

# Appendix N – Preliminary Cost Estimate

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University Avenue Improvements Schedule C Class EA  
Preliminary Cost Estimate for Preferred Alternative  
Alternative 3a - Separated Bike Lanes with a Physical Barrier

**SUMMARY OF UNIT PRICES**

PART "A" - GENERAL		\$	<u>324,500.00</u>
PART "B" - REMOVALS		\$	<u>427,160.00</u>
PART "C" - GENERAL ROADWORKS AND SURFACE CONSTRUCTION		\$	<u>2,977,325.00</u>
PART "D" - SEWERS		\$	<u>1,494,950.00</u>
PART "E" - WATERMAIN		\$	<u>952,000.00</u>
PART "F" - ILLUMINATION / TRAFFIC SIGNALS / ELECTRICAL		\$	<u>1,560,000.00</u>
PART "G" - LANDSCAPING / EROSION CONTROL		\$	<u>76,880.00</u>
	<b>SUB TOTAL</b>	\$	<u>7,812,815.00</u>
CONTINGENCEY (25%)		\$	<u>1,954,000.00</u>
	<b>SUB TOTAL</b>	<b>\$</b>	<b><u>9,766,815.00</u></b>
PROPERTY ACQUISITION		\$	<u>497,200.00</u>
UTILITY RELOCATION		\$	<u>90,000.00</u>
	<b>SUB TOTAL</b>	<b>\$</b>	<b><u>10,354,015.00</u></b>
Engineering (15%)		\$	<u>1,553,102.25</u>
	<b>TOTAL</b>	<b>\$</b>	<b><u>11,907,117.25</u></b>
HST (13%)		\$	<u>1,547,925.24</u>
	<b>TOTAL</b>	<b>\$</b>	<b><u>13,455,042.49</u></b>

**Assumptions:**

Based on preliminary design (30%)  
Asphalt and granular Base thickness for roadway and bike lane based on Geotechnical report  
Property Acquisition estimated based on existing preliminary plan.  
Storm sewers based roughly on existing sizing  
Sanitary sewers based roughly on existing sizing  
Watermain based roughly on existing sizing  
Streetscaping not included  
Street lighting upgrades estimated per metre cost  
Traffic Signal upgrades estimated per intersection cost

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**PART "A" - GENERAL**

Item	Spec.	Item	Unit	Unit Price	Quantity	Total
		Bonding and insurance	L.S.	\$ 95,000.00	1	\$ 95,000.00
		Mobilization and Demobilization	L.S.	\$ 35,000.00	1	\$ 35,000.00
		Construction Schedule Production, Maintenance and Updates	L.S.	\$ 8,000.00	1	\$ 8,000.00
	RWSS 01	Provide field office for duration of Contract	L.S.	\$ 10,000.00	1	\$ 10,000.00
	RWSS-12,	Contractor Layout/Survey Points				
		a) Contractor Layout	L.S.	\$ 50,000.00	1	\$ 50,000.00
		b) Verify Control points	L.S.	\$ 1,000.00	1	\$ 1,000.00
	OPSS 706, 710, RWSS- 02, RWSSP 532.01	Traffic Control - Supply, install, maintain, remove signage, line painting, line removals, cones, barrels, temporary driveways, etc.	L.S.	\$ 60,000.00	1	\$ 60,000.00
	OPSS 506	Water for dust control ( <b>Provisional</b> )	m <sup>3</sup>	\$ 10.00	2,000	\$ 20,000.00
	OPSS 506,	Supply and apply flaked calcium chloride for dust control 40kg bag ( <b>Provisional</b> )	ea	\$ 50.00	250	\$ 12,500.00
		Allowance to visually expose existing utilities ( <b>Provisional</b> ):	hr	\$ 200.00	100	\$ 20,000.00
		Install, maintain, re-locate, remove and stockpile region supplied business signage	L.S.	\$ 8,000.00	1	\$ 8,000.00
		Construct temporary site access where and as required including removal and restoration	L.S.	\$ 5,000.00	1	\$ 5,000.00
SUB-TOTAL - PART "A"						<b>\$ 324,500.00</b>

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Preliminary Cost Estimate for Preferred Alternative  
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**PART "B" - REMOVALS**

Item	Spec.	Item	Unit	Unit Price	Quantity	Total
	OPSS 510, RWSSP	Cold Planing at intersections (all depths)				
		i) University at Albert Street	m <sup>2</sup>	\$ 12.00	30	\$ 360.00
		ii) University at Hemlock	m <sup>2</sup>	\$ 12.00	10	\$ 120.00
		iii) University At Hazel Street	m <sup>2</sup>	\$ 12.00	20	\$ 240.00
		iv) University at King Street	m <sup>2</sup>	\$ 12.00	20	\$ 240.00
		v) University at Regina Street	m <sup>2</sup>	\$ 12.00	20	\$ 240.00
		vi) University at Weber Street	m <sup>2</sup>	\$ 12.00	30	\$ 360.00
	OPSS 510, RWSSP	Remove and dispose of asphalt, full depth, including saw cutting:				
		a) in Roadways	m <sup>2</sup>	\$ 8.00	25,000	\$ 200,000.00
		b) Driveways, boulevards and medians	m <sup>2</sup>	\$ 8.00	1,300	\$ 10,400.00
	S5, RWSSP 510.01	Remove and dispose of concrete driveways	m <sup>2</sup>	\$ 12.00	100	\$ 1,200.00
		Remove, salvage, and reinstate existing traffic signs incl. delivery to and retrieval from works yard.	L.S.	\$ 4,000.00	1	\$ 4,000.00
		Remove and dispose of boulevard topsoil and sod	m <sup>2</sup>	\$ 20.00	6,000	\$ 120,000.00
	OPSS 180, 510,	Remove and dispose of existing concrete sidewalk and medians including sawcutting:	m <sup>2</sup>	\$ 12.00	5,000	\$ 60,000.00
	OPSS 180, 510, RWSSP	Remove and dispose of existing concrete curb and concrete curb and gutter, all types and sizes including sawcutting	m	\$ 12.00	2,500	\$ 30,000.00
<b>SUB-TOTAL - PART "B"</b>						<b>\$ 427,160.00</b>

University Avenue Improvements Schedule C Class EA  
Preliminary Cost Estimate for Preferred Alternative  
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**PART "C" - GENERAL ROADWORKS AND SURFACE CONSTRUCTION**

Item	Spec.	Item	Unit	Unit Price	Quantity	Total
		Excavation (750mm)	m <sup>3</sup>	\$ 20.00	19,130	\$ 382,600.00
	OPSS 408, RWSSP 408.01	Adjust pre-existing Appurtenances / Structures:				
		i) Existing Manholes	L.S.	\$ 2,000.00	1	\$ 2,000.00
		ii) Existing Catchbasin	L.S.	\$ 2,000.00	1	\$ 2,000.00
		iii) Existing Water Valves	L.S.	\$ 1,000.00	1	\$ 1,000.00
		iv) Existing Gas Valves	L.S.	\$ 5,000.00	1	\$ 5,000.00
	RWSSP 314.01,	Supply, place, grade and compact temporary Granular "A" for sidewalk/driveway access(50 to 150 mm depth), including removal and off-site disposal ( <b>provisional</b> )	t	\$ 15.00	1,500	\$ 22,500.00
		Sub-excavate unsuitable material and provide imported fill material in roadway, including off-site disposal of surplus excavated material ( <b>provisional</b> )	m <sup>3</sup>	\$ 30.00	3,800	\$ 114,000.00
	OPSS 314, RWSS 04, RWSSP	Supply, place, grade, and compact granular base courses for roadway/driveway:				
		a) Granular "B" - Roadway (600mm thick)	t	\$ 20.00	27,300	\$ 546,000.00
		b) Granular "B" - Bike lane (200mm thick)	t	\$ 20.00	2,000	\$ 40,000.00
		b) Granular "A" - Roadway and bike lane (150mm thick)	t	\$ 24.00	8,300	\$ 199,200.00
	OPSS 405,	Supply and install 100mm Ø perforated roadway sub-drain c/w geotextile sock, concrete sand bedding and connections to all catchbasins	m	\$ 15.00	2,500	\$ 37,500.00
	OPSS 310, RWSS-04, - 11, RWSSP	Construct concrete barrier curb and gutter (OPSD 600.040) including reinforcement at driveways:	m	\$ 80.00	2,500	\$ 200,000.00

University Avenue Improvements Schedule C Class EA  
Preliminary Cost Estimate for Preferred Alternative  
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**PART "C" - GENERAL ROADWORKS AND SURFACE CONSTRUCTION CON**

	OPSS 310, RWSS-04	Supply, place, and compact hot mix asphalt:				
		a) Base Asphalt Two lifts of 50mm - SP 19.0 PG 58-28 (100mm)	t	\$ 120.00	4,600	\$ 552,000.00
		b) Surface asphalt - 40mm - SP 12.5 PG 58-28 (40mm)	t	\$ 120.00	1,900	\$ 228,000.00
		c) Supply and place tack coat between each lift (application rate of 0.3kg/m <sup>2</sup> )	m <sup>2</sup>	\$ 1.50	18,200	\$ 27,300.00
		d) HL-3 PG 64-28 for driveway restoration (2-40mm lifts)		\$ 120.00	250	\$ 30,000.00
		e) 1.8m wide Bike lane - Separated (HL-3) (50mm thick)	t	\$ 120.00	495	\$ 59,400.00
		Concrete Buffer, 125 mm thickness including 150mm thick Granular "A" bedding	m <sup>2</sup>	\$ 95.00	495	\$ 47,025.00
	OPSS 351, RWSSP 051-04	Concrete sidewalk, 125 mm thickness including 150mm thick Granular "A" bedding	m <sup>2</sup>	\$ 80.00	4,620	\$ 369,600.00
	OPSS 532, RWSSP	Supply and install Line Painting as per Contract Drawings at completion of Base Course Asphalt:				
		a) 10cm wide solid (yellow / white)	m	\$ 20.00	2,200	\$ 44,000.00
		b) 10cm wide dashed (yellow / white)	m	\$ 20.00	2,200	\$ 44,000.00
		c) 50cm wide stop bar (white)	m	\$ 20.00	110	\$ 2,200.00
		d) Turn arrows	ea	\$ 100.00	20	\$ 2,000.00
		Liquid Asphalt Cement Price Index ( <b>Provisional</b> )	Allowance	\$ 20,000.00	1	\$ 20,000.00

SUB-TOTAL - PART "C"

**\$ 2,977,325.00**

University Avenue Improvements Schedule C Class EA  
Preliminary Cost Estimate for Preferred Alternative  
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**PART "D" - SEWERS**

Item	Spec.	Item	Unit	Unit Price	Quantity	Total
	OPSS 504	Remove and dispose of storm sewers and appurtenances:				
		a) Storm sewer pipe, all sizes and types (including catchbasin leads)	m	\$ 15.00	1190	\$ 17,850.00
		b) Storm manholes and catchbasin manholes (all sizes)	ea	\$ 500.00	18	\$ 9,000.00
		c) Catchbasins/Double catchbasins	ea	\$ 200.00	33	\$ 6,600.00
	OPSS 504	Remove and dispose of sanitary sewers and appurtenances:				
		a) Sanitary sewer pipe, all sizes and types	m	\$ 15.00	710	\$ 10,650.00
		b) Sanitary manholes (all sizes)	ea	\$ 500.00	11	\$ 5,500.00
	OPSS 409, 410, 514	Supply & install Storm Sewer Pipe complete with MH's and services.				
		i) Albert to Hemlock	l.m.	\$ 700.00	55	\$ 38,500.00
		ii) Hemlock to Hazel	l.m.	\$ 700.00	265	\$ 185,500.00
		iii) Hazel to King	l.m.	\$ 700.00	250	\$ 175,000.00
		iv) King to Regina	l.m.	\$ 950.00	135	\$ 128,250.00
		v) Regina to Weber	l.m.	\$ 700.00	485	\$ 339,500.00
	OPSS 441, S28	Supply & install Sanitary Sewer complete with MH's and services				
		i) Albert to Hemlock	l.m.	\$ 700.00	100	\$ 70,000.00
		ii) Hemlock to Hazel	l.m.	\$ 700.00	235	\$ 164,500.00
		iii) Hazel to King	l.m.	\$ 700.00	250	\$ 175,000.00
		iv) King to Regina	l.m.	\$ 700.00	125	\$ 87,500.00
		v) Regina to Weber	l.m.	\$ 700.00	0	\$ -
	OPSS 410	Connection to existing pipes/structures	LS	\$ 36,000.00	1	\$ 36,000.00
	OPSS 409	Provide CCTV inspection of sewers	m	\$ 12.00	1900	\$ 22,800.00
	OPSS 409	Provide CCTV inspection of sewers at end of 2-year maintenance period	m	\$ 12.00	1900	\$ 22,800.00

SUB-TOTAL - PART "D"

**\$ 1,494,950.00**

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Preliminary Cost Estimate for Preferred Alternative  
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**PART "E" - WATERMAIN**

Item	Spec.	Item	Unit	Unit Price	Quantity	Total
	OPSS 441, S28	Supply & install 300mm diamter PVC DR-18 Potable Water Supply complete with hydrants and fittings				
		i) Albert to Hemlock	l.m.	\$ 850.00	115	\$ 97,750.00
		ii) Hemlock to Hazel	l.m.	\$ 850.00	225	\$ 191,250.00
		iii) Hazel to King	l.m.	\$ 850.00	275	\$ 233,750.00
		iv) King to Regina	l.m.	\$ 850.00	140	\$ 119,000.00
		v) Regina to Weber	l.m.	\$ 850.00	365	\$ 310,250.00

SUB-TOTAL - PART "E"

**\$ 952,000.00**

**PART "F" - ILLUMINATION / TRAFFIC SIGNALS / ELECTRICAL**

Item	Spec.	Item	Unit	Unit Price	Quantity	Total
		Traffic Signal Upgrades (Temporary and Permanent):				
		i) University at Albert Street	LS	\$ 200,000.00	1.0	\$ 200,000.00
		ii) University At Hazel Street	LS	\$ 200,000.00	1.0	\$ 200,000.00
		iii) University at King Street	LS	\$ 200,000.00	1.0	\$ 200,000.00
		iv) University at Regina Street	LS	\$ 200,000.00	1.0	\$ 200,000.00
		v) University at Weber Street	LS	\$ 200,000.00	1.0	\$ 200,000.00
		Supply and Install new Street Lighting incl standards, conduit and handwells:				
		i) Albert to Hemlock	LS	\$ 57,500.00	1.0	\$ 57,500.00
		ii) Hemlock to Hazel	LS	\$ 112,500.00	1.0	\$ 112,500.00
		iii) Hazel to King	LS	\$ 137,500.00	1.0	\$ 137,500.00
		iv) King to Regina	LS	\$ 70,000.00	1.0	\$ 70,000.00
		v) Regina to Weber	LS	\$ 182,500.00	1.0	\$ 182,500.00

SUB-TOTAL - PART "F"

**\$ 1,560,000.00**

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**PART "G" - LANDSCAPING / EROSION CONTROL**

Item	Spec.	Item	Unit	Unit Price	Quantity	Total
	OPSS 802, RWSSP 570.01	Supply and place 150mm of imported topsoil (screened to max 25mm dia. particle size), and Grade No. 1 Nursery Sod				
		i) Albert to Hemlock	m <sup>2</sup>	\$ 12.00	230	\$ 2,760.00
		ii) Hemlock to Hazel	m <sup>2</sup>	\$ 12.00	450	\$ 5,400.00
		iii) Hazel to King	m <sup>2</sup>	\$ 12.00	550	\$ 6,600.00
		iv) King to Regina	m <sup>2</sup>	\$ 12.00	280	\$ 3,360.00
		v) Regina to Weber	m <sup>2</sup>	\$ 12.00	730	\$ 8,760.00
		Allowance for private property restoration as required (provisional)	Allowance	\$ 50,000.00	1	\$ 50,000.00
SUB-TOTAL - PART "G"						<b>\$ 76,880.00</b>

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**Property Acquisition**

Item	Spec.	Item	Unit	Unit Price	Quantity	Total
		Property Acquisitions				
		i) Albert to Hemlock	m <sup>2</sup>	\$ 400.00	75	\$ 30,000.00
		ii) Hemlock to Hazel	m <sup>2</sup>	\$ 400.00	62	\$ 24,800.00
		iii) Hazel to King	m <sup>2</sup>	\$ 400.00	473	\$ 189,200.00
		iv) King to Regina	m <sup>2</sup>	\$ 400.00	79	\$ 31,600.00
		v) Regina to Weber	m <sup>2</sup>	\$ 400.00	554	\$ 221,600.00
SUB-TOTAL - PROPERTY AQUITION						<b>\$ 497,200.00</b>

**Utility Relocations**

Item	Spec.	Item	Unit	Unit Price	Quantity	Total
	OPSS 180, P10000	Relocate existing utility poles				
		i) Albert to Hemlock	ea	\$ 10,000.00	0	\$ -
		ii) Hemlock to Hazel	ea	\$ 10,000.00	1	\$ 10,000.00
		iii) Hazel to King	ea	\$ 10,000.00	4	\$ 40,000.00
		iv) King to Regina	ea	\$ 10,000.00	1	\$ 10,000.00
		v) Regina to Weber	ea	\$ 10,000.00	3	\$ 30,000.00
SUB-TOTAL - UTILITY RELOCATION						<b>\$ 90,000.00</b>