

Municipality of Chatham-Kent

Infrastructure and Engineering Services

Engineering and Transportation Division

To: Mayor and Members of Council

From: Chris Thibert, P. Eng.
Director, Engineering and Transportation

Date: June 6, 2018

Subject: Tender Award, T18-102, Surface Treatment

Recommendations

It is recommended that:

1. The 2018 Surface Treatment Maintenance Program be approved.
2. The tender in the amount of \$1,324,542.25 including HST for surface treatment be awarded to Shepley Road Maintenance Ltd. for the sections of roads noted in Appendix A and B.
3. The Mayor and Clerk be authorized to sign the necessary agreements.

Background

The Municipality of Chatham-Kent has approximately 215 km of roads which consist of surface treatment. Commonly referred to as “tar and chip”, surface treatment is used in rural and semi-urban areas with low to medium volumes of traffic as a more cost effective option to asphalt paving.

The application of surface treatment involves evenly applying hot emulsified asphalt (tar) onto a roadway, followed by an even layer of angular aggregate stones (chip) that are rolled into place. Typically a single application is placed over a corrective asphalt padding base course, while a double application is applied onto compacted granular material after a road is pulverized and re-shaped.

Once application of surface treatment is complete, the stones are further compacted and pressed into the asphalt tar by traffic. As a result for a period of weeks or months following the application, there is some loose crushed stone on top of the road surface. Depending on outside temperature and traffic, the road will eventually resemble the hard pavement of asphalt roads in higher traffic areas.

Fugro Roadware was retained to assess the condition, provide data analysis and develop a multi-year maintenance and resurfacing guideline for our hard surface road network. Pavement Condition Index (PCI) values, class-specific decision trees and budgeting scenarios were utilized to suggest rehabilitation categories and timelines.

The 2018 surface treatment program targeted segments below 60 PCI for Level 1 and 2 Rehabilitation.

- Level 1 Rehabilitation consists of asphalt base course padding/edge paving and single surface treatment (1-Lift)
- Level 2 Rehabilitation consists of pulverizing existing surface; supplying, placing, grading and compacting granular, then applying double surface treatment (2-Lift)

Higher PCI scores were selected for spot repairs under the Maintenance 1 category (71-80 PCI range in the BST Local-Class Decision Tree) and also for some segments under Level 1 Rehabilitation category (61-70 PCI range in the Truck Routes Decision Tree). The 'Fugro' multi-year maintenance/resurfacing guideline was cross-referenced to ensure all relevant segments are reviewed.

Comments

The 2018 surface treatment contract provides for the supply and application of 18.5 km of surface treatment, which includes provisional items, to be applied on various roads throughout Chatham-Kent as defined in Appendix A - Table 1, Street and Road Quantity Details for Contract T18-102. Appendix B, Surface Treatment Sites T18-102 key maps are also attached to assist Council in identifying these locations.

Areas for improvement were identified, reviewed and prioritized by Engineering and Transportation Division and through consultation with the Public Works Division. Road segment selections are based on rehabilitation history, condition ratings, reference of the 'Fugro' multi-year maintenance/resurfacing guideline and field inspection to confirm their suitability.

Any conflicts with future bridge, water main, storm sewer or other utility work were identified in the draft stages of the 2018 surface treatment program and the list was adjusted accordingly.

Tenders were called and received by the Purchasing Officer on Thursday, May 31, 2018.

The budget estimate for the 2018 surface treatment program was set at \$1,200,000. Funds were included in the 2018 Roads Lifecycle Budget. One (1) contractor submitted a tender for the project.

The result is as follows:

Tender: Contract T18-102 Surface Treatment			
Rank	Tenderer	Amount (incl. HST)	Amount (excl. HST)
1	Shepley Road Maintenance Ltd., Essex ON	\$1,324,542.25	\$1,172,161.28

Engineering and Transportation Division reviewed the tender and found it to be complete in all respects with the exception of a rounding error of \$0.01. The sole bidder, Shepley Road Maintenance Ltd., completed the 2015, 2016 and 2017 Surface Treatment Programs.

Considering only a single tender bid was received, it was evaluated to confirm competitive bidding by comparison to the average unit costs for the same type of work. This evaluation found that the bid received is within 4% of the average pricing for the last 3 year bid prices. Also, the sole tender bid is within 1% of the budget estimate.

The project costs are summarized in the Financial Implications section of this report.

Areas of Strategic Focus and Critical Success Factors

The recommendations in this report support the following areas of strategic focus:

- Economic Prosperity:**
Chatham-Kent is an innovative and thriving community with a diversified economy
- A Healthy and Safe Community:**
Chatham-Kent is a healthy and safe community with sustainable population growth
- People and Culture:**
Chatham-Kent is recognized as a culturally vibrant, dynamic, and creative community
- Environmental Sustainability:**
Chatham-Kent is a community that is environmentally sustainable and promotes stewardship of our natural resources

The recommendations in this report support the following critical success factors:

- Financial Sustainability:**
The Corporation of the Municipality of Chatham-Kent is financially sustainable
- Open, Transparent and Effective Governance:**
The Corporation of the Municipality of Chatham-Kent is open, transparent and effectively governed with efficient and bold, visionary leadership
- Has the potential to support all areas of strategic focus & critical success factors**

Neutral issues (does not support negatively or positively)

Consultation

The tenders were opened by the Purchasing Officer and reviewed by the Engineering and Transportation Division.

The Managers of Public Works (North and South) were consulted on the road listing.

Financial Implications

This project is being funded from the 2018 Roads Lifecycle Budget, which includes funds under the Association of Municipalities of Ontario (AMO)/Federal Transfers of Federal Gas Tax Funding Agreement and the Ontario Community Infrastructure Fund.

The project is summarized in the following table:

Contract T18-110 Crack Cleaning and Sealing

	Description	Total
(A) Project Costs	Low Tender, with HST	\$1,324,542.25
	Less HST Rebate (11.24%)	\$(131,750.93)
	Project Total	\$1,192,791.32
(B) Project Funding	Lifecycle Roads	\$1,192,791.32
	Funding Total	\$1,192,791.32

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Consulted and confirmed the content of the consultation section of the report by:

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Purchasing Officer
Financial Services

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Manager, Public Works North
Manager, Public Works South

Attachments: Appendix A - Street and Road Quantity Details
Appendix B - Surface Treatment Sites T18-102

APPENDIX A - Table 1

Street and Road Quantity Details for Contract T18-102, Surface Treatment

Municipal Area	Street/Road	PCI Rating	Location Description	Length (m)	Width (m)	Treatment Area (m2)	Lifts (ea)	Pulverize
Chatham Twp	Lindsay Road	24-78	North of Pioneer Ln, 2 Spot Repairs	570	6.6	3,762	1	
	North River Line	25	Kimball Rd to 605m East	605	5.8	3,509	1	
	Pioneer Line	24	Lindsay Rd S to Lindsay Rd N	215	6.7	1,441	1	
Dover	Pain Court Line	77	South of Bradley Ln, 6 Spot Repairs	650	6.6	4,290	1	
Dresden	Brown Street	44	Fuller St to Strathglass St	140	5.3	742	1	
	Centre Street	36	Metcalfe Ave W to St John St W	120	6.2	744	1	
	Metcalfe Avenue W	33	Centre St to St John St W	200	5.8	1,160	1	
Howard/Orford	Norton Line	50	West of Knoll Rd, Spot Repair	400	6.5	2,600	2	Y
	Norton Line	54	Victoria Rd to Knoll Rd	2,513	6.5	16,335	1	
Kent Centre	Allison Line	62	Communication Rd to 200m West of Harwich Rd	1,872	6.7	12,542	1	
	Erieau Road	66	620-960m North of Allison Ln, Spot Repair	340	6.8	2,312	1	
	Harwich Road	67	Allison Ln to South of Polowick Ln	780	7.5	5,850	1	
	Marine Park Drive	80-85	South of Rondeau Estates Ln, 3 Spot Repairs	135	6.4	864	1	
	Meadowview Road	41	Marine Park Dr to Rondeau Estates Ln	260	5.3	1,378	1	
	Rondeau Drive	75	West of Marine Park Dr, 2 Spot Repairs	55	6.0	330	1	
	Rondeau Estates Line	35	East of Marine Park Dr, Spot Repair	100	5.6	560	1	
Mitchell's Bay	Dunlop Crescent	53,62	Taylor St to North Limits	250	6.8	1,700	2	Y
	Keller Street	56	Taylor St to Main St	95	5.6	532	2	N
	Taylor Street	55	Allen St to Keller St	125	6.0	750	2	N
Raleigh	Highbanks Road	32	South of Water St, Spot Repair	160	6.4	1,024	2	Y
	Highbanks Road	32,43,44	Water St to South Limits	925	6.4	5,920	1	
	Seventh Line E	48	Howard Rd to Stonegate Walk	1,568	7.0	10,976	1	
Tilbury East	3rd Concession Line	39	Campbell Rd to 1500m West	1,500	6.5	9,750	1	
Wallaceburg	Albert Street	14,31	Railway to King St	115	6.8	782	1	
	Argyle Avenue	38	Chestnut Dr to Elm Dr S	240	6.5	1,560	2	Y
	Brander Avenue	31	Lorne Av to University Av	115	6.2	713	2	Y
	Duncan Street	26	Wall St to Elgin St	105	6.0	630	2	Y
	Elm Drive S	39,43,45	Dufferin Av to Argyle Av	350	6.5	2,275	1	
	Emma Crescent	9	Lawrence Av to South Limits	50	6.0	300	1	
	Johnson Street	27,31	Dufferin Av to James St	170	6.5	1,105	1	
	Joseph Crescent	16	Lawrence Av to South Limits	75	6.5	488	1	
	Lawrence Avenue	29	Charles Cres to Dora Dr	430	6.4	2,752	1	
	Nelson Street	38	North of McKee Rd, 2 Spot Repairs	300	6.5	1,950	1	
	Queen Street	25,37	Albert St to East Limits	80	5.7	456	2	Y
	Queen Street	25,37	Murray St to Albert St	250	6.3	1,575	2	Y
	Reaume Avenue	34	Murray St to Albert St	240	6.8	1,632	2	Y
	Terry Street	19	Murray St to East Limits	145	6.5	943	2	Y
	Thomas Avenue	32	Main St to Water St	77	6.1	470	1	
Victoria Street	27	Queen St to King St	90	5.4	486	2	Y	
Water Street	23,38	Park St to North Limits	368	6.1	2,245	1		

PROVISIONAL




Chatham Twp	Pioneer Line	45	Caledonia Rd to Centre Sd Rd	1,745	6.6	11,517	0	Y
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APPENDIX B

SURFACE TREATMENT SITES

GENERAL KEYPLAN

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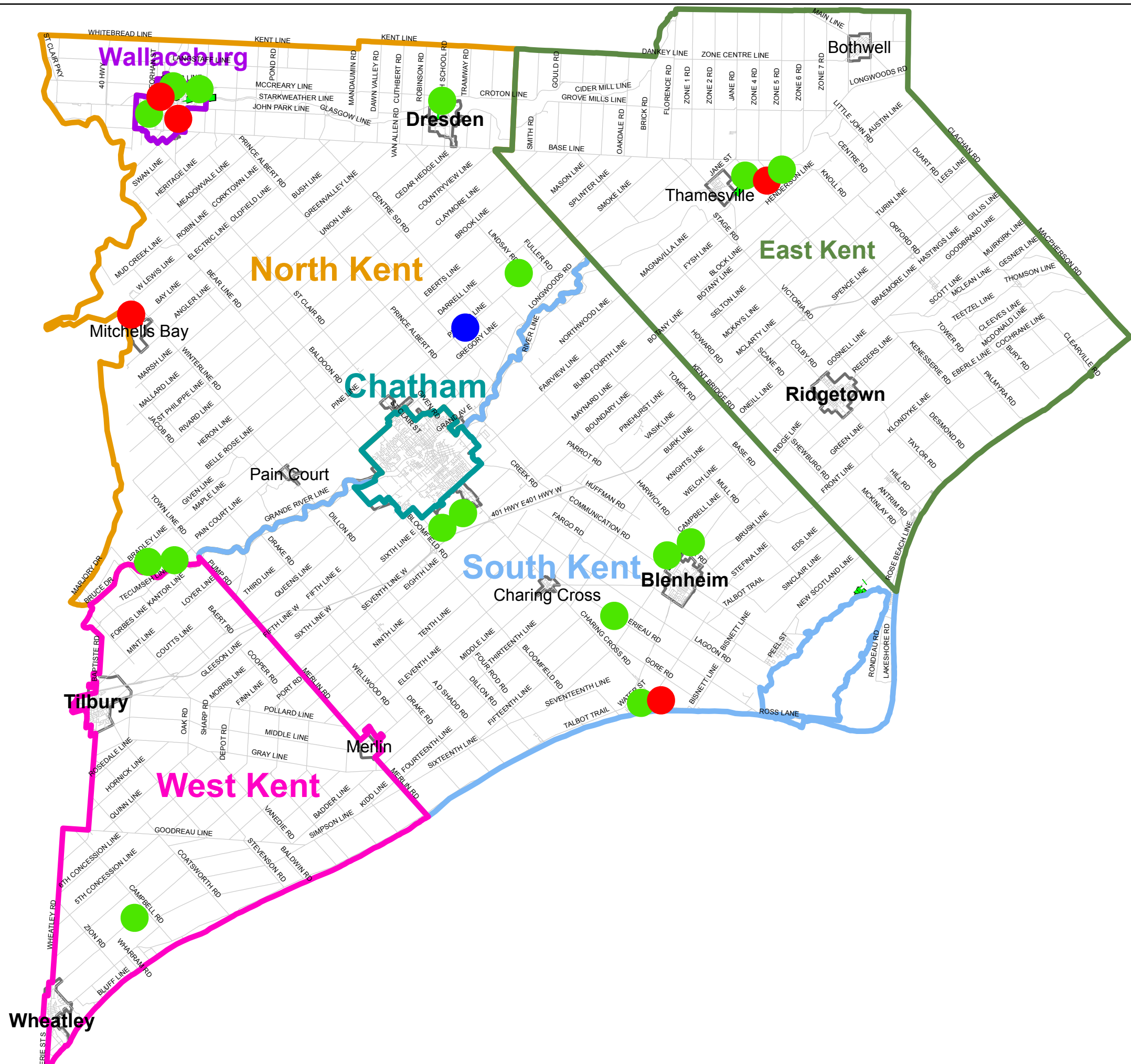
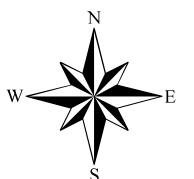
- 1-LIFT 
- 2-LIFT 
- PROVISIONAL 

T18-102

SURFACE TREATMENT





Date: 15/05/2018




APPENDIX B
 SURFACE TREATMENT SITES
 WALLACEBURG

Legend:

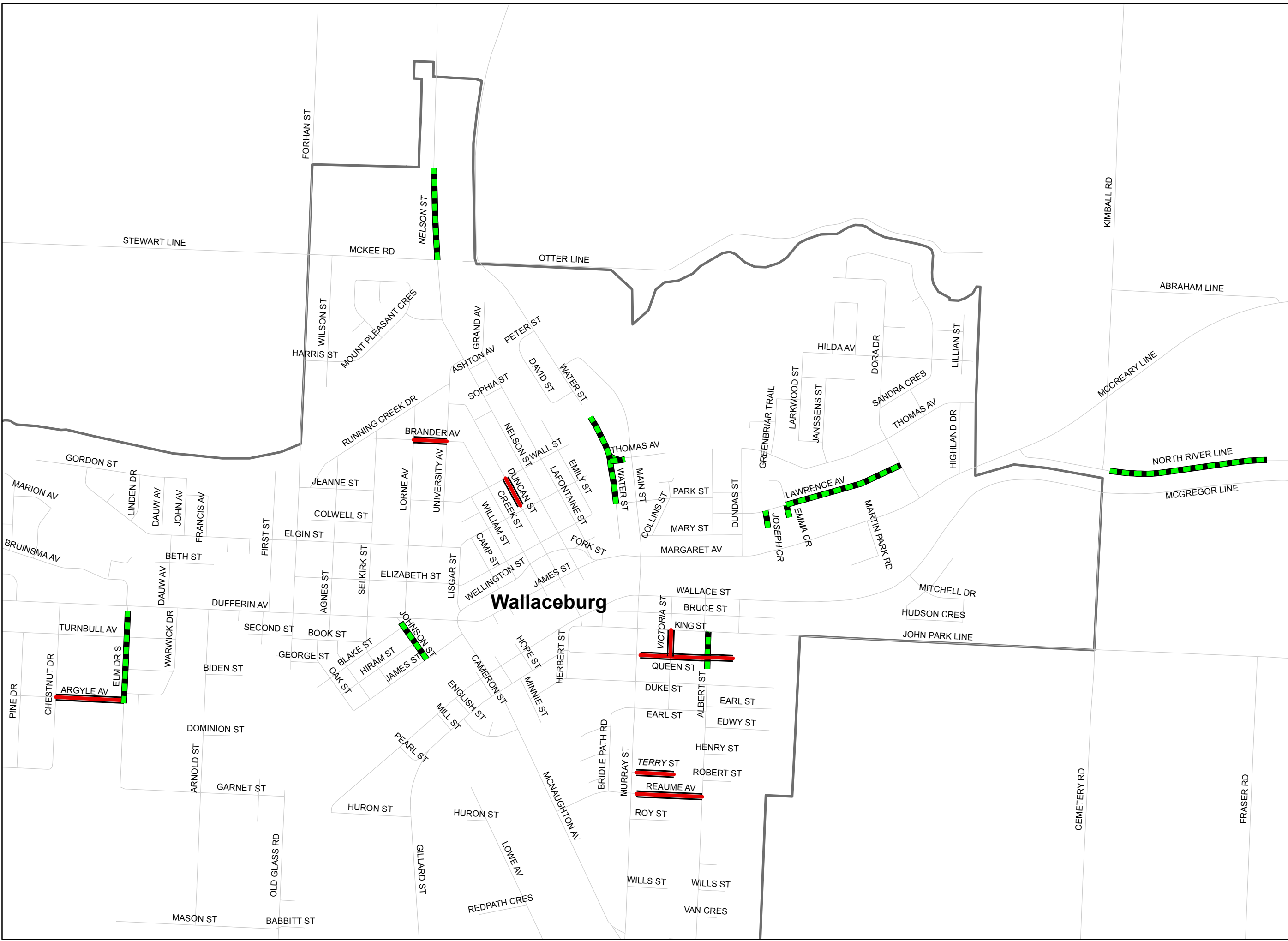
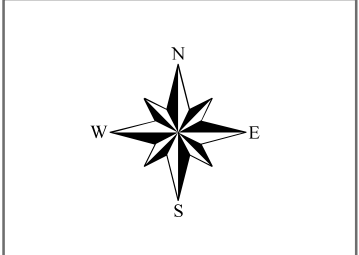
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T18-102
 SURFACE TREATMENT



Chatham-Kent
 INFRASTRUCTURE & ENGINEERING SERVICES
 ENGINEERING & TRANSPORTATION DIVISION

Date: 15/05/2018



APPENDIX B

SURFACE TREATMENT SITES

WEST KENT AREA

Legend:

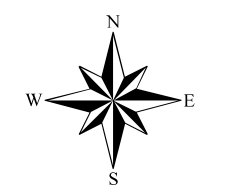
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T18-102

SURFACE TREATMENT



Date: 15/05/2018



APPENDIX B

SURFACE
TREATMENT
SITES

THAMESVILLE
AREA

Legend:

- 1-LIFT
- 2-LIFT

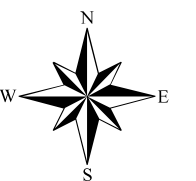
T18-102

SURFACE
TREATMENT



INFRASTRUCTURE & ENGINEERING SERVICES
ENGINEERING & TRANSPORTATION DIVISION

Date: 15/05/2018






APPENDIX B

SURFACE TREATMENT SITES

CHATHAM AREA

Legend:

-  1-LIFT
-  2-LIFT
-  PROVISIONAL

T18-102

SURFACE TREATMENT



Date: 15/05/2018

