



## **Public Facilities Committee Report**

### **City of Newton** **In City Council**

**Wednesday, April 22, 2020**

Present: Councilors Leary (Chair), Kelley, Crossley, Norton, Laredo, Danberg, Kalis and Gentile

Also Present: Councilor Downs, Malakie and Bowman

City Staff Present: Commissioner of Public Buildings Josh Morse, Chief Operating Officer Jonathan Yeo, Commissioner of Public Works Jim McGonagle, City Engineer Lou Taverna, Library Director Jill Mercurio, Director of Transportation for the Department of Public Works Jason Sobel, Co-Directors of Sustainability Ann Berwick, and Bill Ferguson

#### ***Public hearing***

##### **#219-20 Comcast petition for a Grant of Location in Washington Street**

COMCAST petitioning for a grant of location to install a proposed 24x36 vault at existing utility pole #437/23 (in front of 230 Walnut Street) and trench 74'± in a westerly direction across Walnut Street to private property at 845 Washington Street, Ward 2

##### **Action: Public Facilities Approved 8-0**

**Note:** Lou Taverna, City Engineer, presented the request for the grant of location in Washington Street. Mr. Taverna explained that Comcast needs a new vault, located on Walnut Street and Comcast will need to trench it across Walnut Street to another vault that will be on private property. Additionally, Mr. Taverna explained that this process avoids overhead wiring. The Engineering Department have reviewed these plans.

The public hearing was open and with no member of the public wishing to speak the public hearing was closed.

The Committee agreed that in the future a representative from the utilities should be present during the discussion.

Commissioner of Public Works, Jim McGonagle, explained that he would agree that a representative should be present, but the concern is that there are improvements that are going to be worked on at the intersection of Washington Street and Walnut Street. The work that Comcast is proposing should be done prior to the improvements.

Councilor Crossley motioned to approve which passed unanimously.

**Public hearing**

**#220-20 5-58 for the Newton Free Library at 330 Homer Street**

DESIGN REVIEW COMMITTEE petition, pursuant to 5-58, for schematic design and site plan approval at 330 Homer Street for renovation of the existing parking lot which will include modifications to site circulation, including pedestrian and traffic movements, landscaping, site lighting, storm drainage improvements, additional parking spaces and the installation of new solar arrays which will generate electrical power to be used by the library.

**Action:** Public Facilities Approved 6-1-1 (Councilor Gentile opposed and Councilor Laredo abstaining)

**Note:** Co-Director of Sustainability, Bill Ferguson, explained that in March 2019 there was approval to negotiate the lease and the purchase power agreement from the Library's Board of Trustees. Since this project deals with the installation of solar panels and the renovation of the library parking lot it was decided that the project needed to go through the 5-58 process. Additionally, Mr. Ferguson explained that approving the item will bring the project to final design and construction. The project has been discussed with the Design Review Committee and the Library's Board of Trustees. The Board of Trustees voted for alternate 3 (shown attached) in a majority vote. Mr. Ferguson explained the attached renderings to show what the Board of Trustees voted on. The Design Review Committee's approval letter is also attached to this report.

Mr. Ferguson explained that the solar panel canopies will be perpendicular to Homer Street, which was preferred by the Board of Trustees. The Board of Trustees preferred this lay out because it improved the traffic flow and the walkway that is in the center of the proposed parking lot. Additionally, Mr. Ferguson explained that there is an estimated 3% loss in output compared to the other orientations. The solar panels will produce 326,000 kilowatt hours which is 40% of the library's usage in the last fiscal year. Regarding trees, Mr. Ferguson explained that they will minimize the amount of trees that will be affected by the solar panels. Five of the trees will be relocated on the site and seven trees will be cut down but will be replaced with 68 trees in the area. There will also be eight electric vehicle parking spaces and charging stations.

Director of Transportation for the Department of Public Works, Jason Sobel, presented the parking lot reconstruction part of the project. Mr. Sobel presented an overview of the attached plans for the library parking lot. Additionally, Mr. Sobel explained that the first slide is a colored rendering of the existing conditions of the parking lot. Currently there are 85 parking spaces with six accessible spaces and the entrance is in the northwest with the exit in the northeast. The next slide is the preferred alternative by the Board of Trustees. This site contains the same access and egress to and from Homer Street. The proposed plan does flip the existing parking rows 90 degrees and adds 21 new parking spaces. There will also be a centralized pedestrian walkway that lines up with the entrance to the library. Additionally, the site has some landscaped areas including the existing space adjacent to Homer Street. The attached plan does not include the comments that the department received from the DRC and the Board of Trustees. These comments included wider sidewalks along the central aisle, having raised crosswalks and



potentially changing the drive aisle closest to the library to one-way circulation. The stormwater and drainage have yet to be designed.

Commissioner of Public Buildings, Josh Morse explained that these are two separate projects. The solar project has been in the works for years and has nothing to do with the reconstruction of the parking lot. The only reason they have combined the projects is because if there is going to be construction at the Library the projects should be done at the same time. The cost of the reconstruction of the parking lot also has nothing to do with the solar panel project. Commissioner Morse also explained that it makes sense for the solar project to begin first because of the foundation that needs to be added to the lot. The solar project is not about the cost savings but it is really about the benefits it brings to the environment.

The Committee asked the following questions.

Q: How much will this project cost?

A: Mr. Ferguson explained the solar part of the project will be a positive cash flow to the city. This part of the project will bring in \$350,000 over the 20 year agreement. The City will be saving \$17,500 a year. Commissioner of Public Works, Jim McGonagle, explained that for the parking lot they are unsure the cost of the project but at the moment there is \$750,000 earmarked for the reconstruction of the lot. There will also need to be improvements to stormwater. Commissioner McGonagle explained that the reconstruction of the lot has nothing to do with the solar panels, the City just wanted to get both projects done at the same time.

Q: Even if this project was not being done, couldn't the City still plant an additional 68 trees in the area?

A: Mr. Ferguson explained that the City could plant those trees, but the funds for the planting of the trees is in the lease with Ameresco. Ameresco will be paying \$17,000 into the City's tree fund and Mark Welch, Superintendent of Urban Forestry, will manage the locations and planting of the trees.

Q: What was the estimated kilowatts per hour?

A: Mr. Ferguson explained that the original investment was in the 400,000 kilowatt range but this has been revised by the added detail of the project. Additionally, Mr. Ferguson explained that the City is still paying the same price per kilowatt.

Q: Why is one of the conditions from the DRC that "the project will continue to evaluate opportunities to maximize PV output"? What else could be done?

A: Mr. Ferguson explained that this was added in case there was an opportunity to install a more efficient solar panel.

Q: What was the purpose of stating that “the project will further evaluate the use of brick at solar canopy foundations” in the DRC letter, if that is already part of the lease agreement with Ameresco?

A: Commissioner Morse explained the DRC was focused on looking at having veneer brick versus full course brick because there was a concern on durability. Additionally, Commissioner Morse added that the question if it will be full width brick will be answered in the field.

Q: How many charging stations will there be?

A: Mr. Ferguson explained there will be four charging stations to serve eight electric vehicle parking spaces.

Q: Why is there no solar canopies on the fourth row of parking?

A: Shanthini Sireharan, a representative from Ameresco, explained they decided not to add solar canopies in that area because of shading and the canopy would not be big enough to be cost effective.

Q: Why was the vote not unanimous with the Library Board of Trustees?

A: Jill Mercurio, Library Director, explained that one member abstained from the vote due to their reservations with solar power.

Q: How is the City saving more money than anticipated but the kilowatts generated are less than expected?

A: Mr. Ferguson explained that the City pays Ameresco a fixed amount per kilowatt hour for the electricity that they produce. That is sold back to the utilities and the utilities are paying more than first expected. Additionally, Mr. Ferguson added that the rate the utilities are paying could fluctuate year to year.

Q: How is there not an increase in impervious surface with the increase in paved parking?

A: Commissioner Morse explained that as they further the design and work with DPW and Environmental partners they will be evaluating stormwater options. The amount of impervious surface will not be increased but they may be increasing the amount of pervious asphalt. Additionally, Commissioner Morse added if there is an increase in impervious pavement the departments will make up for that in the stormwater system.

Q: Why would more impervious be added when there is such a high-water table in that area? What is the drainage plan and how much will it cost?

A: Commissioner McGonagle explained that he will be back to Public Facilities as this project moves forward. The plans that are before the Committee currently are conceptual. Once the project is in final design the department will have more answers to the Committee's questions. This project will need to be approved to further the design.

Q: How much of the improvements of the parking lot deal with the installation of the solar panels?

A: Commissioner McGonagle explained that the parking lot was on the long-range plan for a while. There are many improvements that need to be made regardless if solar panels are being added.

Q: How will cars circulate within the parking lot?

A: Mr. Sobel explained that each of the aisles are designed to be two-way traffic.

Q: Is the constant width raised table pertaining to the entire crosswalk?

A: Mr. Sobel explained that the intent is for the central pedestrian aisle and the crosswalk across all of the drive aisles to be raised crosswalks for the entire length. In terms of cost because of the major work that will be done with drainage, the raised crosswalk should not add a significant cost to the overall reconstruction project.

Q: Does there need to be two-way lanes of traffic in the parking lot?

A: Mr. Sobel explained that going to one-way aisles was not the most efficient use of space for the parking lot.

Q: What is the break down of the \$750,000 that has been earmarked for the project and how much of the \$175,000 that the City Council approved last summer has been spent?

A: Commissioner McGonagle explained that this is conceptual design, right now the break down now deals with the parking lot pavement with an estimate for stormwater improvements. Additionally, he explained that he will be coming back to the Committee with options for the stormwater improvements. The 5-58 needs to be approved to move forward with the project. Commissioner McGonagle explained he would come back to the Committee with the breakdown of the \$175,000.

The public hearing was opened.

Mark Gross, 85 Fessenden Street, questioned if Ameresco could add a covered walkway to add more solar capability? Additionally, questioned if the fourth row of solar panels were not added

because it was not cost effective for Ameresco or because it could not produce enough energy due to the shading?

Mr. Ferguson explained that if it is not cost effective for Ameresco then it would decrease the savings for the City. The fourth row would be less cost effective because it would only be half a section and would increase what the City would have to pay for electricity.

Mike Halle, 62 Cherry Place, expressed that the elements of the site design seemed incomplete as far plantings and use of the water run off that would be coming off the solar panels. This water run-off has the advantage of not being tainted by oil or any material on the asphalt. The City should also consider having sustainable plantings in the islands that are now marked as grass. This could be a compromise between the residents that wanted a tree scape instead of the solar panels.

Len Rosenthal, 106 Walnut Hill Road, questioned why the City is buying electricity from a private company and selling it back to the utilities? Mr. Rosenthal expressed that the City could buy these cells and install them without outside assistance. Additionally, Mr. Rosenthal noted that Ameresco could go out of business in the next 20 years. Mr. Rosenthal also asked how cutting down mature trees would help with the drainage issue in the parking lot. Lastly, Mr. Rosenthal added that all of these elements need to be considered together.

Mr. Ferguson explained that the City is working with Ameresco so that the City does not need to come up with any money up front. Additionally, he explained that Ameresco will be in charge of installing and operating the solar panels at the Library for 20 years and that private companies can take the federal tax credit which is usually 30% on these kinds of projects. Also, if there is a maintenance problem Ameresco does have an incentive to fix the issue right away. Regarding the trees, Mr. Ferguson explained that removing the trees does not necessarily help with the drainage, but the Department of Public Works is putting together a plan to help with the drainage problem. Also explained that 68 additional trees will be planted in the area to help with the carbon issue.

Carolyn Kraft, 295 Dudley Road, questioned given the flood zone, why wouldn't there be a cost analysis at the beginning to see if the plan is feasible? Ms. Kraft added that there needs to be a flood plan in place. Additionally, Ms. Kraft raised the concern that at the community meetings she has participated in none of the flood plane was addressed. There should be more transparency on what the overall objectives are. Native planting could also be used to help with the flooding.

Marcia Cooper, a representative from Green Newton, expressed her approval of the project. Ms. Cooper explained that Green Newton commends the work that Bill Ferguson and other City staff have done. Also, she expressed that Green Newton is commending the City Council for their approval of the project. This will be a beneficial project for the environment and financially.

Additionally, Ms. Cooper explained that it is difficult to come in with a cost estimate before decisions are made on the project.

Janet Sturman agreed with Ms. Rosenthal when he questioned if Ameresco would be in business for the full 20 years of the lease. Ms. Sturman explained that the way the economic is going the City should be careful with going with a vendor that they will be outsourcing 100% of the project to. There should be a plan in place if Ameresco does go out of business.

A resident of Newtonville asked if there has been a study done is this project will be carbon neutral, positive or negative with the addition of solar panels and the addition of parking spaces? There should be increased access for other forms of transit to help with the carbon footprint.

The Chair noted that the Library is not centralized, which makes the addition of parking spots important and with the other offsets it is still a green project. Commissioner Morse explained that the vehicles will be coming to the library either way and as one of the most popular libraries in the Commonwealth the addition of the parking spots is necessary.

Councilor Crossley motioned to close the public hearing which passed 6-2 with Councilors Laredo and Gentile opposed.

To approve the 5-58 in committee the public hearing needed to be closed. The Chair noted that there will be additional opportunities for the public to comment on this matter.

The Committee made the following comments.

Regarding 5-58 projects, there needs to be more aspects of the project being decided before the work is done. The majority of the decisions should not be made in the field.

As the project moves into final design, the City should be considering planting native plants, xeriscape planting and water retention and reuse.

This layout is thoughtful and is enough for the 5-58 process. The Committee should consider the conditions that the DRC listed in their approval letter. With the addition of having thoughtful planting plans.

There are many stormwater concerns in this area since the Library was built and the future plans should not skimp in that area. The plans need to make the parking lot more environmentally friendly to go along with the other benefits the Library contributes to the City with planting.

There was a concern that the proposed raised sidewalk is not wide enough to have a raised table and an angles that approach and descent without interrupting parking spaces. This is something to think about when considering adding the conditions that the DRC recommended to the conditions of the 5-58.

The funds for this project should be bonded because of the current financial climate. The City's revenue will be down in the next fiscal year which means the City needs to save as much Free Cash as possible as an option to cover the shortfalls.

Regarding the trees in the surrounding areas, this would be on top of the work load that Mark Welsh and his employees are already doing. They are already in charge of watering a number of City trees and will have to water trees that will be planted with the addition of the West Newton Square Enhancement Project.

The reconstruction of the library parking lot seems to be halted by the solar panel project. Additionally, the solar panel project is happening in the expense of cutting down trees at the library which does not necessarily make sense.

The approval of the 5-58 is only a step in the process of a much larger effort. There is never a complete engineering analysis and construction level documents ready to price at this stage of the project. A vote of approval would just say that the Council is agreeing that the lay out is a good start to move forward with for further investigations.

Councilor Crossley motioned to approve with the following conditions which passed 6-1-1 with Councilor Gentile opposed and Councilor Laredo abstaining.

- The project will continue to evaluate opportunities to maximize PV output.
- The project will continue to refine and address all parking, traffic, site circulation challenges, pedestrian crossings and signage.
- The project will develop the landscaping and site lighting plans to minimize the impact to the abutters and neighborhood. The design team and City shall evaluate lighting options at canopies, crosswalks and after-hours use.
- The project will consider a constant width raised table at the primary crosswalk.
- The project will further evaluate the use of brick at solar canopy foundations.
- The project shall make provision for Red Cross vehicle.
- The project shall evaluate feasibility of making the east drive lane one-way north bound.
- The project will provide enhanced or expanded bike rack facilities to promote bicycle use.
- The project will coordinate design and location of storm drainage infiltration systems, pervious pavement and other storm water management approaches to comply with state and City of Newton requirements.
- The project will coordinate with the Conservation Commission and obtain all necessary approvals.
- The project will consider environmentally sustainable planting and rainwater collection.

Bill Ferguson sent the following correction to the Committee on April 27,2020.

"I want to make a correction to the information that I reported at the Public Facilities meeting held on April 22, 2020 regarding the Newton Free Library Solar project. At that meeting I reported that the electrical generation would be 326,000 kWh per year. This number is wrong. The actual number is 404,794 kWh per year. This is a confirmed number and is the

number included in our Purchase Power Agreement with Ameresco. The lower number was from an old spreadsheet that I mistakenly thought was the latest information.

I also want to confirm that the estimated savings of \$17,500 per year or \$350,000 over 20 years is the correct number. “

**Chairs Note:** *The Committee will receive an update on bump outs and new traffic signals at the intersection of Washington and Walnut Street.*

**Note:** Jason Sobel, Director of Transportation for the Department of Public Works, presented the update on bump outs and new traffic signals at the intersection of Washington and Walnut Street. Mr. Sobel explained that this project was approved through the Washington Place special permit and the attached plans are consistent with the requirements of the special permit. Additionally, Mr. Sobel explained that the project will consist of replacing all of the traffic signal equipment, constructing bump outs on the corner and the areas that are shaded in the attached plan are the new sidewalk areas. There have been some additional refinements to the plans since the last discussion. The number of parking spaces have not changed. The crossing distances across each leg is significantly reduced and the most dramatic of the reduction is at the leg of Walnut Street by the bridge. The crosswalks have also been shortened. From a traveling perspective, there will be two lanes maintained on Washington Street, both east and west bound. In the north bound direction, the lane configuration will remain similar to how it is today, the difference is the addition of a bike lane. The bike lanes will be painted through the intersection and will be parking protected.

The Committee made the following comments.

This plan should be run by Ted Jerdee and the Complete Streets Working Group to ensure the safety of the bicyclists turning left or right from the bike the lane.

These changes will make this intersection safer for crossing pedestrians in all directions.

The sidewalk should have the width to allow for chairs and tables.

**#61-20**      **Discussion to limit or prohibit the installation of fossil fuel infrastructure**  
COUNCILORS CROSSLEY, KELLEY, LEARY, NORTON, ALBRIGHT, GREENBERG, AUCHINCLOSS, MARKIEWICZ, NOEL, DANBERG, KALIS, DOWNS & HUMPHREY  
requesting a discussion with the Sustainability Team to create an ordinance to limit or prohibit the installation of fossil fuel infrastructure in new construction and substantially renovated buildings, as well as to clarify the Council’s authority to prohibit the extension of gas mains subject to the condition of the existing infrastructure

**Action:**      **Public Facilities Held 8-0**

**Note:** Halina Brown, a representative from the Newton Citizens Commission Energy, explained that approximately 60% of greenhouse gas emissions admitted in Newton come from the residential sector. This includes personal vehicles and appliances that are used in households. The only way to achieve the goal of zero-emission is reducing the demand and to eliminate fossil

fuels, which is where most of the greenhouse gasses come from in Newton. Ms. Brown also explained that electricity can become zero carbon if renewable ways of generating it are used, which include wind and solar. Electric cars are also a way to switch to renewable energy. Additionally, Ms. Brown explained that the Climate Action Plan assumes that the City can reduce the emissions by approximately 20% by 2050 by reducing the demand for heating, which calls for better insulation. The remaining 80% comes from switching to electric heating. That is why heat pumps are so important. The better the insulation of the house the demand decreases for electric heating.

Ann Berwick, Codirector of Sustainability, explained the difference between the environmental implications of using natural gas to generate electricity and the environmental implications of using natural gas for domestic purposes. There are two kinds of greenhouse gas emissions. One is from the combustion of natural gas, which causes carbon dioxide emission. The other implication is how much it leaks in the extraction, transmission and distribution system. Methane emissions is also an implication of using natural gas because natural gas is 80%-90% methane. There are also indoor air quality implications and there is a risk of explosions, which comes from having natural gas in a confined space.

Jeremy Koo, a representative from Cadmus, gave the attached presentation on heat pump technology. Mr. Koo explained that the presentation is just to provide information to the City and Cadmus is not choosing a side on what is being considered. Additionally, Mr. Koo explained that a heat pump is an air condition that runs in reverse. At a residential scale heat pumps are referred to as an air source heat pump, which are used widely throughout the United States. These heat pumps have been tested in 5 degree weather to -22 degree weather. Ground Sourcing heat pumps are another version of heat pumps, which extract heat from the ground. There are also water heater heat pumps, which combine all of the uses of a heat pump but to only work in one direction from the surrounding air and move the heat into the tank. The common misconceptions of heat pumps are outlined in the attached presentation along with the heat pump market in the northeast.

The Committee asked the following questions.

Q: In a place like Newton, where many homes are older, what needs to be done besides insulating the house to make it efficient to use a heat pump?

A: Mr. Koo explained that in general heat pumps can perform fine in older homes. Additionally, he explained that it can be harder to maintain comfort and distributing heat around a space in homes that are draftier. In new construction it is easier to design around these issues.

Q: Will heat pumps continue to work 5-10 degrees below zero?

A: Mr. Koo explained that a heat pump will work in that temperature, but it also depends on the rating of an individual heat pump. At a certain temperature an air source heat pump will have a



difficult time heating a home, but installation can help with these comfort issues. As the temperature lowers it is harder for the heat pump to keep the home at a sustained temperature and there may be a need for a space heater for comfort.

Q: Are the methane leaks information that is widely known?

A: Ms. Berwick explained that it difficult to know how widely known this issue is. When people discuss the natural gas leaks the major concern are the explosions that can happen in confined spaces. But the methane leaks are also a serious problem.

The Committee made the following comments.

There is the understanding that the use of heat pumps are better for the environment but the Committee needs to be educated on the legality of this issue and the cost of this technology to the resident.

A new docket item is being drafted to state what the Committee will be discussing when it comes to the electrification of buildings.

Mr. Koo will continue his presentation at a later date.

Councilor Crossley motioned to approve which passed unanimously.

**#217-20      Reappointment of Amy MacKrell to the Designer Selection Committee**  
PRESIDENT ALBRIGHT reappointing Amy MacKrell, 12 Dexter Road, Newtonville to the Designer Selection Committee for a term of office to expire December 31, 2021. (60 days: 06/05/20)

**Action:**      **Public Facilities Approved 8-0**

**Note:**          With no concerns from the Committee, Councilor Gentile motioned to approve which passed unanimously.

**#218-20      Reappointment of Tamar Warburg to the Designer Selection Committee**  
PRESIDENT ALBRIGHT reappointing Tamar Warburg, 102 Herrick Rd, Newton Centre to the Designer Selection Committee for a term of office to expire December 31, 2021. (60 days: 06/05/20)

**Action:**      **Public Facilities Approved 8-0**

**Note:**          With no concerns from the Committee, Councilor Laredo motioned to approve which passed unanimously.

**#226-20      Reappointment of Howard Goldberg to the Designer Selection Committee**  
PRESIDENT ALBRIGHT reappointing Howard Goldberg, 27 Theodore Road, Newton to the Designer Selection Committee for a term of office to expire December 31, 2021. (60 days: 06/05/20)

**Action:**      **Public Facilities Approved 8-0**

**Note:**      With no concerns from the Committee, Councilor Kelley motioned to approve which passed unanimously.

The Committee adjourned at 10:09 p.m.

**Respectfully Submitted,**

**Alison M. Leary, Chair**



## CITY OF NEWTON SOLAR PV-PHASE 3

## LIBRARY ALTERNATE 3





## LIBRARY ALTERNATE 3





## LIBRARY ALTERNATE 3





## LIBRARY ALTERNATE 3

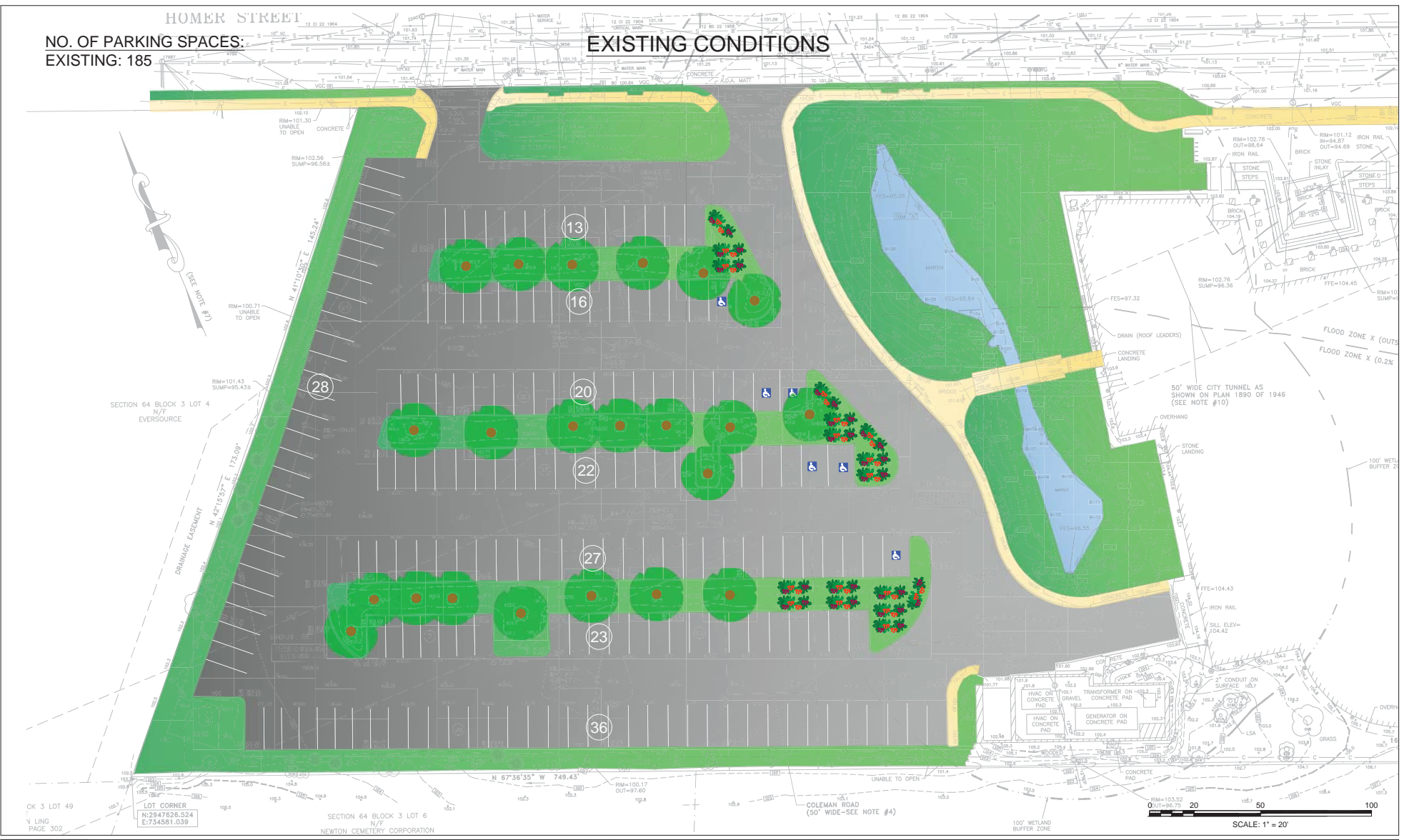




HOMER STREET

NO. OF PARKING SPACES:  
EXISTING: 185

EXISTING CONDITIONS



**Environmental Partners**

*A partnership for engineering solutions.*

MARK	DATE	DESCRIPTION

Scale	
Date	JULY 2019
Job No.	R326-1605.00
Designed by	
Drawn by	
Checked by	
Approved by	

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

**NEWTON FREE LIBRARY PARKING LOT**

**NEWTON, MASSACHUSETTS**

Sheet No.

0

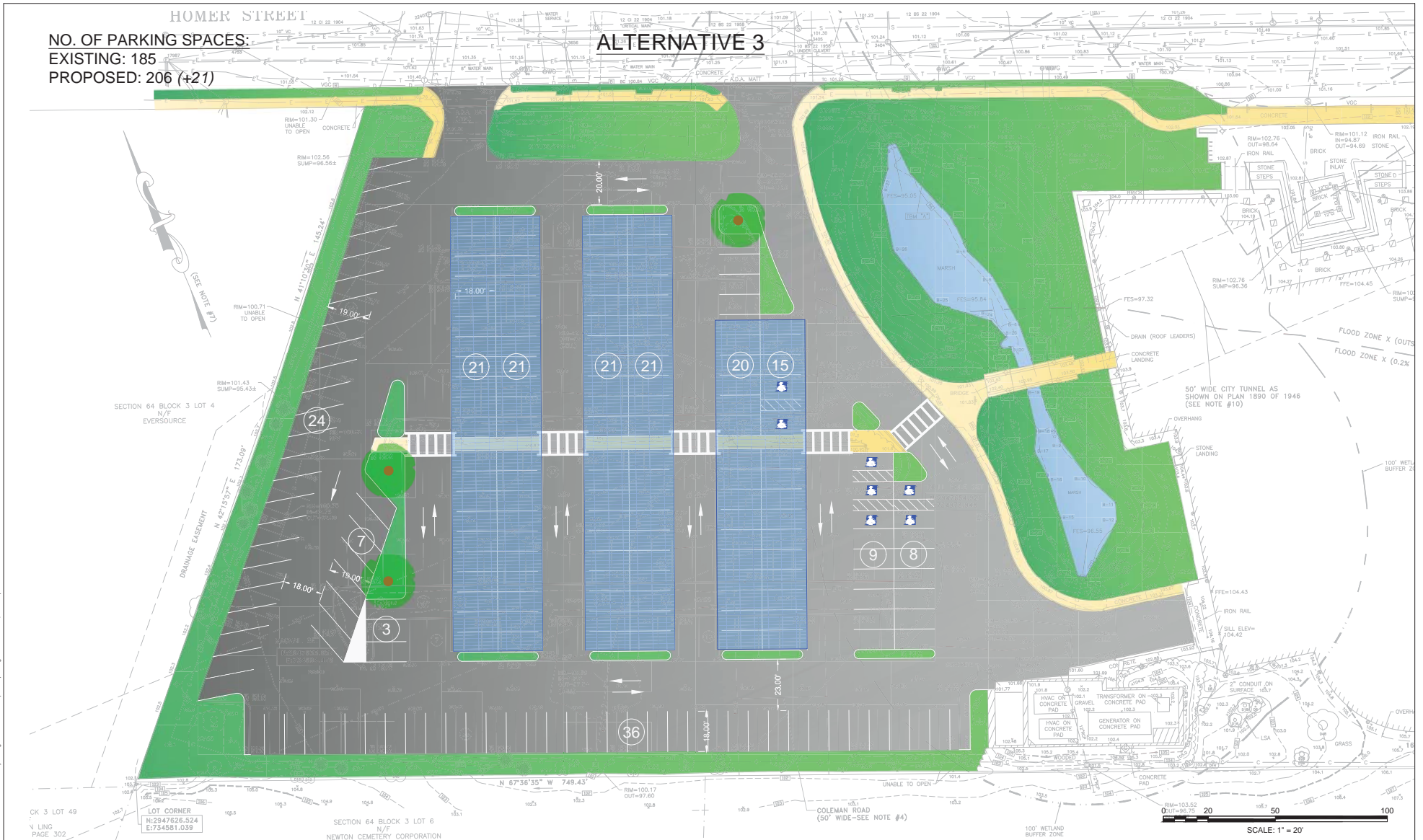
AS NOTED




HOMER STREET

NO. OF PARKING SPACES:  
EXISTING: 185  
PROPOSED: 206 (+21)

### ALTERNATIVE 3



	<b>Environmental Partners</b> A partnership for engineering solutions. <b>GROUP</b>	MARK DATE DESCRIPTION	Scale	JULY 2019	THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING	NEWTON FREE LIBRARY PARKING LOT NEWTON, MASSACHUSETTS	Sheet No.
			Date	R326-1605.00			3
			Designed by				AS NOTED
			Drawn by				
			Checked by				
			Approved by				



Design Review Committee  
PUBLIC BUILDINGS DEPARTMENT  
Ellen Light and Peter Barrer, Co-Chairs  
Joshua R. Morse, Commissioner  
Telephone (617) 796-1600  
FAX (617) 796-1601  
TTY: (617) 796-1089  
52 Elliot Street  
Newton Highlands, MA 02461-1605

**Ruthanne Fuller**  
**Mayor**

Honorable City Council  
City of Newton  
1000 Commonwealth Avenue  
Newton Centre, MA 02459

18 January 2020

RE: Newton Free Library Solar Canopies and Parking Lot Project

SUBJECT: Site Plan Review

Honorable Council:

The City of Newton is proposing to repair and modify the existing parking lot and install new solar canopies at the Newton Free Library, 330 Homer Street. On Wednesday, 15 January 2020 the Design Review Committee, DRC, met and reviewed the proposed site plan options for the project as presented by the Department of Public Works, DPW and the Public Buildings Department on behalf of the Newton Free Library Board of Trustees.

The renovation of the existing parking lot will include modifications to site circulation, including pedestrian and traffic movements, landscaping, site lighting, storm drainage improvements, additional parking spaces and the installation of new solar arrays which will to generate electrical power to be used by the library.

The DRC reviewed several study options which had been previously discussed with the DRC. DPW presented the option preferred by the library Board of Trustees, Alternate 3, which balances out the desired parking and pedestrian access to the library with canopy configurations and maximizing electrical output.

In its review and discussion of the preferred site plan, the Design Review Committee voted unanimously to certify that the Alternate 3 site plan be presented for Site Plan Approval. In accordance with Section 5-58 of the Revised Ordinances, this letter is to petition the City Council on behalf of the Newton Free Library for Site Plan Approval. The DRC identified the following conditions of its approval which will continue to be evaluated and refined by the design team and City throughout the design process:

- The project will continue to evaluate opportunities to maximize PV output.
- The project will continue to refine and address all parking, traffic, site circulation challenges, pedestrian crossings and signage.
- The project will develop the landscaping and site lighting plans to minimize the impact to the abutters and neighborhood. The design team and City shall evaluate lighting options at canopies, crosswalks and after-hours use.
- The project will include a constant width raised table at the primary crosswalk.
- The project will further evaluate the use of brick at solar canopy foundations.
- The project shall make provision for Red Cross vehicle.

- The project shall evaluate feasibility of making the east drive lane one-way north bound.
- The project will provide enhanced or expanded bike rack facilities to promote bicycle use.
- The project will coordinate design and location of storm drainage infiltration systems, pervious pavement and other storm water management approaches to comply with state and City of Newton requirements.
- The project will coordinate with the Conservation Commission and obtain all necessary approvals.

Sincerely,



Ellen Light, AIA, LEED AP BD+C



Peter J. Barrer

Design Review Committee, Co-Chairs

CC: James McGonagle, DPW Commissioner  
Joshua R. Morse, Public Buildings Commissioner  
Jonathan Yeo, Chief Operations Officer  
Maureen Lemieux, Chief Financial Officer  
Barbara Meltz, Board of Trustees President



# LIBRARY ALTERNATE 3



**Cassidy Flynn**

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**From:** William Ferguson  
**Sent:** Monday, April 27, 2020 2:27 PM  
**To:** Alison M. Leary; Emily Norton; Deborah J. Crossley; Andrea W. Kelley; David Kalis; Leonard J. Gentile; Victoria Danberg; Andrea W. Kelley; Marc C. Laredo  
**Cc:** Cassidy Flynn; Joshua R. Morse; Ann G. Berwick; James McGonagle; Jason Sobel  
**Subject:** Newton Free Library Solar Project

Dear Chairperson Leary,

I want to make a correction to the information that I reported at the Public Facilities meeting held on April 22, 2020 regarding the Newton Free Library Solar project. At that meeting I reported that the electrical generation would be 326,000 kWh per year. This number is wrong. The actual number is 404,794 kWh per year. This is a confirmed number and is the number included in our Purchase Power Agreement with Ameresco. The lower number was from an old spreadsheet that I mistakenly thought was the latest information.

I also want to confirm that the estimated savings of \$17,500 per year or \$350,000 over 20 years is the correct number. Thank you and I apologize for the error. -Bill

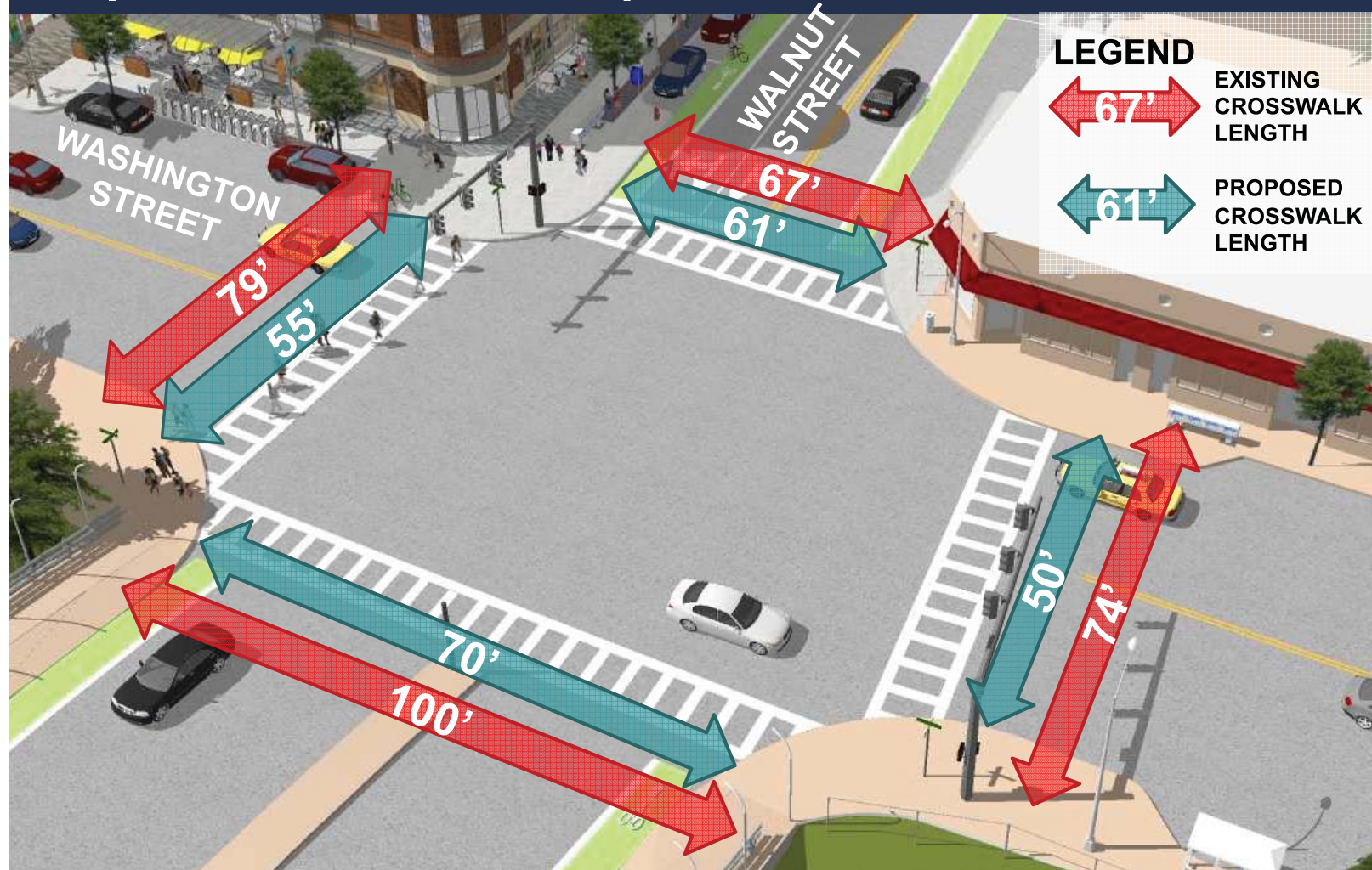
*William H. Ferguson*

Co-Director of Sustainability

Newton Dept. of Public Buildings  
52 Elliot Street Newton Highlands, MA 02461  
(617) 796-1606 office



# Proposed Intersection Improvements

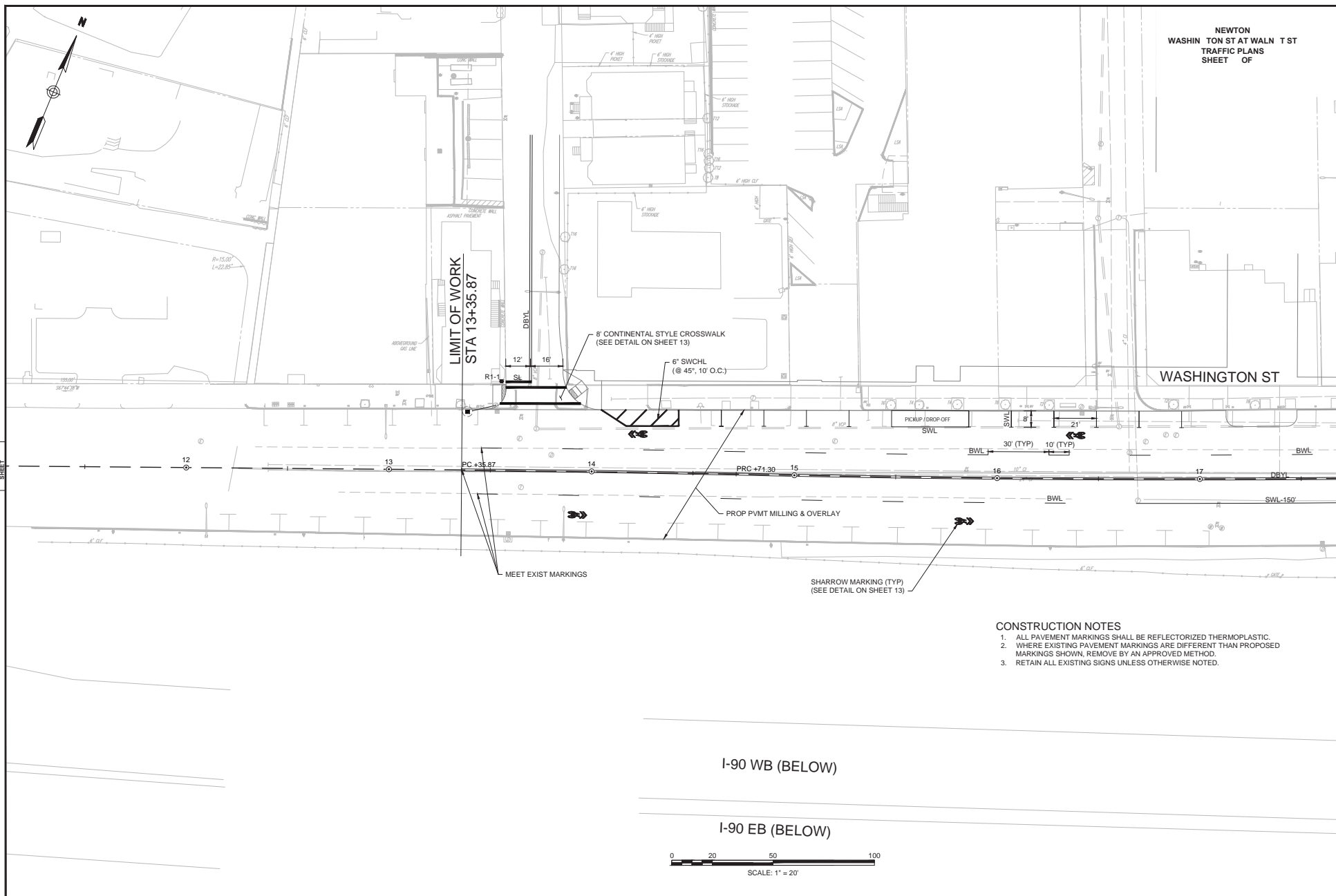


NEWTON  
WASHINGTON ST AT WALNUT ST  
TRAFFIC PLANS  
SHEET 1 OF 1

CONTINUED ON  
SHEET 2

130301\_TPL.DWG Plotted on 4-Apr-2019 8:10 AM

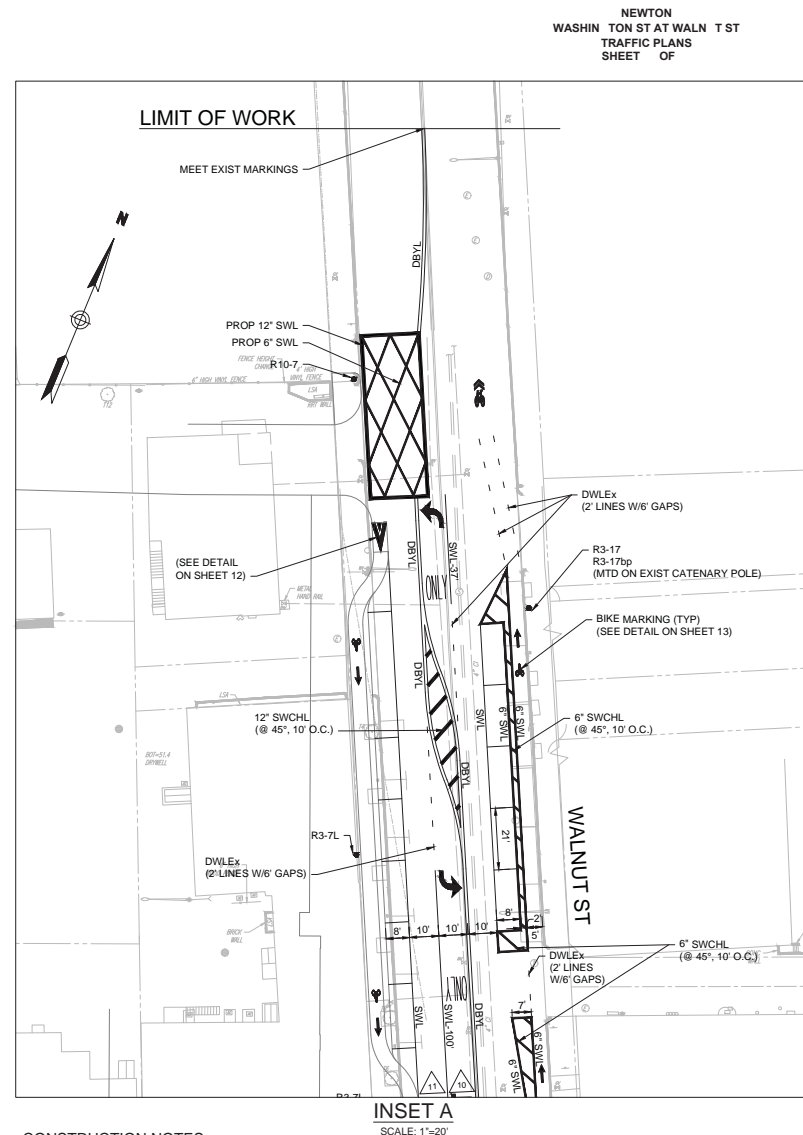
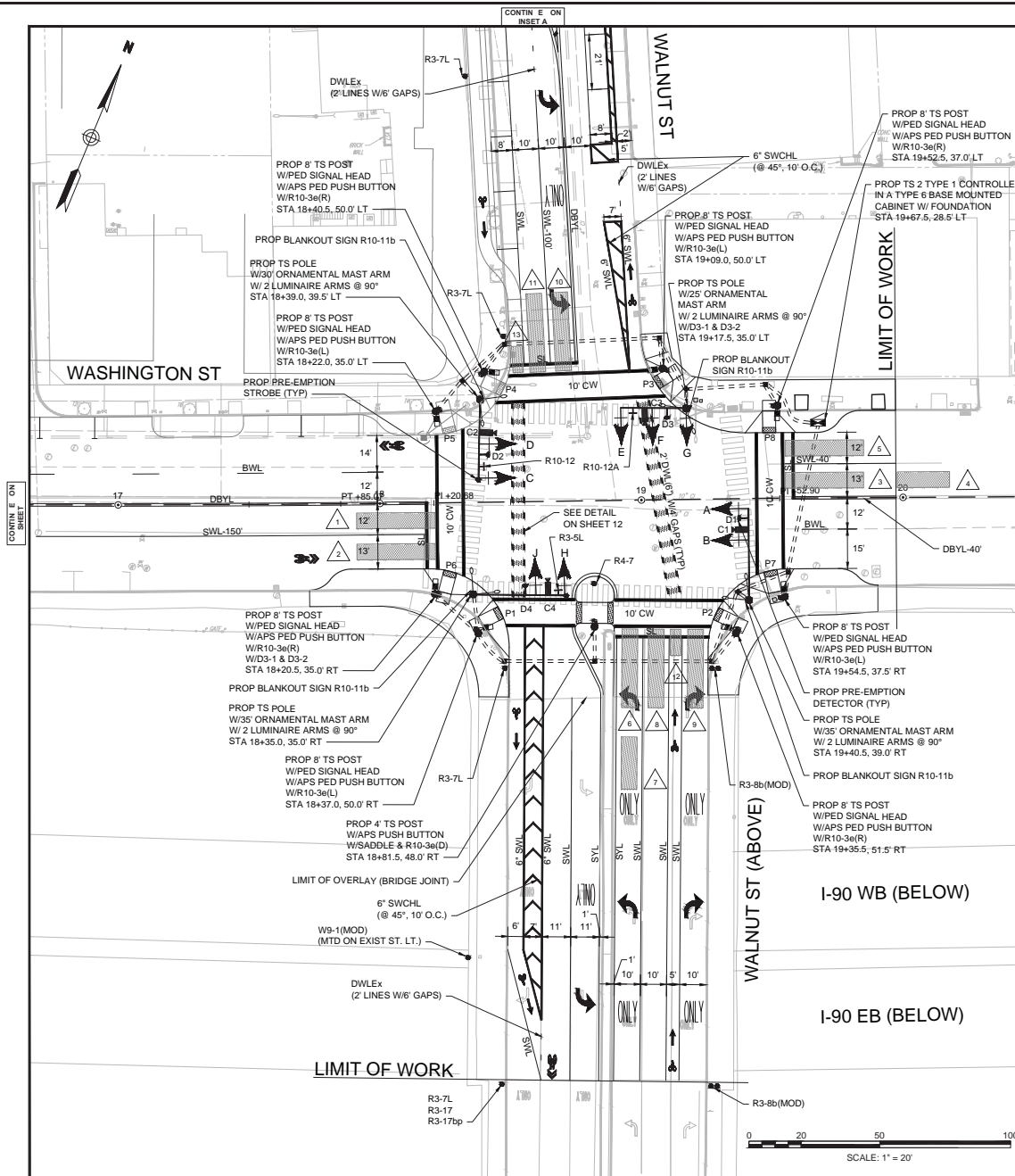
CONTINUED ON  
SHEET 2



I-90 WB (BELOW)

I-90 EB (BELOW)

0 20 50 100  
SCALE: 1" = 20'

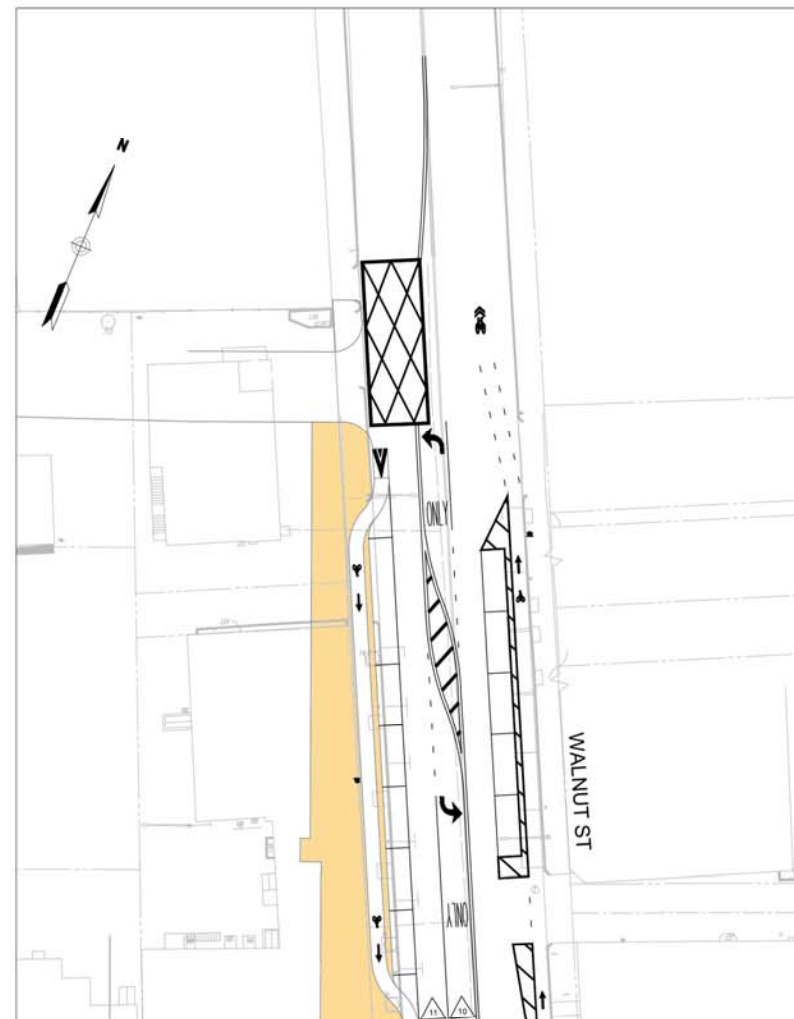


#### CONSTRUCTION NOTES

1. SEE SHEET 10 FOR TRAFFIC SIGNAL DATA.
2. REMOVE ALL EXISTING TS EQUIPMENT, AND ABANDON ALL TS CONDUIT UNLESS OTHERWISE NOTED.
3. PULL BOXES SHALL BE ADJACENT TO CURB UNLESS OTHERWISE NOTED AND SHALL NOT BE LOCATED IN WHEELCHAIR RAMPS.
4. ALL PAVEMENT MARKINGS SHALL BE REFLECTORIZED THERMOPLASTIC, UNLESS OTHERWISE NOTED.
5. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
6. TRAFFIC SIGNAL FOUNDATIONS TO BE LOCATED BY STATION AND OFFSET.
7. THE TOP OF ALL MAST ARM FOUNDATIONS IN SIDEWALK AREAS SHALL BE LOCATED FLUSH WITH FINISH GRADE.
8. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.
9. CONTRACTOR SHALL COORDINATE PARKING METER RELOCATION WITH THE CITY OF NEWTON.



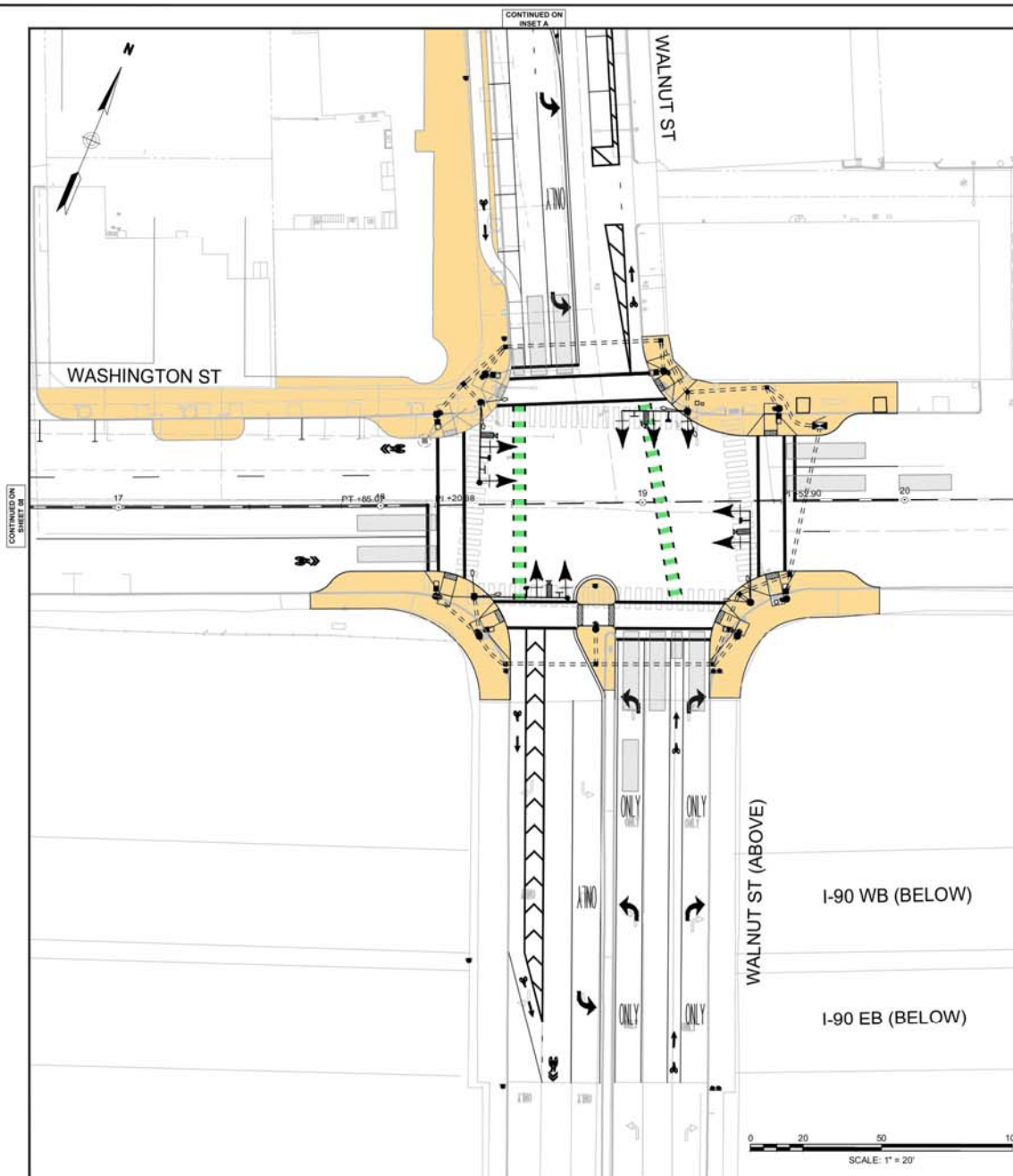
NEWTON  
WASHINGTON ST AT WALNUT ST  
TRAFFIC PLANS  
SHEET 09 OF 21

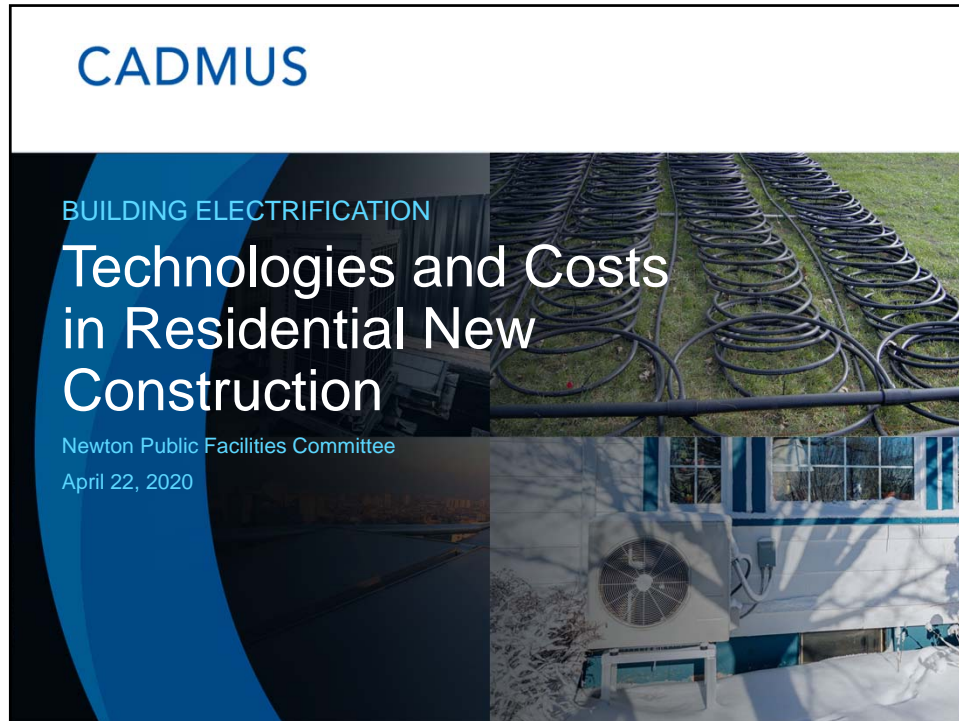


INSET A  
SCALE: 1"=20'

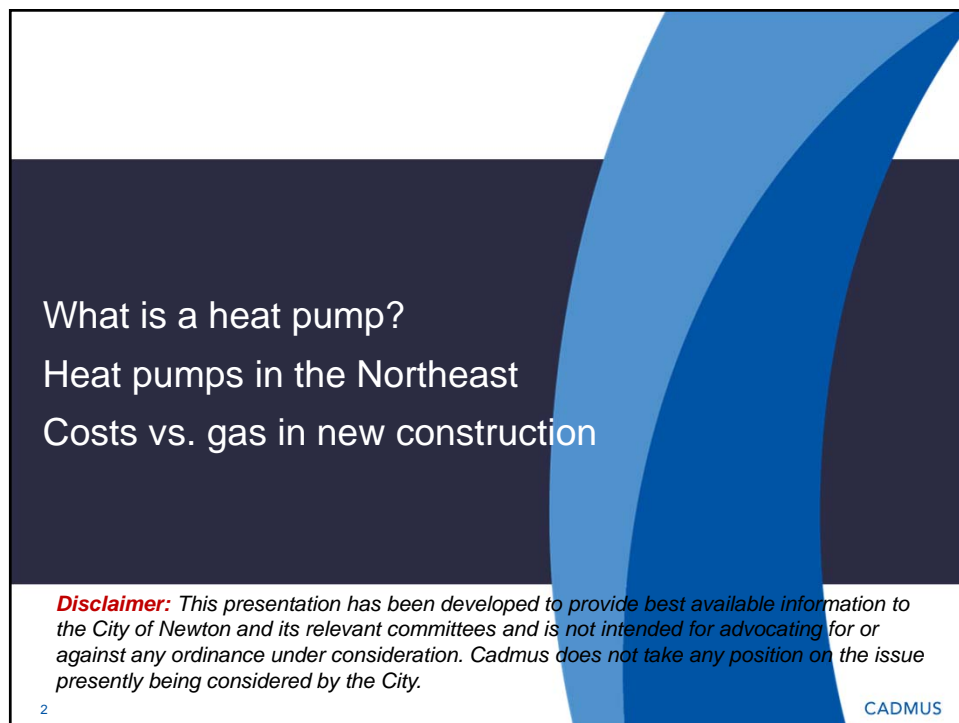
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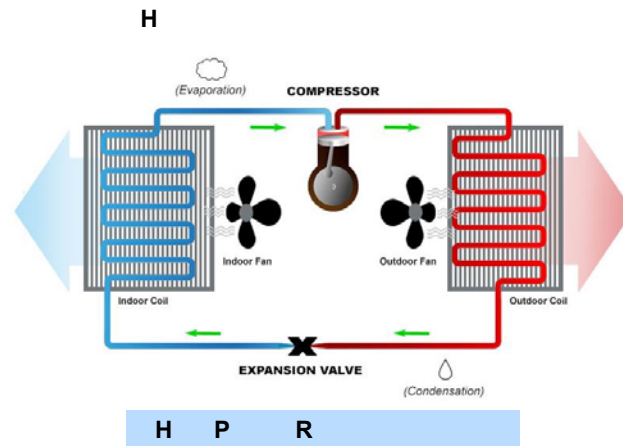


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## What is a heat pump?



I S Carrier (<https://www.carrier.com/residential/en/us/products/heat-pumps/how-does-a-heat-pump-work>)

CADMUS

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3

## What is a heat pump?

A S



S



W H



I Boucher Energy Systems, New England Ductless, EnergySmart Alternatives, and Hot Water Solutions Northwest

CADMUS

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## What is a heat pump?

Common misconceptions

- E
- Heat pumps don't work in Massachusetts climate
- Heat pumps cannot serve as the only source of heat in a home



A S  
-3

3 - S

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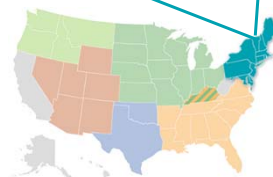
CADMUS

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## What is a heat pump?

Common misconceptions

- Electric heat is inefficient
- H
- Heat pumps cannot serve as the only source of heat in a home



C -C A S H  
P S  
- F  
- 3 - F

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CADMUS

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## What is a heat pump?

Common misconceptions

- Electric heat is inefficient
  - Heat pumps don't work in Massachusetts climate
  - H
- In 2017, approx. of new homes in MA used a heat pump as the
  - Ground source heat pumps significantly on the coldest days of the year
  - Dozens of systems installed through MassCEC programs in retrofits had

S MA RLPNC 17-2: 2017 Massachusetts Single-Family New Construction Mini-Baseline/Compliance Study; 2019 HeatSmart Mass and Pilot program data; MassCEC Air Source Heat Pump Whole-Home Pilot Program data

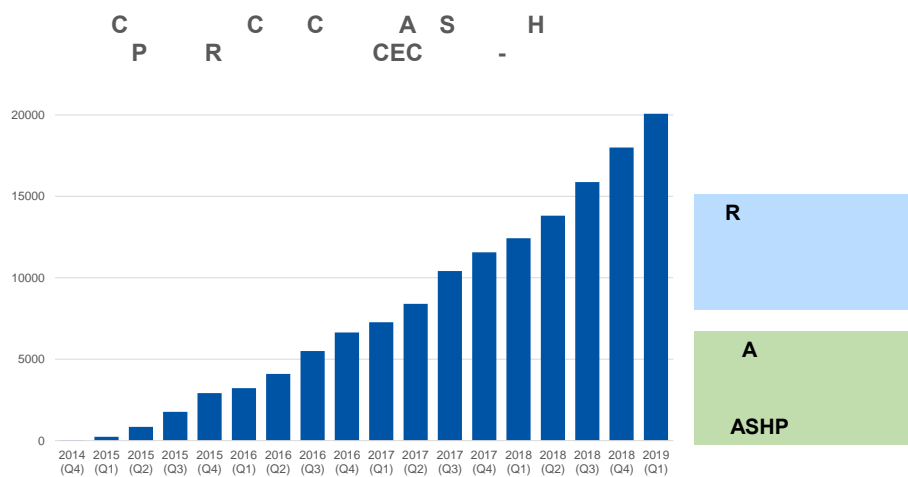
CADMUS

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## Heat Pump Market in the Northeast

Massachusetts



S MassCEC







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## Heat Pump Market in the Northeast

The Rest of the Region

S	P	R	I
		3	(2013-2018)
			(Q1 2015-Q4 2017)
			(9/2017-12/2019)

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# Thank You / Q&A

Associate  
Strategic Electrification & Distributed Energy Resources  
[jeremy.koo@cadmusgroup.com](mailto:jeremy.koo@cadmusgroup.com)

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