

TOWN OF DRUMHELLER

East Coulee Water Fill Station Task Force Report

March 24, 2014

Presented by Councillors Sharel Shoff and Lisa Hansen Zakaruk

BACKGROUND

The Task Force met on January 19, 2014 at the Badlands Community Facility with residents of East Coulee who had made appointments through the town office to bring their concerns about the water fill station to the attention of the Task Force. The Terms of Reference were approved by Council on January 13, 2014 as follows:

1. Conduct interviews with East Coulee residents upon their request with dates and times to be coordinated by the Council appointees
2. Meet with Town administration following the community interviews to present their findings and
3. Provide findings and a recommendation to Council at a public meeting
4. Report to be presented at the March 24th Council Meeting .

Each resident had 15 minutes to bring forth their comments which were recorded by the Town Secretary. Several residents expressed their concerns that they wanted a public meeting rather than presenting their concerns individually.

Handouts were available for the residents which included preliminary drawings of what the fill station would look like and Stantec's preliminary site plan for the fill station.

Emails and any letters or phone calls were accepted.

On January 19th, 2014 the Task Force explained:

- The transmission line project to the residents;
- The proposed location for the fill station will allow for flushing at the end of the transmission line;
- The water fill operations would be available to area residents with suitable controls in place; and
- The water fill station would be aesthetically pleasing.

FINDINGS (Summary of residents' comments presented to the Task Force are attached as Schedule A)

The residents presented concerns relating to environmental, operational, location, noise, safety, aesthetics, truck traffic increase, deteriorating road conditions and impact on their quality of life.

BASED on the concerns expressed by the residents, the following questions / actions were addressed by Administration:

1. Environment testing (creosote concerns and runoff).
2. Types of activity.
3. Options to extend line to fire hall with installation of residential water fill only, options for other site locations.
4. Options for a highway merge lane.
5. Increase value or devalue properties.
6. Requirement for a development permit.
7. If East Coulee would have accepted a waterline distribution would the Town still install a fill station?

FACTS

- 1) The Town employed the services of Stantec for environmental testing. The Executive Summary is attached to the report as Schedule B.

The result of the testing is summarized below:

- Subsurface soil and ground water investigation-
- Borehole drilling and soil sampling program completed on the site to characterize potential impacts which may have been due to historic presence of a railway line, collect baseline soil and groundwater data. Results were filed screening results for combustible sil vapour concentrations were not considered elevated.
- Samples taken from newly installed groundwater monitoring well, and water levels were measured to evaluate groundwater levels, quality, and flow direction.
- Soil analytical results indicated the concentrations of the following parameters exceeded the referenced guidelines:
- Petroleum hydrocarbon fraction from .5 meters below ground surface at the water filling station area
- Hot water soluble boron from surface to 1.0 meters below ground surface at the both water filling station and residential areas and

- Polycyclic aromatic hydrocarbons naphthalene, phenanthrene and prene from .5 mbs at the water fill station arise
- Soil salinity ratings are believed to be indicative of naturally occurring conditions in East Coulee area
- Groundwater analytical results indicated that the concentrations of the following exceeded the referenced guidelines:
 - o TDS, nitrate, nitrite sulphate and sodium from the proposed site and TDS and nitrate from the residential area;
 - o Dissolved aluminum, cadmium, iron, manganese, selenium and uranium from the water fill station area and manganese and selenium from the residential area
 - o Benzo, pyrene, pyrene and the benzo from both the waterfill station and residential area

BASED on the results of the Phase 11ESA, the Site is a suitable location for a water filling station. It is unlikely that ground disturbance activities associated with the installation of a PVC waterline and water filling station would contribute to the mobilization of identified soil contaminants to domestic use wells in the district of East Coulee. Of more immediate concern is the identification of contaminants in the local surficial groundwater, as the water well records obtained from the Alberta Water Well Database suggest local residents may be using the surficial groundwater as a potable water source. The installation of a water line with filling station will not contribute to human health risk associated with current subsurface conditions beyond the level that already exists, however, would provide an alternate, clean, safe and dependable source of potable water.

- 2) The existing fill stations within the valley do not have restrictions on hours of operations.
- 3) Options to extend the line to the fire hall was determined not to be practical due to safety concerns, limited site radius and increased traffic in a residential area.
- 4) Alberta Transportation will not allow another entrance to East Coulee or consider a fill station at other locations along Highway 10.
- 5) Discussion with Wildrose Assessment Services indicate that there may be a nominal increase in property value.
- 6) A Town of Drumheller development permit was not necessary because this is a water utility as per the Municipal Government Act.

- 7) The Town of Drumheller would still have installed a water fill station if the residents of East Coulee approved a water line distribution.
- 8) The location of the fill station at other suggested alternate locations does not meet good engineering practices for flushing of water lines to maintain good water quality.

RECOMMENDATIONS:

1. The water fill station should be installed at this location.
2. The size of the line for the water fill station is not to exceed 1 ½" and also would include bucket fill smaller quantity of water.
3. The hours of operation are from 7:00 AM – 10:00 PM as per the Community Standards Bylaw and activity is to be monitored to ensure compliance.
4. The appearance of the water fill station should be chosen to enhance the appearance of the entrance to East Coulee. Options will be provided and we will ask East Coulee for their preferred option.
5. The size of the trucks permitted to use the fill station must be no larger than 28,000 kgs.

SCHEDULE A

The following statements were presented by the residents in opposition:

1. List of residents' names in opposition was received by the Town
2. Town does not favour cultural development
3. Interference with other businesses, i.e. hotel, artistic business
4. Impact on East Coulee's tourism existing and new opportunities
5. Safety for children
6. Increased taxes
7. No development process – if you build a house there is a development process and an opportunity for appeal from neighbours
8. Lack of information and communications
9. Aesthetic concerns
10. Oppose proposed location
11. Location should be at Fish Lake Road entrance
12. Location – fire hall for residential use only
13. Creosote contamination from rail bed ground disturbance (cancer rates)
14. Noise from truck traffic as well as filling (valley is narrow and noise reverberates against the hills)
15. Diesel smell from trucks (air pollution)
16. Fill station use for fracking operations and hog barn operations
17. Truck traffic increase (three way intersection); trucks failing to yield
18. Not a similar operation to Rosedale as they have been told
19. Deteriorating road conditions due to truck traffic (road already has potholes)
21. 24 hour fill station with no assurance of traffic flow
22. Fill station will detract from their community quaintness and quiet setting

23. Commercial fill station contravenes Water for Life purpose (safe drinking water)
24. Fill station will service non residents of Drumheller
25. Proposed location is being used for parking especially during peak periods Spring Festival, hotel and bar
26. Impact on their quality of life.

The following statements were presented by the residents in favour:

1. Entrance to East Coulee will be more appealing
2. Residents will not have to haul water
3. In favour, but move it 200 ft to the east
5. A move towards progress.
6. Replacing the water fill station concept with a small scale water fill on the side of the fire hall has great merit:
 - it would provide water for any residents of East Coulee who would like it
 - it would keep industrial users accessing facilities in industrial areas
 - it would preserve the natural and built heritage, allowing the tourism industry to develop
 - it would preserve the quality of life currently enjoyed by the residents of East Coulee.

BASELINE PHASE II ENVIRONMENTAL SITE ASSESSMENT

Executive Summary

Stantec Consulting Ltd. (Stantec) was retained by the Town of Drumheller to conduct a Baseline Phase II Environmental Site Assessment (ESA) within the East Coulee district of Drumheller, Alberta (the Site). The purpose of the assessment was to collect baseline soil and groundwater analytical data prior to the installation of a water line and water-filling station which is to be located at the intersection of 1st Avenue and 5th Street in East Coulee, Alberta.

The findings of this program are as follows:

Subsurface Soil and Groundwater Investigation

- On February 12 and 13, 2014, a borehole drilling and soil sampling program was completed on the Site to characterize potential impacts which may have been due to the historic presence of a railway line, and to collect baseline soil and groundwater data. Eight boreholes were advanced to a maximum depth of 10.5 mbgs. Five of the boreholes (MW14-01 through MW14-05) were completed as groundwater monitoring wells. Field screening results for combustible soil vapour (CSV) concentrations were not considered elevated. Soil samples were collected from each of the boreholes.
- On February 19, 2014, Stantec representatives collected one groundwater sample from each newly installed groundwater monitoring well. Prior to collecting the samples, combustible headspace vapour (CHV), phase-separated hydrocarbons (PSH), and water levels were measured to evaluate groundwater levels, quality, and flow direction. The locations and elevations of the boreholes/monitoring wells were surveyed by Hunter Survey Systems of Calgary, Alberta;
- Soil analytical results indicated that the concentrations of the following parameters exceeded the referenced guidelines:
 - Petroleum hydrocarbon fraction (PHC) F4 from 0.5 mbgs at the water-filling station area;
 - Hot water soluble boron from surface to 1.0 mbgs at the both the water-filling station and residential areas; and
 - Polycyclic aromatic hydrocarbons (PAHs) naphthalene, phenanthrene and pyrene from 0.5 mbgs at the water-filling station area.
- Salinity soil samples collected from both the proposed ground disturbance and residential areas of the Site had equivalent rating categories for both EC and SAR. The soil salinity ratings are believed to be indicative of naturally occurring conditions in the East Coulee area.
- Groundwater analytical results indicated that the concentrations of the following parameters exceeded the referenced guidelines:

BASELINE PHASE II ENVIRONMENTAL SITE ASSESSMENT

- TDS, nitrate, nitrite (as N), sulphate and sodium from the water -filling station, and TDS and nitrate from the residential area;
- Dissolved aluminum, cadmium, iron, manganese, selenium and uranium from the water-filling station area, and manganese and selenium from the residential area; and
- Benzo(a)pyrene, pyrene and the benzo[a]pyrene equivalency from both the water -filling station and residential areas.

Base on the results of the Phase II ESA, the Site is a suitable location for a water filling station. It is unlikely that ground disturbance activities associated with the installation of a PVC waterline and water-filling station would contribute to the mobilization of identified soil contaminants to domestic use wells in the district of East Coulee.

Of more immediate concern is the identification of contaminants in the local surficial groundwater, as the water well records obtained from the Alberta Water Well Database suggest local residents may be using the surficial groundwater as a potable water source. The installation of a water line with filling station will not contribute to human health risk associated with current subsurface conditions beyond the level that already exists; however, would provide an alternate, clean, safe and dependable source of potable water.

As the Water Well Database may not include well completion details for all domestic use wells in East Coulee, it is recommended that ground-truthing be performed to assess the actual number of domestic wells in use for domestic purposes. The domestic wells should then be tested for dissolved PAH parameters and nitrates. Additionally, Alberta Environment and Sustainable Resource Development and Alberta Health should be contacted and the identification of contaminants in soil and groundwater be reported.

The statements made in this Executive Summary are subject to the same limitations included in Stantec's Statement of Limitations, presented in Section 7.0, and are to be read in conjunction with the remainder of this report.

BASELINE PHASE II ENVIRONMENTAL SITE ASSESSMENT

Laboratory Program
March 2014

3.0 Laboratory Program

3.1 SOIL

Soil samples were analyzed as follows:

Parameter	No. of Samples Analyzed
BTEX, PHC fractions F1 to F4	8
PAH	12
Metals	16
Salinity	16
Particle Size	3

3.2 GROUNDWATER

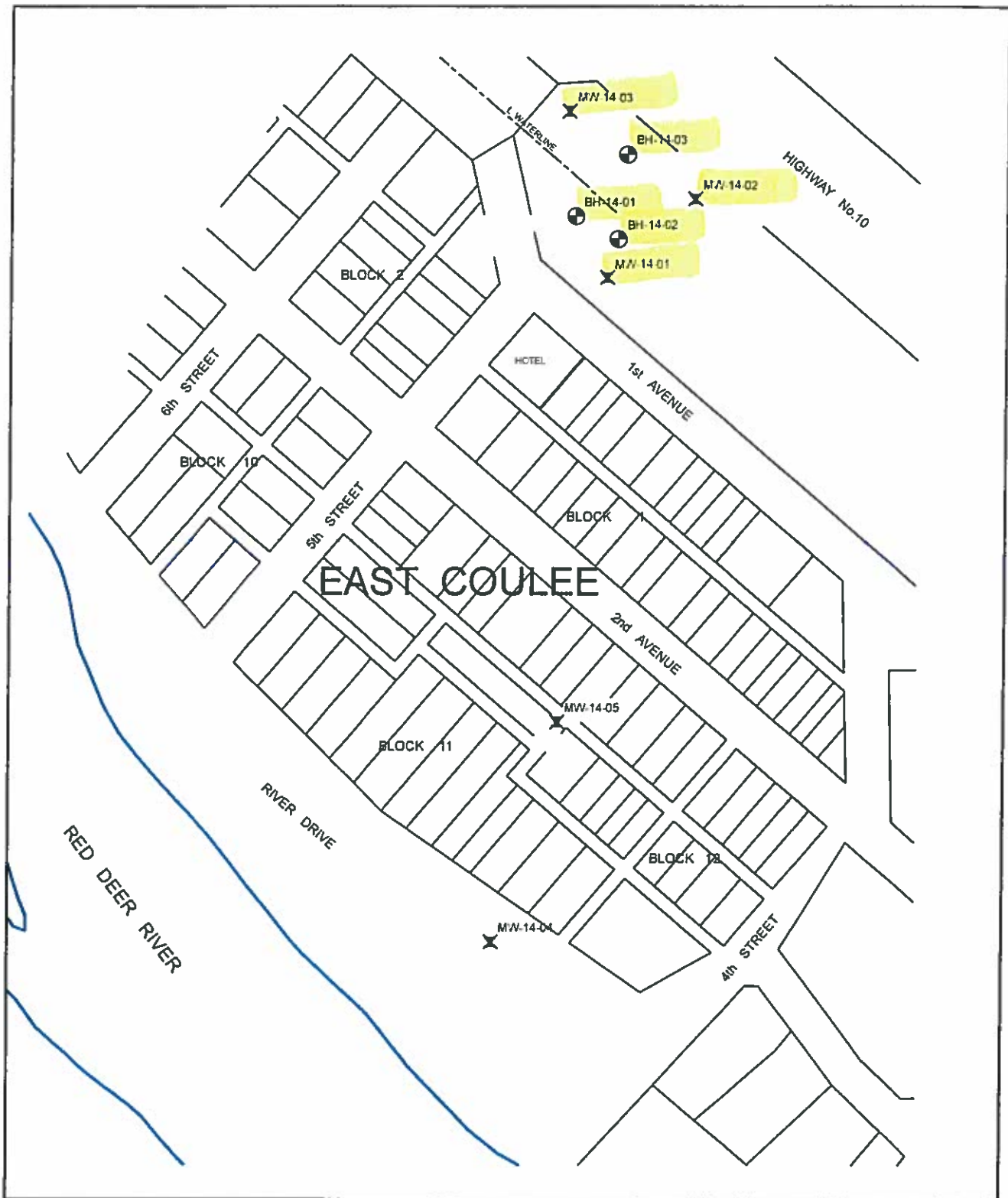
Four groundwater samples collected from the installed monitoring wells were analyzed for BTEX, PHC fractions F1 and F2, and PAH. Three groundwater samples collected from the installed monitoring wells were analyzed for dissolved metals and routine potability.

3.3 QUALITY ASSURANCE & QUALITY CONTROL

The following field quality control procedures were used:

- Sample collection procedures followed CCME Guidance Manual on Sampling, Analysis, and Data Management for Contaminated Sites, Volume I: Main Report (CCME 1993);
- Stantec staff wore new, clean, disposable nitrile gloves during the collection of each sample;
- Maxxam in Edmonton, Alberta, is certified and accredited by the Canadian Association for Laboratory Accreditation (CALA); and
- As part of routine quality control procedures, Maxxam analyzes and assesses method blanks, replicates, Certified Reference Materials, method spikes, and surrogate recoveries to assure data quality.

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March, 2014
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LEGEND:

-  Monitoring Wells
-  Boreholes



1100 - 4930 50th Street Red Deer, AB T4N 1X7
Stantec does not certify the accuracy of the data.
This map is for reference only and should not be used for construction.



0 12.5 25 50 75 100
Meters
1:2500

Client/Project

TOWN OF DRUMHELLER
PHASE II ENVIRONMENTAL SITE ASSESSMENT
EAST COULEE DISTRICT, DRUMHELLER, ALBERTA

Figure No.

2.0

Title

Site Features Plan