



City of Wisconsin Rapids
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Director of Public Works Report

Activity highlights from 2020

Wisconsin Rapids celebrated 100 years as a City in 2020. Public works projects, maintenance, and activities were successful despite Covid-19 creating operational and staffing challenges.

Weather cooperated for us in the spring, allowing for an early start to our construction work. Some project work was carried over from 2019 because of the July storms. All of the 2019 and 2020 projects were complete well before the first snowfall and time was available to facilitate an unplanned extension of 14th Place and the construction of a temporary stormwater pond for the Rosewood Subdivision.

Public Works Construction Projects completed in 2020 included:

- Completed Centralia Center Parking Lot and Chase St (19th Ave to 20th Ave) from 2019.
- 10th St Water Main Replacement (Grove Ave to Airport Ave)
- 2nd Ave S (W Riverview Expy to 10th Ave) Reconstruction
- Washington St (12th St N to 18th St N) Reconstruction
- Wilson St approach to W Riverview Expy reconstruct
- Concrete Pavement Repair at E Riverview Expressway and CTH W
- 14th Pl S utility, pavement extension, and stormwater maintenance area (Rosewood Development)
- 2nd Ave S/STH 54 turn lane safety improvements at Seneca Rd
- Concrete Sidewalk and Curb & Gutter Maintenance
- Alley paving near 2nd Ave S and milling & overlaying on Baker, Chestnut and 4th Ave
 - The budget for design and construction of the street portion was \$1,919,302. As built costs were \$1,785,384, or \$133,918 under budget.
 - The sanitary sewer construction budget was \$585,213. As built costs were \$290,442, or \$294,771 under budget; however, some budgeted sanitary sewer lining work did not take place in 2020 so we were effectively under budget by \$139,772
 - The storm sewer construction budget was \$293,176. As built costs were \$186,343, or \$106,833 under budget.
 - The water main construction budget was \$275,937 for equipment and labor as the Utility provides the materials outside of the public works construction fund. As built costs were \$232,380, or \$43,557 under budget.

In all, due to the hard work of staff and management the public works construction projects were \$424,080 under budget.

City residents and area communities enjoyed the opening of the new aquatic center, pickle ball courts, park, and ice skating area. Amid the Covid-19 pandemic, operations were challenging and staff has been reviewing what worked well and where we can make some sensible improvements.

A goal was set in 2019 to assess and improve the organizational structure of the public works department to provide the best value to serve the City's needs. Several changes have been made thanks to staff, Mayor, and Common Council. The engineering department is better positioned to meet design and scheduling needs and the street department management structure has evolved to include an additional street superintendent. This person has been promoted from within and will begin duties in early January. We will be able to facilitate better planning, operational oversight, safety, training, mentoring, and administrative responsibilities with these changes in place.

The City and staff earned two prestigious awards in 2020. Derek Budsberg earned a national Laboratory Excellence Award and the City earned national American Public Works Association recognition for the West Side Pump Station Force Main project. These are symbols of the dedication to service demonstrated by our staff and the Mayor, Common Council, and community support.

Looking forward there are several more retirements within the public works team in 2021. Mentoring our staff and evaluating our methods to maximize proficiency is a high priority. We continue to strive to develop a sustainable transportation system and reduce some of the burden of special assessments. We are excited the Mayor and Common Council have a shared vision to explore creating a City Transportation Utility model that results in a fair and sustainable method of financing the City's system of streets. Updating the City's capital improvement process remains a high priority for Mayor Blaser and staff is eager to work with him on implementing GIS to aid in development and public transparency of a robust CIP process. Improving internal communications, safety procedures, and a vision to provide the best public works service possible is a continuing goal and I am proud to be working with a fine group of people dedicated to making our public works operations the best it can be.

Joseph M Terry, P.E.

A handwritten signature in black ink that reads "Joseph M Terry". The signature is written in a cursive style with a long, sweeping underline that extends to the right.

Highlights within workgroups include:

Building and Grounds:

- Completion of 2019 Storm Damage Repair including Robinson Park, Centralia Center, and throughout other City parks.
- Extensive tree replanting parks & streets with 137 trees planted through a DNR storm grant program.
- Opening and operation of the new aquatic center, tennis-pickle ball courts and ice rink
- Completion of Phase 2 and start on Phase 3 of zoo improvements. The old bear pen remodel and parrot building is complete
- Completion of improvements in Veterans Park-East River bank
- Bathroom remodel, entrance for Witter field
- Painting & lighting upgrades Centralia center

- Training & prep of new parks & buildings supervisor

Engineering:

Design Progress on 2021 Projects during 2020 – progress towards reaching design goals.

Our current progress is currently around 7 months behind schedule which has improved from this month in 2019 where we were 10 months behind. This progress is evident in the design status for 11th, 15th, Jefferson St projects (2021 construction) and survey status for both Fremont St projects (2022 construction). The goal is to have the following year project design complete by August of the year prior to construction, at the latest. We anticipate gaining another 3 months over the course of the next 8 months, and I anticipate we will meet the August 2021 goal for over half of the 2022 construction projects.

2020 staffing changes

- Prior to 2020 the Engineering Dpt consisted of 2 engineers and 5 technicians with 3 seasonal technicians
- In 2020 the Engineering Dpt staffing changed to 3 engineers and 5 technicians with 1 seasonal technician

Adjustments are still being made as circumstances present themselves, but early feedback on this change has been extremely positive and we look forward to seeing continual improvements and efficiencies in meeting the design needs of the City.

Degradation Fee – the Engineering Department revamped the engineering permitting process to incorporate the new degradation ordinance. The degradation fee process includes an online calculator, example calculations and scenario based references to assist utility companies, excavators and plumbers how to accurately determine the fee. This was rolled-out in mid-December.

Special Assessment Study - The Engineering Dpt put together a study of the Special Assessment Program and detailed alternative funding options. We are actively soliciting proposals at this time to look at a Transportation Utility model.

Reconstruction Project Statistics

- 3578 LF of sanitary sewer pipe (compared to 4296 LF in 2019)
- 356 LF of storm main (compared to 3226 LF in 2019)
- 36 catch basins (compared to 79 in 2019)
- 4685 LF of water main (up from 4496 LF in 2019)
- 0.88 miles of roadway reconstruction (compared to 0.79 Miles in 2019)
- 4441 Tons of Asphalt
- 1.87 miles of new curb and gutter
- 1.29 miles of new sidewalk (compared to 2.32 Miles in 2019)
- 0 LF in sewer lining (compared to 1400 LF in 2019)

Maintenance Items

- 1093 LF of sidewalk replacement
- 1468 LF of sidewalk joint cutting
- 630 LF of curb & gutter maintained
- 1301 SY on 9-inch Concrete Pavement – Highway Rehab.

- 1492 LF of curb & gutter –Highway Rehab.
- 1388 Tons of asphalt resurfacing

Survey

- Performed Preliminary Surveys and As Built, obtaining 12,642 survey points (compared to 9,107 in 2019).
- Performed Line and Grade for Driveways, 17 Drives (compared to 22 in 2019).

Permits

- 10 DNR permits for City projects (sewer, storm, water) – up from 8 in 2019
- 102 Excavating Permits (up from 84 in 2019)
- 84 Concrete Permits (up from 43 in 2019)
- 15 Asphalt Permits (compared to 23 in 2019)
- 5 ROW Occupancy Permits (same as 2019)
- 0 Testing Well Permits (same as 2019)
- 4 Storm Water Permits (same as 2019)
- 3 Storm Water Connection Permits (same as 2019)
- 16 Permit Parking Permits (compared to 23 in 2019)
- 1 Banner Permit (same as 2019)

Diggers Hotline Tickets = ~ 1983 as of 12/15/2020 (compared to 2010 tickets in 2019)

Streets:

- Replaced banners in downtown area 12 times
- Replaced 300 Stop Signs, Yield Signs, “No Parking” and Street name signs that no longer meet the MUTCD reflective requirements
- Installed new signing on Construction projects of 10th Street South, Chase Street, 2nd Ave South, Washington Street 14th Place and Rosewood Subdivision
- Painted new Centerline, Crosswalks, Parking Stalls and Channelizing throughout the city highways and arterial streets. This work equates to 900 gallons of white paint, 1100 gallons of Yellow paint and 8800 lbs of glass beads
- Provided traffic control for community events within the city: Lunch by the River, Farmers Market, Rekindle the Spirit Holiday Parade, Run the Rapids, etc.
- 5120.47 tons of refuse collected from residents, reduction of 78 tons from 2019 during the same time period
- 1210.5 tons of recycling collected from residents, slight increase from previous year’s 1177 tons collected
- 2449.58 tons of Street Sweepings removed from the streets and delivered to the landfill
- 29,000 cubic yards of Yard waste collected, processed and managed at the East and Westside Compost Sites
- Engineering contracted PGA Plumbing to crush 10,000 cubic yards of ¾” and 20000 cubic yards of 1 ¼” Recycled Concrete Road Base
- Construction crew staff crushed 11,000 cubic yards of ½” Recycled Asphalt
- *Completed Construction projects month ahead of schedule*
- Assisted or completed 3 emergency Sanitary Service replacements
- Supplied staff to assist with flushing of dead-end manholes on Sanitary Collection System

- Supplied equipment and staff in hauling class A sludge to end users for Wastewater Treatment plant
- Replacement or adjustment of 10 Sanitary or Storm Manholes
- 145 Catch basin repairs, 4 Catch basin rebuilds. Works consists of complete pipe and structure replacement, rings, casting, curb and gutter replacement, asphalt patches and restoration
- Completed hot patches on city streets, using approximately 750 tons of hot mix asphalt. Wood County Highway installed paver patches. Locations equated to 1600 tons of material.
- Hand sprayed 133,283 sq yds of chip streets in preparation for a new surface in 2020. Machine sprayed 223,283.7 sq yds of streets using 84,900 gallons of oil and 2,700 cubic yards of 3/8" chips
- Continued mill and fill program on various main streets within main streets approximately 7600 sq yds of roadway Roadways included 4th Ave North in front of City Hall, Chestnut Street from Elm – Hill Street, and Baker Drive from 8th Street – 5th Street
- Provided restoration around sidewalk and curb and gutter maintenance projects in Hospital and Library area and south of Airport Ave
- Assisted Kafka Wood Grinding in shredding all the wood debris from the storm damage. This amounted to approximately 2 times our normal amount of brush
- Completed concrete curb pour for water damage along river wall near old east side pool area

Continue to provide same level of service to City of Wisconsin Rapids residence despite having had one instance of COVID 19 within the building and numerous employees needing to close contact quarantine. While there has been other staff within DPW that have tested positive, safety practices and City policies have stopped it from spreading from within the department.

Replaced employees due to retirement or moving on to other areas:

- Dean Bushmaker (4 ½ Years) transfer to Waterworks and Lighting

Promoted three staff members to Public Works Supervisors

- Dustin Gessert Street Maintenance
- Jacob Klingforth Green Space and Building Maintenance
- Matt Graf Street Maintenance

Wastewater:

Plant

- 1.27 Billion gallons of Wastewater treated
- 4.55 Million pounds of BOD treated
- 2.47 Million pounds of TSS treated
- 57,937 pounds of Phosphorus treated
- 47 Million Cubic Feet of Biogas produced from our TPAD digestion system (100% of which was used to fuel our CHP biogas generator for in-house power and heat)
- 1.9 Million kilowatts generated by the CHP which helped us save over 60% on electric bills
- 11 Million pounds of Class A biosolids produced and land applied as commercial grade fertilizer
- 9.2 Million gallons of hauled waste treated
- 0 instances of discharge permit violations

Collection System

- 850+ Catch Basins cleaned/maintained
- Televised 19+ miles of sanitary and storm sewer lines to assist the Engineering Department for design work, Capital Planning, condition assessment, and work priorities
- Flushed 594 dead end sanitary sewers to maintain proper flow, prevent septic conditions, and clean lines with low flow
- Jetted and/or hydro root removal on over 4 miles of sanitary sewers
- Assisted the Street Department crews in catch basin repair, street construction, groundwater management, and general maintenance work

Additional Highlights

- Laboratory Manager/Chief Operator Derek Budsberg won the Water Environment Federation's "Laboratory Analyst Excellence Award". This award is given to recognize individuals for outstanding performance, professionalism and contributions to the water quality analysis profession. This is the third award in two years for the Utility.
- The City's 4 largest lift stations were retrofitted with hard piped bypass lines to ensure mobile pump ability even if all controls and power is lost.
- New piping of the TPAD feed system was performed in house. Staff added new lines giving the ability to both pre-heat and non-preheat digestion feedstock. This has already proven to greatly reduce vivianite precipitation, and increase heat transfer in the exchangers. This type of work is typically farmed out to consulting engineers and contractors. We felt our staff had the knowledge, skills, and ability to perform the work in house, and save a significant amount of money.
- Plant performance has continued to excel, the average SVI for 2020 was 143. Compared to 2018 where the average was 390. It is safe to say that plant capacity has not only been fully restored, but may be able to be re-rated to a higher level. This is great news for the City, as this can help attract larger business/industry to Wisconsin Rapids.
- The improved activated sludge process performance has also greatly improved the process equipment performance. The chemical budget in 2018 was \$270,000. The Utility is on track to spend approx. \$160,000 in 2020.
- 2020 marked the first year the City did not incur biosolids hauling costs. 100% of the EQ Class A biosolids are being hauled away by the end user. In previous years, the Utility was spending tens of thousands on these hauling costs.
- 2020 was another new record for hauled in waste at the facility. This helps balance nutrient load, which helps settleability and also brings in extra revenue by taking advantage of available capacity.

These are magnificent accomplishments considering Covid-19 caused many temporary absences. I'm proud of the staff and management for adjusting and being successful.