

Staff Report

**FITCH FAMILY INDOOR AQUATIC CENTER
PROPERTY ACQUISITION UPDATE (IDOT SITE)**

July 12, 2022

BACKGROUND:

At the May 10, 2022 City Council meeting, staff provided an update regarding the proposed new warm-water Indoor Aquatic Center (IAC) at 122 North Oak Avenue. This update included a section discussing the status of the land acquisition. Based on the information obtained in the Phase I and Phase II environmental site assessments (ESAs), staff requested and Council approved pursuing further environmental investigation.

The City retained a contractor, Impact7G, to complete an environmental analysis of the 122 North Oak Avenue property. Preliminary information presented to the City Council on May 10 is summarized below; activities completed since that date have been outlined in the section that follows the information below (beginning on page 3 of this report).

PHASE 1 ENVIRONMENTAL SITE ASSESSMENT (ESA):

The ESA reviews records to determine the history of the site. Of concern is a coal gas company which was located north of the property along 2nd Street, as well as a variety of petroleum activities (bulk oil stations, filling stations, and several gasoline tanks) to the north and east.

The Assessment identified several Recognized Environmental Conditions (RECs) which are defined as *“the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1) due to release to the environment; 2) under conditions indicative of a release to the environment; or 3) under conditions that pose a material threat of a future release to the environment.”* The following RECs were identified:

- Historical records indicate that, for several decades in the 1900s, multiple sites north, northeast, and east of the Property were occupied by manufacturing, gas, and oil facilities. Fire insurance maps show the Property itself had a gas filling station and storage tanks near its northeastern corner between at least 1947 and 1963.
- A former Leaking Underground Storage Tank (LUST) site (821 Lincoln Way) was closed in the State regulatory program. Contaminant plume and pathways maps indicate contamination, or the potential for future contamination, to have reached the Property’s southeastern corner. Past reports show two soil samples and

groundwater monitoring wells were installed immediately east of the Property. In 2001, the two samples indicated a low contaminant concentration in soil.

- Regulatory records for a State-regulated contaminated site immediately north of the Property (903 2nd Street) included a Phase II report that was conducted on the Property in 1994, which included nine testing locations that showed petroleum contamination in the northeastern corner of the Property. Investigations for the north-adjointing site included six monitoring wells to delineate contamination in the northeastern corner of the Property. **That case was closed in 2021, but with contaminants of concern exceeding Statewide Groundwater Standards in the far northeastern corner of the site as recently as September 2020.** Impact7G considers the documented contamination a REC under a condition indicative of a release to the environment.

As a result of these findings, Impact7G recommended performing additional investigation. This resulted in the City retaining Impact7G to complete a Phase II Environmental Site Assessment. Key findings from this assessment include:

ASBESTOS CONTAINING MATERIAL (ACM) INSPECTION – NORTH ANNEX:

This inspection found approximately 460 square feet of membrane adhesive and 70 linear feet of tar on the roof that contain asbestos.

HAZARDOUS MATERIAL INVENTORY:

Hazardous materials were identified throughout the structures. The DOT has agreed to remove some, but not all, of these items prior to vacating the premises.

GROUND PENETRATING RADAR SURVEY (GPRS):

When researching the site, it was noticed there is no record that the filling station's underground storage tanks were ever removed. This is not uncommon, thus a GPRS was conducted and no storage tanks were identified. However, a DNR representative indicated GPR is ineffective in the state of Iowa due to the general soil composition.

GEOTECH/ENVIRONMENTAL PHASE II STUDY:

Geotechnical borings are conducted to survey the soil and groundwater conditions to determine if the site is suitable for construction. Findings suggest the soils are suitable for all types of construction. However, groundwater was detected 7-10 feet below the surface and there are some sand seams in some of the borings. This may require special footings to be constructed which will increase cost. This will be accounted for in the project budget. It should be noted that only nine borings were completed over a nearly three-acre site (Exhibit 1 below). It should be emphasized, unforeseen problems with soil conditions could still be detected once construction starts.

Exhibit 1 – Locations of Borings Conducted in April 2022



LIMITED SUBSURFACE INVESTIGATION (LSI)/ENVIRONMENTAL PHASE II STUDY:

Three environmental and Geotech borings (TMW-1, TMW-2, and TMW-3) were drilled on the east side of the property as shown in Exhibit 1. Environmental borings check for color and odor of the soil, as well as testing the ground water for contaminants. The tests from these borings identified several contaminants that exceeded the limits included in the State-Wide Standards (SWS). Monitoring wells previously on the site also detected contaminants that exceeded SWS as recently as 2020. These monitoring wells were abandoned in 2021.

UPDATE REGARDING ENVIRONMENTAL ISSUES:

Since the May 10 report to City Council, staff has taken several specific actions to better understand the implications of the environmental contamination identified on the site. These include:

1. Reviewing in detail the findings of the environmental studies and historical documents
2. Retaining Impact7G to conduct additional environmental borings and groundwater samples
3. Consulting with DNR regarding:
 - a. Geophysics Survey
 - b. Formal comments relating to the proposed aquatic center project
4. Investigating the potential costs to address the contamination, in addition to the land acquisition costs
5. Discussing the findings of these reports and their impact on the sale with DOT representatives

1. DETAILED FINDINGS OF ENVIRONMENTAL CONTAMINATION:

The Iowa DNR publishes a set of standards called “Statewide Standards” (SWS), which “represent concentrations of contaminants in groundwater and soil for which normal, unrestricted exposure is considered unlikely to pose a risk to human health.” The SWS include different contaminant concentration limits for:

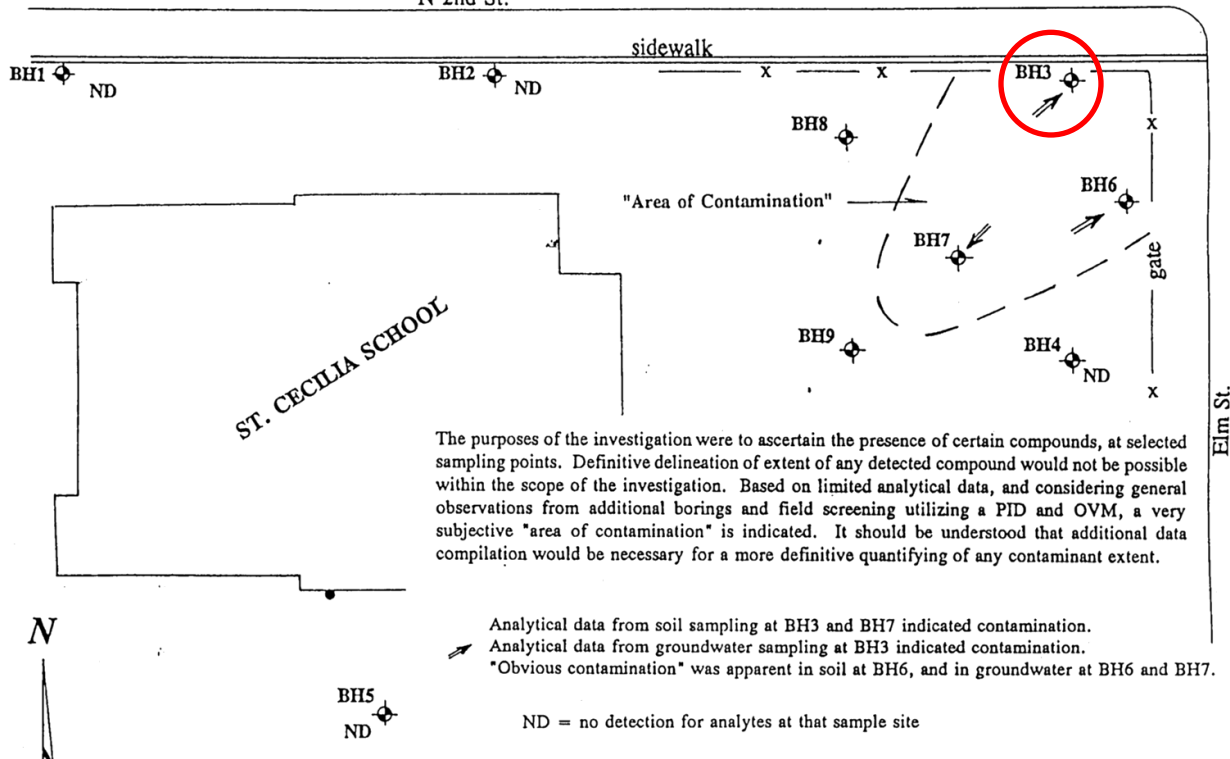
- 1) Protected groundwater sources (SWS-PGWS), which are areas that could be tapped by a well for drinking water production, and
- 2) Non-protected groundwater sources (SWS-NPGWS), which are areas where the soil or groundwater conditions would not allow for a productive drinking water well to be drilled, so limits are higher.

It should be noted that although several of the earlier environmental reports regarding the property utilize the more stringent SWS-PGWS, **the City’s environmental consultant, Impact7G, expressed an opinion in April 2022 that the site is subject to the less stringent non-protected groundwater source standards.** Therefore, those standards are used in this section of this report. Additionally, concentrations referred to in this staff report have all been converted to parts per billion (ppb) for consistency.

The DOT purchased the 122 N. Oak site from St. Cecilia Church in January 1995 for \$655,000. Prior to the purchase, the DOT retained a firm to conduct a limited Phase II ESA. Nine soil borings were conducted in 1994, and contamination was detected in two

of the bores (with subjective evidence of contamination in a third). The contaminated borings were located in the northeast quadrant of the site. The highest concentration of detected contamination was found in borehole "BH3." (See Exhibit 2)

Exhibit 2: Locations of Borings Conducted in 1994, Prior to Sale to DOT



The report indicates 18 contaminants were detected at that test well (BH3). Of those 18, the contaminants exceeding present-day Statewide Standards at BH3 were:

Exhibit 3: Contaminants Detected in 1994 that Exceed Present SWS

Compound	1994 Concentration Detected (ppb)	2022 SWS-NPGWS Standard (ppb)
Benzene ¹	3,930	64
trans-1,3,-Dichloropropene ²	352	35

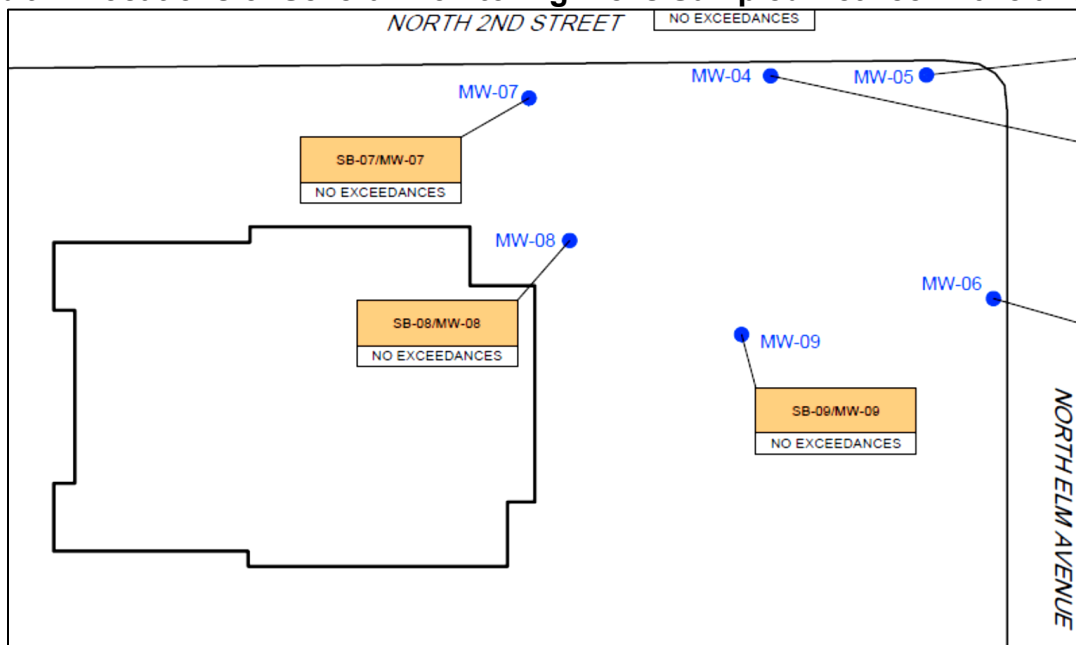
The DOT ultimately purchased the site. The property to the north of the site location was a coal gasification plant operated in the early 20th century. Around 2018, the subsequent

¹ <https://wwwn.cdc.gov/TSP/ToxFAQs/ToxFAQsDetails.aspx?faqid=38&toxid=14> Benzene is a colorless liquid with a sweet odor. It evaporates into the air very quickly and dissolves slightly in water. It is highly flammable and is formed from both natural processes and human activities. Benzene is widely used in the United States; it ranks in the top 20 chemicals for production volume. Some industries use benzene to make other chemicals which are used to make plastics, resins, and nylon and other synthetic fibers. Breathing benzene can cause drowsiness, dizziness, and unconsciousness; long-term benzene exposure causes effects on the bone marrow and can cause anemia and leukemia.

² <https://wwwn.cdc.gov/TSP/ToxFAQs/ToxFAQsDetails.aspx?faqid=835&toxid=163> 1,3-Dichloropropene is a colorless liquid with a sweet smell. It is used mainly in farming as a pesticide. 1,3-Dichloropropene is quickly broken down in air, usually within several days. Some of the 1,3-dichloropropene in soil and water will evaporate into the air. The rest will be broken down. Dichloropropenes cause irritation at the point of contact. Ingestion of high amounts of 1,3-dichloropropene can cause severe stomach damage.

owner, Interstate Power and Light (IPL), undertook a groundwater monitoring project to delineate the extent of contamination and determine whether the plume related to the former gasification plant was expanding or had stabilized. This monitoring included the installation of testing wells on the northeast perimeter of the site, which were periodically sampled (Exhibit 4).

Exhibit 4: Locations of Several Monitoring Wells Sampled Between 2018 and 2020



The results of the sampling were provided to DNR, IPL, and the DOT. Between 2018 and 2020, the wells were sampled on seven occasions. Two wells on the DOT site recorded samples indicating contamination in excess of the SWS-NPGWS (Exhibit 5):

- 1) MW-04, located approximately 100 feet west of the intersection of North Elm and North Second Street along the north property line
- 2) MW-05, located approximately 60 feet east of MW-04

Exhibit 5: 2018-2020 Study Samples Exceeding SWS

Compound	Well	Statewide Standard (non-protected ground water source)	8/13/18	11/7/18	12/17/19	3/17/20	6/10/20	9/15/20
Dibenz(a,h)anthracene ³	MW-04	0.48		0.628				
Benzene	MW-05	64	1820	1010	932	1150	366	845

³ <https://wwwn.cdc.gov/TSP/ToxFAQs/ToxFAQsDetails.aspx?faqid=121&toxid=25> Dibenz(a,h)anthracene is a polycyclic aromatic hydrocarbon (PAH). PAHs are a group of over 100 different chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances like tobacco or charbroiled meat. Some PAHs are manufactured. These pure PAHs usually exist as colorless, white, or pale yellow-green solids. The Department of Health and Human Services (DHHS) has determined that some PAHs may reasonably be expected to be carcinogens.

After repeated samples, the analysis of IPL’s consultant indicated that the contaminant plume was stable (i.e., non-expanding). Therefore, in April 2021, the ten monitoring wells associated with the former manufactured gas plant were sealed and abandoned, including the monitoring wells located on the DOT property. The DNR later approved the close-out of the monitoring activities related to the site.

2. PRELIMINARY AND ADDITIONAL CITY-DIRECTED BORINGS AND SAMPLES:

In April 2022, the City’s environmental consultant, Impact7G, issued a report of its findings from the Limited Subsurface Investigation of the site. Three environmental borings were completed and analyzed (TMW-1, -2, and -3). The boring in the northeast corner of the property, “TMW-1,” detected a variety of compounds, including four of note (Exhibit 6):

Exhibit 6: Contaminants of Concern Detected in April 2022 at TMW-1

Compound	Concentration Detected (ppb)	SWS NPGWS Standards (ppb)
Hexane ⁴	739	2,100
Naphthalene ⁵	116	700
1,2,4-trimethylbenzene ⁶	476	350
1,3,5-trimethylbenzene ⁷	143	350

However, only the concentration of 1,2,4-trimethylbenzene exceeded the statewide standards for non-protected groundwater sources (476 ppb detected, compared to the SWS-NPGWS limit of 350 ppb). TMW-2 also indicated the presence of waste oil at 244 ppb which is below the SWS-NPGWS of 1,500 ppb.

Based on these initial results, City staff retained Impact7G again to obtain four additional environmental borings along the northern edge of the property (TMW-4, -5, -6, and -7) and to collect groundwater samples from three sump basins located in the existing buildings. These samples were collected on June 7, 2022 and the locations are shown in Exhibit 7.

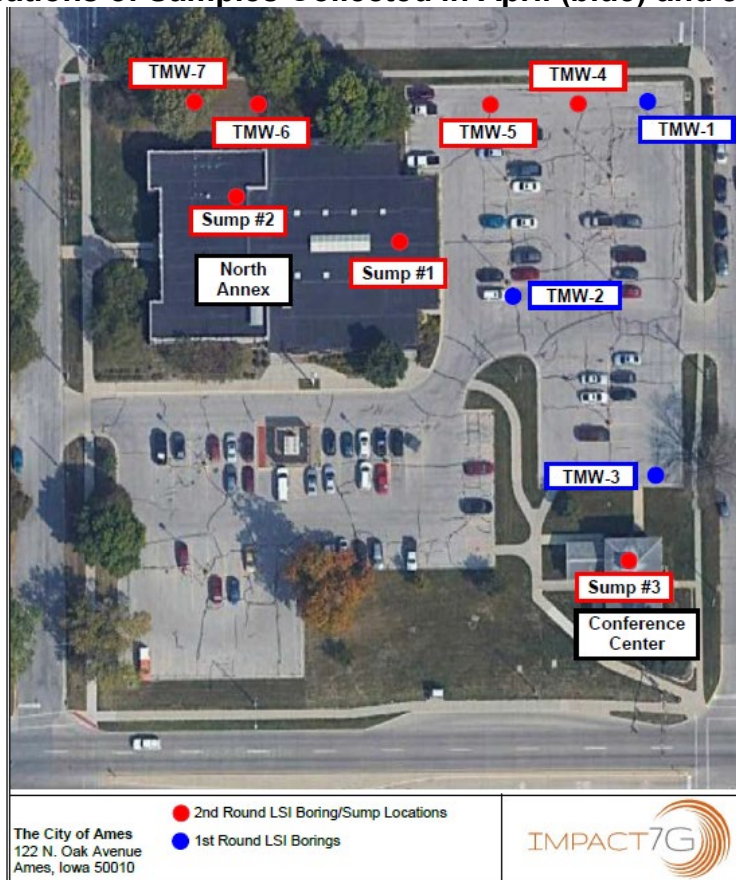
⁴ <https://www.epa.gov/sites/default/files/2016-09/documents/hexane.pdf> Hexane is primarily used as a solvent to extract edible oils from seed and vegetable crops (e.g., soybeans, peanuts, corn). (6) Commercial grades of hexane are used as solvents for glues (rubber cement, adhesives), varnishes, and inks. Acute (short-term) inhalation exposure of humans to high levels of hexane causes mild central nervous system (CNS) effects, including dizziness, giddiness, slight nausea, and headache. EPA has classified hexane as a Group D, not classifiable as to human carcinogenicity

⁵ <https://wwwn.cdc.gov/TSP/ToxFAQs/ToxFAQsDetails.aspx?faqid=239&toxid=43> Naphthalene is a white solid that evaporates easily. Fuels such as petroleum and coal contain naphthalene. Exposure to large amounts of naphthalene may damage or destroy some of your red blood cells. Naphthalene has caused cancer in animals. Based on the results from animal studies, the Department of Health and Humans Services (DHHS) concluded that naphthalene is reasonably anticipated to be a human carcinogen.

⁶ https://pubchem.ncbi.nlm.nih.gov/compound/1_2_4-Trimethylbenzene 1,2,4-trimethylbenzene is present in gasoline and occurs in coal tar and many petroleum products. It is a clear, colorless liquid with a distinctive, aromatic odor. Exposure can cause irritation to the eyes, skin, nose, throat, and respiratory system; bronchitis; hypochromic anemia; headache, drowsiness, lassitude (weakness, exhaustion), dizziness, nausea, incoordination; vomiting, confusion; chemical pneumonitis (aspiration liquid)

⁷ <https://pubchem.ncbi.nlm.nih.gov/compound/7947> The characteristics and hazards of 1,3,5-trimethylbenzene are similar to those indicated for 1,2,4-trimethylbenzene, above.

Exhibit 7: Locations of Samples Collected in April (blue) and June (red) 2022



A report was issued June 16, which indicated the presence of the following additional contaminants:

- 1) **Sump #3 indicated the presence of waste oil in excess of statewide standards**, which Impact7G believes “[...] is likely associated with leaking elevator equipment versus historical contamination from past uses of the Property.” The waste oil was detected at 9,400 ppb compared to the SWS-NPGWS limit of 1,500 ppb. Since the waste oil is isolated inside the building and can be removed, staff is less concerned about the impact to the surrounding soil and ground water.
- 2) **TMW-4 indicated a concentration of benzene in excess of statewide standards for a non-protected groundwater source (651 ppb detected, compared to the state limit of 64 ppb).**
- 3) **Sump #2 indicated the presence of methylene chloride⁸, although less concentrated than the SWS-NPGWS limits.**

⁸ <https://wwwn.cdc.gov/TSP/ToxFAQs/ToxFAQsDetails.aspx?faqid=233&toxid=42> Methylene chloride is a colorless liquid with a mild, sweet odor. Methylene chloride is used as an industrial solvent and as a paint stripper. It may also be found in some aerosol and pesticide products and is used in the manufacture of photographic film. The Department of Health and Human Services (DHHS) has determined that methylene chloride can be reasonably anticipated to be a cancer-causing chemical.

Impact7G's report contains a risk evaluation that uses the detected concentrations of contaminants and measures cancer and non-cancer risks using published Iowa DNR resources (the cumulative risk calculator). The report describes the Cumulative Risk calculation as follows:

"567 IAC 137.10(7) specifies cumulative risk criteria that must be complied with to acquire a no further action certificate under the Iowa Land Recycling Program (LRP). Cumulative risk is the summation of cancer and non-cancer risks, determined separately, based on exposure to multiple contaminants from the same medium and exposure of the same individual contaminants in multiple media. Evaluation of cumulative risk is conducted using the cumulative risk calculator on the IDNR Contaminated Sites Section website. The cumulative risk calculator assesses risk to potentially exposed parties, based on three standard exposure scenarios, from multiple contaminants and multiple media (i.e., groundwater, soil, and air).

To evaluate compliance with the acceptable risk criteria, the cumulative concentrations of contaminants must meet standards limiting increased cancer and non-cancer health risk. The cumulative risk criteria are as follows:

- Cumulative cancer risk shall not exceed 1 in 10,000.
- Non-cancer health risk to the same target organ shall not exceed a cumulative Hazard Quotient of 1.

[...]

This evaluation was conducted using the Site Worker and Construction Worker exposure scenarios to comply with site-specific standards in a commercial setting. Per the IDNR's Cumulative Risk Calculator glossary, a "Site Worker" is an adult who is assumed to work at the site for 25 years. The site-worker scenario may include drinking water from an on-site well, exposure to soil less than 2 feet deep by both ingestion and dermal contact, and exposure to contaminants in the air. A "Construction Worker" is an adult who is assumed to be involved in construction work involving excavation at the site for 200 days during the course of 1 year. The construction worker is assumed not to drink contaminated water from the site, but is exposed to soil greater than 2 feet deep via both ingestion and dermal contact and may be exposed to contaminants in air."

Based upon that standard methodology, Impact7G calculates 1) Total Cancer Outputs and 2) Non-Cancer Outputs by Target Organ as described below:

"The maximum concentrations for those substances above SWS were input into the IDNR's online Cumulative Risk Calculator. According to the results (refer to Appendix F), **the Total Cancer Output is 1.15 for the Site Worker**

scenario for groundwater, and 0.0 for the Construction Worker scenario. A cumulative cancer risk shown as a value less than one equal to 1.00 (a value of 1 being equivalent to a 1×10^{-4} cancer risk) represents an acceptable cumulative cancer risk for that exposure party. **As such, the Cumulative Cancer Risk for the Site Worker exposure pathway, indicates additional action is needed to address the observed groundwater contamination.”**

The Non-Cancer Risk calculation is presented as a hazard quotient. **The hazard quotient is the ratio of the contaminant concentration divided by the concentration below which no adverse health impact is expected. The “sum” value for each target organ must be less than or equal to 1.00 to achieve compliance with the cumulative non-cancer risk criterion.** Impact7G’s analysis indicates the Non-Cancer Output by Target Organ for the Construction Worker scenario is less than 1.00. **However, the Non-Cancer Outputs by Target Organ for the Site Worker scenario is 1.43.**

The conclusion Impact7G reaches based on these results is that: “it is the opinion of Impact7G that the detected groundwater contamination at the Property represents a minor risk to human health and the environment. Best management practices (BMP) in the form of a Soil/Groundwater Management Plan and consideration of building materials (vapor barrier, impermeable piping/utility conduits, etc.) should be considered if construction will be disturbing the northeast area of the Property.”

3. CONSULTATION WITH IOWA DNR:

City staff discussed the results of the April 2022 findings from Impact7G with representatives of Iowa DNR. DNR issued a letter dated May 6, 2022 outlining DNR’s policy stance related to the development of the site. City staff held a call with DNR to discuss this letter in more detail. The comments from DNR include:

1. Due to the soil and groundwater contamination, development activities in the northeast quadrant of the site, except simple grading activities, will require DNR oversight. DNR also cautions that utility work through this portion of the site (such as for parking lot lighting or relocating the electric line through the property) will be subject to this oversight.
2. The construction oversight that would be required by Iowa DNR includes:
 - a. Submit a work plan for approval regarding activities in the areas where contamination has been identified
 - b. Develop and implement a plan for soil and/or groundwater testing
 - c. Develop and implement a plan for disposal of contaminated soils and/or groundwater encountered
 - d. Submit a post-construction report documenting completed actions, test results, and disposal documentation.

3. Dewatering activities during the construction process, and the completed building's sump system, may need to be tested for contaminants prior to discharge. In discussions, DNR indicated that construction dewatering in particular tends to cause movement or infiltration of contamination. If contamination from either construction or the building sump is discovered, it would likely need to be discharged to the Water Pollution Control Facility rather than the stormwater system.
4. DNR indicated the use of the Cumulative Risk Calculator, which Impact7G used to analyze potential cancer and non-cancer risk, is to be used in sites administered under the Iowa Land Recycling Program. The 122 N. Oak Avenue site is being administered under DNR's General Ground Water and Soil Cleanup Rule. Therefore, according to DNR, the Cumulative Risk Calculator may not be the appropriate tool to assess risks on this site.

DNR issued a revised letter on June 21, 2022, following a review of the additional borings and samples conducted by Impact 7G. The DNR notes that: "Overall, Iowa DNR still agrees the proposed water park plan as presented would be a good fit for the site." **In conversations with DNR, it was emphasized that the City would only be responsible for properly handling any contamination disturbed by the City on the site. The City would not be obligated to clean up contamination that exists now, so long as it does not become exposed or begin to migrate due to activities such as construction and operation of the aquatic center.**

Based on discussions with Impact7G and DNR, City staff is aware that additional project design components may be impacted by the contaminated areas. These include the location and design of the stormwater detention and treatment facilities on the site (which must be created in a way that does not draw contaminated water into waterways). Additionally, the facility may require the installation of a vapor mitigation system (akin to a radon mitigation system), to ensure that any vapors that make their way through the soil into the building have ventilation to the outside. The contaminants identified in the site are odorous, and therefore the adjacent neighborhood may be temporarily impacted by unpleasant odors encountered during excavation.

City staff also discussed with DNR the challenge with definitively identifying whether a former underground storage tank on the northeast portion of the property had been removed. Records do not exist confirming the tank's removal, and the ground-penetrating radar system used by the City's environmental consultant was unable to reach the depth where the tank would be located.

DNR staff volunteered to use the site as a training experience for its staff to use EM-31 Geophysical Testing equipment, which could more effectively determine whether the tank remained. Following testing, DNR concluded: *"Overall, the survey results indicate no clearly defined underground storage tanks under the survey area. The survey does*

indicate a buried electrical cable for the parking lot street lamps and disturbed soil on the central left side of the study area.” The study indicates that the disturbed soil mentioned may be a metallic object such as a buried manhole cover or a water shutoff valve.

4. POTENTIAL COSTS FOR CONTAMINATION MITIGATION IN ADDITION TO LAND ACQUISITION COST:

In order to proceed with construction on the site in light of the contamination, staff has identified a variety of additional measures that would need to be incorporated into the design of the facility/site, the construction process, and the ongoing operations of the facility. Information has been collected from Impact7G, DNR, the Water and Pollution Control Department, Public Works Department, Electric Services, Stecker-Harmsen, and various contractors to identify what measures would need to be incorporated and their potential costs.

The list below includes rough cost estimates, based on a worst-case scenario. The actual costs may vary greatly, depending on factors such as the building design and configuration and the City’s appetite for risk of potential contaminant intrusion or movement into the future. **The costs indicated for these measures are in addition to the purchase price of the land that would be agreed to by the DOT.**

Double Cased Geothermal Well (Additional Outer Casing) \$367,080

This entails adding an outer casing to the closed loop geothermal wells, which would normally not have such a casing. The outer casing prevents contamination moving vertically through the soil as a result of the geothermal boreholes.

Geothermal wells are overseen by the DNR’s Contaminated Soils Section and Water Quality Section. Therefore, DNR has the authority to determine to whether the double casing would be required. This determination is dependent upon the proposed location of the geothermal wells in relation to the known contamination. However, if DNR determines the outer casings are not necessary, nothing would prevent the City from exercising the additional caution to include them.

Mitigation System with Vapor Barrier for all Petroleum Contaminants \$54,000+

Perforated tiles, a thick (40 mil) membrane, and a mitigation system (similar to a radon mitigation system) would be included in this option. All pipe openings through the barrier will need to be sealed tight. A manometer which monitors negative pressure under the building would be installed in the building as well. The \$54,000 estimate indicated above includes only the estimated cost for the membrane; the additional costs for piping, fans, and the manometer are not included in this cost.

This system is recommended regardless of where the building is placed on the site, as ground water contamination can migrate through the sand layers and vapor can migrate through any piping trench leading to the building. During the design phase, it will need to be determined with DNR whether a permitting process is necessary regarding air quality.

Contaminated Soil Removal and Disposal **TBD**

There is no requirement to pre-emptively remove contaminated soil from the site; however, any stained and/or odorous soil that is encountered will need to be disposed of at the landfill. Disposal of contaminated soil is estimated to average approximately \$66 per ton for the combined disposal and trucking costs. If there is no construction in the northeast corner of the site, it is very likely contaminated soil will not be excavated. If contaminated soil is excavated, the landfill determines the testing requirements based on the Resources Conservation and Recovery Act (RCRA) Hazardous Waste Characterization.

On-Demand Soil and/or Groundwater Testing **\$500-\$600 per Sample**

This estimate includes sample collection and analysis. These samples may be required during the construction process if odorous or stained soils are encountered. They may also be desired post-construction to monitor for ongoing contamination migration. It is unknown how many samples may need to be collected during the construction process.

Special Piping for All Service Lines **\$84,642**

PVC piping cannot be used for underground utility service lines on the property because PVC can deteriorate when it comes in contact with benzene. Therefore, utility lines must instead be made of materials such as copper and iron, and special gaskets may be required. If utilities are brought to the building from the south, where it is believed contamination does not exist, these measures may not be necessary. However, since it is not known whether benzene will migrate south during construction, it may be prudent to avoid PVC piping for service lines.

Monitoring Wells During Construction **\$10,000-\$20,000**

It is recommended to add monitoring wells between the area of known contamination and the area where the building will be placed. These wells will be periodically sampled during construction to provide an early warning that contamination is migrating towards to area where construction dewatering will be taking place. Once contamination is detected in these wells, it would be time to begin testing the construction dewatering and mobilize the equipment to treat that water prior to discharge into the sanitary sewer.

It would not be necessary to keep these wells in place after construction. Based on the costs in the Phase II ESA of approximately \$1,500 per well for installation and sampling, staff believes a series of wells and routine sampling can be expected to cost between \$10,000 and \$20,000.

Construction Dewatering **TBD**

In the building construction area (south end of the site), the trench for the pool basin will create a low spot and ground water will flow to the area. Sand seams throughout the site will allow ground water to flow to the basin. **This portion of the construction process, in DNR's opinion, is the most likely to cause the contamination to be disturbed.** The volume of water encountered is dependent on the weather around the time of the construction.

If the ground water accumulating in the basin is not contaminated, the dewatering can go directly to the storm sewer. If contamination is identified in this water, the dewatering can be directed to the sanitary sewer for treatment at the City's Water Pollution Control Facility. There are no surcharges for sanitary discharges containing benzene, BTEX (combined concentration of benzene, toluene, ethylbenzene and xylene), or Total Petroleum Hydrocarbons (TPH). However, the concentrations of the contaminants discharged to WPC must remain below certain limits (<50 ppb for Benzene; <75 ppb for BTEX; and <1,000 ppb for Total Petroleum Hydrocarbon).

If any of these contaminants exceed these limits, a contractor specializing in treating contaminated water will need to collect the water and treat it before it can be disposed of in the sanitary sewer. The steps necessary to treat the water, and therefore the cost, varies based on the volume of water and the concentration of the contaminants. Staff has learned that costs to treat similarly contaminated ground water at a typical gas station site are approximately \$20,000. The volume of excavation at the aquatic center site is much larger and could result in costs as much as ten times higher.

Sump Pump Monitoring **\$400/Year**

If sump pumps are included in the building, it is recommended the water be tested quarterly by the City's Water Lab. If contamination is found (and it remains below the limits described previously), the water can be sent to the sanitary sewer rather than the storm water system. However, the building design will need to ensure the piping exists to accomplish this.

Stormwater Management **TBD**

The City's storm water ordinance will require that stormwater on the completed site be appropriately collected, treated, and discharged into the storm water system. Normally, this would be accomplished on site. Given the contamination, however, it is likely that an exception in the storm water ordinance would be pursued to allow the storm water management to occur elsewhere in the watershed. If this occurs, the costs to complete an equivalent storm water improvement may be equal or less than the cost to complete the storm water management on the site.

However, if storm water management cannot be completed off-site, then the storm water management on the property will need to be constructed in a way that prevents contaminated groundwater from being conveyed into the storm water system. The costs to accomplish this are not yet clear to City staff.

5. DISCUSSION WITH DOT STAFF REGARDING FINDINGS:

On June 20, staff from the City Manager's Office and Parks and Recreation Department met with DOT representatives to discuss the environmental reports and findings. A key issue is the appraisal that concludes the property value is \$2,900,000. The DOT's policies do not allow for negotiation to accept a value lower than this appraised amount.

However, the appraisal's Assumptions and Limiting Conditions states:

"To our knowledge, there have been no environmental studies performed on the subject property. We are appraising the property assuming it does not suffer from soil or groundwater contamination. Our estimate of market value, and other findings presented in this report, is contingent upon this assumption."

The appraiser further indicates:

"Unless stated otherwise, we did not observe and are not aware of the existence of hazardous or toxic materials or wastes at the subject property. The existence of such materials may have an affect (*sic*) on the estimate of value. The client should retain an expert in these fields, if desired."

City staff's initial review of the appraisal document indicated that the value of the property was not adjusted in recognition of the environmental contamination. Staff was confused by this lack of value adjustment, given the recurring reports of environmental contamination.

In addition, staff reviewed the Iowa DOT's "Appraisal Operational Manual," which is referenced by the appraiser, to determine how the appraiser would have approached environmental issues on the site and what policies exist to later account for contamination coming to light. This manual indicates:

"In the scope of work, the appraiser is instructed to appraise the property to be acquired "as if free and clear of contamination" unless otherwise specified. In those cases where the property has been identified as being contaminated by the Iowa DOT or DNR, the appraiser may invoke a hypothetical condition." In conversations with appraisal experts, City staff understands that typically an environmental or engineering firm would identify the costs to mitigate the environmental contamination, which would then be used as the basis for an appraiser to consider the impacts of the contamination on the property's value. It appears this section of the manual was not considered by the appraiser in determining the value of the property.

City staff's concern, given the extensive record of environmental contamination on the site, along with the sampling that confirms the contamination's presence, is that this property will require mitigation on three different levels: 1) Changing the design of the facility, 2) Monitoring and disposing of contaminated materials encountered during construction, and 3) Ongoing monitoring of the facility once it is occupied.

Because of the increased cost expected to accomplish the levels of mitigation described above, City staff suggested at the June 20 meeting with DOT staff that the \$2.9 million asking price be reduced to account for these detriments to the site. Alternatively, City staff proposed that the \$2.9 million be paid up front with the commitment

the City be reimbursed for the cost of the three mitigation levels described above, once the costs are incurred.

On July 8, City staff was informed by DOT staff that, at the City's urging, the appraiser had been asked about the value of the property in light of the environmental contamination. DOT staff conveyed that the appraiser acknowledged that the environmental contamination was not expressly considered in the appraisal; however, the appraiser contends that the estimated market value of the site was discounted on the basis that it is "public land." To accomplish this "public land" discount, DOT staff stated that the appraiser excluded the two highest cost-per-square-foot sales from the comparable sales analysis.

However, City staff can find no statement in the comparable sales analysis—nor anywhere else in the appraisal—indicating that higher comparable land sales were excluded as part of a "public land" discount. The appraisal states a different rationale altogether for excluding those two sales (underlined for emphasis below):

"After adjustments, the comparable sales indicate a value range for the subject site from approximately \$16.90 to \$39.10 per square foot. Sales #1 and #2 are part of the assemblage of parcels for the redevelopment of the area between Clark and Kellogg along Lincoln Way and appear to be outliers. The remaining sales indicate a tighter range of \$16.90 to \$25.50 per square foot. We have given consideration to all of the sales and reconcile to a value of \$24.00 per square foot."

The appraisal's stated analysis regarding the two parcels is that they appear to be outliers, not that they were excluded because of a "public land" discount process. Further, the appraisal does not indicate that these sales were entirely excluded, because the appraisal states "we have given consideration to all of the sales and reconcile..."

No reference to the existence of a "public land" discount or deduction can be found in the Iowa DOT's Appraisal Operational Manual. Therefore, City staff remains unable to follow the appraiser's line of thinking regarding the valuation of this property. As indicated above, DOT's policies require reliance on the formal appraisal to establish the sale price. Given the unwillingness of the appraiser to modify the appraisal, it appears that the price to acquire the property remains \$2.9 million.

NEXT STEPS:

The City Council must next determine whether to proceed with the acquisition of this property for the construction of the Indoor Aquatic Facility. In order to allow more time to consider the information presented in this report, the City Council will not be asked to take action on July 12 regarding the property purchase. Staff

intends to ask the City Council for direction regarding the property acquisition on July 26.

FACTORS FOR THE CITY COUNCIL TO CONSIDER:

The City Council will need to weigh several factors as it considers this significant decision. These include:

1. Potential Health Impacts – Although measures can be taken during and after the construction of the facility to protect against the encroachment of contaminants, there is risk that the level of contamination is greater than we currently believe to exist. Additional measures may be required to ensure the facility is safe to construct and occupy.
2. Potential Environmental Impacts – If the City proceeds with purchasing the property and commencing construction, the City will be responsible for disposing of any contaminated soil or water that is encountered during construction. This would need to involve knowledgeable and capable consultants and contractors. If the City were to proceed with the construction of the aquatic center, one advantage in this regard is that contamination encountered would be properly removed and remediated, as opposed to other development that might occur on this site which simply requires encapsulating the contamination in place and not mitigating it.
3. Costs – In addition to the \$2.9 million purchase price for the property, pursuing the IDOT site will cost more to develop as compared to a clean site, due to the contamination. The City will incur costs to develop plans for the handling of contaminants encountered during construction, including testing and disposal of soil, testing and treatment of water, and post-construction reporting.

Additionally, the facility will need to incorporate measures to prevent the encroachment of contaminated vapor and groundwater. These measures include the installation of vapor barrier, a soil vapor ventilation system, copper water service line into the facility, and the use of special sleeves when the ground-source heat pump loops are installed. The facility's storm water detention and treatment system will also need to be constructed in a manner that does not concentrate the contaminants into waterways.

It is important to note that these are the special testing and construction steps that are needed based on our current knowledge of the contamination. If the contamination exists in larger and/or more concentrated areas, or if pathways are opened for it to begin to move, additional costs may need to be incurred to protect construction workers, patrons, and site workers. Unfortunately, it is not possible at this time to know precisely what the additional costs may be.

4. Impacts of Delay – The first issuance of bonds for the indoor aquatic center is anticipated to take place in September 2022. If the bonds are issued but the project

does not proceed because the property cannot be acquired, the City is subject to arbitrage penalties.

Delaying the decision to move ahead with this site may also increase the costs of construction, as a result of a continuing volatile market for construction materials. Even if the decision is made immediately to acquire the property, retain the design consultant, and proceed with design, it will be difficult to complete the design in time for construction in 2023, which means that the opening of the new facility would be delayed until 2025 at the earliest.

5. Possibility of Grant Funding – DOT administrators have offered to help the City by arranging a meeting with IDNR officials regarding the possibility of grant funding to address environmental contamination at this site. If this meeting is able to be arranged prior to the July 26 Council meeting, staff will report back regarding the discussions and outcomes.