

**DATE:** February 16, 2024

**TO:** MAYOR AND COUNCIL

**NAME AND TITLE:** BLAKE MCINTOSH, DIRECTOR OF CIVIC OPERATIONS

**SUBJECT:** 2023 Road & Sidewalk Capital Projects Review

**ATTACHMENT(S):** 2023 Road & Sidewalk Renewal Project Photos

**RECOMMENDATION(S):**

That Council RECEIVES FOR INFORMATION the report dated February 16, 2024 from the Director of Civic Operations titled “2023 Road and Sidewalk Capital Projects Review.”

**PURPOSE:**

This report is presented to provide Council with information regarding the 2023 Road and Sidewalk Capital Rehabilitation.

**STRATEGIC PRIORITIES:**

Road and Sidewalk rehabilitation is a Council priority identified in the sustainable infrastructure category of Council’s Priorities.

**FINANCIAL CONSIDERATIONS:**

In its 2023 Capital Budget, City Council approved a road rehabilitation budget of \$6,100,000. A budget of \$1,250,000 was allocated to sidewalk rehabilitation and \$400,000 to new sidewalks. This sidewalk rehabilitation budget supports renewing approximately 2% of the current pedestrian network. The most recent pedestrian network study identifies 44% of the current network to be in fair to poor condition.

**BACKGROUND:**

The City of Prince George performs condition assessments on three categories of roadways within the municipal transportation network: arterial, collector and local. These assessments are completed every 3 years to monitor the condition of the City’s paved network. Road segments are inspected and assigned a score based on their current condition. These scores assist in prioritizing road renewal and creation of the annual paving rehabilitation program. Once finalized for the upcoming season, various methods of renewal are employed to improve the City’s paved road network.

The 2023 Road and Sidewalk Rehabilitation Program was completed using the following rehabilitation methods:

#### Thin Lift Overlay (TLO)

A significant portion of the City's rehabilitation program consists of the placement of a 40mm – 50mm layer of asphalt overtop of the existing asphalt with limited remedial work done prior to the new layer being placed. The overlay does add structural strength to the roadway, but reflective cracking will appear through the new lift in a short time period. This method is used in situations where the existing roadway has good structure and only minor surface deficiencies as this application does not address sub-base problems.

#### Mill and Overlay (M & O)

This method removes 50mm of existing asphalt which is then replaced with new asphalt. This method allows for the replacement of asphalt without increasing the elevation of the roadway. Milling removes surface deficiencies and is used predominantly in urban situations where curb and gutter are present and road elevation is critical for drainage considerations. The milled material is used as backfill material in utility service digs in winter conditions, as well as for general fill for other projects that may need a more durable temporary surface such as civic facility parking lots. This method does not address sub-base problems and is dependent upon milling contractor availability. A variation of this method involves the milling of the area immediately adjacent to the curb and gutter, but not milling the asphalt from the majority of the roadway. This allows for the overlay to meet the curb elevation, without incurring the cost of a full milling operation. The addition of asphalt over the existing asphalt in these instances adds structural strength to the roadway but reflective cracking will occur.

#### Pulverize and Pave (P & P)

In this process, the existing asphalt and the top of the granular crush gravel base is pulverized in a similar way to milling and removes all the asphalt distresses. However, with this method the pulverized product is then graded and reshaped. A 50mm lift of crush is added if needed for surface grading, and a 75mm lift of asphalt is placed. This method is used where the existing road surface has major deficiencies and there is a need to increase the structural strength of the road over repeated applications. This method is considerably less expensive than a complete reconstruction of the roadway. This method is not desirable for roadways with underground utilities as manholes and valve boxes create issues for the pulverizing process and re-establishing grade.

#### Sidewalk Full Reconstruction

Full reconstruction is the removal of the existing sidewalk surface and unsuitable soils to a depth of 930mm to allow the import and placement of 750mm SGSB gravels to be used as a subbase. An additional 80mm of crushed gravel is used to prepare the sub grade for the 100mm thick concrete sidewalk.

#### Sidewalk Reconstruction

Some of the sidewalk rehabilitation projects are completed due to surface distress and operational needs. In some cases, the subbase beneath the existing sidewalk is comprised of suitable gravels. In these cases, the existing hard surface of the sidewalk is removed along with enough soil to allow for the placement of 80mm of crushed gravel and a 100mm thick concrete sidewalk.

In certain instances when completing sidewalk rehabilitation, the City of Prince George takes the opportunity to check and service utility services to adjacent properties. Secondly, there are times where a fire hydrant or streetlight may need to be moved to allow for the construction of sidewalk to meet the most recent standards as determined by the City of Prince George Servicing Bylaw.

**DISCUSSION:**

**2023 Road Rehabilitation Projects**

Roads included in the 2023 Road Rehabilitation Program are listed below by the type of surface rehabilitation methods. In 2023 the City of Prince George rehabilitated approximately 58.5 lane kilometers. The total lane-kilometers for each method are provided.

**Thin Lift Overlays – 24.83 Lane-Kilometers**

<b>ROAD</b>	<b>FROM</b>	<b>TO</b>	<b>LANE-KM</b>
Austin Rd	Rampart Pl	Mesa St	1.50
Butte Pl	Austin Rd	End	0.22
Monterey Rd	Austin Rd	End	0.58
Olympia Pl	Austin Rd	End	0.58
Rampart Pl	Austin Rd	End	0.19
Mesa St	Valleyview Dr	Austin Rd E	0.28
View Pl	Valleyview Dr	End	0.26
Bench Dr	Riverview Rd	Toombs Dr	3.52
Riverside Road	North Nechako	End	1.00
Lamb Rd	Bench Dr	End	0.23
Adam Dr	Eden Dr	Dawson Rd	1.08
Helm Dr	Glenview Dr	Eden Dr	0.62
Langer Cres	Eden Dr	Eden Dr	1.07
Bittner Rd W	Bachinski Cres	Giscome Rd	0.78
Foothills Blvd	Chief Lake Rd	Woodvalley Gate	0.65
Weisbrod Rd	Hwy 97	Pearl Dr	1.12
Richet St	Kelly Rd S	Madill Rd	1.36
Crown Dr	Montgomery Cres	Austin Rd W	1.23
Vellencher Rd	Kelly Rd S	Crown Dr	0.40
Oakridge Cres	Croft Rd	Ingala Dr	0.93
Ingala Dr	Oakridge Cres	End	0.91
Glade Rd	Croft Rd	Ingala Dr	0.23
Langley Cres	Highland Dr	Dundee Dr	0.62
Gillett-Freeman Alley	5 <sup>th</sup> Ave	8 <sup>th</sup> Ave	0.33
Douglas-Ewert Alley	3 <sup>rd</sup> Ave	5 <sup>th</sup> Ave	0.22
Rosia Rd	North Nechako	Riverview Rd	1.68
Riverview Rd	North Nechako	End	2.25
Riverdale Cres	Riverview Rd	Riverview Rd	1.01
		<b>TOTAL</b>	<b>24.83</b>

## Mill and Overlay – 32.24 Lane-Kilometers

ROAD	FROM	TO	LANE-KM
2 <sup>nd</sup> Ave	Victoria St	Vancouver St	0.47
3 <sup>rd</sup> Ave	Vancouver St	Edmonton St	0.95
Bliss Crt	Burkitt Rd	End	0.17
Burkitt Rd	Austin Rd W	Berger Cres	0.67
Foothills Blvd	1755 Foothills Blvd	4390 15 <sup>th</sup> Ave	1.00
Glen Shee Rd	Foothills Blvd	End	0.34
19 <sup>th</sup> Ave	Larch St	Maple St	0.14
Larch St	17 <sup>th</sup> Ave	20 <sup>th</sup> Ave	0.64
Maple St	17 <sup>th</sup> Ave	20 <sup>th</sup> Ave	0.63
1 <sup>st</sup> Ave	Nechako Dr	Nechako Dr	0.28
Nechako Dr	2 <sup>nd</sup> Ave	2 <sup>nd</sup> Ave	0.91
Nugget Ave	Trader Cres	Ospika Blvd	0.23
Pioneer Ave	Brigade Dr	Ospika Blvd	0.67
Trader Cres	Pioneer Ave	Ospika Blvd	0.60
Vancouver St	4 <sup>th</sup> Ave	12 <sup>th</sup> Ave	1.49
9 <sup>th</sup> Ave	Vancouver St	Victoria St	0.22
Bachinski Cres	Kovachich Dr	Kovachich Dr	0.53
Kovachich Dr	Blackburn Rd	Bachinski Cres	0.76
Moledo Pl	Bittner Rd W	End	0.13
5 <sup>th</sup> Ave	Voyageur Dr	Tabor Blvd	1.10
5 <sup>th</sup> Ave	Victoria St	Queensway	1.43
7 <sup>th</sup> Ave	Quebec St	Dominion St	0.45
15 <sup>th</sup> Ave	Ogilvie St	Highway 97	2.24
Canada Games Way	7 <sup>th</sup> Ave	Brunswick St	0.38
Irwin St	5 <sup>th</sup> Ave	2 <sup>nd</sup> Ave	0.62
Johnson St	5 <sup>th</sup> Ave	2 <sup>nd</sup> Ave	0.64
Kerry St	5 <sup>th</sup> Ave	Rainbow Dr	0.66
Massey Dr	Winnipeg St	Westwood Dr	5.57
Queensway	20 <sup>th</sup> Ave	17 <sup>th</sup> Ave	1.27
19 <sup>th</sup> Ave	Queensway	Ingledew St	0.19
Ospika Blvd Northbound	Massey Dr	15 <sup>th</sup> Ave	2.78
1 <sup>st</sup> Ave & Tabor Blvd Intersection	1 <sup>st</sup> Ave	Tabor Blvd	0.27
Austin Rd & Kelly Rd Intersection	Austin Rd	Kelly Rd	0.09
Ospika Blvd	Ferry Ave	Range St	3.45
15 <sup>th</sup> Ave & Carney St Intersection	15 <sup>th</sup> Ave	Carney St	0.29
		<b>TOTAL</b>	<b>32.24</b>

## Pulverize & Pave – 1.42 Lane-Kilometers

ROAD	FROM	TO	LANE-KM
Hoferkamp Road	Hwy 97	Lookout	1.42
		<b>TOTAL</b>	<b>1.42</b>

## 2023 Concrete Sidewalk Rehabilitation Projects

Sections of concrete sidewalk included in the 2023 sidewalk rehabilitation program including the length are listed below.

ROAD	FROM	TO	LINEAL METRES
3 <sup>rd</sup> Ave	Vancouver St	Edmonton St	338
Brunswick St	3 <sup>rd</sup> Ave	5 <sup>th</sup> Ave	136
McGill Cres	Domano Blvd	Eton Ave	388
Victoria St	20 <sup>th</sup> Ave	Strathcona Ave	290
Austin Rd W	4397 Austin Rd W	Crown Dr	247
Johnson St	10 <sup>th</sup> Ave	15 <sup>th</sup> Ave	545
Strathcona Ave	Redwood St	Victoria St	81
1 <sup>st</sup> Ave	Foothills Blvd	Skinner St	157
		<b>TOTAL</b>	<b>2182</b>

## 2023 Asphalt Sidewalk Rehabilitation Projects

Sections of asphalt sidewalk included in the 2023 sidewalk rehabilitation program including the length are listed below.

ROAD	FROM	TO	LINEAL METRES
Foothills Blvd	5 <sup>th</sup> Ave	Limestone Cres	932
20 <sup>th</sup> Ave	Ingledew St	Gorse St	183
		<b>TOTAL</b>	<b>1115</b>

## 2023 New Sidewalk Projects

Sections of sidewalk included in the 2023 New Sidewalk program including the length or quantity are listed below.

ROAD	FROM	TO	LINEAL METRES
Davis Rd	4198 Davis Rd	Charella Dr	485
		<b>TOTAL</b>	<b>485</b>

**SUMMARY AND CONCLUSION:**

The 2023 Road Rehabilitation Program consisted of the following surface rehabilitation work:

- 24.83 lane-kms of thin-lift (40-50mm) overlay;
- 32.24 lane-kms of mill and overlay;
- 1.42 lane-kms of pulverize and pave;
- 2182 metres of concrete sidewalk rehabilitation
- 1115 metres of asphalt sidewalk rehabilitation
- 485 metres of new concrete sidewalk

A detailed list of the road projects and type of surface rehabilitation work completed in 2023 is provided. Civic Operations administered the \$6,100,000 Road Rehabilitation program, \$1,250,000 Sidewalk Rehabilitation program and \$400,000 New Sidewalk program to the specifications set out in the various contracts for each type of surface rehabilitation method to ensure that the City of Prince George received the best value for the expenditures undertaken.

**RESPECTFULLY SUBMITTED:**

Blake McIntosh, Director of Civic Operations

Report prepared by: Joel Thompson, AScT, CPESC, Engineering Technologist I

**APPROVED:**

Andy Beesley, Acting City Manager

Meeting date: February 26, 2024