Town of Ridgway
Otonowanda Cost Estimate

Work Type	Proj. Mgr./PE	Quality Ctrl	Civil Eng.	Hydrologist	Hyd. Eng.	Permitting	Cost Est.	GIS	Geologist	Support	Geotech. Consultant		Surveying	Total Hours	Labor Cost ($)		Other Expenses ($)					Subtotal Cost ($)	Total Cost ($)
Billing Rate ($/hr)	$160	$160	$140	$140	$140	$150	$150	$140	$150	$80	$150		$120				Travel	Printing	Equipment	Lodging	Lab		
Task Description																							
1. Town Water Needs																							
Update Water Need from Previous Studies	2	1	20					6		10				39	$4,920		$200	$10				$5,130	
Total Hours	2	1	20					6		10				39	$4,920		$200	$10	$0	$0	$0	$5,130	
																							$5,130
2. Existing Water Rights																							
Inventory	1	1		8						5				15	$1,840		$200	$10				$2,050	
Yield Analysis	1	1		8						5				15	$1,840			$10				$1,850	
Direct Flow	1	1		10						5				17	$2,120			$10				$2,130	
Storage	1	1		5						5				12	$1,420			$10	$50			$1,480	
Operational Studies	2	1		15				12		10				40	$5,060		$200	$10	$50			$5,320	
Exchange Potential	2	1		15				12		12				42	$5,220			$10				$5,230	
Total Hours	8	6	0	61	0	0	0	24	0	42	0	0		141	$17,500		$400	$60	$100	$0	$0	$18,060	
																							$18,060
3. Alternatives Analysis																							
Reservoir Enlargement	6	1	16		2			4	4	5	8			46	$6,400			$20	$100			$6,520	
Purchasing Water Rights	4	1	16		2			4	4	5				36	$4,880			$20	$100			$5,000	
Leasing Ridgeway Reservoir	4	1	10		2			4	4	5				30	$4,040			$20	$100			$4,160	
Total Hours	14	3	42		6			12	12	15	8			112	$15,320		$0	$60	$300	$0	$0	$15,680	
																							$15,680
4. Reservoir Feasibility and Scope																							
Bathiometric and Topographical Survey													100		$12,000		$200	$20		$300		$12,520	
Project Components	2	1	10	5	2			4		4	8			36	$4,940			$20				$4,960	
Conceptual Design	1	1	10	5	2			4		2	40			65	$9,420			$20			$2,000	$9,440	
Total Hours	3	2	20	10	4			8		6				53	$26,360		$200	$60	$0	$300	$2,000	$26,920	
																							$26,920
5. Identifying Permitting Issues																							
USACE (Wetland Delineation)	1	1	2			40		1		2				47	$6,900		$500	$10		$150		$7,560	
State SEO	1	1	2			8		1		2				15	$2,100			$10				$2,110	
Total Hours	2	2	4			48		2		4				62	$9,000		$500	$20	$0	$150	$0	$9,670	
																							$9,670
6 Diversion and Ditch Conveyance System																							
Conceptual Diversion Structure Design	2	1	16	20	5			4		2	4		8	62	$7,540		$200	$20	$20	$150		$7,930	
Ditch Seepage Reduction Alternatives	2	1	16	20	5			4		2	4		16	70	$7,540			$20	$20		$500	$8,080	
Total Hours	4	2	32	40	10	0		8	0	4	8	0	24	132	$15,080		$200	$40	$40	$150	$500	$16,010	
																							$16,010
7. Cost Estimates																							
Conceptual Design Components	8	1	16	6			20	2		2				55	$7,960			$10				$7,970	
Unit Costs	4	3	2				20	3		4				36	$5,140			$10				$5,150	
Timeline	2	1	4				16	1		2				26	$3,740			$10				$3,750	
Total Hours	14	5	22				56	6		8				111	$16,840		$0	$30	$0	$0	$0	$16,870	
																							$16,870
8. Financing Sources																							
Opportunities	4	1		2			2	2		5				16	$2,060		$200	$10				$2,270	
Requirements	4	1		2			2	2		4				15	$1,980			$10				$1,990	
Proposals	2	1		2			2	2		4				13	$1,660			$10				$1,670	
Economic Analysis	5	1		2			2	2		4				16	$2,140			$10				$2,150	
Total Hours	15	4		8			8	8		17				60	$7,840		$200	$40	$0	$0	$0	$8,080	
																							$8,080
9. Project Coordination																							
Meetings, Public Presentation	15	3	6	12				6		12				54	$7,200		$200	$200		$300		$7,900	
Total Hours	15	3	6	12				6		12				54	$7,200		$200	$200	$0	$300	$0	$7,900	
																							$7,900
10. Report Preparation	10	2	10	10	2	10	10	4	4	30				92	$11,560			$1,000				$12,560	
Total Hours			10	10	2	10	10	4	4	30	0	0	0	92	$11,560		$0	$1,000	$0	$0	$0	$12,560	$12,560
Grand Total ($)															$131,620	#	$1,900	$1,520	$440	$900	$2,500		$136,880

Ridgeway Cost Estimate
Wright Water Engineers
18-Jul-08

	Work Type	Proj. Mgr./PE	Quality Ctrl	Civil Eng.	Hydrologist	Hyd. Eng.	Permitting	Cost Est.	GIS	Geologist	Support	Geotech. Consultant			*Labor*
Task Description	***Billing Rate ($/hr)***	160	160	140	140	140	150	150	140	150	80	150		***Hours***	***Cost ($)***
1. Town Water Needs															
Population Projections		2	1	5					4		5			17	2140
Unit Demands		1	1	4					4		5			15	1840
Geographic Distribution		1	1	2					4		5			13	1560
Day Year Needs		2	1	10					4		5			22	2840
Total Hours		6	4	21					16		20			67	
2. Existing Water Rights															
Inventory		1	1		8						5			15	1840
Yield Analysis		1	1		8						5			15	1840
Direct Flow		1	1		10						5			17	2120
Storage		1	1		5						5			12	1420
Operational Studies		2	1		15				12		10			40	5060
Total Hours		6	5		46				12		30			99	
3. Alternatives Analysis															
Reservoir Enlargement		6	1	16		2	2		4	4	5	8		48	6700
Reservoir/Ditch Lining		4	1	10		2	1		4	4	5	8		39	5390
Outlet Modifications		4	1	10		2	1		4	4	5	8		39	5390
Ditch Piping		2	1	6		2	1		2	2	5	8		29	3930
Headgate Optimization		2	1	3		2	1		2	2	5	8		26	3510
Total Hours		18	5	45		10	6		16	16	25	40		181	
4. Reservoir Feasibility and Scope															
Project Components		2	1	10	5	2	2		4		4			30	4040
Preliminary Design		1	1	10	5	2	2		4		2			27	3720
Design		2	1	10		2	2		4		2			23	3180
Resident Engineering		1	1	10		2	2		4		2			22	3020
Construction		3	1	10		2	2		4		4			26	3500
Total Hours		9	5	50	10	10	10		20		14			128	
5. Permitting & Special Studies															
USACE		1	1	2			4		1		2			11	1500
USEPA		1	1	2			1		1		2			9	1200
State		1	1	2			6		1		2			13	1800
County		1	1	2			2		1		2			9	1200
Total Hours		4	4	8			14		4		8			42	
6. Cost Estimates															
Preliminary Design		2	2	1				4	2		2			13	1820
Units		2	1	1				4	1		2			11	1520
Unit Cost		2	1	1				4	2		2			12	1660
Timeline		2	1	4				10	1		2			20	2840
Total Hours		8	5	7				22	6		8			56	
7. Financing Sources															
Opportunities		4	1		2			2	2		5			16	2060
Requirements		4	1		2			2	2		4			15	1980
Proposals		2	1		2			2	2		4			13	1660
Economic Analysis		5	1		2			2	2		4			16	2140
Total Hours		15	4		8			8	8		17			60	
8. Local Support															
Problem Identification		5	1	2	4				2		4			18	2400
Solutions		5	1	2	4				2		4			18	2400
Stipulations		5	1	2	4				2		4			18	2400
Total Hours		15	3	6	12				6		12			54	
9. Report Preparation		10	2	10	10	2	10	10	4	4	30			92	11560
Grand Total ($)															

Ridgeway Cost Estimate
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Task Description		***Other Expenses ($)***	Travel	Printing	Equipment	Lodging	Lab		***Subtotal Cost ($)***	***Total Cost ($)***
1. Town Water Needs										
Population Projections			200	10		20			2370	
Unit Demands				10		20	400		2270	
Geographic Distribution			200	10		20			1790	
Day Year Needs				10		20			2870	
Total Hours										
										9300
2. Existing Water Rights										
Inventory			200	10		20			2070	
Yield Analysis				10		20			1870	
Direct Flow				10		20			2150	
Storage				10		20			1450	
Operational Studies			200	10		20			5290	
Total Hours										
										12830
3. Alternatives Analysis										
Reservoir Enlargement			100	20	100	50			6970	
Reservoir/Ditch Lining			100	20	100	50			5660	
Outlet Modifications			100	20	100	50			5660	
Ditch Piping			100	20	100	50			4200	
Headgate Optimization			100	20	100	50			3780	
Total Hours										
										26270
4. Reservoir Feasibility and Scope										
Project Components			200	20		20			4280	
Preliminary Design			200	20		20	400		4360	
Design			200	20		20			3420	
Resident Engineering			200	20		20			3260	
Construction			200	20		20			3740	
Total Hours										
										19060
5. Permitting & Special Studies										
USACE				10		20	400		1930	
USEPA				10		20	1500		2730	
State				10		20	1500		3330	
County				10		20			1230	
Total Hours										
										9220
6. Cost Estimates										
Preliminary Design				10						
Units				10					1530	
Unit Cost				10					1670	
Timeline				10					2850	
Total Hours										
										6050
7. Financing Sources										
Opportunities			200	10		20			2290	
Requirements				10		20			2010	
Proposals				10		20			1690	
Economic Analysis				10		20			2170	
Total Hours										
										8160
8. Local Support										
Problem Identification			200	20		50			2670	
Solutions			100	20		50			2570	
Stipulations			100	20		50			2570	
Total Hours										
										7810
9. Report Preparation				300		200			12060	
										12060
Grand Total ($)										**110760**