

## **Annex A      Infrastructure Projects and Schedules**

### A.1    Infrastructure Project Lists (water and wastewater)

## Water Projects

### **Major Projects completed since the 2009 IMP**

- Hazeldean feedermain upgrade completed.
- Campeau Drive Pump Station and feedermain completed.
- West End Reliability Watermain Link completed.
- Riverside South Reliability Watermain link completed.
- Leitrim Supply Watermains under construction.
- Construction of Orleans Watermain Link beginning 2013.
- St. Joseph / Trim feedermain under construction.
- West half of Orleans 2E Hydro Corridor Watermain completed.
- Portion of Limebank Feedermain has been completed.

### **New Projects Identified in the 2013 IMP**

- North Island Link. Integrates well with proposed realignment of Manotick Feedermain and replaces more costly Woodroffe/Prince of Wales watermain.
- Barrhaven-3C Feedermain. Eliminates need for Fallowfield (East) Watermain, reduces likelihood that proposed Woodroffe Pump Station will ever be required, and replaces, in part, the role of the Woodroffe/Prince of Wales watermain.
- Orleans Watermain West Link. This project is a relocation of an existing transmission main that encumbers Highway 417 widening and OLRT project in the vicinity of Hurdman to St. Laurent. Also improves reliability by increasing horizontal separation from the main transmission line feeding the EUC.
- Further Hurdman Bridge Pump Station capacity upgrades to avoid need for upgrades at Billings Bridge PS.

### **Projects Identified in 2009 IMP that have been eliminated**

- Woodroffe/Prince of Wales watermain.
- Woodroffe pump station. No longer required due to reduced demand projections.
- Heron Road Watermain. No longer required due to reduced demand projections.

- East half of Orleans 2E Hydro Corridor watermain. No longer required due to reduced demand projections; smaller main routed through new subdivision.
- East end of Hazeldean feedermain. No longer required due to reduced demand projections.
- Britannia Feedermain. No longer required due to reduced demand projections. Reliability function of this main will be provided by Carlington Heights Pump Station Upgrade, which was also identified in 2009.
- Forest Ridge Pump Station upgrade. No longer required before 2031 due to reduced demand projections.
- Bronson feedermain south of Highway 417. No longer required due to reduced demand projections.
- Process capacity upgrade of Lemieux Island WPP. No longer required before 2031 due to reduced demand projections.
- Tenth Line 2E Elevated tank. No longer required before 2031 due to reduced demand projections.

Planned 2013-2031 Growth and Reliability Driven Facility Projects (Includes WPP Development Plan Projects)

Project Name	Pressure Zone	Rationale	Source / Study	Project ID	Projected Construction	Estimate Class	2013 Capital Cost Estimate
<b>Zone 3C Pressure Reduction Project</b>	3C	Avoid high pressures	City Staff Estimate	V-03	2013-2018	D	\$1,700,000
<b>Barrhaven Reservoir Pump Station Upgrade</b>	BARR	Reliability and Growth	Zone 3C FDR (2013 Delcan)	P-05A	2013-2018	C	\$1,200,000
<b>New Carlington Heights Pump Station</b>	2W/ME	Reliability and Growth	CHPS Upgrade 2013 (Delcan)	P-02	2013-2018	D	\$10,300,000
<b>Hurdman Bridge Pump Station Zone 2C Upgrade</b>	2C	Reliability and Growth	2013 WMP	P-04	2013-2018	D	\$5,000,000
<b>Barrhaven Pump Station Upgrade</b>	BARR/3C	Reliability and Growth	Zone 3C FDR (2013 Delcan)	P-05B	2013-2018	C	\$3,500,000
<b>Britannia WPP Discharge Valving Upgrade</b>	1W/2W	Reliability	2013 WMP	V-04	2013-2018	D	\$500,000
<b>Ottawa South Pump Expansion</b>	3C	Reliability and Growth	Zone 3C FDR (2013 Delcan)	P-06A	2013-2018	C	\$5,100,000
<b>New Brittany Drive Pump Station</b>	MONT	Reliability and Growth	2013 WMP	P-01	2013-2018	D	\$3,400,000
<b>Britannia WPP Improvements</b>	1W/2W	Plant upgrades	WPP Development Plan	T-02	2013-2018	D	\$39,800,000
<b>Lemieux WPP Improvements</b>	1W	Plant upgrades	WPP Development Plan	T-01	2013-2018	D	\$50,200,000
<b>Lemieux WPP Winter Capacity Improvement</b>	1W	Increase winter treatment capacity to plant rating	WPP Development Plan	T-03	2013-2018	D	\$58,900,000
<b>Ottawa South Reservoir Expansion</b>	2C	Growth	2013 WMP	ST-01	2019-2024	D	\$13,300,000
<b>New Riverside South Elevated Tank</b>	3C	Growth	2013 WMP	ST-02	2019-2024	D	\$13,500,000
<b>Britannia WPP Capacity Upgrade</b>	1W/2W	Reliability and Growth	2013 WMP	T-09	2019-2024	D	\$114,100,000
<b>Glen Cairn Reservoir Expansion</b>	2W	Growth	2013 WMP	ST-03	2019-2024	D	\$13,100,000
<b>Barrhaven Pump Station Capacity Upgrade</b>	3C	Reliability and Growth	Zone 3C FDR (2013 Delcan)	P-05C	2019-2024	D	\$600,000
<b>Ottawa South Pump Station Capacity Increase</b>	3C	Reliability and Growth	Zone 3C FDR (2013 Delcan)	P-06B	2019-2024	D	\$4,800,000
<b>Glen Cairn Pump Station Upgrade</b>	3W	Growth	2013 WMP	P-08	2019-2024	D	\$3,100,000
<b>Britannia WPP Improvements</b>	1W/2W	Increase winter treatment capacity to plant rating	WPP Development Plan	T-04	2019-2024	D	\$43,300,000
<b>Britannia WPP Improvements</b>	1W/2W	Plant upgrades	WPP Development Plan	T-05	2019-2024	D	\$19,000,000
<b>Lemieux WPP Improvements</b>	1W	Plant upgrades	WPP Development Plan	T-06	2019-2024	D	\$13,900,000
<b>Britannia WPP Improvements</b>	1W/2W	Plant upgrades	WPP Development Plan	T-07	2025-2031	D	\$1,700,000
<b>Lemieux WPP Improvements</b>	1W	Plant upgrades	WPP Development Plan	T-08	2025-2031	D	\$2,600,000
<b>Britannia WPP Improvements</b>	1W/2W	Plant upgrades	WPP Development Plan	T-10	2025-2031	D	\$27,700,000
<b>Lemieux WPP Improvements</b>	1W	Plant upgrades	WPP Development Plan	T-11	2025-2031	D	\$29,400,000

\*Total Capital Cost Estimate provided in 2013 dollars, including existing spending authority

Planned 2013-2031 Growth and Reliability Driven Watermain Projects

Project Name	Pressure Zone	Rationale	Source / Study	Project ID	Projected Construction	Pipe Dia. (mm)	Pipe Length (m)	Estimate Class	2013 Capital Cost Estimate
St Joseph Blvd/Trim Road Watermains	2E	Reliability and Growth	2013 WMP	E-03	2013-2018	610	1,910	D	\$3,000,000
Orleans Watermain East Link	1E	Reliability and Growth	Tender Estimate (Stantec, 2013)	E-01	2013-2018	610-914	7,945	B	\$31,300,000
Barrhaven-3C Feedermain	3C	Reliability and Growth	Tender Estimate (Stantec, 2013)	S-02	2013-2018	610	476	B	\$2,500,000
Fallowfield Road Watermain Upgrade	BARR	Reliability and Growth	Closed Zone Study (Delcan, 2013)	S-01	2013-2018	406	620	D	\$1,300,000
Mer Bleue Road Reliability Link	2E	Growth	2013 WMP	E-06	2013-2018	406	375	D	\$1,100,000
Strandherd Drive Watermain	BARR	Growth	2013 WMP	S-03	2013-2018	406	4,450	D	\$6,600,000
Limebank Road Feedermain	3C	Growth	2013 WMP	S-05	2013-2018	610	2,500	D	\$8,500,000
Kanata West Feedermain	3W	Growth	2013 WMP	W-04	2013-2018	610	2,692	D	\$22,600,000
Manotick Feedermain	3C	Reliability and Growth	Class EA Study (Morrison Hershfield, 2013)	S-06A	2013-2018	406-610	5,340	D	\$20,400,000
Greenbank Road Watermain	3C	Growth	2013 WMP	S-04	2013-2018	610	920	D	\$7,400,000
Brittany Drive Pump Station Suction Upgrade	1E	Reliability and Growth	2013 WMP	C-03	2013-2018	406	580	D	\$3,100,000
North Island Link	3C	Reliability and Growth	2013 WMP	S-06B	2013-2018	610	1,010	D	\$10,400,000
March Road Pipe Upgrade (Zone 2W West Feedermain)	2W	Growth	2013 WMP	W-01	2019-2024	610	920	D	\$2,200,000
Orleans Watermain Interconnect	1E	Reliability and Growth	Functional Design (Delcan, 2012)	E-01B	2019-2024	610	370	D	\$7,600,000
Construct Off-Site Reliability Links	Varies	Reliability and Growth	City staff estimate	-	2013-2031	Varies	Varies	D	\$2,800,000

\*Total Capital Cost Estimate provided in 2013 dollars, including existing spending authority

Planned 2032-2060 Growth and Reliability Driven Facility Projects

Project ID	Pressure Zone	Project Description	Rationale	Source / Study	Projected Construction	Estimate Class	2013 Capital Cost Estimate
P-09	2W	Increase Carlington Heights Pump Station Capacity	Reliability	2013 WMP	2032-2037	D	\$3,000,000
P-10	2C	Increase Hurdman Bridge Pump Station Capacity	Reliability and Growth	2013 WMP	2032-2037	D	\$3,900,000
ST-04	3W	Replace Stittsville Elevated Tank	Renewal and Growth	2013 WMP	2032-2037	D	\$13,500,000
P-11	3W	Increase Glen Cairn Pump Station Capacity	Growth	2013 WMP	2032-2037	D	\$2,000,000
P-12	3C	Increase Barrhaven Pump Station Capacity	Growth	2013 WMP	2038-2043	D	\$3,400,000
ST-05	1E	Expand Orleans Reservoir	Growth	2013 WMP	2038-2043	D	\$15,000,000
T-12	1W/2W	Expand Lemieux Island WPP process Capacity	Reliability and Growth	2013 WMP	2038-2043	D	\$78,000,000
ST-06	2E	Replace Innes Road Tank	Renewal and Growth	2013 WMP	2044-2049	D	\$12,600,000
P-13	2E	Increase Orleans Pump Station Capacity	Growth	2013 WMP	2044-2049	D	\$2,500,000
P-14	1E	Increase Hurdman Bridge Pump Station Capacity	Growth	2013 WMP	2044-2049	D	\$7,100,000
P-15	3C	Increase Ottawa South Pump Station Capacity	Reliability and Growth	2013 WMP	2044-2049	D	\$4,200,000

\*Total Capital Cost Estimate provided in 2013 dollars, including existing spending authority

Planned 2013-2031 Water Facility Renewal Projects (excludes WPP Development Plan Projects)

Project ID	Pressure Zone	Renewal Project	Scope	Source / Study	Projected Construction	Estimate Class	2013 Capital Cost Estimate
R-00	1E	Hurdman Bridge Pump Station	Mechanical	City Staff	2013-2018	D	\$5,400,000
R-01	1W/2W	Britannia WPP	Filtration, Clearwell, Flocculation, Sedimentation	City Staff	2013-2018	D	\$33,000,000
R-02	2E	Forest Ridge Pump Station	Electrical	City Staff	2013-2018	D	\$700,000
R-03	1W	Lemieux Island WPP	Electrical	City Staff	2013-2018	D	\$2,100,000
R-04	1W	Fleet Street Pump Station	Mechanical	City Staff	2013-2018	D	\$4,900,000
R-05	BARR	Barrhaven Pump Station	Electrical	City Staff	2013-2018	D	\$600,000
R-06	3C	Ottawa South Pump Station	Electrical	City Staff	2013-2018	D	\$600,000
R-07	1W	Lemieux Island WPP	Waste Management	City Staff	2013-2018	D	\$2,600,000
R-08	2W	Britannia WPP	Waste Management	City Staff	2013-2018	D	\$2,100,000
R-09	1E	Hurdman Bridge Pump Station	Instrumentation	City Staff	2019-2024	D	\$600,000
R-10	1W	Fleet Street Pump Station	Instrumentation	City Staff	2019-2024	D	\$600,000
R-11	1W	Lemieux Island WPP	Instrumentation	City Staff	2019-2024	D	\$11,900,000
R-12	1W/2W	Britannia WPP	Instrumentation	City Staff	2019-2024	D	\$11,100,000
R-13	2C	Billings Bridge Pump Station	Mechanical	City Staff	2019-2024	D	\$3,300,000
R-14	MONT	Montreal Road Pump Station	Mechanical	City Staff	2019-2024	D	\$1,200,000
R-15	2E	Orleans Pump Station	Mechanical	City Staff	2019-2024	D	\$2,500,000
R-16	3W	Glen Cairn Pump Station	Mechanical	City Staff	2025-2031	D	\$2,600,000
R-17	1W	Lemieux Island WPP	Electrical	City Staff	2025-2031	D	\$800,000
R-18	MG	Morgans Grant Pump Station	Electrical	City Staff	2025-2031	D	\$600,000
R-19	1W	Lemieux Island WPP	Waste Management	City Staff	2025-2031	D	\$2,600,000
R-20	1W/2W	Britannia WPP	Waste Management	City Staff	2025-2031	D	\$2,100,000
R-21	2E	Forest Ridge Pump Station	Mechanical	City Staff	2025-2031	D	\$3,100,000
R-22	1W	Lemieux Island WPP	Electrical	City Staff	2025-2031	D	\$1,000,000
R-23	1W/2W	Britannia WPP	Electrical	City Staff	2025-2031	D	\$1,200,000
R-24	1E	Hurdman Bridge Pump Station	Instrumentation	City Staff	2025-2031	D	\$600,000
R-25	1W	Fleet Street Pump Station	Instrumentation	City Staff	2025-2031	D	\$600,000
R-26	1W	Lemieux Island WPP	Instrumentation	City Staff	2025-2031	D	\$28,400,000
R-27	1W/2W	Britannia WPP	Instrumentation	City Staff	2025-2031	D	\$11,400,000

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Planned 2032-2060 Water Facility Renewal Projects

Project ID	Pressure Zone	Renewal Project	Scope	Source / Study	Projected Construction	Estimate Class	2013 Capital Cost Estimate
R-28	BARR	Barrhaven Pump Station	Mechanical	City Staff	2032-2037	D	\$2,400,000
R-29	2C	Billings Bridge Pump Station	Electrical	City Staff	2032-2037	D	\$600,000
S-04	3W	Stittsville Elevated Tank Replacement	Renewal and Growth	City Staff	2032-2037	D	\$8,500,000
R-30	1W	Lemieux Island WPP	Electrical	City Staff	2032-2037	D	\$2,600,000
R-31	1W	Lemieux Island WPP	Electrical	City Staff	2032-2037	D	\$2,100,000
R-32	1E	Hurdman Bridge Pump Station	Electrical	City Staff	2032-2037	D	\$700,000
R-33	1W	Fleet Street Pump Station	Electrical	City Staff	2032-2037	D	\$600,000
R-34	2E	Forest Ridge Pump Station	Electrical	City Staff	2032-2037	D	\$700,000
R-35	3C	Hillside Pressure Regulating Pump Station	Electrical	City Staff	2032-2037	D	\$700,000
R-36	2E	Orleans Pump Station	Electrical	City Staff	2032-2037	D	\$600,000
R-37	1W/2W	Britannia WPP	Electrical	City Staff	2032-2037	D	\$9,400,000
R-38	1W	Lemieux Island WPP	Electrical	City Staff	2032-2037	D	\$6,100,000
R-39	2W	Carlington Heights Pump Station	Electrical	City Staff	2032-2037	D	\$600,000
R-40	3C	Ottawa South Pump Station	Mechanical	City Staff	2032-2037	D	\$1,400,000
R-41	1W	Lemieux Island WPP	Instrumentation	City Staff	2038-2043	D	\$4,700,000
R-42	MONT	Brittany Pump Station	Electrical	City Staff	2038-2043	D	\$600,000
R-43	2E	Forest Ridge Pump Station	Electrical	City Staff	2038-2043	D	\$700,000
R-44	1W	Lemieux Island WPP	Civil	City Staff	2038-2043	D	\$50,400,000
R-45	1E	Hurdman Bridge Pump Station	Instrumentation	City Staff	2038-2043	D	\$600,000
R-46	1W	Fleet Street Pump Station	Instrumentation	City Staff	2038-2043	D	\$600,000
R-47	MG	Morgans Grant Pump Station	Instrumentation	City Staff	2038-2043	D	\$2,300,000
R-48	1W/2W	Britannia WPP	Instrumentation	City Staff	2038-2043	D	\$10,600,000
R-49	1W	Lemieux Island WPP	Instrumentation	City Staff	2038-2043	D	\$13,700,000
R-50	BARR	Barrhaven Pump Station	Electrical	City Staff	2038-2043	D	\$600,000
R-51	1W	Lemieux Island WPP	Civil	City Staff	2038-2043	D	\$58,000,000
R-52	1W/2W	Britannia WPP	Mechanical	City Staff	2044-2049	D	\$8,700,000
R-53	1W	Lemieux Island WPP	Mechanical	City Staff	2044-2049	D	\$7,500,000
S-06	2E	Innes Road Tank Replacement	Renewal and Growth	City Staff	2044-2049	D	\$8,500,000
R-54	3C	Ottawa South Pump Station	Electrical	City Staff	2044-2049	D	\$600,000
R-55	1W	Lemieux Island WPP	Instrumentation	City Staff	2044-2049	D	\$11,900,000
R-56	1W	Lemieux Island WPP	Mechanical	City Staff	2044-2049	D	\$5,800,000
R-57	EMR	EMR Pump Station	Mechanical	City Staff	2050-2055	D	\$1,800,000
R-58	1W/2W	Britannia WPP	Mechanical	City Staff	2050-2055	D	\$32,200,000
R-59	1W	Lemieux Island WPP	Mechanical	City Staff	2050-2055	D	\$50,200,000
R-60	1E	Hurdman Bridge Pump Station	Instrumentation	City Staff	2050-2055	D	\$600,000
R-61	2W	Carlington Heights Pump Station	Instrumentation	City Staff	2050-2055	D	\$3,100,000
R-62	1W	Fleet Street Pump Station	Instrumentation	City Staff	2050-2055	D	\$600,000
R-63	MG	Morgans Grant Pump Station	Instrumentation	City Staff	2050-2055	D	\$1,000,000
R-64	1W/2W	Britannia WPP	Instrumentation	City Staff	2050-2055	D	\$10,600,000
R-65	1W	Lemieux Island WPP	Instrumentation	City Staff	2050-2055	D	\$11,600,000
R-66	1E	Hurdman Bridge Pump Station	Mechanical	City Staff	2050-2055	D	\$5,400,000

Project ID	Pressure Zone	Renewal Project	Scope	Source / Study	Projected Construction	Estimate Class	2013 Capital Cost Estimate
R-67	MONT	Brittany Pump Station	Mechanical	City Staff	2050-2055	D	\$1,800,000
R-68	1W/2W	Britannia WPP	Mechanical	City Staff	2050-2055	D	\$33,000,000
R-69	1W/2W	Britannia WPP	Electrical	City Staff	2050-2055	D	\$1,200,000
R-70	1W	Lemieux Island WPP	Electrical	City Staff	2050-2055	D	\$1,000,000
R-71	1W	Fleet Street Pump Station	Mechanical	City Staff	2056-2060	D	\$4,900,000
R-72	2C	Billings Bridge Pump Station	Electrical	City Staff	2056-2060	D	\$600,000
R-73	1W	Lemieux Island WPP	Civil	City Staff	2056-2060	D	\$54,800,000
R-74	1W/2W	Britannia WPP	Civil	City Staff	2056-2060	D	\$45,800,000
R-75	1W	Lemieux Island WPP	Instrumentation and Electrical	City Staff	2056-2060	D	\$7,300,000
R-76	3W	Glen Cairn Pump Station	Mechanical	City Staff	2056-2060	D	\$2,600,000
R-77	1W	Lemieux Island WPP	Electrical	City Staff	2056-2060	D	\$2,100,000
R-78	1E	Hurdman Bridge Pump Station	Electrical	City Staff	2056-2060	D	\$700,000
R-79	EMR	EMR Pump Station	Electrical	City Staff	2056-2060	D	\$600,000
R-80	1W	Fleet Street Pump Station	Electrical	City Staff	2056-2060	D	\$700,000
R-81	3W	Glen Cairn Pump Station	Electrical	City Staff	2056-2060	D	\$700,000
R-82	2E	Orleans Pump Station	Electrical	City Staff	2056-2060	D	\$600,000
R-83	1W	Britannia WPP	Electrical	City Staff	2056-2060	D	\$9,400,000
R-84	1W	Lemieux Island WPP	Electrical	City Staff	2056-2060	D	\$6,100,000
R-85	1E	Hurdman Bridge Pump Station	Instrumentation	City Staff	2056-2060	D	\$600,000
R-86	2W	Carlington Heights Pump Station	Instrumentation	City Staff	2056-2060	D	\$1,100,000
R-87	1W	Fleet Street Pump Station	Instrumentation	City Staff	2056-2060	D	\$600,000
R-88	1W/2W	Britannia WPP	Instrumentation	City Staff	2056-2060	D	\$10,600,000
R-89	1W	Lemieux Island WPP	Instrumentation	City Staff	2056-2060	D	\$17,100,000

\*Total Capital Cost Estimate provided in 2013 dollars, including existing spending authority



Planned 2013-2031 Integrated Water Renewal, Growth, and Reliability Projects

Project ID	Pressure Zone	Project Name/Description	Rationale / Scope	Source / Study	Projected Construction	Estimate Class	2013 Capital Cost Estimate
E-03	2E	St Joseph Blvd/Trim Road Watermains	Reliability and Growth	2013 WMP	2013-2018	D	\$3,000,000
W-04	3W	Kanata West Feedermain	Growth	2013 WMP	2013-2018	D	\$22,700,000
R-00	1E	Hurdman Bridge Pump Station	Mechanical	City Staff	2013-2018	D	\$5,400,000
R-01	1W/2W	Britannia WPP	Filtration, Clearwell, Flocculation, Sedimentation	City Staff	2013-2018	D	\$33,000,000
E-01	1E	Orleans Watermain East Link	Reliability and Growth	Tender Estimate (Stantec, 2013)	2013-2018	B	\$31,300,000
S-02	3C	Barrhaven-3C Feedermain	Reliability and Growth	Tender Estimate (Stantec, 2013)	2013-2018	B	\$2,500,000
S-01	BARR	Fallowfield Road Watermain Upgrade	Reliability and Growth	Closed Zone Study (Delcan, 2013)	2013-2018	D	\$1,300,000
E-06	2E	Mer Bleue Road Reliability Link	Growth	2013 WMP	2013-2018	D	\$1,100,000
V-03	3C	Zone 3C Pressure Reduction Project	Avoid high pressures	City Staff Estimate	2013-2018	D	\$1,700,000
P-05A	BARR	Barrhaven Reservoir Pump Station Upgrade	Reliability and Growth	Zone 3C FDR (2013 Delcan)	2013-2018	C	\$1,200,000
S-03	BARR	Strandherd Drive Watermain	Growth	2013 WMP	2013-2018	D	\$6,600,000
S-05	3C	Limebank Road Feedermain	Growth	2013 WMP	2013-2018	D	\$8,500,000
R-02	2E	Forest Ridge Pump Station	Electrical	City Staff	2013-2018	D	\$700,000
R-05	BARR	Barrhaven Pump Station	Electrical	City Staff	2013-2018	D	\$600,000
P-02	2W/ME	New Carlington Heights Pump Station	Reliability and Growth	CHPS Upgrade 2013 (Delcan)	2013-2018	D	\$10,300,000
P-04	2C	Hurdman Bridge Pump Station Zone 2C Upgrade	Reliability and Growth	2013 WMP	2013-2018	D	\$5,000,000
P-05B	BARR/3C	Barrhaven Pump Station Upgrade	Reliability and Growth	Zone 3C FDR (2013 Delcan)	2013-2018	C	\$3,500,000
V-04	1W/2W	Britannia WPP Discharge Valving Upgrade	Reliability	2013 WMP	2013-2018	D	\$500,000
T-02	1W/2W	Britannia WPP Improvements	Plant upgrades	WPP Development Plan	2013-2018	D	\$39,800,000
T-01	1W	Lemieux WPP Improvements	Plant upgrades	WPP Development Plan	2013-2018	D	\$50,200,000
R-03	1W	Lemieux Island WPP	Electrical	City Staff	2013-2018	D	\$2,100,000
S-06A	3C	Manotick Feedermain	Reliability and Growth	Class EA Study (Morrison-Hershfield)	2013-2018	D	\$20,400,000
R-04	1W	Fleet Street Pump Station	Mechanical	City Staff	2013-2018	D	\$4,900,000
R-06	3C	Ottawa South Pump Station	Electrical	City Staff	2013-2018	D	\$600,000
P-06A	3C	Ottawa South Pump Station Expansion	Reliability and Growth	Zone 3C FDR (2013 Delcan)	2013-2018	C	\$5,100,000
T-03	1W	Lemieux WPP Improvements	Increase winter treatment capacity to plant rating	WPP Development Plan	2013-2018	D	\$58,900,000
S-04	3C	Greenbank Road Watermain	Growth	2013 WMP	2013-2018	D	\$7,400,000
C-03	1E	Brittany Drive Pump Station Suction Upgrade	Reliability and Growth	2013 WMP	2013-2018	D	\$3,100,000
P-01	MONT	New Brittany Drive Pump Station	Reliability and Growth	2013 WMP	2013-2018	D	\$3,400,000
S-06B	3C	North Island Link	Reliability and Growth	2013 WMP	2013-2018	D	\$10,400,000
R-07	1W	Lemieux Island WPP	Waste Management	City Staff	2013-2018	D	\$2,600,000

Project ID	Pressure Zone	Project Name/Description	Rationale / Scope	Source / Study	Projected Construction	Estimate Class	2013 Capital Cost Estimate
R-08	2W	Britannia WPP	Waste Management	City Staff	2013-2018	D	\$2,100,000
ST-01	2C	Ottawa South Reservoir Expansion	Growth	2013 WMP	2019-2024	D	\$13,300,000
T-04	1W/2W	Britannia WPP Improvements	Increase winter treatment capacity to plant rating	WPP Development Plan	2019-2024	D	\$43,300,000
ST-02	3C	New Riverside South Elevated Tank	Growth	2013 WMP	2019-2024	D	\$13,500,000
T-05	1W/2W	Britannia WPP Improvements	Plant upgrades	WPP Development Plan	2019-2024	D	\$19,000,000
T-06	1W	Lemieux WPP Improvements	Plant upgrades	WPP Development Plan	2019-2024	D	\$13,900,000
T-09	1W/2W	Britannia WPP Capacity Upgrade	Reliability and Growth	2013 WMP	2019-2024	D	\$114,100,000
R-09	1E	Hurdman Bridge Pump Station	Instrumentation	City Staff	2019-2024	D	\$600,000
R-10	1W	Fleet Street Pump Station	Instrumentation	City Staff	2019-2024	D	\$600,000
R-11	1W	Lemieux Island WPP	Instrumentation	City Staff	2019-2024	D	\$11,900,000
R-12	1W/2W	Britannia WPP	Instrumentation	City Staff	2019-2024	D	\$11,100,000
W-01	2W	March Road Pipe Upgrade (Zone 2W West Feedermain)	Growth	2013 WMP	2019-2024	D	\$2,200,000
ST-03	2W	Glen Cairn Reservoir Expansion	Growth	2013 WMP	2019-2024	D	\$13,100,000
R-13	2C	Billings Bridge Pump Station	Mechanical	City Staff	2019-2024	D	\$3,300,000
R-14	MONT	Montreal Road Pump Station	Mechanical	City Staff	2019-2024	D	\$1,200,000
R-15	2E	Orleans Pump Station	Mechanical	City Staff	2019-2024	D	\$2,500,000
E-01B	1E	Orleans Watermain Interconnect	Reliability and Growth	Functional Design (Delcan, 2012)	2019-2024	D	\$7,600,000
P-05C	3C	Barrhaven Pump Station Capacity Upgrade	Reliability and Growth	Zone 3C FDR (2013 Delcan)	2019-2024	D	\$600,000
P-06B	3C	Ottawa South Pump Station Capacity Increase	Reliability and Growth	Zone 3C FDR (2013 Delcan)	2019-2024	D	\$4,800,000
P-08	3W	Glen Cairn Pump Station Upgrade	Growth	2013 WMP	2019-2024	D	\$3,100,000
R-16	3W	Glen Cairn Pump Station	Mechanical	City Staff	2025-2031	D	\$2,600,000
R-17	1W	Lemieux Island WPP	Electrical	City Staff	2025-2031	D	\$800,000
T-07	1W/2W	Britannia WPP Improvements	Plant upgrades	WPP Development Plan	2025-2031	D	\$1,700,000
T-08	1W	Lemieux WPP Improvements	Plant upgrades	WPP Development Plan	2025-2031	D	\$2,600,000
R-18	MG	Morgans Grant Pump Station	Electrical	City Staff	2025-2031	D	\$600,000
R-19	1W	Lemieux Island WPP	Waste Management	City Staff	2025-2031	D	\$2,600,000
R-20	1W/2W	Britannia WPP	Waste Management	City Staff	2025-2031	D	\$2,100,000
R-21	2E	Forest Ridge Pump Station	Mechanical	City Staff	2025-2031	D	\$3,100,000
R-22	1W	Lemieux Island WPP	Electrical	City Staff	2025-2031	D	\$1,000,000
R-23	1W/2W	Britannia WPP	Electrical	City Staff	2025-2031	D	\$1,200,000
T-10	1W/2W	Britannia WPP Improvements	Plant upgrades	WPP Development Plan	2025-2031	D	\$27,700,000
T-11	1W	Lemieux WPP Improvements	Plant upgrades	WPP Development Plan	2025-2031	D	\$29,400,000
R-24	1E	Hurdman Bridge Pump Station	Instrumentation	City Staff	2025-2031	D	\$600,000
R-25	1W	Fleet Street Pump Station	Instrumentation	City Staff	2025-2031	D	\$600,000
R-26	1W	Lemieux Island WPP	Instrumentation	City Staff	2025-2031	D	\$28,400,000
R-27	1W/2W	Britannia WPP	Instrumentation	City Staff	2025-2031	D	\$11,400,000
-	Varies	Construct Off-Site Reliability Links	Reliability and Growth	City staff estimate	2013-2031	D	\$2,800,000

\*Total Capital Cost Estimate provided in 2013 dollars, including existing spending authority

## Wastewater Projects

### **Major Projects completed since the 2009 IMP**

- Fernbank Sanitary Sewer.
- Hazeldean Pump Station Upgrades.
- Orleans-Cumberland Pump Station at ROPEC.
- Village of Manotick Wastewater System (Pump Station, forcemain, gravity collector, Core and Hillside Gardens local sewers, Mahogany Harbour development servicing).
- Upgrades to Signature Ridge Pump Station.

### **New Projects Identified in the 2013 IMP**

- Stittsville Pump Station gravity connection and decommissioning (Fernbank Collector extension allows for gravity connection and Pump Station elimination- long term operational savings).
- Rideau River Collector Twinning/Upgrade (provide additional capacity for intensification).
- Tremblay Road Sewer Replacement (provide additional capacity for TOD development).
- Stittsville/Fernbank Interceptor Sewer (free up residual capacity at Hazeldean Pump Station and provide redundancy between Hazeldean and Kanata West Pump Stations).

### **Projects Identified in 2009 IMP that have been eliminated**

- Expansion of Hazeldean Pump Station including additional forcemain (Stittsville/Fernbank Interceptor Sewer will divert flows from new development to Kanata West Pump Station).

Planned 2013-2031 Wastewater Facilities

Project Name	Location	Rationale / Purpose	Source / Study	Project ID	Projected Construction	Estimate Class	2013 Capital Cost Estimate
<b>CSO Control Storage Tunnel</b>	Downtown Core	East – West tunnel provides CSO control with interconnections at Cave Creek Collector and Booth St. overflows, Rideau Canal Interceptor and John St. Sewer. Extends from Booth St. Sewer overflow to New Edinburgh Park. North-South tunnel provides flood relief and CSO control with interconnections at Catherine, McLeod, Florence. Extends from Catherine to Wellington.	Combine Sewage Storage Tunnel EA (2012)	1F.	2013-2018	C	\$175,000,000
<b>O'Connor Flood Control Works</b>	Downtown Core	Provides flood relief for the O'Connor drainage area.	O'Connor Flood Control PDR (2012)	2F.	2013--2031	C	\$58,000,000
<b>Kanata West Pump Station and Forcemain</b>	West Urban Community	Required to service growth in the Kanata West development area.	WUC Wastewater Servicing Study (2012)	3F.	2013-2018	B	\$37,000,000
<b>March Road Pump Station Conversion</b>	West Urban Community	Conversion to the low lift PS will alleviate downstream capacity constraint and also allows the decommissioning of the East March Forcemain.	WUC Wastewater Servicing Study (2012)	4F.	2013-2018	D	\$6,000,000
<b>Signature Ridge Pump Station and Forcemain Expansion</b>	West Urban Community	Expand station beyond its current rated capacity including twining of existing forcemain	WUC Wastewater Servicing Study (2012)	5F.	2019-2024	C	\$4,500,000
<b>Stittsville Pump Station Gravity Connection and Decommissioning</b>	West Urban Community	After construction of the west portion of Fernbank Collector sewer it is expected that gravity connection can be made from the Stittsville PS and PS can be decommissioned.	2013 IMP Wastewater Study	6F.	2013-2018	D	\$1,500,000
<b>Acres Road Pump Station Upgrade</b>	West Urban Community	Addition of pumps to increase capacity	WUC Wastewater Servicing Study (2012)	7F.	2019-2024	D	\$3,900,000
<b>Carp Pump Station Overflows</b>	West Urban Community	Includes the introduction of an emergency overflows at the existing pump stations.	Village of Carp Water and Wastewater EA (2008)	8F.	2013-2018	C	\$500,000
<b>Carp Pump Station and Forcemain Expansion</b>	West Urban Community	Includes the upgrades to pumps twinning of the existing forcemain, upgrade to Hines Road Sewer to accommodate growth related flows	Village of Carp Water and Wastewater EA (2008)	9F.	2019-2024	C	\$6,000,000
<b>Richmond Pump Station and Forcemain Expansion</b>	West Urban Community	Includes expansion of the existing pump station, repairs to the existing forcemain, and a new twin forcemain	Village of Richmond Water and Sanitary Master Servicing Study (2011)	10F.	2013-2018 Phase 1 2025-2031 Phase 2	C	\$30,000,000
<b>Pump Stations Capacity Increase</b>	East South and West	Replace pumps in existing stations (Tenth Line, Forest Valley, Manotick, Briare Ridge) with larger units to provide capacity for new development	2013 IMP Wastewater Study	11F.	2019 - 2031	D	\$1,500,000
<b>R.O. Pickard WWTP Upgrades and Expansion</b>	Ottawa East	To provide capacity for growth and comply with the provincial regulations.	ROPEC Development Master Plan Study (2013)	12F.	2013 - 2031	D	\$669,000,000

\*Total Capital Cost Estimate provided in 2013 dollars, including existing spending authority



Planned 2013-2031 Wastewater Collectors

Project Name	Location	Rationale / Purpose	Source / Study	Project Name	Projected Construction	Estimate Class	Pipe Dia. (mm)	Pipe Length (m)	2013 Capital Cost Estimate
<b>South Nepean Collector Extension</b>	South Urban Community	Extension of the South Nepean Collector to service commercial development adjacent to Highway 417.	South Nepean Collector Functional Design Update 2012	<b>1C.</b>	2013-2018	C	600	500	\$1,000,000
<b>South Nepean Collector (Phase 2)</b>	South Urban Community	Extension of the South Nepean Collector to service adjacent growth	South Nepean Collector Functional Design Update 2012	<b>2C.</b>	2013-2018	C	1050	1450	\$4,800,000
<b>South Nepean Collector (Phase 3)</b>	South Urban Community	Extension of the South Nepean Collector to service adjacent growth	South Nepean Collector Functional Design Update 2012	<b>3C.</b>	2019-2024	C	750 - 900	2650	\$7,700,000
<b>Conroy Road Collector Twinning</b>	South Urban Community	Twin existing pipe to provide additional capacity	2013 IMP Wastewater Study	<b>4C.</b>	2025-2031	D	750	1000	\$1,900,000
<b>Fernbank Collector Sewer</b>	West Urban Community	Addition of a new collector sewer to service growth south of the Stittsville Trunk.	WUC Wastewater Servicing Study (2012)	<b>5C.</b>	2013-2018	C	750	1400	\$2,500,000
<b>Stittsville/Fernbank Interceptor Sewer</b>	West Urban Community	Allows flows from the Stittsville and Fernbank Collectors to be diverted to the KWPS. Will free up residual capacity at Hazeldean PS, and also provide redundancy between the two pump stations.	WUC Wastewater Servicing Study (2012)	<b>6C.</b>	2013-2018	D	750 - 975	3040	\$7,400,000
<b>North Kanata Collector (Phase 2)</b>	West Urban Community	Required after the March PS is converted to a low lift station. Will drain the modified March PS and Marchwood Trunk by gravity to the Acres PS.	2009 IMP	<b>7C.</b>	2013-2018	C	1200	2100	\$8,700,000
<b>Tri-Township/March Ridge Collector Replacement</b>	West Urban Community	Required to alleviate high HGL and projected potential flooding issues. Existing pipe needs to be replaced because of poor condition.	WUC Wastewater Servicing Study (2012)	<b>8C.</b>	2013-2024	D	1650	1230	\$8,800,000
<b>Kanata West Sewers</b>	West Urban Community	Provides service to the growth areas adjacent to the Kanata West and Signature Ridge PS.	Kanata West Master Servicing Plan	<b>9C.</b>	2013 - 2024	C	375 - 825	8000	\$11,300,000
<b>Rideau River Collector Upgrade</b>	Rideau River Catchment	Replace existing pipe with larger dia. to provide additional capacity for intensification	2013 IMP Wastewater Study	<b>10C.</b>	2025-2031	D	750 - 825	770	\$1,800,000
<b>Rideau River Collector Twinning</b>	Rideau River Catchment	Twin existing pipe to provide additional capacity for intensification	2013 IMP Wastewater Study	<b>11C.</b>	2025-2031	D	1350-1500	2350	\$8,900,000
<b>Tremblay Road Sewer Replacement</b>	Rideau River Catchment	Provide additional capacity for TOD development	TOD Study 2012	<b>12C.</b>	2025-2031	D	750	860	\$6,200,000

\*Total Capital Cost Estimate provided in 2013 dollars, including existing spending authority