

**2023**

# **PUBLIC WORKS OPERATIONAL PLAN**



Approved by County Council on October 28, 2022

## **COUNTY OF ST. PAUL**

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## ACTION PLAN - 2023

# 1. TRANSPORTATION

### Strategy

### Action

Strategy 1.1  
Ensure safe road  
infrastructure for  
public.

- Continue with our Maintenance program.
- Continue with our Road Construction program.
- Continue monthly reporting to Council.
- Continue to utilize road condition assessment software.
- Continue applications for grants to improve roads.
- Continue to improve service for winter maintenance and blading services.
- Continue to produce high quality aggregate for road maintenance and construction.
- Consider implementation of an annual capital contribution for Public Works to be set up in reserve for specific road construction/ maintenance equipment.
- Consider purchasing a Cold Mix Plant and implementing a small crew to start operating in 2023.
- Continue to work with our industry partners to offset road maintenance and new construction.
- Continue to maintain Bridge files, as necessary.
- Implement and execute per the new Snow Flag Policy for 2023/24 winter season.

Strategy 1.2  
Improve  
communications  
with residents  
about Public  
Works.

- Continue to use concern/complaint tracking system that creates work orders.
- Be proactive in providing advance notice of road work to residents via Social Media, website, and road signage.
- Communicate about winter maintenance and brushing scopes of work.
- Publicize and share the dollars saved through self performing the levels of service the County provides.
- Continue to educate all of our partners and clients on the efficiencies that have been gained.
- Utilize Munisight to its fullest extent and share our Construction, Oiling, Road Graveling, Dust Control, Mowing, and Spraying scopes with our clients and residents through the County website.

## ACTION PLAN - 2023

# 1. TRANSPORTATION

Strategy	Action
Strategy 1.3 Improve the Aggregate Management Program.	<ul style="list-style-type: none"><li>• Continue with Aggregate Cap Levy.</li><li>• Review aggregate pit status and include reclamation.</li><li>• Review and amend the permitting for active pits and new pit registrations.</li><li>• Continue to administer quarterly reporting structure on producing pits.</li><li>• Continue to explore for new gravel sources and testing.</li></ul>
Strategy 1.4 Leverage the Gravel Sales Program.	<ul style="list-style-type: none"><li>• Continue Aggregate Private Sales Program.</li><li>• Increase private gravel sales to \$18/T.</li></ul>
Strategy 1.5 Maintain Equipment & Facilities.	<ul style="list-style-type: none"><li>• Continue to maintain equipment &amp; facilities.</li><li>• Reduce costs towards repairs on equipment and facilities.</li><li>• Plan for replacement of aging equipment.</li><li>• Minimize equipment that is outside of warranty.</li><li>• Ensure efficient utilization of equipment and assets.</li><li>• Maximize resale of all equipment.</li><li>• Continue with a high level of maintenance by all operators and mechanics.</li><li>• Maintain our facilities/reduce unnecessary repairs.</li><li>• Leverage the Energy Management Program to efficiently operate our facilities.</li></ul>

## ACTION PLAN - 2023

# 2. UTILITIES

Strategy	Action
Strategy 2.1 Ensure safe supply of water to residents of Mallaig, Ashmont, Lottie Lake and rural residents along the transmission lines.	<ul style="list-style-type: none"><li>• Maintenance of transmission and distribution lines.</li><li>• Review costs of water rates for those communities.</li><li>• Track water line breaks on GIS.</li><li>• Pursue new infrastructure for these hamlets.</li><li>• Repair outlet line at Lottie Lake to prevent the seepage back into the system.</li><li>• Work towards strategy to implement and fund the replacement of water distribution systems. Consider prioritizing problem areas in phase one including:<ul style="list-style-type: none"><li>◦ 4" Main water line that sits directly under the main street in Ashmont.</li><li>◦ Bore a line under the contaminated section of trail in Ashmont.</li><li>◦ Inspect manifold system on distribution lines in plant and replace worn out equipment.</li></ul></li></ul>
Strategy 2.2 Ensure maintenance of sanitary lagoons and collection systems.	<ul style="list-style-type: none"><li>• Continue to report on maintenance.</li><li>• Budget to clean all sanitary lines prior to inspections. Focus on the trouble spots where camera could not access. (Ashmont &amp; Mallaig).</li><li>• Continue with a annual enzyme treatment program.</li><li>• Work towards strategy to implement and fund the replacement of water distribution systems. Consider prioritizing problem areas in phase one including:<ul style="list-style-type: none"><li>◦ Replace sewer main that crosses Hwy 28 due to sagging of pipe.</li></ul></li></ul>
Strategy 2.3 Consider consistent rate structure for use of County wastewater facilities.	<ul style="list-style-type: none"><li>• Review fees for truck dumping at lagoons and Lafond Transfer Station.</li><li>• Review permitting process for sewage haulers.</li><li>• Implement a reporting structure for all sewage haulers.</li></ul>



## ACTION PLAN - 2023

## 2. UTILITIES

Strategy	Action
Strategy 2.4 Explore alternative wastewater treatment processes at all lagoons to reduce maintenance costs and improve effluent quality.	<ul style="list-style-type: none"> <li>• Continue to gather more information from wastewater treatment.</li> <li>• Continue to explore funding opportunities for new technologies.</li> <li>• Continue to discharge Whitney Lake Lagoon onsite per Banner and Alberta Energy Regulation approved guidelines.</li> <li>• Consider upgrade to alarm systems for sewer/water in Ashmont and Mallaig.</li> <li>• Implement aeration pilot with STW Environmental Solutions at Whitney Lake Lagoon and analyze results. Consider further use of this technology at other lagoons.</li> </ul>

## ACTION PLAN - 2023

# 3. ENERGY MANAGEMENT

### Strategy

### Action

Strategy 3.1  
Work with the regional municipalities on improving energy efficiency throughout the municipal owned buildings and facilities.

- The Grant Funded MEM (Municipal Energy Manager) is in place until May 30, 2023.
- Continue to perform energy scans on all facilities owned by the municipalities and community organizations.
- Continue to review and apply for all available grants to support the improvement of facilities to become energy efficient.
- Consider the Solar PV Project for the Public Works main shop.
- Consider implementation of the Clean Energy Improvement Program.

# 4. AIRPORTS

Strategy 4.1  
Collaborate with Town of St. Paul and Town of Elk Point for maintenance and improvements at local airports.

- Continue with snow/ice removal at both airports.
- Utilize Industry Standard ice control products for 2022/23 winter season.
- Participate in capital upgrades for both airports.
- Apply for funding for capital upgrades.
- Investigate funding for St. Paul Airport Runway Overlay.

## ACTION PLAN - 2023

# APPENDIX

- Capital budget - Equipment
- Capital budget - Roads
- Loader - Rock Truck Comparison
- Cold Mix Plant Cost Valuation
- Solar Panels - PW Shop Valuation



# Capital Budget - Equipment

## Pricing for 2023 Equipment List

\*

	Preferred	Deferred
CAT 14m3 Grader		\$ 922,000.00
CAT 14m3 Grader		\$ 922,000.00
Loader	\$ 736,800.00	
Rock Truck	\$ 717,390.00	
Tractor (used)	\$ 100,000.00	
Tandem Axle Gravel Truck with Sander, Plow & Wing		\$ 425,000.00
Tandem Axle Gravel Truck		\$ 300,000.00
Winch Truck/5th Wheel		\$ 300,000.00
D3 Dozer	\$ 245,000.00	
Stacking Conveyor	\$ 30,000.00	
Tri-Axle Water Truck (used)	\$ 50,000.00	
	\$ 1,879,190.00	

\*\*

SELL	14M Grader	\$ (220,000.00)	
	14M Grader	\$ (220,000.00)	
	Pickups	\$ (10,000.00)	
	T 29 Gravel Pup	\$ (25,000.00)	
	CT-02 D3 dozer	\$ (10,000.00)	
	RT-01 Rock Truck	\$ (30,000.00)	
	TH-04 Trackhoe	\$ (95,000.00)	
	L-07 Loader	\$ (40,000.00)	
	L-04 Loader	\$ (75,000.00)	

\$ 1,154,190.00 \$ 2,869,000.00

\* Pricing is from quotes, Public Works will endeavour to sharpen these numbers

\*\* Sales from equipment next spring will also be input for delta calculations, these are estimates only



# Capital Budget - Roads

Project #	Project Name	Asset ID	Miles To be Constructed	Width	Meters	Project Total	Industry or Grant Contribution	2023 Budget
	<b>New 2023 Construction:</b>							
3C2203	Lake Eliza Road East (Twp.Rd.560)	560-84 & 560-83	1	8	1600	\$ 412,569.52		\$ 412,569.52
4C2212	Correction Line GBC (Twp.Rd.590)	590-94 & 590-93	2.5	8	3500	\$ 645,145.00		\$ 645,145.00
2C2201	River Road (NE 26-55-8-W4)	554A-81	0.35	8	500	\$ 118,294.00		\$ 118,294.00
3C2210	St.Edouard Coulee (RR 83)	574A-82	1.6	7	2610	\$ 499,198.11		\$ 499,198.11
	CNRL Rge.Rd.52	52-560	1	8	1600	\$ 409,355.90	\$ 637,353.50	\$ (227,997.60)
6C2206	Township Road 620	620-104 & 620-105	2	8	3200	\$ 631,945.80		\$ 631,945.80
Totals			8		13,010	\$ 2,716,508.33	\$ 637,353.50	\$ 2,079,154.83
	<b>2024 Engineering &amp; Environmental:</b>							
6C2211	Range Road 102	102-602, 102-603, 102-604, 102-605	4	8	6400	\$ 36,000.00		\$ 36,000.00
2C2202	Tower Road (Rge.Rd.63)	63-574, 63-575, 63-580	3.5	5	5400	\$ 4,000.00		\$ 4,000.00
	Range Road 94	602	3	8	4800	\$ 28,800.00		\$ 28,800.00
Totals					16,600	\$ 68,800.00		\$ 68,800.00
	<b>Bridge File Replacements:</b>							
	Bridge File 70747 (STIP)			7		\$ 1,322,596.00	\$ 1,109,250.00	\$ 372,250.00
	Bridge File 70105 (Emerg.)	562-34		7		\$ 66,650.00		\$ 66,650.00
Totals						\$ 1,389,246.00	\$ 1,109,250.00	\$ 438,900.00
<b>Total Capital Roads</b>			8		13,010	\$ 4,174,554.33	\$ 1,746,603.50	\$ 2,586,854.83

# Loader - Rock Truck Comparison

## Loader Comparison

14-Oct-22

Brand	Size	Engine (kW)	Bucket M3	Price c/w Warranty	Warranty
Volvo	L220H	273	5.2	\$ 825,800.00	8000 - 7
John Deere	844L	311	6.1	\$ 736,800.00	10,000 - 7
Finning	980-14A	313	5.25	\$ 1,065,750.00	10,000 - 7
Leibherr	L586	263	6.1	\$ 730,360.00	12,000 - 8

## Rock Truck Comparison

Brand	Size	Engine (kW)	Volume M3	Price	Warranty
Volvo	A30G	265	17.8	\$ 709,000.00	8000 - 7
John Deere	310P	264	17.5	\$ 761,000.00	8000 - 6
Finning	730-04A	267	17.5	\$ 1,044,750.00	10,000 - 7
Leibherr	TA230	265	18.1	\$ 717,390.00	12,000 - 8

Brand	Total
Volvo	\$ 1,534,800.00
John Deere	\$ 1,497,800.00
Finning	\$ 2,110,500.00
Leibherr	\$ 1,447,750.00

# Cold Mix Plant Valuation

## Cold Mix Plant Cost Valuation

### COLD MIX Plant Savings

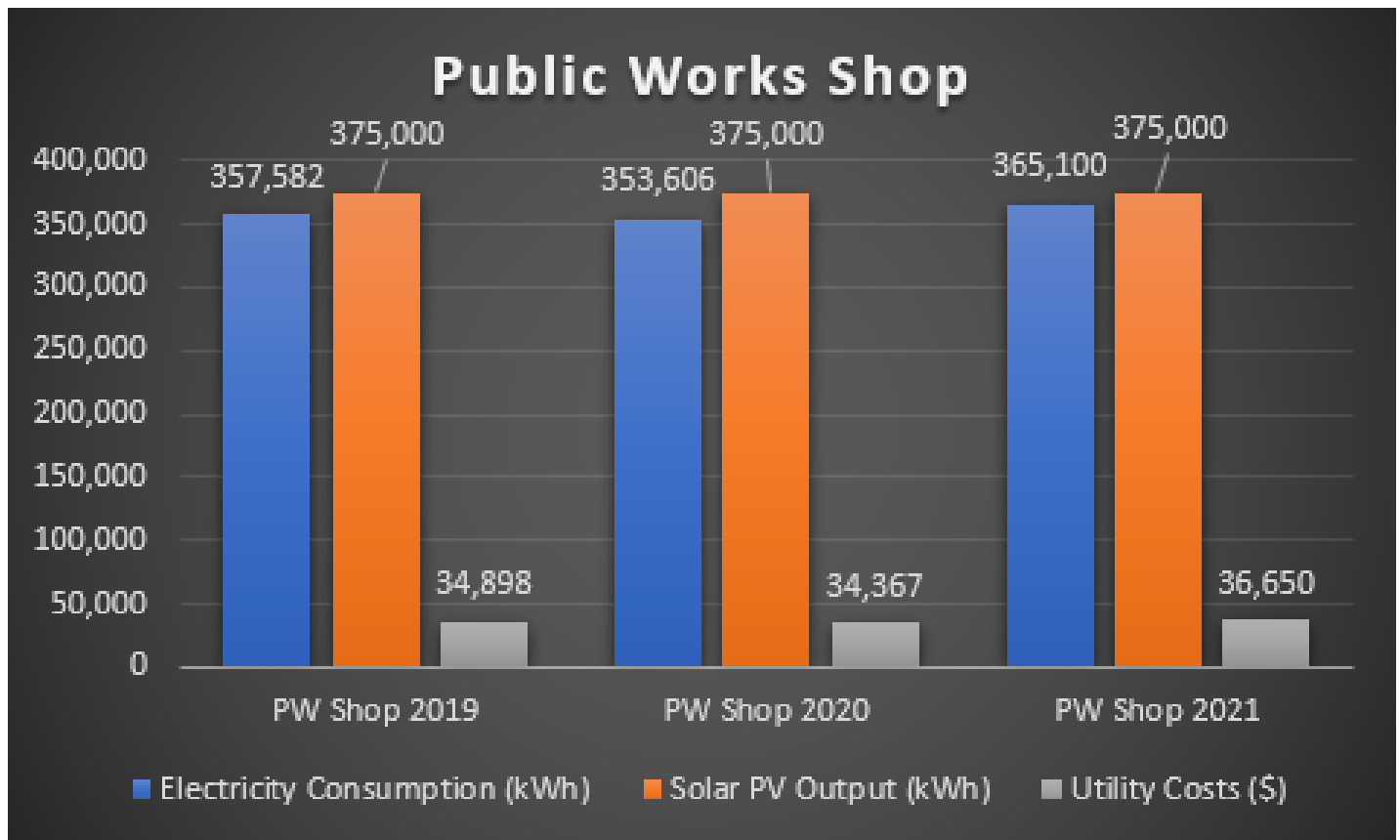
	# of Units	Units	\$/Unit	Total
<b>Cold Mix Application</b>				
Cold Mix by County	50000	ton	\$ 9.70	\$ 485,000.00
Cold Mix by others	50000	ton	\$ 14.75	\$ 737,500.00
				\$ 252,500.00
				every year in savings
<b>Long Term Savings</b>				
Cold Mix by County	10	Years	\$ 252,500.00	\$ 2,525,000.00
Cold Mix by County	20	Years	\$ 252,500.00	\$ 5,050,000.00
Cold Mix by County	30	Years	\$ 252,500.00	\$ 7,575,000.00
Cold Mix by County	40	Years	\$ 252,500.00	\$ 10,100,000.00

Plant 1	Plant 2	Plant 3
<b>Purchase</b>	<b>Purchase</b>	<b>Purchase</b>
\$ 800,000.00	\$ 1,500,000.00	\$ 4,000,000.00
3.17	5.94	15.84
Years in Simple Payback		

9.70 =

3.50/T Aggregate  
3.00/T Salaries  
1.90/T Fuel  
0.50/T Loader

# Solar Panel - PW Shop Valuation



Description		Amount
300.7 kW Solar PV System @2.01/Watt		
Includes all system components, design, structural engineering, all required permitting, installation, commissioning, system monitoring, system owners manual and maintenance guide, system user training and walk through.		<b>\$605,577</b>
	<b>Estimated Total</b>	<b>\$605,577</b>
Sale of Carbon Offsets 208 tonnes x 1,25 + 166 Carbon Credits/year		
166 x 8 years + 1,328 Carbon Credits. 1,328 x \$63.00/Carbon Credits+		<b>\$83,000</b>
Estimated Total including the sale of Carbon Credits		<b>\$522,577</b>

**$\$522,577 \div \$35,000$  (Est Annual Electricity Consumption) =  
14.7 yr Simple Payback**