

# Municipalities Having Sewer Systems with Sewage Treatment Plants From 1872 to 1947

January 1, 1947



Minnesota Pollution Control Agency



**Author**

Minnesota Department of Health  
Section of Environmental Sanitation  
Division of Water Pollution Control

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# Appendix V

## Minnesota Department of Health Division of Water Pollution Control

Location	Drainage Basin (River)	Year Construction of Municipal Sanitary Sewer System Commenced	Year Sewage Treatment Plants Constructed	Population (1940)	Treatment Units	Final Disposal
Ada	Red River of the North	1895	1913	1,988	Septic tank	Marsh River
Adrian	Rock	1920	1920	1,066	I, Sl. B.	Kanavanzie River
Albany	Upper Mississippi	1922	1921	975	I, Sl. B.	Two Rivers
Albert Lea	Cedar	1910	1927	12,200	I., Sl. B.	Albert Lea Lake
Alexandria	Upper Mississippi	1912	1929	5,051	I, T. F., F. S., Sl. B.	Lake Winona
Amboy	Blue Earth	1922	1922	576	I., Sl. B.	Blue Earth River
Annandale	Upper Mississippi	1921	1922	755	I., Sl. B.	Pleasant Lake
Anoka	Upper Mississippi	1917	1917	6,426	I., Sl. B.	Mississippi River
Appleton	Minnesota	After 1910	1934	1,877	I,T.F., F.S., Sl. B.	Pomme de Terre River
Arlington	Minnesota	1928	1928	1,122	I., Sl. B.	High Island Creek
Aurora	St. Louis	1936	1940	1,528	I, T. F., F. S., Sl. B.	Creek to St. Louis River
Austin	Cedar	1892	1924-39	18,037	Grease, Flt., Floc., P.S. H.T.F., Int. S., T.F., F.S., Cl., D., Sl., B.	Cedar River
Bagley	Red Lake	1939	1940	1,241	P.S., T.F., F.S., Cl., D., Sl. B.	Clearwater River
Barnesville	Red River of the North	1909	1988	1,450	P.S., A.S., F.S., Cl., Sl. B.	Willow Creek
Baudette	Rainy	1909	1909	1,017	Septic tank	Baudette River
Bayport	St. Croix	After 1920	1940	2,633	P.S., A.S., F.S., Cl., D., Sl. B.	St. Croix River
Bemidji	Upper Mississippi	1906	1934	9,427	Grit, Com., P.S., T.F., F.S., Cl., D., Sl. B.	Mississippi River
Benson	Chippewa	1897	1936	2,729	P.S., T.F., F.S., D., Cl., Sl. B.	Chippewa River

Location	Drainage Basin (River)	Year Construction of Municipal Sanitary Sewer System Commenced	Year Sewage Treatment Plants Constructed	Population (1940)	Treatment Units	Final Disposal
Bertha	Upper Mississippi	1937	1937	578	I, T.F., F.S., Cl., Sl. B.	Creek east of Village
Blackduck	Red Lake	1913	1913	753	I., Sl. B.	Black Duck Lake
Blooming Prairie	Cedar	1918	1915-33	1,205	P.S., T.F., D., Sl. B.	Ditch to west fork
Bock	Rum	1934	1934	125	I, T.F., F.S., Sl. B.	Bogus Creek
Bovey	Upper Mississippi	(about) 1910	1934	1,355	I., Sl. B.	Trout Lake
Braham	Upper Mississippi	1941	1940	578	P.S., T.F., F.S., D., Cl., Sl. B.	Ditch
Brainerd	Upper Mississippi	1919	1940	12,071	Com., P.S., T.F., F.S., Cl., D., Sl. B.	Mississippi River
Browns Valley	Minnesota	1914	1923	1,075	I., Sl. B.	Minnesota River
Buffalo	Crow	1926	1939	1,695	P.S., T.F., F.S., Cl., D., Sl. B.	Buffalo Lake
Buhl	St. Louis	Before 1909	1926	1,600	A.S., F.S., Sl.,L.	Creek
Butterfield	Blue Earth	1918	1928	511	I., Sl. B.	N.B. Watonwan River
Caledonia	Lower Mississippi	1917	1917-37	1,985	I, T.F., F.S., Cl., Sl. B.	Dry run
Callaway	Red River of the North	1936	1938	294	I., Sl. B.	County ditch
Calumet	Upper Mississippi	1910	1922	946	I., Sl. B.	Ditch
Canby	Minnesota	1909	1910	2,099	Septic tank	Lac Qui Parle River
Chatfield	Root	About 1911	1941	1,640	P.S., H.T.F., F.S., Cl., Sl. Chem	Root River (north fork)
Chokio	Pomme de Terre	1937	1940	492	I, T.F., F.S., Sl. B.	Drainage ditch
Clara City	Minnesota	1936	1937	845	I, T.F., F.S., Cl., Sl. B.	Hawk Creek
Claremont	Zumbro	1916	1916	398	I., Sl. B.	Zumbro River
Clarkfield	Minnesota	1936	1938	965		Ditch
Clinton	Minnesota	1936	1937	630	I., Sl. B.	Dry run
Cokato	Upper Mississippi	1907	1942	1,175	P.S., H.T.F., F.S., Cl., Sl. Chem	Sucker Creek
Coleraine	Upper Mississippi	(about) 1910	(before) 1920	1,325	Septic tank	Trout Lake
Columbia Heights	Upper Mississippi	1927	1938	6,035	Mpls. sewer system	Mississippi River
Cook	Rainy	1938	1940	470	I., Sl. B.	Little Fork River
Cottonwood	Minnesota	1939	1940	690	Grit P.S., H.T.F., F.S., Cl., D., Sl. B.	Cottonwood Lake

Location	Drainage Basin (River)	Year Construction of Municipal Sanitary Sewer System Commenced	Year Sewage Treatment Plant Constructed	Population (1940)	Treatment Units	Final Disposal
Crosby	Upper Mississippi	1919	Before 1920	2,954	Septic tank	Creek
Cyrus	Chippewa	1936	1936	357	I., Sl. B.	Chippewa River
Dawson	Minnesota	1917	1917	1,664	I., Sl. B.	Ditch to Lac Qui Parle River
Deerwood	Upper Mississippi	1914	1917	570	I., Sl. B.	Cranberry Lake
Detroit Lakes	Ottertail	1919	1929-41	5,015	(I., T.F., F.S., Old P.) F Screens, H.T.F., Int. S., T.F. F.S., Cl., V.F. Sl. Chem. Sl B.	Creek to St. Clair Lake
Dilworth	Red River of the North	1936	1935	1,068	Moorhead sewer system	Red River of the North
Dodge Center	Zumbro	1917	1917	1,029	I., Sl. B.	Zumbro River
Duluth	Lake Superior	1883	1940	101,065	Grit, Floc., P.S., D., Cl., V.F., Inc.	Lake Superior
Edgerton	Rock	1921	1939	815	I., T.F., F.S. Sl. B.	East fork of Rock River
Edina	Upper Mississippi	1923	1938	5,855	Mpls sewer system	Mississippi River
Elbow Lake	Red River of the North	1926	1926	1,150	Septic tank, I.	Worm Lake
Ely	Rainy	1901	1912	5,970	I., Sl. B.	Shagawa Lake
Emmons	Cedar	1923	1923	334	I., Sl. B.	Ditch to Lime Creek
Eveleth	St. Louis	1900	1914-20	6,887	I., T.F., F.S., Sl. B.	Creek to Elbow Lake
Excelsior	Minnesota	About 1927	1939	1,422	Com. P.S., T.F., F.S., S.F., D., Cl., Sl. B., Glass Covered	Lake Minnetonka
Fairfax	Minnesota	-	1940	1,116	P.S., T.F., F.S., Cl., D., Sl. B.	Creek to Minnesota River
Fairmont	Blue Earth	1907		6,988	I., T.F., F.S., Cl., Sl. B.	Center Creek
Farmington	Lower Mississippi	1917	1917	1,580	I., Sl. B.	Vermillion River
Fergus Falls	Ottertail	About 1882	1936	10,848	Grit. P.S., D., Cl., Sl. B.	Ottertail River
Foley	Upper Mississippi	1919	1921	961	I., Sl. B.	Stony Brook
Forest Lake	St. Croix	1919	1941	1,120	Com., P.S., P. & Sec., A.S., F.S., Cl., D., Sl. B.	Clear Lake
Fosston	Red Lake	1915	U.C.	1,271	I., T.F., F.S., Sl. B.	Poplar River

Location	Drainage Basin (River)	Year Construction of Municipal Sanitary Sewer System Commenced	Year Sewage Treatment Plant Constructed	Population (1940)	Treatment Units	Final Disposal
Franklin				515		
Lincoln Loc.	St. Louis	1928	1936		I., T.F., F.S., Sl. B.	Mine Cave
Higgins Loc.	St. Louis	1923	1936		I., T.F., F.S., Sl. B.	Mine Cave
Fraser (P.O. Chisholm)	St. Louis	–	–	155	I., Sl. B.	Creek to St. Louis River
Frazees	Ottertail	1941	1946	1,167	I., Sl. B.	Ottertail River
Freeport	Sauk	1920	1930	548	I., Sl. B.	Getchell Creek
Fulda	Des Moines	About 1910	1937	984	I., Sl. B.	County drain tile
Gaylord	Minnesota	1916	1916	1,049	I., Sl. B.	Mud & Titlow Lakes
Gibbon	Minnesota	1935	1936	761	P.S., D., Sl. B.	County ditch to Rush River
Gilbert	St. Louis	1912	1915	2,504	I., T.F., F.S., Sl. B.	Ditch to creek
Glencoe	Crow	1915	1934	2,387	I., A.S., F.S., Cl., Sl. B.	Buffalo Creek
Glenwood	Chippewa	1904	1933	2,564	I., T.F., F.S., Sl. B.	Ditch to L. Minnewaska
Goodhue	Zumbro	1940	1940	480	P.S., T.F., F.S., Cl., D., Sl. B.	Ditch
Graceville	Red River of the North	(about) 1907	1922	1,020	I., Sl. B.	Ditch to Mustinka River
Grand Marais	Lake Superior	1933	1940	855	I., Cl., Sl. B.	Lake Superior
Grand Meadow	Root	1919	1939	700	I., H.T.F., F.S., Cl., Sl. B.	Root River
Granite Falls	Minnesota	1906	1935	2,388	P.S., D., T.F., F.S., Cl., Sl. B.	Minnesota River
Grove City	Crow	1923	1922	447	I., Sl. B.	North fork of Crow River
Hallock	Red River of the North	About 1910	1904	1,353	Septic tank	South branch of Two Rivers
Hancock	Minnesota	1919	1937	827	I., T.F., F.S., Cl., Sl. B.	Ditch east of village
Harmony	Root	1923	1928	890	I., Sl. B.	Sink hole
Hendricks	Minnesota	1917	1919	740	I., Sl. B.	Lake Hendricks
Henning	Upper Mississippi	1938	1940	948	P.S., T.F., E.S., Cl., D., Sl. B.	Ditch to Willow River
Hibbing	St. Louis	1900	1940	16,385	Conc., Floc., P.S., T.F., F.S., D., Sl. B.	Hibbing Creek
Hopkins	Minnesota	1916	1917	4,100	I., Sl. B.	Nine Mile Creek
Houston	Root	1936	1937	977	Com., I., Cl., Sl. B.	Root River
Hutchinson	Crow	1902	1934	3,887	P.S., T.F., F.S., D., Sl. B.	Crow River

Location	Drainage Basin (River)	Year Construction of Municipal Sanitary Sewer System Commenced	Year Sewage Treatment Plant Constructed	Population (1940)	Treatment Units	Final Disposal
Ironton	Upper Mississippi	1916	1917	827	I., Sl. B.	Creek to Blackhoof Lake
Isle	Rum	1935	1937	567	P.S., D., Sl. B.	Swamp to Knife River
Janesville	Blue Earth	1916	1920	1,296	I., Sl. B.	Ditch to LeSueur River
Jordan	Minnesota	1919	1926	1,422	I., Sl. B.	Sand Creek
Kaason	Zumbro	1913	1913-41	1,230	2, I., T.F., F.S., Sl. B.	Creek to Zumbro River
Keewatin	Upper Mississippi	About 1914	1942	1,942	Grit, I., T.F., F.S., Cl., Sl. B.	O'Brien Creek
Kelliher	Red Lake River	1914	1914	357	I., Sl. B.	Creek
Kenyon	Zumbro	1909	1924	1,530	I., Sl. B.	North Zumbro River
Kinney	St. Louis	1920	1920	462	I., Sl. B.	Creek to McQuade River
LaCrescent	Mississippi	1939	1940	815	P.S., T.F., F.S., Cl., D., Sl. B.	Mississippi River
Lake Benton	Big Sioux	1920	1920	961	I., Sl. B.	Ditch to Lake Benton
Lake City	Lower Mississippi	1921	1934	3,204	P.S., D., Cl., F.S., Sl. B.	Mississippi River
Lake Crystal	Minnesota	1916	1915	1,319	I., Sl. B.	Lily Lake
Lakefield	Des Moines	1914	1940	1,699	F. Screen, P.H.T.F., I., S., Sec. H.T.F., Sl. Chem., F.S., Cl.	Ditch to Heron Lake
Lake Park	Red River of the North	1920	1939	654	I., T.F., F.S., Cl., Sl. B.	Ditch to Buffalo River
Lakeville	Lower Mississippi	1923	1935	543	I., T.F., F.S., Sl. B.	Dry run to Vermillion River
Lancaster	Red River of the North	1919	1920	475	I., Sl. B.	North branch of Two Rivers
Lanesboro	Root	1923	1939	1,100	P.S., T.F., F.S., Cl., D., Sl. B.	Root River
LeCenter	Minnesota	1924	1924	1,232	I., Sl. B.	County ditch
Leonidas	St. Louis	—	—	440	I., Sl. B.	Creek to St. Louis River
Lewiston	Root	After 1915	1937	761	P.S., T.F., F.S., Cl. D., Sl. B.	Dry run
Litchfield	Crow	1912	1927	5,920	Com., P.S., T.F., F.S., Cl., D., Sl. B.	Jewett Creek
Little Fork	Rainy	1935	1939	608	I., Sl. B.	Little Fork River

Location	Drainage Basin (River)	Year Construction of Municipal Sanitary Sewer System Commenced	Year Sewage Treatment Plant Constructed	Population (1940)	Treatment Units	Final Disposal
Long Prairie	Upper Mississippi	1910	1942	2,311	Com., P.S., H.T.F., F.S., Cl., Sl. Chem	Long Prairie River
McIntosh	Red River of the North	1939	1940	903	I., T.F., F.S., Cl., Sl. B.	Poplar River
McKinley	St. Louis	1920	1918	235	I., Sl. B.	Lake to Embarrass River
Mabel	Root	1916	1916-39	741	I., H.T.F., F.S., Cl., Sl. B.	Creek to south fork of Root River
Madison	Minnesota	1916	1916	2,312	I., Sl. B.	Ditch to Lac Qui Parle River
Maple Lake	Crow	1914	1922	637	I., Sl. B.	Ramsey Lake
Mapleton	Blue Earth	1915	1915	1,070	I., Sl. B.	Ditch to Cobb River
Marble	Upper Mississippi	1911	1936	792	I., Sl. B.	Mud Creek to Mud Lake
Marshall	Minnesota	1904	1931	4,590	I., T.F., F.S., Cl., Sl. B.	Redwood River
Meadowlands	St. Louis	—	1936	142	Septic tank	Creek to Whiteface River
Minneapolis	Upper Mississippi	1872	1938	492,370	Mpls.-St. Paul Sanitary District	Mississippi River
Minneapolis-St. Paul San. District	Upper Mississippi	1938	1938	—	Grit,Floc., P.S., Mag F., Cl.V.F., Inc.	Mississippi River
Montevideo	Minnesota	Before 1905	1934	5,220	Grit. P.S., T.F., F.S. D., Sl. B.	Chippewa River
Montgomery	Minnesota	1926	1927	1,741	I., Sl. B.	Ditch to Lake Pepin
Moorhead	Red River of the North	1896	1935	9,491	P.S., T.F., F.S., D., Cl., Sl.B.	Red River of the North
Moose Lake	St. Croix	1919	1939	1,432	P.S., D., Cl., Sl. B.	Moose River
Mora	St. Croix	1916	1940	1,494	P.S., D., Sl. B., Cl.	Snake River
Morningside	Upper Mississippi	1926	1938	1,282	Mpls. sewer system	Mississippi
Morris	Minnesota	1907	1928	3,214	I., Sl. B.	Pomme de Terre River
Morton	Minnesota	1937	1939	904	P.S., T.F., F.S., D., Cl., Sl.B.	Minnesota
Mountain Iron	St. Louis	1920	1920	1,492	I., Sl. B.	Creek to east Two Rivers
Mountain Lake	Blue Earth	1916	1916	1,745	I., Sl. B.	Creek to Watonwan River
New Prague	Minnesota	1923	1921	1,645	I., Sl. B.	Creek to Sand Creek



Location	Drainage Basin (River)	Year Construction of Municipal Sanitary Sewer System Commenced	Year Sewage Treatment Plant Constructed	Population (1940)	Treatment Units	Final Disposal
New Richland	Minnesota	1939	1940	863	Com., P.S., T.F., F.S., Cl., Sl.B.D.	Creek
New Ulm	Minnesota	1896	1940	8,743	P.S., H.T.F., F.S., Mag., F. Cl., D., Sl. B.	Minnesota River
New York Mills	Ottertail	1935	1937	771	I., T.F., F.S., Sl. B.	Ditch to Rush Lake
Northome	Red Lake River	1915	1914	342	I., Sl. B.	Bartlett Lake
North St. Paul	Upper Mississippi	1927	1927	3,135	I., A.S., F.S., Cl., Sl. B.	Ditch to Kohlman's Lake
Norwood	Minnesota	1921	1927	648	F. Screen, A.S., F.S., D., Sl. B.	Ditch to Veven's Creek
Olivia	Minnesota	1930	1930	1,788	I., Sl. B.	Ditch No. 61 to Minnesota River
Ortonville	Minnesota	1912	1934	2,469	P.S., D., A.S., F.S., Sl. B.	Minnesota River
Osakis	Sauk	1918	1934-37	1,483	P.S., T.F., F.S., D., Cl., Sl. B.	Osakis Lake
Owatonna	Cannon	1916	1940	8,694	P.S., P.H.T.F., Int. S., Sec. H.T.F., F.S., Cl. D., Sl. B.	Straight River
Parkers Prairie	Upper Mississippi	1938	1940	781	I., T.F., F.S., Cl., Sl. B.	Lake Adley
Park Rapids	Upper Mississippi	1914	1930	2,643	P.S., D., Cl., Sl. B.	Fish Hook River
Paynesville	Crow	1925	1925	1,317	I., Sl. B.	Crow River
Pelican Rapids	Ottertail	1924	1936	1,560	I., T.F., F.S., Sl. B.	Pelican River
Perham	Ottertail	1927	1936	1,534	P.S., T.F., F.S., Cl., D., Sl. B.	Ottertail River
Pine City	St. Croix	-	1937	1,718	P.S., D., Cl., Sl. B.	Snake River
Pipestone	Big Sioux	1906		4,682	I., T.F., F.S., Sl. B.	Creek
Plainview	Lower Mississippi	1924	1941	1,500	Grit, Com., Floc., P.S., P.H.T.F., Int. S., Sec. H.T.F., F.S., D., Sl. B.	Dry run to Whitewater River
Princeton	Rum	1922	1930	1,865	I., Sl., B.	Rum River
Proctor	Lake Superior	1911	1940	2,468	Duluth sewer system	Lake Superior
Red Lake Falls	Red Lake	1917	1940	1,530	I., Cl., Sl. B.	Clearwater River
Redwood Falls	Minnesota	1887	1934	3,270	I., T.F., F.S., Sl. B.	Redwood River

Location	Drainage Basin (River)	Year Construction of Municipal Sanitary Sewer System Commenced	Year Sewage Treatment Plant Constructed	Population (1940)	Treatment Units	Final Disposal
Renville	Minnesota	1936	1936	1,265	P.S., H.T.F., F.S., D., Sl. B.	County ditch
Riverton	Upper Mississippi	–	–	141	P.S., Sl. B.	Creek to lake
Robbinsdale	Upper Mississippi	1939	1938	6,018	Mpls sewer system	Mississippi River
Rochester	Zumbro	Before 1904	1926-30	26,312	P.S., F. Screen, A.S., F.S., D., Sl. B.	Zumbro River
Roseau	Red River of the North	1922	1939	1,775	Com., I., Sl. B	Roseau River
Rose Creek	Cedar	1937	1937	261	I., Cl., Sl. B.	Rose Creek
Rush City	St. Croix	1920	1926	1,020	I., Sl. B.	Rush Creek
Rushford	Root	1902	1940	1,182	Com., P.S., T.F., F.S., Cl., D., Sl. B	Root River
Sacred Heart	Minnesota	1940	1941	752	I., T.F., F.S., Cl., Sl. B.	Ditch to Minnesota River
St. Charles	Lower Mississippi	1922	1922	1,507	I., Sl., B.	Creek
St. James	Blue Earth	1898	1936	3,400	P.S., T.F., D., F.S., Sl. B.	Creek to North Fork
St. Louis Park	Mississippi	1930	1938	7,737	Mpls sewer system	Mississippi River
St. Paul	Upper Mississippi	1872	1938	287,756	Mpls. St. Paul sanitary district	Mississippi River
Sauk Center	Upper Mississippi	1901	1934	3,016	I., T.F., F.S., Sl. B.	Sauk River
Savage	Minnesota	–	1939	222	I., T.F., F.S., Sl. B.	Creek to Minnesota River
Scanlon	St. Louis	1941	1941	460	I., Sl., B.	St. Louis River
Sherburne	Blue Earth	1906	1917	1,030	I., Sl. B.	County ditch to creek to Tuttle Lake
Slayton	Des Moines	1902	1931	1,587	I., Sl. B.	Beaver Creek
Sleepy Eye	Minnesota	1914	1914	2,923	I., Sl. B.	Sleepy Eye Creek
South St. Paul	Lower Mississippi	1919	1940	11,844	Com., Grit, Grease Ft., Floc., P.S., T.F., F.S., Cl., Sl. Lagoon	Mississippi River
Springfield	Minnesota	1914	1939	2,361	Com., P.S., T.F., F.S., Cl., D., Sl. B.	Cottonwood River
Spring Grove	Lower Mississippi	1930	1930	967	I., Sl., B.	Creek south of town

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Spring Valley	Root	1917	1938	2,133	P.S., T.F., F.S., Cl., Sl. B.	Spring Valley Creek
Staples	Upper Mississippi	About 1908	1917-32	2,952	I., T.F., F.S., Sl. B.	Hayden Creek
Starbuck	Chippewa	1929	1929	972	I., Sl. B.	Creek through lake to Chippewa River
Stephen	Red River of the North	1920	1941	673	I., Sl. B.	Tamarac River
Stewartville	Root	1939	1940	1,025	P.S., T.F., F.S., Cl., D., Dl. B.	Root River
Taconite	Upper Mississippi	1918	1919	375	I., Sl. B.	Ditch to Swan River
Taylor's Falls	St. Croix	After 1923	1941	552	P.S., T.F., F.S., Cl. D., Sl. B.	St. Croix River
Thief River Falls	Red Lake	1908	1939	6,019	Com., P.S., T.F., F.S., Cl., D., Sl. B.	Red Lake River
Tower	Rainy	1937	1937	820	I., Sl. B.	East branch of Two River
Tracy	Minnesota	1909	1923-38	3,085	I., T.F., F.S., Sl. B.	Creek to Cottonwood River
Virginia	St. Louis	About 1907	1914	12,264	I., T.F., F.S., Sl. B.	Three Mile Lake
Wabasha	Lower Mississippi	1916	1934	2,368	P.S., F.S., D., Sl. B.	Mississippi River
Wabasso	Minnesota	1920	1920	604	I., Sl. B.	Ditch northeast of village
Waconia	Minnesota	1924	1924	1,315	I., T.F., F.S., Cl., Sl. B.	Waconia Lake
Wadena	Upper Mississippi	1912	1916-33	2,916	I., T.F., F.S., Sl. B.	Union Creek
Waite Park	Upper Mississippi	1926	1928	1,427	I., Cl., Sl. B.	Sauk River
Walker	Upper Mississippi	1935	1936	939	P.S., T.F., Cl., Sl. B., D	Leech Lake
Walnut Grove	Minnesota	1919	1919	753	I., Sl. B.	County ditch to creek to Cottonwood River
Warren	Red River of the North	1908	1914	1,639	I., Sl. B.	Snake River
Warroad	Rainy	1914	1937	1,309	I., Cl., Sl. B.	Warroad River
Watertown	Crow		1934	737	I., Sl. B.	Crow River
Waverly	Crow	1926	1926	458	I., Cl., Sl. B.	Lake Waverly

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Wayzata	Upper Mississippi	1939	1940	1,473	Com., P.S., T.F., F.S., S.F., Cl., Sl. B., Glass Covered D.	Lake Minnetonka
Wells	Blue Earth	1899	1920	2,217	I., Sl. B.	Ditch to Maple River
Westbrook	Minnesota	1922	1922	871	I., Sl. B.	Ditch to Highwater Creek
West Concord	Zumbro	1926	1927	744	P.S., A.S., F.S., D., Sl. B.	Creek to Zumbro River
West St. Paul	Upper Mississippi	1921	1938	5,733	St. Paul sewer system	Mississippi River
White Bear	Upper Mississippi	1926	1927	2,858	F. Screen, A.S., F.S., D., Sl. B.	Goose Lake
Willmar	Crow	1912	1931	7,623	P.S., T.F., F.S., D., Sl. B.	Ditch to south fork of Crow River
Winona	Lower Mississippi	1892	1935	22,490	P.S., CL., D., Sl. B.	Mississippi River
Wolverton	Red River of the North	1918	1917	222	I., Sl. B.	Ravine to Red River
Worthington	Des Moines	1905	1916-32	5,918	T.S., T.F., F.S., D., Sl. B.	County ditch

## Key

**A.S.** – Activated sludge – mechanical aeration

**Cl.** – Chlorination

**Com.** – Comminutor

**D.** - Digester

**Floc.** – Flocculation tank

**F.S.** – final settling tank

**F. Screens** – Fine Screens

**Grease Flt.** – Grease flotation by means of air

**Grit** – Grit chamber

**H.T.F.** – High rate trickling filter

**I.** - Imhoff tank

**Inc.** – Incinerator for sludge conditioning

**Int. S.** - Intermediate settling tank

**Mag. F.** – Magnetite filter

**P.** – Primary

**P.S.** – Primary settling tank

**S.F.** – Sand filter

**Sec.** – Secondary

**Sl. B.** – Open Sludge Bed

**Sl. Chem.** – Chemical treatment of sludge, and subsequent draining on sand filters

**T.F.** – Low rate trickling filter

**V.F.** – Drum type vacuum filter for sludge dewatering

# Appendix VI

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## References

More detailed information on the care and operation of sewage treatment plants may be obtained from the following publications:

### A. Books

1. "Standard Methods of Water and Sewage Analysis," American Public Health Association
2. "Sewage Treatment," Imhoff and Fair
3. "Sewerage and Sewage Treatment," Hardenbergh
4. "Sewage Treatment Works," Kiefer
5. "Sewerage and Sewage Treatment," Babbit

### B. Magazines and bulletins

1. Manual of Practice No. 1, "Occupational Hazards in Operation of Sewage Works," Federation of Sewage Works Association
2. Manual of Practice No. 2, "Utilization of Sewage Sludge as Fertilizer," Federation of Sewage Works Association
3. "Sewage Works Engineering," 24 West 40<sup>th</sup> Street, New York 18, NY
4. "Sewage Works Journal," Federation of Sewage Works Association, 325 Illinois Building, Champaign, Illinois
5. "Water Works and Sewerage," Gillet Publishing Company, 330 South Wells Street, Chicago, Illinois
6. "Public Works," 310 East 45<sup>th</sup> Street, New York, NY