



Revitalization of Berford Street



THE BIG DIG.... From Our Vision to Construction

Council Presentation – February 18, 2020



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Presentation Agenda

- Key Milestones
- Design Update
- Streetscape Design
- Construction: Schedule; Staging; and Downtown Access Plan
- Estimated Project Costs
- Final Steps to Implementation of Construction
- Discussion



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Project Limits

- Original Limits
- Extended Limits to Address Additional Storm & Sanitary Sewer Requirements

Key Milestones

Task	Date
Downtown Warton Streetscape Improvements – Final Concept Design Document	Development of Document: April 2016 to November 2016 Council Approved: December 6, 2016
Burnside Retained to Complete Engineering Design and Construction Contract	June 18, 2019
MTO Connecting Link \$3 Million Grant Received from the Province towards the 'Big Dig'	July 19, 2019
Project Update Meeting with Council, BIA and Chamber of Commerce	November 27, 2019
PIC #1 – Preliminary Design (50% Completion)	December 18, 2019
PIC #2 – Detailed Design (75% Completion)	January 23, 2020
Presentation to Council – Detailed Design Update (90%Completion)	February 18, 2020

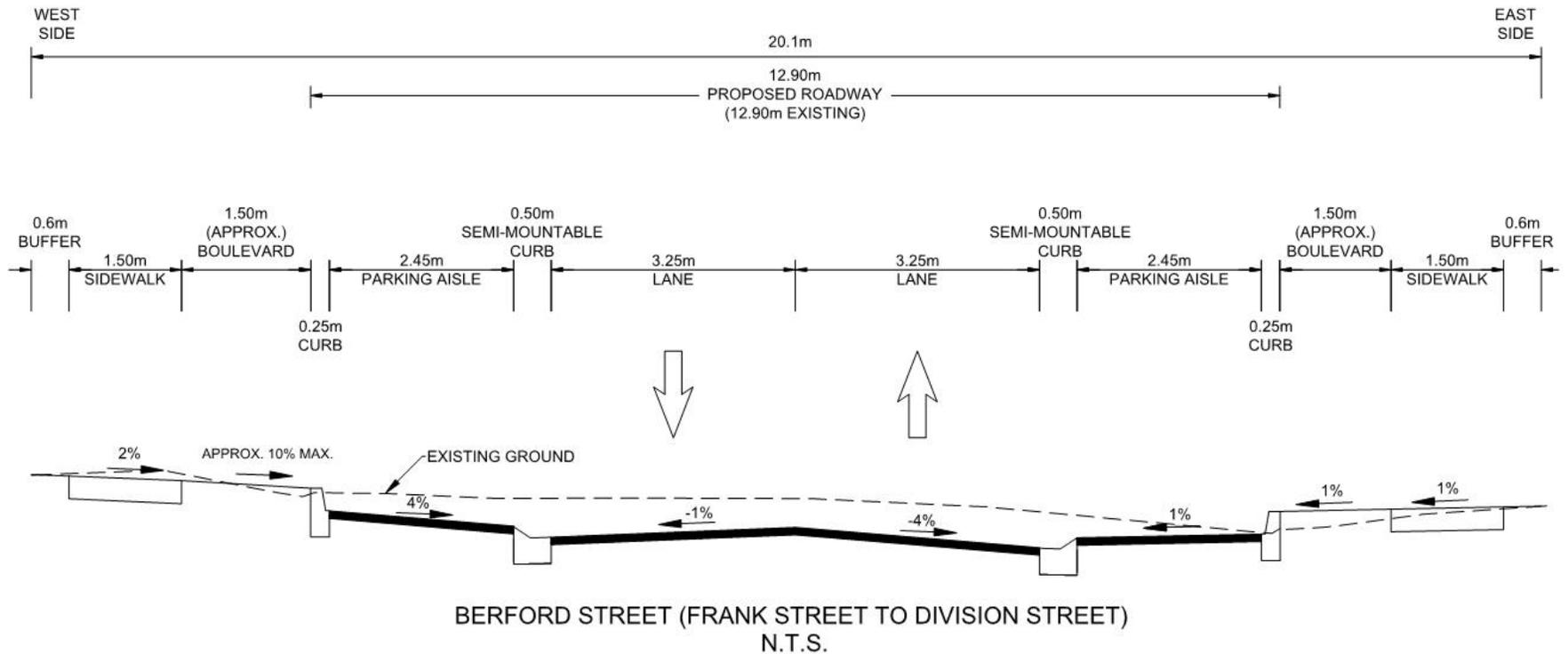
Road Design Objectives Achieved!

OBJECTIVES	RESULTS
To implement streetscape and urban design improvements.	Ideas incorporated from the Concept Design Document (2016) and input from the BIA; Chamber of Commerce; the Public; and Council.
To promote traffic calming.	Curb extensions at intersections and mid-block pedestrian crossings; road appears narrower by adding curbs to delineate through lanes from parking lanes; center islands; pavement markings; and landscape features.
To maximize the number of on-street parking spaces in conjunction with the new road and streetscape design.	Improved parking to maximize accessibility resulting in five fewer parking spaces but expect to make up parking on the side streets. Six accessible parking spaces have been provided.
Enhance safety for pedestrians.	Remove existing barriers including steps in sidewalks; incorporate accessible ramps and tactile plates at all pedestrian crossings; and design an unobstructed path for pedestrians to improve overall access and meet current AODA requirements.
To improve traffic operations at intersections.	Design new traffic signal upgrades at Frank Street, George Street and William Street; and added left-turn lanes at all major intersections including Mary Street to improve traffic flow.
To improve surface drainage.	Improved road and sidewalk grades; and added catch basins to reduce ponding.
To accommodate access for maintenance/emergency/service vehicles and trucks.	Modified streetscaping at intersections to improve large vehicle turning movements.
Upgrade streetlighting.	Design includes improvement to overall lighting levels using dark sky friendly lighting to reduce light pollution and energy cost; and upgrades include decorative poles and underground wiring.

Major Design Challenges Overcome



Typical Cross Section



Underground Infrastructure Objectives Achieved!

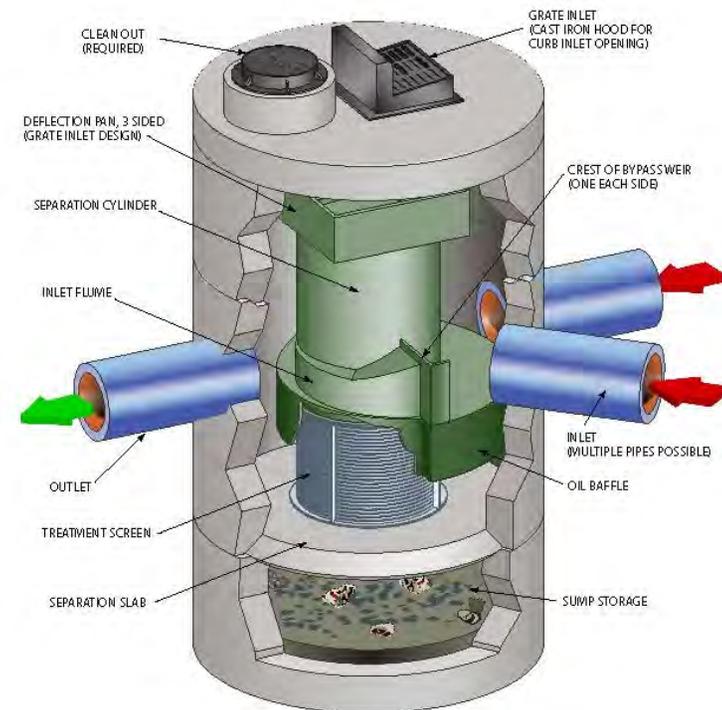
OBJECTIVES	RESULTS
<p>To Improve Storm Sewer System</p>	<p>Redesigned sewer network to current standards and regulations to improve efficiency including an oil/grit separator (OGS) as required by the Grey Sauble Conservation Authority.</p>
<p>To Improve Sanitary Sewer System</p>	<p>Redesigned sewer network to current standards and regulations to improve efficiency; deeper mainline sewer to allow for future basement connections where possible.</p>
<p>To Improve Watermain System</p>	<p>Redesigned watermains to current standards and regulations to improve efficiency and to increase fire protection by adding hydrants.</p>
<p>Relocate and Upgrade Utilities</p>	<p>Coordinating the relocation of existing utilities and installation of new conduits for future use, e.g., fiber-optic cable, gas main relocation to accommodate the OGS on Division Street.</p>
<p>Relocate Hydro</p>	<p>Bury overhead hydro lines.</p>
<p>Upgrade Servicing to each Property</p>	<p>Improve sewer and water services; and hydro services to property line.</p>



Stormwater Management Oil Grit Separator (OGS)

How It Works!

1. Stormwater runoff from parking lots; driveways; roads; and snowmelt containing contaminants such as oils, sand, garbage, plastics and other debris, flow into the OGS via the inlet pipe.
2. The OGS traps these contaminants from the stormwater and separates them using a swirling motion inside the Separation Cylinder.
3. The treated water exits the system via the outlet pipe.
4. By capturing these contaminants and pollutants it will prevent them from entering Colpooy's Bay.
5. An OGS requires frequent inspections; maintenance; and cleaning so it does not become clogged with the materials that it filters from the stormwater.
6. The OGS only removes suspended solids and oils. The OGS does not provide specific treatment of viral or bacteriological contamination.



Video on Stormwater Treatment: How the CDS Stormwater Treatment System Works

<https://www.youtube.com/embed/m9b05au0eAs?start=35&end=158>



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Design Approval Requirements

- **STORM SEWERS AND OIL/GRIT SEPARATOR**–
Ministry of Environment, Conservation and Parks (MECP)
Environmental Compliance Approval (ECA)
- **SANITARY SEWER SYSTEM** – MECP ECA
- **WATERMAIN SYSTEM** – MECP FORM 1
- **SEWER TRENCH DEWATERING** – MECP Permit to
Take Water and Dewatering Discharge Locations
- **TRUCK DETOUR AND TRAFFIC SIGNALS** – MTO



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Streetscape Design



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Streetscape Enlargements

Mary St. to Frank St.



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Berford Street Perspectives



Berford Street at Mary Street



Typical Mid-Block Crossing



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Streetscape Enlargements

Frank St. to George St.



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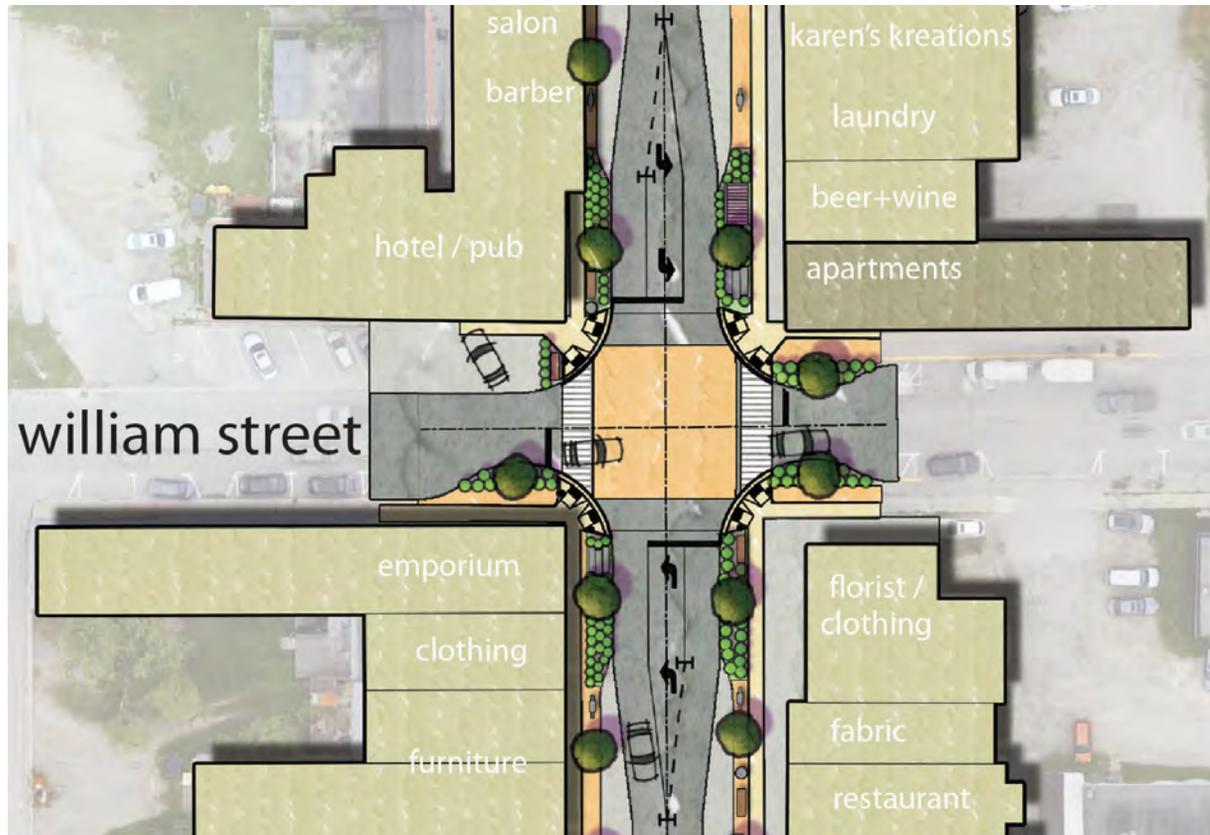


Streetscape Enlargements

George St. to William St.



William Street Intersection



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Streetscape Enlargements

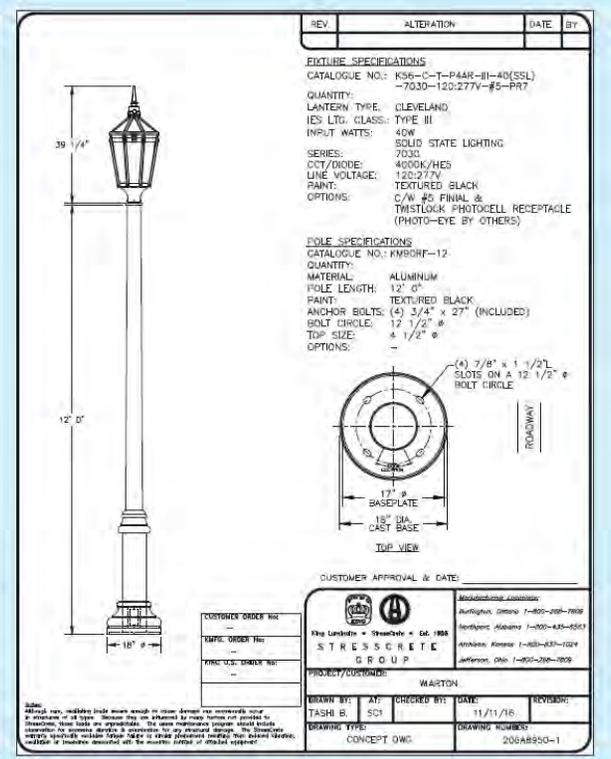
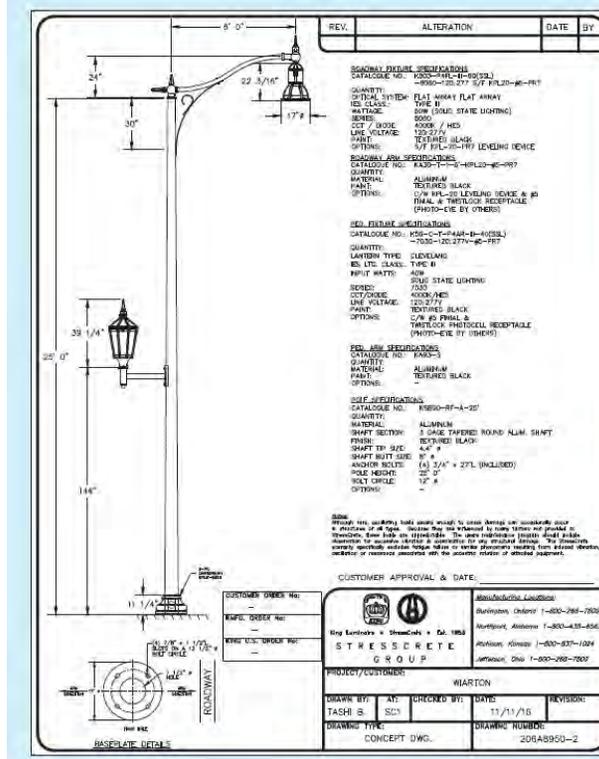
William St. to Division St.



Typical Mid-Block Crossing

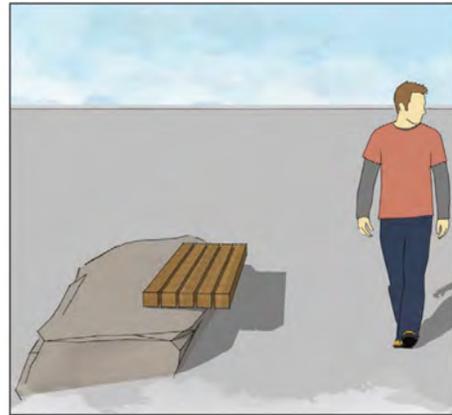
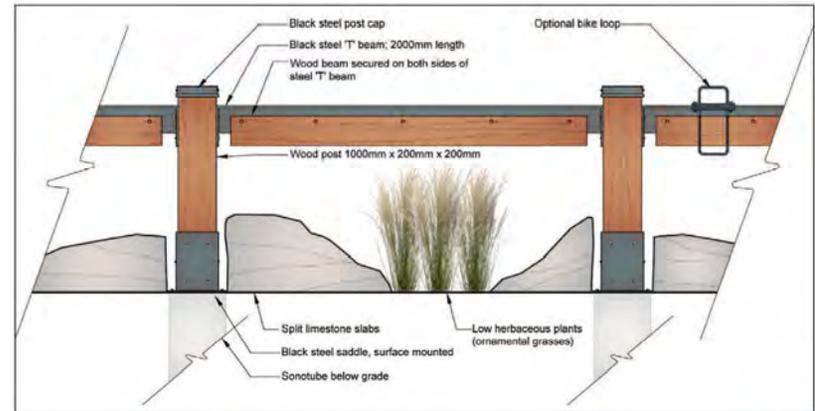


Streetscape Details Lighting



Streetscape Details

Furnishings



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Streetscape Details

Furnishings



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Streetscape Details

Street Tree Planting



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Berford Street - Before

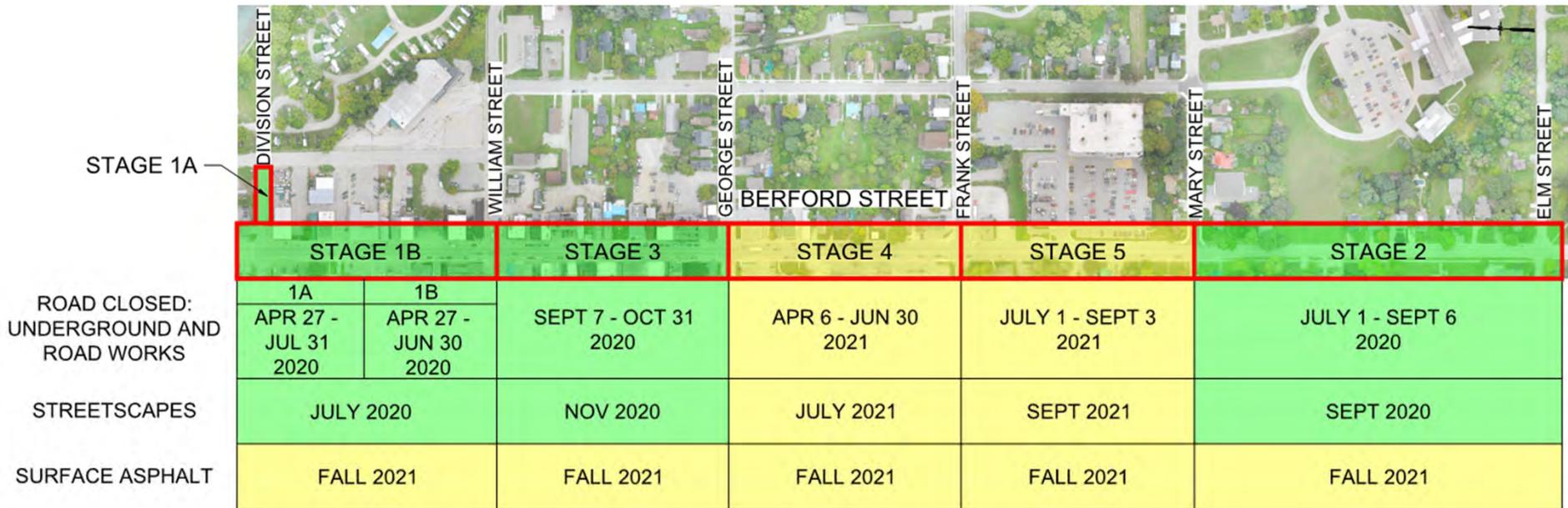


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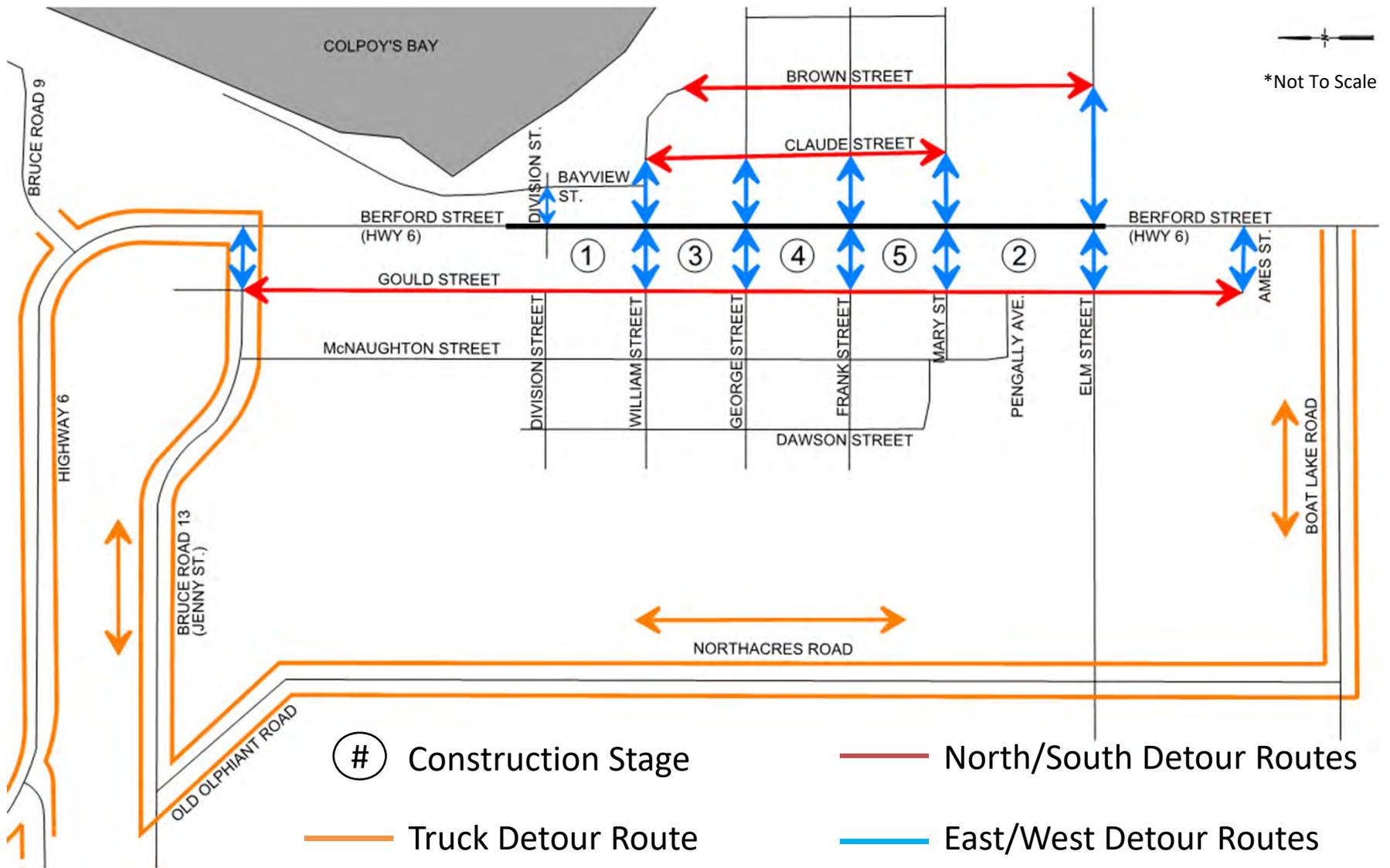
Berford Street - After



Conceptual Rendering



Berford Street Construction Staging Plan 2020-2021



Traffic Detour Routes During Construction



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Example Signage and Pedestrian Access

DOWNTOWN WIARTON

**THESE MERCHANTS ARE
OPEN FOR BUSINESS**

<p>Foodland Tim Hortons Mac's Daisy Mart Petro Canada Clear Lite Windows & Doors Frosty Freeze Penn Quality Cars Keller Williams Realty Hair Solutions Josefina Nails Canada Post Christie's Real Estate Community Living Home By Design Salvation Army Thrift Store Rankin River Trading Co. Bruce Peninsula General Merchant Wiarion Emporium Mister Beer & Wine Pacific Hotel</p>	<p>Berford Artisan Market Dollar Store Green Door Cafe H&R Block Lloyd's Smoke Shop RBC Wiarion Echo Wiarion Fitness Centre Sweetwater Hair TD Bank RCR Realty J's Pinkertons Auto Supply Complete Wellness The Source Greyfair Kgum Bo Becker Shoes Josie's Design's By Brenda Karen's Creations</p>
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TYPICAL MERCHANT SIGNAGE
NOT TO SCALE





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Berford Street Construction Cost Estimate

Item	Description of Work	Project Estimates
1	Road	\$2,500,000
2	Streetscape Elements	\$560,000
3	Storm Sewer and Oil and Grit Separator	\$1,740,000
4	Sanitary Sewer	\$1,450,000
5	Watermain & Temporary Watermains	\$1,450,000
6	Utilities	\$100,000
Total Estimated Cost		\$7,800,000



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Construction Cost Saving Opportunities

Downtown Concept Plan 2016				Alternative Options				Anticipated Cost Savings
Item	Unit Rate	Quantity	Estimated Total	Item	Unit Rate	Quantity	Estimated Total	
Shade Structure	\$15,000 Each	6	\$90,000	Shade Structure	\$15,000 Each	2	\$30,000	\$60,000
Colored Concrete Boulevard	\$110 per m2	3,200 m2	\$352,000	Asphalt Boulevard	\$60 per m2	3,200 m2	\$192,000	\$160,000
Colored Asphalt Intersection 4 Locations	\$100 per m2	1,800 m2	\$180,000	Regular Asphalt Intersection 4 Locations	\$45 per m2	1,800 m2	\$81,000	\$99,000
Timber Structure	\$15,000 Each	4	\$60,000	Timber Structure	\$15,000 Each	2	\$30,000	\$30,000
Decorative Guard Rail	\$180 per m	200 m	\$36,000	Decorative Guide Rail	\$180 per m	50	\$9,000	\$27,000
Mid-Block Colored Asphalt Crosswalk 2 Locations	\$175 per m2	60 m2	\$10,500	Asphalt Crosswalk 2 Locations	\$45 per m2	60 m2	\$2,700	\$7,800
Structural Soil for Tree Pits	\$50 per m3	1,250 m3 Based on 50 trees @ 25 m3 per tree	\$62,500	Standard Soil for Tree Pits	\$25 per m3	1,250 m3 Based on 50 trees @ 25 m3 per tree	\$31,250	\$31,250



Final Steps

	Task	Target Date
1	90% Design Completion	Early February 2020
2	Burnside Presentation to Council	February 18, 2020
3	Design Completion	Late February 2020
4	Contract Tendering Period	March 2020
5	Secure Design Approvals	March/April 2020
6	Pre-construction Meeting with Businesses	April 2020
7	Construction of Stages 1, 2 & 3	April 27, 2020 to Fall 2020
8	Construction of Stages 4 & 5	April 6, 2021 to Fall 2021
9	Surface Asphalt for Stages 1 to 5	Fall 2021
10	MTO Funding Agreement Deadline for Completing the 'Big Dig'	March 31, 2022

Any Questions ?



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