Oshawa

Public Report

To:	Community and Operations Services Committee
From:	Tracy Adams, Chief Administrative Officer, Office of the C.A.O.
Report Number:	CO-23-61
Date of Report:	November 7, 2023
Date of Meeting:	November 13, 2023
Subject:	Sidewalk Alteration Request for the Purpose of Installing Snow/Ice Melt Cables
Ward:	Ward 1
File:	03-05

1.0 Purpose

The purpose of this report is to respond to the following City Council direction from its October 30, 2023 meeting regarding Correspondence CO-23-54, dated October 4, 2023:

> "That Correspondence CO-23-54 from Natalie Abecassis requesting to alter the sidewalk in the front of her property to install snow/ice melt cables be referred to staff for further investigation."

Attachment 1 to this report is Correspondence CO-23-54 dated October 4, 2023.

2.0 Recommendation

That the Community and Operations Services Committee recommend to City Council:

That the Community and Operations Services Committee select an option as detailed in Section 5.3 of Report CO-23-61, dated November 7, 2023, concerning a request to alter the City's sidewalk for the purpose of installing snow/ice melt cables.

3.0 Executive Summary

Not applicable.

4.0 Input From Other Sources

- Durham Municipal Insurance Pool
- Engineering Services
- Legal Services

- Municipal Law Enforcement and Licensing Services

5.0 Analysis

5.1 Background

The City has legislated responsibilities in accordance with O. Reg. 239/02: Minimum Maintenance Standards for Municipal Highways of the Municipal Act, 2001, S.O. 2001, c. 25 ("Municipal Act, 2001") to inspect and ensure that the sidewalk meets Minimum Maintenance Standards for Municipal Highways ("Minimum Maintenance Standards"). To comply with the requirements in these Minimum Maintenance Standards, the City undertakes annual inspections of all sidewalks and documents encroachments and surface defects in the sidewalk such as heaves, ponding, cracks, spalling and repair as necessary.

The City has a current engineering design standard for the construction of sidewalks, OS-301-2022: Sidewalk Section. This standard is generally in accordance with the Ontario Provincial Standards for Sidewalks ("O.P.S.D" -310 series) and the Oshawa Accessibility Design Standards ("O.A.D.S.") when considering widths, grades, structure and compression/expansion joint sizes and locations. None of these technical standards consider modifications to the sidewalk surface such as longitudinal saw cuts, which are included in the Correspondence CO-23-54 dated October 4, 2023 ("Correspondence CO-23-54"; refer to Attachment 1) before Council and would be required in order for a private property owner to install ice/snow melting cables.

5.2 Sidewalk Alteration Request

Correspondence CO-23-54 is a request to alter the sidewalk in front of their property to install snow/ice melt cables, was referred by Council to staff for further investigation.

The City has experience with heated walkways and ramps at various City facilities; however, it should be clarified that these walkways are designed and installed as part of new or replacements projects and are incorporated into the design and construction of the walkway or ramp before the concrete is poured. These walkways are maintained by the City as part of the City's ongoing maintenance of its facilities.

The proposal brought forward as part of Correspondence CO-23-54 requires the homeowner's contractor to cut into the City's existing concrete sidewalk in order to install heating cables. The details of the step-by-step project installation (refer to Attachment 1) also includes covering two 2' x 15' tire tracks in the existing asphalt driveway. A review of the homeowner's contractor's company website does not provide specifications for installations in existing municipal sidewalks, although the website does state that "the best time to install a snow melting system is when a walkway or path is being created for the first time, redone, or expanded".

As such, staff have the following concerns with the request:

- The City does not have design standards or criteria to ensure that installation of the ice/snow melting cables can be undertaken properly.

- The proposed installation of the ice/snow melting cables requires saw cutting of the existing concrete sidewalk. These cuts may act similar to contraction/expansion cut joints which could cause the structure of the existing sidewalk to fail prematurely impacting the service life or maintenance of the sidewalk. In addition, the repetitive heating/cooling cycle of the concrete overtime could weaken the concrete slab which could also lead to chips, cracks, heaves and/or missing concrete on the sidewalk resulting in trip hazards requiring more maintenance. In general the long-term impacts on maintenance requirements is not known.
- A short or fault in the wiring near the surface of the sidewalk could result in animals being shocked.
- The property owner will have ongoing maintenance requirements to ensure the proper functioning of the system and sealing of cracks in a manner that does not provide further risk to sidewalk users. This responsibility will need to transfer to new property owners who must be made aware of any maintenance conditions in the event the current owners relocate.
- The installation of a sidewalk heater may reduce the homeowner's effort when dealing with light to moderate snowfalls but it does not eliminate the need for winter maintenance, for example the removal of slush.
- Beyond the concerns over the physical condition and maintenance of the sidewalk itself, the City, Utility Service Providers, and other agencies must also have access to underground services. This access could include excavating in areas that might impact the installation. The City or other agencies conducting work with the boulevard would not be responsible for restoration or repairs beyond what is typical.
- From a risk and liability perspective the Durham Municipal Insurance Pool ("D.M.I.P.") recommends against allowing the alteration to the sidewalk.

5.3 Proposed Options

Based on the concerns highlighted in Section 5.2, the following two options are proposed for consideration.

5.3.1 Option 1: Deny the request based on potential impacts to service life and maintenance of a City asset

The current O.P.S.D. standard, the O.A.D.S., and the City's design standard and maintenance program do not account for modifications to the surface and structure of an existing sidewalk. The long-term impacts resulting from the modification of the current design could result in a reduction in the overall service life of the sidewalk or increase in the need for maintenance/repairs due to deterioration of the concrete. This deterioration could create trip hazards that affect public safety and City liability.

If the Community and Operations Services Committee selects this option, the following is a proposed motion:

That the Community and Operations Services Committee recommend to City Council:

1) "That based on Report CO-23-61 "Sidewalk Alteration Request for the Purpose of Installing Snow/ice Melt Cables", dated November 7, 2023, the request to alter the City's sidewalk be denied; and,

2) That the property owners be notified of Council's decision."

5.3.2 Option 2: Approve the request to modify the City's sidewalk pending an agreement

If there is a desire to approve the request to allow modifications to the City's sidewalk an agreement is recommended to clearly outline the conditions of the approval in order to limit impacts on the City. Approval of this request may result in similar requests coming forward without formal engineering design criteria available to guide such installations.

Conditions of an agreement would require, but not limited to:

- Owner(s) required to comply with any and all requirements imposed by the City in this agreement, including permits and insurance certificates.
- Owner(s) required to ensure no encroachment/interference etc. with utility service providers.
- Indemnification clause where the City (including its elected officials, officers, directors, workers, etc.) would be fully indemnified from any claims.
- The City to be added as an Additional Insured in addition to whatever other insurance requirements as recommended by D.M.I.P..
- The rights/obligations under this agreement should NOT include any successor/assignment provisions to ensure that this contract will only be with the current owner(s), not to be assigned to any future owners.
- Owner(s) required to maintain City property at all times, and to restore City property back to original condition, subject to satisfaction of the City, and at the owner's expense.
- The City or Utility providers will not be responsible for any damage to the heating system as a result of any maintenance activity performed either by the City or a Utility provider, we will not be responsible for any damage to the heating system.
- Restoration activities resulting from maintenance activities undertaken by the City and/or Utility providers will be to City Standards.
- Agreement to be registered on title which will need to be discharged if sold to a third-party purchaser.
- Consideration to be given to how best to monitor the obligations of the agreement.
- Property owners must comply with all applicable legislation, including Provincial regulations and City by-laws.

If the Community and Operations Services Committee selects this option, the following is a proposed motion:

That the Community and Operations Services Committee recommend to City Council:

> "That based on Report CO-23-61 "Sidewalk Alteration Request for the Purpose of Installing Snow/ice Melt Cables", dated November 7, 2023, the request to modify

the sidewalk, for the purpose of installing snow/ice melt cables, be approved subject to the property owner(s) entering into an agreement(s) with the City of Oshawa in a form and content acceptable to the Commissioner, Community and Operations Services, the Commissioner, Economic and Development Services and the City Solicitor, and that Council authorize the agreement executed by the Commissioner of Community and Operations Services and Commissioner of Economic and Development Services."

6.0 Financial Implications

There are no financial implications at this time, however, it is uncertain as to the potential impact on the City's sidewalk maintenance program in the future. This could increase if other property owners seek similar consideration with respect to city infrastructure.

7.0 Relationship to the Oshawa Strategic Plan

The recommendations in this report responds to the Oshawa Strategic Plan Goal of Economic Prosperity and Financial Stewardship.

Mike Saulnier, Director,
Operations Services

Tracy Adams, Chief Administrative Officer,
Office of the C.A.O.

CO-23-54

From: Natalie Abecassis < **M.F.I.P.P.A. Sec. 14(1)**>
Sent: Wednesday, October 4, 2023 3:04 PM
To: clerks <clerks@oshawa.ca>
Cc: Mike Saulnier <MSaulnier@oshawa.ca>; Avi Kelenjian < **M.F.I.P.P.A. Sec. 14(1)**

Subject: Fw: CASE 1979951 Snow/Ice Melt Cables Follow Up

Good afternoon,

This request is for the Community and Operations Services Committee meeting being held on October 23rd.

I am requesting to make a delegation at the upcoming committee meeting regarding the altering of the sidewalk in front of my property with Ice/Melt cables.
I am mandated by the city by-laws to keep the public sidewalk clear at all times during the winter season and would like to proceed with the heated driveway, inclusive of the sidewalk in front of my property pertaining to this mandate. Installing a heated driveway will permit me, within my means, to meet this mandate. I am trying to better the neighborhood during the winter months in a high traffic school zone sidewalk which gets very icy. This project will be beneficial to both the City and the numerous children and citizens using this area.

This project is in accordance with the ESA and all necessary inspections and in attainment with any necessary permits legally required, not to mention, professionally installed and maintained moving forward.

We are looking to make 7-8 small shallow cuts along the sidewalk in order to retrofit the cables (documents for reference attached.)

I have attached both job scope and sidewalk retrofitting instructions according to Warmly Yours for your reference.

The first attachment outlines the sidewalk blueprint. The second attachment outlines how to retrofit the sidewalk.

Kindly advise on the next steps in order to be on the agenda for the Community and Operations Services Committee meeting being held on October 23rd, 2023.

Thank you,

Avi & Natalie
M.F.I.P.P.A. Sec. 14(1)
Oshawa, Ontario
M.F.I.P.P.A. Sec. 14(1)

From: Mike Saulnier <MSaulnier@oshawa.ca>
Date: October 4, 2023 at 9:06:53 AM EDT
To: Natalie Abecassis < **M.F.I.P.P.A. Sec. 14(1)**>
Subject: RE: CASE 1979951 Snow/Ice Melt Cables Follow Up

Natalie,

As per our discussion. You will need to send a request to "Clerks" (clerks@oshawa.ca) stating that you are requesting to alter the sidewalk in front of your property with Ice/Melt cables. The request is for the Community and Operations Services Committee on October 23rd meeting . You can ask to make a delegation or let the request speak for itself. You should attach the drawings that you shared with me and give a bit of synopsis of what you are asking for.

If you need anything else, please don't hesitate to reach out to me. You can CC me on the request you send to Clerks.

Regards,

Mike Saulnier, Director, Operations | City of Oshawa
905-436-3311 ext. 2122 | 1-800-667-4292
MSaulnier@oshawa.ca | **www.oshawa.ca**
"Dedicated to serving our community."

From: Natalie Abecassis < **M.F.I.P.P.A. Sec. 14(1)**>
Sent: Monday, October 2, 2023 12:38 PM
To: Justin Bishop <JBishop@oshawa.ca>; Mike Saulnier <MSaulnier@oshawa.ca>; Greg Hardy <GHardy@oshawa.ca>
Cc: Avi Kelenjian < **M.F.I.P.P.A. Sec. 14(1)**>; Phil Laurin <PLaurin@oshawa.ca>; Mary Bermeo < **M.F.I.P.P.A. Sec. 14(1)**>
Subject: CASE 1979951 Snow/Ice Melt Cables Follow Up

Justin,

Thank you for sending a link to backup your decision to deny our request. The link you sent is completely irrelevant to our situation. I am not looking to build a sidewalk according to the city's standards. I'm simply looking to properly abide by bylaw 92-2009. The bylaw states that "every owner of a lot shall no later than midnight of the first day after the fall of snow, or any other precipitation, which freezes has ended clear away and completely remove, or caused to be cleared away, and completely removed the snow and ice, including windrows, from any sidewalk on any Highway in front of alongside or at the rear of the lot".

I sent my initial request three weeks ago, and the roads department has not submitted a legitimate request with the city. When asking for a bylaw number - stating I cannot add ice-melt cables to my sidewalk adjacent to my driveway - there is no bylaw to dictate so. Rather than referencing a bylaw that I would be breaking I'm being sent engineering

drawings on how to build a sidewalk. This is pretty frustrating seeing as there is no by law that states that I cannot do this, and the department has failed to back up their decision with some concrete information.

I cannot accept this answer without having proper information to reference this decision made by the roads department and engineering department for the city of Oshawa. I have copied Mike Saulnier, as well as Greg on this email in hopes of achieving a resolution before I escalate this to a tribunal hearing. The project starts this week and I have waited almost 3 1/2 weeks and have not gotten a proper answer.

We care about the city and the conditions of the sidewalks, and we are trying to make Oshawa a safe and better place for children walking home from school, elderly people, and anybody else that frequents the sidewalks of our neighborhood. Help us help the city of Oshawa maintain the sidewalk standards it deserves.

I look forward to your response and resolution to this matter.

Natalie

Sent from my iPhone

On Oct 2, 2023, at 11:37 AM, Justin Bishop <JBishop@oshawa.ca> wrote:

Avi,

Please see link below to the Oshawa sidewalk standards.

https://www.oshawa.ca/en/business-development/os-300-sidewalks-and-driveways.aspx

Thanks,

Justin Bishop, Manager, Road Operations | City of Oshawa
905-436-3311 ext. 2142 | 1-800-667-4292
JBishop@oshawa.ca | **www.oshawa.ca**
"Dedicated to serving our community."

From: Avi Kelenjian < **M.F.I.P.P.A. Sec. 14(1)**>
Sent: Tuesday, September 26, 2023 4:36 PM
To: Justin Bishop <JBishop@oshawa.ca>; Phil Laurin <PLaurin@oshawa.ca>
Cc: Natalie Abecassis < **M.F.I.P.P.A. Sec. 14(1)**>; Mary Bermeo < **M.F.I.P.P.A. Sec. 14(1)**>
Subject: RE: Snow/Ice Melt Cables Follow Up

Hi Phil,

Thank you for your response. I understand you spoke to Justin and have copied him on this email.

Hello Justin,

At this point, I have waited two full weeks to hear back in regards to this project which is to commence early next week, hence leaving very little time to resolve this matter.

As such, I am requesting to speak and/or meet with you in regards to this project as the response I have received is not acceptable nor does my request infract any City of Oshawa by-laws I am aware of. I would like to be directed as to where I may find the corresponding by-law stipulating I will be in breach of a by-law or that I may not proceed with this project. I see no reason provided to me to suggest otherwise. I understand, according to Phil, that this is the first request for such a matter the City of Oshawa has received and can appreciate the challenges it may present. However, that alone should not be sufficient reasoning to reject my request.

I am mandated by the city by-laws to keep the public sidewalk clear at all times during the winter season and would like to proceed with the heated driveway, inclusive of the sidewalk in front of my property pertaining to this mandate. Installing a heated driveway will permit me, within my means, to meet this mandate.

I have chosen to maintain transparency with the City of Oshawa only to have push back when I am trying to better the neighborhood during the winter months in a high traffic school zone sidewalk which gets very icy. This project will be beneficial to both the City and the numerous children and citizens using this area.

I can assure you the service to have low voltage heating wires installed on a sidewalk is available and numerous companies have done it within the region of Durham, whether or not the home owner had gained the appropriate City's approval. I stated I will take financial responsibilities surrounding any repairs or damages that may present moving forward due to this project on my property. This project is in accordance with the ESA and all necessary inspections and in attainment with any necessary permits legally required, not to mention, professionally installed and maintained moving forward. I would like to point out that there are many other cities and provinces that do support heated sidewalks and allow for this to be installed. As such, I am quite surprised at the lack of forward thinking from the City of Oshawa to welcome this type of solution to ensure public safety in the winter months.

It makes very little sense as to why 7-8 small shallow cuts along the sidewalk would pose such a concern to the "infrastructure and services with the ROW" nor do I understand what the "additional level of complexity and risk that [you] are unwilling to take on [or] at this time". I would definitely like to hear your concerns which led to my request not being approved and if need be, I am willing to take this matter further as I have not been provided any breach of by-law to prevent me from moving forward with this project.

Please let me know when I can meet with you to have an open discussion, and/or how to begin the process in appealing the decision you have made to not approve my request.

Thank you.

Avi Kelenjian
M.F.I.P.P.A. Sec. 14(1)
Oshawa, ON
M.F.I.P.P.A. Sec. 14(1)

From: Phil Laurin <PLaurin@oshawa.ca>
Sent: Tuesday, September 26, 2023 9:00 AM
To: 'Avi Kelenjian' **M.F.I.P.P.A. Sec. 14(1)**

Cc: Justin Bishop <JBishop@oshawa.ca>
Subject: RE: Snow/Ice Melt Cables Follow Up

Thanks for reaching out. The City Of Oshawa's position is we would not approve the installation of this type of heating device/infrastructure within the City's right-of-way*. There is as you know, a lot of infrastructure and services with the ROW, private infrastructure would pose an additional level of complexity and risk that we are unwilling to take on at this time.

*To confirm the public right-of-way, also known as municipal road allowance, refers to a piece of City-owned land. It includes the roadways, sidewalks and a section of land used for public utility services.

Thanks

Phil Laurin, Superintendent, Roads Operations | City of Oshawa
905-436-3311 ext. 2139 | 1-800-667-4292
PLaurin@oshawa.ca | **www.oshawa.ca**
"Dedicated to serving our community."

From: Avi Kelenjian < **M.F.I.P.P.A. Sec. 14(1)**>
Sent: Wednesday, September 20, 2023 2:29 PM
To: Phil Laurin <PLaurin@oshawa.ca>
Subject: Snow/Ice Melt Cables Follow Up
Importance: High

Hello Phil,

I trust you are doing well.

I am just following up with you in regards to our discussion that we had last week to retro fit heating snow/ice melting cables within the immediate side walk and Boulevard directly in front of my property. The work is scheduled to begin within the next 2 weeks, therefore I do not have much more time.

Last we spoke you stated you needed a week to discuss this internally to gain approval. I took it upon myself after speaking with you and hearing your concerns to contact the utility companies to discuss this and they all had no concerns whatsoever. The service teams are aware that this does exist on properties as they service many different regions that already have similar cables installed, they also stated that they do not cut or repairs these areas without speaking with the home owner as it may impede access to the property itself.

Further to this there is a seal/signage that will be placed at the end of the driveway mentioning that it is indeed heated, this is a legal requirement governed by The Electrical Safety Authority (ESA). I do not believe I mentioned this to you during our call. Therefore there is a visual signage to indicate that the area is heated with low voltage cables in the event anybody were to miss the visual markers throughout the sidewalk, this should help alleviate any of the concerns that you mentioned during our initial call.

If you can provide some feedback on this it would be much appreciated as gaining the cities approval is the only pending task at this stage before the work is to begin.

Thank you for all your time on this, it is much appreciated!

Avi Kelenjian
M.F.I.P.P.A. Sec. 14(1).
Oshawa, ON
M.F.I.P.P.A. Sec. 14(1)

Retrofitting the Snow Melting System

The retrofit installation of any snow melting system relies on proper layout and installation depth. In this project, we will be covering two 2’ x 15’ tire tracks in an asphalt driveway.

In this project, installation started with saw cutting into existing asphalt. We recommend that you consult with and plan this step with your contractor, since it may depend on the surface material and its condition.

Snow Melting & Slab Heating Application Cross Sections

Download

Step 1. Measure and Mark the Saw Cutting Lines

Prior to beginning any digging, we suggest contacting a local utility locating/marking firm to make sure your project won't run into any gas, water, or electrical lines. Once that's done, you'll want to start with locating the area to be heated and then, marking the cable layout in that area according to the SmartPlan.

The recommended approach to marking the installation area is to spray paint the start and the end of the area with clear lines. Follow the spacing provided on the installation plan and mark the cuts with a chalk line. Ensure uniform spacing and verify the number

of cuts as per the installation plan.

Pro Tip: While the chalk marking string is on the surface, spray the spray paint over the string to mark the position of the saw cuts. That will prevent the line from washing away and will provide a clear identification to ensure evenly-spaced and straight cuts.

Step 2. Preparing for Junction Box

Depending on the size and location of your project, it may require the use of one or more junction boxes.

By reviewing your WarmlyYours SmartPlan, your electrician will be able to identify where the junction boxes for your snow melting system should be located. Make sure to mark and cut additional lines to exit points for the non-heating leads in the concrete slab or asphalt.

Please note that the cold leads of the heating cables must be protected by approved conduit as they exit the driveway and travel to the junction boxes.

The junction box serves as an intermediary connection location between the heating element itself and the snow melting relay panel or control that you select. Making sure to establish the location of the junction boxes early on will allow you to make sure that all sequential steps are going according to plan.

Step 3. Making Room for Snow Melting Cables

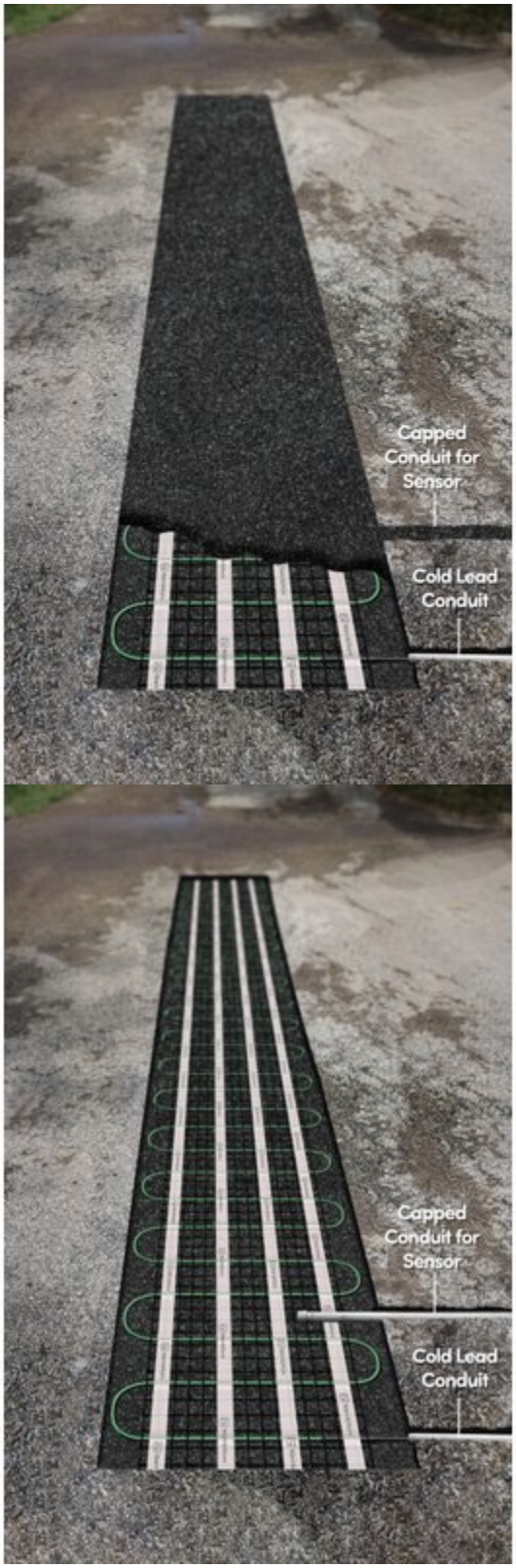
Preferred Method: Saw Cutting Main Lines

Saw cut each line to achieve at least a ⅜” wide groove to fit a snow melting cable in. Multiple blades may need to be used to accomplish a wider cut. Test with a shorter cut first and use a cable to see if it fits in. Cuts need to be at least 1-½” deep, per National Electrical Code, and the cable should not run deeper than 2-3” from the surface to ensure proper performance. Plan a wider cut of about 9/16” or more for the 6” long

factory splices at the beginning and end of the cable. Ensure the splice can be fully buried and placed at least 4” from the conduit opening. It may be a good idea to make the last run 5’-10’ longer than needed to allow for any cable overruns.

If an in-slab high temperature limit sensor will be used, this is the best time to plan one short groove equally spaced between two heating cables. Separate conduit should be used to protect the low voltage sensor wire and it must NOT be shared with any high voltage cold lead from the heating cable. The temperature sensor conduit should be capped off and the sensor itself installed within the conduit near the cap. This allows easy replacement of the sensor if required.

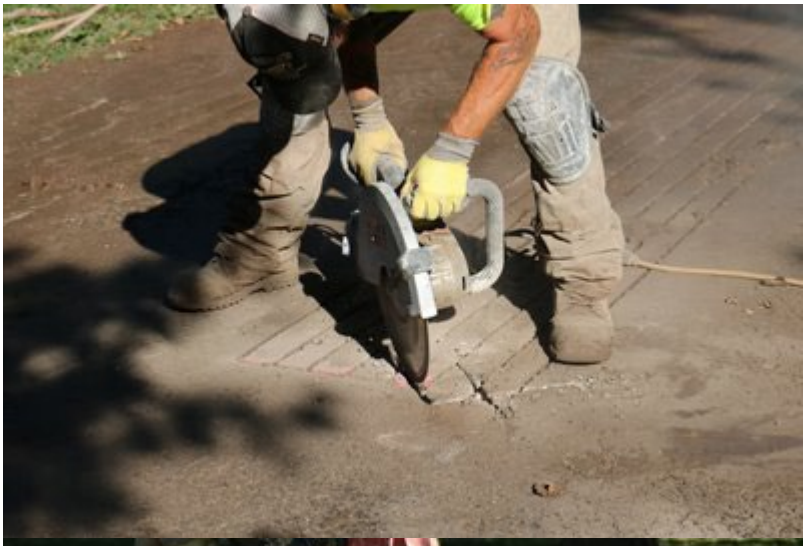
Alternative Method for Tire Track Format: Removing Trenches



If you're installing a snow melting system for tire track coverage during a retrofit installation, an alternative trenching method may be used. Remove 2-3” of the top

asphalt layer that matches the length and width of the the snow melt mats being used. Unroll the mats within the trenches and lay asphalt on top. Each trench needs to be at least 1.5” deep, per National Electrical Code, and the mat should not run deeper than 2-3” from the surface to ensure proper performance. Plan a cut about 9/16” wide or more for the 6” long factory splice at the beginning of the mat. Ensure the splice will be fully buried and is placed at least 4” from the conduit opening.

Step 4. Saw Cutting U-turns



Round the corners of cuts to allow smooth cable placing in the U-turns. This can be accomplished by making additional 45° cuts at the U-turns or doing a core drilling with a core drill bit with a diameter matching the cable spacing (typically 3”). Please note that core drilling will require much more filler than the saw cut method will.

Remove any sharp edges to avoid cable damage and clean the grooves with a high-power pressure washer. Allow to dry and ensure that the grooves are free of dust and debris.

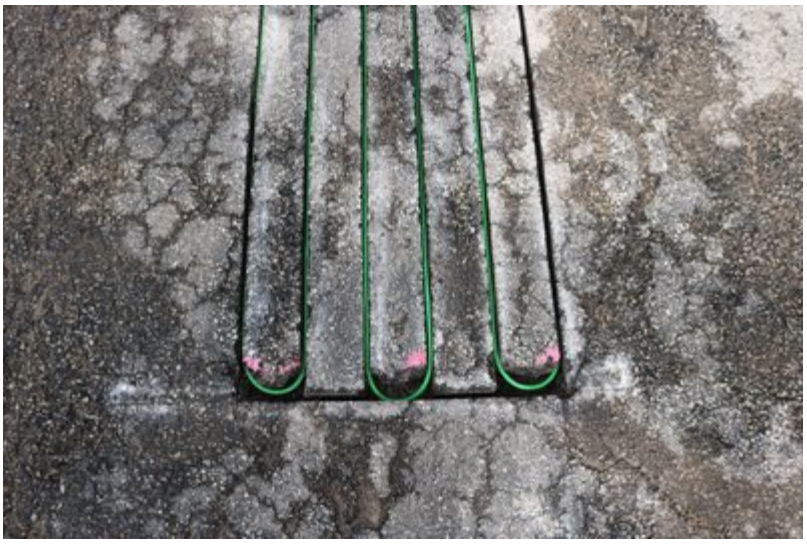
Step 5. Test your System at Every Stage of Installation

Testing your snow melting system with an ohmmeter and megohmmeter at every stage of installation will allow you to be certain that the heating element is functioning properly.

Completing these tests, and recording your readings accurately, will also qualify your project for WarmlyYours' 10-year warranty.

Make sure to consult your WarmlyYours snow melting installation manual for more information.

Step 6. Laying Out Snow Melting Cables



Install the conduit into the drive and run the leads into it and on into the junction box. Verify that factory splice will be 4” away from the conduit when installed, and start installing the cable into the grooves. Verify the length of cable used in the first run of grooves. If more cable was used than planned, coverage at the end will be reduced. If less cable was used, you may have too much cable for the last run. This is why we suggest an extra long groove cut for the last run, so that it will accommodate any extra cable. It is easier to make an extra cut while the cutter is there than it is to get the contractor back out to make additional cuts afterwards.

Do not try to pull on the cable to slide it through the grooves. Do not compress or strain the cable, run heavy machinery, equipment, or vehicles over it. Any of these actions could damage the cable

Step 7. Make Sure the Manufacturer’s Splice is Embedded

In this project, two separate heating cables (one in each tire track) are set up so that they 'begin' on the same side. This allows for one junction box to carry power to the cables.

Power is carried to each mat by a non-heating 'cold lead', which is connected to the heating cable via a manufacturer's splice.

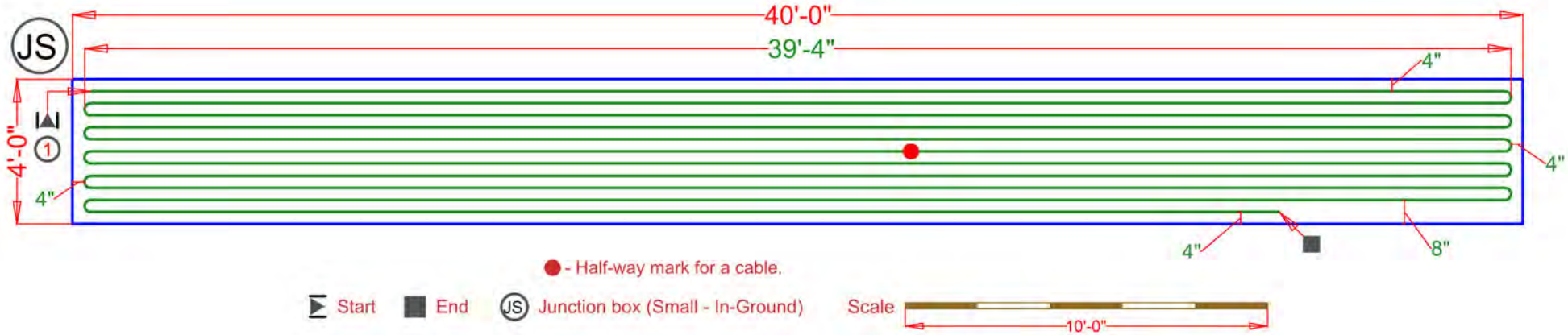
One of the most common snow melting installation mistakes that people make is leaving this splice, and some of the heating cable, outside of the asphalt (sometimes people leave it in the conduit or simply leave it exposed). This can cause the splice, which is half heating element, to overheat and fail. By simply making sure that the splice is embedded correctly in the asphalt, you'll help ensure a problem-free installation.

Be careful to avoid stepping on or applying pressure to the factory splice or endcap.

Step 8. Filling The Grooves

Fill all cuts with hot asphaltic sealer for asphalt retrofits, or expansion joint sealer (SikaFlex or similar) for concrete retrofits. Make sure this step is done in accordance with the filler manufacturer’s recommended procedures.

A top seal-coat is not necessary, though it can be applied for esthetic reasons.



Please verify dimensions in-the-field prior to ordering. Copyright © 2023 WarmlyYours.com

WarmlyYours Installation Plan
#IP1575812

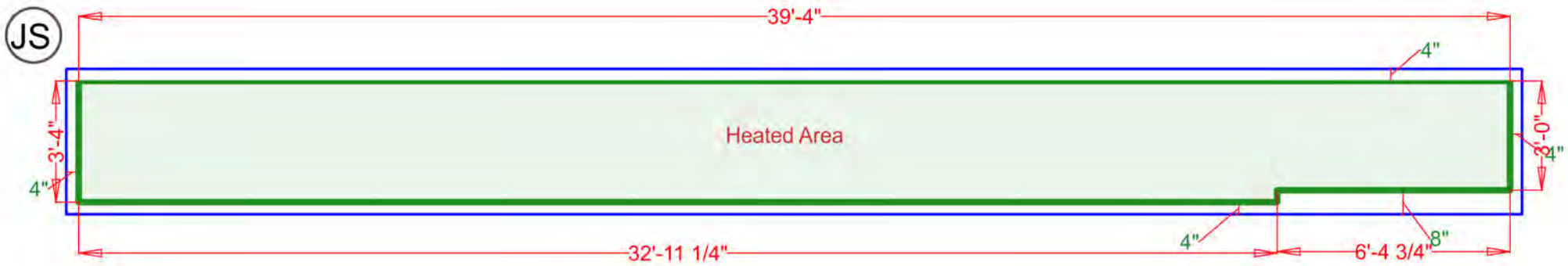
Installation Support
(800) 875-5285

Avi Kelenjian

Project:	Ke enj an Project
Date:	09/06/2023
Area	Retrof t S dewa k
Surface Type:	Concrete (retro f t/ex st ng)
Product:	Snow Me t Cab e 240V (37 5 W/Sq ft @ 4 0" spac ng)
Control:	

Operating Cost:	$0 65/hour @ $0 13/kWh
Breaker(s):	1 x 30 Amp 240V GFEP Heater C rcu t
Total Amperage:	20 87 Amps
Total Wattage:	5008 Watts

1 WHCA 240 0428; 20 9A; 11 5Ω; 20′ ead; each run spaced @ 4 0″



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WarmlyYours Installation Plan
#IP1575812

Installation Support
(800) 875-5285

Avi Kelenjian

Project:	Ke enj an Project
Date:	09/06/2023
Area	Retrof t S dewa k
Surface Type:	Concrete (retro f t/ex st ng)
Product:	Snow Me t Cab e 240V (37 5 W/Sq ft @ 4 0" spac ng)
Control:	

Operating Cost:	$0 65/hour @ $0 13/kWh
Breaker(s):	1 x 30 Amp 240V GFEP Heater C rcu t
Total Amperage:	20 87 Amps
Total Wattage:	5008 Watts

1 WHCA 240 0428; 20 9A; 11 5Ω; 20′ ead; each run spaced @ 4 0″

WarmlyYours

Electrical Plan & Information
Share this information with your Electrician

Exclusively designed for:

Avi Kelenjian

Date: 09/06/2023
Area: Retrofit Sidewalk
Plan Number: IP1575812

Heating System: 240V* Snow Melt Cable
Wattage: 37.5 W/Sq.ft. @ 4.0" spacing
Control: 240V*
* Verify that the heating system and control is supplied this voltage from the breaker panel.

Notes:

1 A power leads trave back to the contro er re ay pane or junct on box
2 A ways test ro s/cab es out of the box w th an Ohm meter and Mega Ohm meter (opt ona) See manua for other requ red tests

Snow Melt Cable Specifications

#	Spac ng	Length	Lead	Vo ts	Watts	Amps	Ohms
1	4"	428'	20'	240	5008	20 87	11 5

Service Panel

BREAKER S ZE NEEDED:
1 x 30 Amp 240V GFEP Heater C rcu t

System Electrical Consumption

$0 65/hour*
* Th s ca cu at on s based on the average rate of $0 13 per kWh for state/prov nce ON but consumpt on may vary based on nd v dua cond t ons