewers, and the like, but also work on improvements to public land such as landfills.

Although you are not legally required to conduct an advertised competition for Chapter 30, §39M public works design contracts, we recommend that you do so for construction projects estimated to cost more than \$100,000. The RFP process outlined in M.G.L. c.30B is a good model to adopt in developing competitive procurement procedures for a public works design contract.

Table 4: Minimum Evaluation Criteria

Chapter 25A, § 11 C	Chapter 25A, § 11I
<ol style="list-style-type: none"> 1. DOER Certificate of Compliance; 2. Total project price; 3. Estimated savings/production; 4. Price data; 5. Criteria on which responses will be evaluated; 6. References of other energy savings contracts performed by the qualified providers; 7. The certificate of eligibility and update statement provided by the qualified providers; 8. Methodology of determining energy savings; 9. General reputation and performance capabilities of the qualified providers; 10. Substantial conformity with the specifications and other conditions set forth in the request for proposal; 11. Time specified in the proposal for the performance of the contract; and any other factors the public agency considers reasonable and appropriate, which factors shall be made a matter of record. 	<ol style="list-style-type: none"> 1. DOER Certificate of Compliance; 2. References of other energy savings contracts performed by the qualified providers; 3. The certificate of eligibility and update statement provided by the qualified providers; 4. Criteria on which responses will be evaluated; 5. Quality of the products proposed; 6. Methodology of determining energy savings; 7. General reputation and performance capabilities of the qualified providers; 8. Substantial conformity with the specifications and other conditions set forth in the request for qualifications; 9. Time specified in the qualifications for the performance of the contract; and any other factors the public agency considers reasonable and appropriate, which factors shall be made a matter of record.

Chapter 164, §143(d)

The Green Communities Act, Chapter 169 of the Acts of 2008, also amended M.G.L Chapter 164 by inserting Section 143(d) which allows municipalities to design, install, own, and operate a “small municipal renewable energy generating facility”, which could include a solar landfill project of up to 10 megawatts, and to procure design and installation services using Chapter 30B. Section 143(d) provides as follows:

A municipality shall procure services required for the design, installation, improvement, repair and operation of small municipal renewable energy generating facilities authorized under this section, and acquire any equipment necessary in connection therewith, in accordance with the procurement requirements of Chapter 30B as applicable. A municipality may procure any such services and equipment together as one procurement or as separate procurements thereunder.

For contracts of \$25,000 or more, M.G.L. c 30B requires a formal advertised competition by issuing an invitation for bids (IFB) or an RFP. In a bid process pursuant to M.G.L. c 30B, §5, the contract is awarded to the qualified bidder who meets the specifications and offers the best price. In a proposal process pursuant to M.G.L. c30B, §6, the contract is awarded to the offeror submitting the most advantageous proposal, taking into consideration specified evaluation criteria as well as price.

The advantage of using M.G.L. c 30B, §6 is that it allows a municipality to weigh evaluation criteria before looking at the prices. First, since installation of solar on a landfill is a complex process, the proposers’ experience, qualifications, and if required, a proposed plan for providing the supplies and services can be evaluated on their relative merits. The most advantageous proposal is selected after price proposals are considered. The RFP process may not always result in the selection of the proposer offering the lowest price.

To assist you in selecting the applicable procurement law for your project, Table 5 is provided for your reference.

Chapter 30B, §§1(b)(32) and (33)

A municipality may also be purchasing electricity from a vendor that builds a solar PV system on your landfill.¹ Chapter 30B, §§1(b)(32) and 1(b)(33), exemptions allow municipalities to enter into agreements for energy without using the 30B procurement process. Chapter 30B §1(b)(32) exempts energy aggregation contracts entered into by municipalities for energy and energy-related services. Chapter 30B §1(b)(33) exempts energy contracts entered into by municipalities for energy and energy related services, provided that certain reporting requirements are met. Specifically, within 15 days of contract execution, a municipality must forward a copy of any electricity or natural gas contract to which it is a party and a report of the process used to execute the contract to the Department of Public Utilities, the Department of Energy Resources, and the Office of the Inspector General.

The Office of the Inspector General interprets the term “energy,” which is not defined in any applicable statute, to apply only to electricity and natural gas commodity contracts. Contracts for fuel sources other than natural gas, such as gasoline, fuel oil and propane, are all supply contracts that must be competitively procured.

It is important to add that when pursuing a rooftop mounted system (as opposed to ground-mounted on a landfill) using a third party developer, various aspects of the public construction laws, including items like prevailing wage, may be implicated and your counsel as well as the Attorney General’s office should be consulted.

Prevailing Wage

Some of the project types defined in this guidebook may trigger prevailing wage requirements. In Massachusetts, the Department of Labor Standards (DLS) oversees the Prevailing Wage Program through its Division of Occupational Safety. The Division issues prevailing wage schedules to cities, towns, counties, districts, authorities, and agencies of the Commonwealth for construction projects and several other types of public work.

1. Although the focus of this Guide is solar PV systems on landfills, the Chapter 30B energy exemptions also apply to the purchase of electricity from a vendor that builds a solar PV system on your building.

These prevailing wage schedules contain hourly wage rates that workers must receive when working on a public project.

Developers would need to meet obligations of the prevailing wage program for projects to be owned by a municipality, and for projects that are paying a land lease to the municipality. This requirement should be included in the procurement as appropriate.

As noted in Table 5, different agencies provide guidance and oversight for different procurement laws. The Chapter 30B Manual published by the Office of the Inspector General is available at <http://www.mass.gov/ig/publ/30bmanl.pdf>. Questions regarding Chapter 30B should be directed to the Inspector General’s Office which oversees procurement under that chapter. For additional questions on Chapter 30B, please call the Attorney-of-the-day at 617-722-8838. The Inspector General’s manual on Designing and Constructing Public Facilities is available at <http://www.mass.gov/ig/publ/dcmanual.pdf>.

DOER oversees the Chapter 25A procurement process. Guidance is available at http://www.mass.gov/green/energy-management-services_public-procurement. Questions regarding Chapter 25A should be directed to DOER. For more questions on procurement under Chapter 25A, please contact Eileen McHugh, eileen.mchugh@state.ma.us or at 617-626-7305.

The Attorney General’s Office provides oversight for M.G.L. c. 30, §39M, and Chapter 149A. For further question on these procurements, please contact the Attorney General’s Office, Deborah Anderson, Esq. at 617-727-2200 ext 2371 or Brian O’Donnell, Esq. at 617-727-2200 ext 2340.

For further questions on prevailing wage, contact Patricia DeAngelis, Esq. at the Department of Labor Standards at Patricia.DeAngelis@state.ma.us, (617) 626-6976.

Table 5: Procurement of Solar Photovoltaic Panels on Landfills – Laws

Law	Comments	Procurement Oversight
M.G.L. c.25A, §§11C or 11I	Chapter 25A is an alternative method of construction delivery that contains provisions for procuring contracts for energy management services, a program of services that includes energy conservation projects, defined as “projects to promote energy conservation.” Chapter 25A, §§11C or 11I may be used for energy conservation projects involving on-site electrical generation equipment using new renewable generating systems. These sections of the law provide for a public owner to conduct one procurement process for design and construction, and if the awarding authority is seeking a third-party developer the sections provide for one procurement process for leasing the land and obtaining the design and construction.	Department of Energy Resources
M.G.L. c.30B, §16	Chapter 30B §16 applies to the purchase, sale, lease, or rental of real property (including interests in real property). It establishes an advertised proposal process that you must follow in acquiring real property by purchase or rental with a cost greater than \$25,000, and in disposing real property by sale or rental with a value greater than \$25,000. Chapter 30B has additional requirements for the disposition of real property, regardless of its value.	Inspector General’s Office
M.G.L. c.149A, §§14-21	An option that applies to the construction, reconstruction, alteration, remodeling or repair of a public works project estimated to cost not less than \$5,000,000. The law provides for a public jurisdiction to conduct a two-phase procurement to obtain a design build firm.	Inspector General’s Office and Attorney General’s Office
M.G.L. c.30, §39M	Chapter 30, §39M governs contracts for the construction, reconstruction, alteration, remodeling, or repair of a public work estimated to cost more than \$10,000 that does not include work on a building. This can be used when a public entity is seeking to have a renewable energy facility built for its use.	Attorney General’s Office
M.G.L. c.164 §143(d)	Requires that a local governmental body procure any services required for the design, installation, improvement, repair and operation of small municipal renewable energy generating facilities (<10MW), and acquire any equipment necessary in connection therewith, in accordance with the procurement requirements of Chapter 30B §§5 and 6. A municipality may procure any such services and equipment together as one procurement or as separate procurements. This law provides the flexibility of Chapter 30B with regard to the procurement process and would allow for one procurement process for both design and construction of a project. Please consult with the Office of the Inspector General to see if other procurement rules apply.	Inspector General’s Office

Module #8: What About Long-term System Management?

Revenue streams from a solar PV project are accrued over a project lifetime that may span 30 years or more, monitoring and maintaining system performance is a vital function over the lifetime of the system. The following module outlines some of the key considerations for ensuring long-term system operation, and highlights some planning considerations for municipalities that may take ownership of the system at some point.

Operations & Maintenance

A system's operations and maintenance (O&M) plan will depend on the development structure utilized for project installation. If a system was built and is owned by a municipality, the municipality should enter into an O&M agreement with the project developer or a qualified solar system maintenance company. The O&M agreement should include items like regular site/hardware inspections, warranty management, ongoing system monitoring, and on-call service/repairs. Optional items may include site clearing/mowing, panel cleaning, and tree-trimming, as needed. A typical O&M agreement will not include a production/performance guarantee.

In a land lease, PPA or similar structure, the municipality will not need O&M agreement, as risk associated with system performance is borne by the project owner. The project owner is incentivized to ensure that the systems is performing and being maintained at an optimal level and will perform O&M accordingly.

Boston Properties: 110-kW Solar PV Array
(photo: Nexamp)



Equipment Warranty

Equipment selection is a key element of long-term system management. When selecting system components you will want to select quality materials with a strong warranty. As outlined in Module #1, each of the primary components (modules, inverters, and mounting) has its own warranty. Typical warranties for major system components span 5-25 years. A workmanship warranty from the installer should be for at least 5 years. Extended warranties are often available at an additional cost, particularly for inverters. If there is an O&M agreement, it should require both that the O&M provider is trained in maintaining those warranties, and that the provider is responsible for equipment repairs and as well as the installation of replacement hardware.

Monitoring

Monitoring equipment enables developers, owners, and O&M providers to ensure system functionality over time. A Data Acquisition System, or DAS, is a computer-based hardware system that can be used to monitor system production at the project level, the inverter level, or at the string (PV module grouping) level. A string is an individual group of modules wired in series to achieve a certain voltage threshold. Each deeper level of monitoring comes with a higher cost, but provides greater assurance that systems are functioning as expected. Many monitoring systems also allow for real-time alerts when systems stop working. Systems larger than 10 kW are required to include a DAS so that it can automatically report production data to the Production Tracking System as a requirement for generation SRECs.

In practice, a monitoring system may respond to a system fault in the following manner. A DAS that is monitoring production for an inverter for a large-scale array finds that the system is not producing power as expected. The DAS will automatically send an alert email to the system owner and the O&M provider. The O&M provider is then able to dispatch a team to the site within 24 hours to identify the cause of the malfunction and to remedy the problem.

End of Life

Large-scale energy project developers and owners need to consider what happens at the end of system life. A typical solar array has a design life of at least 25 years, although it will likely retain useful functionality beyond its design lifetime. As outlined in Module #5, many project owners create a reserve fund to account for the cost of system removal at the end of its lifetime. A host municipality and any third-party owner should determine up front who will bear the responsibility and cost liability associated with system removal, known as decommissioning. If the municipality intends to take ownership of the system and intends to maintain its operation after the end of a transaction, it should be aware of potential removal costs.

Buyout Provisions

For third-party developed and owned systems, transfer of ownership after a certain number of years is a common contract element. Under this arrangement, the project developer agrees to sell the project back to the host customer at fair market value at a certain point in time. This model allows the developer to capture value from the project through tax credits, SRECs, and other short-term incentives, and allows the municipality to own the asset in the later years and capture revenue from system production. At the time of a buyout the municipality assumes ownership liability and risk, including O&M costs and associated performance risk. If an ownership transfer model is desirable, it should be considered during the RFP development phase. If a

municipality is considering owning the system after the end of the PPA period instead of decommissioning the system, proper system design and the quality of the products used should be outlined in the RFP.

In order to comply with many of the various procurement rules outlined in Module #7 the price for transfer cannot be predetermined, but must be based on the fair-market value of the system. The fair-market value of the system may depend on the quality of materials used, design strategy, and other issues that affect system longevity.

The timeframe for transfer can be pre-determined, but will likely be no less than five years. Provisions of the federal cash grant preclude transfer of ownership within the first five years without triggering certain grant recapture provisions. Typically, the timeframe for transfer will be in years 10-25, after the value of the SRECs has been fully maximized. This can be a point of review and negotiation.

If a municipality does intend to exercise its option in a buyout provision, it may consider setting up a reserve account that sets aside revenue from the land lease or credit purchase agreement each year and places it in escrow. That reserve account could then provide the funds necessary to purchase the project.

Barnstable Wastewater Treatment Facility:
819-kW Solar PV Array (photo: Nexamp)



What Are My Next Steps?

Below are some initial steps that we recommend to get started with the development process. Additionally, Appendix A provides a checklist that municipalities can use to navigate the development process.

- » Form an energy committee, comprised of informed and active volunteers.
- » Educate all potential PV project team members.
 - Take some time to learn more about solar.
 - Consider complementary options, such as solar on schools and other municipal buildings.
- » Consult with your DOER Regional Coordinator and solid waste official at the DEP regional office.
- » Identify the technical capacity of your landfill or other municipal site to host a renewable energy project.
 - Look for flat, open, and unshaded space.
 - Identify proximity to transmission.
 - Characterize construction access.
- » Determine your permitting requirements.
 - Do you need a post-closure use permit?
 - Will you have to file with MEPA?
- » Meet with your community and ask yourselves about the goals of the project.
- » Do you want to own the project from the beginning? If so, how will the community pay for the project?
 - Who will be responsible for each phase of the project – development, financing, construction, operations and maintenance?
 - Are you comfortable with a third-party developed project, and if so, do you want to own the project in the future?
 - What is your risk profile?
- » Set realistic expectations around timelines, financial goals, and volunteer effort.
- » Talk to other municipalities that have worked through many of the same issues.
- » Identify the project structure that is best for your situation.

Municipalities are encouraged to access resources and start conversations with one or more potential service providers.

The Solar Energy Business Association of New England (SEBANE) lists a Solar Energy Yellow Pages on its website, <http://www.sebane.org>. Listings include designers, installers, manufacturers, consultants, and other professionals and suppliers in the solar energy field.

The North American Board of Certified Energy Practitioners (NABCEP) awards PV installers a professional credential based on their experience and knowledge. Installers who have received this voluntary certification are listed, by state, at <http://www.nabcep.org>.

The National Renewable Energy Laboratory (NREL) of the U.S. Department of Energy hosts an excellent website with information on all renewable energy technologies: <http://www.nrel.gov>. Information on photovoltaic systems with many links to specific information can be found at: <http://www.nrel.gov/solar>.

NREL also offers a cost estimator for PV grid connected systems at a site maintained by its Renewable Resource Data Center: <http://rredc.nrel.gov/solar/calculators/PVWATTS>.

DOER Solar Carve-out SREC program website: <http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/solar/rps-solar-carve-out>.

Please note: webpage addresses change periodically; these sites also have search functions to help find pages if the links provided no longer function.

Case Study #1: Brockton Brightfields

In the late 1990s, the City of Brockton faced a dilemma over how the City should handle the Bay State Gas brownfield site located on Grove Street. The site, a Brockton Gas Works manufactured gas plant from 1898-1963, abuts a number of residential areas and it was contaminated. The site had been designated a Coal Gasification and Related Materials (CGRM) landfill, which significantly limits its uses. The site owner, Bay State Gas, had started remediating the site but nobody had any idea what to do once the site was remediated. Brockton was sure of only one thing: the City did not want to see the site turn into a dumping ground.

Then, the idea! What if the City could use the site to host a clean, quiet, and environmentally sound solar array? A solar array could create revenue for the City while giving the site a purpose. In 2000, the concept of the Brockton Brightfields was born.

Using funding from the Department of Energy and the Massachusetts Technology Collaborative's Renewable Energy Trust (the Trust is now part of the Massachusetts Clean Energy Center), Brockton studied the feasibility of hosting a solar array in 2001 and 2002, and developed a conceptual plan. By 2003, Brockton was ready to issue and RFP to select a vendor to build the system, but solar energy at the scale that Brockton was proposing was new to the Commonwealth, and the procurement process needed to be updated. In 2004 and 2005, Brockton worked with City Councilors and then with the State Legislature to create a legal pathway for the project. Countless hours were spent educating local and state legislatures on the benefits of solar and the ways to use Massachusetts General Law to allow Brockton to proceed with its plan. Finally, in 2006, the pathway was unveiled.

Brockton reissued its procurement, selected a vendor, and managed construction of its 460-kW solar array all in one year. The project's financing uses a mix of state and federal funding, along with a long-term Renewable Energy Certificate (REC) purchase agreement.

Many of the lessons learned by Brockton were incorporated into the Green Communities Act of 2008, which has made the procurement process much easier for municipalities today. Many of the policies and opportunities described in this guidebook are the results of the hard work invested into the Brockton Brightfields solar PV project.

Quick Facts:

System Size:	468 kW
Project cost:	\$4.2 mm
Land Size:	3.7 acres
Procurement Method:	Chapter 30B, Mass. General Law
Ownership Style:	Municipal
# of Modules:	1,512 SCHOTT Solar ASE 300s
Inverters:	SatCon Inverters
Azimuth:	180 degrees
Tilt:	42 degrees
Installation Service Provider:	Landerholm Electric Company
Estimated Annual Production:	580 MWh
Estimated Production Equivalent:	81 homes
Annual CO2 Reduction:	677,000 lbs
Design life:	30 year minimum



Brockton, the “City of Champions” was the first City in Massachusetts to successfully develop, build, and own a brightfield project. A drive down Grove Street today shows the final result of the City's perseverance and hard work, a 460-kW solar PV array that creates no pollution, no noise, and no increased traffic, save the occasional local school field trip.

Figure 10: Brockton Brightfields Solar PV Array
Photo: City of Brockton

Case Study #2: Easthampton Landfill Solar PV Array

Quick Facts:

System Size:	2.26 MW
Project cost:	PPA: \$0.06 per kWh for 10 years
Land Size:	16 acres
Procurement Method:	Chapter 25A, Mass. General Law
# of Modules:	9,620 Yingli 235-watt
Inverters:	4 SMA 500-kW
Azimuth:	180 degrees
Tilt:	30 degrees
Installer/Financier:	Borrego Solar
Estimated Annual Production:	2,828,000 kWh
Estimated Production Equivalent:	392 homes
Annual CO ₂ Reduction:	108,184,380 lbs
Design life:	30 years

Michael Tautznik, Mayor of Easthampton, summed it up best: “This is an exciting day for Easthampton.”

That was the general sentiment in December of 2010, when the city of Easthampton officially signed a contract with Borrego Solar to construct a 2.3-megawatt (DC) solar array on the city’s landfill. The landfill has long been closed, and was providing no appreciable benefit to the city. As one of the Department of Energy Resources (DOER) designated Green Communities, Easthampton is taking great strides towards becoming a clean energy leader in the state, and taking advantage of the otherwise unused landfill resource to add revenue to the city.

The solar PV project broke ground in September of 2011 and will generate electricity to offset a significant portion of the municipal buildings in Easthampton. Under a Power Purchase Agreement (PPA) and lease, the City will recognize benefits through the purchase of discounted energy and taxes.

Mayor Tautznik attributes Easthampton’s success in developing a solar PV project on the landfill to the citizens who voiced it as an important project during the Master Plan process. Before getting started, the City participated in an initial feasibility analysis led by Paul Tangredi from Environmental Compliance Service. The site was considered good; it was large, relatively flat, and had little shading. Prior to issuing the RFP, the city vetted the idea internally, then gathered detailed site drawings for the landfill and obtained clear documentation on the permits that were required, both important steps to the due diligence process. Armed with this information, the City then issued what Borrego Solar and others saw as a straightforward and thorough RFP under Chapter 25A. Easthampton says that the proposals were highly detailed and easy to compare against one another, and attributes the depth of the responses to the quality of the RFP. The City evaluated each proposal and selected the vendor that would provide Easthampton the greatest benefit—with the smallest amount of risk.

Thanks to Easthampton’s thorough approach, Borrego Solar has been on schedule. The MassDEP issued its Post-Closure Use Permit within three months of application submission, and Western Massachusetts Electric Co. approved the project for interconnection within nine months of submission of the Interconnection Application. Construction of the project is complete and Easthampton’s landfill is scheduled to start generating clean solar power in early 2012—a little over one year after the contract award.



Figure 11: Easthampton Landfill Solar PV Array
Photo: Borrego Solar Systems, Inc.

Appendix A: Project Checklist

Site

- Flat, unobstructed
- Access for construction
- Proximity to transmission

Permitting

- Conservation Commission Wetlands Notice of Intent
- MassDEP Wetlands Protection Act
- Request for Determination of Applicability
- MassDEP Post-Closure Use
- Mass Environmental Protection Act
- Building permit
- Electrical permit

System Design

- Settlement concerns mitigated
- Production optimized for tilt, shading, and orientation
- Permittable design
- System meets warranty requirements

System Costs

- Property tax / Tax Increment Financing / Payment in Lieu of Taxes
- Construction and installation costs
- Insurance
- Operations and maintenance
- System monitoring

Revenues Optimized

- SRECs purchase agreement executed
- Power Purchase or Credit Purchase Agreement executed
- Investment Tax Credit (if applicable)
- Accelerated depreciation (if applicable)
- State tax deduction (if applicable)

Procurement

- Project phasing
- Procurement method
- Request for proposals
- Long-term system operation
- Operations and maintenance
- System monitoring

Appendix B: Additional Detail on Solar Renewable Energy Certificates

Massachusetts' Renewables Portfolio Standard (RPS) requires each regulated electricity supplier/provider serving retail customers in the state to include in the electricity it sells 15% qualifying renewables by December 31, 2020. In January 2011, final rules were implemented for the state's Solar Carve-Out program, which states that a portion of the required renewable energy under the Class I Standard that must come from qualified, in-state, interconnected solar PV facilities.

Solar Renewable Energy Certificates (SRECs) represent the renewable attributes of solar photovoltaic generation, bundled in minimum denominations of one megawatt-hour (MWh) of production. Massachusetts' Solar Carve-Out provides a means for SRECs to be created and verified, and allows electric suppliers to buy these certificates in order to meet their RPS solar carve-out requirements. Only solar electric facilities built after January 1, 2008, may be qualified to generate SRECs. Generators must apply and receive a statement of qualification (SQ) from the DOER and must establish an account with NEPOOL GIS in order to participate in this program. Projects can get qualified through an aggregator which represents a number of PV systems and owners, provides qualification from DOER, establishes an account on the NEPOOL GIS, and markets and sells its members' SRECs. DOER encourages PV Systems owners of all sizes to take advantage of aggregations; however, each owner must be aware of and carefully consider the aggregation's contract terms and fees for the disposal of its members' SRECs. Facilities that received funding prior to the effective date of the Solar Carve-Out from the Massachusetts Renewable Energy Trust or the Massachusetts Clean Energy Center, or received more than 67% of project funding from the American Recovery and Reinvestment Act of 2009, are ineligible.

To support solar facilities and market prices, the DOER has created the Solar Credit Clearinghouse Auction. In the solar facility's SQ, the DOER specifies the "opt-in" term, which grants the facility the right to participate in the Solar Credit Clearinghouse Auction for a certain number of years. Through July 2012, the opt-in term is set at 10 years. The term can be adjusted down in future compliance years, depending on market conditions (the first seven years of the program will provide at least a five-year opt-in term, and the term will not drop by more than two years in any annual adjustment). Solar facilities may deposit unsold SRECs into the Solar Credit Clearinghouse and participate in

an annual auction. SRECs sold through this mechanism are re-minted and have a shelf-life of two years (initially). The annual auction is held by the end of July (30 days after utility compliance reports are received), but only if solar facilities have deposited SRECs into the Solar Credit Clearinghouse account. Any SRECs sold in this way are sold for \$300/MWh the depositor will receive \$285 because there is a 5% administrative fee for use of the auction account. The price of SRECs is determined primarily by market availability, although the DOER has created a certain amount of market stability through the fixed price Auction as well as by setting the Alternative Compliance Payment (ACP) with a 10 year rolling ACP schedule. Solar facilities generally sell their SRECs on the market (either spot market or through long-term contracts). Retail Electric Suppliers may use SRECs for compliance under the state RPS for the year in which they are generated. Retail Electric Suppliers may purchase up to 10% more SRECs than they require for compliance and "bank" those surplus SRECs for compliance during the following two years.

The Solar Carve-Out program is intended to support approximately 400 MW of solar facilities in Massachusetts. Once the state reaches that goal, and the opt-in terms for all solar facilities have expired, SRECs will no longer be generated. Solar facilities will at that time generate renewable energy credits (RECs) and will be able to sell those for compliance under the Class I standard.

For more information see: <http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/solar/rps-solar-carve-out/> .

Appendix C: Additional Details on MassDEP Permit Requirements

If the landfill was not closed and capped in accordance with a MassDEP approval, or was closed and capped before 1990, an environmental assessment (Required by 310 CMR 19.050) and other closure activities (Required by 210 CMR 19.140) may be required. These activities may be done concurrently with the post closure development of the site, provided that development is done in accordance with a MassDEP approval to proceed. This information should be available at the appropriate MassDEP Regional Office, and local Board of health, as needed.

The following is a list of state environmental permits that may be required:

Solid Waste Post-Closure Use permit (MassDEP)

A Major Post-Closure Use permit is required if the planned renewable energy facility would involve construction of a structure or installation of equipment on or into the landfill's capping system. This includes any activity that would alter or impact the cap, such as constructing a footing or foundation. Otherwise, a Minor Post-Closure Use permit is likely required. Complete, detailed guidelines and requirements, including an extensive list of required documentation such as: site plans, construction plans, storm water and erosion plans, stability analyses, utility infrastructure plans, monitoring and maintenance plans, and more, are available online at

<http://www.mass.gov/dep/recycle/laws/lfpccguid.pdf>.

Applicants will need to prepare:

- » A description of all features, equipment, and activity associated with the proposed renewable energy development project.
- » Storm water erosion control plan for the construction and operation of the project.
- » A description of the existing waste mass (i.e. type, depth, etc...) and the potential for differential settlement, and potential impacts of the post-closure use as well as an analysis of the stability of all structures and reinforcement necessary to build on the landfill cap and side slopes.
- » A description of any proposed alterations to the landfill gas control system and safeguards employed to prevent landfill gas build-up.
- » A description of any modifications that will be needed for the landfill's environmental monitoring system, focusing on the landfill gas monitoring system.
- » A description of the development's interface with the landfill's capping system, particularly where the installation will lie upon or penetrate the landfill cap.
- » A description of utilities proposed to be installed (including proposed connections to the utility grid for renewable energy projects).
- » A qualitative (and, if needed, quantitative) assessment of the public health risks that may be posed by the construction, installation, and operation and maintenance of the development, for site workers, neighbors, and other people who may be affected by the project.
- » A description of the activities that the owner/operator of the post-closure development will undertake to maintain the integrity of the landfill capping system.
- » A description of the financial assurance instrument that will provide for care and maintenance of the landfill capping system in the future.

MassDEP has prepared additional resources for project planning, including:

- » Fact Sheet: Developing Renewable Energy Facilities on Closed Landfills: <http://www.mass.gov/dep/energy/landfill.htm>
- » How MassDEP Permitting Works
- » Post Closure Use Instructions & Application Form
- » Landfill Technical Guidance Manual: <http://www.mass.gov/dep/recycle/laws/policies.htm#swmf>
- » Control of Odorous Gas at MA Landfills: <http://www.mass.gov/dep/recycle/laws/policies.htm#swmf>
- » Regulations:
 - Solid Waste (310 CMR 19.000): <http://www.mass.gov/dep/recycle/laws/regulati.htm#sw>
 - MEPA (301 CMR 11.00): <http://www.env.state.ma.us/mepa/meparegulations.aspx>

Wetland Notice of Intent (NOI) and Order of Conditions (Local Conservation Commission)

At a minimum, a project should file a Request for Determination of Applicability to determine if the project will come under the Wetlands Protection Act. If so, a Wetlands NOI and Order of Conditions would be required if construction and/or operation of the proposed renewable energy installation will alter land within a fresh or coastal wetland, marsh, swamp, or riverfront area; is located on land subject to flooding; or is located within the 100 foot buffer zone of a wetland. The Request for Determination of Applicability requires that site plans, project plans and project descriptions be submitted to the MassDEP. The applicant is responsible for publishing a public notification of the Request in newspaper(s) circulated in the municipality(ies) affected by the project. Instructions and forms are available online at <http://www.mass.gov/dep/water/approvals/wpafom1.pdf>. More information can be found in 310 CMR 10.00 and MGL 131 §40.

Massachusetts Environmental Policy Act (MEPA) Filing

May be required if the project exceeds certain thresholds (regulated by the Executive Office of Energy and Environmental Affairs, MEPA Unit).

For example, MEPA requires filing an Environmental Notification Form (ENF) if a proposed renewable energy installation will generate 25 or more megawatts of electricity, or construction will require alteration of one or more acres of bordering vegetated wetland, ten or more acres of any other wetland area (including land altered to install roads and utilities), or disturbance of designated priority habitat for state-listed endangered or threatened species. The ENF requires a site plan, construction plan, and a US Geological Survey (USGS) map of the location. As part of the ENF process, the applicant is responsible for publishing a Public Notice of Environmental Review in newspaper(s) circulated in the municipality(ies) affected by the project. A brief checklist of requirements is available online at <http://www.env.state.ma.us/mepa/enfchecklist.aspx>. More information is available at 301 CMR 11.03.

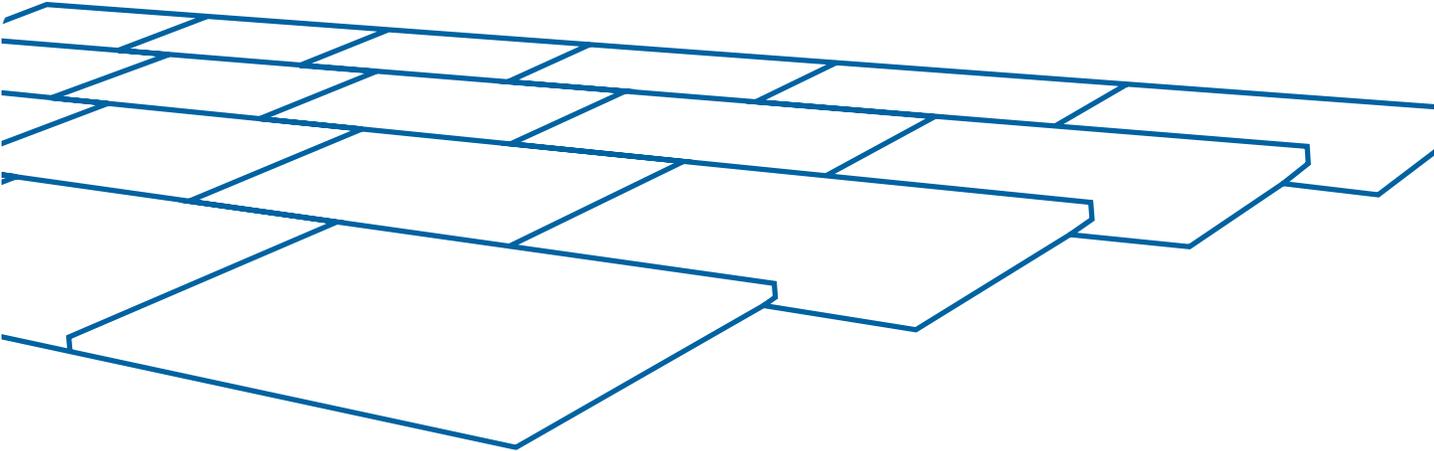
A list of contacts for additional information is as follows:

- » Northeast Region:
 - MassDEP: John Carrigan, (978) 694-3299, John.Carrigan@state.ma.us
 - DOER: Joanne Bissetta, (617) 823-4029, Joanne.Bissetta@state.ma.us
- » Southeast Region:
 - MassDEP: David Ellis, (508) 946-2833, Dave.Ellis@state.ma.us
 - DOER: Seth Pickering, (617) 780-7156, Seth.Pickering@state.ma.us
- » Central Region:
 - MassDEP: Lynne Welsh, (508) 849-4007, Lynne.Welsh@state.ma.us
 - DOER: Kelly Brown, (617) 780-8144, Kelly.Brown@state.ma.us
- » Western Region:
 - MassDEP: Dan Hall, (413) 755-2212, Daniel.Hall@state.ma.us
 - DOER: Jim Barry, (617) 823-4588, Jim.Barry@state.ma.us

Please note: requirements for building and electrical permits vary by municipality. Municipal officials are encouraged to consult with the local building department and any other relevant departments to review these requirements prior to issuing construction RFP bid documents.



Cathartes Private Investments:
4.5-MW Solar PV Array (photo: Tara Morris Images)



Town of Needham

Preliminary Solar PV Opportunities Assessment

Five building roofs: Eliot, Broadmeadow,
Newman, Pollard and Needham High School

&

Capped landfill site at RTS on Central Ave

Town of Needham, MA

Location	
Eliot School	
Life expectancy of the roof (years remaining)	Installed 2003 - 22 years remaining
Square footage of the roof	Approximately 40,000 sq. ft.
Type of roof	Built-up
Address of building	135 Wellesley Ave., Needham Heights, MA 02494
Yearly electric usage of high school building	Approximately 608 Mwhrs per year
Google Map attached (if possible)	See attached
Contact info to arrange a site visit to inspect roof	Charles (Chip) Laffey, Director of Facility Operations Phone: 781-455-7550 Cell: 781-389-7257 Email: CLaffey@needhamma.gov



135 Wellesley Ave, Needham, MA 02494

© 2012 Google

Google earth

Imagery Date: 6/18/2010 1995

42°18'20.62" N 71°14'25.14" W elev 150 ft

Eye alt 736 ft

Town of Needham, MA

Location #1	
Broadmeadow Elementary School	
Life expectancy of the roof (years remaining)	Installed 2002 - 21 years remaining
Square footage of the roof	Approximately 61,000
Type of roof	Built up
Address of building	120 Broadmeadow Rd., Needham, MA
Yearly electric usage of high school building	Approximately 879 Mwhrs
Google Map attached (if possible)	See attached
Contact info to arrange a site visit to inspect roof	Charles (Chip) Laffey, Director of Facility Operations 500 Dedham Avenue Needham, MA 02492 Phone: 781-455-7550 Email: CLaffey@needhamma.gov



Barbara Rd

120 Broad Meadow Rd, Needham, MA 02492

© 2011 Google

Google earth

Imagery Date: 6/18/2010 1995

42°16'45.60" N 71°12'30.56" W elev 172 ft

Eye alt 1244 ft

Town of Needham, MA

Location #2	
Newman Elementary School	
Life expectancy of the roof (years remaining)	Installed 2011 – 19 years remaining
Square footage of the roof	Approximately 81,000
Type of roof	EPDM roof
Address of building	1155 Central Ave., Needham, MA
Yearly electric usage of high school building	Approximately 792 Mwhrs
Google Map attached (if possible)	See attached
Contact info to arrange a site visit to inspect roof	Charles (Chip) Laffey, Director of Facility Operations 500 Dedham Avenue Needham, MA 02492 Phone: 781-455-7550 Email: CLaffey@needhamma.gov



1155 Central Ave, Needham, MA 02492

© 2011 Google

Google earth

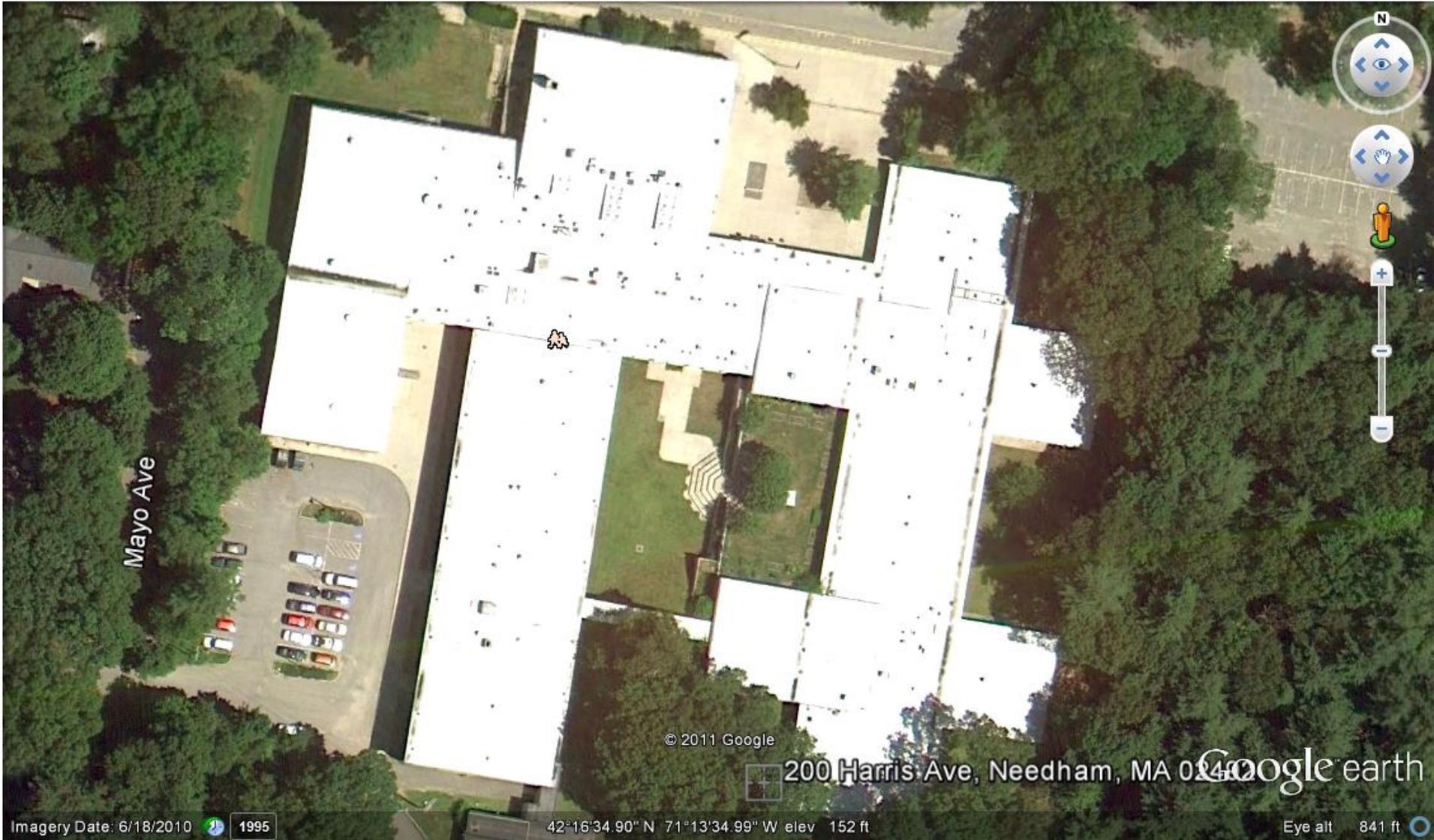
Imagery Date: 6/18/2010 1995

42°16'55.73" N 71°15'20.01" W elev 156 ft

Eye alt 1009 ft

Town of Needham, MA

Location #3	
Pollard Middle School	
Life expectancy of the roof (years remaining)	Installed 2011 – 24 years remaining
Square footage of the roof	Approximately 97,000
Type of roof	Built up roof
Address of building	200 Harris Ave., Needham, MA
Yearly electric usage of high school building	Approximately 795 Mwhrs
Google Map attached (if possible)	See attached
Contact info to arrange a site visit to inspect roof	Charles (Chip) Laffey, Director of Facility Operations 500 Dedham Avenue Needham, MA 02492 Phone: 781-455-7550 Email: CLaffey@needhamma.gov



Mayo Ave

© 2011 Google

200 Harris Ave, Needham, MA 02462 Google earth

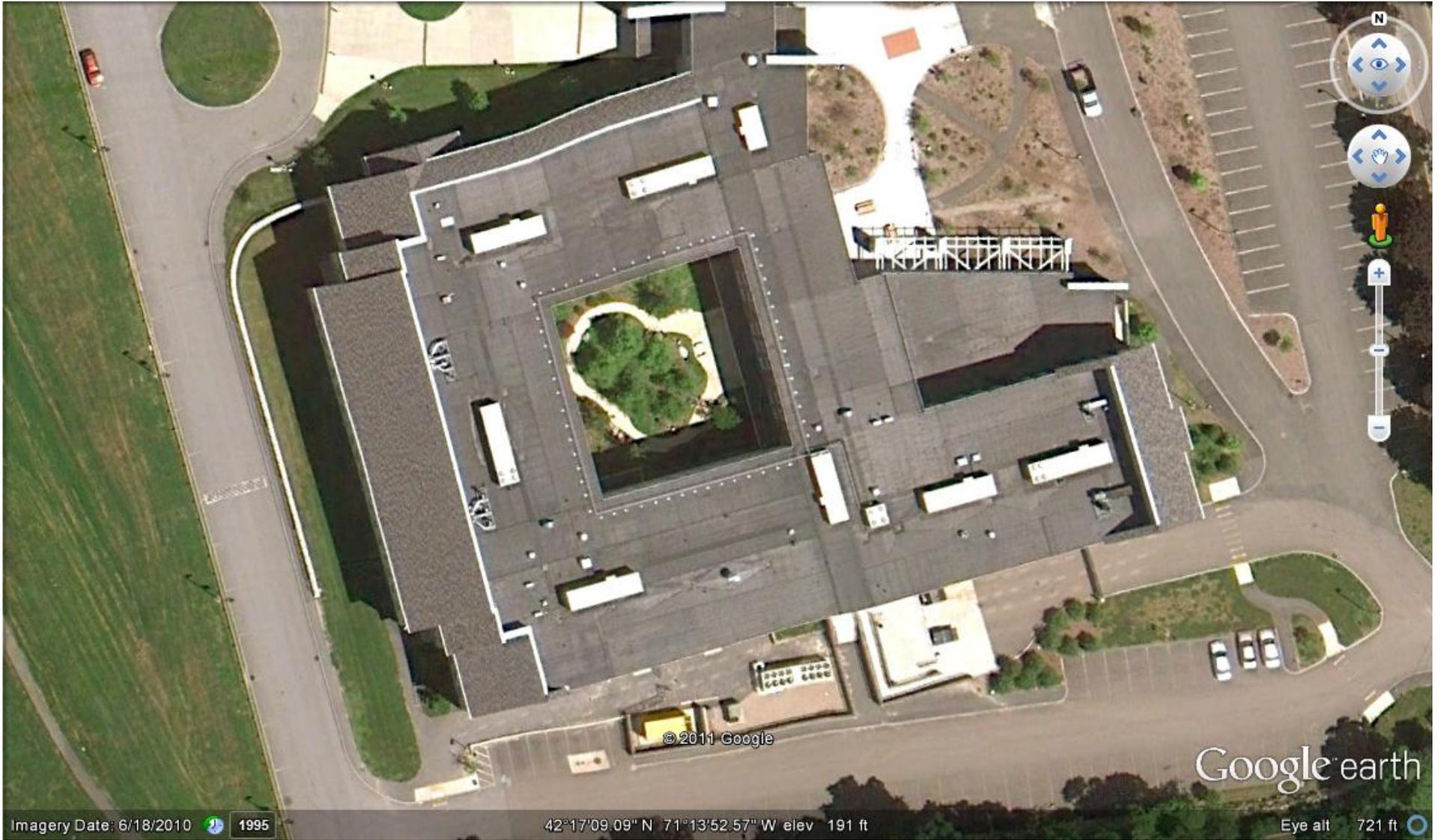
Imagery Date: 6/18/2010 1995

42°16'34.90" N 71°13'34.99" W elev 152 ft

Eye alt 841 ft

Town of Needham, MA

Location #4	
High School (Buildings A & B)	
Life expectancy of the roof (years remaining)	Installed 2008 – 16 years remaining
Square footage of the roof	Approximately 38,000
Type of roof	EPDM roof
Address of building	609 Webster Street, Needham, MA
Yearly electric usage of high school building	Approximately 2416 Mwhrs
Google Map attached (if possible)	See attached
Contact info to arrange a site visit to inspect roof	Charles (Chip) Laffey, Director of Facility Operations 500 Dedham Avenue Needham, MA 02492 Phone: 781-455-7550 Email: CLaffey@needhamma.gov



Imagery Date: 6/18/2010 1995

42°17'09.09" N 71°13'52.57" W elev 191 ft

Google earth

Eye alt 721 ft

Town of Needham, MA

Location #5	
Parcel - Landfill	
Address	1421 Central Ave., Needham, MA
Ownership	Town of Needham
Size of Parcel	11 Acres
Google Map attached (if possible)	See attached
Contact info to arrange a site visit	Charles (Chip) Laffey, Director of Facility Operations 500 Dedham Avenue Needham, MA 02492 Phone: 781-455-7550 Email: CLaffey@needhamma.gov



Imagery Date: 6/18/2010 1995

© 2011 Google
42°16'42.02" N 71°15'32.54" W elev 182 ft

Google earth

Eye alt 3758 ft



BAY STATE CONSULTANTS

Memo

To: Kate Fitzpatrick, Dave Davison, Town of Needham
 From: John Shortsleeve
 Cc: Chip Laffey, Susan Shortsleeve, Pauline Fabiano
 Re: Solar Feasibility Report
 Date: March 15, 2012

Overview

It is feasible, in our opinion, to procure agreements with solar developers that will require those developers to design, build, own and operate solar arrays (on sites outside of Needham and sites inside Needham) and generate meaningful economic benefits for the Town. The Patrick Administration is aggressively pushing the Commonwealth's solar program, which is designed to support the installation of 400 MW of solar generation. The DPU issued its net metering rulemaking on February 17, 2012. The net metering model tariff, currently the subject of open docket DPU 12-01, is expected to be finalized within weeks. The following table illustrates the solar development activity in the State to date.

Table 1

	Net Metering Capacity allocated to private projects	Net Metering Capacity allocated to public projects
National Grid		
Installed	28.2 MW	10 MW
In Process	188.6 MW	18.3 MW
Total	216.8 MW	28.3 MW
Legislated Cap	51.3 MW	102.6 MW
Capacity Remaining	(165.5 MW)	74.3 MW
NSTAR		
Installed	24 MW	14.8 MW
In Process	134 MW	38.3 MW
Total	158 MW	53.1 MW
Legislated Cap	49.8 MW	99.6 MW
Capacity Remaining	(108.2 MW)	46.5 MW

If the 15 clients, which Bay State represents in this feasibility effort, develop solar projects that utilize 100% of their net metering appetite, such projects would consume 46 MW of the 74 MW

remaining in the National Grid service territory, and 37 MW of the 46 MW remaining in the NSTAR service territory. For further discussion of these legislated caps, see Section 3 of this report.

The structure of the business deal involves the purchase by the Town of the power generated by a given solar array for the assumed life of the solar equipment, which power is exported back to the Grid, and for which export the Town receives net metering credits from the utility. The Town can then use those net metering credits to pay the annual electric bill.

Based on preliminary assumptions, which are conservative, the Town has an appetite to use 6.6 MW of net metering credits, which could support at least three projects. That is because the utilities generally limit 3 MW of distributed generation on any local distribution system (3 phase feeder system).

Based on preliminary assumptions, which are conservative, we estimate that the Town could reduce its annual electric bill by \$366,000 per year, if the Town procures contracts with solar developers to design build own and 6.6 MW of solar arrays. This amount would increase or decrease as the value of the net metering credits fluctuates. Given the historically low natural gas and electric prices (natural gas prices are at 10 year lows currently), it is reasonable to assume that electric prices (and the annual value of net metering credits that are based on those electric prices) will increase over the 20 year expected term of these agreements.

The balance of this report is comprised of the following sections:

- 1) Process used to examine project feasibility
- 2) Economic benefits of solar projects
- 3) Issues and development hurdles that need to be addressed
- 4) Procurement approaches
- 5) Next steps

Appendices:

- A) List of Solar Developers Contacted in Phase 1 and 2 of the RFI process
- B) Evaluation of Nominated sites
- C) Model Chapter 25A Procurement Document
- D) Net Metering Legislation
- E) Draft of Comment Letter re: H 1776
- F) Phase 1 RFI
- G) Phase 2 RFI

Section 1 - Process used to examine project feasibility

On December 23, 2011, Bay State Consultants issued a Request for Information (RFI) to 30 Solar Companies Participating in the RFI Process (see list of Companies in Appendix A). The expressed purpose of that RFI was to examine the feasibility of procuring power purchase agreements to support the development of a set of solar projects that utilize the net metering appetite of the following 15 municipal clients.

Table 2

	Clients served by NGRID	Estimated MW of net metering appetite
1	Amesbury Housing Authority	1.1
2	Beverly	6.4
3	Brockton	10
4	Chelmsford	5.2
5	Dracut	2.0
6	Lynn Water & Sewer Commission	9.4
7	Lynn	10
8	Whittier Technical High School	1.8
	Subtotal	45.9
	Clients Served BY NSTAR	
9	Arlington	7.5
10	Brookline	9.3
11	Lexington	7.3
12	Needham	6.6
13	Sharon	3.6
14	Stoneham	3.7
15	Sudbury Housing Authority	.4
	Subtotal	38.4

Note: The following assumptions are embedded in the above calculations:

- 1) Net metering appetite is equal to annual dollars spent (on distribution and supply charges) in dollars x 75% divided by value of net metering credit in dollars per kWh;
- 2) Supply charges for next 20 years are assumed to be \$.06 per kWh with no escalation, not the higher rate embedded in the current supply contract;
- 3) We assume that we negotiate an amendment to your existing supply agreement with your current supplier to provide for utility billing of supply charges as well as distribution charges;
- 4) Net metering credit is equal to \$.14 / kWh in the NGRID service territory and \$.15 / kWh in the NSTAR service territory;
- 5) Solar generation is equal to 1,138,800 kWh per year per MW of solar capacity.

Responses to this RFI were designed to assist Bay State in understanding the development hurdles that need to be overcome in order to break ground on solar projects in Massachusetts. The expressed objectives were to:

- a) Secure responses and advice from the solar developer community in the first quarter of 2012 to inform the development of a possible Request for Proposals (RFP) or set of RFPs in the second quarter of 2012.
- b) Design an RFP for a set of solar projects that reflects the collective wisdom of the solar developer community, procures projects that are likely to break ground, and protects the interest of Bay State clients.

Section 1 of the RFI discussed Bay State's perception of certain development hurdles that are impeding the development of many pending solar projects and requested feedback from the solar companies in four subject matter subsections:

- A) Net Metering Caps
- B) Project Sites and Interconnection
- C) Power Purchase Agreement / Net Metering Tariff
- D) Investment Tax Credit and other Tax Benefits

We received responses from the 15 companies listed in Appendix A. After reviewing the responses, Bay State conducted follow up telephone interviews with the companies that had responded.

11 of the 15 clients had requested that solar sites in the community be evaluated as part of the feasibility effort. On January 29, Bay State issued a Phase 2 RFI, which was a request for site evaluations of the 24 roof tops and 6 parcels that had been nominated by those 11 clients. The Phase 2 RFI asked the solar companies to evaluate capacity of the solar array that could be located on the nominated rooftops and parcels, as well as the annual energy that could be generated.

Five of the 10 companies responding to the Phase 2 RFI participated in some phase of the site visits that occurred the week of February 13. The remaining companies employed a desk top analysis to address the questions posed in the Phase 2 RFI.

On February 29, Bay State received responses to the Phase 2 RFI from the 10 companies. Since February 29, Bay State has conducted follow up interviews with each of the 10 companies that participated in the Phase 2 RFI process.

In addition, over the past three months, to further inform our feasibility research, we also conducted meetings and conference calls with staff at DOER, staff at the DPU, State legislators and their staff involved in the solar legislation pending on Beacon Hill, legislative staff at the MMA, staff that implemented the Town of Medway solar procurement, staff that implemented the Cape Cod Compact solar procurement, the Mayor of Easthampton, staff in the Distributed Generation Division of National Grid and the Distributed Generation Division of NSTAR, as well as consultants in the solar field.

Additionally, we entered into direct negotiations with one solar developer on behalf of one client to test the lessons that we think we have learned by going through this feasibility effort.

In our opinion, the above described process has accomplished the objectives intended. We believe it is feasible to implement a solar procurement, that reflects the collective wisdom of the solar developer community and the other stakeholders interviewed, that procures qualified solar companies to design, build, own, and operate solar projects that are likely to break ground, pursuant to agreements that protect the interest of Bay State clients.

Note Regarding Confidentiality

In order to encourage the solar companies in the RFI phase to provide information freely, Bay State executed confidentiality agreements with most respondents. We promised in that confidentiality agreement to report aggregated responses to the questions we posed as opposed to company specific responses. The information in this report and the appendices that follow adheres to that approach.

Section 2 - Economic Benefits

Establishing Net Metering Appetite

Before entering into a long term agreement to purchase the output of any solar project, it is critical to establish a conservative baseline regarding your net metering appetite.

It is possible to negotiate a price paid per kWh for the output of a solar project at a price that is based on a set percentage of the value of net metering credit generated per kWh. That pricing formula ensures that the value per kWh of the net metering credits received will always exceeds the price paid for the solar power generated. That pricing formula however, does not protect against the risk that the volume of kWh consumed by the community in a given year may drop below the volume of net metering credits generated by the solar project. To protect against annual volume risk, it is essential to use conservative assumptions in establishing the baseline net metering appetite at the outset.

The following table describes the approach we utilized to establish your net metering appetite.

Table 3

A	Current annual consumption per most recent load profile	11,933,000 kWh / yr
B	Annual NSTAR distribution expenditures last year	\$797,000
C	Assumed supply expenditures at \$.06/kWh	\$716,000
D	Total assumed expenditures (Line B + Line C)	\$1,513,000
E	25% Reduction due to energy efficiency (line D x .75)	\$1,135,000
F	Compared to current total expenditures	\$1,817,000
G	Assumed net metering appetite expressed in dollars	\$1,135,000
H	Expressed as percent of current spending (Line G/Line F)	62%

The weakest assumption in the above table is assumed annual consumption, which is based on a dated load profile. If you proceed to the procurement phase, the first order of business is to double check the annual consumption in the last 12 months. We believe the rest of the assumptions are conservative. We have assumed an annual net metering appetite of \$1,135,000 per year (62% of current spending) fixed and flat for the next 20 years.

To express the annual dollars of net metering appetite in kWh per year, we have divided the annual expenditure in line G above by the current value of the net metering credits per kWh as reported by NSTAR for a G1 meter (\$.15 per kWh). (For example: \$1,135,000 divided by \$.15 per kWh = 7,566,000 kWh / year of net metering credits).

To express kWh per year of net metering appetite in megawatts of net metering capacity we use the technical conversion formulas provided in response to our RFI, which can vary by technology. We have used the most conservative technical conversion values reported in the RFI process (1,138,800 kWh per year per 1 MW of solar generating capacity). In a negotiation of an agreement with a solar developer, we should ask that developer to convert the \$1,135,000 per year into MW of net metering capacity based on their technology.

Economic Projections

Once we have established a conservative baseline assumption regarding the volume of net metering credits that can be utilized, the math is fairly straightforward. The following table projects the economic benefit in the first year.

Table 4

A	Assumed net metering appetite in dollars (from table 3)	\$1,135,000
B	Assumed net metering appetite in kWh / year	7,566,000
C	NSTAR B1 rate per kWh of net metering credits	\$.15 / kWh
D	Price negotiated by community to purchase net metering credits	\$.10 / kWh
E	Difference per kWh (Line C – Line D)	\$.05/ kWh
F	Gross economic benefit to community (Line B x Line E)	\$378,000
G	Net economic benefit to community (see explanation below)	\$366,000

If your third party supply charges (TransCanada supply charges) are billed by the utility, you can use net metering credits to offset both your distribution charges and your supply charges. This approach more than doubles your net metering appetite.

TransCanada will agree to amend the supply agreement to use utility billing, but will pass thru their cost of moving from TransCanada billing for supply charges to utility billing for TransCanada supply charges. This additional charge is slightly less than 1 mil per kWh, or slightly less than \$12,000 per year. The net effect of the two transactions (the agreement to purchase the 6.6 MW of net metering credits and the amendment to change the billing agent for supply charges) is to reduce your electric budget by \$366,000 per year.

The general rule is that the utilities will not allow more than 3 MW of distributed generation on any local distribution system (three phase feeder system). Consequently, in order to take full advantage of 6.6 MW of net metering appetite you will need to develop three separate solar projects.

The annual benefit will fluctuate as the value of net metering credits fluctuates. The value of the net metering credit is equal to the utility's cost per kWh for delivery charges (distribution, transmission, and transition charges, plus basic service supply charges). The total current DPU approved value for a NSTAR B1 net metering credit is slightly over \$.15 per kWh. The current NSTAR supply charge for the B1 account represents 53% of that \$.15 value. Given the currently depressed state of natural gas and electric prices, we would expect this rate to increase over the 20 year term of the solar agreement. The price paid to the solar company per net metering credit generated would be pegged at a set percentage of the value of the net metering credits. The math in the above table assumes that the price paid is negotiated at 71% of the value of the net metering credits generated.

Smaller Rooftop Projects

Several of the clients participating in this project nominated solar rooftop projects for evaluation. It was frankly difficult to persuade the solar companies to invest resources in site visits at this RFI stage of the process. Nevertheless, 10 companies did respond to the questions posed in our site evaluation RFI. While half of those companies visited some of the sites, none of the companies visited all of the sites. For the most part, the responses and feedback were based on a desk top analysis.

The most useful information obtained regarding the rooftop projects was the generic information. The following parameters are important to the evaluation of any roof top project.

- 1) Age of the Roof: The solar companies do not want to place solar panels on a roof that needs to be replaced before the useful life of the solar equipment has lapsed. They are looking for rooftops with 15 to 20 years remaining in the roof warranty. If the remaining warranty is 15 years they may want to explore the purchase of an extension of that warranty for an additional 5 years.
- 2) Shape of the Roof: Flat roofs are ideal. Pitched roofs are not.
- 3) Large Areas of Usable, Contiguous, and Un-shaded Space: The best candidates are rooftops with at least 10,000 square feet of useable, contiguous, un-shaded space. OSHA requires a minimum of six feet of un-useable space around the outside perimeter. HVAC equipment and/or different sections of roof at different elevations create shaded areas that cannot be used. It is not practical to weave solar panels in small sections between various rooftop obstructions.
- 4) The building "as built plans" must support the conclusion that the roof can bear the weight of the solar equipment.

The Breed Junior High School in Lynn is an example of a rooftop that is an attractive candidate (at this preliminary stage) for the installation of a solar array. (The structural analysis has not been completed.) The economics of that project, as itemized in the table below, provide some

useful rules of thumb that can be used to evaluate any rooftop as a candidate for solar panels, and the potential economic benefit such a project.

Table 5

A	Name of Facility	Breed Junior High School
B	Age of Roof	5 years old, installed 2006
C	Roof Warranty Remaining	TBD, presumed > 15 yrs
D	Type of Roof	Flat, EPDM, Adhered
E	As Built Plans Reviewed	No
F	Structural Analysis	TBD
G	Total Area of Roof	88,000 square feet
H	Useable, Un-shaded, Contiguous Space	23,000 square feet
I	Potential Solar Capacity @ 8.3 watts / square foot	191 KW
J	Potential Solar output @ 1000 kWh / KW of capacity	191,000 kWh per year
K	Potential Economic Benefit @\$.04 per kWh	\$7,640 / year

We have listed the preliminary conclusions regarding the output and economic benefit of the solar projects at the schools and landfill in Needham in Appendix B.

Note: With respect to rooftop projects there is a metering option that is important to understand. At the time that the solar system is connected to the utility, you will be asked to indicate whether the service from the utility is a “new service” (i.e. a small G1 or B1 meter dedicated to the new solar system) or connection to an “existing service” (a solar system that will sit behind the existing meter of the building (probably a G3 meter or B7 meter) and use that meter to record the output of the project. The correct answer to this question is almost always a new system with a dedicated G1 or B1 meter. That is because a significant fraction of the delivery service of the larger rate classes is tied to demand charges per KW. These demand charges are typically set as much as 11 months ahead of time based on the peak demand in any 15 minute interval in that 11 month time period. It is unlikely that the solar system will reduce these demand charges. Solar systems with small dedicated meters, will record the very minimal imported power associated with the inverter when the sun is not shining, and will report almost 100% of the power generated (100% of the power generated less the parasitic load) as net excess generation for which you are entitled to receive net metering credits at G1 rates. Understanding this metering option can make the difference between obtaining G1 net metering credits at \$.14 / kWh, as opposed to avoiding only \$.10 / kWh in G3 avoided cost.

Section 3 - Development Hurdles and or Mistakes to be Avoided

A) Net Metering Caps

The Massachusetts Green Communities Act creates incentives for solar developers to work with municipal entities to develop solar projects. The Act establishes two “caps” regarding the amount of net metering credits that can be issued by each utility: a “public cap” and a “private cap.” The “public cap” is equal to 2% of the peak load of that utility (approximately 100 MW of net metering credits for “public projects” in the NSTAR service territory and another 100 MW of

net metering credits for “public” projects in the NGRID service territory). The “private cap” is half the size of the “public cap” (approximately 50 MW for NSTAR and 50 MW for NGRID). The “private projects” that have been installed or are currently pending already exceed the “private cap” in both of those utility service territories. Under the current law, there is room remaining to issue net metering credits under the public caps, but public projects that are installed or pending interconnection are likely to exceed to current public caps in the near future. As explained on page 1 of this report, the net metering appetite of the 15 clients participating in this feasibility project represents 46% of the remaining capacity under the NGRID public cap, and 80% of the remaining capacity under the NSTAR public cap.

There is legislation pending to expand the caps in a fashion that eliminates the cap preference in favor of public projects. House 1776, was reported favorably out of the Joint Committee on Telecommunication, Utilities and Energy last week. This legislation would expand the private cap to 3% and the public cap to 3% for a total of 6%. Everyone seems to agree that the caps need to be expanded and there is the political will on Beacon Hill to do that. But H 1776 is problematic. The following table explains why.

**Table 6
Net Metering Caps Compared to SREC Caps**

	Private NMC Cap	Public NMC Cap	Total NMC Cap	SREC Cap
NGRID & NSTAR				
Current law	101 MW	202 MW	303 MW	
Enabled by H 1776	303 MW	303 MW	606 MW	
Already installed or in Queue	375 MW	81 MW	456 MW	
SREC Cap per 255 CMR 14.05				400 MW

At first glance H 1776 seems to create additional room for public projects under the net metering public cap. However, a closer look demonstrates why that additional room is illusory.

There are two fundamental pillars that support the economic development of solar projects in Massachusetts. The net metering pillar creates a market for the purchase of the power generated by these solar projects. Without the net metering rules and the value of the net metering credits, municipalities could not afford to purchase this solar output. The second pillar, the SREC pillar, creates an additional revenue stream that is essential to these projects. SREC’s can be sold for values of \$.20 / kWh or above. Assuming that a community purchases the output for \$.10 per kWh and the developer sells the SRECs for \$.20 / kWh, **two thirds of the annual revenue to the developer comes from the SREC revenue stream.**

The current SREC program is capped by DOER regulations at 400 MW. Once the amount of installed capacity of what is called “solar carve out renewable generation units” equals 400 MW the SREC program lapses. When the SREC program lapses, the solar program in Massachusetts lapses.

The problem with H 1776 is that it instantly enables 384 MW of solar capacity for net metering projects (303 MW of private projects and 81 MW of public projects) that are already installed or are already pending in the NGRID and NSTAR interconnection queue. The private projects in both the NGRID and NSTAR interconnection queues will fully absorb the 303 MW of private net metering capacity enabled by H 1776 the day that it passes. The existing public projects already in the NGRID and NSTAR interconnection queues will absorb another 81 MW of capacity the day that H 1776 passes. To the extent that all 384 MW of these net metering projects successfully complete the interconnection process, and execute interconnection agreements, and begin operation, these projects will qualify for the 400 MW SREC program. That eventuality creates a footrace for all of the remaining public projects in those two service territories to compete for the 16 MW of projects that can secure both a) a reservation of net metering credits, and b) SRECs for those projects. **Without both, those projects won't proceed.**

Note: Some small but unknown fraction of the 384 MW of net metering projects in the existing queues relates to technologies other than solar, such as wind, and fuel cells. Only solar projects qualify for the SRECs. When that data becomes public, the math will improve slightly. But the fundamental point remains the same. H 1776 converts the Green Communities Act into the Green Companies Act.

At the request of the MMA, we have drafted a revision of H 1776 that deals with this concern. We have attached a copy of that revision as well as a comment letter that we encourage you to send to your legislative delegation, either directly or through coordination with the MMA. Please see Appendices D and E.

B) Project Sites and Interconnection Issues

The interconnection of rooftop projects is generally not very difficult or time consuming, because most, if not all, of the power is consumed on site. The interconnection of ground mounted projects on separate parcels (i.e. closed landfills) does create an interconnection challenge.

With respect to stand alone solar systems that export most of the power, the general rule is that each utility wants to limit the distributed generation to 3 MW on any local distribution system (3 phase feeder system). However, we have been pleasantly surprised by the evaluations of the closed landfills reviewed in this feasibility project. The two utilities are the only entity that can answer the following questions: a) where can this project connect to your system; and b) is there any other distributed generation in front of the project in the interconnection queue on that feeder system? National Grid has responded to these two questions for the National Grid sites. National Grid has responded to these two questions for the National Grid sites. We have received a partial response from NSTAR and are waiting for further information. The following are the results obtained to date on the interconnection challenges of these sites:

Table 7

Site	3 Phase service	Room on the feeder system
Brockton	At site	Yes
Beverly	At site	Yes
Chelmsford	1900 feet	Yes
Needham	At site	Qualified Yes
Sharon	TBD	Qualified Yes

Qualified sites within the NSTAR NEMA zone are at a premium. It will be significant if NSTAR confirms the preliminary conclusion they have reached regarding the Needham Landfill site.

C) Power Purchase Agreement / Net Metering Agreement

The following issues should be addressed in the negotiation of any agreement to purchase the output of a solar array:

- 1) Any agreement to purchase the output of large ground mounted projects must be sized to take advantage of a conservatively estimated net metering appetite. This is less of a concern for rooftop projects that provide a small fraction of the annual energy needs of a given building.
- 2) The purchase price should relate to the purchase of net metering credits as opposed to power output. There should be no difference between the two, but this approach guarantees that result.
- 3) The purchase price should be expressed as a percentage of the value of the net metering credit. Solar companies will attempt to negotiate a fixed floor price per kWh below which the price will not drop.
- 4) The agreement should include a project schedule with milestones and best efforts to meet those milestones.
- 5) The agreement should include a schedule of expected net metering credits generated, and if different, guaranteed net metering credits generated.
- 6) Change in law risk should be assigned to the solar company.

D) Qualification Issues

We would recommend that all of the companies listed in Appendix A should be invited to respond to any procurement. That list includes many highly qualified solar companies and some that are less qualified. Any procurement should begin with a qualification step that solicits qualifications packages. The negotiation of the price should be a second step that relates to a negotiation with companies that have already been qualified in phase 1. Some companies may approach you with “too good to be true” prices. If it sounds too good to be true, it probably is. The qualifications phase should focus on the following areas of qualifications:

Solar Development Experience (Schedule Risk)

One of the bigger risks is contracting with a company that does not have appreciable solar development experience and referrals that can substantiate that experience. A favorable contract with an inexperienced company that cannot bring the project to closure in time to take advantage of net metering credits or SRECs is of no value at the end of the day. There are some solar companies that have projects that are already well advanced through the interconnection process. This represents a special category of projects that warrant special consideration, particularly if H 1776 passes in its current form.

Interconnection Experience

Interconnection timelines will be the critical path in the development schedule for any large ground mounted project. The most qualified companies will be able to demonstrate knowledge of the interconnection process in the service territory of your utility. They will have experts on their team with extensive interconnection experience. Ideally, they should be able to identify other solar projects in Massachusetts with a positive interconnection track record and references that can substantiate that track record. There are some solar companies that have projects that are already well advanced through the interconnection process. This represents a special category of projects that warrant special consideration, particularly if H 1776 passes in its current form.

Financing Experience (Tax Strategy)

Very few of the solar companies have sufficient tax appetite in house to take advantage of the 30% ITC, or sufficient capital in house to self finance. There are a number of companies that have arrangements in place with equity investors that can take advantage of the tax benefits, and banking relationships in place to provide debt financing. It is critical at the qualifications stage to evaluate the strength of the tax plan and the financing plan of the solar companies that are being qualified. Beware of the entrepreneur that has favorable pricing and favorable terms but wants to use an agreement with you as leverage to secure tax partners and financing.

Terms and Conditions Flexibility

Once you have limited the initially qualified companies to a short list, it would make sense to redline their agreement (terms and conditions, not price) and secure their reaction to that redline. This makes sense both from a risk management perspective and a schedule risk perspective. Your final shortlist of qualified companies should ideally include companies that you are confident can reach a reasonable deal relatively quickly.

Site Control

There are some solar companies that have control of existing sites that have been selected because of the ease of the interconnection process. In a few cases, these sites may already have interconnection agreements executed with the utility. This is a special case and warrants special consideration. Assuming these companies have credible solar experience as described above, these projects are very likely to be installed in 2012.

Landfill Experience

If the project is planned on a closed landfill site, it is important that the solar company has resources on the team with credible experience seeking and securing landfill post closure permits. There are also special considerations related to the design of solar arrays sited on landfills. For example, the ballasting system may need to be designed to deal with landfill settlement issues.

Property Taxes

For projects that are located in your community, you should be sensitive to the extent to which personal property taxes can drive the economics of these projects. As a general rule, solar equipment that sits on a public roof and provides power to that building is likely to be exempt from personal property taxes. Ground mounted solar projects that export their power to the grid and are sited on public land, are not exempt from personal property taxes. Lobbyists for the solar industry are having discussions on Beacon Hill to enact a law that standardizes the formula for taxing solar equipment. If a community is negotiating both the price to be paid for the net metering credits generated, as well as the property tax, an increase in one area is likely to translate to a decrease in the other. For projects that are located in your community, it makes sense to address both of these economic issues in any discussions with a solar company.

Section 4 - Procurement

Procurement Rules

If the solar project is on a parcel or a rooftop owned by the community, the best procurement method is set out in MGL c 25A s 11(I). This is an RFQ process that requires the selection of three qualified companies in a qualification phase, which is followed by price negotiation in a second phase. The solar companies are familiar with this procurement method and generally had positive comments to make about this procurement method. Because of the focus on qualifications before discussing price, it tends to weed out the entrepreneurs, with limited experience selling a too good to be true price. DOER has model documents, and reviews the RFQ before it issued. Some of the rules and regulations controlling this type of procurement are more appropriate for “Energy Management Services” agreements. For example, there are requirements for minimum energy guarantees, baseline energy use descriptions, and annual monitoring and verification requirements that are designed to deal with agreements to improve the energy efficiency of a building. It is a stretch to apply some of these provisions to a solar array on a landfill that only provides power when the sun is shining. In spite of these flaws, this procurement method works, can be implemented relatively quickly, and is well received by the solar industry. You can procure both power the purchase agreement and the landfill site lease using this procurement method.

You could also use MGL c 25A s 11 (C) to procure a project on a public building or public rooftop. However, section 11 (C) is an “open the envelope, the winner is” type of procurement and not well suited to procuring these projects.

If the solar project is located on a private site (i.e. does not require the use of public property) it can be procured under the energy contract exemption in MGL c 30B (1) (b) (33). This approach might make the most sense in the case where two qualified companies that have sites that are already interconnected, have the ability to complete the project in 2012 and are looking for a quick negotiation with an off taker of the net metering credits generated by the project. Even in this approach, we would recommend dealing with at least two qualified companies, if at all possible.

Group Procurement

When we started this feasibility work, we had assumed that that the additional leverage of 15 clients would argue for a group procurement. In the RFI phase, the additional leverage of 15 clients did help to generate supplier interest. However, having completed the feasibility project, we have now concluded that individual procurements make more sense.

For the following reasons, we recommend procuring one project at a time in the RFP phase:

- 1) Given the dwindling net metering capacity available under the public caps, it makes sense to proceed quickly with clients that are ready to proceed quickly. It would be time consuming to organize a 15 community procurement.
- 2) Different companies have different strengths. Some are focused on projects on private sites. Some have unique interest and experience with and enthusiasm for landfill projects. Some companies have a business plan focused exclusively on rooftop projects. This argues for community specific procurements.
- 3) We have not encountered any company that is big enough with the staff resources on board to expeditiously complete a project for all 15 communities.
- 4) Most of the companies responding to the RFI advocated for a procurement for one community at a time.
- 5) Even if we organized a group procurement for 15 communities, each project would require the negotiation of a project specific power purchase / net metering agreement.
- 6) Any project on a public site (i.e. landfill site) that is starting from scratch will have to procure that project, negotiate that agreement, and then have its selected solar company begin the interconnection process from scratch. The interconnection process alone can take a year to complete. The timeline for a procurement of a solar company that already has an executed interconnection agreement executed on a private site, could be procured and negotiated in 2012. Project specific procurements make the most sense.

For all of the above reasons, we recommend community specific and project specific procurements

Section 5 - Next Steps

Because the utilities limit individual projects on any given site to 3 MW, you would need to procure 3 solar projects to take full advantage of the 6.6 MW of net metering appetite. We would recommend procuring projects in the following order:

- 1) Procurement of 3 MW project on a private site outside of Needham that is well advanced in the interconnection process potentially combined with the .663 MW of rooftop projects described in Appendix B. This type project has a better interconnection timeline and could consequently be procured more quickly.
- 2) Procurement of a 2 MW (or potentially larger) project on the Needham Landfill. If NSTAR confirms the preliminary information that there is ample room on the 3 phase feeder system on Central Ave., this will become an attractive site for solar companies. However, the outcome of the lobbying with respect to H 1776 may determine the potential for this project.
- 3) If there is any remaining net metering capacity after the above two projects have been sized with more detailed precision, a procurement for a project that utilizes that remaining capacity.

We are prepared to represent you if you would like our assistance in the RFP phase. Procurement consulting services would need to be procured under 30B rules. However, given the magnitude of the compensation, it should be possible to procure these services using the three telephone quote procedure described in the IG's 30B manual.

Appendices

- A) List of Solar Developers Contacted in Phase 1 and 2 of the RFI process
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- F) Phase 1 RFI
- G) Phase 2 RFI

Appendix A
Solar Companies Contacted in the RFI Process

Solar Developers Contacted	Participated in Phase I	Participated in Phase II
<p style="text-align: center;">RGS Energy 56 Conduit Street New Bedford, MA 02745 (781) 325 2884 Michelle Mulcahy mmulcahy@alterisinc.com</p>	Yes	
<p style="text-align: center;">Beaumont Solar Co. 200 North Street New Bedford, MA 02740 508 990 1701 ext: 250 Phillip Cavallo phil@Beaumontsolarco.com</p>	Yes	Yes
<p style="text-align: center;">Blue Wave Capital LLC 31 Milk St. Boston, MA 02109 617.350.8620 John P. DeVillars jdevillars@bluewave-capital.com</p>	Yes	Yes
<p style="text-align: center;">Borrego Solar Systems 205 Industrial Avenue East Lowell, MA 01852 978 513 2629 Andrew Reed areed@borregosolar.com</p> <p style="text-align: center;">Amy McDonough amcdonough@borregosolar.com</p> <p style="text-align: center;">Miles Hovis mhovis@borregosolar.com</p>	Yes	Yes
<p style="text-align: center;">Brightfields Development LLC 40 Walnut Street, Suite 301 Wellesley, MA 02481 781-489-6239 Beth Masterman BMasterman@brightfieldsllc.com</p>	Yes	
<p style="text-align: center;">Broadway Renewable Strategies 295 Freeport Street Boston, MA 02122-3592 (617) 822-8831 Jeffrey Wootan</p>	Yes	Yes

jwootan@broadelec.com		
EDF Energies Nouvelles (enXco) 15445 Innovation Drive Sand Diego CA 02128 347 647 1558 Stephen Tobey stephen.tobey@enxco.com	Yes	Yes
Gloria Solar Gloria Solar Co., Ltd. 3rd Floor, Building B, No. 9, Sanbaojhu Rd., Shanhua Dist., Tainan city, 74149, Taiwan, R.O.C. (Tainan Science Park) +886-6-505-9500 ext. 5105 Shawn Li shawn.li@gloriasolar.com	Yes	
Nexamp, Inc. 4 Liberty Square, 3rd Floor Boston, MA 02109 978.237.5773 Emma Kosciak ekosciak@nexamp.com	Yes	
NuGen Capital Management, LLC 6 Liberty Tree Lane Shrewsbury, MA 01545 508 595 3790 Bob McLaren rmclaren@nugencapital.com	Yes	Yes
Rterra, LLC 28 Jacome Way Middletown RI 02842 401-619-5292 Mary Pat Radeka mpradeka@rterra.com	Yes	Yes
Spire Corporations One Patriots Park, Bedford, MA 01730 781 275 1677 x526 John Perry jperry@spirecorp.com	Yes	Yes
Tangent Energy Solutions, Inc. 27 Mica Lane Wellesley MA, 02481 781 237 8880 x 19 Bruce A Sher bsher@tangentenergy.com	Yes	Yes

Riverside Solar Energy Advisors 27 Mica Lane Wellesley MA, 02481 781 237 8880 x 19 Brett Levy Blevy@riversideprop.com	Yes	
Sun Ray Patrick Curley pcurley@sunraypowerllc.com	Yes	
Solaire Generation 150 W 28th St. Suite 1801 NY, NY 10001 Jean McGillicuddy jeanmcg@solairegeneration.com		Yes
Solsolution/Clean Energy for Education 337 Summer St. Boston, MA 02210 Soren Harrison Soren@sol-solution.org	Yes	Yes
Siemens Daniel Smith Daniel.w.Smith@siemens.com		
Absolute Green Energy Corporation 92 Gardner Street, Worcester, MA 01610 USA Mike Ortolano mortolano@absolutegreenenergy.com		
Ameresco, Inc. 111 Speen St # 410 Framingham, MA 01701-2090 508 661 2200 Jim Walker jawalker@ameresco.com		
American Capital Energy 15 Tyngsboro Road, Suite 4A North Chelmsford, MA 01863 Bill Fitzpatrick bfitzpatrick@americancapitalenergy.com		
Fall River Electrical Associates Co., Inc 74 Corneau Street Fall River, MA 02721-3009 508-675-0523 EXT: 11		

Dana Johnston Danaejohnston@frea.biz		
Juwi 1805 29th Street Suite 2054 Boulder, Colorado 80301 1.720.838.2299 Scott Leach sleach@juwisolar.com		
Riverside Solar Energy Advisors 27 Mica Lane Wellesley, MA 02481 781-237-8880 x24 Mark Levy mlevy@riversideprop.com		
SolarFlair Energy, Inc. 11 Mayhew Street Framingham, MA 01702 (508) 293-4293 Daniel T. Greenwood dan@solarflair.com		
Tecta America 215-518-7919 Katie Riedo kriedo@tectaamerica.com		
Rivermoor Energy Riverside Center 275 Grove Street Newton, MA 02466 (617) 213-8677		
Fischbach & Moore 74 Lawley Street Boston, MA 02122 617-268-7300 x311 Shawn Greenwood sgreenwood@fischbachandmoore.com		
JF White Contracting, Inc. 10 Burr Street Framingham, MA 01701 617-558-0410 Greg Sapochetti gsapo@jfwhite.com		
My Generation Energy Inc. 3 Diamonds Path, Suite 2 South Dennis MA 02660 508 237 4650		

<p>Luke Hinkle luke@mygenerationenergy.com</p>		
<p>SunBug Solar 411A Highland Ave, Suite 312 Somerville, MA 02144 617 500 3938 Lisa Raffin Lisa.raffin@sunbugsolar.com</p>		
<p>OPDE 1430 Enterprise Blvd, West Sacramento CA 95691 916 374 8722 Raul Sanz rsanz@opde.net</p>		
<p>Centro Solar 8350 E. Evans Rd., Ste E-1 Scottsdale, AZ 85260-3643 (480) 339-6864 Chris Wood Chris.Wood@centrosolar.com</p>		
<p>Constellation Energy 410 470 3266 Bryan Miller Bryan.Miller@constellation.com</p>		

Appendix B

Evaluation of Needham Nominated Solar Sites

A	Name of Facility	High School
B	Age of Roof (Two sections in rear of building)	Since 2008
C	Roof Warranty Remaining	TBD
D	Type of Roof	EPDM
E	As Built Plans Reviewed	NO
F	Structural Analysis	TBD
G	Total Area of Roof	38,000 sq ft
H	Useable, Un-shaded, Contiguous Space	8,000 sq ft
I	Potential Solar Capacity @ 8.3 watts / square foot	66 KW
J	Potential Solar output @ 1,000 kWh / KW of capacity	66,000 kWh
K	Potential Economic Benefit @\$.05 per kWh	\$3,300 / yr
L	Total Net Metering Appetite Community Wide	7,566,667
M	Percent of Net Metering Appetite from this Project	.9%

A	Name of Facility	Elliot School
B	Age of Roof	Installed 2003
C	Roof Warranty Remaining	TBD
D	Type of Roof	Built up
E	As Built Plans Reviewed	NO
F	Structural Analysis	TBD
G	Total Area of Roof	40,000 sq ft
H	Useable, Un-shaded, Contiguous Space	24,000 sq ft
I	Potential Solar Capacity @ 8.3 watts / square foot	199 KW
J	Potential Solar output @ 1,000 kWh / KW of capacity	199,000 kWh
K	Potential Economic Benefit @\$.05 per kWh	\$9,950 / yr
L	Total Net Metering Appetite Community Wide	7,566,667
M	Percent of Net Metering Appetite from this Project	2.6%

A	Name of Facility	Broadmeadow School
B	Age of Roof	Installed 2002
C	Roof Warranty Remaining	TBD
D	Type of Roof	Built Up
E	As Built Plans Reviewed	No
F	Structural Analysis	TBD
G	Total Area of Roof	61,000 sq ft
H	Useable, Un-shaded, Contiguous Space	13,000 sq ft
I	Potential Solar Capacity @ 8.3 watts / square foot	108 KW
J	Potential Solar output @ 1000 kWh / KW of capacity	108,000 kWh
K	Potential Economic Benefit @\$.05 per kWh	\$5,400 / yr
L	Total Net Metering Appetite Community Wide	7,566,667
M	Percent of Net Metering Appetite from this Project	1.4%

A	Name of Facility	Newman School
B	Age of Roof (Two sections in rear of building)	Installed 2011
C	Roof Warranty Remaining	TBD
D	Type of Roof	EPDM
E	As Built Plans Reviewed	No
F	Structural Analysis	TBD
G	Total Area of Roof	81,000 sq ft

H	Useable, Un-shaded, Contiguous Space	21,000 sq ft
I	Potential Solar Capacity @ 8.3 watts / square foot	174 KW
J	Potential Solar output @ 1,000 kWh / KW of capacity	174,000 kWh / yr
K	Potential Economic Benefit @ \$.05 per kWh	\$8,700 / yr
L	Total Net Metering Appetite Community Wide	7,566,667 kWh
M	Percent of Net Metering Appetite from this Project	2.3%

A	Name of Facility	Pollard School
B	Age of Roof	Installed 2011
C	Roof Warranty Remaining	TBD
D	Type of Roof	Built Up
E	As Built Plans Reviewed	No
F	Structural Analysis	TBD
G	Total Area of Roof	97,000 sq ft
H	Useable, Un-shaded, Contiguous Space	14,000 sq ft
I	Potential Solar Capacity @ 8.3 watts / square foot	116 KW
J	Potential Solar output @ 1,000 kWh / KW of capacity	116,000 kWh / yr
K	Potential Economic Benefit @ \$.05 per kWh	\$5,800 / yr
L	Total Net Metering Appetite Community Wide	7,566,667 kWh / yr
M	Percent of Net Metering Appetite from this Project	1.5%

A	Name of Facility	Needham Landfill
B	Total Acreage	11 acres
C	Useable, Un-shaded, Space	11 acres
D	Potential Solar Capacity	2 MW
E	Potential Solar output	2,500,000 kWh / yr
F	Potential Economic Benefit @ \$.05 per kWh	\$125,000 / yr
G	Total Net Metering Appetite Community Wide	7,566,667 kWh / yr
H	Percent of Net Metering Appetite from this Project	33%
I	Access to 3 Phase Feeder System	At Site
J	Available Capacity on Feeder System	TBD
K	Property Tax Revenues, current rules (assessed value x mil rate)	\$80,000 1 st yr
L	Property tax revenues, per pending legislation (5% of NMC)	\$18,750 / yr for 10 years

Note: Regarding property taxes: Using current rules we assumed an assessed value of personal property of \$3,750,000 and a mil rate of \$21.50 / 000 to arrive at a personal property tax in the first year of approximately \$80,000. This annual tax would decline over 10 years as the assessed value is reduced by depreciation. Industry lobbyists are currently in discussions on Beacon Hill regarding a uniform approach to assessing property taxes to solar equipment. Our understanding is that it may be likely that personal property taxes will be assessed at a uniform annual rate over a 10 year schedule that is equal of 5% of the value of the net metering credits generated in the first year. The property tax in Line L above is calculated using that proposed formula.

APPENDIX C

MODEL CHAPTER 25A PROCUREMENT DOCUMENT

INSTRUCTIONS FOR USE OF MODEL DOCUMENT

Draft Date: June 1, 2011
Department of Energy Resources (DOER)

ACKNOWLEDGEMENTS

This document was prepared by Eileen McHugh, Municipal Energy Program Coordinator (DOER). The following people and organizations provided input and review in the preparation of this document; Robert Sydney, General Counsel (DOER); Rachel Evans, Deputy General Counsel (DOER); Beth Greenblatt, Managing Director, Beacon Integrated Solutions; and the Energy Services Coalition.

This document is a model Request for Proposal (RFP) with provisions to use in procuring Energy Management Services for Renewable Energy Systems under Chapter 25A § 11C of the Massachusetts General Laws and 225CMR 10.00.

When procuring for EMS, it is the sole responsibility of each governing body to consult with legal counsel in preparing any documents and to ensure compliance with all applicable federal, state, and local laws, rules, regulations, and procurement procedures.

1. Use this model RFP as a foundation for the solicitation. The document is intended as guidance to ensure compliance with the statute and the regulation.
2. Redline any changes and provide a reason for the change. Do not redline the insertion of information already highlighted in blue. RFPs without redlining will be rejected.

Example reasons for changes to the model document:

Adding details applicable to the particular project, such as purpose, scope, and objectives.
Adding standard language required by the awarding authority.
Deleting language that does not apply to the project details.

3. Complete the Certificate of Compliance Checklist
4. File the solicitation electronically with DOER fifteen days before the intended publishing date. To file bid documents, contracts, and annual reports with the DOER, email one complete electronic copy to: EMS.DOER@state.ma.us and mail one complete copy to:

Massachusetts Department of Energy Resources
Attn: **NOTIFICATION OF EMS PROCUREMENT**
100 Cambridge St., Suite 1020
Boston, MA 02114

EXAMPLE SCOPEs OF WORK:

Option 1 - Lease with Power Purchase Agreement and Decommissioning Plan The Awarding Authority desires to enter into a Lease/PPA agreement for a renewable energy system to provide electricity for use by the Awarding Authority, all as set forth in [ATTACHMENT X](#) (“Site Description”) of this RFP. The Awarding Authority seeks proposals from entities in the business of financing, installing, owning, operating and maintaining renewable power electric generation facilities to finance, install, own, operate and maintain the System on the Site (the “*Project*”). As owner of the Site, the Awarding Authority seeks to grant to the selected Developer a lease pursuant to a Power Purchase Agreement (“PPA”), in the form of [ATTACHMENT X](#) to allow the selected Developer to undertake the Project for the purposes and subject to the conditions set forth herein, all as further set forth in [ATTACHMENT X: Power Purchase Agreement](#).

To the extent that generation output is greater than the municipality’s electricity requirements, the Developer’s proposal must include a plan for the disposition of any power in excess of electricity purchased by the Awarding Authority (e.g., net metering, offsets, or sale into the wholesale power grid for the selected Developer’s own account). **Proposals must include a measurement and verification strategy for metering onsite electricity generation.**

The chosen Developer will be responsible for the application for any federal or state financial assistance to be included in the development of the system, renewable energy credits, rebates, grants, tax credits or other types of incentives, including providing all related equipment and services required to place the system in service and to maintain the system throughout its lifetime. It is the Awarding Authority's intention that this project will take advantage of any available sources of federal and state funding for renewable energy projects, including primarily renewable energy credits, or any other rebate, grant or other allowable government-sponsored incentives, and that there will be no direct cost or financial outlay by the municipality.

Option 2 - Lease Purchase with Power Purchase Agreement: The Awarding Authority desires to enter into a Lease/Purchase Agreement and a PPA for a renewable energy system to provide electricity for use by the Awarding Authority, all as set forth in [ATTACHMENT X \("Site Description"\)](#) of this RFP. The Awarding Authority seeks proposals from entities in the business of financing, installing, operating and maintaining renewable power electric generation facilities to finance, install, operate and maintain the System on the Site (the "**Project**") with purchase options. As owner of the Site, the Awarding Authority seeks to grant to the selected Developer a lease pursuant to a Power Purchase Agreement ("**PPA**"), in the form of [ATTACHMENT X](#) to allow the selected Developer to undertake the Project for the purposes and subject to the conditions set forth herein, all as further set forth in [ATTACHMENT X: Power Purchase Agreement](#). **Proposals must include purchase options that optimize all available incentives and provide the greatest value to the Awarding Authority.**

To the extent that generation output is greater than the municipality's electricity requirements, the Developer's proposal must include a plan for the disposition of any power in excess of electricity purchased by the Awarding Authority (e.g., net metering, offsets, or sale into the wholesale power grid for the selected Developer's own account). **Proposals must include a measurement and verification strategy for metering onsite electricity generation.**

The chosen Developer will be responsible for the application for any federal or state financial assistance to be included in the development of the system, renewable energy credits, rebates, grants, tax credits or other types of incentives, including providing all related equipment and services required to place the system in service and to maintain the system throughout the term of the agreement. It is the Awarding Authority's intention that this project will take advantage of any available sources of federal and state funding for renewable energy projects, including primarily renewable energy credits, or any other rebate, grant or other allowable government-sponsored incentives, and that there will be no direct cost or financial outlay by the municipality.

Option 3 - Purchase Agreement: The Awarding Authority desires to enter into a Purchase agreement for a renewable energy system to provide electricity for use by the Awarding Authority, all as set forth in Attachment 1: Site Description of this RFP. The Awarding Authority seeks proposals from entities in the business of financing, installing, operating and maintaining renewable power electric generation facilities to install the System on the Site (Project). As owner of the Site, the Awarding Authority seeks to purchase the renewable energy system to allow the selected Developer to undertake the Project for the purposes and subject to the conditions set forth herein, all as further set forth in Attachment 2: Power Purchase Agreement.

The chosen Developer will be responsible for the application for any federal or state financial assistance to be included in the development of the system, renewable energy credits, rebates, grants, or other types of incentives, including providing all related equipment and services required to place the system in service. It is the Awarding Authority's intention that this project will take advantage of any available sources of federal and state funding for renewable energy projects, including primarily renewable energy credits, or any other rebate, grant or other allowable government-sponsored incentives. **To the extent**

that grant and incentives are available this project will not exceed [ENTER AMOUNT OF AVAILABLE FUNDS].

MODEL RFP FOR A RENEWABLE ENERGY SYSTEM

Awarding Authority: [Insert name & contact information]

Address:

RFP Contact Person:

Email:

Telephone:

Fax:

The _____ (Awarding Authority) seeks proposals, pursuant to M.G.L. c. 25A, §11C, from qualified renewable energy Developers (Developers) interested in implementing a performance based renewable energy system (Project)¹ with guaranteed onsite electricity generation² at its facilities. The Awarding Authority intends to select and enter into a Solar Energy Management Services Contract with the most highly qualified provider per the evaluation criteria herein.

The Awarding Authority may cancel this RFP, or may reject in whole or in part any and all Proposals if the Awarding Authority determines that cancellation or rejection is in its best interest.

Projected Selection Timeline:

Notification to the DOER:	[Insert Date] ³
Published in Central Register:	[Insert]
Published in	[Insert name of newspaper, web site, and public posting]
RFP available:	[Insert]
Mandatory Pre-bid Conference:	[Insert]
Facility Tour	[Insert]
Final Inquiry Date:	[Insert]
Proposals Due:	[Insert]
Location:	[Insert]
Anticipated Evaluation Complete:	[Insert]
Anticipated Interviews:	[Insert]
Anticipated Selection for Negotiations:	[Insert]

Awarding Authority: [Insert name & contact information]

Address:

RFP Contact Person:

Email:

¹ “Energy conservation projects”, projects to promote energy conservation, including but not limited to energy conserving modification to windows and doors; caulking and weather-stripping; insulation, automatic energy control systems; hot water systems; equipment required to operate variable steam, hydraulic and ventilating systems; plant and distribution system modifications, including replacement of burners, furnaces or boilers; devices for modifying fuel openings; electrical or mechanical furnace ignition systems; utility plant system conversions; replacement or modification of lighting fixtures; energy recovery systems; on-site electrical generation equipment using new renewable generating sources as defined in section 11F; and cogeneration systems. G.L. c. 25A, §3.

² “The renewable energy management services contract shall include a written guarantee of the qualified provider that either the amount of electricity generation guaranteed shall be achieved or the qualified provider shall reimburse the awarding authority for the shortfall amount. Methods for measurement and verification of energy savings shall conform to the most recent standards for renewables established by the Federal Energy Management Program of the United States Department of Energy.”

³ Awarding Authorities must file a complete RFP, including facility description and three years of energy data, fifteen days before publishing in the Central Register.

Telephone:
Fax:

1. SOLICITATION AND PROPOSAL PROCESS

STAGE ONE: DCAM Contractor Certification Process

Developers are advised that advance certification by Massachusetts Division of Capital Asset Management and Maintenance (“DCAM”) is required pursuant to M.G.L. c. 149 § 44. Certification application forms are available from [DCAM Contractor Certification Office](#) at (617) 727-9320.

STAGE TWO: Pre-Proposal Conference and Facility Tour [Optional]

A Pre-Proposal Conference and Tour of the Facility(s) will be held at [\[Insert location, date and time\]](#). All prospective respondents must attend the mandatory pre-bid conference. Respondents interested in attending must confirm attendance by contacting [\[Insert\]](#). Respondents must provide the number of attendees (up to 3) and the full contact information for the key person attending the pre-bid conference.

All questions and inquiries concerning this RFP must be submitted in writing no later than [\[Insert date, time, and address\]](#). Inquiries will not be answered directly. The Awarding Authority will issue an addendum to address the written questions. Any addenda will be posted [\[Insert\]](#). It is the responsibility of the Developer to contact [\[Insert\]](#) prior to the submittal deadline to ensure that the Developer has received all addenda issued by the Awarding Authority.

The Awarding Authority reserves the right to amend this RFP based on questions and issues raised prior to and at the Pre-Proposal Conference.

STAGE THREE: Submission of Proposals

Any qualified bidder who wishes to submit a Proposal to this RFP shall submit [\[Insert\]](#) copies of the Proposal and one single-file electronic version. Respondents will be evaluated only on the criteria set forth in this Request for Proposal (RFP).

STAGE FOUR: Selection of Vendor

The Awarding Authority will evaluate and rank all Proposals based upon the criteria listed in this RFP, and reserves the right to waive any minor informalities.

Following selection of the top-ranked Proposal, the Awarding Authority and the Developer will verify the proposed strategy. Based upon the results, the Awarding Authority may negotiate an Energy Management Services Agreement with the selected Developer. If an acceptable contract cannot be reached, the Awarding Authority may initiate negotiations with the second ranked Developer.

2. RFP PROCEDURES

- A. Modification or Withdrawal of Proposals: Any Proposal may be withdrawn or modified by written request of the Developer, provided such request is received by the Awarding Authority at the above address prior to the due date for Proposals.
- B. Cost of Proposal Preparation: The Awarding Authority will not reimburse Developers for any costs incurred in preparing Proposals to this RFP, including site visits or preliminary engineering analyses.
- C. Public Record: To review a copy of Proposals submitted to the Awarding Authority after the contract has been awarded, submit a written request in compliance with the Massachusetts Public Records Act to the RFP Contact Person identified above.

3. GENERAL INFORMATION

The Awarding Authority seeks proposals from qualified providers interested in implementing a comprehensive, performance-based Energy Management Services Project⁴ at its facilities identified in Attachment 1: Facility Profile.

This Project will reduce the use of fossil fuels and the overall cost of energy needed to meet the needs of the Awarding Authority while also introducing a renewable source of energy to reduce the carbon footprint of the municipality.

The Project will include the design and installation of renewable energy generation to shift energy loads to on-site renewable power sources, including, without limitation, (a) performance-contracting utility-demand reduction projects, (b) innovative project financing (optional at the Awarding Authority's sole discretion), (c) innovative project funding (e.g., sale of RECs or GHG credits or sale of efficiency benefits on the ISO New England Forward Capacity Market, optional at the Awarding Authority sole discretion), and g) the work associated with monitoring and verifying electricity generation and the design of the subject work.

In accordance with G.L. c.71, §38R, the Awarding Authority may request and obtain all available criminal offender record information (CORI) from the Criminal History Systems Board of any contractor "who may have direct and unmonitored contact with children". As a condition of the award of any contract and prior to commencement of any work, the successful ESCO shall complete and sign a Request Form to obtain CORI. The ESCO shall be responsible to have all of its contractors complete and sign the form.

4. TERMS OF PROPOSAL

⁴ "Energy management services", a program of services, including energy audits, energy conservation measures, energy conservation projects or a combination thereof, and building maintenance and financing services, primarily intended to reduce the cost of energy and water in operating buildings, which may be paid for, in whole or in part, by cost savings attributable to a reduction in energy and water consumption which result from such services. G.L. c. 25A, §3.

a. General Terms

The Awarding Authority intends to use this Project to address, meet, or exceed several of the goals, objectives, strategies, and actions identified in [\[insert reference to any existing energy management plan, sustainability plan, or climate protection plan\]](#) including elements:

1. [\[INSERT OPTION 1, 2, OR 3\]](#)
2. The Developer's response must include the performance of a detailed engineering study (Study) of acceptable quality to the Awarding Authority. The Study will include a complete structural review of the Awarding Authority's buildings and/or site to determine viability of a photovoltaic installation. The Developer must provide "as built" and record drawings of all existing and modified conditions associated with the project conforming to typical engineering standards. This should include architectural, mechanical, electrical, structural, and control drawings each stamped by a Massachusetts Registered Professional Engineer (P.E.) for the corresponding discipline.

If a satisfactory Study is not executed within [\[INSERT NUMBER OF DAYS\]](#) days of the award, then the Awarding Authority shall have the right to withdraw the award and make the award to the next ranked Developer. The Study is subject to acceptance by the Awarding Authority and together with any revisions becomes the specifications for the contract known as the Energy Management Services Agreement (EMSA).

3. The facility maintenance responsibilities will be clearly delineated in the Energy Management Services Agreement
4. Any available utility rebates, RET funds, etc., that facilitate the incorporation of renewable energy resources.
5. If your firm is not Massachusetts based, identify and describe the organization, experience, and relationship of the firm that will guarantee the local support services necessary for fulfilling the contract terms.
6. List all equipment that will become property of the Awarding Authority upon installation and upon expiration of the contract, if applicable. Describe all warranties that will become the property of the Awarding Authority and explain how they will be transferred to the Awarding Authority. Provide Manufacturer's cut sheets for each proposed equipment installation measure.
7. State all maintenance services required for proposed improvements. Include the frequency and estimated time necessary to complete each function. The Awarding Authority's facility staff normally performs routine maintenance on equipment and building systems. If your Proposal contains additional maintenance services, state specifically how the cost and terms would differ if all equipment and systems were maintained by (A) facility staff, or (B) your firm. The Awarding Authority will not accept

any measure that requires hiring additional maintenance staff unless previously and specifically agreed to in writing.

8. Propose a project implementation schedule, including expected construction schedule from beginning to end, particular facility concerns such as scheduling and/or special facilities, expected number of workers, chain of command, etc. Include estimated dates for preliminary design documents and construction documents including design development drawings, construction drawings, basis of design, outline specifications, and cost estimates.
9. The method for computing on-site electricity generation, including a metering strategy, shall comply with the letter and intent of the most recent version of the U.S. Department of Energy, Federal Energy Management Program Measurement and Verification Guidelines (FEMP Guidelines). Acceptance of the FEMP Guidelines by your firm is a minimum contract term.
10. Terms of the EMS contract must conform to the terms included in the RFP. Terms that do not conform to the terms set forth in this RFP shall be considered void.

b. Firm's Abilities

1. Please provide the resumes of project team members, including the prime contractor and any subcontractors, and a description of their respective responsibilities. The project team must include a Massachusetts Registered Professional Engineer. Resumes should include each participant's background, specific areas of expertise, and previous experience with projects of this type and size.
2. Provide a copy of a contract recently executed by your company, firm, or organization with a similar organization (City, Town, or School Department). Please provide a minimum of three (3) project references for the proposed project team members. These project references should be of the same size and type of project as the Project.

c. Finance Options

The selected Developer will be responsible for designing, financing, operating and maintaining the System, and obtaining all necessary permits and approvals (e.g., building permits).

It is expected that the selected Developer will pursue tax credits and incentives, rebates, and other benefits that are available and/or may become available in the future. The Developer's proposal shall include a plan for the disposition and/or assignment of: (a) any environmental or other attributes (such as RECs, greenhouse gas offsets, or forward capacity market payments) that are generated in connection with the operation of the System; (b) any tax credits or incentives generated in connection with the operation of the System; and (c) any grants or rebates obtained in connection with the installation of the System. The selected Developer shall comply with any requirements (such as insurance, reporting, etc.) that are associated with available programs.

The generation capacity of the System generally should not exceed the expected “base load” electric consumption requirements of the municipality’s needs in order to ensure that the majority of the electricity produced is used on-site. To the extent that generation is not coincident with municipal load, the Developer’s proposal must include a plan for the disposition of any power in excess of what will be purchased by Awarding Authority (e.g., net metering, offsets, or sale into the wholesale power grid for the selected Developer’s own account).

d. Guaranteed Energy Savings

1. State the projected and guaranteed annual electricity to be generated by the Project over the life of the contract.
2. Provide an energy price floor and a corresponding ceiling and indicate the basis for these figures.
3. The Developer’s proposal must include:
 - (a) Guaranteed annual electricity output (kWh/yr minus onsite parasitic load); and
 - (b) Annual system degradation factor,

Please include any other information that you would like the evaluation committee to consider in its analysis of the Proposal.

1. MINIMUM CONTRACTUAL TERMS

The Proposal shall conform to the terms and services in the Model PPA Agreement, found at Attachment 6, and discussed below. The Proposal may contain additional services or terms, but no Proposal will be considered if these minimum conditions cannot be met by the Developer.

Part 1: Required Services

- A. The Developer will provide "as built" and record drawings of all existing and modified conditions associated with the Project conforming to typical engineering standards. This should include architectural, mechanical, electrical, structural, and control drawings each stamped by a Massachusetts Registered Professional Engineer (P.E.) for the corresponding discipline.
- B. Before submitting a proposal, each Developer will be responsible for obtaining any studies and data concerning conditions (surface, subsurface and underground facilities) at the site or otherwise, which may affect the Developer’s ability to comply with obligations contract or which the Developer otherwise reasonably deems necessary to develop a proposal to undertake the Project in accordance with the terms and conditions of this RFP.

- C. The Developer will be required to work with Awarding Authority personnel on a pre-planned and programmed basis, clearly delineating a preventive maintenance schedule for all new equipment installed as part of this project. No equipment may be installed that will require the Awarding Authority to hire additional maintenance personnel.
- D. The Developer will use a method for computing the electricity generation which is wholly consistent with the letter and intent of the most recent version of the U.S. Department of Energy, Federal Energy Management Measurement and Verification Guidelines (FEMP Guidelines).
- E. Prior to contract termination, the Developer will be obligated to perform a survey of the system and to prepare an assessment of the condition of the equipment installed as part of the project. The Awarding Authority retains the right to hire an independent, certified professional engineer to prepare an assessment of the condition of the equipment installed as part of the contract.
- F. The Developer will include the complete set of the proposed renewable energy system, proposed costs, timetable for completing engineering and construction work, a detailed description of equipment and services to be provided, and an estimate of the electricity production, as well as special terms offered by the Developer in its response. All Developers must indicate that all mandatory terms and conditions have been met, including compliance with current Prevailing Wage Laws.

Part 2: Required Contractual Language

- A. The Awarding Authority shall determine whether the material or equipment installed is equal to those specified in the Proposal. In the event an article of any class or materials or equipment specified by the trade name of any particular patentee, manufacturer, or dealer, or by reference to the catalog of any such article or articles or materials is to be substituted, the replacement must be equal in quality, finish and durability and equally as serviceable for the purpose for which it is or they are intended as the originally specified article. The Awarding Authority shall make the decision as to whether the materials or equipment offered are equal to those specified, and the decision of the Awarding Authority shall be final.
- B. The Developer shall protect and save the Awarding Authority harmless against all claims, and actions brought against _____ by reason of any actual infringement upon patent rights in any material, process, machine or appliance used by him in the work.
- C. The necessary rights-of-way for any construction to be done across or in private property will be obtained by _____. The Developer shall take due and proper precautions against any injury to adjacent structures and shall hold himself strictly within the rights secured to him by _____ in prosecuting the work on private property.

- D. The Developer shall obey and abide by all laws of the Commonwealth of Massachusetts relating to the employment of labor and public work and all ordinances and requirements of the Awarding Authority regulating or applying to public improvements.

The Developer agrees not to discriminate against any employee or applicant for employment, to be employed in the performance of this Agreement, with respect to hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of age, sex, race, color, religion, national origin, or ancestry.

- E. In the execution of the Agreement, it may be necessary for the Developer to subcontract part of the work to others; however, the Developer shall not award any work to any subcontractor without prior written approval of the Awarding Authority which approval shall not be given until the Developer submits to the Awarding Authority a written statement concerning the proposed award to the subcontractor, which statement shall contain such information as the Awarding Authority may require.

The Developer shall be fully responsible to the Awarding Authority for the acts and omissions of its subcontractors and of persons either directly or indirectly employed by the Developer, as it is for the acts and omissions of persons directly employed by it. Nothing contained in this Agreement shall create any contractual relation between any subcontractor and the Awarding Authority.

The Developer shall not assign, transfer, convey, or otherwise dispose of this Agreement, or any part hereof, or its right, title or interest in the same or any part thereof, without the prior written notice to the Awarding Authority. The Developer shall not assign by power-of-attorney, or otherwise, any of the moneys due or to become due and payable under this Agreement, without the prior written notice to the Awarding Authority.

- F. During the life of this Agreement, the Developer shall procure and maintain Worker's Compensation Insurance in accordance with the Worker's Compensation Act of the Commonwealth of Massachusetts. This insurance policy shall adequately protect all labor employed by the Developer during the life of this Agreement and, if required, the Developer shall provide written evidence to the Awarding Authority that such insurance is in fact in force.
- G. Developer must carry an appropriate level of insurance for both the construction and operations phases
- H. Notwithstanding any other law, the provider of the energy management services must file with the Awarding Authority a payment and performance bond relating to the installation of the project including the following:
- 1) Prior to entering into an EMS contract, the Developer shall furnish a certified copy and duplicate of a performance bond, with project financier as co-beneficiary along

with the Awarding Authority;

- 2) The performance bond shall be in an amount equal to 100% of the total contract value from a surety company licensed to do business in the Commonwealth and whose name appears on U.S. Treasury Dept. Circular 570;
 - 3) The Developer shall furnish a certified copy and duplicate of a performance bond, with project financier as co-beneficiary along with the Awarding Authority. The Developer shall also furnish a payment bond in duplicate;
 - 4) Unless otherwise specified by the Awarding Authority, the performance and payment bonds shall remain in effect during the total **implementation period** for the Project. The implementation period shall include all time required for installation, testing, measuring initial performance, and Awarding Authority acceptance of all installed equipment;
 - 5) The performance bond shall be released upon Awarding Authority acceptance of the Project. The payment bond shall be released upon receipt of satisfactory evidence that all subcontractors, laborers, etc., have been paid in full or final acceptance whichever is later; and,
 - 6) The Developer shall not file any mechanics liens against the Awarding Authority for the project and this requirement shall flow down to all subcontractors. Therefore, the payment bond shall secure the Developer's obligations for payment of laborers, suppliers, and all subcontractors.
 - 7) The Developer will maintain and operate the equipment in a manner that will provide the accepted standards of service.
 - 8) Arbitration: [\[Insert Arbitration Language\]](#)
- I. **Within two months of contract execution, the Developer will begin implementation of preliminary operations and procedures to generate electricity at the named properties of the Awarding Authority.**
 - J. The Awarding Authority retains ultimate approval over scope of work, choice of subcontractor, equipment installed, and end use conditions. No work can proceed without the prior written consent of the Awarding Authority. However, such approval shall not be unreasonably withheld.
 - K. The Awarding Authority will review all proposed modifications to the building and systems, and must approve of them before commencement of any work. Such approval shall not be unreasonably withheld.

- L. Developer is required to pay minimum wage rates for all employees involved in providing contract services, as determined by the Division of Occupational Safety⁵. Please note wage rates are valid only for 90 days from date of issue. Further inquiry and clarification of prevailing wage laws can be obtained from the Massachusetts Division of Occupational Safety.
- M. All work shall meet the minimum standards of ASHRAE and the Massachusetts Building Code.
- N. The Awarding Authority must have access to inspect both the work conducted at project site(s) during construction and operations phases, and to the books, records, and other compilations of data, which pertain to the performance of the provisions and requirements of this agreement. Records shall be kept on a generally recognized accounting basis, and calculations kept on file in legible form.
- O. All drawings, reports and materials prepared by the Developer specifically in performance of the Energy Services Agreement shall become the property of the Awarding Authority, and shall be delivered to the Awarding Authority as needed or upon **contract termination**.
- P. The Developer will be required to file a Disclosure Statement listing all its public contractors; a Truth in Negotiations Certificate as describe in M.G.L. Chapter 7, section 30I, a Financial Interest Statement as described in M.G.L. 7, section 14A; and a Tax Certificate as described in M.G.L. Chapter 62C, section 49A.
- Q. The Developer shall perform its obligations hereunder in compliance with any and all applicable federal, state, and local laws, rules, and regulations, including applicable licensing requirements, in accordance with sound engineering and safety practices, and in compliance with any and all reasonable rules of the Awarding Authority relative to the premises. The Developer shall be responsible for obtaining all governmental permits, consents, and authorizations as may be required to perform its obligations hereunder.

⁵ The Massachusetts prevailing wage laws require that employees on public works projects, except those who perform strictly supervisory functions, be paid a minimum hourly rate set by the Department of Labor and Workforce Development, [Division of Occupational Safety](#) (DOS) ([Mass. General Laws c149, s.26](#)).

ATTACHMENT 1
Facility Profile
(Provided by the Awarding Authority)

For each building/site to be addressed by this project list facility name, address, square footage, type (roof or ground), year built, roof type, roof pitch, roof orientation, distance to interconnection, slope description utility rate schedules and previous three year electricity usage information, building or operational peculiarities, along with a general description of building function and hours of operation and any specific projects that Developers should address in their Proposals.

Include any additional information that will be helpful to Developers in evaluating their interest in this project.

ATTACHMENT 2
RFP Evaluation Forms

ATTACHMENT 3
RFP Form of Response

ATTACHMENT 4
Model Energy Management Services Agreement for Solar

End of Model Chapter 25A Procurement Document

Appendix D
Net Metering Legislation

(H 1776) as proposed by the Joint Committee on Telecommunications, Energy and Utilities.

The Commonwealth of Massachusetts

In the Year Two Thousand Eleven

An Act relative to net metering.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

SECTION 1: Subsection (f) of section 139 of chapter 164 of the general laws is hereby amended by striking out “1 per cent” in the first sentence and inserting in place thereof “3 per cent”.

SECTION 2: Subsection (f) of section 139 of chapter 164 is hereby further amended by striking out “2 per cent” in the second sentence and inserting in place thereof “3 per cent”.

SECTION 3: Section 139 of chapter 164 of the general laws is hereby amended by adding after subsection (g) the following section:-

(h) Subsection (f) shall not apply to a Class I net metering facility if:

- 1) the design generating capacity of the facility is equal to or less than 10 kilowatts on a single-phase circuit, or 25 kilowatts on a three-phase circuit, or;
- 2) the facility supplies no more than 100% of the customer’s average monthly kilowatt-hour usage over the course of a calendar year.

Facilities defined under this subsection shall apply for interconnection approval through a statewide standard agreement. The department shall develop such a standard interconnection agreement for projects qualifying under this subsection by January 1, 2013.

SECTION 4: Subsection (g) of section 139 of chapter 164 of the general laws is hereby amended by adding at the end of the first paragraph the following sentence: - The department shall adopt rules and regulations regarding the assurance of net metering eligibility by January 1, 2013.

Proposed Revision of H 1776 redlined to show requested Changes:

The Commonwealth of Massachusetts

In the Year Two Thousand Eleven

An Act relative to net metering.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

SECTION 1: Subsection (f) of section 139 of chapter 164 of the general laws is hereby amended by striking out “1 per cent” in the first sentence and inserting in place thereof “1.2 per cent”.

SECTION 2: Subsection (f) of section 139 of chapter 164 is hereby further amended by striking out “2 per cent” in the second sentence and inserting in place thereof “2.4 per cent”.

SECTION 3: Subsection (f) of section 139 of chapter 164 is hereby further amended by inserting the following after the second sentence

— “The intent of this section is to establish a net metering capacity limit of approximately 400 MW based on the current peak loads of the distribution companies. To the extent the Department of Energy Resources, adopts a regulation that increases the current limit of 400 Mw of capacity of solar carve out renewable generation units that can qualify for solar renewable energy credits, the Department of Public Utilities is authorized to adopt a regulation that increases the net metering capacity limits described in this section on a pro rata basis so that the net metering capacity limits are approximately equal to the capacity of solar carve out renewable generation units that are eligible to qualify for the solar renewable energy credits, provided that the net metering capacity authorized by this section for municipal or other governmental net metering facilities shall not exceed 3% of any distribution company’s peak load and the net metering capacity of other net metering facilities that are not municipal or other governmental net facilities shall not exceed 3% of any distributions companies peak load.

SECTION 4: Section 139 of chapter 164 of the general laws is hereby amended by adding after subsection (g) the following section:-

(h) Subsection (f) shall not apply to a Class I net metering facility if:

- 1) the design generating capacity of the facility is equal to or less than 10 kilowatts on a single-phase circuit, or 25 kilowatts on a three-phase circuit, or;
- 2) the facility supplies no more than 100% of the customer's average monthly kilowatt-hour usage over the course of a calendar year.

Facilities defined under this subsection shall apply for interconnection approval through a statewide standard agreement. The department shall develop such a standard interconnection agreement for projects qualifying under this subsection by January 1, 2013.

SECTION 5: Subsection (g) of section 139 of chapter 164 of the general laws is hereby amended by adding at the end of the first paragraph the following sentence: - The department shall adopt rules and regulations regarding the assurance of net metering eligibility by January 1, 2013.

Appendix E
Draft of Comment Letter re H 1776

Dear Representative / Senator

We are writing to express our concerns about the H 1776, the net metering legislation recently referred to the Senate Ways and Means Committee. As presently drafted, H 1776 will dramatically impede the development of public solar projects.

The following table explains the problem as it would play out in the in the National Grid and NSTAR service territories:

	Private NMC Cap	Public NMC Cap	Total NMC Cap	SREC Cap
NGRID & NSTAR				
Net metering cap under current law	101 MW	202 MW	303 MW	
Net metering cap under H 1776	303 MW	303 MW	606 MW	
Currently Installed or in Interconnection Queue	375 MW	81 MW	456 MW	
Statewide				
SREC Cap per 255 CMR 14.05				400 MW

There are already 375 MW of private projects that are already installed or that have already submitted interconnection applications. So the first thing that happens on the day that H 1776 becomes law is that 303 private projects immediately qualify for net metering credits. On the very same day, 81 MW of existing public projects also qualify, however, these projects already qualify under the existing cap. If these solar projects did not depend on the SREC revenue to be viable, this would be acceptable. The problem is that these solar projects do depend on the SREC revenue to be viable. Approximately two thirds of the annual revenue for these projects comes from the SREC revenue stream. When the 400 MW SREC program lapses, the Commonwealth's solar program lapses.

Consequently, by theoretically expanding the net metering program in these two service territories to 606 MW (632 MW statewide), H 1776 attempts to create a game of musical chairs, in which 632 MW net metering projects are competing for 400 MW of SRECs.

Given those facts, the passage of H 1776 in its current form would dissuade most public officials from continuing to invest time and resources in the development of new public solar projects. In order to successfully develop new solar projects, public officials would have to assume either:

- a) that the DOER would increase the 400 MW SREC cap in the future to accommodate those new public solar projects; or
- b) that enough private projects that were enabled by H 1776 would fail to secure SRECs before the new public projects could issue procurements, negotiate contracts with solar companies, and complete the 1 year interconnection process.

It would seem reckless to expend time and resources based on the assumption that DOER will increase the SREC program above the current limit of 400 MW given the opposition of the investor owned utilities. And, it would seem reckless to invest limited municipal resources developing a new solar project, that to be successful would need to overcome a head start given by H 1776 to the 303 MW of private projects in these two service territories (332 MW statewide).

It is unfair to the public officials that have been working under the current solar program rules to pull the rug out from under them in this fashion. It is also bad public policy. Public projects are procured publicly in a fashion that focuses on the qualifications of the companies proposing to install projects. It is slower, but is also more rigorous. Everyone knowledgeable about this industry is complaining about the quality of the private projects in the private interconnection queue. The DPU currently has an open docket to deal with this problem. By chilling the development of new public projects, H 1776 puts all of the State's eggs in the private development basket. We think it is a mistake to convert the Green Communities Act into the Green Companies Act.

We propose an alternative approach to H 1776 (see attachment). The concept is to expand the net metering caps up to 400 MW, so that there is symmetry between the caps in the net metering program and the existing 400 MW cap in SRECs program. We accomplish that by expanding both the existing public and private caps by 20% to 1.2% private and 2.4% public.

We then add a new provision to section 139 that authorizes the Department of Public Utilities to increase the net metering caps by regulation, if and when DOER expands the SREC caps by regulation. We limit the potential regulatory expansion of the net metering program to the limits proposed by the current version of H 1776 (3% public cap and a 3 % private cap).

We believe this revised approach honors the existing rules of the solar development process, incentivizes public officials to continue with their current efforts to develop solar projects, creates 68 MW of additional net metering capacity immediately, avoids the mistake of over-dependence on the development of private project, avoids the mistake of chilling the development of new public solar projects, and creates a regulatory pathway for expanding both the net metering program and SREC program, hopefully after the regulators have figured out how to screen poorly conceived projects out of the interconnection queue.

We appreciate whatever support you can provide for our revision to H 1776.

Sincerely,

Attachment

Proposed Revision of H 1776 redlined to show requested Changes:

The Commonwealth of Massachusetts

In the Year Two Thousand Eleven

An Act relative to net metering.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

SECTION 1: Subsection (f) of section 139 of chapter 164 of the general laws is hereby amended by striking out “1 per cent” in the first sentence and inserting in place thereof “1.2 per cent”.

SECTION 2: Subsection (f) of section 139 of chapter 164 is hereby further amended by striking out “2 per cent” in the second sentence and inserting in place thereof “2.4 per cent”.

SECTION 3: Subsection (f) of section 139 of chapter 164 is hereby further amended by inserting the following after the second sentence

— “The intent of this section is to establish a net metering capacity limit of approximately 400 MW based on the current peak loads of the distribution companies. To the extent the Department of Energy Resources, adopts a regulation that increases the current limit of 400 Mw of capacity of solar carve out renewable generation units that can qualify for solar renewable energy credits, the Department of Public Utilities is authorized to adopt a regulation that increases the net metering capacity limits described in this section on a pro rata basis so that the net metering capacity limits are approximately equal to the capacity of solar carve out renewable generation units that are eligible to qualify for the solar renewable energy credits, provided that the net metering capacity authorized by this section for municipal or other governmental net metering facilities shall not exceed 3% of any distribution company’s peak load and the net metering capacity of other net metering facilities that are not municipal or other governmental net facilities shall not exceed 3% of any distributions companies peak load.

SECTION 4: Section 139 of chapter 164 of the general laws is hereby amended by adding after subsection (g) the following section:-

(h) Subsection (f) shall not apply to a Class I net metering facility if:

- 1) the design generating capacity of the facility is equal to or less than 10 kilowatts on a single-phase circuit, or 25 kilowatts on a three-phase circuit, or;
- 2) the facility supplies no more than 100% of the customer's average monthly kilowatt-hour usage over the course of a calendar year.

Facilities defined under this subsection shall apply for interconnection approval through a statewide standard agreement. The department shall develop such a standard interconnection agreement for projects qualifying under this subsection by January 1, 2013.

SECTION 5: Subsection (g) of section 139 of chapter 164 of the general laws is hereby amended by adding at the end of the first paragraph the following sentence: - The department shall adopt rules and regulations regarding the assurance of net metering eligibility by January 1, 2013.

Appendix F – Phase 1 RFI

Bay State Consultants – Request for Information

Introduction

Bay State Consultants, LLC (Bay State) is an energy broker with 150 municipal clients in Massachusetts and Connecticut. Bay State has been retained to examine the feasibility of procuring power purchase agreements to support the development of a set of solar projects that utilize the net metering appetite of the following 15 municipal clients (hereinafter “clients” or “Bay State Clients”).

	Client	Distribution Budget (\$/ yr)	Est. Mw of net metering appetite
	Clients served by NGRID		
1	Amesbury Housing Authority	110,000	.55
2	Beverly	771,000	3.85
3	Brockton	2,848,000	14.21
4	Chelmsford	565,000	2.82
5	Dracut	127,000	.63
6	Lynn Water & Sewer	801,000	4.00
7	Lynn	1,206,000	6.06
8	Whittier Technical High School	231,000	1.15
	Subtotal	6,659,000	33.27
	Clients Served BY NSTAR		
9	Arlington	852,000	3.82
10	Brookline	1,401,000	6.28
11	Lexington	908,000	4.07
12	Needham	797,000	3.57
13	Sharon	500,000	2.24
14	Stoneham	503,000	2.25
15	Sudbury Housing Authority	55,000	.25
	Subtotal	5,016,000	22.48
	Total	11,675,000	55.7

Note: The following assumptions are embedded in the above calculations:

- 1) Net metering appetite equal to annual dollars spent x .75 divided by value of net metering credit;
- 2) Net metering credit is equal to \$.133 / kwh in the NGRID service territory and \$.147 / kwh in the NSTAR service territory;
- 3) Solar generation is equal to 1,388,000 kwh / yr per Mw of solar capacity.

Responses to this RFI are intended to assist Bay State's clients in understanding the development hurdles that need to be overcome in order to break ground on solar projects in Massachusetts. Our objective is to secure responses and advice from the solar developer community in the first quarter of 2012 to inform the development of a possible Request for Proposals (RFP) or set of RFPs in the second quarter of 2012. We also plan to monitor the policy initiatives pending at the state level that may alter the net metering tariff, the net metering regulations, the SREC alternative compliance values, and net metering caps during the first quarter of 2012. Our objective is to design an RFP for a set of solar projects that reflects the collective wisdom of the solar developer community, procures projects that are likely to break ground, and protects the interest of our clients.

This RFI does not in any way obligate Bay State or any of Bay State's clients to issue a Request for Proposals. At this preliminary stage, we are interested in determining if it is practical and feasible to implement a collective procurement of power purchase agreements that would support a set of solar projects that would have a high probability of breaking ground. If it makes more sense to issue a set of RFP's for a set of projects, we want to know that. Our current plan is to negotiate a developer specific Power Purchase Agreement with each successful developer that can be used in multiple projects.

This RFI is organized into three sections. Section 1 discusses our perception of certain development hurdles that are impeding the development of many pending solar projects. Section 1 is divided into 4 subject matter subsections:

- A) Net Metering Caps
- B) Project Sites and Interconnection
- C) Power Purchase Agreement / Net Metering Tariff
- D) Investment Tax Credit

Section 2 is divided into the same 4 subject matter subsections and poses a series of 15 questions in each these 4 subject areas.

Section 3 provides general instructions for responding to this RFI.

Section 1: Development Hurdles to be Addressed and or Mistakes to be Avoided

A) Net Metering Caps

The Massachusetts Green Communities Act creates incentives for solar developers to work with municipal entities to develop solar projects. The Act establishes two "caps" regarding the amount of net metering credits that can be issued by each utility: a "public cap" and a "private cap." The "public cap" is equal to 2% of the peak load of that utility (approximately 100 Mw of net metering credits for "public projects" in the NSTAR service territory and another 100 Mw of net metering credits for "public" projects in the NGRID service territory). The "private cap" is half the size of the "public cap" (approximately 50 Mw for NSTAR and 50 Mw for NGRID). It appears that the "private projects" that have been installed or are currently pending already exceed the "private

cap” in both of those utility service territories. On the other hand, there appears to be considerable room remaining to issue net metering credits under the public caps. For example, the following information regarding the net metering credits available under the existing caps is posted on the National Grid web site:

NGRID	Private Credits	Public Credits
Net Metering Cap	51.3 Mw	102.6 Mw
Credits assigned to Installed Capacity	24.9 Mw	3.6 Mw
Credits pending for Completed Interconnect Applications	35.9 Mw	15.1 Mw
Credits remaining	None	82.4 Mw

NSTAR does not breakdown the projects in their pending interconnection queue into “public” and “private” projects. Nevertheless, we have reason to believe that the NSTAR interconnection queue also has more “private” applications for net metering credits than are available under the current ”private” cap and that NSTAR has considerable room for issuing net metering credits under NSTAR’s “public” cap.

The breakdown by utility and load zone of solar capacity that could be supported by the net metering appetite of the above 15 clients is as follows:

Utility	Nema	Sema	Wcma	Total
NSTAR	20.23Mw	2.24 Mw		22.47
NGRID	15.6 Mw	14.21 Mw	3.45 Mw	33.26
Total	35.83	16.45	3.45	55.7

There is legislation pending to expand the caps. But for now, it appears that the solar developers may have a significant interest in shifting from the focus on “private” projects and focusing instead on “public” projects. A “public project” is defined as a project that sells 100% of the output to a governmental entity.

B) Project Sites and Interconnection Issues

The net metering rules in Massachusetts allow a “public project” to be sited outside of the community that purchases the power. As long as a municipality purchases 100% of the output of the solar farm, it will be deemed a “public project,” no matter where the site is located. We understand that interconnection can cost \$1,000,000 per mile. Given the technical challenges of interconnection, our preliminary conclusion is that locating and securing the best site should probably be the responsibility of the solar developer, not the public entity. *(Note: several of the 15 clients are interested in having sites within their borders evaluated by interested solar developers, either parcels of land or rooftops. We are currently assembling an inventory of those sites and will issue a follow up Request for Site Evaluation, to developers that respond to this RFI.)*

In addition to the interconnection advantages, a privately controlled site also offers a procurement advantage. Municipalities have the autonomy to negotiate a power purchase agreement to purchase the output of a solar farm on a private site pursuant to an exemption in MGL c 30B. The only requirement is that a municipality file a disclosure statement after the fact describing the procurement procedure that the municipality elected to use, together with a copy of the power purchase agreement that was executed. If the solar facility is located on a public site, there are state mandated procurement rules that must be followed. A hybrid arrangement might include two communities A and B: one (community A) with an available site, but insufficient net metering appetite; and the second (community B) with no site to offer, but with sufficient net metering appetite to purchase 100% of the output. In this case, Community A would lease the site to the developer following state procurement rules to procure that lease. Community B would have the autonomy to negotiate the PPA using more flexible procurement procedures. We are interested in the views of the developer community with respect to project sites. Should the developer bring the site? Should the municipality bring the site? Does a combination of both approaches make sense?

While currently under review at the DPU, it appears that an application for reservation for net metering credits available under either utility's public cap must include an *executed net metering agreement*. There is currently a backlog of pending applications filed for interconnection with NSTAR and NGRID, with an average timeline of 19 months to complete the interconnection studies and secure interconnection approval. We are interested in hearing from developers about strategies to reduce the timeline between the execution of the power purchase agreement and the execution of the interconnection agreement.

Note: The DPU has opened a new docket (DPU 10-75) focused on the interconnection process.

C) Power Purchase Agreement (PPA)/ Net Metering Tariff (Tariff)

It is essential that the purchase obligations under any power purchase agreement (PPA) mirror, to the maximum extent possible, the rights to net metering credits under the tariff. At this preliminary stage, our preference would be to express the power purchase price per kwh as a percentage of the net metering credits realized per kwh. So, for example, if the current value of the net metering credit is \$.13244 / kwh, and the negotiated price to purchase the output of the solar project is \$.08 / kwh, that price would be expressed in the Power Purchase Agreement as 60.4% of the realized net metering credit per kwh. This structure would spread the benefit / risk of increasing or decreasing values of the net metering credits over time, 60.4% to the community and 39.6% to the developer. Given the currently depressed price of electricity, this structure would be likely to result in increasing PPA prices over the term of the project. We are interested in the comments of the developer community regarding this pricing structure.

Note: The net metering tariff and net metering regulations are currently being reviewed in two open DPU Dockets (DPU 11-10 and DPU 11-11).

D) Investment Tax Credit

It is our understanding that the DOE's section 1603 grant program is expiring at the end of this month, but that the investment tax credit will continue to be available through 2016. Given the magnitude of the ITC, and the importance of that tax benefit to the economics of these projects, it is important that we be assured that any developer has a reliable strategy for taking advantage of such tax credit. At this preliminary stage, we are contemplating the use of evaluation criteria in a subsequent RFP that awards evaluation credits based on the strength and persuasiveness of the plan presented for taking advantage of the investment tax credit. We are interested in the views of the solar developer community on this approach.

Section 2: Questions Posed to Solar Developers

Questions Related to Net Metering Caps

1) In order to be classified as a "public project" under the current rules (and consequently be eligible for available net metering credits under the "public cap") the public entity must purchase 100% of the output of the specific solar project.

- a) Is it feasible to design 3 mw of solar generating capacity on a given site so that portions of that capacity are segregated and dedicated to different public entities?
- b) What are the logistical, metering, or cost considerations of separating a 3 mw solar farm into two "public" projects of 2.5 mw (100% of which output is sold to public client A) and a .5 mw project (100% of which output is sold to public client B).

2) In order to be eligible for net metering credits under the "public cap" the public entity must also be deemed a "Host Customer." Under current rules, the public entity must control an electric account at the site, and take a minimal amount power from the solar facility at the site in order to be deemed a "Host Customer."

- a) Is it feasible for the public customer to control an electric account at the site, which electric account receives power from the facility when it is operational and from the grid when the facility is not operating?
- b) Are there any cost of logistical considerations that would render the control of such on-site electric account by the public entity to be problematic?

3) Assuming the answer to question 2 above is that it is feasible and practical, under current rules, the net metering credits would be calculated based on the rate class of the customer controlled electric account at the site. The net metering credit can vary based on the load serviced by the customer controlled account. For example, a customer controlled

NGRID G1 account that consumes 2,000 kwh per billing cycle, or less, results in a net metering credit of 13.244 cents per kwh. If the same G1 account consumes 12,000 kwh per billing cycle, the net metering credit would be 14.72 cents per kwh. With respect to NSTAR the opposite is true. The lower the consumption of the customer controlled account, the higher the net metering credit. Consequently, it may make sense for the customer controlled account at the site to be sized so as to maximize the value of the net metering credit.

- a) What is the maximum load that is reasonable to be assigned to the customer controlled account at the site?
- b) What is the minimum load that is reasonable to be assigned to the customer controlled account at the site?

Questions Regarding Project Sites and Interconnection

4) Assuming the project is located in the correct service territory and load zone, municipality A can purchase 100% of the output of a solar project located in municipality B.

- a) Is it more important to be located on a site that minimizes interconnection logistics and interconnection cost, or to be located in the same community that executes the PPA?
- b) Assuming there is no difference with respect to interconnection logistics, are there any clear advantages to locating the site in the same community that executes the PPA?

5) What is the range of site acquisition costs that it would reasonable for a 2 MW project to incur?

6) Can you describe the approximate interconnection schedule, with milestones, between the execution of the PPA and the execution of the Interconnection Agreement? For the sake of this question assume that the interconnection relates to a 2 Mw facility that exports 99% of its power to the grid. For technical variables such as proximity to distribution lines with appropriate voltage and available capacity, could you model a best case and practical worst case scenario?

7) From the perspective of interconnection logistics and interconnection economics, is it practical to design 6Mw or 10Mw of solar capacity on any single parcel?

8) Can you offer any general advice on the best way to structure a procurement designed to minimize interconnection cost and delays?

Questions regarding power purchase agreement

- 9) Can you please send us a copy of your standard power purchase agreement?
- 10) Is it reasonable to express the price paid per kwh for solar generated power as a percentage of the net metering credit per kwh realized?
- 11) For the sake of this question assume that the solar developer receives 100% of the benefit of the SRECs, and 100% of the value of the ITC, and the net metering credits will initially be valued at approximately \$.13224 per kwh.
 - a) What is the range of cost per kwh that our clients should expect to pay for solar generated kwh;
 - b) How sensitive is this number to site specific cost considerations?
- 12) Is it reasonable to have language to be included in a power purchase agreement that could be used at the evaluation stage to distinguish between developers that are willing to assume responsibility for a development schedule and developers that are not willing to assume responsibility for a development schedule? For example, is it reasonable to require the developer to use “best efforts” to meet a development schedule described in an appendix to the PPA?

Questions regarding the Investment Tax Credit

- 13) Does your company have the tax appetite to take advantage of the ITC without resort to outside partners?
- 14) If not, can you describe the plan for ensuring that a project awarded to you can take advantage of the ITC?
- 15) Is it reasonable to have language in the power purchase agreement to shield municipalities from the risk of project collapse due to inability to take advantage of the ITC (not caused by a change in law)?
- 16) With respect to your company’s business focus, please indicate your area of interest.
 - 1) Interested in projects on privately controlled sites secured by developer
 - 2) Interested in projects on publicly owned roof tops nominated by governmental entity
 - 3) Interested in projects on publicly owned land nominated by governmental entity
 - 4) Interested in all of the above.

7 of the 15 clients have indicated an interest in nominating sites (roof tops and or closed landfills) for review by developers. We are in the process of finalizing the inventory of those client nominated sites. We plan to issue a Request for Site Evaluation to those

companies that respond to this RFI by the January 11 deadline and check boxes 2, 3, or 4 in response to question 16.

Section 3: General Instructions

Please note that this RFI is issued solely for the purpose of obtaining information. Nothing in this RFI shall be interpreted as a commitment on the part of Bay State or its clients to enter into a contract with any respondent.

- a) This RFI has been released on December 23, 2011;
- b) Respondent Questions:
 - 1. Respondents who have questions regarding this RFI may e-mail them to: Jshortsleeve@Baystateconsultants.com.
- c) Response Submission:
All responses to this RFI are due no later than 2:00 p.m. on Wednesday, January 11, 2012.

Responses should be labeled: "Responses to Bay State RFI"

Respondents should submit one (1) electronic copy via e-mail and may, if they choose, also submit a hard copy to:

Bay State Consultants, LLC
10 State St., Suite 309
Newburyport, MA 01950

- d) Response Format. We request that all responses be formatted as follows:
 - 1. Company Information
 - i. Company Name (please list parent company as well)
 - ii. Company Address
 - iii. General contact name and email address
 - iv. Name and email of person with authority to negotiate PPA
 - v. Brief description of Company and experience developing solar projects.
 - 2. Point by point response to the 16 questions listed in Section 2 above.
- e) Contact Information. Please direct all communications, questions, and responses to the following contact:

John Shortsleeve, Bay State Consultants, 978-255-2194

jshortsleeve@baystateconsultants.com

- f) By submitting a response, respondents agree that any cost incurred in responding to this RFI, or in support of activities associated with this RFI, shall be the sole responsibility of respondent.

- g) Responses to this RFI may be reviewed and evaluated by any person(s) employed by Bay State Consultants. To address concerns about confidentiality, our plan is to aggregate responses and report back to our clients in a fashion that does not identify individual responses by company name. If you wish to protect any responses with a confidentiality agreement, please label any such responses confidential and execute and return the confidentiality agreement included as Appendix A to this RFI.

Appendix A

CONFIDENTIALITY AGREEMENT

THIS CONFIDENTIALITY AGREEMENT is entered into as of _____, 2011, by and between _____ and Bay State Consultants, LLC (“Bay State”).

WHEREAS Bay State is conducting a study on behalf of 15 municipal clients in Massachusetts (hereinafter Clients) to determine the feasibility of managing a procurement of power purchase agreements to support a set of solar projects and has issued a Request for Information (RFI) to solar developers;

WHEREAS, _____ is in the solar development business and desires to furnish to certain Confidential Material (as defined below) to Bay State relating to or about the disclosing party and/ or the business of solar development and;

WHEREAS, the Confidential Material is confidential and proprietary in nature;

NOW, THEREFORE, in consideration of the mutual covenants contained herein, the parties agree as follows:

1. All data and written materials labeled as Confidential that is disclosed or made available to Bay State or its Representatives (defined herein to mean its members, partners, directors, employees, advisors, lenders, consultants and affiliates, and its affiliates’ members, partners, directors, employees, advisors, lenders and consultants) by the disclosing party (shall be deemed confidential and proprietary to the disclosing party and treated in accordance with the provisions of this Confidentiality Agreement.

2. Bay State shall cause its Representatives to maintain the Confidential Material in confidence and shall not directly or indirectly discuss with, disclose to, copy for, reproduce for, photograph for, videotape for, publish for, or in any way report, divulge or otherwise make available the Confidential Material to any third party or any entity except as shall be agreed to in advance in writing by the disclosing party or except as provided in this section. Both parties acknowledge that Bay State will aggregate the responses to the RFI from all of the solar developers that respond, and report the collective results to the Clients in a fashion that does not identify specific companies.

4. This Confidentiality Agreement shall remain in effect from its date until two (2) years from the date hereof.

5. Each party acknowledges that remedies at law may be inadequate to protect it against actual or threatened breach of this Confidentiality Agreement by the other party or its Representatives. The non-breaching party is referred to as the “Harmed Party” in this Section 5. Without prejudice to any other rights and remedies otherwise available to the Harmed Party, the parties each agree to the granting of injunctive relief in

the Harmed Party's favor without proof of actual damages. In the event of litigation relating to this Confidentiality Agreement, if a court of competent jurisdiction determines in a final nonappealable order that this Confidentiality Agreement has been breached by a party or its Representatives, then such party will reimburse the Harmed Party for its costs and expenses (including reasonable legal fees and expenses) incurred in connection with such litigation.

6. This Confidentiality Agreement shall be binding upon the parties and upon their respective successors and assigns.

7. THIS CONFIDENTIALITY AGREEMENT AND THE RIGHTS AND DUTIES OF THE PARTIES HEREUNDER SHALL BE GOVERNED BY AND CONSTRUED, ENFORCED AND PERFORMED IN ACCORDANCE WITH THE LAWS OF THE STATE OF MASSACHUSETTS, WITHOUT REGARD TO PRINCIPLES OF CONFLICTS OF LAW.

IN WITNESS WHEREOF, each of the parties, intending to be legally bound by the provisions of this Confidentiality Agreement, has caused its duly authorized representatives to execute this Confidentiality Agreement.

BAY STATE CONSULTANTS,
LLC

By: _____
Name:

By: 
John Shortsleeve, President

Appendix G – Phase 2 RFI

Bay State Consultants – Request for Information – Phase 2

Bay State Consultants has been retained by the 15 clients identified below to explore the feasibility of procuring contracts to install solar arrays on municipal owned sites and to procure off take agreements for the solar output and associated net metering credits generated by privately owned solar arrays on privately owned sites.

Section 1 Client Nominated Sites

Our Phase 1 Request for Information was directed to a list of 30 solar companies. This Phase 2 request for site evaluations is being directed to the 12 solar companies that demonstrated the most interest in Phase 1. 11 of our 15 clients would like to nominate sites, either roof tops or parcels as itemized in the Table below. We would like to request interested developers to conduct a preliminary evaluation to determine if these sites appear to be viable sites for the installation of solar panels, and if so, the approximate solar capacity that could be supported by each site.

Note: All 15 clients are interested in exploring the possibility of executing off take agreements with developer nominated sites. However, this Phase 2 RFI is focused only on the municipal nominated sites.

	Client	Nominated roof tops	Nominated parcels
	Clients served by NGRID		
1	Amesbury Housing Authority	0	0
2	Beverly	1	1
3	Brockton	0	1
4	Chelmsford	0	1
5	Dracut	0	0
6	Lynn Water & Sewer	2	0
7	Lynn	2	0
8	Whittier Technical High School	0	0
	Subtotal	5	3
	Clients Served BY NSTAR		
9	Arlington	9	0
10	Brookline	5	0
11	Lexington	1	0
12	Needham	4	1
13	Sharon	0	1
14	Stoneham	0	1
15	Sudbury Housing Authority	0	0
	Subtotal	19	3
	Total	24	6

We have attached details regarding each of these sites in the client specific appendices. With respect to roof tops, we have included the address of the building, the approximate annual energy consumption of the building, a satellite picture of the roof, the age of the roof, the total square footage of the roof, and the type of roof. With respect to the parcels, we have included the address of the parcel, the size of the parcel, the satellite picture of the parcel, and the ownership of the parcel.

Section 2 Site Specific Questions

At this stage we are looking for preliminary information. With respect to each site we would request the following information:

- 1) On a preliminary basis does the site appear to be viable enough to warrant further in depth evaluation? For example, does the age of any roof, or the shading of any site, or area available on any site, disqualify any of the proposed sites?
- 2) On a preliminary basis what is the square footage of the roof or the parcel that appears to be usable?
- 3) On a preliminary basis what is the capacity of the solar array that could be installed?
- 4) On a preliminary basis, assuming average weather conditions, what would be the expected annual output of kwh generated?
- 5) On a preliminary basis, what percentage of the power generated would you expect to export to the grid, if any?
- 6) With respect to the parcels from which most of the power would be exported, can you provide any guidance at this preliminary juncture regarding the interconnection challenges posed by the site?
- 7) Do you have any sites under your control on which a solar array could be operational in 2012, and with respect to which you would like to negotiate the sale of the output with any of our clients?

Section 3: Non Mandatory Site Inspections

For those companies that wish to make a site inspection, we have scheduled site inspections for the week of February 13, with alternate weather dates the week of February 20, in case of inclement weather. We believe it will strengthen our procurement of final proposals (in a subsequent phase) to have well vetted sites. Consequently it is our preference to have as many companies as possible take advantage of the opportunity for site inspections. However, it will be acceptable to base your responses to the questions posed in section 2 based on a desk top analysis. If you wish to participate in any of the scheduled site visits please confirm your plans to do so by emailing or calling Pauline Fabiano at 978 255 2194, Pfabiano@baystateconsultants.com.

Dates for Site Visits

Client	Time	Site visit date	Weather date	Nominated roof tops	Nominated parcels
Beverly	9 AM	2/13	2/20	1	1
Lynn	Noon	2/13	2/20	2	0
Lynn Water & Sewer	2:30 PM	2/13	2/20	2	0
Chelmsford	9 AM	2/14	2/21	0	1
Brookline	Noon	2/14	2/21	5	0
Brockton	9 AM	2/15	2/22	0	1
Sharon	Noon	2/15	2/22	0	1
Lexington	9 AM	2/16	2/23	1	0
Arlington	11 AM	2/16	2/23	9	0
Stoneham	9 AM	2/17	2/24	0	1
Needham	Noon	2/17	2/24	4	1

Section 4: General Instructions

Please note that this RFI is issued solely for the purpose of obtaining information. Nothing in this RFI shall be interpreted as a commitment on the part of Bay State or its clients to enter into a contract with any respondent.

- a) This Phase 2 RFI has been released on January 27, 2012;
- b) Respondent Questions:
 - 1. Respondents who have questions regarding this RFI may e-mail them to: Jshortsleeve@Baystateconsultants.com.
- c) Response Submission:

All responses to this Phase 2 RFI are due no later than 2:00 p.m. on Wednesday, February 29, 2012.

Responses should be labeled: "Responses to Bay State RFI"

Respondents should submit one (1) electronic copy via e-mail and may, if they choose, also submit a hard copy to:

Bay State Consultants, LLC
10 State St., Suite 309
Newburyport, MA 01950

- d) Response Format. We request that all responses be formatted as follows:
1. Point by point response to the 7 questions listed in Section 2 above
 2. Company name and address, as well as the name, email address and telephone number of person responsible for preparing responses.
- e) Contact Information. Please direct all questions regarding site visits to Pauline Fabiano at 978 255 2194

If you have questions about a particular site, you may contact the individual contact person in each community listed in the community specific appendix.

Please direct all other questions, responses and communications.

John Shortsleeve, Bay State Consultants, 978-255-2194

jshortsleeve@baystateconsultants.com

- f) By submitting a response, respondents agree that any cost incurred in responding to this RFI, or in support of activities associated with this RFI, shall be the sole responsibility of respondent.
- g) Responses to this RFI may be reviewed and evaluated by any person(s) employed by Bay State Consultants. To address concerns about confidentiality, our plan is to aggregate responses and report back to our clients in a fashion that does not identify individual responses by company name. If you wish to protect any responses with a confidentiality agreement, please label any such responses confidential and execute and return the confidentiality agreement included as Appendix A to this RFI.

This RFI does not in any way obligate Bay State or any of Bay State's clients to issue a Request for Proposals.

Appendix A

CONFIDENTIALITY AGREEMENT

THIS CONFIDENTIALITY AGREEMENT is entered into as of _____, 2011, by and between _____ and Bay State Consultants, LLC (“Bay State”).

WHEREAS Bay State is conducting a study on behalf of 15 municipal clients in Massachusetts (hereinafter Clients) to determine the feasibility of managing a procurement of power purchase agreements to support a set of solar projects and has issued a Request for Information (RFI) to solar developers;

WHEREAS, _____ is in the solar development business and desires to furnish to certain Confidential Material (as defined below) to Bay State relating to or about the disclosing party and/ or the business of solar development and;

WHEREAS, the Confidential Material is confidential and proprietary in nature;

NOW, THEREFORE, in consideration of the mutual covenants contained herein, the parties agree as follows:

1. All data and written materials labeled as Confidential that is disclosed or made available to Bay State or its Representatives (defined herein to mean its members, partners, directors, employees, advisors, lenders, consultants and affiliates, and its affiliates’ members, partners, directors, employees, advisors, lenders and consultants) by the disclosing party (shall be deemed confidential and proprietary to the disclosing party and treated in accordance with the provisions of this Confidentiality Agreement.

2. Bay State shall cause its Representatives to maintain the Confidential Material in confidence and shall not directly or indirectly discuss with, disclose to, copy for, reproduce for, photograph for, videotape for, publish for, or in any way report, divulge or otherwise make available the Confidential Material to any third party or any entity except as shall be agreed to in advance in writing by the disclosing party or except as provided in this section. Both parties acknowledge that Bay State will aggregate the responses to the RFI from all of the solar developers that respond, and report the collective results to the Clients in a fashion that does not identify specific companies.

4. This Confidentiality Agreement shall remain in effect from its date until two (2) years from the date hereof.

5. Each party acknowledges that remedies at law may be inadequate to protect it against actual or threatened breach of this Confidentiality Agreement by the other party or its Representatives. The non-breaching party is referred to as the “Harmed Party” in this Section 5. Without prejudice to any other rights and remedies otherwise available to the Harmed Party, the parties each agree to the granting of injunctive relief in

the Harmed Party's favor without proof of actual damages. In the event of litigation relating to this Confidentiality Agreement, if a court of competent jurisdiction determines in a final no appealable order that this Confidentiality Agreement has been breached by a party or its Representatives, then such party will reimburse the Harmed Party for its costs and expenses (including reasonable legal fees and expenses) incurred in connection with such litigation.

6. This Confidentiality Agreement shall be binding upon the parties and upon their respective successors and assigns.

7. THIS CONFIDENTIALITY AGREEMENT AND THE RIGHTS AND DUTIES OF THE PARTIES HEREUNDER SHALL BE GOVERNED BY AND CONSTRUED, ENFORCED AND PERFORMED IN ACCORDANCE WITH THE LAWS OF THE STATE OF MASSACHUSETTS, WITHOUT REGARD TO PRINCIPLES OF CONFLICTS OF LAW.

IN WITNESS WHEREOF, each of the parties, intending to be legally bound by the provisions of this Confidentiality Agreement, has caused its duly authorized representatives to execute this Confidentiality Agreement.

BAY STATE CONSULTANTS,
LLC

By: _____
Name:

By: 
John Shortsleeve, President

CLEANENERGYRESULTS

Questions & Answers

Ground-Mounted Solar Photovoltaic Systems



Westford Solar Park, photo courtesy of EEA

December 2012

Massachusetts Department of Energy Resources

Massachusetts Department of Environmental Protection

Massachusetts Clean Energy Center

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Background

Solar photovoltaic (PV) technology, which converts sunlight directly into electricity, is a key priority for the state of Massachusetts' clean energy efforts. The environmental benefits of solar PV abound. Unlike conventional fossil fuel power generation (such as coal, gas and oil), generating electricity with solar PV involves no moving parts, uses no water, and generates electricity without emitting climate-warming greenhouse gases or other pollutants.

Solar PV's environmental and energy benefits, combined with strong incentives, have significantly increased the use of this technology. The Commonwealth's vibrant solar industry has a variety of ownership and financing options for Massachusetts residents and businesses looking to install solar PV systems. Purchasing a solar PV system generally involves upfront installation and equipment costs, but there are significant incentives¹.

As the Massachusetts clean energy sector grows, the Patrick-Murray Administration is working to ensure that solar PV and other clean energy technologies are sited in a way that best protects human health and the environment, and minimizes impacts on scenic, natural, and historic resources.

Purpose of Guide

This guide is intended to help local decision-makers and community members answer common questions about ground-mounted solar PV development. Ground-mounted solar PV has many proven advantages and there has been a steady growth of well received projects in the Commonwealth. However, these systems are still relatively new and unfamiliar additions to our physical landscape.

This guide focuses on questions that have been raised concerning the installation and operation of ground-mounted solar PV projects. It provides summaries and links to existing research and studies that can help people understand solar PV technology in general, and ground-mounted solar in particular.

Solar PV panels can and are of course also installed on buildings², car ports or light poles. This guide focuses on ground-mounted systems since most questions relate to this type of solar installations.

Developed through the partnership of the Massachusetts Department of Energy Resources (DOER), the Massachusetts Department of Environmental Protection (MassDEP), and the Massachusetts Clean Energy Center (MassCEC), this guide draws from existing, recent literature in the United States and abroad and is not the result of new original scientific studies. The text was reviewed by the National Renewable Energy Laboratory (NREL).

As new information becomes available, the guide will be updated and expanded.

¹ For a comprehensive overview, start at <http://masscec.com/index.cfm/page/Solar-PV/pid/12584> and <http://www.dsireusa.org/solar/>

² For an overview of the multiple options for siting PV and buildings in the same footprint, see the Solar Ready Buildings.Planning Guide, NREL, 2009.

Solar PV Projects Are Sited Locally

The siting authority for solar PV projects resides at the local – not the state – level. One purpose of this guide is to inform and facilitate local efforts to expand clean energy generation in a sustainable way, and provide a consolidated source of existing research and information that addresses common questions faced by communities.

As part of the Green Communities Act of 2008, DOER and the Massachusetts Executive Office of Energy and Environmental Affairs (EOEEA) developed a model zoning by-law/ordinance called “as-of-right siting” that does not require a special permit. It is designed to help communities considering adoption of zoning for siting of large-scale solar. This model zoning by-law/ordinance provides standards for the placement, design, construction, operation, monitoring, modification and removal of new large-scale ground-mounted solar PV installations. The latest version of the model by-law was published in March 2012³. It provides useful information that will not be repeated extensively in this guide.

Consider Impacts of Other Possible Developments at Site

Use of land for the purpose of solar photovoltaic power generation should be compatible with most other types of land usage. However DOER strongly discourages designating locations that require significant tree cutting, because of the important water management, cooling and climate benefits trees have. DOER encourages designating locations in industrial and commercial districts, or on vacant, disturbed land.

When assessing the impact of new ground-mounted solar arrays, communities and other stakeholders should carefully consider other types of development that might take place in a particular location if there was no solar installation. Stakeholders should bear in mind the higher or lower impacts that those alternatives might have in terms of noise, air pollution or landscape. These alternative impacts fall outside the scope of this guide, but are relevant when looking at individual projects.

³<http://www.mass.gov/eea/docs/doer/green-communities/grant-program/solar-model-bylaw-mar-2012.pdf>

Hazardous Materials

Question: What, if any, health risks do chemicals used in solar panels and other devices used in solar PV arrays pose if they are released into the environment?

Bottom Line: Because PV panel materials are enclosed, and don't mix with water or vaporize into the air, there is little, if any, risk of chemical releases to the environment during normal use. The most common type of PV panels is made of tempered glass, which is quite strong. They pass hail tests, and are regularly installed in Arctic and Antarctic conditions. Only in the unlikely event of a sufficiently hot fire is there a slight chance that chemicals could be released. This is unlikely because most residential fires are not hot enough to melt PV components and PV systems must conform to state and federal fire safety, electrical and building codes.

Transformers used at PV installations, that are similar to the ones used throughout the electricity distribution system in cities and towns, have the potential to release chemicals if they leak or catch fire. Transformer coolants containing halogens have some potential for toxic releases to the air if combusted. However, modern transformers typically use non-toxic coolants, such as mineral oils. Potential releases from transformers using these coolants at PV installations are not expected to present a risk to human health.

More Information: Ground-mounted PV solar arrays are typically made up of panels of silicon solar cells covered by a thin layer of protective glass attached to an inert solid underlying substance (or "substrate"). While the vast majority of PV panels currently in use are made of silicon, certain types of solar cells may contain cadmium telluride (CdTe), copper indium diselenide (CIS), and gallium arsenide (GaAs).

All solar panel materials, including the chemicals noted above, are contained in a solid matrix, insoluble and non-volatile at ambient conditions, and enclosed. Therefore, releases to the ground from leaching, to the air from volatilization during use, or from panel breakage, are not a concern. Particulate emissions could only occur if the materials were ground to a fine dust, but there is no realistic scenario for this. Panels exposed to extremely high heat could emit vapors and particulates from PV panel components to the air. However, researchers have concluded that the potential for emissions derived from PV components during typical fires is limited given the relatively short-duration of most fires and the high melting point (>1000 degrees Celsius) of PV materials compared to the roof level temperatures typically observed during residential fires (800-900 degrees Celsius). In the rare instance where a solar panel might be subject to higher temperatures, the silicon and other chemicals that comprise the solar panel would likely bind to the glass that covers the PV cells and be retained there.

Release of any toxic materials from solid state inverters is also unlikely provided appropriate electrical and installation requirements are followed. For more information on public safety and fire, see the Public Safety section of this document.

We should also note that usually the rain is sufficient to keep the panels clean, so no extra cleaning in which cleaning products might be used, is necessary.

Resources:

Energy Information Administration (EIA), 2002. Renewable Energy Annual 2001 with Preliminary Data for 2001, <ftp://ftp.eia.doe.gov/renewables/060301.pdf>

Electric Power Research Institute (2003). "Potential Health and Environmental Impacts Associated with the Manufacture and Use of Photovoltaic Cells." Report to the California Energy Commission, Palo Alto, CA. <http://mydocs.epri.com/docs/public/00000000001000095.pdf>.

Fthenakis, V.M., Overview of Potential Hazards in *Practical Handbook of Photovoltaics: Fundamentals and Applications*, General editors T. Markvart and L. Castaner, Elsevier, 2003.

Fthenakis, V.M. Life cycle impact analysis of cadmium in CdTe PV production. *Renewable and Sustainable Energy Reviews* 8, 303-334, 2004.

Fthenakis V.M., Kim H.C., Colli A., and Kirchsteiger C., [Evaluation of Risks in the Life Cycle of Photovoltaics in a Comparative Context](#), 21st European Photovoltaic Solar Energy Conference, Dresden, Germany, 4-8 September 2006.

Moskowitz P. and Fthenakis V., Toxic materials released from photovoltaic modules during fires; health risks, *Solar Cells*, 29, 63-71, 1990.

Sherwani, A.F., Usmani, J.A., & Varun. Life cycle assessment of solar PV based electricity generation systems: A review. *Renewable and Sustainable Energy Reviews*.14, 540-544, 2010.

Zayed, J; Philippe, S (2009-08). "[Acute Oral and Inhalation Toxicities in Rats With Cadmium Telluride](#)" (PDF). *International journal of toxicology* (International Journal of Toxicology) **28** (4): 259–65.

End-of-Life/Decommissioning

Question: What happens after solar panels are no longer used and are being decommissioned? Do hazardous waste disposal requirements apply?

Bottom Line: The interest in recycling of solar panels has increased in Europe and the U.S. as more panels are decommissioned. State regulations are in place to ensure proper disposal and recycling of panels with components that constitute solid or hazardous waste under state regulations.

More information: The average life of solar PV panels can be 20-30 years (or longer) after initial installation. PV cells typically lose about 0.5% of their energy production capacity per year. At their time of decommissioning, panels may be disposed, recycled or reused. Since widespread use of solar PV is recent in Massachusetts, only a small percentage of solar panels in use in the state have reached the end of their useful lifetime. A significant increase in the amount of end-of-life PV modules is expected over the next few decades.

When solar panels are decommissioned, state rules require that panel disposal be “properly managed” pursuant to Massachusetts hazardous waste regulations. There are many different types of solar panels used in ground-mounted solar PV systems; some of these panels have components that may, by state regulation, require special hazardous waste disposal or recycling. Solar module manufacturers typically provide a list of materials used in the manufacturing of their product, which is used to determine the proper disposal at the time of decommissioning.

People who lease land for solar projects are encouraged to include end-of-life panel management as part of the lease. In cases where panels are purchased, owners need to determine whether the end-of-life panels are a solid or hazardous waste and dispose of the panels appropriately. Massachusetts regulations require testing of waste before disposal.

Because of the various materials used to produce solar panels (such as metal and glass), interest in recycling of solar modules has grown. Throughout Europe, a not-for-profit association (PV Cycle) is managing a voluntary collection and recycling program for end-of-life PV modules. The American photovoltaic industry is not required by state or federal regulation to recycle its products, but several solar companies are starting to recycle on a voluntary basis. Some manufacturers are offering end-of-life recycling options and independent companies looking to recycle solar modules are growing. This allows for the recycling of the PV panels and prevents issues with the hazardous materials. Currently, the California Department of Toxic Substances Control is considering standards for the management of solar PV panels at the end of their use.

DOER’s model zoning provides language on requirements for abandonment and decommissioning of solar panels for use by local officials considering local approvals for these projects.

Resources

End-of-life PV: then what? - Recycling solar PV panels

<http://www.renewableenergyfocus.com/view/3005/end-of-life-pv-then-what-recycling-solar-pv-panels/>

MassDEP Hazardous Waste Regulations 310 CMR 30
<http://www.mass.gov/dep/service/regulations/310cmr30.pdf>

PV Cycle, Europe: <http://www.pvcycle.org/>

California Department of Toxic Substances Control, Proposed Standards for the Management of Hazardous Waste Solar Modules,
http://www.dtsc.ca.gov/LawsRegsPolicies/Regs/Reg_Exempt_HW_Solar_Panels.cfm

Ambient Temperature (“Heat Island”)

Question: Does the presence of ground-mounted solar PV arrays cause higher ambient temperatures in the surrounding neighborhood (i.e., the “heat island” effect)?

Bottom Line: All available evidence indicates that there is no solar “heat island” effect caused by the functioning of solar arrays. Cutting shade trees for solar PV might increase the need for cooling if those trees were shading buildings. This is primarily a concern in town centers and residential areas (locations where large ground-mounted PV is not encouraged) and is a potential impact of any development activity that requires tree-cutting.

More Information: All available evidence indicates that there is no solar “heat island” effect caused by the functioning of solar arrays. Solar panels absorb photons from direct sunlight and convert it to electricity. This minimizes the likelihood of substantially changing temperatures at the site or the surrounding neighborhood. For an area with no PV system, solar energy impacting the ground is either reflected or absorbed. There is no research to support heat production from the solar panels themselves.

Sunpower, a private solar manufacturer, conducted a study on the impact of solar PV on the local temperature and concluded that a solar PV array can absorb a higher percentage of ambient heat than could a forested parcel of land without an array. The study points out that while solar PV modules can reach operating temperatures up to 120 degrees Fahrenheit, they are thin and lightweight and therefore do not store a large amount of heat. Because of this, and the fact that panels are also shown to cool to ambient air temperature shortly after the sun sets, the Sunpower study concludes that the area surrounding a large-scale solar array is unlikely to experience a net heating change from the panels.

If trees are removed that were previously shading a building, that building could get warmer in full sunshine than when the trees were shading it. The June 1, 2011 tornado that ripped through Western Massachusetts created an opportunity to empirically measure the affects of the loss of neighborhood trees on temperatures and air humidity in the streets. A report by the U.S. Department of Agriculture Forest Service concluded that in the tornado-impacted neighborhood in Springfield, Massachusetts, daily mean morning and afternoon temperatures were typically greater than in the unaffected neighborhood and forest sites, but were similar at night. Residents noted increased use of air-conditioning units and an overall increase in energy costs in July and August of 2011.

Resources:

SUNPOWER, Impact of PV Systems on Local Temperature, July 2010

USDA Forest Services report: <http://www.regreenspringfield.com/wp-content/uploads/2011/11/tornado%20climate%20report%203.pdf>

Electric and Magnetic Fields (EMF)

Question: What, if any, health risks do the electric and magnetic fields (EMF) from solar panels and other components of solar PV arrays pose?

Bottom Line: Electric and magnetic fields are a normal part of life in the modern world. PV arrays generate EMF in the same extremely low frequency (ELF) range as electrical appliances and wiring found in most homes and buildings. The average daily background exposure to magnetic fields is estimated to be around one mG (milligauss – the unit used to measure magnetic field strength), but can vary considerably depending on a person's exposure to EMF from household electrical devices and wiring. The lowest exposure level that has been potentially associated with a health effect is three mG. Measurements at three commercial PV arrays in Massachusetts demonstrated that their contributions to off-site EMF exposures were low (less than 0.5 mG at the site boundary), which is consistent with the drop off of EMF strength based on distance from the source.

More Information: Solar PV panels, inverters and other components that make up solar PV arrays produce extremely low frequency EMF when generating and transmitting electricity. The extremely low frequency EMF from PV arrays is the same as the EMF people are exposed to from household electrical appliances, wiring in buildings, and power transmission lines (all at the power frequency of 60 hertz). EMF produced by cell phones, radios and microwaves is at much higher frequencies (30,000 hertz and above).

Electric fields are present when a device is *connected* to a power source, and are shielded or blocked by common materials, resulting in low potential for exposure. On the other hand, magnetic fields, which are only generated when a device is *turned on*, are not easily shielded and pass through most objects, resulting in greater potential for exposure. Both types of fields are strongest at the source and their strength decreases rapidly as the distance from the source increases. For example, the magnetic field from a vacuum cleaner six inches away from the motor is 300 mG and decreases to two mG three feet away. People are exposed to EMF during normal use of electricity and exposure varies greatly over time, depending on the distance to various household appliances and the length of time they are on. The daily average background level of magnetic fields for U.S. residents is one mG.

EMF from PV Arrays: Solar PV panels produce low levels of extremely low frequency EMF, with measured field strengths of less than one mG three inches from the panel. Solar PV power inverters, transformers and conduits generate higher levels of ELF-EMF. The amount of ELF-EMF is proportional to the electrical capacity of the inverter and is greater when more current (electricity) is flowing through a power line.

In a study of two PV arrays (using 10-20kW invertors) in Kerman and Davis, California, the magnetic field was highest at the inverters and transformers, but decreased rapidly to less than one mG within 50 feet of the units, well within the boundary of the PV array (Chang and Jennings 1994). This data indicates that extremely low frequency EMF field strengths at residences near systems of this size would be below the typical levels experienced by most people at home. The highest extremely low frequency EMF (up to 1,050 mG) was found next to an inverter unit at the point of entry to the electrical conduits. Even this

value is less than the ELF-EMF reported for some common household devices, such as an electric can opener with a maximum of 1500 mG at 6 inches.

In a recent study of 3 ground mounted PV arrays in Massachusetts, the above results were confirmed. The PV arrays had a capacity range of 1 to 3.5 MW. Magnetic field levels along the PV array site boundary were in the very low range of 0.2 to 0.4 mG. Magnetic fields at 3 to 7 feet from the inverters ranged from 500 to 150 mG. At a distance of 150 feet from the inverters, these fields dropped back to very low levels of 0.5 mG or less, and in many cases to much less than background levels (<0.2 mG).

Potential Health Effects: Four research studies have reported an association between three to four mG EMF exposure and childhood leukemia, while 11 other studies have not. These studies are inconsistent and do not demonstrate a causal link that would trigger a World Health Organization (WHO) designation of EMF as a possible carcinogen⁴. Studies looking at other cancers in humans and animals have not found evidence of a link to residential ELF-EMF exposure.

Reference Exposure Levels: To protect the general public from health effects from short-term high level magnetic fields, the International Commission on Non-Ionizing Radiation Protection (ICNIRP, 2010) advised an exposure limit for extremely low frequency magnetic fields at 2000mG. ICNIRP determined that the evidence on the impact of long-term exposure to low level magnetic fields was too uncertain to use to set a guideline. Guidelines for the magnetic field allowed at the edge of transmission line right-of-ways have been set at 200 mG by Florida and New York. Exposure to magnetic fields greater than 1000 mG is not recommended for people with pacemakers or defibrillators (ACGIH, 2001).

ELF-EMF does not appear to interfere with hearing aids, though interference from higher frequency EMF associated with cell phones has been reported.

Resources:

American Conference of Government Industrial Hygienist (ACGIH). 2001. as cited in NIEHS 2002.

California Department of Health Services (CA DHS). 2000. Electric and Magnetic Fields, measurements and possible effect on human health — what we know and what we don't know in 2000. This factsheet has a moderate level of technical detail and is intended for those with an interest in science. For more information, see <http://www.dhs.ca.gov/ps/deodc/ehib/>. California Electric and Magnetic Fields Program, A Project of the California Department of Health Services and the Public Health Institute.

Chang, GJ and Jennings, C. 1994. Magnetic field survey at PG&E photovoltaic sites. PG&E R&D Report 007.5-94-6. Available

⁴ WHO has designated ELF-EMF as a possible carcinogen. The use of the label “possible carcinogen” indicates that there is not enough evidence to designate ELF-EMF as a “probable carcinogen” or “human carcinogen,” the two indicators of higher potential for being carcinogenic in humans.

Electric Power Research Institute (EPRI). 2012. EMF and your health. Available http://my.epri.com/portal/server.pt?Abstract_id=000000000001023105.

International Commission on Non-Ionizing Radiation Protection (ICNIRP). 2010. ICNIRP Guidelines for limiting exposure to time-varying electric and magnetic fields (1 Hz – 100kHz). Health Physics 99(6):818-836.

National Cancer Institute (NCI). 2005. Magnetic Field Exposure and Cancer: Questions and Answers. U.S. Department of Health and Human Services, National Institutes of Health. Available <http://www.cancer.gov/cancertopics/factsheet/Risk/magnetic-fields>, accessed May 14, 2012.

National Institute of Environmental Health Science (NIEHS) 2002. Electric and Magnetic Fields Associated with the Use of Electric Power: Questions and Answers. Available http://www.niehs.nih.gov/health/assets/docs_p_z/results_of_emf_research_emf_questions_answers_booklet.pdf, accessed May 11, 2012.

National Institute of Environmental Health Science (NIEHS) web page on EMF. Available <http://www.niehs.nih.gov/health/topics/agents/emf/>, accessed May 11, 2012.

Oregon Department of Transportation (Oregon DOT). Scaling public concerns of electromagnetic fields produced by solar photovoltaic arrays. Produced by Good Company for ODOT for the West Linn Solar Highway Project. Available www.oregon.gov/ODOT/HWY/OIPP/docs/emfconcerns.pdf.

World Health Organization (WHO). 2007. Electromagnetic fields and public health: Exposure to extremely low frequency fields. Fact sheet N°322. June 2007. Available <http://www.who.int/mediacentre/factsheets/fs322/en/index.html>, accessed May 16, 2012. This fact sheet provides a short summary of the in-depth review documented in the WHO 2007, Environmental Health Criteria 238. Available http://www.who.int/peh-emf/publications/elf_ehc/en/index.html.

EMF in Your Environment, Magnetic Field Measurements of Everyday Electrical Devices (USEPA, 1992)

Tech Environmental, Study of Acoustic and EMF levels from Solar Photovoltaic Projects, Prepared for the Massachusetts Clean Energy Center, December 2012

Property Values

Question: How do ground-mounted solar PV arrays adjacent to residential neighborhoods influence the property values in those neighborhoods?

Bottom Line: No research was found specific to ground-mounted solar PV and property values. Residential property value research on roof-mounted solar PV and wind turbines illustrates no evidence of devaluation of homes in the area. Municipalities that adopt zoning for solar facilities may want to consider encouraging project developers to include screening vegetation along site borders to minimize visual impacts on surrounding neighborhoods.

More Information: A review of literature nationwide shows little evidence that solar arrays influence nearby property values. An analysis focused on roof-mounted solar PV panels done by the U.S. Department of Energy Lawrence Berkeley National Laboratory concludes that household solar installation actually increases home property values. This research analyzes a large dataset of California homes that sold from 2000 through mid-2009 with PV installed. Across a large number of repeat sales model specifications and robustness tests, the analysis finds strong evidence that California homes with PV systems have sold for a premium over comparable homes without PV systems.

While neither of these reports focused on ground-mounted solar PV, this information may be relevant to this discussion.

Resources:

The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Site Hedonic Analysis <http://eetd.lbl.gov/ea/ems/reports/lbnl-2829e.pdf>

An Analysis of the Effects of Residential Photovoltaic Energy Systems on Home Sales Prices in California <http://eetd.lbl.gov/ea/emp/reports/lbnl-4476e.pdf>

Public Safety (including fires)

Question: What public safety issues arise from people’s (including children) access areas where the solar arrays are installed? Can electrical and other equipment associated with solar projects cause electrical fires?

Bottom Line: Large-scale ground-mounted arrays are typically enclosed by fencing. This prevents children and the general public from coming into contact with the installations, thus preventing unsafe situations. The National Electric Code has mandatory requirements to promote the electrical safety of solar PV arrays. The solar industry and firefighters provide training and education for emergency personnel to ensure that the proper safety precautions are taken.

More Information: The National Electric Code has mandatory requirements for the electrical safety of solar PV arrays. To protect intruders, Article 690 of the National Electric Code covers the safety standards for solar PV installation and requires that conductors installed as part of solar PV be “not readily accessible.” With a large-scale ground-mounted array, a fence is typically installed around the system to prevent intruders. Some communities have solar PV or signage by-laws that require identification of the system owner and 24-hour emergency contact information.

DOER’s model by-law/ordinance requires owners of solar PV facilities to provide a copy of the project summary, electrical schematic, and site plan to the local fire chief, who can then work with the owner and local emergency services to develop an emergency response plan.

These measures can be combined with products to prevent theft of the panels. Some are very low cost options (fastener type) while there are other options that are more expensive (alarm system type) but also more effective. The biggest potential risk associated with solar PV systems is the risk of shock or electrocution for firefighters and other emergency responders who could come in contact with high voltage conductors. A 2010 study on firefighter safety and emergency response for solar PV systems by the Fire Protection Research Foundation, based in Quincy, Massachusetts, recommended steps firefighters can take when dealing with wiring and other components that may be energized. The Solar Energy Business Association of New England (SEBANE) has been working to provide training and education to first-responders to identify and avoid potential hazards when responding to a solar PV fire.

For more information about toxics/fires, see the Hazardous Materials Section.

Resources:

“*Moskowitz, P.D. and Ethenakis, V.M., Toxic Materials Released from Photovoltaic Modules During Fires: Health Risks, Solar Cells, 29, 63-71, 1990. 21.*”

Solar America Board for Codes and Standards

<http://www.solarabcs.org/about/publications/reports/blindspot/pdfs/BlindSpot.pdf>

“Fire Fighter Safety and Emergency Response for Solar Power Systems: Final Report” May 2010.
Prepared by The Fire Protection Research Foundation

National Electric Code Article 250: Grounding and Bonding, Article 300: Wiring Methods, Article 690 Solar PV Systems, Article 705 Interconnected Electric Power Production Sources

Historic Preservation

Question: What are the appropriate standards when land with certain historical or archaeological significance is developed for large-scale solar PV arrays?

Bottom Line: Parties undertaking solar PV projects with state or federal agency involvement must provide the Massachusetts Historical Commission (MHC) with complete project information as early as possible in the planning stage, by mail, to the MHC's office (see Resources). Parties should also contact local planning, historical or historic district commissions to learn about any required local approvals. Municipalities should also take the presence of historic resources into account when establishing zoning regulations for solar energy facilities in order to avoid or minimize impacts.

More Information: Land being evaluated for the siting large-scale solar PV may have historical or archaeological significance, including properties listed in the National or State Registers of Historic Places and/or the Inventory of Historic and Archaeological Assets of the Commonwealth.

Federal and state laws require that any new construction, demolition or rehabilitation projects (including new construction of solar PV) that propose to use funding, licenses or permits from federal or state government agencies must be reviewed by the MHC so that feasible alternatives are developed and implemented to avoid or mitigate any adverse affects to historic and archaeological properties. Projects receiving federal funding, licenses or permits are reviewed by the involved federal agency in consultation with the MHC and other parties in compliance with Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470f) and the implementing regulations (36 CFR 800) in order to reach agreement to resolve any adverse effects. Projects receiving state funding, licenses or permits must notify the MHC in compliance with M.G.L. c. 9, ss. 26-27C and the implementing regulations 950 CMR 71. If the MHC determines that the project will have an adverse effect, the involved state agency, the project proponent, the local historical preservation agencies, and other interested parties consult to reach an agreement that outlines measures to be implemented to avoid, minimize, or mitigate adverse effects. For projects with both federal and state agency involvement, the Section 106 process is used.

Some communities have local preservation ordinances or established historic districts that require local approval for new construction visible from a public way. Local historic district commissions have adopted design guidelines for new construction within their historic districts and historic neighborhoods. However, these guidelines must account for Chapter 40C Section 7 of the General Laws, which requires a historic district commission to consider the policy of the Commonwealth to encourage the use of solar energy systems and to protect solar access.

Resources:

Federal Agency Assisted Projects:

Section 106 review information and federal regulations 36 CFR 800 are available at the Advisory Council on Historic Preservation (ACHP) web site: www.achp.gov. Check with the involved federal agency for how they propose to initiate the MHC notification required by 36 CFR 800.3.

State Agency Assisted Projects:

Massachusetts General Laws Chapter 9, sections 26-27C

<http://www.malegislature.gov/Laws/GeneralLaws/Search>

MHC Regulations 950 CMR 71 (available from the State House Bookstore)

MHC Review & Compliance FAQs <http://www.sec.state.ma.us/mhc/mhcrevcom/revcomidx.htm>

MHC Project Notification Form (PNF) & Guidance for Completing the PNF and required attachments (USGS locus map, project plans, current photographs keyed to the plan). Mail or deliver the complete project information to the MHC's office: <http://www.sec.state.ma.us/mhc/mhcform/formidx.htm>

General Guidance about Designing Solar PV Projects on Historic Buildings and in Historic Areas:

<http://www.nrel.gov/docs/fy11osti/51297.pdf>

Noise

Question: Do the inverters, transformers or other equipment used as part of ground-mounted solar PV create noise that will impact the surrounding neighborhood?

Bottom Line: Ground-mounted solar PV array inverters and transformers make a humming noise during daytime, when the array generates electricity. At 50 to 150 feet from the boundary of the arrays, any sound from the inverters is inaudible. Parties that are planning and designing ground-mounted solar PV can explore options to minimize noise impacts to surrounding areas even more. These could include conducting pre-construction sound studies, evaluating where to place transformers, and undertaking appropriate noise mitigation measures.

More Information: Most typically, the source of noise associated with ground-mounted solar PV comes from inverters and transformers. There also may be some minimal noise from switching gear associated with power substations. The crackling or hissing sound caused by high-voltage transmission lines (the “Corona effect”) is not a concern in the case of solar PV, which uses lower voltage lines.

Parties siting ground-mounted solar PV projects should consult equipment manufacturers to obtain information about sound that can be expected from electrical equipment, which can vary. For example, according to manufacturer’s information, a SatConPowergate Plus 1 MW Commercial Solar PV Inverter has an unshielded noise rating of 65 decibels (dBA) at five feet. This is approximately the sound equivalent of having a normal conversation with someone three feet away. Another source of information is the National Electrical Manufacturers Association (NEMA) standards, which will provide maximum sound levels from various equipment arrays. From NEMA, a large dry-type transformer (2001-3333 kVA) that is forced air cooled and ventilated has an average sound level of 71 dBA, which is approximately the sound level one would expect from a vacuum cleaner at ten feet. There may be several such units on a substantially sized PV site, which would increase the sound level to some degree.

Sound impacts from electrical equipment can be modeled to the property line or nearest sensitive receptor (residence). Sound impacts can be mitigated with the use of enclosures, shielding and placement of the sound-generating equipment on-site. The rule of thumb for siting noise-generating equipment is that the sound impact can be reduced by half by doubling the distance to the receptor.

In some areas both in the U.S. and Canada, sound impact analysis is required as part of the permitting process for large PV systems. For example, in the Province of Ontario, Canada, any project greater than 12 MW is required to perform a sound impact analysis (Ontario 359/09). California also requires a sound impact analysis for Large PV projects. Massachusetts currently has no such requirement, but the reader should note that ground mounted systems in Massachusetts very rarely go over 6 MW, which is half the size of the 12 MW that triggers a sound analysis in Ontario.

A recent study measured noise levels at set distances from the inverters and from the outer boundary of three ground mounted PV arrays in Massachusetts with a capacity range of 1 to 3.5 MW. Close to the inverters (10 feet), sound levels varied from an average of 55 dBA to 65 dBA. Sound levels along the fenced boundary of the PV arrays were generally at background levels, though a faint inverter hum could be heard at some locations. Any sound from the PV array and equipment was inaudible and sound

levels were at background levels at setback distances of 50 to 150 feet from the boundary. Project developers should consult with local planning and zoning officials to determine if local noise ordinances may be applicable. Many local noise ordinances establish absolute limits on project impact noise (such as a 40 dBA nighttime limit). In these communities, a noise impact assessment may be required.

Resources:

NEMA Standards Publication No. TR=1-1993(R2000), *Transformers, Regulators and Reactors*

Noise Assessment: Borrego 1 Solar Project, MUP 3300-10-26 Prepared by Ldn Consulting, Inc, Fallbrook, CA. January 14, 2011

Ontario Regulation 359/09 Renewable Energy Approval (REA) Regulation, Ontario Ministry of the Environment, Canada

Tech Environmental, Study of Acoustic and EMF levels from Solar Photovoltaic Projects, Prepared for the Massachusetts Clean Energy Center, December 2012

Water-Related Impacts

Question: Can chemicals that might be contained in solar PV threaten public drinking water systems? Will flooding occur in cases where trees must be removed in order to install the solar arrays? How do we ensure that wetland resources are protected?

Bottom Line: Rules are in place to ensure that ground-mounted solar arrays are installed in ways that protect of public water supply, wetlands, and other water resource areas. All solar panels are contained in a solid matrix, are insoluble and are enclosed. Therefore releases are not a concern.

More Information: Because trees offer multiple water management, cooling and climate benefits, clear cutting of trees for the installation of ground-mounted solar PV is discouraged. For projects that do propose to alter trees, the Massachusetts Environmental Policy Act (MEPA) has thresholds for the proposed alteration of a certain number of acres of land, the size of electrical facilities, and other criteria that trigger state review of proposed projects. Clear cutting of trees and other aspects of proposed projects would be reviewed through an Environmental Notification Form/Environmental Impact Statement if thresholds are triggered.

MassDEP has determined that the installation of solar arrays can be compatible with the operation and protection of public drinking water systems. This includes the installation of solar arrays within Zone I, which is a 400-foot protective radius around a public ground water well. Solar projects proposed on lands owned by public water systems outside Zone I may be approved subject to standard best management practices, such as proper labeling, storage, use, and disposal of products. MassDEP has a guidance/review process in place to ensure that the installation of ground-mounted solar PV in these areas protects public water supplies.

Installing solar arrays on undeveloped land can preserve the permeable nature of the land surface provided the project design minimizes disturbance to natural vegetative cover, avoids concentrated runoff, and precipitation is otherwise recharged into the ground to the greatest extent practicable. Storm water flow, as well as information about site-specific soils and slope, is taken into account during the design and installation of solar arrays.

MassDEP discourages installation of ground-mounted solar PV systems in wetland areas, including riverfront locations. Solar projects within wetland areas are unlikely to comply with the performance standards in the Wetlands Protection Act regulations. If a solar installation is proposed in a wetland, a riverfront area, a floodplain, or within 100 feet of certain wetlands, the project proponent must file a notice of intent (or application to work in wetland areas) with the local Conservation Commission, which administers the Wetlands Protection Act at the municipal level. Copies should also go to MassDEP. Solar installations may be sited near, but outside of wetlands, in a manner that protects the functions of wetlands and that minimizes impacts from associated activities such as access and maintenance. Ancillary structures related to construction of a solar installation or transmission of power may be permitted to cross rivers and streams using best design and management practices.

Resources:

More information about the Wetlands Protection Act requirements may be found in the implementing regulations at 310 CMR 10.00: <http://www.mass.gov/dep/service/regulations/310cmr10a.pdf>

More information about Environmental Notification Form/Environmental Impact Statement: <http://www.env.state.ma.us/mepa/regs/11-03.aspx>.

MassDEP Policy for Siting Solar Projects in Zone I: <http://www.mass.gov/dep/water/laws/1101.htm>

MassDEP Guidance for Siting Wind and Solar in Public Water Supply Land: <http://www.mass.gov/dep/water/laws/wseppws.htm>

MassDEP Chapter 91 Guidance for Renewable Energy Projects: http://www.mass.gov/dep/water/priorities/ene_91.htm

Glare

Question: How important is reflectivity and potential visual impacts from solar projects, especially near airports?

Bottom Line: Solar panels are designed to reflect only about 2 percent of incoming light, so issues with glare from PV panels are rare. Pre-construction modeling can ensure that the placement of solar panels prevents glare.

More Information: Solar panels are designed to absorb solar energy and convert it into electricity. Most are designed with anti-reflective glass front surfaces to capture and retain as much of the solar spectrum as possible. Solar module glass has less reflectivity than water or window glass. Typical panels are designed to reflect only about 2 percent of incoming sunlight. Reflected light from solar panels will have a significantly lower intensity than glare from direct sunlight.

An analysis of a proposed 25-degree fixed-tilt flat-plate polycrystalline PV system located outside of Las Vegas, Nevada showed that the potential for hazardous glare from flat-plate PV systems is similar to that of smooth water and is not expected to be a hazard to air navigation.

Many projects throughout the U.S. and the world have been installed near airports with no impact on flight operations. United Kingdom and U.S. aircraft accident databases contain no cases of accidents in which glare caused by a solar energy facility was cited as a factor.

When siting solar PV arrays pre-construction modeling can ensure the panels are placed in a way that minimizes any potential glare to surrounding areas.

Resources:

Technical Guidance for Evaluating Selected Solar Technologies on Airports, Federal Aviation Administration, November 2010 (currently under review):

http://www.faa.gov/airports/environmental/policy_guidance/media/airport_solar_guide.pdf

A Study of the Hazardous Glare Potential to Aviators from Utility-Scale Flat-Plate Photovoltaic Systems, Black & Veatch Corporation, August 2011: <http://www.isrn.com/journals/re/2011/651857/>

Solar Photovoltaic Energy Facilities, Assessment of Potential Impact on Aviation, Spaven Consulting, January 2011: <http://plan.scambs.gov.uk/swiftlg/MediaTemp/1121414-374831.pdf>

Endangered Species and Natural Heritage

Question: Who ensures that rare animal and plant species and their habitats are not displaced or destroyed during the construction of ground-mounted solar PV?

Bottom Line: Rules are in place to ensure that the installation of ground mounted solar arrays protects state-listed rare species and animals and plants. Project proponents can check with the local Conservation Commission to determine if the footprint of the solar PV project lies within a rare species habitat.

More Information: The Massachusetts Natural Heritage and Endangered Species Program (NHESP) was created under the Massachusetts Endangered Species Act (MESA) and is responsible for protecting rare animal and plant species and their habitats from being displaced or destroyed. Specifically, NHESP reviews projects proposed for:

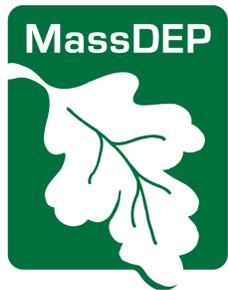
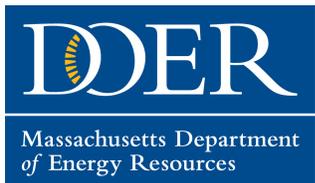
- **Priority Habitats:** These are areas known to be populated by state-listed rare species of animals or plants. Any project that could result in the alteration of more than two acres of Priority Habitat is subject to NHESP regulatory review. Projects will need to file a MESA Information Request Form, along with a project plan, a U.S. Geological Service (USGS) topographical map of the site, and a \$50 processing fee. NHESP will let project administrators know within 30 days if the filing is complete, then will determine within the next 60 days whether the project, as proposed, would result in a “take” of state-listed rare species that might require the project to redesign, scale down, or abandon its plan.
- **Estimated Habitats.** These are a sub-set of Priority Habitats that are based on the geographical range of state-listed rare wildlife – particularly animals that live in and around wetlands. If the project is proposed for one of these areas and the local Conservation Commission requires filing a Notice of Intent (NOI) under the Wetlands Protection Act, the project will need to submit copies of the NOI, project plans and a U.S. Geological Service (USGS) topographical map to NHESP. Within 30 days of receiving this information, NHESP will send its comments to the Conservation Commission, with copies to the project administrator, project consultants, and the Department of Environmental Protection (MassDEP).

Projects can check with the Conservation Commission in your town or city to find out if its footprint lies within an Estimated Habitat for rare species. Each Commission has a large-scale map of its community available for public inspection. Each map NHESP develops to delineate a Priority Habitat or Estimated Habitat is based on at least 25 years of local rare animal and plant observation, and the best scientific evidence available. It is important to note that to ensure adequate protection of rare species, NHESP does not disclose detailed site-specific information about them.

Resources:

To learn more about the NHESP review process and download a MESA Information Request Form, visit: http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/ mesa/ mesa_project_review.htm

For lists of rare animal and plant species in Massachusetts, visit: http://www.mass.gov/dfwele/dfw/nhesp/species_info/ mesa_list/ mesa_list.htm





**Board of Selectmen
TOWN OF NEEDHAM
AGENDA FACT SHEET**

MEETING DATE: 5/14/2013

Agenda Item	Town Manager Report
Presenter(s)	Kate Fitzpatrick, Town Manager

1.	BRIEF DESCRIPTION OF TOPIC TO BE DISCUSSED		
At this time, the Town Manager will update the Board on issues not covered on agenda, as needed.			
2.	VOTE REQUIRED BY BOARD OF SELECTMEN	YES	NO
<i>Suggested Motion:</i>			
3.	BACK UP INFORMATION ATTACHED	YES	NO
(Describe backup below)			
none			



**Board of Selectmen
TOWN OF NEEDHAM
AGENDA FACT SHEET**

MEETING DATE: 5/14/2013

Agenda Item	Consideration of All Alcohol Licenses for Restaurants with less than 100 seats
Presenter(s)	Board Discussion

1.	BRIEF DESCRIPTION OF TOPIC TO BE DISCUSSED		
	The Board will discuss the subject of granting all alcoholic licenses for restaurants with less than 100 seats.		
2.	VOTE REQUIRED BY BOARD OF SELECTMEN	YES	NO
3.	BACK UP INFORMATION ATTACHED	YES	NO



**Board of Selectmen
TOWN OF NEEDHAM
AGENDA FACT SHEET**

MEETING DATE: 05/14/2013

Agenda Item	Committee Reports
Presenter(s)	Board Discussion

1.	BRIEF DESCRIPTION OF TOPIC TO BE DISCUSSED		
	<i>Board members will report on the progress and / or activities of their Committee assignments.</i>		
2.	VOTE REQUIRED BY BOARD OF SELECTMEN	YES	NO
3.	BACK UP INFORMATION ATTACHED	YES	NO
	(Describe backup below)		
	None		

**ONE DAY SPECIAL LICENSE
TOWN OF NEEDHAM BOARD OF SELECTMEN
EVENT INFORMATION SHEET**
(Please complete and attach event flyer or other information.)

Event Manager Name (Name that will appear on license)	Suzanne Koginski		
Event Manager Address	179 Manning St, Needham MA 02794		
Event Manager Phone Number	781-449-1947		
Organization Representing (if applicable)	Needham Pool & Racquet Club		
Is the organization (if applicable) you are representing non-profit? If so, please attach proof of non-profit status.	<input type="checkbox"/> Non-profit	<input checked="" type="checkbox"/> For profit	
	<input type="checkbox"/> Proof of non-profit status is attached Form of Proof: _____		
Name of Event	New Member Social Reception		
Date of Event	Friday, June 14th 2013		
License is for Sale of:	<input checked="" type="checkbox"/> Wines & Malt Beverages Only <input type="checkbox"/> All Alcoholic Beverages (for non-profit groups only)		
Requested Time for Liquor License	FROM:	TO:	
	6:00 pm	9:00 pm	
Are tickets being sold in advance for this event?	<input type="checkbox"/> YES \$	/per ticket	<input checked="" type="checkbox"/> NO
Is there an admission fee for this event?	<input type="checkbox"/> YES \$	/per ticket	<input checked="" type="checkbox"/> NO
Are you using dues collected to purchase alcohol for this event?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	
How many people are you expecting at this event?	150+		
Name & address of event location. Please attach proof of permission to use this facility.	Needham Pool & Racquet Club 1550 Central Avenue, Needham MA 02794		
Who will be serving the alcohol to your guests?	Beverages to Go - Dover May SERVERS Bartenders from Special Occasions		
Bartenders and/or servers of alcohol, beer and/or wine must have completed in the past three years an appropriate Massachusetts alcoholic beverages server-training program. Please state below who will be serving alcohol, beer and/or wine and attach proof of their training (certificate).			
Ellen Levine and Dennis Foley			
Please use the space below to describe the manner in which alcohol will be served to your guests. (For example, will guests be served alcohol or will they need to purchase it from the bar?) Please attach floorplan (can be hand drawn) of the event facility with liquor delivery plan.			
Guests will be provided beverages at the bar (see attached)			
<input checked="" type="checkbox"/> I understand that the alcohol purchased for this event must be purchased from a licensed wholesaler/importer, manufacturer, farmer-winery, farmer-brewery or special permit holder and that I have received a current list of wholesalers. (A person holding a Section 14 license cannot purchase alcoholic beverages from a package store. (MGL Ch. 138, Sec 14, 23; 204 CMR 7.04))			
Event Manager Signature:	Suzanne Koginski		Date: 5/18/13

New member Reception

~~2011~~ ~~2012~~ 2013

Entrance

~~June 17, 2011~~
~~June 15, 2012~~
2013

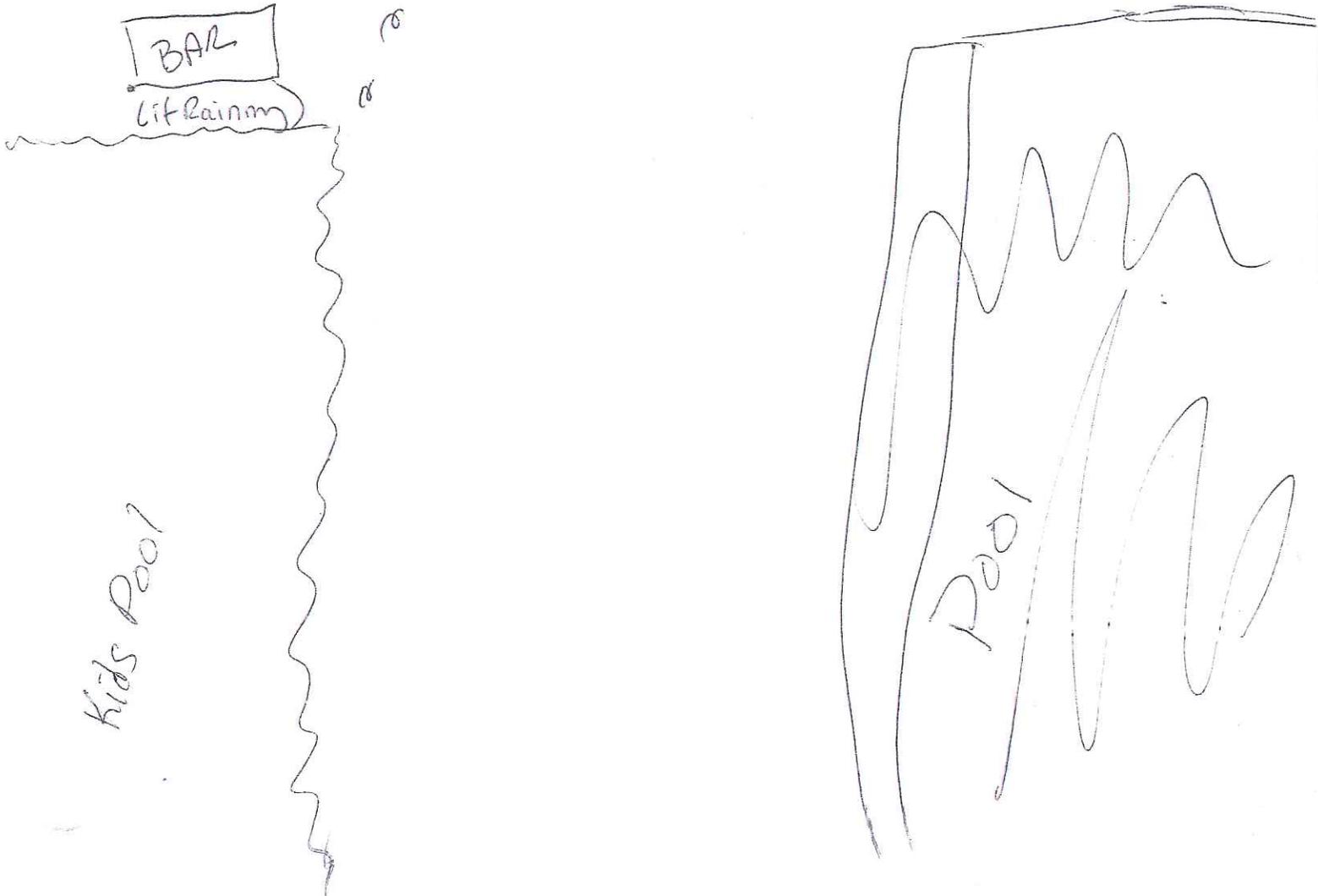
Tent Area

BAR
Lit Rainm

Kids Pool

BAR

Pool



Congratulations!

You have successfully completed the ServSafe Alcohol® Responsible Alcohol Service Training and Certification Program. This is your official ServSafe Alcohol Certification Card and provides confirmation that you have studied, and are knowledgeable about, how to serve alcohol responsibly.

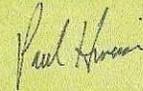
Thank you for participating in the ServSafe Alcohol program. Responsible alcohol service begins with the choices you make, and ServSafe Alcohol training will help you make the right decision when the moment arises.

By completing the ServSafe Alcohol program, you show your dedication to safe and responsible alcohol service. The ServSafe Alcohol program and the National Restaurant Association are dedicated to helping you continue to raise the bar on alcohol safety.

To learn more about our full suite of responsible alcohol service training products, contact your State Restaurant Association, your distributor or visit us at www.ServSafe.com.

We value your dedication to responsible alcohol service and applaud you for making the commitment to keep your operation, your customers and your community safe.

Sincerely,



Paul Hineman

Executive Director, National Restaurant Association Solutions

In Alaska you must laminate your card for it to be valid.

	ID NO. 8398679
	CARD NO. 9568944
ServSafe Alcohol® CERTIFICATE	
ELLEN LEVINE	
Card expires three years from the date of the examination. Local laws apply.	
DATE OF EXAMINATION	
11/28/2012	
	

Student Name	ELLEN LEVINE
Class Number	518823
Exam Date	11/28/2012
Expiration Date	11/28/2015

Overall Point Score	52
Overall % Score	86
Passing % Score	75
Status	PASSED

NOTE: You can access your score and certification information anytime at www.ServSafe.com with the class number provided on this form.

Please make a copy of your ServSafe Alcohol Certificate Card for your records. Replacement copies can be obtained for a fee by completing the Certificate and Score Release Request Form available at www.ServSafe.com.

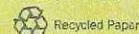
Please feel free to address any questions regarding your certification to the National Restaurant Association Service Center Department at servicecenter@restaurant.org or 800.765.2122, ext. 6703.


NATIONAL
RESTAURANT
ASSOCIATION®

175 West Jackson Boulevard, Suite 1500
Chicago, IL 60604-2814
1.800.SERV-SAFE
312.715.1010 In Chicagoland

www.ServSafe.com

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09041501 v.1001



This is your Official TIPS® Certification Card.

Carry it with you as evidence of your skills and knowledge in the responsible sale and consumption of alcohol.

Congratulations!

By successfully completing the TIPS (Training for Intervention Procedures) program, you have taken your place in the forefront of a nationwide movement to reduce the tragedies resulting from the misuse of alcohol. We value your participation in the TIPS program.

You will help to provide a safer environment for your patrons, peers and/or colleagues by using the techniques you have learned and taking a positive approach towards alcohol use.

If you have any information you think would enhance the TIPS program, or if we can assist you in any way, please contact us at 703-524-1200. Thank you for your dedication to the responsible sale and consumption of alcohol.

Sincerely,



Adam E. Chafetz
President, HCI

IMPORTANT: Keep a copy of this card for your records. Write down your certification number because you will need it when contacting TIPS. For assistance or additional information, contact Health Communications, Inc. by using the information provided on the reverse side of your certification card. There is a minimal charge for a replacement card if your original card becomes lost, damaged or stolen.



On Premise	SSN:	XXX-XX-XXXX
Issued: 12/6/2010	Expires:	11/1/2013
ID#: 2912822	D.O.B.:	XX/XX/XXXX

DENNIS FOLEY
141 Twin Lakes Dr
Halifax, MA 02338-2210

For service visit us online at www.getlips.com
Robert Reynolds, 49266



TOWN OF NEEDHAM

RECEIVED For Calendar Year: 2013

TOWN OF NEEDHAM
BOARD OF SELECTMEN

APPLICATION/ RENEWAL FOR A COMMON VICTUALLER LICENSE

2013 APR 22 P 2:01

The undersigned hereby applies for a Common Victualler License in accordance with the provisions of the Statutes relating thereto:

Name of Corporation: Zucchini Gold, LLC

Name of Establishment (d/b/a): The Rice Barn

If business is a Corporation / Corporate Name and Officers: _____
Chalermopol Intha, Manager

If business is not a Corporation, Name of Owner: _____

Email Address: _____

Address of Establishment: 1037 Great Plain Avenue

Contact Person (name who will receive notices under this license): Chalermopol Intha

Mailing Address (of contact person), if different from Establishment: _____

72 Manchester Road, Newton, MA 02461

Establishment's Days of Operation: 7 days

Establishment's Hours of Operation: 11:30 AM-9:30 PM; Sat & Sun 5:00PM-9:30 PM

Manager: Chalermopol Intha # of Staff: 7 # of Seats: 102

Telephone Number: 781-449-8300 Fax Number: _____

Signature of Owner: _____ Date: 4/22/2013

(If corporation, signature of a duly authorized agent of the corporation)

A certificate of insurance showing evidence that the applicant has workers' compensation insurance must be included with this completed application.

If you currently hold an alcoholic beverages license, you must provide a copy of a certificate of liquor liability insurance in the minimum amount of \$100,000/person/\$1,000,000 aggregate for personal injury and \$100,000 per occurrence for property damage before your alcoholic beverages license will be renewed.

Pursuant to MGL Ch. 62C, Sec. 49A:

I certify under the penalties of perjury that I, to my best knowledge and belief, have read and am in compliance with the contents of M.G.L. Chapter 62C, Section 49A (on reverse side of this application).

Signature of Applicant (Mandatory)

By Corporate Officer (if applicable)

30-0766818

4/22/2013

Either a Social Security Number

Date (required)

This License will not be issued unless this certification clause is signed by the applicant.

Zucchini Gold, LLC 72 Manchester Road Newton, MA 02461
Telephone 617-244-0449

April 18, 2013

Sandra Cincotta, Office of Town Manager
Town of Needham
1471 Highland Avenue
Needham, MA 02492

Dear Ms. Cincotta:

We are pleased to submit the application for Common Victualler License as attached for The Rice Barn restaurant, located at 1037 Great Plain Avenue, Needham, MA 02492.

Anticipating the approval of Liquor License near the end of June or early July 2013, we will submit copies of applicable insurance certificates once the Liquor License approved and when we pick up the Common Victualler License that time.

Very truly yours,
Zucchini Gold, LLC



Chalernpol Intha, Manager



RECEIVED
TOWN OF NEEDHAM
BOARD OF SELECTMEN

TOWN OF NEEDHAM

2013 APR 22 11:10
APPLICATION FOR LICENSE FOR
PUBLIC ENTERTAINMENT ON SUNDAY

The undersigned hereby applies for a License for Public Entertainment on Sunday in accordance with the provisions of the statutes relating thereto:

Name of Establishment: Needham Farmers Market, Inc.

Applicant (must be an individual): Jeffrey Friedman (President)

If Business is a Corporation / Corporate Name and Officers: Needham Farmers Market, Inc. (corporation)

Jeffrey Friedman President & Jeffrey Rickman, Treasurer; Furly Roach, Secretary

If Business is not a Corporation, Name of Owner: _____

Address of Establishment: front lawn, First Parish Church, 23 Dedham Ave.

Mailing Address: 28 Perrault Road, Apt #1 Needham 02494 Telephone Number: 781.400.1036

Email Address: friedmanesg@aol.com Fax Number: _____

Describe the type of entertainment at your Establishment: individual or small group instrumentalists

The entertainment above mentioned is to be in keeping with the character of the Lord's Day and not inconsistent with its due observance.

No change to be made in the program without permission of the authorities granting and approving the license.

Signature of Applicant: Jeffrey Friedman Date: 4/22/13

A certificate of insurance showing evidence that the applicant has workers' compensation insurance must be included with this completed application.

Pursuant to M.G.L. Ch. 62C, Sec. 49A:

I certify under the penalties of perjury that I, to my best knowledge and belief, have filed all state tax returns and paid all state taxes required under law.

Jeffrey Friedman (President)
Signature of Applicant (Mandatory)

By Corporate Officer
(If applicable)

285-38-2344
Either a Social Security Number
Or Federal Identification Number
Must Be Supplied

4/22/13
Date (required)

This License will not be issued unless this certification clause is signed by the applicant.



The Commonwealth of Massachusetts
 Department of Industrial Accidents
 Office of Investigations
 600 Washington Street
 Boston, MA 02111
 www.mass.gov/dia

Workers' Compensation Insurance Affidavit: General Businesses

Applicant Information

Please Print Legibly

Business/Organization Name: Needham Farmers Market, Inc.

Address: c/o Jeffrey Friedman, 28 Perrott Road, Apt. #1,

City/State/Zip: Needham, MA 02494 Phone #: 781 400.1036

<p>Are you an employer? Check the appropriate box:</p> <p>1. <input type="checkbox"/> I am an employer with _____ employees (full and/or part-time).*</p> <p>2. <input type="checkbox"/> I am a sole proprietor or partnership and have no employees working for me in any capacity. [No workers' comp. insurance required]</p> <p>3. <input type="checkbox"/> We are a corporation and its officers have exercised their right of exemption per c. 152, §1(4), and we have no employees. [No workers' comp. insurance required]**</p> <p>4. <input checked="" type="checkbox"/> We are a non-profit organization, staffed by volunteers, with no employees. [No workers' comp. insurance req.]</p>	<p>Business Type (required):</p> <p>5. <input type="checkbox"/> Retail</p> <p>6. <input type="checkbox"/> Restaurant/Bar/Eating Establishment</p> <p>7. <input type="checkbox"/> Office and/or Sales (incl. real estate, auto, etc.)</p> <p>8. <input checked="" type="checkbox"/> Non-profit</p> <p>9. <input type="checkbox"/> Entertainment</p> <p>10. <input type="checkbox"/> Manufacturing</p> <p>11. <input type="checkbox"/> Health Care</p> <p>12. <input type="checkbox"/> Other _____</p>
--	---

*Any applicant that checks box #1 must also fill out the section below showing their workers' compensation policy information.

**If the corporate officers have exempted themselves, but the corporation has other employees, a workers' compensation policy is required and such an organization should check box #1.

I am an employer that is providing workers' compensation insurance for my employees. Below is the policy information.

Insurance Company Name: _____

Insurer's Address: _____

City/State/Zip: _____

Policy # or Self-ins. Lic. # _____ Expiration Date: _____

Attach a copy of the workers' compensation policy declaration page (showing the policy number and expiration date).

Failure to secure coverage as required under Section 25A of MGL c. 152 can lead to the imposition of criminal penalties of a fine up to \$1,500.00 and/or one-year imprisonment, as well as civil penalties in the form of a STOP WORK ORDER and a fine of up to \$250.00 a day against the violator. Be advised that a copy of this statement may be forwarded to the Office of Investigations of the DIA for insurance coverage verification.

I do hereby certify, under the pains and penalties of perjury that the information provided above is true and correct.

Signature: Jeffrey Friedman Date: 4/22/13

Phone #: 781 400.1036

Official use only. Do not write in this area, to be completed by city or town official.

City or Town: _____ Permit/License # _____

Issuing Authority (circle one):

1. Board of Health 2. Building Department 3. City/Town Clerk 4. Licensing Board 5. Selectmen's Office

6. Other _____

Contact Person: _____ Phone #: _____



TOWN OF NEEDHAM LICENSE APPLICATION FOR SALE OF SECOND-HAND ARTICLES

The undersigned hereby applies for a License for the Sale of Second-Hand Articles in accordance with the provisions of the Statutes relating thereto:

Name of Applicant (must be an individual): BERNARD SEGALOFF

Name of Company: SEGALOFF'S JEWELERS

If Business is a Corporation/Corporate Name and Officers: J. SEGALOFF + SONS INC
BERNARD + CHERYL SEGALOFF

Address of Establishment: 20 CHESTNUT ST #5

Mailing Address (if different from establishment): _____

Email Address: WALLYPOB@AOL.COM

Telephone Number: 781-449-4810 Fax Number: - SAME -

Signature of Applicant: [Signature] Date: 4-30-13

List of Articles for sale: NONE

A certificate of insurance showing evidence that the applicant has workers' compensation insurance must be included with this completed application.

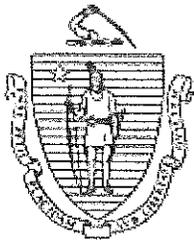
Pursuant to MGL Ch. 62C, Sec. 49A:

I certify under the penalties of perjury that I, to my best knowledge and belief, have read and am in compliance with the contents of M.G.L. Chapter 62C, Section 49A (on reverse side of this application).

[Signature] Signature of Applicant (Mandatory)
042031884 Either a Social Security Number Or Federal Identification Number Must Be Supplied

[Signature] By Corporate Officer (if applicable)
4-30-13 Date (required)

This License will not be issued unless this certification clause is signed by the applicant.



The Commonwealth of Massachusetts
 Department of Industrial Accidents
 Office of Investigations
 1 Congress Street, Suite 100
 Boston, MA 02114-2017
 www.mass.gov/dia

Print Form

Workers' Compensation Insurance Affidavit: General Businesses

Applicant Information

Please Print Legibly

Business/Organization Name: J. SEGALOFF + SONS INC DBA: SEGALOFF'S JEWELERS

Address: 20 CHESTNUT ST #5

City/State/Zip: NEEDHAM MA 02442 Phone #: 781-449-4810

Are you an employer? Check the appropriate box:

- 1. I am an employer with 3 employees (full and/or part-time).*
- 2. I am a sole proprietor or partnership and have no employees working for me in any capacity. [No workers' comp. insurance required]
- 3. We are a corporation and its officers have exercised their right of exemption per c. 152, §1(4), and we have no employees. [No workers' comp. insurance required]**
- 4. We are a non-profit organization, staffed by volunteers, with no employees. [No workers' comp. insurance req.]

Business Type (required):

- 5. Retail
- 6. Restaurant/Bar/Eating Establishment
- 7. Office and/or Sales (incl. real estate, auto, etc.)
- 8. Non-profit
- 9. Entertainment
- 10. Manufacturing
- 11. Health Care
- 12. Other _____

*Any applicant that checks box #1 must also fill out the section below showing their workers' compensation policy information.

**If the corporate officers have exempted themselves, but the corporation has other employees, a workers' compensation policy is required and such an organization should check box #1.

I am an employer that is providing workers' compensation insurance for my employees. Below is the policy information.

Insurance Company Name: THE HARTFORD CASUALTY INS. CO.

Insurer's Address: HARTFORD PLAZA

City/State/Zip: HARTFORD, CT. 06115

Policy # or Self-ins. Lic. # 08 WBL CD 4243 Expiration Date: 9-14-13

Attach a copy of the workers' compensation policy declaration page (showing the policy number and expiration date).

Failure to secure coverage as required under Section 25A of MGL c. 152 can lead to the imposition of criminal penalties of a fine up to \$1,500.00 and/or one-year imprisonment, as well as civil penalties in the form of a STOP WORK ORDER and a fine of up to \$250.00 a day against the violator. Be advised that a copy of this statement may be forwarded to the Office of Investigations of the DIA for insurance coverage verification.

I do hereby certify, under the pains and penalties of perjury that the information provided above is true and correct.

Signature: [Handwritten Signature]

Date: 4-30-13

Phone #: 781-449-4810

Official use only. Do not write in this area, to be completed by city or town official.

City or Town: _____ Permit/License # _____

Issuing Authority (circle one):

- 1. Board of Health
- 2. Building Department
- 3. City/Town Clerk
- 4. Licensing Board
- 5. Selectmen's Office
- 6. Other _____

Contact Person: _____ Phone #: _____

✓ Police ✓ DPW
✓ Fire ✓ P+R

To: The Selectman of the Town of Needham
Date: February 25, 2013
From: The Community Center of Needham Board of Directors

RECEIVED
TOWN OF NEEDHAM
BOARD OF SELECTMEN
2013 FEB 26 A 9:22

We are requesting that you consider allowing us permission to use the Town Green to host a community-wide luminary event on Sunday evening, November 3, 2013. We would like to begin setting up at 12:00 noon; the event will take place between 4:00 – 7:00 p.m. and clean up will be finished by 8:30 p.m.

The event would be similar to the Luminary Stroll 2013 and include entertainment for all ages as well as snacks and beverages. Last year we worked with Fire and Police and no incidents occurred.

We are hoping to work with the NBA once again to promote the event and encourage local businesses to stay open for shopping opportunities. This will be decided by individual businesses.

We would also like to request a rain date in case of inclement weather – please let us know if the following Sunday evening, November 10, would work?

We thank you for your consideration and look forward to your response.

Sincerely,

Katy Dirks
Vice President, Community Center of Needham
617-947-7837 (cell)
tm.g.dirks@gmail.com

Police DPW
Fire P+R

Town of Needham, Massachusetts Road Race Event Form

Name of Organization: The Christina Clarke Genco Foundation, Inc.

Organization Mailing Address: P.O. Box 610192, Newton, MA 02461

Primary Contact: Caroline Genco

Contact Title: President and Treasurer of the CCG Foundation

Contact Address: 54 Lakewood Road, Newton, MA 02461

Contact Phone (Day): 617-610-5305

Contact Phone (Cell): 617-610-5305

Contact Email: CCGFoundation@gmail.com

Event Date(s): Sunday, May 12, 2013

Date Expected to be in Needham: Sunday, May 12, 2012

Earliest Time Expected in Needham: 8:00 am

Latest Time Expected in Needham: 4:00 pm

Number of Expected Participants: 200-500

Number of Expected Spectators at Peak

Time: 0 – Not a race, not expecting spectators

Is event for-profit or not-for-profit? Non-profit

Are participants charged a fee? Yes, \$40

Estimated Number of Vehicles: ~~5 to 10 at Walker-Gordon Field (have not confirmed this rest stop to do week of April 8th 2013)~~

newman elementary school

What type of Parking is needed: only need parking for rest stop at Walker-Gordon Field, which has plenty of space in their parking lot

Are event organizers available to meet with members of the Town to plan event?
yes

What will be done in case of inclement weather? Event will take place rain or shine

Are there other events that take place at the same time as this one, just before or just after this event? Yes, in Newton – Kid Fest at Newton City Hall at the same time

Describe Parking Plan, include where participants and spectators will park and length of time expected to be parked: The ride starts and ends at Newton City Hall and parking will be provided around Newton City Hall

Will neighborhoods be impacted by parking and traffic? no

What activities are planned for the start of the race (if in Needham)? n/a

What activities are planned for the end of the race (if in Needham)? n/a

What facilities are needed for the start of the race (if in Needham)? n/a

What facilities are needed for the end of the race (if in Needham)? n/a

Once the event begins, how long will it take to complete the event? A maximum of 8 hours, but most riders should be done in 4 to 5 hours

Are signs requested to post at the start of the race? n/a, ride starts in Newton

At the end of the race? n/a, ride ends in Newton

Are signs requested for along the route? No, we are providing our own signage

Will volunteers be placed along the route? Yes, at the intersections of West St and Eliot Rd, at Nehoiden St and Parish Rd, at Central Ave and Charles River St, and at Great Plain Ave and Greendale Ave

Will you be using a sound system? If yes, please describe where and when it will be used. – yes in newton

Will there be any food served? Yes, at the rest stop at Walker-Gordon Field. All food will be pre-packaged (granola bars, cliff bars, etc.)

newman school

Will portable toilets be used? Yes, at the rest stop at Walker-Gordon Field. Two portable toilets will be dropped off in the parking lot for the event the weekend of May 12th.

NO

Will hydration stops be set up along route? If yes, please include these on route plan. – yes, at Walker-Gordon Field *Newman Elementary School*

If the event takes place after dark, what is the plan to meet lighting needs? n/a – event ends at 4 pm

What safety measures are being made for participants and spectators? EMS will be available at Newton City Hall and hydration stops. We will have 4 volunteer cyclists on each route with first aid supplies as well as two support vehicles to assist in minor emergencies. Police from the 9 towns involved in the routes will be assisting with traffic control at key intersections along the ride.

What are plans for handling first aid and medical emergencies? EMS will be available on-site and the Foundation will have the ability to transport injured cyclists to the nearest medical facilities.

Does the event take place during commuter times? no

Is school in session during the event? no

Will school drop off or pick up be impacted by the event? no

Are businesses open during the time of the event? Yes, some, but it is a Sunday and Mother's Day.

Does the route pass any business that might be impacted by the event? (e.g. funeral homes, markets, restaurants) no

Are there any churches/houses of worship located along the event route? no

Will church/house of worship services take place during the event? no *at Newman School*

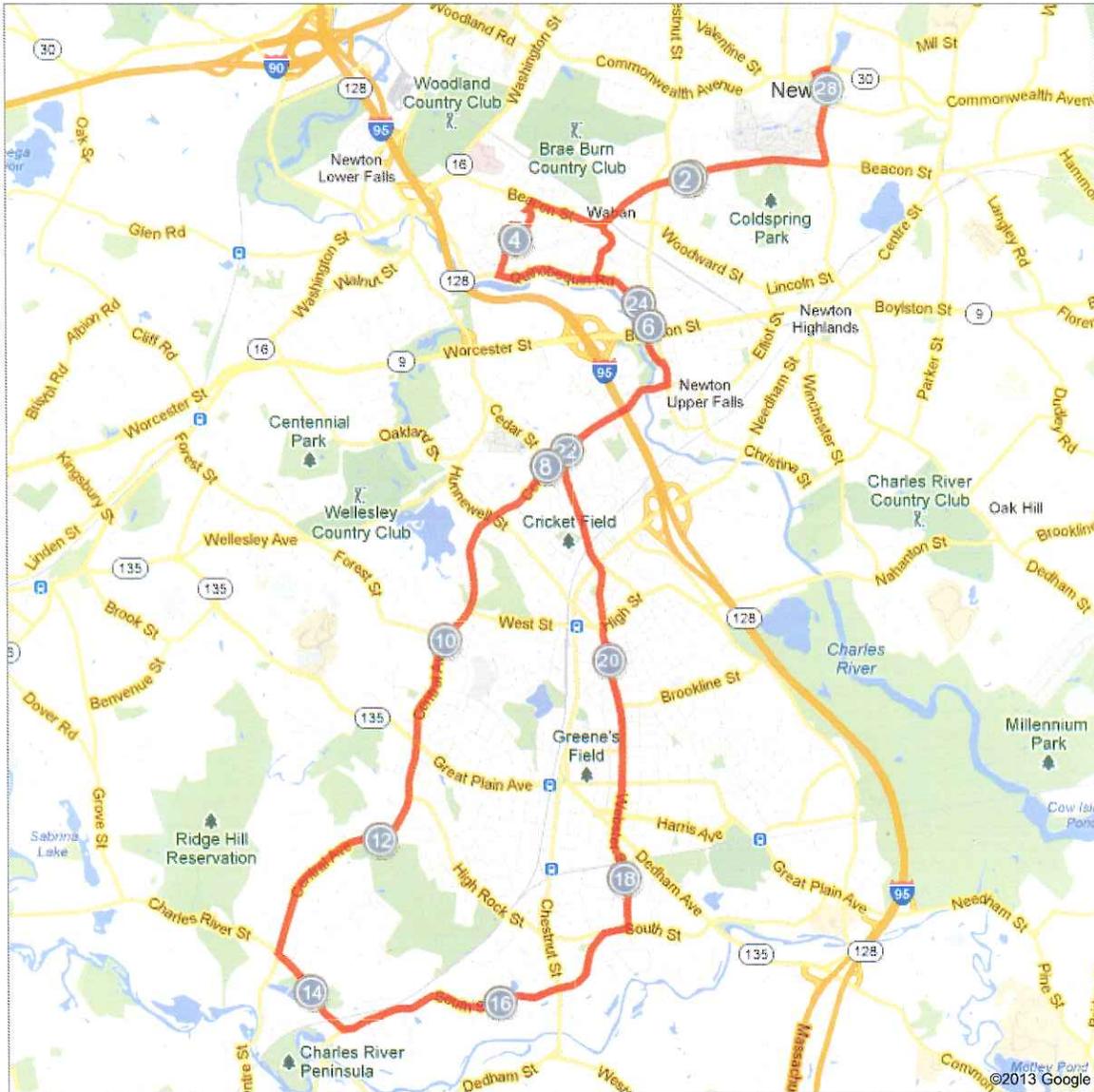
What is the plan to handle trash? All trash will be collected at rest stop ~~in Walker-Gordon Field~~ and transported back to Newton. Revolution Lacrosse will handle trash disposal.

Route maps can be found on our website:

<http://ccgfoundation.org/ride-routes/>



Get Google Maps on your phone
Text the word "GMAPS" to 466453

Displaying content from www.mapmyfitness.com

The content displayed below and overlaid onto this map is provided by a third party, and Google is not responsible for it. Information you enter below may become available to the third party.

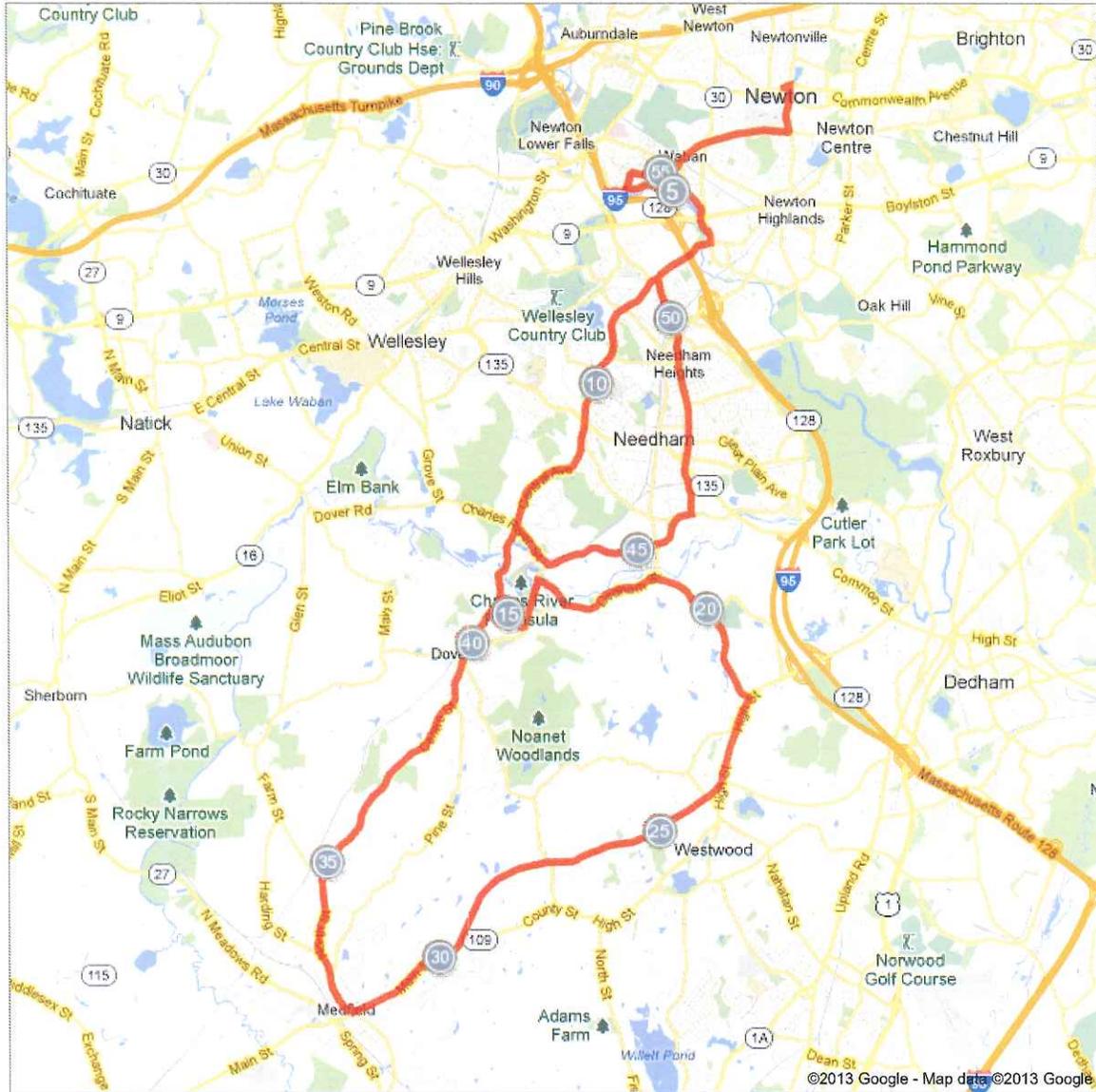
MapMyFitness.com

- 17 Newton option 3
- Best possible 17 mile reroute
- Custom Markers
- Distance Markers
- Distance: 2
- Distance: 4
- Distance: 6

- Distance: 8
- Distance: 10
- Distance: 12
- Distance: 14
- Distance: 16
- Distance: 18
- Distance: 20
- Distance: 22
- Distance: 24
- Distance: 26
- Distance: 28
- Route



Get Google Maps on your phone
Text the word "GMAPS" to 466453

Displaying content from www.mapmyfitness.com

The content displayed below and overlaid onto this map is provided by a third party, and Google is not responsible for it. Information you enter below may become available to the third party.

MapMyFitness.com

- 34 2013 final
- Custom Markers
- Distance Markers
 - Distance: 5
 - Distance: 10
 - Distance: 15
 - Distance: 20

- Distance: 25
- Distance: 30
- Distance: 35
- Distance: 40
- Distance: 45
- Distance: 50
- Distance: 55
- Route

For Calendar Year: 2013



TOWN OF NEEDHAM

APPLICATION FOR LICENSE FOR PUBLIC ENTERTAINMENT ON SUNDAY

The undersigned hereby applies for a License for Public Entertainment on Sunday in accordance with the provisions of the statutes relating thereto:

Name of Establishment: The Rotary Club of Needham

Applicant (must be an individual): Charles Nelson, Pres

If Business is a Corporation / Corporate Name and Officers: _____

If Business is not a Corporation, Name of Owner: _____

Address of Establishment: PO BOX 920009

Mailing Address: PO Box 920009 Telephone Number: 957-3461

Email Address: C.nelson@easternbank.com Fax Number: 455-9109

Describe the type of entertainment at your Establishment: _____

Carnival at 11 A St. Needham
rides, games, food to be held June 6-9, 2013

The entertainment above mentioned is to be in keeping with the character of the Lord's Day and not inconsistent with its due observance.

No change to be made in the program without permission of the authorities granting and approving the license.

Signature of Applicant: Charles P. Nelson Date: 5/10/13

A certificate of insurance showing evidence that the applicant has workers' compensation insurance must be included with this completed application.

Pursuant to M.G.L. Ch. 62C, Sec. 49A:

I certify under the penalties of perjury that I, to my best knowledge and belief, have filed all state tax returns and paid all state taxes required under law.

Charles P. Nelson
Signature of Applicant (Mandatory)

President Rotary Club of Needham
By Corporate Officer
(If applicable)

00 100 2000
Either a Social Security Number
Or Federal Identification Number
Must Be Supplied

5/10/13
Date (required)

This License will not be issued unless this certification clause is signed by the applicant.



For Calendar Year: 2013

TOWN OF NEEDHAM

APPLICATION FOR A WEEKDAY ENTERTAINMENT LICENSE

The undersigned hereby applies for a Weekday Entertainment License in accordance with the provisions of the statutes relating thereto:

Name of Establishment: The Rotary Club of Needham

Applicant (must be an individual): Charles Nelson, Pres

If Business is a Corporation / Corporate Name and Officers: _____

If Business is not a Corporation, Name of Owner: _____

Address of Establishment: PO BOX 920009

Mailing Address: P.O. Box 920009 Telephone Number: 951-3461⁶¹⁷

Email Address: c.nelson@easternbank.com Fax Number: 455-9109⁷⁸¹

Describe the type of entertainment at your Establishment: _____

Carnival at 77 A St. Needham
rides, games, food to be held June 6-9, 2013

Signature of Applicant: Charles Nelson Date: 5/10/13

A certificate of insurance showing evidence that the applicant has workers' compensation insurance must be included with this completed application.

Pursuant to M.G.L. Ch. 62C, Sec. 49A:

I certify under the penalties of perjury that I, to my best knowledge and belief, have filed all state tax returns and paid all state taxes required under law.

Charles Nelson
Signature of Applicant (Mandatory)

President, Rotary Club of Needham
By Corporate Officer
(If applicable)

001002000
Either a Social Security Number
Or Federal Identification Number
Must Be Supplied

5/10/13
Date (required)

This License will not be issued unless this certification clause is signed by the applicant.

Proposal for Rotary Club of Needham Carnival at General Dynamics June 6-9, 2013

Set up starts Monday June 3, 2013

MA State safety inspection Thurs June 5

Carnival operating Thurs 6-10pm June 6, Fri 6-10pm June 7, Sat 1-10pm June 8, Sun 12-6pm June 9, nightly clean up

Breakdown, clean up, departure Sun night June 9. Cushing leaves property as good as or better than when they arrived. Rotary Club personnel check property Monday am.

Cushing Amusements, family owned and run business since 1908. Many locations are 40 year repeat annual visits (City of Newton, Andover, Marblehead, West Tisbury, Woburn). City of Newton has done 2 carnivals per year with Cushing for over 30 years

Cushing Amusements adds General Dynamics and The Rotary Club of Needham to their \$2,000,000 Liability insurance.

Needham Rotary Club adds General Dynamics to the Rotary International \$5,000,000 Liability Insurance pol

Fantastic fun event for people of Needham, and surrounding towns. The kids and families will love you.

Proceeds to benefit the Rotary Club of Needham

<http://www.clubrunner.ca/Portal/Home.aspx?cid=3694> (scholarships, dictionaries to 3rd graders, smoke/CO detectors for elderly/handicapped, Thanksgiving dinner, reality fair for high school students, youth leadership program, crutches for Africa, African water projects, surgical supplies to Dom. Rep., furniture to Needham hospice Tippett House, reading to the blind, shelter box....) and Gift Of Life New England Inc www.golne.org (Rotary project providing life saving open heart surgery for children from developing nations)

Needham Rotary contact:

Ted Shaughnessy 617-957-3461 or tedshaughnessy@comcast.net

Town of Needham
Water Sewer Billing System
Adjustment Form

DEPARTMENT OF PUBLIC WORKS

TO: TOWN TREASURER AND COLLECTOR
cc: TOWN ACCOUNTANT, WATER AND SEWER SUPERINTENDENT

WHEREAS the appropriate divisions of the Department of Public Works have submitted to you the following commitment(s) on the dates listed below for the collection of water, sewer revenue and

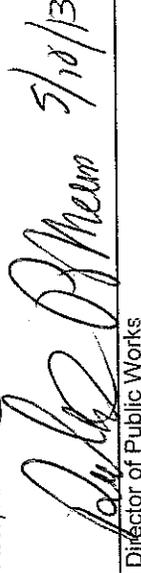
WHEREAS certain inadvertent error(s) were made in said commitment(s), it is hereby requested that you abate these particular account(s) in the amount(s) stated below.

Water Sales:	-\$211.50
Water Irrigation:	\$0.00
Water Admin Fees	\$0.00
Sewer Sales:	-\$1,703.50
Transfer Station Charges:	\$0.00
Total Abatement:	-\$1,915.00

Order #: 1161

Read and Approved: 5/10/2013


Assistant Director of Public Works


Director of Public Works

For the Board of Selectmen

Date: 5/14/2013

**Town of Needham
Water Sewer Billing System
Adjustment Form**

Prepared By:	Last Name	First Name	Customer ID#	Location ID#	Street Number	Street Name	Irrigation Water	Domestic Water	Sewer	Total	Reason	Corrected Last Read Y/N
DB	Davos	Konstatinos	28817	8722	48	Richdale Road	\$0.00	\$0.00	-\$231.85	-\$231.85	ACC	N
DB	Conviser	Adam	30263	3154	348	Hillcrest Road	\$0.00	\$0.00	-\$115.25	-\$115.25	ACC	N
DB	Mather	William L	21985	7746	179	Paul Revere Road	\$0.00	\$0.00	-\$105.75	-\$105.75	ACC	N
DB	Kerr	William & Kathleen	21691	8742	54	Parker Road	\$0.00	\$0.00	-\$751.75	-\$751.75	ACC	N
JO	Council on Aging	(2)					\$0.00	-\$211.50	-\$498.90	-\$710.40	COA	N

Total: -\$1,915.00

ALSO, LET THIS SERVE AS AUTHORIZATION TO ABATE ANY PENALTY OR INTEREST WHICH HAS ACCRUED DUE TO THE NON-PAYMENT OF AMOUNTS AS STATED ABOVE.

Legend:

- O.I. = O.I. reading slower than inside meter causing large bill when inside meter is read.
- TWN = Town Project caused damage to private property
- EC = Extenuating Circumstances
- Equip = Equipment Malfunction
- UEW = Unexplained water loss
- ACC = Accidental Water Loss
- BP = Billing Period beyond 100 days
- COA = Council on Aging

**Town of Needham
Board of Selectmen
Minutes for April 23, 2013
Needham Town Hall**

- 6:45 p.m. Informal Meeting with Citizens:
Jim Muller, 78 Morningside Road spoke with the Board regarding booster pumps on the Birds Hill water tank. Mr. Muller said as an abutter he is concerned about structures on properties and requested more information about the project.
- 7:00 p.m. Call to Order:
A meeting of the Board of Selectmen was convened by Chairman Daniel P. Matthews. Those present were John A. Bulian, Maurice P. Handel, Matthew D. Borrelli, Town Manager Kate Fitzpatrick, and Recording Secretary Mary Hunt.
- A moment of silence was held for those injured or killed in the Boston Marathon bombing on Monday, April 15, 2013.
- 7:00 p.m. Massachusetts Selectmen's Association:
Josh Ostroff, President of the Massachusetts Selectmen's Association and member of the Board of Selectmen in Natick appeared before the Board. Mr. Ostroff said the 2013 edition of the Massachusetts Selectmen's Association Handbook is dedicated to Jerry Wasserman, Needham Selectman and former MSA President, with gratitude for his leadership, wisdom, and insight. Mr. Ostroff said Mr. Wasserman served his community and the commonwealth with advocacy, integrity, and humor; he balanced his dedication to excellence in public service with heartfelt caring for all constituents that is the hallmark of citizen-led town government.
- Mr. Ostroff also recognized Kate Fitzpatrick, Town Manager for her work and dedication to the Commonwealth. Mr. Ostroff presented Ms. Fitzpatrick a map of Middlesex County honoring her as President of the Massachusetts Municipal Association 2013. Ms. Fitzpatrick thanked Mr. Ostroff and her staff for their dedication.
- 7:10 p.m. Greene's Field Play Structure Donation:
Alison Borrelli, President, Greene's Field Fundraising Committee and Jennifer McGrady, member, Greene's Field Fundraising presented the Board with a donation of \$181,612.25 to support the replacement of the Greene's Field play structure. The Board expressed its gratitude for the Committee's efforts.
- 7:12 p.m. Recognition of Needham Police Department:
Police Chief Phil Droney appeared before the Board to discuss Needham's assistance to the cities of Boston, Watertown, and Newton after the Boston Marathon bombing on April 15, 2013, and the apprehension of the suspects in the following days. Chief Droney recognized members of the MetroLEC SWAT team including Officer William Slowe and Detective Joseph O'Brien Sr. Chief Droney

recognized police officers Renzo Monzon, Richard Evans, Brian Gallerani, and Steven Kelly who also assisted. Chief Droney said he is very proud of the entire Police Department.

Chief Droney also recognized Lieutenant John Schlittler for bringing a quick resolution to a serious crime occurring in the Town of Needham on Monday, April 22, 2013.

Mr. Matthews thanked Chief Droney and members of the police department for their response to the crisis.

7:20 p.m.

Consent Agenda:

Motion by Mr. Bulian that the Board of Selectmen vote to accept the Appointments and Consent Agenda as presented.

APPOINTMENTS

No appointments were made.

CONSENT AGENDA

- 1. Approve Special One Day All Alcoholic Beverages license for Ed Davis of St. Sebastian's School to hold its 25th and 50th Reunion Dinner from 6:00pm to 10:00pm on Friday, May 17, 2013 in Ward Hall at St. Sebastian's School, 1191 Greendale Avenue, Needham.**
- 2. Approve Special One Day All Alcoholic Beverages license for Ed Davis of St. Sebastian's School to hold its 2013 Reunion Weekend events from 6:00 p.m. to 10:00 p.m. on Saturday, May 18, 2013 in Ward Hall at St. Sebastian's School, 1191 Greendale Avenue, Needham.**
- 3. Approve and sign the 2013 Arbor Day Proclamation, which proclaims the last Friday in April as Arbor Day in the Town of Needham and encourages residents to support all efforts to protect our trees and woodlands for future generations to come.**
- 4. Approve Special One Day Wines & Malt Beverages licenses from Steve Volante of Volante Farms to hold "Dinner in the Field" events on Saturday, July 13, 2013, Saturday, July 3, 2013 and Saturday, July 24, 2013 from 6:00 p.m. to 10:00 p.m. at Volante Farms, 292 Forest Street, Needham. The events will be held in the field and not in the building at Volante Farms.**
- 5. Approve a request from the Natick Rotary to hold its Tour de Natick bike event on Sunday, June 16, 2013. The Needham portion of the route involves only a short leg of the longer, 25 mile course which begins at 8:00 am. The section of the route going through Needham is from Charles River Street at the Dover line to South Street at the Dover line. The route that the riders will take through Needham has been approved by the following departments: DPW, Police, Fire and Park and Recreation.**
- 6. Approve the calendar year 2013 Spring Licenses as follows. This approval is predicated on the receipt of all completed required paperwork before April 30, 2013.**

<u>Establishment</u>	<u>License Type</u>
Veteran's Taxi of Newton, LLC	Taxi/Livery
Alami Rides	Taxi/Livery
Lt. Manson H. Carter Post 2498 VFW Building Association, Inc.	Pool Table
Above and Beyond Consignment	Sale of Second Hand Articles
Second Time Around	Sale of Second Hand Articles
Closet Exchange – Best of the Mall	Sale of Second Hand Articles
Closet Exchange – Designer & Boutique	Sale of Second Hand Articles
Closet Exchange – Consignment Drop Off	Sale of Second Hand Articles
Closet Exchange – Last Chance Store	Sale of Second Hand Articles
Cherry Picked	
Crosby Jewelers, Inc.	Sale of Second Hand Articles
Janet Cotter Design	Sale of Second Hand Articles
Needham Bowl Away	Bowling Alley
7. Accept donation of trees made to the Department of Public Works' Parks and Forestry Division from Needham resident, Bill Gallagher. Donation includes: 5 River Birch tree clumps from Bigelow Nurseries valued at \$115; 2 Swamp White Oak trees from Bigelow Nurseries valued at \$128; and 5 Red Maple trees from Bigelow Nurseries valued at \$185.	
8. Accept a \$150 donation made to Needham Youth Services from the Girl Scout Troop #73136 at the Eliot School. They would like the monies to go towards the Babysitting Program that is run by Youth Services.	
9. Water & Sewer Abatement Order #1160	
10. Approve minutes from March 19, 2013 and April 10, 2013.	
11. Approve Employment Agreement between the Town and the Town Manager for the period May 6, 2013 through May 5, 2016.	

Second: Mr. Handel. Unanimously approved 4-0.

7:20 p.m. Proclamation - Arbor Day:
Mr. Handel read a proclamation recognizing the last Friday in April as Arbor Day in the Town of Needham.

Motion by Mr. Handel that the Board of Selectmen of the Town of Needham do hereby proclaim the last Friday in April as Arbor Day in the Town of Needham and we encourage our residents to support all efforts to protect our trees and woodlands for future generations to come.

Second: Mr. Borrelli. Unanimously approved 4-0.

7:25 p.m. Public Hearing - Removal of One (1) Public Shade Tree at 389 Grove Street:
Edward Olsen, Tree Warden/Parks & Forestry appeared before the Board to discuss the Town of Needham's petition for the removal of one white pine tree located on town property at 389 Grove Street. Mr. Olsen said the Town was informed by a resident on Grove Street who felt that the tree was endangering safe travel. Upon

inspection, Mr. Olsen noticed the tree had been hit a number of times by vehicular traffic and said evidence supports the resident's claim. He commented the tree is located within the Town layout on the roadway and he sees no way of ensuring safe vehicular traffic without removing the tree. Mr. Olsen recommends granting permission for the removal of this tree.

Motion by Mr. Bulian that the Board vote to approve and sign the Public Shade Tree Hearing Form for the removal of one tree in front of 389 Grove Street.

Second: Mr. Borrelli. Unanimously approved 4-0.

Mr. Borrelli asked about planting a replacement tree at the site. Mr. Olsen said while Grove Street is a tight street, a replacement tree will be planted close to the area.

7:30 p.m. Design and Construction Articles in the 2013 Annual Town Meeting Warrant: Steve Popper, Director of Design and Construction and George Kent, Chairman, PPBC appeared before the Board to discuss design and construction articles in the Annual Town Meeting Warrant. Mr. Popper discussed Article 47 - St. Mary's Pump Station saying it is the largest of the capital appropriations and is a new facility meant to replace the existing pump station. Mr. Popper provided a site plan and said the total appropriation request is \$5.565 million. Mr. Popper said Article 40 - Pollard School Boiler Replacement project is intended to improve efficiency by replacing two existing boilers with three high efficiency boilers. Mr. Popper said the total appropriation request is \$800,000. Mr. Popper said Article 42 - DPW Complex Renovations project is for a new six bay garage with a total appropriation request of \$1.1 million. The Board thanked Mr. Popper and Mr. Kent for the information about the design and construction articles in the Annual Town Meeting Warrant.

7:45 p.m. Rail Trail Feasibility Study Update: Patty Carey, Director of Park and Recreation and Tad Staley, Bay Colony Rail Trail Association, Kathleen Phelps, Bay Colony Rail Trail Association, and Jennifer Ducey, Engineer, Fay, Spofford & Thorndike appeared before the Board with an update on the status of the Rail Trail Feasibility Study. Mr. Staley said a study of building a path for bikes and pedestrians has revealed some concerns, but that it makes sense to move forward with the project. He commented he does not feel the unanswered questions preclude beginning negotiations with the MBTA. Mr. Staley reviewed four open issues, including indemnification for the MBTA if a lease is approved, where the lease begins, the NSTAR relationship, and the Charles River Bridge. Mr. Staley showed the Board an aerial photo of the proposed design at High Rock Street trailhead and Parking at Charles River and Fisher Streets.

Mr. Bulian asked about indemnification and the working with the MBTA to start the trail at Needham Junction for connection to Needham Center.

Mr. Handel asked about the possibility of a parallel trail along the tracks within the right-of-way.

Mr. Borrelli asked whether legislative representatives have been contacted regarding negotiations with the MBTA and NSTAR. He asked about the possibility of rehabilitating the bridge over the Charles River rather than replacing it.

Mr. Matthews commented Town Meeting must be informed of the potential costs associated with insurance and rail trail maintenance.

The Board thanked Ms. Carey, Mr. Staley, Ms. Phelps, and Ms. Ducey for their presentation.

8:20 p.m.

Carol-Brewster Property Status Update:

Patty Barry, Director of Conservation and Ed Olsen, Parks and Forestry Superintendent appeared before the Board with an update on the Carol-Brewster Property. Mr. Olsen showed photos of the site prior to and after construction and discussed the scope of work. He noted 60 new trees were planted at the property and a maintenance plan is currently being devised. Ms. Barry said the next steps include the creation of an annual mowing plan for the property and trail maintenance, the creation of a collaborative partnership with community groups regarding the design and installation of a property sign and educational plant signage, and the creation of a trail connection to the Newman School Eastman Conservation Area through the Conservation Commission Anna Volante property. She commented CPC funding has been requested for the design and permitting of the proposed trail in accordance with the Trails Master Plan.

The Board thanked Ms. Barry and Mr. Olsen for the update.

8:30 p.m.

Town Manager:

Kate Fitzpatrick, Town Manager, appeared before the Board with two items to discuss:

1. TIF Agreement Technical Amendment

Ms. Fitzpatrick told the Board the final design for the TripAdvisor building being developed by Normandy Partners is now complete, and the Special Permit has been issued by the Planning Board. She said the building is larger than the previously envisioned building, and has been re-oriented on the property. Ms. Fitzpatrick said as a result, a technical amendment to the Tax Increment Financing Plan recognizing these modifications is necessary. She said there is no material change to any of the provisions of the Agreement presented to the December 3, 2012 Special Town Meeting.

Motion by Mr. Borrelli that, subject to ratification by Town Meeting, the Board of Selectmen vote to approve the parcel labeled 'Site Area' on the Plan titled "exclusive Use Plan - Building #3," dated March 5, 2013 and prepared by

Tetra Tech, said parcel to consist of approximately 206,516 square feet and to comprise a portion of the parcels shown on Needham Town Assessor's Plan No. 300 as parcels 15, 16, 28, and 29 with the street addresses 410 First Avenue, 66 B Street, 37 A Street and 360 First Avenue respectively, as the 'Amended Center 128 Economic Opportunity Area' (the "Amended Center 128 EOA") for a period of 13 years, pursuant to M.G.L. c. 23A, section 3E, and to approve the submission of an application of the Amended Center 128 EOA to the Massachusetts Economic Assistance Coordinating Council (EACC) for approval.

And move that, subject to ratification by Town Meeting, the Board of Selectmen vote to amend the 13-year Tax Increment Financing (TIF) Plan and Agreement, adopted pursuant to M.G.L. c. 40, section 59 between TripAdvisor Inc., Normandy Gap-V Development Needham, LLC, and the Town of Needham so as to apply to property located as delineated by the Amended Center 128 EOA and to authorize the submission of the Amended TIF Plan and Amended TIF Agreement to the EACC for approval.

And move that the Board of Selectmen vote to execute the amended Host Community Agreement between TripAdvisor, Inc. and the Town of Needham, as well as the amended Host Community Agreement between Normandy Gap-V Development Needham, LLC and the Town of Needham.

Second: Mr. Bulian. Unanimously approved 4-0.

2. Positions on Warrant Articles

The Board took positions on 2013 Annual Town Meeting Warrant Articles.

Motion by Mr. Bulian that the Board vote to support Article 28 - Lease of Rails Corridor in the Annual Town Meeting Warrant.

Second: Mr. Handel. Unanimously approved 4-0.

Motion by Mr. Handel that the Board vote to support Article 36 - Community Farm Soil Improvements in the Annual Town Meeting Warrant.

Second: Mr. Bulian. Unanimously approved 4-0.

Motion by Mr. Handel that the Board vote to support Article 40 - Pollard Boiler Replacement in the Annual Town Meeting Warrant.

Second: Mr. Bulian. Unanimously approved 4-0.

Motion by Mr. Bulian that the Board vote to support Article 42 - DPW Complex Renovations in the Annual Town Meeting Warrant.

Second: Mr. Handel. Unanimously approved 4-0.

Motion by Mr. Borrelli that the Board vote to support Article 47 - St. Mary's Pump Station in the Annual Town Meeting Warrant.

Second: Mr. Bulian. Unanimously approved 4-0.

Motion by Mr. Bulian that the Board vote to withdraw Article 49 - Capital Improvement Fund in the Annual Town Meeting Warrant.

Second: Mr. Handel. Unanimously approved 4-0.

Motion by Mr. Bulian that the Board vote to withdraw Article 50 - Capital Facility Fund in the Annual Town Meeting Warrant.

Second: Mr. Handel. Unanimously approved 4-0.

The Board took positions on 2013 Special Town Meeting Warrant Articles.

Motion by Mr. Bulian that the Board vote to support Article 1 - Appropriate for Tree Inventory Grant Matching Funds in the Special Town Meeting Warrant.

Second: Mr. Handel. Unanimously approved 4-0.

Motion by Mr. Bulian that the Board vote to support Article 2 - Appropriate for Waste Containers in the Special Town Meeting Warrant.

Second: Mr. Handel. Unanimously approved 4-0.

Article 3 - Amend the FY2013 Operating Budget - Defer

Motion by Mr. Handel that the Board vote to strike Article 4 - Amend FY2013 Sewer Enterprise Fund Budget from the Special Town Meeting Warrant.

Second: Mr. Borrelli. Unanimously approved 4-0.

Motion by Mr. Handel that the Board vote to support Article 5 - Amend Zoning By-Law Lot Width Definition in the Special Town Meeting Warrant.

Second: Mr. Bulian. Unanimously approved 4-0.

Motion by Mr. Bulian that the Board vote to support Article 6 - Amend General By-Law Type and Length of Contracts in the Special Town Meeting Warrant.

Second: Mr. Handel. Unanimously approved 4-0.

Motion by Mr. Borrelli that the Board vote to support Article 7 - Amend TIF Plan & Agreement in the Special Town Meeting Warrant.

Second: Mr. Bulian. Unanimously approved 4-0.

Motion by Mr. Bulian that the Board vote to support Article 8 - Rescind Bond Authorization in the Special Town Meeting Warrant.

Second: Mr. Handel. Unanimously approved 4-0.

Article 9 - General Fund Cash Capital - Defer

**Motion by Mr. Bulian that the Board vote to support Article 10 - Appropriate for Sewer Line Construction in the Special Town Meeting Warrant.
Second: Mr. Borrelli. Unanimously approved 4-0.**

**Motion by Mr. Handel that the Board vote to support Article 11 - Compensated Absence Fund in the Special Town Meeting Warrant.
Second: Mr. Bulian. Unanimously approved 4-0.**

8:45 p.m. Board Discussion:

1. Committee Reports

Mr. Matthews told the Board that Volante Farms is having a hearing before the Board of Appeals regarding its new alcohol license and whether craft beer may sold. Mr. Matthews said Ms. Fitzpatrick prepared a letter to the Board of Appeals stating the Board of Selectmen is supportive of the sale beer and wine at Volante Farm in accordance with the business plan consistent with the presentation made by the applicant at the Board of Selectmen hearing on February 2, 2013, provided the sale is allowable under state law.

**Motion by Mr. Handel that the Board of Selectmen vote to approve a letter written by the Town Manager to the Board of Appeals indicating the Board's support of the sale of craft beer and wine at Volante Farms.
Second: Mr. Borrelli. Unanimously approved 4-0.**

Mr. Matthews updated the Board on the Minuteman regional agreement. He indicated it is a very difficult situation getting the 16 member towns to work together.

8:50 p.m. Adjourn:

**Motion by Mr. Bulian that the Board of Selectmen vote to adjourn the Board of Selectmen meeting of April 23, 2013.
Second: Mr. Borrelli. Unanimously approved 4-0.**

A list of all documents used at this Board of Selectmen meeting are available at:

<http://www.needhamma.gov/Archive.aspx?AMID=99&Type=&ADID=>

May 8, 2013

Jon Schneider, Chair
Zoning Board of Appeals
Public Services Administration Building
500 Dedham Avenue, Suite 118
Needham, MA 02492

Dan Matthews, Vice-Chair
Board of Selectmen
Needham Town Hall
1471 Highland Avenue
Needham, MA 02492

PROJECT NAME: Needham Mews

Dear Mr. Schneider and Mr. Matthews:

I am pleased to inform you that the Massachusetts Housing Partnership ("MHP") has approved the application of the Town of Needham for up to **\$15,000** under the 40B Technical Assistance Grant program. This award is provided to the Zoning Boards of Appeal and will be used to pay for the consulting services of **Crosswhite Property Advisors** to assist with the review of **Needham Mews project**.

MHP's 40B Technical Assistance Grant program supports Zoning Boards of Appeal in reviewing applications for Chapter 40B Comprehensive Permits. Technical assistance is provided by qualified third-party professionals who are pre-approved by MHP. Consultants are hired to advise the ZBA and review technical reports submitted as part of a comprehensive permit application. The Ch. 40B technical assistance award is available for **18 months** from the date of this letter or upon mutual agreement to cancel the award. Repayment of these funds is not expected.

MHP is not able to provide technical assistance to communities that have met their local housing need as described in the 40B statute. MHP will pay for services rendered through the date of such certifications.

As part of 40B Technical Assistance Grant program, an MHP evaluation form will be mailed to the municipality at the time the ZBA issues a decision for the project. Kindly notify us when this occurs so MHP may send you the evaluation.

MHP is pleased to offer support to this proposal and wish you success in the permit approval process for this affordable housing development. **Please indicate your acceptance of this technical assistance by signing the enclosed original copy of the supplement attached and returning it to Dina Vargo at 160 Federal Street, 2nd Floor, Boston, MA 02110.**

Sincerely,


Susan Connelly
Director
Community Housing Initiatives



160 Federal Street
Boston, Massachusetts 02110
Tel: 617-330-9955
Fax: 617-330-1919

462 Main Street
Amherst, Massachusetts 01002
Tel: 413-253-7379
Fax: 413-253-3002

www.mhp.net



ATTACHMENT A: Award Letter Supplement
PROJECT NAME: Needham Mews, Needham

MHP provides the following supplement to Zoning Boards of Appeal for use of the 40B Technical Assistance funds. If you should have questions please don't hesitate to contact MHP staff about your award, disbursement procedures or your consultant's technical assistance scope.

Use of Technical Assistance (TA) Funds

TA funds are to be used only for the engagement of an MHP 40B consultant to assist the ZBA in responding to the proposed project. MHP's technical assistance funds may not be used for services that are typically the financial responsibility of the developer, such as Peer Review of engineering, traffic, architecture and other technical issues. Legal costs for municipal counsel and mediation are not within the scope of our services.

Scope of Services for MHP 40B Consultants

Ideally consultants are engaged early enough in the review process to provide a training and education session to ZBA members, city boards and other interested citizens about the Ch. 40B process and proposal review.

Responding to the Developer's Proposal

Consultant services may include, but are not limited to the following:

- 1) Educating the Town boards about the comprehensive permit process as needed;
- 2) In conjunction with the Town, reviewing the comprehensive permit application for completeness and appropriateness, with specific attention to:
 - a. Project financial feasibility, limited dividend provisions & developer financials
 - b. Project design and siting
 - c. Proposed affordability covenants and monitoring provisions
 - d. Other specific issues depending on the Town needs and consultant expertise
- 3) Assisting the Town and local ZBA to identify local concerns and issues that might require outside consultants and/or additional impact studies;
- 4) Facilitating productive discussion between the Town and the developer about the proposed development. Assisting the Town with negotiations as appropriate;
- 5) Advising Zoning Board of Appeals as needed.

Billing Procedure

MHP prepares the contract for 40B technical assistance. MHP pays the consultant directly upon verbal or written authorization from the applicant for each invoice submitted.

AGREED AND ACCEPTED BY:

By: _____
 Chief Elected Official

By: _____
 ZBA Chair

Date: _____
 Hereunto duly authorized

Date: _____
 Hereunto duly authorized



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AGREED AND ACCEPTED BY:

By: _____
 Chief Elected Official

By: _____
 ZBA Chair

Date: _____
 Hereunto duly authorized

Date: _____
 Hereunto duly authorized