

## *Engineering Department*

---

The Engineering Department again had another very busy year. Dan Whitlock continues his work as an Engineering Technician and Ryan Hegg continues his work as Floodplain Administrator and Building Official, in addition to serving as an Engineering Technician.

Major projects the Engineer's Office was involved in during 2015:

- Coordinated with Electrical, Finance, and Public Works departments in developing the 2016-2020 Infrastructure Improvement Plan. Plan approved by the City Commission in July.
- Improvement Projects (complete in-house) - scoped, designed, bid, provided construction administration for the following contracted projects:
  - Sidewalk Improvement Project 2015-1 – Construction of city responsibility sidewalks correlated to Sidewalk Assessment and Sidewalk Inspection Programs.
  - Water Main Improvement Project 2015-1 – Improvements along the lines of phase 7b of the 2008 Banner Water Utility Planning Document.
- Improvement Projects (excluded design) - scoped, provided construction administration for the following contracted projects:
  - 4<sup>th</sup> Street Southeast Partial Reconstruction Project - Coordinated with SD DOT, the Public Works Department, and SEH to accomplish construction administration and field engineering administration. Project was constructed using SD DOT Surface Transportation Program funds.
  - Airport Fuel System – Coordinated with SD DOT Aeronautics Division, the Airport Board/Manager, and KLJ to accomplish construction administration and field engineering administration.
- Improvement Projects (partial admin) – scoped and provided oversight/guidance/input to construction administration for the following contracted projects:
  - Water Towers Exterior Recoating Project - Coordinated with Banner Associates, the Public Works Department, and Banner Associates to oversight of construction administration.
  - 10<sup>th</sup> Street Trail Project - Coordinated with SD DOT, the Public Works Department, and TSP to provide oversight of construction administration – contractor contracted with SD DOT.
  - 2015 Electrical Conversion Project – Coordinated with Electric Department and DGR Engineering to accomplish of phase 3a of

2012 Long Range Plan Update Document. Drafted 36 easements for project.

- Highway 34 Reconstruction Planning - coordinated with SD DOT, Public Works Department, and HR Green in planning for bidding and construction of in 2016 – 2<sup>nd</sup> Street from Highland to Washington Ave- and 2019 – Washington Ave from 2<sup>nd</sup> Street to 10<sup>th</sup> Street South.
- Updated the Special Maintenance Fee database (spreadsheet) for submission to Lake County for funding of street improvements.
- Topographic survey – preliminary project survey for the following anticipated project: 2016 Special Maintenance Fee Resurfacing Project and 2017 West Center Street Reconstruction Project.
- Coordinated with Public Works Department and Finance Office to hire Kroger Masonry to accomplish the tuck-pointing and repairs of the memorial wall at the Railroad Depot.
- Coordinated with SD DOT to finalize Safe Route to Schools project for which grant was received in 2013 – anticipated construction in 2016.
- Coordinated with Lake County who was the Primary Sponsor (who contracted with) and US Army Corps of Engineers to continue progress on Section 22 Study – City and County split the local share costs. This was a follow up to the work of the Lake County Emergency Planning Committee (LEPC) subcommittee’s recommendations on what items should be considered to address flooding.
- Landowner Sidewalk Construction - carried through on City Commission approved Resolutions of Necessity by coordinating sidewalk work with landowners and their contractors at the following project sites:
  - Sidewalk Inspection Program Improvements
  - Sidewalk Assessment Program Improvements (i.e. new sidewalk locations)
    - 11<sup>th</sup> Street North from Lincoln Avenue to Maplewood Avenue
    - 5<sup>th</sup> Street Northwest from Union Avenue to Highland Avenue
    - Center Street from Washington Avenue to Division Avenue
    - School priority number 1 areas within 1 block of schools
- Waste Treatment Plant Improvements - Coordinated with Banner Associates and Public Works Department to develop bid documents and bid for improvements for installing manholes for failed valves in 2016.
- 2016 Electrical Conversion Project – Coordinated with Electric Department and DGR Engineering scope and commence design for phase 2a of 2012 Long Range Plan Update Document.

- Chip Seal Surface Treatment - coordinated with the City Public Works Department and the Lake County Highway Department to accomplish chip seal surface treatment on asphalt roadways. Switched entirely to quartz rock and emulsion CRS-2P.
- Pavement Management System – Continued the 2<sup>nd</sup> year of a 2.5 year project in developing a pavement management system for the City in coordination with the Public Works Department. Work is part of an agreement with South Dakota State University and in conjunction with the Mountain Plains Consortium who funded approximately 40% of the effort.
- Coordinated with Lake County in planning for aerial photography update by agreeing in principle for city to contribute funding to Lake County Pictometry aerial photography project from 2015-2021.
- Geographic Information systems (GIS) - Iteratively work with city departments as well as with consultants to update and use GIS in all aspects of work including location and information on city infrastructure, planning and zoning, building permit, inspection records, and many more aspects in day to day tasks. Also provided updated infrastructure map books to Public Works and Electric Departments.
- 2016 Sidewalk Assessment Program - researched and prepared Resolutions of Necessity for the following locations:
  - 4<sup>th</sup> Street South from Washington Ave to Egan Ave
  - Egan Ave from 4<sup>th</sup> Street to 10<sup>th</sup> Street South
  - School priority number 1 areas within 2 block of schools
- Coordinated with TSP and Madison Community Hospital in finalizing subdivision improvements hospital accomplished on behalf of Ray Schultz Family.
- Sidewalk Inspection Program – As part of implementation of sidewalk inspection program inspected the north central portion of Madison. After notifications to landowners, prepared Resolutions of Necessity for sidewalk repair improvements. 138 properties identified and 235 defects documented.
- Utility Evaluation Update Report for the Water and Sanitary Sewer Utilities Report - coordinated with the Public Works Department and Banner Associates to develop and have City Commission acknowledge report.
- Per a Recommendation in the Utility Evaluation Update Report, coordinated with Lake Area Improvement Association and other landowners to secure a 20 year self-renewing option and easements for a future water tower in the Lakeview Industrial Park.

- Lewis and Clark Regional Water System - represented the City on the board of directors while additionally serving on the executive and construction/operations committees.
- Completed Coordination with Lewis and Clark Regional Water System, Minnehaha Community Water Corporation (also a member of L&C), Big Sioux Rural Water System (non-L&C member), SD DENR, and the Governor's Office to secure a 20 year wheeling arrangement/agreement to, in the interim, provide City access to its 1 million gallons of water per day L&C allocation until the L&C service line to Madison is completed - segments 2, 3, and 4 remain. Involved funding for all of the above parties was recommended by SD DENR and approved through legislature for various improvements to their systems including construction of segments 1 & 5 L&C's Madison service line.
- Madison Airport – coordinated with airport engineering consultant (KLJ) and airport board, airport manager, and city commission in finalizing the Environmental Assessment and in developing the parallel taxiway construction and wetland mitigation project and preparation of the long range Capital Improvement Plan. Aided Airport Board and airport manager as requested by City Commission on various other airport projects/activities.
- The Engineer's Office facilitated surplus property disposition bids, created bid specifications, awarded bids and/or administered contracts for the following 2015 bids for improvements and/or supplies acquisitions in accordance with SDCL:
  - Bid No. 832 - Sidewalk Improvement Project 2015-1
  - Bid No. 833 – 2015 Electric Upgrade – Materials
  - Bid No. 834 - Water Main Improvement Project 2015-2
  - Bid No. 835 – 2015 Electric Upgrade – Installation Contract
  - Bid No. 839 – Airport Fuel System Improvements
  - Bid No. 841 - Install Manholes at WWTP Plug Valves
  - BID No. 842 – 2016 Water Treatment Plant Chemicals
- The Engineer's Office prepared, reviewed, and/or approved the following requests with coordination with other city departments:
  - 3 conditional use applications
  - 7 variance applications
  - 9 floodplain development permits
  - 152 building permits with a total value of \$8,387,955
  - 388 building permit inspections
- Ryan Hegg, functioning as the Building Official, received the full benefit of the development the Community Rating System (CRS) which resulted in the

residents as a whole who are in the 100 year flood plain and pay flood insurance to receive a 10% discount on their premium or about \$7,000.

The Engineer's Office also received from local developers and either approved or recommended approval to City Commission and/or Planning Commission the following:

- 1 Final plats as listed below:  
-Lots 2A & 2B in Block 2 of Williams 17<sup>th</sup> Addition

The completion of the items above would not be possible without the tremendous efforts of all City departments working together in a great spirit of cooperation. Special thanks and appreciation goes out to the following dedicated, key staff – Ryan Hegg, Dan Whitlock, and Diane Lebahn.

Respectfully submitted,

Chad Comes, PE  
City Engineer