

Rotary Park Hydrovac Observation Report

FOR INFORMATION ONLY

Report Number:	1 Rev.1	Project Name:	Drumheller Spray Park Engineering Design & Construction Support
Date:	March 29, 2022	Project Number:	23.2311.001 (SweetTech)
Report By:	Scott Crawford, EIT	Weather:	1°C to 9°C Sunny and Clear

Observations:

To support improvements and realignment to the existing drainage system of the Drumheller spray park and fountain, SweetTech coordinated an investigative hydrovacating program. This observation report should be read in conjunction with SweetTech Engineering Consultants (SweetTech) and KC Hydrovac's OH&S material covering environmental policy, contaminated soil procedures, and contaminated soil disposal procedures for the hydrovacating works at Rotary Park. All hydrovacating works adhered to these ATCO approved plans, including but not limited to: the safe removal and disposal of contaminated soils and other materials (rubble, groundwater, etc.), following ATCO safety protocols for digging around and exposing live electric wires, ensuring ground disturbances are backfilled in conformance with ATCO and Town of Drumheller specifications, and maintaining adequate signage and barriers during the duration of the works to keep the public back from the construction areas. ATCO representatives were present for the entire duration of hydrovacating activities, and the works were successfully carried out in accordance with all ATCO approved OH&S and environmental policies with no concerns or issues to report.

Scott Crawford (SweetTech) arrived on site at approximately 8:50 am on March 29th, 2022, to coordinate and observe hydrovacating activities at the Rotary Spray Park in Drumheller. SweetTech conducted a brief site walkthrough with Kyle Wood (KC Hydrovac) upon arrival to site, relaying the areas to be hydrovaced in the park. Two ATCO representatives arrived on site at approximately 9:00 am, and a safety orientation was conducted between all parties. ATCO representatives outlined key safety concerns when working around and exposing underground power lines and communicated that the electrical lines that would be exposed during the hydrovacating activities in rotary park would be in-conduit with a voltage of approximately 25 kV.

SweetTech arranged for private locates to be conducted by Line Hunter Locating Ltd. on March 24th and 25th to ensure all utilities throughout the park had been painted and/or flagged before the commencement of hydrovac activities. Hunter Wallace Survey was also contacted the week prior to mark out the areas that SweetTech planned to expose the utilities in potential conflict with the new spray park drainage redesign components. During the earlier site walkthrough, it was noted by SweetTech that the utility linework provided by the Town of Drumheller shown on the SweetTech drawings did not align with the marked utilities throughout the park. Based on this

Observations (Continued):

discrepancy, SweetTech adjusted the locations of some of the proposed hydrovac locations to ensure conflict areas could be daylighted and surveyed. See Figure 1 for the approximate hydrovac locations throughout Rotary Park.

The first area to be hydrovaced was the location of a proposed new manhole for the redesigned drainage. This location is denoted as number 3 on the attached markup, directly north of the spray park concrete pad. The hydrovaced rectangular hole was approximately 1 m long by 0.25 m wide. Hydrovacing at this location revealed concrete rubble and abandoned wiring above the existing ATCO lines. These materials are suspected to be components of the former pump house that previously resided in the area. The hole terminated at a depth of approximately 1.25 m, two ATCO lines surrounded by plastic conduit were located.

The second location to be hydrovaced was just south of the transformer box next to the aquaplex, denoted by number 2 on the markup. The hydrovaced rectangular hole was approximately 0.6 m long and 0.3 m wide. There were no anomalous materials found during hydrovacing at this location. The hole terminated at a depth of approximately 1.20 m where two ATCO lines surrounded by plastic conduit were located.

SweetTech requested an additional hydrovac location to confirm the alignment of the ATCO line as it travelled east, out of the park and towards the existing parking lot. A location was chosen just west of the parking barricades separating the sidewalk and the park, where the existing ATCO line intersected the existing AltaGas Line. This location is clouded and labelled number 1 on the attached markup. The hydrovaced rectangular hole was approximately 0.6 m long and 0.3 m wide. There were no anomalous materials found during the hydrovacing at this location. The hole terminated at a depth of approximately 1 m, two ATCO lines and one AltaGas line were located. All the lines were surrounded in plastic conduit.

It was communicated to SweetTech by KC Hydrovac that the hydrovac truck would not fit through the existing service road between the trees near the south-west corner of the aquaplex. There were concerns that the hydrovac truck's exhaust tubes would be damaged by the tree limbs. SweetTech communicated to Kyle Wood (KC Hydrovac) that they could travel through the tennis courts east of the aquaplex, and along the existing dike pathway to get to the back (west) side of the park. This route was previously used successfully for heavy equipment required for recent tree clearing activities. The hydrovac was able to successfully take this route to reach the west side of rotary park.

The fourth location to be hydrovaced was originally going to be within the small section of trees to the east of the spray park concrete footprint (see crossed out cloud on markup). SweetTech communicated to KC Hydrovac that the hydrovac location would be moved slightly north-west, to follow the marked ATCO utility line highlighted by the private locate. The location of hydrovacing can be seen at number 4 on the attached markup. The hydrovaced rectangular hole at this location

Observations (Continued):

was approximately 1 m long and 0.6 m wide. The hole was slightly irregular in shape, as hydrovacing at this location proved difficult due to the discovery of unexpected, buried objects: a number of red clay bricks were exposed at approximately 0.5 m below the surface, and these bricks continued to appear scattered throughout the dig as depth increased. It is unknown what these bricks were historically a component of, as this location was between the historic pump house and substation footprints. At a depth of approximately 1.4 m, a single ATCO line was located, surrounded by plastic conduit.

Between the hydrovacing of the fourth and fifth holes, SweetTech spoke to Kevin Blanchett (Town of Drumheller) and communicated the need for plywood and cones to cover the hydrovac holes until the exposed utilities had been surveyed and the holes could be backfilled. A laborer from the town delivered these boards and cones, and the previously dug holes were covered and marked for safety.

The fifth and final hydrovac location was at the southmost fence line of the park, denoted by cloud 5 on the markup. The hydrovaced rectangular hole was approximately 0.6 m long and 0.3 m wide. During hydrovacing at this location, a small number of red clay bricks were exposed. It is likely these bricks were components of the demolished and buried plant structure that used to be in the area. At a depth of approximately 1.4 m, two ATCO lines surrounded by plastic conduit were located.

SweetTech communicated to the two ATCO representatives that this was the last of the hydrovac activities for the day. SweetTech also communicated that Hunter Wallace survey would be coming by the park at the completion of hydrovac activities to get survey coordinates of the exposed utilities before the holes were backfilled. After approximately 3.5 hours on site, ATCO representatives left the rotary park at 11:30 am.

SweetTech communicated to Kyle Wood (KC Hydrovac) that the material hydrovaced had to be disposed of at the contaminated materials landfill outlined in the approved OH&S plan. KC Hydrovac left site after equipment cleanup at approximately 12:00 pm to dispose of the hydrovaced materials and perform a full truck cleanout at Secure Energy Services Disposal Facility outside of Drumheller.

At 12:30 pm, SweetTech met with the crew from Hunter Wallace Surveys, and communicated that the location and elevations of each utility exposed would require survey. The surveyors took elevations at ground level of each hole, and then elevations at the top of conduit of each exposed utility. At 1:00 pm, Hunter Wallace completed survey pickups and left site. A summarized table for the collected survey data can be found below:

Observations (Continued):

ROTARY PARK HYDROVACED UTILITY SURVEY DATA				
Description	Northing	Easting	Elevation	Depth (m)
VAC HOLE #1 - GROUND	5704323.499	89670.828	682.748	-
VAC HOLE #1 - GAS 1	5704323.940	89670.771	681.846	0.902
VAC HOLE #1 - ATCO 1	5704324.013	89670.656	681.760	0.988
VAC HOLE #1 - ATCO 2	5704323.922	89670.631	681.676	1.072
VAC HOLE #2 - GROUND	5704329.064	89651.970	683.138	-
VAC HOLE #2 - ATCO 1	5704329.339	89651.890	681.946	1.192
VAC HOLE #2 - ATCO 2	5704329.324	89651.764	681.899	1.239
VAC HOLE #3 - GROUND	5704328.741	89638.495	683.453	-
VAC HOLE #3 - ATCO 1	5704328.435	89638.259	682.199	1.254
VAC HOLE #3 - ATCO 2	5704328.464	89638.268	682.104	1.349
VAC HOLE #4 - GROUND	5704330.201	89613.859	684.000	-
VAC HOLE #4 - ATCO 1	5704330.397	89613.690	682.594	1.406
VAC HOLE #5 - GROUND	5704260.220	89632.859	682.828	-
VAC HOLE #5 - ATCO 1	5704259.773	89632.894	681.435	1.393
VAC HOLE #5 - ATCO 2	5704259.773	89632.894	681.435	1.393

At approximately 2:00 pm, two laborers from the Town of Drumheller arrived on site with a Volvo compact wheel loader with a bucket full of bedding sand. It was communicated to SweetTech by the Town that the holes would be filled with sand, allowed to settle, and then laborers would return and re-fill any slumped holes with topsoil as needed. Laborers completed backfilling the final hole at approximately 2:30 pm, and left site at 3:00 pm after using the remaining sand to even out ruts in the parks access road.

SweetTech performed a final site walkthrough at 2:45 pm to ensure all the hydrovaced areas were properly backfilled with sand. The site was deemed safe and stable, and Scott Crawford (SweetTech) left site at 3:00 pm.

Equipment on-site:

- Hydrovac Truck
- Volvo Compact Wheel Loader

March 29th, 2022:

SweetTech on-site: 8:50 am – 3:00 pm

KC Hydrovac on-site: 8:45 am – 12:00 pm

ATCO on-site: 9:00 am – 11:30 am

Town of Drumheller on-site: 2:00 pm – 3:00 pm

Photos:



Photo 1: Hydrovac truck setting up for hydrovacating of location 3.



Photo 2: Hydrovaced hole at location 3.

Photos (Continued):



Photo 3: Exposed ATCO utility conduits at location 3. Concrete rubble and abandoned wires above and around the conduit. Photo taken facing East.



Photo 4: Hydrovaced hole at location 2.

Photos (Continued):



Photo 5: Exposed ATCO conduits at location 2. Photo taken facing East.



Photo 6: Hydrovaced hole at location 1.

Photos (Continued):



Photo 7: Exposed ATCO and AltaGas utility conduits at location 1. ATCO conduits in grey, AltaGas in yellow. Photo taken facing East.



Photo 8: KC Hydrovac employees hydrovacating at location 4.

Photos (Continued):



Photo 9: Red clay bricks at approximate depth 0.5 m while hydrovacating at location 4.



Photo 10: Hydrovaced hole at location 4.

Photos (Continued):



Photo 11: Exposed ATCO utility conduit at location 4. Red clay bricks seen in the excavated hole. Photo taken facing South.



Photo 12: Hydrovaced hole at location 5.

Photos (Continued):



Photo 13: Exposed ATCO utility conduits at location 5. Red clay bricks seen in the excavated hole. Photo taken facing East.



Photo 14: Plywood boards and construction cones placed on top of hydrovaced holes while waiting for survey to arrive.

Photos (Continued):



Photo 15: Town of Drumheller backfilling the hydrovaced holes with sand using shovels and a Volvo compact wheeled loader.



Photo 16: Hydrovaced hole at location 3 backfilled with sand.