



CITY OF NEWTON SOLAR PV-PHASE 3

DECEMBER 11, 2018

WE VALUE OUR LONGSTANDING RELATIONSHIP WITH THE CITY OF NEWTON

Project	Number of Sites	Size kW DC	Location	Financing	COD (mmm-yy)	Installation Type
City of Newton - Rumford Landfill (Phase 2)	1	2500	Newton, MA	PPA	Jun-17	Landfill
City of Newton - Phase 2	7	1278	Newton, MA	PPA	Jan-17	Roof and Canopy
City of Newton - Phase 1	4	686	Newton, MA	PPA	Dec-13	Roof Mounted

Phase 1: 4 Rooftops

Brown Middle School
 Countryside Elementary School
 Memorial Spaulding Elementary School
 Newton North High School

Phase 2: 6 Rooftops + 2 Canopies

Angier Elementary School
 Bowen Elementary School
 Oak Hill Middle School
 Newton South High School
 Lower Falls Community Center
 Fire Station 10
 DPW Canopy
 Newton South High School Canopy



PROJECT LOCATIONS – PHASE III

Site	DC Capacity (kW)	AC Capacity (kW)	Inverter (Qty) Model- (kW)	Racking Manufacturer	Racking Design	Electricity Production (kWh/year)	Trees Removed/ Diameter
Zervas ES Rooftop	181.67	167	(1) SolarEdge 100 kW (1) SolarEdge 66.6 kW	Ballasted PanelClaw	1-High Landscape	216,094	NA
F. A. Day MS Rooftop	253.82	233	(1) SolarEdge 100 kW (2) SolarEdge 66.6 kW	Ballasted PanelClaw	1-High Landscape	303,215	NA
Ed Center Rooftop	80.66	66.6	(1) SolarEdge 66.6 kW	Ballasted PanelClaw	1-High Landscape	95,799	NA
Fire Station 3 Rooftop	62.9	66.6	(1) SolarEdge 66.6 kW	Ballasted PanelClaw	1-High Landscape	77,395	NA
Library Lot Canopy	280.80	206	(2) Solectria PVI 60-TL (1) Solectria PVI 50-TL (1) Solectria PVI 36-TL	Sunpower Solaire 360D Dual-Tilt	Dual Tilt	326,023	12 trees/ 9.5" diameter
Newton North HS Lowell Ave. Canopy	491.79	366	(3) Solectria PVI 60-TL (3) Solectria PVI 50-TL (1) Solectria PVI 36-TL	Sunpower Solaire LongSpan	Dual Tilt	589,262	NA
Newton North HS Walnut St. Canopy	266.76	192	(2) Solectria PVI 60-TL (2) Solectria PVI 36-TL	Sunpower Solaire LongSpan	Dual Tilt	319,631	NA



ZERVAS ELEMENTARY ROOFTOP

NOT FOR CONSTRUCTION

- NOTES:
- SHADING PATTERN IS CALCULATED BASED ON JUNE 21ST FROM 7AM TO 5PM, FEBRUARY 21ST FROM 9AM TO 3PM, AND DECEMBER 21ST AT NOON, TAKING INTO ACCOUNT SITE LATITUDE AND LONGITUDE.
 - SHADING FOR OBJECTS NOT IMPACTING THE PV SYSTEM IS NOT SHOWN.

SCALE: 1" = 16' WHEN PRINTED 36" x 24"
 DRAWN BY: SS
 CHECKED BY: SS
 DATE: NOV. 28, 2019
 REVISIONS:

CITY OF NEWTON - PHASE 3 SOLAR
 30 BEETHOVEN AVENUE
 NEWTON, MASSACHUSETTS 02468
 ZERVAS ELEMENTARY SCHOOL ROOFTOP PV ARRAY
 181.30 kWp DC STC PV ARRAY (166.6 kW AC)
 PHOTOVOLTAIC ARRAY LAYOUT

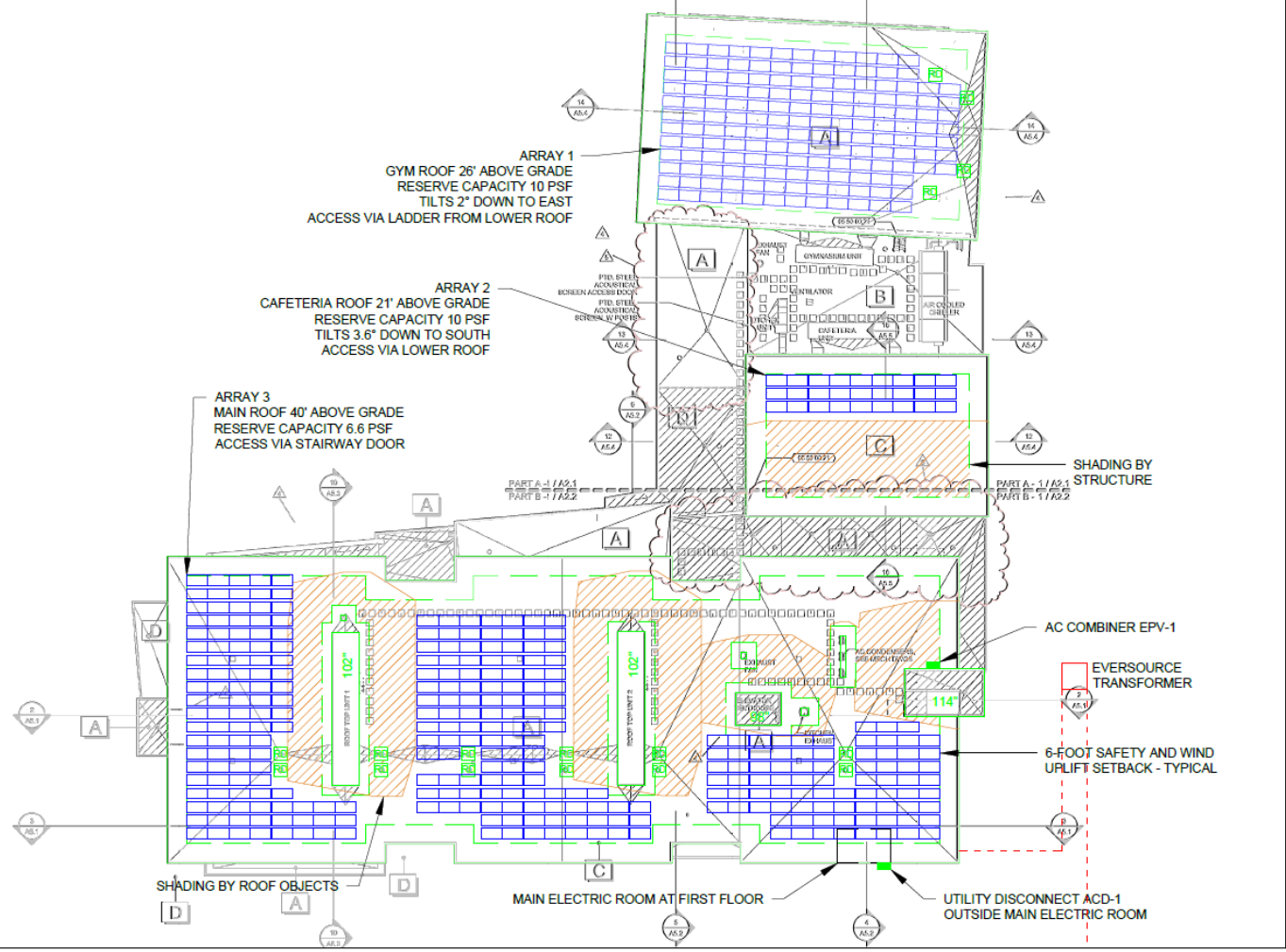
111 Spear Street, Suite #10
 Boston, Massachusetts 02109
 (508) 681-2200



E-100

POWER TABLE											
ARRAY			MOUNT			INVERTER					
LOCATION	# OF MODULES	MODULE TYPE	kWp	AZIMUTH	TILT	TYPE	TYPE	SIZE (kW)	QTY	EFFICIENCY	kW AC
ARRAYS 1-3	490	JAM6(K)-72-370/PR	181.30	170	5	BALLASTED	SOLAREEDGE	100	1	98.5%	100
							SOLAREEDGE	66.6	1	98.5%	67
TOTAL	490		181.30						2		167

BEETHOVEN AVENUE



ZERVAS ELEMENTARY SCHOOL ROOFTOP - OVERALL ARRAY LAYOUT
 SCALE: 1"=16' WHEN PRINTED 36" x 24"





F.A. DAY MIDDLE SCHOOL ROOFTOP

ARRAY		POWER TABLE			MOUNT			INVERTER			
LOCATION	# OF MODULES	MODULE TYPE	kWp	AZIMUTH	TILT	TYPE	TYPE	SIZE (kW)	QTY	EFFICIENCY	KW AC
ARRAY 1	306	JAM72S01-370/PR	113.22	197	5	BALLASTED	SolarEdge	100	1	98.5%	100
ARRAY 2	190	JAM72S01-370/PR	70.3	197	5	BALLASTED	SolarEdge	66.6	1	98.5%	67
ARRAY 3	190	JAM72S01-370/PR	70.3	197	5	BALLASTED	SolarEdge	66.6	1	98.5%	67
TOTAL	686		253.82						3		233

NOT FOR CONSTRUCTION

- NOTES:**
- SHADING PATTERN IS CALCULATED BASED ON JUNE 21ST FROM 7:30AM TO 4:30PM, FEBRUARY 21ST FROM 9AM TO 3PM, AND DECEMBER 21ST AT NOON, TAKING INTO ACCOUNT SITE LATITUDE AND LONGITUDE.
 - SHADING FOR OBJECTS NOT IMPACTING THE PV SYSTEM IS NOT SHOWN.
 - GROUND SNOW LOAD = 40 PSF, BASIC WIND SPEED = 105 MPH, EXPOSURE TYPE C.

SCALE: 1" = 20' WHEN PRINTED 36" x 24"
 DRAWN BY: SS
 CHECKED BY: [Name]
 DATE: 02/23/2018
 REVISIONS:



CITY OF NEWTON - PHASE 3 SOLAR
 21 MINOT PLACE
 NEWTON, MASSACHUSETTS 02460
 F. A. DAY MIDDLE SCHOOL ROOFTOP PV ARRAY
 253.82 kWp/DC STC PV ARRAY (233 kWAC)
 PHOTOVOLTAIC ARRAY LAYOUT

AMERESCO
 111 State Street, Suite 410
 Framingham, Massachusetts 01701
 (508) 861-2200

F. A. DAY MIDDLE SCHOOL - OVERALL ARRAY LAYOUT
 SCALE: 1"=20' WHEN PRINTED 36" x 24"





EDUCATION CENTER ROOFTOP

NOT FOR CONSTRUCTION

POWER TABLE											
ARRAY				MOUNT			INVERTER				
LOCATION	# OF MODULES	MODULE TYPE	kWp	AZIMUTH	TILT	TYPE	TYPE	SIZE (kW)	QTY	EFFICIENCY	KW AC
ARRAYS 1-4	218	JAM6(K)-72-370/PR	80.66	VARIES	5	BALLASTED	SolarEdge	66.6	1	98.0%	66.6
TOTAL	218		80.66						1		66.6

NOTES:

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- SHADING FOR OBJECTS NOT IMPACTING THE PV SYSTEM IS NOT SHOWN.
- GROUND SNOW LOAD = 40 PSF, BASIC WIND SPEED = 105 MPH, EXPOSURE TYPE C.

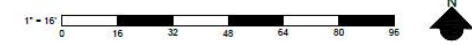
SCALE: 1" = 16' WHEN PRINTED 36" x 24"
 DRAWN BY: SS
 CHECKED BY:
 DATE: NOV. 21, 2018
 REVISIONS:



CITY OF NEWTON - PHASE 3 SOLAR
 100 WALNUT STREET
 NEWTON, MASSACHUSETTS 02460
 EDUCATION CENTER ROOFTOP PV ARRAY
 80.66 kWp DC STC PV ARRAY (66.6 kW AC)
 PHOTOVOLTAIC ARRAY LAYOUT

111 Spinn Street, Suite 410
 Newton, Massachusetts 02459
 (508) 661-2200
AMERESCO

EDUCATION CENTER - OVERALL ARRAY LAYOUT
 SCALE: 1"=16' WHEN PRINTED 36" x 24"





FIRE STATION 3 ROOFTOP

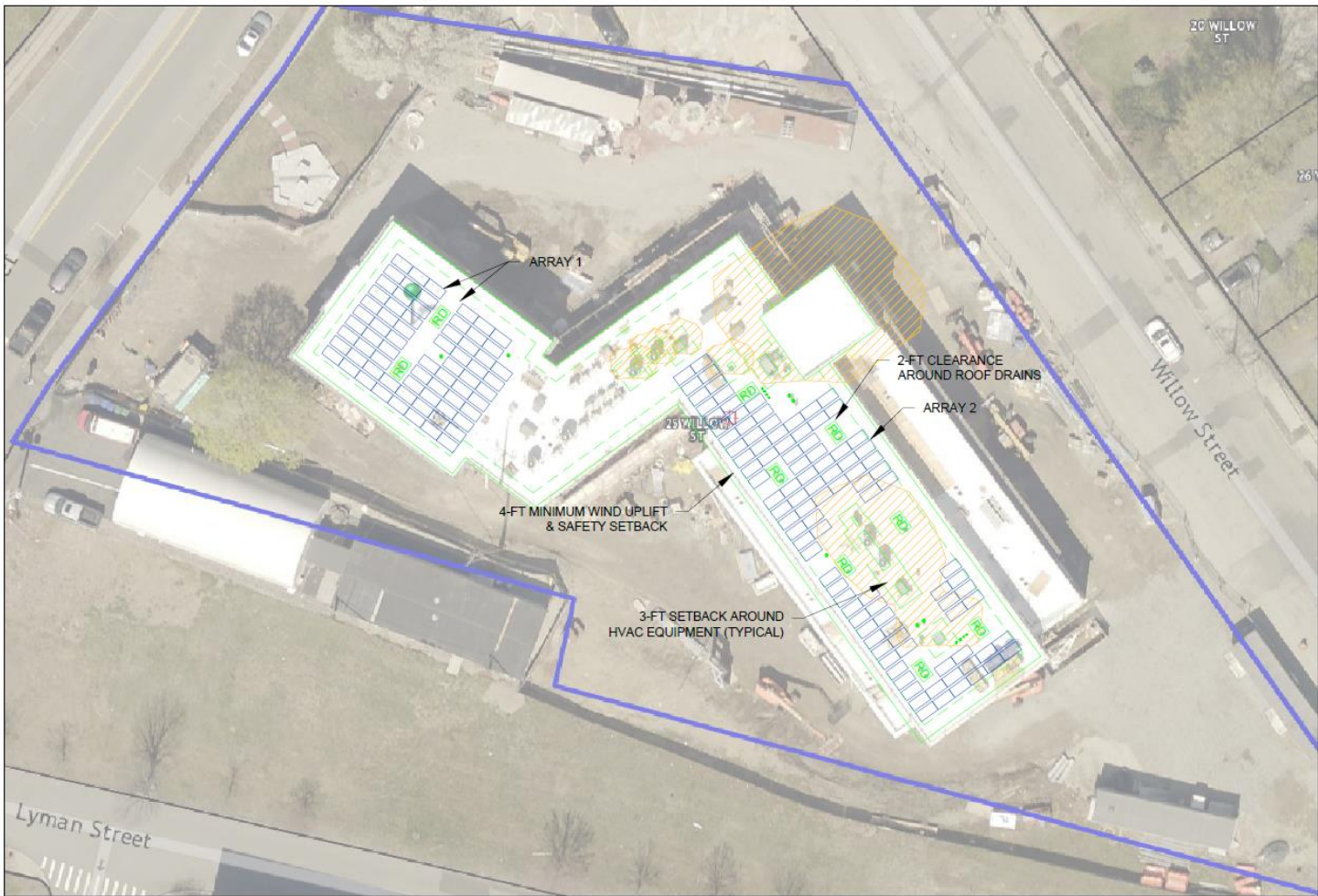
NOT FOR CONSTRUCTION

POWER TABLE											
ARRAY				MOUNT			INVERTER				
LOCATION	# OF MODULES	MODULE TYPE	kWp	AZIMUTH	TILT	TYPE	TYPE	SIZE (kW)	QTY	EFFICIENCY	kW AC
ARRAYS 1 & 2	171	JAM6(K)-72-370/PR	63.27	VARIES	5	BALLASTED	SolarEdge	66.6	1	98.0%	67
TOTAL	171		63.27						1		67

NOTES:

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- SHADING FOR OBJECTS NOT IMPACTING THE PV SYSTEM IS NOT SHOWN.
- GROUND SNOW LOAD = 40 PSF, BASIC WIND SPEED = 105 MPH, EXPOSURE TYPE C.

SCALE: SS
 DRAWN BY: SS
 CHECKED BY: LA
 DATE: 01/25/2018
 REVISED(S):

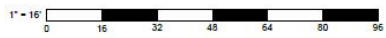



CITY OF NEWTON - PHASE 3 SOLAR
 1164 CENTRE STREET
 NEWTON, MASSACHUSETTS 02459
 FIRE STATION #3 ROOFTOP PV ARRAY
 63.27 kWp DC STC PV ARRAY (66.6 kW AC)
 PHOTOVOLTAIC ARRAY LAYOUT

AMERESCO
 111 State Street, Suite 415
 Framingham, Massachusetts 01701
 (508) 681-2300

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FIRE STATION #3 AND HEADQUARTERS - OVERALL ARRAY LAYOUT
 SCALE: 1"=16' WHEN PRINTED 36" x 24"





NEWTON NORTH HS LOWELL AVE. CANOPY









A blurred photograph of a city street at night, showing buildings and streetlights. A large, semi-transparent blue geometric shape, resembling a stylized 'N' or a parallelogram, is overlaid on the left side of the image. The right side of the image is a solid blue background.

NEWTON NORTH HS WALNUT ST. CANOPY









LIBRARY LOT CANOPY

PHASE II | Site Options

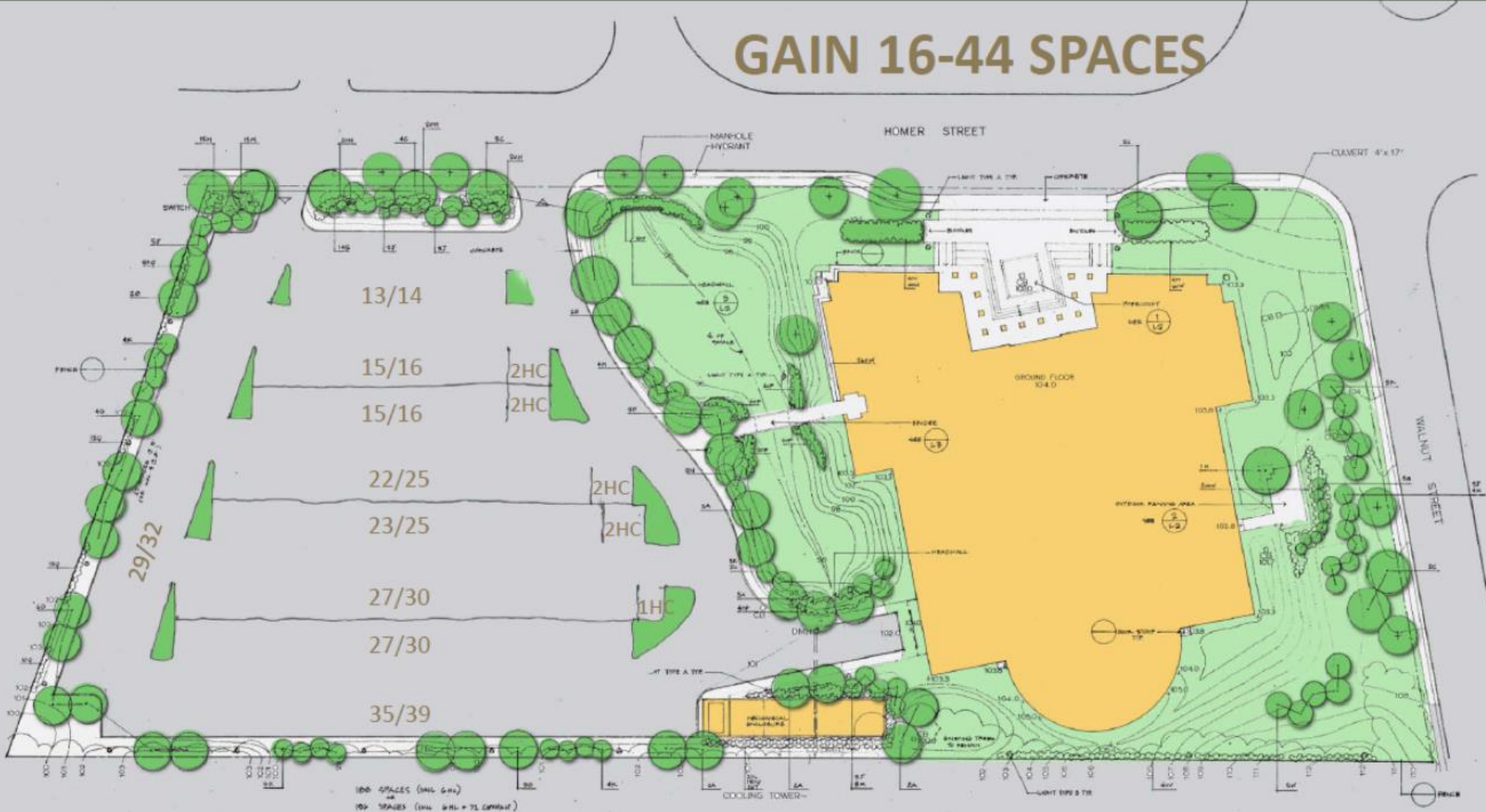
PROPOSED PARKING CONFIGURATION

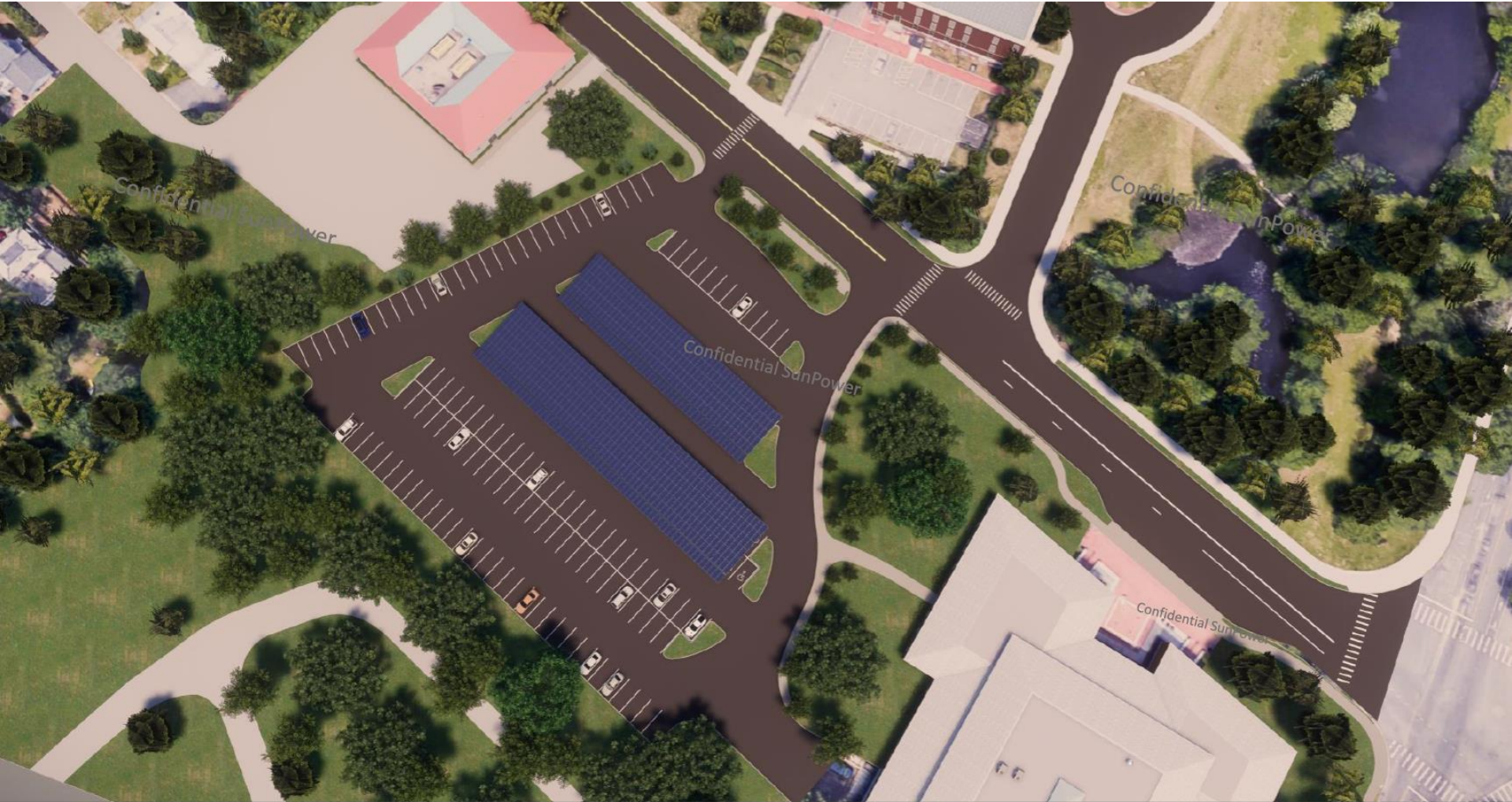
Eliminate Islands

206 spaces @ 9' wide
 227 spaces @ 8' wide
 7 handicapped spaces

Total: 213 spaces @ 9' wide
 Total: 234 spaces @ 8' wide

GAIN 16-44 SPACES







SUNPOWER®

*Patent Pending : 514202US

Newton Free Library

AMERESCO 
Green • Clean • Sustainable



THANK YOU

Steve McDonough
Senior Development Manager
111 Speen Street, Suite 410
Framingham, MA 01701
Ph: 413-209-1608
Email: smcdonough@Ameresco.com



Your Trusted Sustainability Partner
ameresco.com