

Staff Report

FITCH FAMILY INDOOR AQUATIC CENTER UPDATE

July 27, 2023

BACKGROUND:

There are three design phases when proceeding with a large project such as the Fitch Family Indoor Aquatics Center:

- Schematic Design (SD)
- Design Development (DD)
- Construction Documents (CD)

In each phase, the design of the facility is further refined, along with the cost estimates. Included in the 2023-28 Capital Improvement Plan (CIP) is a total estimated budget for the Fitch Family Indoor Aquatic Center of \$33,705,972.

SCHEMATIC DESIGN PHASE:

On March 28, 2023, staff reviewed with Council the results of the Schematic Design (SD) Phase of the project. The estimated construction cost, excluding the walking track addition, at that time was \$23,658,905, which was \$3,158,905 above the budgeted \$20,500,000. At that meeting, the City Council clarified its priorities for the project so staff could use these to make decisions to reduce the estimated construction cost. The priorities of the Council included:

- Quality and longevity of materials
- Energy efficiency
- Minimizing maintenance
- Impact on operations
- Service levels
- Sustainability

Through Schematic Design value engineering, the design team was able to reduce the estimated construction cost by \$3,039,023 to a new estimate of \$20,619,882, excluding the walking track addition. The value engineering changes include, but are not limited to, the following:

1. Changing floor finishes
2. Eliminating two universal/family change rooms
3. Having painted concrete walls instead of studs and drywall
4. Having painted exposed structure instead of Acoustical Ceiling Tiles
5. Reducing the square footage of the building

6. Staining the exterior of the pre-cast concrete panels in lieu of stone veneer
7. Reducing interior glass
8. Reducing exterior glass
9. Reducing HVAC budget
10. Lowering all walls and structure one foot
11. Reducing width of aisles in parking lot

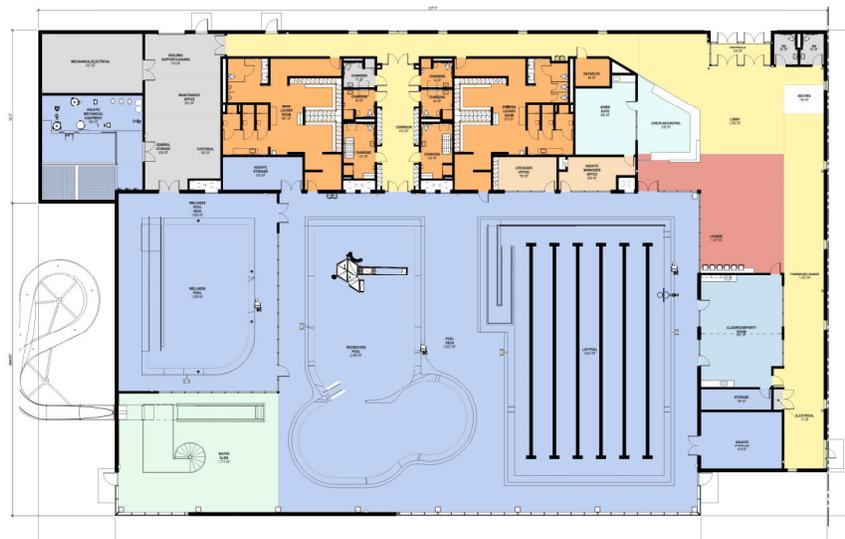
DESIGN DEVELOPMENT PHASE:

During the most recent Design Development phase, several steps occurred to better define what the building will look like and begin identifying equipment needs and material quantities. These steps include reconciling differences between cost estimates and developing a second set of value engineering options.

FLOOR PLAN OPTIONS:

The Design Development Phase also included the refinement of two floor plan options: 1) A Base Bid (which includes the aquatic components and related amenities), and 2) A Base Bid and Add Alternate (which adds a walking track and multipurpose space). At a previous meeting, City Council directed staff to split the project as described due to concerns regarding whether there was sufficient funding to build the larger version of the project.

Spaces in the base bid include a six-lane 25-yard lap pool, zero-depth entry pool with a current channel, therapy pool, one body slide, men’s and women’s locker rooms, six universal/family change rooms, wet classroom/party room, check-in area, lobby with two universal restrooms, and support spaces. The add alternate includes a walking track, multipurpose space, and two additional universal restrooms. The two floor plans are shown below:



Base Bid – 31,950 Gross Square Feet



Base Bid Plus Alternate – 38,900 Gross Square Feet

BUILDING RENDERINGS:

A majority of the building is currently designed with a combination of colored and non-colored pre-cast concrete insulated panels. A portion of the south facing wall will be a combination of glass and concrete, as this will be the most visible side of the building. Some glass will have a treatment to minimize glare on the pool surfaces. The structure is designed to support solar panels on the roof as well as HVAC equipment. Floor finishes include brushed concrete, polished concrete, ceramic tile, carpeting, and resilient flooring (add alternate only). Interior walls will include pre-cast concrete panels, concrete block, and gypsum board. Lighting will be LED and supplemented with natural light where possible.

Renderings below from different angles show the base bid and the base bid with alternate. Final colors are yet to be determined.



Base Bid – Looking North



Base Bid Plus Alternate – Looking North



Base Bid – Looking Northwest



Base Bid Plus Alternate – Looking Northwest



Base Bid – Looking South



Base Bid Plus Alternate – Looking South



Base Bid – Looking Southwest



Base Bid Plus Alternate – Looking Southwest

DESIGN DEVELOPMENT COST ESTIMATE:

In the Design Development Phase, the estimated construction cost for the base bid only has been revised to \$21,481,717, or \$981,717 more than the \$20,500,000 originally budgeted for the construction of the project (excluding the construction of the walking track addition). This amount is indicated in Table 1, below, in the “Design Development Estimate” column.

This estimate was created using today’s prices and adding a 2% escalator since bidding will not occur until later this year. All the other items are either actuals (land), contracted amounts (design, construction manager), or allotments set by staff (the remainder of the items).

Following the Design Development phase, a second round of value engineering occurred to identify cost-reducing opportunities that save a total of \$888,224 (see Attachment A). This effort resulted in a new estimate of \$20,593,493, or \$93,493 more than what is budgeted for construction excluding the walking track addition (see column 3 of Table 1, below).

WALKING TRACK ADD ALTERNATE:

In April 2022, the cost estimate from Stecker-Harmsen for the walking track add alternate was \$3,000,000. At the end of Schematic Design, the estimate was revised to \$2,391,236. The estimated cost for the add alternate is now \$1,800,000. This amount has been added to the overall project costs in Table 1. This estimate assumes the Alternate is added to the base bid and completed at the same time.

Table 1.
Fitch Family Indoor Aquatic Center Estimated Expenses

	<u>Projected Budget</u>	<u>Design Development Estimate</u>	<u>Design Development with Value Engineering</u>
Conceptual Design/ Environmental Testing	\$ 64,893	\$ 64,893	\$ 64,893
Land	2,900,000	2,900,000	2,900,000
Relocate Electric Lines	75,000	75,000	75,000
Design	1,783,850	1,783,850	1,783,850
Remediation/Mitigation	1,000,000	1,000,000	1,000,000
Construction Manager (CM)	1,392,229	1,392,229	1,392,229
Soils, Survey, Testing (SST)	390,000	390,000	390,000
Construction	20,500,000	21,481,717	20,593,493
Furniture, Fixtures, & Equipment (FFE)	500,000	500,000	500,000
Base Bid Project Subtotal	28,605,972	29,587,689	28,699,465
Contingency	2,100,000	2,100,000	2,100,000
Add Alternate – Walking Track Addition	3,000,000	1,800,000	1,800,000
Total Project	\$ 33,705,972	\$ 33,487,689	\$ 32,599,465

Table 2 outlines the funding sources for the project. Column one (“Original Budget”) reflects the information included in the CIP, which was sufficient to finance the construction of the Base Bid portion of the project (using estimates known at that time). The second column shows the potential funding based on the most recent information. The difference between the two columns in funding comes from three sources, 1) G.O. Bonds, 2) Donations, and 3) American Rescue Plan Act (ARPA) funds.

Table 2.
Fitch Family Indoor Aquatic Center Estimated Revenues

	<u>Original Budget</u>	<u>Potential Funding</u>
Hotel/Motel Tax	\$ 64,893	\$ 64,893
G.O. Bonds	19,334,284	*20,854,146
Geitel Winakor Donation Fund	1,950,000	1,950,000
Donations	8,356,795	8,361,745
Community Attraction & Tourism (CAT) Grant	**500,000	--
Story County Contribution	500,000	500,000
ARPA Funding	--	868,681
Total	\$ 30,705,972	\$ 32,599,465

*Council authorized up to \$21,200,000 in G.O. bonds on September 14, 2021

Donations have increased by \$4,950. As explained during CIP presentations, \$868,681 in ARPA funds was set aside for this project, but not included in the Original Budget. **While Council authorized issuing up to \$21,200,000 in G.O. Bonds, only \$19,334,284 is reflected in the original budget. Therefore, the authority exists to**

issue an additional \$1,865,716 in bonds for this project.

CAT Grant Funding – The original budget included an anticipated \$500,000 CAT grant to support the project. Staff submitted an application for these funds, but was recently notified that the City did not receive an award. Staff has been encouraged to reapply in August 2023. However, based on the most recent Design Development cost estimates, there appears to be sufficient funding without the CAT grant to construct the project.

CAT grant funds are not typically awarded except as “last dollar” funds necessary to cover any gap in the funding and allow a project to proceed. Therefore, the “Potential Budget” column of Table 2 reflects receiving no CAT grant funds and issuing another \$1,519,862 in G.O. Bonds.

Although the CAT grant funds would not likely be awarded to the project at this stage due to the construction estimates indicating the project can be built within the existing funding, staff believes it is important to remain prepared to apply for a CAT grant. This is for several reasons: 1) the project cost estimates may still fluctuate before the design is finalized, 2) the actual construction bids received may exceed the design estimates, and 3) there exists potential for environmental remediation costs exceeding the budgeted amount for remediation as the project moves forward. If any of these situations occur, the project cost could begin to exceed the available funding and justify a CAT grant application.

ADDITIONAL MISCELLANEOUS ACTIVITIES:

In the past few months, staff also has been working on several miscellaneous activities related to the overall project. Two of these activities are explained below.

Geothermal Wells – The Iowa Department of Natural Resources (IDNR) determined that vertical geothermal wells will not be allowed at the site due to the potential risk of contaminating the aquifer below the property. However, IDNR indicated horizontal wells may be a possibility; but required five additional borings to be drilled to a depth of 45 feet prior to deciding whether horizontal wells could be feasible.

On May 22-23, Impact7G drilled the borings with one of the borings remaining as a monitoring well. **After reviewing the results, IDNR has given limited approval to proceed with a horizontal well field in accordance with the details included in Attachment B.** This limited approval confines the geothermal well field to the northwest portion of the site. In addition, approval is required from Story County, and the IDNR requires specific construction methods to be used during the installation of the wells.

In conversations with KCL Engineering (sub-consultant), there is an energy efficiency benefit to pursuing geothermal wells. **Therefore, the geothermal wells are included in the project design.**

Stormwater Management – Discussions continue between City staff and consultants regarding managing stormwater. The options for stormwater management are either: 1) on-site management or 2) combination of on-site and off-site management. In both options, a bioretention cell will be situated in the southwest corner of the site. With Option 1, managing all stormwater on-site is possible if permeable pavers and underground storage is part of the design. The cost of the pavers and underground storage alone is approximately \$192,000. The second option of managing some stormwater off-site within the same watershed has an estimated cost of \$60,000. **Therefore, staff is continuing to pursue Option 2, and as a result the estimated project cost currently reflects this lower cost option.**

STAFF COMMENTS:

If the Design Development estimates hold true for a total project cost of \$32,549,465, it appears that there are sufficient funds to finance the base project along with the walking track addition, and only need to issue a total of \$20,854,146 out of the \$21,200,000 in G.O. Bonds authorized by the City Council. This total is \$345,854 less than the maximum amount of bonds that the Council has the authority to issue.

Although it appears with the current estimates that there is sufficient funding for the project (including the walking track add alternate) under the current bond authorization, Council should remember that one final project cost estimate will be prepared at the completion of the Construction Document phase, prior to soliciting construction bids. **Council is not being asked to make any decisions on July 27, but is instead asked to learn and understand what has been happening regarding this project.**

NEXT STEPS:

Moving forward, staff and the Design Team will work on the following items:

- Begin the Construction Documents Phase.
- Seek approval from Story County for the geothermal well field.
- Finalize the stormwater management plan, with a preference for partial off-site management, if possible.
- Secure final Iowa Department of Public Health (IDPH) approval for the aquatics portion of the design.
- Submit plans to the City's Development Review Committee (DRC) for approval.
- Provide Council with updated cost estimates at the end of the Construction Documents phase.

- If the cost estimates that the end of the Construction Documents phase exceed the available budget, staff will present options to the City Council for alterations or cuts to the project to meet the available funding.
- In the event that cost estimates are significantly less than the available funding, staff will identify possible add-alternates to incorporate into the bid package.

**Cost Reduction/Value Analysis
Fitch Family Indoor Aquatics Center
Ames, Iowa**

Description	Amount
Raise Height of Bottom Elevation of Equipment Screen	\$ (5,964)
Lower Height of Top Elevation of Equipment Screen	\$ (7,946)
Reduce Strip Exterior Curtain Wall/Storefront	\$ (27,730)
Modify Angle of South Face	\$ (18,919)
Reduce Interior Aluminum Storefront	\$ (12,929)
Standard Side Folding Partition in Lieu of Vertically Folding Partition	\$ (126,432)
Delete 10 Parking Stalls	\$ (9,363)
Seed in lieu of Sod	\$ (36,575)
Delete permeable pavers, rock storage layers, detention, subdrainage	\$ (191,995)
Offsite Stormwater Management	\$ 63,630
4" Slab on Grade in lieu of 5"	\$ (14,600)
Remove Stain from Precast	\$ (98,009)
Add Integral Color to Precast (Everywhere but East, West and North Natatorium)	\$ 52,451
Eliminate Exterior Door in Double Door Location	\$ (24,728)
Single Wall Aluminum Spiral Duct Non-Insulated in Natatorium	\$ (86,961)
Pendants in lieu of custom lighting @ lounge area	\$ (12,726)
Omit tile boarder at Recreation and Lap Pools	\$ (98,096)
Carefully Manage Design Contingency Thru CD's	\$ (231,332)
TOTAL OF COST REDUCTIONS	\$ (888,224)
Design Development Phase Construction Cost Estimate	\$ 21,481,717
Total of Cost Reductions	\$ (888,224)
Design Development Construction Cost Estimate with VE	\$ 20,593,493



June 26, 2023

Mr. Keith Abraham
515 Clark Ave
Ames, IA 50010

Dear Mr. Abraham,

The Iowa DNR Private Well Program has completed their assessment for the potential to install a horizontal geothermal system for the future Ames Aquatic Center located at 122 North Oak Avenue, Ames, Iowa. The original idea of a vertical geothermal system is not approved by the DNR due to concerns with contamination from nearby sites migrating downward when drilling through the glacial till and into the underlying sand and gravel aquifer, which is the Ames community water supply source delineated within the 2-year capture zone (Figure 1 – attached). The location is south and west of multiple historical manufacturing, oil, and gas facilities (Figure 2 from LSI by Impact 7G, 06/14/2023). Limited Subsurface Investigations (LSI) were performed on April 2, 2022 and June 7, 2022 by Impact 7G, which revealed petroleum contamination of the groundwater at the northeast corner of the site, including volatile organic compounds (VOCs), total extractable hydrocarbons (TEHs), and polycyclic aromatic hydrocarbons (PAHs). The DNR requested additional borings in order to better delineate the extent and boundaries of contamination in the soil and groundwater. The latest LSI was performed on May 23-24, 2023. In summary of all LSIs, groundwater contamination for petroleum related chemicals above state-wide standards (SWS) has been found at TMW-1 (VOCs), TMW-2 (VOCs and TEHs), Sump #2 (VOCs), Sump #3 (TEHs), TMW-4 (VOCs and PAHs), and TMW-10 (VOCs and SVOCs).

Based on the findings of the LSIs, the DNR gives a limited approval for horizontal geothermal application on the northwest portion of the property (see the marked-up Figure 3 from LSI by Impact 7G, 06/14/2023). This approval is conditional upon the following:

- Story County must approve and permit the geothermal system
- Installation and drilling in the red shaded area of Figure 3 is prohibited
- System depth must not exceed 45 feet or penetrate into the sand and gravel aquifer, whichever is shallower
- If contamination is suspected at anytime during drilling or system installation, the contractor must immediately cease work and notify the DNR Spill Hotline 515-281-8694
- The boreholes must be fully grouted and checked for subsidence 24 and 48 hours upon completion
- Any subsidence must be addressed by grouting back to the ground surface and rechecking in 24 hours

If you have any further questions, please feel free to call me.

Kind regards,

Erik Day
Environmental Specialist Senior
Water Supply Engineering Section
515-402-7981

CC: Carmily Stone – Water Supply Engineering Supervisor – Iowa DNR
Deb Williams – Geologist 3 – Iowa DNR
Kimberly Grandinetti – Environmental Health Director – Story County
Matthew Cory – Environmental Specialist – Story County

Legend **Tools** **Details**

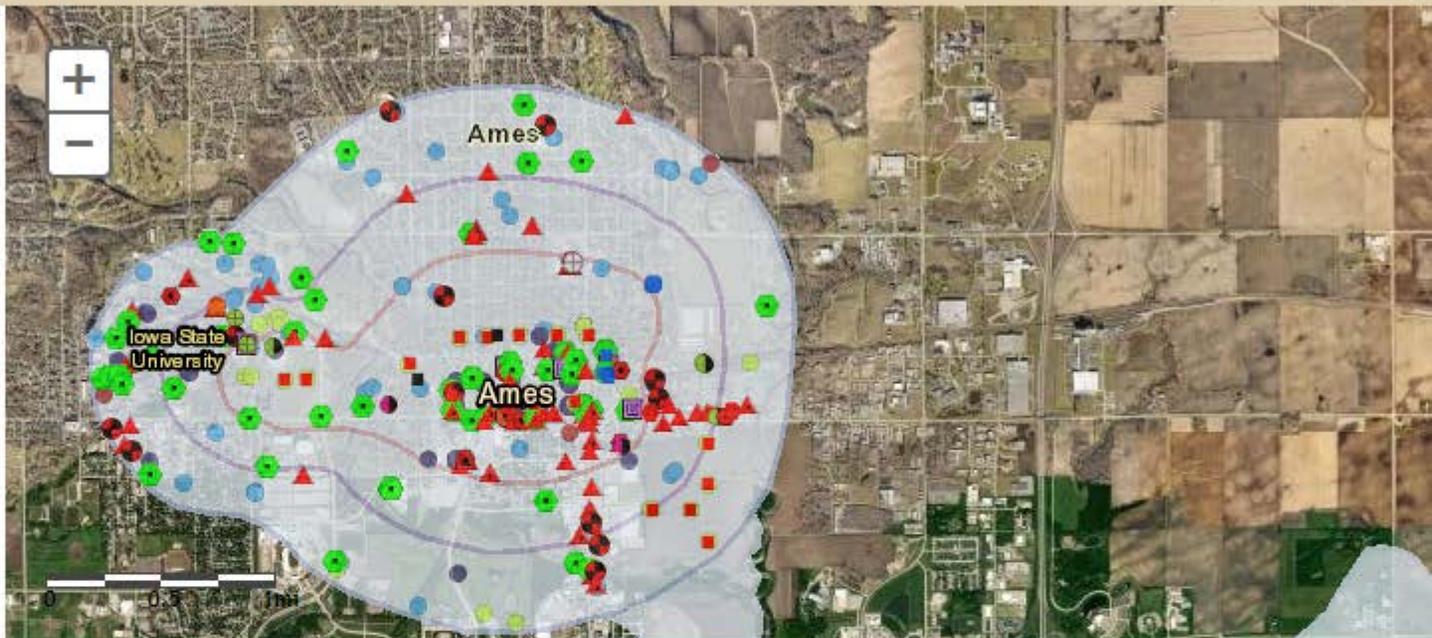
- Wastewater outfall
- ⊕ Wastewater treatment facility

Other Wells

- Permitted private wells
- Private well tracking system
- Registered abandoned wells
- Water Use Permit Wells

Groundwater Capture Zones

- 2-Year Capture Zone
- 5-Year Capture Zone
- 10-Year Capture Zone



Source Water Wells

Contaminant Sources

Other Wells

GeoSamID ^	Local name	Status	Depth (ft)	Constr. date	Aquifer	Aqfr. Thk. (ft)	S (
2268	Ames #4	Not Used	124	02/28/1935	Buried Sand and Gravel	90	0
3173	Ames #5	Not Used	135	09/05/1947	Buried Sand and Gravel	54	59
13706	Ames #8	Plugged	126	12/31/1961	Buried Sand and Gravel	50	0
14427	Ames #7	Active	110	12/31/1961	Buried Sand and Gravel	45	0
18638	Ames #10	Active	126	12/31/1965	Buried Sand and Gravel	0	0
18802	Ames #9	Active	134	12/31/1965	Buried Sand and Gravel	67	0

Property Location Map



Figure 2. Property Location Map

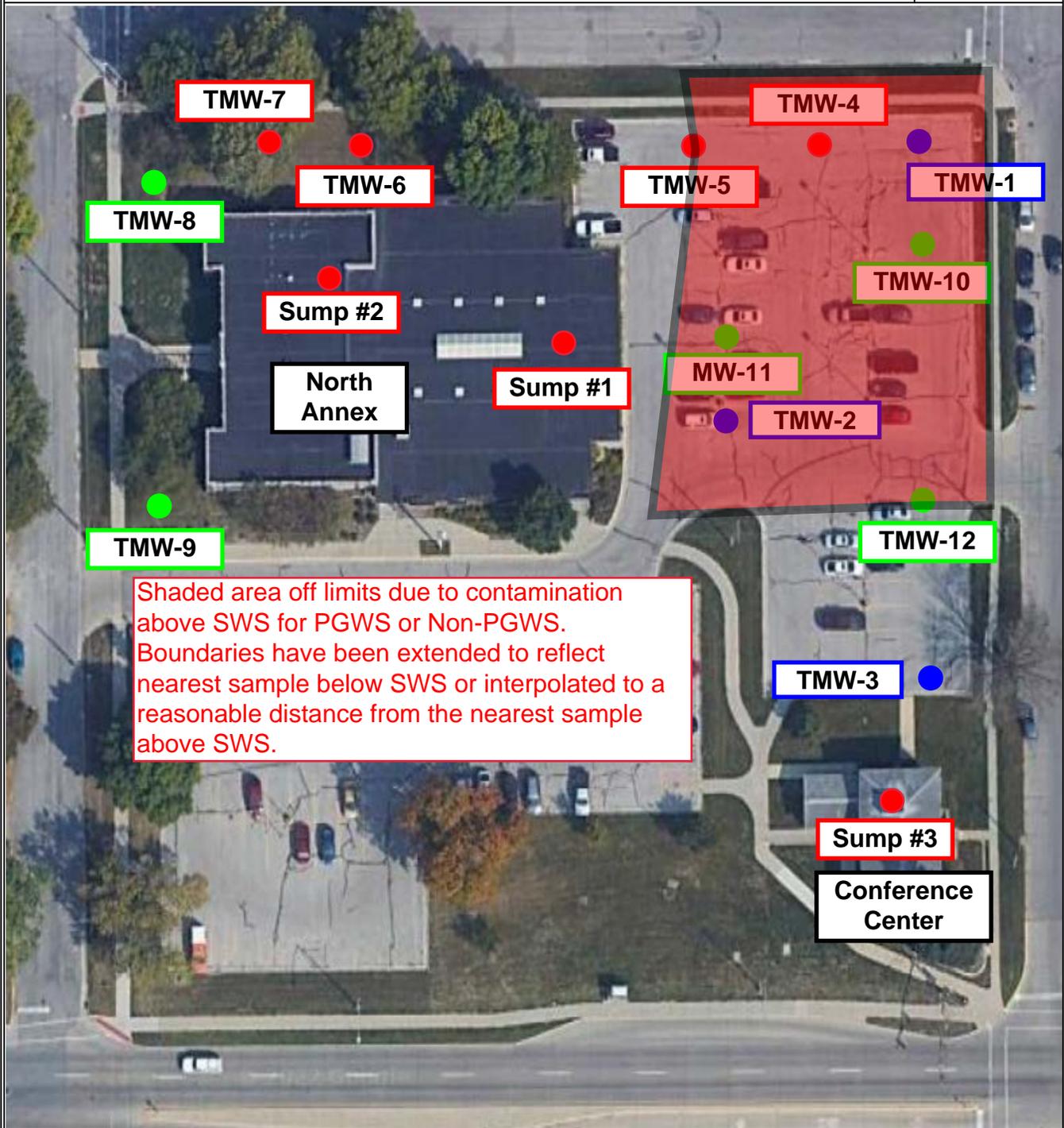
Iowa DOT Property
 122 N. Oak Avenue
 Ames, Iowa 50010



Sample Location Map



North



Shaded area off limits due to contamination above SWS for PGWS or Non-PGWS. Boundaries have been extended to reflect nearest sample below SWS or interpolated to a reasonable distance from the nearest sample above SWS.

Fig. 3 Sample Location Map
The City of Ames
 122 N. Oak Avenue Ames,
 Iowa 50010

- 1st Round LSI Borings
- 2nd Round LSI Boring/Sump Locations
- 3rd Round Borings for Geothermal

