

Engineering

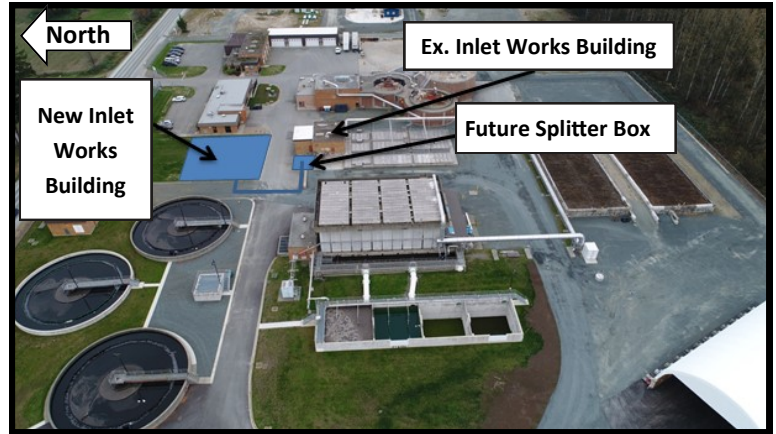


Engineering is responsible for water and sewer, transportation and environmental services

Second Quarter Report, 2019

Wastewater Treatment Plant Inlet Works Upgrade Project

The existing Wastewater Treatment Plant (WWTP) inlet works, originally constructed in 1973, need expansion to accommodate increased flows and loads due to growth in the city. The objective of this project is to upgrade the WWTP inlet works to meet current and future capacity to service the increase in sewered population within the next 30 years. The project includes the new Inlet Works Building, which contains efficient and high-performance screening units including screenings processing, a high-performance induced vortex grit removal system and allocated space for a future truck septage receiving and screening station.



The Request for Proposals (RFP) stage for this \$7.5 million design-build project ended in June 2019 and the evaluation of proposal submissions is currently underway. The project is scheduled to be completed in February 2021.

Wastewater Treatment Plant High Strength Wastewater Pre-treatment Facility Project

The project includes the construction of a high-strength wastewater pre-treatment facility (HSWWTF) at the City's Wastewater Treatment Plant (WWTP) to accept and manage high strength wastewater.

The project was substantially completed by PCL Constructors Westcoast Inc. in April 2019. Associated Engineering provided design and construction services while Global Water & Energy was in charge of process design and anaerobic treatment technology use at the facility. The facility is currently making arrangements to receive high-strength wastewater from the Molson Brewery which is expected during the third quarter of 2019 and planning to commence final commissioning thereafter.



Mechanical Systems Replacement Project

The project is a combination of four sanitary pump station (SPS) upgrades and one pressure reducing valve (PRV) upgrade throughout Chilliwack that have been combined to increase scope and economy of scale. The proposed SPS #5, 6 and 7 replacements are to increase pump station capacity to meet future flow conditions, the upgrade to continue to meet current WorkSafeBC regulations and to replace aging infrastructure that has reached the end of its serviceable lifespan. The proposed SPS #10 upgrade is to meet future flow conditions and to improve operational reliability. The proposed Goldspring PRV is to upgrade the PRV station to continue to meet current WorkSafeBC standards and to improve operational reliability.

Timbro Contracting Ltd./Onsite Engineering Ltd. design-build team completed the replacement of SPS #6 in early 2019, SPS #5 in May 2019 and commenced work on SPS #7 replacement work in June 2019. They have completed detailed design work for the Goldspring PRV station and SPS #10. Those two (2) remaining projects will enter the construction phases beginning with the Goldspring PRV replacement in mid-July, followed by SPS #10 in August. This \$2.8 million overall project is scheduled to be completed in October 2019.

The following table shows water and sewer infrastructure upgrade projects:

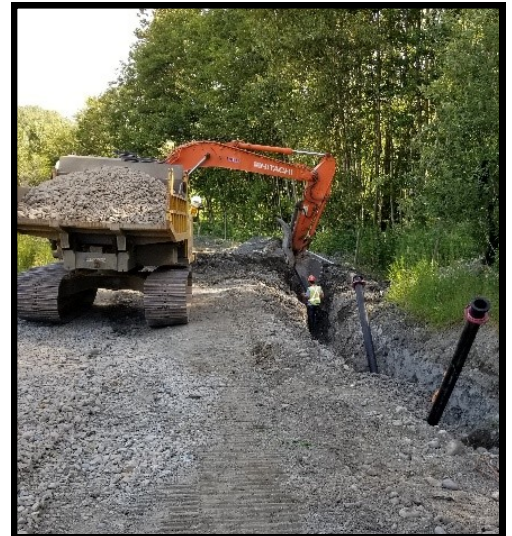
Name of Project	Description of Work	Contract Value	Project Status
Upgrade LS 5	Complete replacement of Sanitary Pump Station	\$744,000	Completed
Upgrade LS 6	Complete replacement of Sanitary Pump Station	\$832,000	Completed
Upgrade LS 7	Complete replacement of Sanitary Pump Station	\$792,000	Construction Commenced
Goldspring PRV	Complete replacement of Pressure Reducing Valve Station	\$240,000	Design Completed
SPS #10 2 nd Submersible Pump	Installation of second submersible pump	\$176,000	Design Completed



2019 Utilities Upgrade Project

The project is a combination of six water main installations, two sewer main upgrades, one storm sewer main upgrade, one pressure reducing valve (PRV) installation and a landfill gas collection system throughout Chilliwack. These upgrades have been combined to increase scope and economy of scale. The proposed water main installation will increase supply, fire flow capacity and improve the water quality of the existing water system in the local area. The proposed sewer main replacements and upgrades will replace aging infrastructure and increase capacity to satisfy increased flow from new and future developments. The proposed storm sewer main upgrade will replace aging infrastructure and increase capacity to satisfy increased flow from downtown developments. The proposed Jinkerson PRV station will facilitate current and future development activities in the area. The proposed Bailey Landfill gas system will improve landfill gas collection.

The Timbro Contracting Ltd./Onsite Engineering Ltd. design-build team completed the design and construction of the Bailey Landfill gas collection system in June 2019 and is currently in the process of design development for the remaining project areas. Those project areas will enter the construction phase beginning with Banford Road watermain installation work in July 2019. The \$3.85 million overall project is scheduled to be completed in September 2020.



Well #5 Pilot Testing Study

This study is needed to determine the treatment requirements to ensure that Well #5 can be brought online while providing continuous stabilized water of acceptable quality that meets discharge parameters.

Well pumping commenced in late July 2018, after obtaining necessary approval from the Province and it is planned to continue through to the end of July 2019 to collect one (1) year of data to determine groundwater quality variations. The pilot testing phase of the project began in late March and completed successfully in early May and the optimal water treatment process for aquifer groundwater is currently being evaluated. Associated Engineering is providing the consulting services for this \$250,000 project. The project is scheduled to be completed in the fall of 2019.



Valley Rail Trail South Enhancement

Lighting, fencing and visibility enhancements were completed in April along the existing section of the Valley Rail Trail between Knight Road and Luckakuck Way.



Before



After

Valley Rail Trail North Extension

The City was notified that the Province will be contributing a \$437,000 Bike BC Grant towards the north extension of the Valley Rail Trail from Airport Road to Hocking Road. Survey and design works are scheduled for the third quarter with construction completion by Spring 2020.



Hack-brown/Prest/Five Corners Design-Build Project

In June, Council awarded the Hack-brown/Prest/Five Corners Design-Build Project to Jakes Construction Ltd. in the amount of \$6,151,700 that includes the following projects: Hack-brown/Annis Realignment, Prest and Chilliwack Central Roundabout, Five Corners intersection, Walden Street sidewalk, Chilliwack Central sidewalk and Webster sidewalk. Detailed design will take place during the third quarter and the Prest Road roundabout will advance to construction later this fall with the balance of the projects scheduled for construction in 2020.



Lickman Interchange Project



During the second quarter, curbing and base lift paving was completed to open the roundabout at Lickman Road and Luckakuck Way along with completion of key improvements on the north side, including additional turning lanes at the Yale Road/Industrial Way intersection and an additional southbound climbing lane to the westbound on-ramp. On June 24, the traffic signal on Lickman Road at the eastbound off-ramp was removed and all traffic directed to the roundabout. The balance of the project works are scheduled for completion in the third quarter.

Traffic Count Annual Program

The Annual Traffic Count Program is now in progress. Data has been collected for the spring/early summer phase of the program and is schedule to restart in the fall. The contractor Transtech Data Services, who has been selected by the City to undertake this program, will process the data to produce the final report due in November 2019. The final report includes files that allow us to import information through our IT department to the City website and the GIS department to our public mapping website.

Our annual and historical traffic count data can be viewed on our public City Webmap at maps.chilliwack.com under the Transportation section.

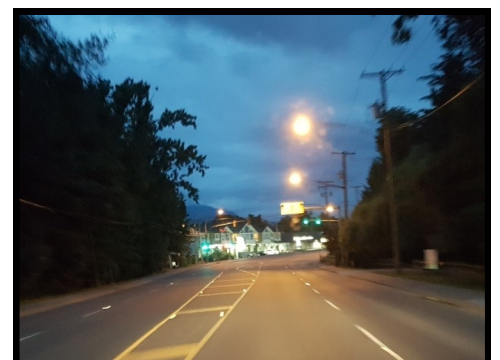
Traffic count data is vital for services such as traffic signal timing and evaluation of transportation and traffic safety improvements. It is also used by real estate and advertising companies.



Roadway Reflectors

Sealtec Industries Ltd. was selected as the contractor for our annual roadway reflector program for 2019. This program sees the installation of over 2,500 raised roadway reflectors that get damaged or removed by snow clearing activities in the winter. The installations will occur on the following roadways:

Vedder Road, Yale Road, Vedder Mountain Road, Promontory Road, Chilliwack Mountain Road, Grandview Drive, Bracken Drive, Old Orchard Road, Elkview Road, Ryder Lake Road, Extrom Road, Ballam Road, Prest Road, Chilliwack River Road, Camp River Road and Luckakuck Way.



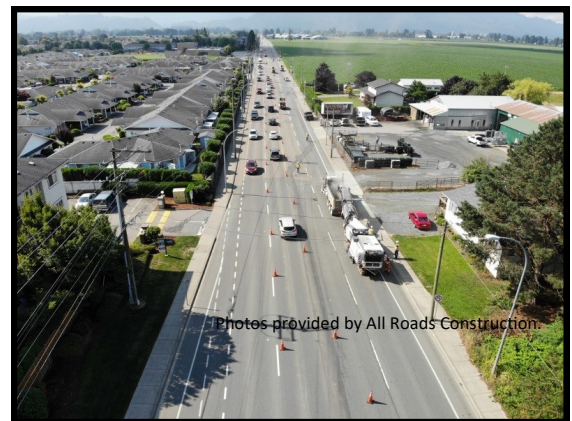
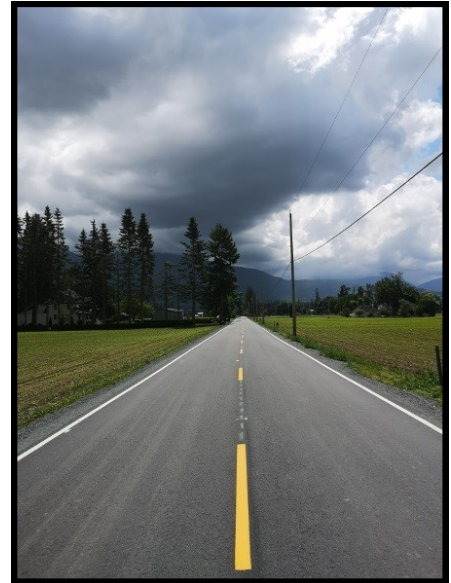
Asphalt Rehabilitation

The 2018 asphalt rehabilitation program continued in the second quarter of 2019.

2018 roadways at substantial completion are:

- McGuire Road – east of Gibson Road to end of the roadway
Resurfacing of the roadway and creating a pullout for passing traffic
- Chapman Road – Castleman to Yale Road
Resurfacing of the roadway and road markings

Evans Road repairs and resurfacing are now underway. Evans Road construction area will be from south of the Evans interchange for the Trans-Canada Highway to Stevenson Road. Construction is taking place during the summer while school is not in session and traffic volumes are lower. The project is scheduled to be completed before September 2019.



The 2019 Asphalt Rehabilitation Program has been awarded to All Roads Construction Ltd. and will begin shortly. Roadwork currently scheduled for 2019 include:

- Banford Road – CN Railway to Yale Road
- Broadway – CN Railway to First Avenue
- Castleman Road – Chapman Road to McGrath Road
- Elk View Road– geotechnical reinforcement and paving south of Wincott Road
- Extrom Road – Sherlaw Road to Ryder Lake Road
- Old Orchard Road – 260m north of Industrial Way
- Marble Hill Road – Patterson Road to 7158 Marble Hill Road

Additional roads are being considered and will proceed once these works have been completed and as funding permits.

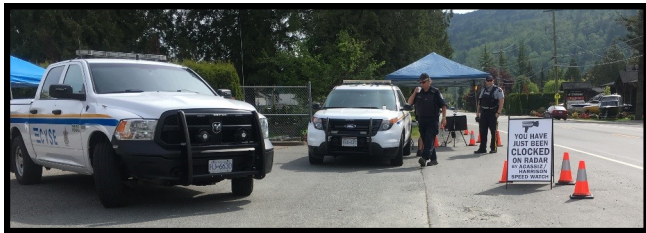
Public Engagement

Safer City hosted a booth at the Fraser Valley British Motor Club's "Classic Cars on Campus" car show on June 15 at the UFV Chilliwack campus.

As part of the next stage of outreach efforts in Cycle Vision, the Engineering team met with residents and business owners regarding the proposed cycling facility upgrades for the Broadway corridor and the Spruce/Britton/Sheffield corridor. Staff answered questions and received helpful feedback from attendees.

The Safer City team met with residents roadside in Yarrow on May 4; attendees were able to speak directly with CVSE officers, RCMP officers, ICBC and Engineering staff as well as view and try out roadside equipment utilized by the team (hand held radar, electronic display boards).

On June 19 the team attended Yarrow for a town hall meeting with residents where a review of road safety topics were discussed.



Equipment

The electronic message boards were deployed during the second quarter at a variety of locations throughout the community. Road safety messages specific to pedestrian, cyclist, speed, school zone safety and distracted driving were broadcast in the areas of Wells Road, Crescent Drive, École La Verendrye school zone on Lickman Road, Glenmore Drive, Greendale Elementary school zone, No. 3 Road, Reeves Road, Brice Road, Little Mountain Elementary school zone, and Lickman Road (south of Keith Wilson). The signs were deployed for either one or two weeks in each area depending on the project.

The traffic counting devices collected data in as part of projects on No. 3 Road, Boundary Road, Vedder Mountain Road, First Avenue, Brice Road, Young Road, Mayfair Avenue and Portage Avenue. The data is proving to be a valuable tool with deployment planning for education and enforcement projects for Safer City.



Projects

Commercial Vehicle Project

On April 4, Safer City hosted its annual spring Commercial Vehicle Inspection Project. Dozens of vehicles were inspected throughout the day with representatives from the Ministry of Transportation and Infrastructure's Commercial Vehicle Safety and Enforcement Branch (CVSE) and the Chilliwack RCMP for a one-day road safety project. A variety of commercial and passenger vehicles were inspected to confirm their compliancy with applicable safety legislation. This public safety initiative results in education and, in some cases, violation tickets for some drivers; however, the majority of commercial vehicles on City roadways are being operated in a professional and safe manner.



Hey Neighbour, Slow Down

Two neighbourhoods, Glenroy Drive and Lickman Road, participated in the 'Hey Neighbour, Slow Down' campaign. The neighbourhood of Lickman Road (south of Keith Wilson Road) have been long-time committed residents ensuring that drivers adhere to the posted speed limit due to the amount of pedestrian and cycling traffic utilizing this section of roadway. Lickman residents usually participate in the program during the spring and again in the fall as the destination located at the southern end of this neighbourhood is a large draw during these times of the year.

Safer School Travel Program



Watson Elementary started the Safer School Travel Program this quarter. The school was quick to form a working group and hit the road running with meetings, a family survey and walkabout activities taking place before school broke for summer holidays. The team will pick up again in the fall as they work toward completion of a Best Walking Routes Map for their school population and a Road Safety Plan that will be used as a reference tool for future years.



3-Strikes



The Safer City team continued with 3-Strikes projects. Vedder Mountain Road, Boundary Road and Chilliwack Mountain Road saw the team out in full force addressing speed in these areas. The framework of a 3-Strikes project consists of: Strike 1 = the posted speed limit; Strike 2 = Speed Watch with their electronic speed reader boards which provide feedback to drivers; and Strike 3 = the RCMP location where violation tickets may be issued.

Scooter Road-eo

The second annual “Scooter Road-eo” was held on April 27 in partnership with Speed Watch, Chilliwack and District Seniors Resources Society, the RCMP, Discount Mediequip, CN Police and First Transit Canada. This interactive open house on safe scooter use brought in nearly 40 visitors. A slalom course, operator speed alley, bus access, ramp, rail crossing practice, sidewalk and door practice, and trying a variety of scooters all were part of the interactive activities; informational booths were also showcased. Attendees included some visitors who were still driving motor vehicles but attended the event because they were planning for the future as they retire from driving and move into travelling by scooter.



School Zone Projects

The Safer City team continued to focus education and enforcement efforts in school zones this quarter. As school zones see some of the most vulnerable road users in the community, the team’s commitment to increasing safety in and around school zones remains a priority. The following schools saw the team out this quarter on multiple project days:

- Watson Elementary
- Greendale Elementary
- Vedder Elementary
- Bernard Elementary
- Tyson Elementary
- East Chilliwack Elementary
- Central Elementary



Safer City also participated in partnership with Star 98.3 & RE/MAX for a Kindness Crew project in the Bernard Elementary school zone in June. The project focus was to reward good driver behaviour in the school zone. The RCMP, radio station, realtors, teacher and students from the school would thank the driver and provide them with a giveaway once they were stopped and parked in a safe location.

Bailey Sanitary Landfill Geocomposite Drainage Layer

A geocomposite drainage layer was applied to the front (north) slope of the Original Landfill Area (OLA) during the month of May. This is the third section of geocomposite drainage layer that has been applied to the north slope of the OLA out of a planned total of five sections. These geocomposite drainage layers assist with conveying leachate generated from the waste applied against them as landfilling progresses in the expansion cells to the north of the OLA. The captured leachate is directed down towards the existing leachate collection systems and ultimately to the Wastewater Treatment Plant.



Curbside Glass Collection

Bi-weekly, separate curbside glass collection to the 21,900 homes receiving curbside collection service began on April 2. Grey bins were delivered to residents on the curbside program in March, and education continued through April, targeting non-program materials (i.e. drinking glasses, window panes).

Overall, collection has been successful thus far, with Emterra able to perform the service with co-collection trucks most days, and a dedicated glass truck when required. An average of 64 tonnes of glass were collected each month during the first two months of the service.

Green Commuter Challenge



The City's annual Green Commuter Challenge is designed to encourage residents to leave their cars at home and use a more sustainable form of transportation for their commute.

During the 2019 challenge, the City received 442 ballot entries from residents who biked, walked, bused, carpooled, etc. for their commute from May 27 to June 9. This year's prize bike was a Trek Dual Sport 1 valued at \$660, which was kindly donated by Vedder Mountain Bike Co. with a contribution from the City of Chilliwack.

This year's winner of the Green Commuter Challenge was Hafsa Salihue. Hafsa takes green commuting seriously by carpooling to work here in Chilliwack every day. She plans to use her new bike to explore portions of the Experience The Fraser trail with her mom now that they have a second bike.

Earth Month

Activities focused on waste reduction and environmental conservation were once again well received by the community during the City's annual Earth Month events in April.

Roadside Clean-Ups

176km of roadsides throughout the community are routinely cleaned up by over 103 volunteer groups participating in the City's Adopt a Road program.

Residential Pick-Ups

For those in our community who do not have the means to load or transport bulky waste, three volunteer groups arranged to collect the items by donation. The groups collected 8.2 tonnes of material that was responsibly recycled, disposed of, or composted.



Scrap Metal Recycling: 75.3 tonnes of metal diverted

Scrap metal was received for free at the Bailey Landfill during the month of April. The metal was removed off-site by a contractor for recycling. In total, 821 loads were received, totaling 75.3 tonnes. This is an increase of approximately 10 tonnes over last year.

Semi-Annual City-Wide Garage Sale

Over 190 residences registered for the popular spring City-Wide Garage Sale this year. Residents were given the option of registering their home or housing complex online to have their address listed both on the City website and in the local paper. A summary of the types of items available for sale at each participating location was also made available to the public. In addition, the City website directs participants to a list of organizations in which they can take their leftover useable clothing and household items after the sale. This semi-annual initiative supports our reuse and recycling goals at little cost to the public.

Free Soil Giveaway

On Earth Day, April 22, BioCentral, the contractor that operates the Parr Road Green Depot, gave away 480 free bags of compost.

Adopt a River Event



Over 125 volunteers from the community and the adopting groups spread out along the banks of the Chilliwack/Vedder River on April 13 to help clean up litter and illegally dumped items left behind by others. Coordinated by the Chilliwack-Vedder River Cleanup Society, the volunteers collected 3.5 tonnes of waste during this year's first of two Adopt a River clean-ups. Various materials including clean wood and metal were diverted for recycling before the remainder of material was disposed of responsibly at the Bailey Landfill.

Shred-A-Thon & Food Drive

The June 1 Shred-A-Thon & Food Drive was another huge success, collecting \$3,542 in cash and \$1,755 in food for the Salvation Army from residents taking advantage of the free document shredding service. The successful event was hosted by Shred-it, Emterra and Cottonwood Mall. Emterra generously contributed an additional \$3,542 to the Salvation Army, bringing the total cash donation to \$7,084. The next Shred-A-Thon & Food Drive will be held on December 7 of this year.



Salmon Release



During recent Earth Month celebrations at Skowkale Fish Hatchery, School District 33 students released thousands of chum salmon into Chilliwack Creek. City staff were on hand to help and discuss other stewardship options schools can engage in.

Habitat Enhancement

Students from Unity Christian School helped restore wildlife habitat with the City's Parks and Environmental Services staff.



Japanese Knotweed Management



The City's annual Japanese Knotweed treatment program recommenced this spring, with approximately 100 knotweed patches on public land being treated by a contractor, Morrow BioScience. Patches are mapped and prioritized for treatment based on potential impact to public infrastructure such as dikes, roads, or utilities.

Photo Point Monitoring Post Installation



Students will use recently installed photo-point monitoring posts to take photographs each season recording ecological change over time at newly created salmon spawning channels.

Tree Planting

Girl Guides and Skowkale Hatchery volunteers recently planted trees along Chilliwack Creek to improve habitat for chum salmon. The City facilitated the donation of the trees and staff were on hand to assist.



McGillivray Pump Station Upgrade



Construction by the design-build team of Gerry Enns Contracting Ltd. / Urban Systems Ltd. on the \$4.7 million project is complete and the City Operations Department has taken over operation of the facility.

The work included construction of a new electrical building with standby generator plus upgrades to the pump intake structure, pump discharge piping and new 600 HP pump/motors. The floodbox was also retrofitted to include a new automated slide gate.

The project is being funded \$4.2 million by the Province of BC.