

Engineering Services – 2020 Program Update

Engineering Services managed several infrastructure projects in 2020 and have substantially completed the 2020 work program within expected timelines. The few projects that are lagging have no impact on project delivery for 2021. A few programs have increased the number of total projects in 2020 and a few additional initiatives were added midyear.

While COVID did present some challenges, the Engineering Services team were able to efficiently move work forward and were quite effective with remote communications both internally with staff and externally with consultants and contractors.

A breakdown of many projects is provided below including some notes on the key initiatives.

Transportation Update

- Asphalt Road Program
 - 4 road segments completed with ASBC (cold-mix paving)
 - 2 road segments completed with ACP (hot-mix paving)
 - 261 Street, immediately adjacent to the Petro-Canada/ PetroPass truck stop was completed as a full depth reclamation and pavement overlay.
- Subdivision Surfacing Program
 - 13 subdivisions resurfaced
 - 12 projects were scheduled at the start of the year. 13 were completed within the same budget due to efficiencies and effectiveness of the crews responsible to complete the work.
 - Budget in 2020 will end up around 65% spent in this program. We typically plan for subsurface repairs prior to asphalt overlay but found few repair areas and thus realized cost savings.
- Gravel Road Reconstruction Program
 - 5 road segments were completed
 - 8 projects were planned at the start of 2020. Program was reduced to 4 once the contracts to complete the work were complete. Through efficiencies gained through first 4 projects, one was added with remaining budget available.
- Aggregate Chip Seal Program
 - 7 road segments completed
 - A few new road treatment options were trialled in 2020, including a short section of micro-surfacing and other smaller sections of sand sealing. These processes use smaller aggregate to create a smoother driving surface. We also trialed the use of “washed” aggregate chip in denser population areas to cut down the dust and material that is used to complete the work.
- Roadway Construction (new)
 - Twp Rd 510 realignment east of RR 51 design has been moving forward. Final design approval will be completed by the end of 2020 with expectation to tender for construction in 2021. Engineering has been working closely with Roadway Maintenance and Drainage Services to mitigate spring snow melt and seasonal challenges. Communication with adjacent landowners has also be a priority.

Engineering Services – 2020 Program Update

- Design initiatives as follows:
 - Concept plans completed on 3 road segments in Acheson Zone 6
 - Concept plan completed on 1 road segment in Acheson Zone 7
 - Concept plan completed on Twp Rd 534, Hwy 44 to Hwy 779
 - Concept plan initiated for Bevington Road, Hwy 16A to 114 Avenue (Twp Rd 531A)
 - Detailed design significantly advanced on 231 Street between Hwy 16 and Hwy 16A within Acheson Zone 2 and 4.
 - Project will be tender ready when economic interests arrive and funding for construction is allocated.

Water Systems Update

- Acheson Zone 4 water reservoir is nearly complete and will be operational in 2020.
 - Progress on this project has gone very well throughout 2020. With a budget/contract value around \$6M, there have been no notable cost changes from the original contract value. Strong project management throughout the project has kept the project team informed and prepared.
- Acheson Zone 1 and 2 wastewater system was rehabilitated, and several repairs completed; including repairs to ~ 70 manholes and several metres of in-service lines
 - This project was initially planned as a replace and upgrade project. Staff identified in the design process that site specific maintenance and repair activities would meet operational needs while significantly reducing overall project costs and extending the lifecycle of existing assets.
- Water system improvements in Big Lake are prepared to move forward in 2021.
- Engineering completed the design and tender prep work for a water service line in Big Lake that will improve system operations and ease operations for Public Works.

Wastewater Systems Update

- Wastewater Lagoon in Entwistle required repairs to the discharge valves and access vaults; including desludging the lagoon as part of lifecycle maintenance. Work is ongoing and is anticipated to be complete in 2020.
- Cured in Place Pipe (CIPP) lining has been installed in the main wastewater treatment in Tomahawk that travels under Hwy 22 leading to the Tomahawk lagoon. This process is approx. 25% the cost full mainline replacement and results in little to no impact to service delivery and provides an approximate 100-year asset lifecycle.
- Design work on the Tomahawk wastewater lagoon has been initiated in 2020. Detailed design is planned for 2021 with construction in 2022; subject to budget approvals.
- Engineering continued with Closed Caption Television (CCTV) program to map and assess wastewater systems throughout the County. Completing this work provides detailed information on the state of our wastewater infrastructure and allows us to target repairs, rehabilitation and replacement in a timeline and efficient manner.

Engineering Services – 2020 Program Update

Storm Systems

- Fallis Drainage improvements were initiated in 2019 with some precursory work in that year. Throughout 2020, Engineering has been designing site-specific solutions to improve storm water movement in the area and to provide localized flooding relief for existing residents. Design has been completed and some of the construction will be pursued in 2020. Remaining work will continue into 2021; some of which may be completed with frozen ground conditions as that has been proposed as the optimal construction timeline within vicinity of surrounding wetlands.
- Engineering continued with Closed Caption Television (CCTV) program to map and assess stormwater systems throughout the County. Completing this work provides detailed information on the state of our stormwater infrastructure and allows us to target repairs, rehabilitation and replacement in a timeline and efficient manner.

Land Development Engineering Initiatives

- Highlands Phase 1 (Champion Development): All remaining deficiencies were completed and Final Acceptance Certificate (FAC) to be issued by end of 2020.
- Highlands Phase 2 (Project Slingshot): project is being advanced through development processes and Engineering Services are a key support team for the successful delivery of the initiative. Debenture borrowing bylaw has been passed in support of this initiative for off site improvements for Acheson Zone 5 and 7.
- Acheson Commercial Corner: completion of off-site infrastructure responsibilities was transferred over to Engineering Services mid-year in 2020. Engineering has completed the following activities:
 - Repaired roadway subsurface over a pipeline that has been abandoned
 - Completed paving over repair areas and completed final lift of pavement
 - Initiated final design of storm water management facility for the development area; construction ready for 2021
- Legend Estates: reviewed all remaining developer requirements from original development plan and have worked to resolve all remaining items. Project Management Office completed work on draining ditches and pond improvements reported previously to CoW.
- Multiple development projects and initiatives have been reviewed and supported throughout the year.

Engineering Services – 2020 Program Update

Bridges

- BF# 09254 – Trestle Creek access road; design for replacement of this bridge has been completed in 2020 including land acquisition and tender prep. This project is ready to advance into construction in 2021; subject to budget approvals.
- BF# 70280 – is advancing forward as design only in 2020. Design work will continue into 2021 with the construction timeline is currently planned for 2022/ 2023.
Annual assessments were completed as scheduled through Alberta Transportation's BIM program. There were several miscellaneous repair/ rehabilitation initiatives completed in 2020 (Guardrail replacements, signage, erosion control, etc.)

Miscellaneous Projects Update

- Transportation Master Plan
 - Phase 1 "Where Are We Now" and Phase 2 "Where Do We Want To Go" are complete. There has been one check-in with Council in the spring of 2020 to seek initial direction on the guiding pillars. A second report with Council was advanced on Oct 20, 2020 to seek additional direction from Council regarding our current path forward.
- Transit Services are coordinated and managed through Engineering Services. Updated service agreements have been reviewed and approved by Council in 2020 and updated agreements between City of Edmonton, City of Spruce Grove and Town of Stony Plain have all been reviewed and signed to provide service delivery through 2021.
- Land Management Activities including evaluations, appraisals, assessments, acquisitions and associated activities have been completed and shared as appropriate.
- Oil & Gas Permitting and approvals
 - TransMountain Pipeline has advanced their construction schedule and will begin construction in Q4 2020. Engineering Services along with Roadway Maintenance will provide necessary support services for the project.
- 3rd Party Utility Approvals
 - One approval of interest for CoW may be an extension of a fibre network by Telus as a pilot project into three rural subdivisions north of Spruce Grove and Stony Plain. The single fiber line extension has enough capacity to service over 4,000 homes. Should this be a successful initiative for Telus, they may look to expand upon this pilot program in 2021. A separate report with additional information could be prepared on request; including direct input from Telus.
- Traffic Counts and Analysis of Chickakoo Area
 - Engineering completed traffic counts in 2019 in the Chickakoo area. Additional counts were completed in 2020 as a comparison between years. There were notable increases from 2019 to 2020 and continued observation in near term is recommended. Volumes on the roadway, if they stay consistent with 2020 count numbers, indicate that some improvements are warranted in the near term.
- Bank Stability Analysis – Fallis; Engineering is working with a consultant to complete a geometric assessment and stability analysis on the main access road into Fallis (Rge Rd. 52).

Engineering Services – 2020 Program Update

The information being gathered will inform Parkland County if there is any movement of the slope and guide future decisions with roadway rehabilitation, if necessary.

Inter-Departmental / Inter-Agency Support Activities

- Engineering has been working with CN Rail on two initiatives:
 - Whistle Cessation: a Bylaw has been presented to and passed by Council to bring forward 4 additional locations for Whistle Cessation. All activities that could be pursued to have this in effect are complete. CN Rail has not stopped whistling however Engineering is still pursuing the anti-whistling through connections with Transport Canada and regional CN offices.
 - Rail Crossing Improvements: four crossing locations have been improved by CN Rail. Parkland County is supporting this initiative via a 12.5% contribution. These are safety-based improvement required by Transport Canada
- WILD Phase 3 – Water line extension to Entwistle. The WILD commission is moving forward with construction of Phase 3. Work is currently occurring within Lac St Anne county as the line continues to be extended west. By late 2020/ early 2021, the WILD commission may have the line extended to a location just north of Seba Beach; the future location of a truck fill for the area. From that location, the line will extend due west towards and terminating in Entwistle. Timeline for this leg of construction is 2022/2023.
- Capital Region Parkland Water Services Commission (CRPWSC) support as requested
 - A notable project with CRPWSC is the design work on the twinning (or tripling) of water service mains from Acheson to Spruce Grove. This is part of their Capital works program and Engineering is providing support as required.
- Edmonton Metro Region Board (EMRB) – Transportation Master Plan- support as requested
- Tri-Regional Infrastructure Review - support as requested
- Alberta Capital Region Waterwater Services Commission (ACRWSC) – support as requested