Agenda
Silver Lake City Council
Special Meeting
6:30pm, December 2, 2025
Silver Lake Auditorium

New Business

1. Approving Change Order #4

Adjourn

CHANGE ORDER NO.: 4

Owner:	City of Silver Lake, Minnesota	Owner's Project No.:	
Engineer:	Short Elliott Hendrickson Inc.	Engineer's Project No.:	SILAK 171969
Contractor:	R & R Excavating, Inc.	Contractor's Project No.:	
Project:	Silver Lake Infrastructure Improvements Project		
Contract Name:	Silver Lake Infrastructure Improvements Project		
Date Issued:	**December 2, 2025**	Effective Date of Change Order:	**December 2, 2025**

The Contract is modified as follows upon execution of this Change Order:

Description:

On August 19, 2025, during planned maintenance of Well No. 1, McCarthy Well inadvertently extracted the well screen while attempting to clean the casing and screen with a brush. This unexpected incident rendered the well inoperable and required immediate corrective action. It was assumed that the existing K-Packer (material type: lead) was not properly swedged to the casing. McCarthy, in consultation with SEH, Traut Well Company and Johnson Screens, developed potential solutions. After discussions with USDA-RD and the City, SEH authorized McCarthy to proceed with pumping sediment from the borehole using a mechanical sand pump while stabilizing the borehole with hydrant water to attempt to redeploy the screen.

In preparation for installation, McCarthy cleaned the screen, cut it at the joint to accommodate equipment limitations, and reassembled with a new K-Packer. However, McCarthy was unsuccessful with their attempts to remove sediment from October 6 through October 8.

An onsite meeting was held on October 9, 2025, with McCarthy, public works, PeopleService, the City Mayor, Traut Well Drilling, and SEH. Traut provided two options:

- **Vacuum the well and attempt to deploy the existing screen.**
- **Drill a new well, plumb it to existing well house, and seal and abandon the existing well.**

Traut recommended proceeding with drilling a new well given minor cost savings and potential for being unsuccessful due to difficulties with vacuuming the well. Given the age of Well No. 1 (constructed in 1964) and its deteriorating condition, including sand infiltration and lack of chemical treatment, the City Council agreed with this recommendation. This option offers long-term reliability, improved water quality (no longer pumping sand), and operational flexibility, while minimizing the risk of future failures. Based on the project's current financial position, it appears there are sufficient grant-eligible funds available to pay for all of the construction costs associated with the scope presented in this change order. All stakeholders agree that this option is the most viable and practical solution (given the circumstances).

Based on the description presented above, various deductions and additions are to be incorporated into the scope of work (as shown in Attachment A). All items presented are to be considered water-eligible for reimbursement.

For cost estimating purposes, various exhibits were provided to R&R to develop their unit pricing for the items presented in this change order. Exhibits are attached and are listed below.

A draft of this change order was presented to City Council on November 6, 2025. Based on the prices provided, City Council requested various action items for SEH to investigate and revise the Change Order. A memo outlining the action items and responses are included in Attachment C. As

described in the memo, R&R provided revised pricing in this change order with the following changes since November 6:

- **Multiple well drilling contractors provided pricing**
  - **Pricing was received from two well drilling contractors (Traut and Steffl)**
- **Optional bid item to drill in January 2026 vs drill in April 2026 was provided**
  - **Optional pricing from Traut to drill the well in April instead of January was provided. The potential cost savings to drill in April was $15,000. Based on conversations with City and RD representatives, maintaining project timeline, and the urgency of needing a backup well for safety reasons, this change order proposes drilling the well in January 2026.**
- **Optional bid item to use Steel casing vs PVC casing was provided**
  - **Optional pricing from Traut to install PVC casing for the well instead of steel was provided. The potential cost savings was $1,480. Based on the minor savings, conversations with RD representatives, and SEH's recommendation, the proposed change order is to include steel casing (not PVC).**
- **Multiple chemical feed contractors provided pricing for the chemical feeds, and more information was provided to refine their pricing**
  - **Pricing was received from two contractors (Hawkins and Vessco)**

Attachments:

Attachment A – Estimated Quantities and Costs

Attachment B – Summary Tables

Attachment C – Memo Re Well 1 Options 11.12.2025

Exhibits:

Exhibit 1 – Well No. 1 Preliminary Layout

Exhibit 2 – Well Modifications for CO#4 for Cost Estimating Purposes

Exhibit 3 – Existing Well No. 1 in Profile View

Exhibit 4 – Preliminary Water Quality Sampling and Analysis Schedule

Exhibit 5 – Pitless Unit Example

Exhibit 6 – Example Cutting and Patching Plan

Exhibit 7 – Example Cutting and Patching Specification

Change in Contract Price	Change in Contract Times [State Contract Times as either a specific date or a number of days]
Original Contract Price: $ **15,315,802.66**	Original Contract Times: Substantial Completion: **November 15, 2026** Ready for final payment: **July 16, 2027**
Increase from previously approved Change Orders No. 1 to **No. 3**: $ **1,708,376.79**	**[Increase] [Decrease]** from previously approved Change Orders No.1 to No. **[Number of previous Change Order]**: Substantial Completion: **N/A** Ready for final payment: **N/A**
Contract Price prior to this Change Order: $ **17,024,179.45**	Contract Times prior to this Change Order: Substantial Completion: **November 15, 2026** Ready for final payment: **July 16, 2027**
Increase this Change Order: $ **348,808.39**	**[Increase] [Decrease]** this Change Order: Substantial Completion: **N/A** Ready for final payment: **N/A**
Contract Price incorporating this Change Order: $ **17,372,987.84**	Contract Times with all approved Change Orders: Substantial Completion: **November 15, 2026** Ready for final payment: **July 16, 2027**

Recommended by Engineer (if required)	Authorized by Contractor
By:	Gregor Fraser
Title: **Project Engineer**	Project Manager
Date: **December 2, 2025**	11/26/25
Authorized by Owner	Approved by Funding Agency (if applicable)
By:	
Title:	
Date:	

Change Order No. 4 Narrative

A. What are the circumstances that lead to this change?
   1. **See description.**
B. Why is this change needed?
   1. **The well is currently not operational. This is a health and safety issue.**
C. Who initiated the change? (i.e., Owner, Engineer, or Contractor)
   1. **Owner, Engineer, and Contractor.**
D. What did the Contract Documents originally require or specify regarding the Work of this change?
   1. **See Sheets 217 to 219 and associated specifications.**
E. Where were these original requirements specified? (e.g., Drawing numbers, Specification citation)
   1. **See Sheets 217 to 219 and associated specifications.**

F. Where at the Site is the Work of this change located? (i.e., Drawing numbers)
    1. **See Sheets 217 to 219.**
G. What specific Contract Documents, such as Drawings and Technical Specifications, apply to this change?
    1. **See Sheets 217 to 219 and associated specifications.**
H. What are the changes to the Contract Documents? (Describe, quantify, and reference attached Drawings, Specifications, etc.)
    1. **N/A**
I. What are the alternatives to this change?
    1. **Do nothing (not feasible)**
    2. **Mechanically pump sediment and redeploy the screen (attempted and failed)**
    3. **Vacuum sediment and redeploy the screen (not recommended based on conversations with Traut)**
    4. **Drill a new well, plumb it to the existing well house, and seal and abandon the existing well (recommended)**
J. Why is the recommended alternative the preferred alternative?
    1. **Poor Existing Conditions**
        a. **Well #1 is currently non-functional due to screen being extracted.**
        b. **The well was constructed in 1964 (61 years old, exceeding its expected life span).**
        c. **City staff reported sand pumping out of the well for decades (indicating failures in the casing).**
        d. **No chemical feeds.**
    2. **Minimal cost savings when compared to Option 3 presented above.**
    3. **Much higher likelihood of success when compared to Option 3 presented in Bullet "I" in the narrative above.**
    4. **Option 3 presented above offers no improvements to the existing conditions of the well.**
    5. **There are grant-eligible funds available to pay for the additional work. If left out of the project, the funds will likely go left unused.**
K. What is the amount of the change in Contract Price and how was this change established? (Attach table itemizing unit price quantity changes and new unit price items. Attach Proposal from Contractor.)
    1. **$348,808.39 (See Attachment A).**
L. What is the change in the Contract Time(s) and how was this change determined? (Attach written request with justification from Contractor. Engineer's calculations are an option for Work added by Owner.)
    1. **No change in contract time.**
M. How does this change impact other portions of this contract and other contracts of this Project in terms of scheduling, costs, and other factors?
    1. **No change in any other factors of this contract.**
N. What are the impacts of this change on the non-construction costs, such as engineering fees, construction testing, and interim interest? (Include calculations.)
    1. **See Attachment B.**
O. What construction and non-construction costs associated with this change are proposed to be eligible for RD funding? (Include cost breakdown by utility system and by eligible and ineligible.)
    1. **See Attachment B.**

ATTACHMENT A
CHANGE ORDER NO. 4
SILVER LAKE INFRASTRUCTURE IMPROVEMENTS PROJECT
SILVER LAKE, MINNESOTA
SEH NO. SILAK 171969
DECEMBER 2, 2025

Line No.	Item No.	Description	Unit	Unit Price	Qty.	Total Price
WELL#1 REPLACEMENT						
Deductions						
181	1	WELL REMOVALS AND INSTALLS (OMIT WELL #1 TEMPORARY CHEMICAL FEED)	LS	($15,000.00)	1.0	($15,000.00)
185	5	WELL #1 1-1/4-INCH PVC STILLING TUBE	LS	$250.00	(1.0)	($250.00)
186	6	WELL #1 6-INCH SCH 40 COLUMN PIPE	LF	$46.46	(100.0)	($4,646.00)
187	7	WELL #1 NEW PUMP AND MOTOR	LS	$12,000.00	(1.0)	($12,000.00)
189	9	WELL #1 WIRE BRUSH CLEANING OF CASING	LS	$11,250.00	(1.0)	($11,250.00)
191	11	WELL #1 REPEAT TELEVISING OF WELL	LS	$4,200.00	(1.0)	($4,200.00)
192	12	WELL #1 TESTING	LS	$15,000.00	(1.0)	($15,000.00)
		Total Deductions				**($62,346.00)**
Additions						
605	1	WELL #1 DRILLING MOBILIZATION AND DEMOBILIZATION	LS	$21,366.23	1.0	$21,366.23
606	2	WELL #1 DRILL TEST HOLE, AND COLLECT/TEST SAMPLES	LS	$8,546.49	1.0	$8,546.49
607	3	WELL #1 DRILL MUD ROTARY HOLE TO RECEIVE 10" CASING	LF	$138.88	200.0	$27,776.00
608	4	WELL #1 10" LC STEEL CASING	LF	$128.20	162.0	$20,768.40
609	5	WELL #1 10" STAINLESS STEEL SCREEN	LF	$421.98	30.0	$12,659.40
610	6	WELL #1 FURNISH, INSTALL & REMOVE GROUTING EQUIPMENT	LS	$1,602.47	1.0	$1,602.47
611	7	WELL #1 FURNISH & INSTALL FILTER PACK & GROUT	LF	$37.39	200.0	$7,478.00
612	8	WELL #1 FURNISH, INSTALL & REMOVE WELL DEV EQUIP	LS	$2,670.77	1.0	$2,670.77
613	9	WELL #1 WELL DEVELOPMENT	HR	$534.16	30.0	$16,024.80
614	10	WELL #1 FURNISH, INSTALL & REMOVE TEST PUMP	LS	$6,944.03	1.0	$6,944.03
615	11	WELL #1 TEST PUMPING	HR	$347.20	24.0	$8,332.80
616	12	WELL #1 FURNISH & REMOVE DUMPSTER FOR CONTAINMENT	LS	$3,739.09	1.0	$3,739.09
617	13	WELL #1 VAC TRUCK FOR FLUID/CUTTINGS DISPOSAL	HR	$1,068.31	20.0	$21,366.20
618	14	WELL #1 PLUMB & ALIGNMENT	LS	$1,068.32	1.0	$1,068.32
619	15	WELL #1 VIDEO TAPING	LS	$2,563.95	1.0	$2,563.95
620	16	WELL #1 SEAL AND ABANDON EXISTING WELL	LS	$9,294.31	1.0	$9,294.31
621	17	WELL #1 WATER QUALITY TESTING	LS	$9,609.46	1.0	$9,609.46
622	18	WELL #1 1-1/4-INCH PVC STILLING TUBE	LS	$250.00	1.0	$250.00
623	19	WELL #1 6-INCH SCH 40 COLUMN PIPE	LF	$46.46	100.0	$4,646.00
624	20	WELL #1 NEW PUMP AND MOTOR	LS	$12,000.00	1.0	$12,000.00
625	21	WELL #1 PITLESS UNIT (INCLUDES ELECTRICAL)	EACH	$61,536.92	1.0	$61,536.92
626	22	WELL #1 CONCRETE BOLLARDS	EACH	$1,798.19	2.0	$3,596.38
627	23	WELL #1 CONTROL PANEL MODIFICATIONS (INCLUDES VFD)	LS	$35,532.05	1.0	$35,532.05
628	24	WELL #1 PROCESS PIPING INSTALL MODIFICATIONS (FROM PITLESS UNIT TO AIR RELEASE VALVE)	LS	$28,382.61	1.0	$28,382.61
629	25	WELL #1 CUTTING AND PATCHING (INCLUDES SHORING)	LS	$23,536.26	1.0	$23,536.26
630	26	WELL #1 INSTALL PERMANENT FLORIDE FEED SYSTEM	EACH	$10,683.12	1.0	$10,683.12
631	27	WELL #1 INSTALL PERMANENT CHLORINE FEED SYSTEM	EACH	$7,478.18	1.0	$7,478.18
632	28	WELL #1 INSTALL PERMANENT LPC5 FEED SYSTEM	EACH	$7,478.18	1.0	$7,478.18
633	29	WELL #1 VENTILATION FOR CHEMICAL FEEDS	EACH	$10,000.00	1.0	$10,000.00
634	30	WELL #2 INSTALL PERMANENT CHLORINE FEED SYSTEM AND ABANDON GAS CHLORIDE FEED SYSTEM	EACH	$8,546.49	1.0	$8,546.49
635	31	RELOCATE CIVIL DEFENSE SIREN POLE AND ATTACHMENTS	LS	$15,677.48	1.0	$15,677.48
		Total Additions				**$411,154.39**
		TOTAL CHANGE ORDER NO. FOUR				**$348,808.39**

Optional Deductions Considered (not included in the change order, see narrative)

636	32	DEDUCTION FOR DRILLING IN APRIL 2026 (RATHER THAN JANUARY 2026)	LS	($15,000.00)	1.0	($15,000.00)
637	33	DEDUCTION TO BID ITEM 608 FOR USING 10" PVC CASING RATHER THAN 10" LC STEEL CASING	LF	($40.00)	162.0	($6,480.00)
638	34	ADD TO BID ITEM 625 FOR USING 10" PVC CASING RATHER THAN 10" LC STEEL CASING (PITLESS ADAPTER)	LS	$5,000.00	1.0	$5,000.00
		Total Optional Deductions Considered				**($16,480.00)**

ATTACHMENT B

Item	Change Order No. 4 - Estimated Costs				
	Wastewater Eligible	Water Eligible	Storm Eligible	City Cost (Not Eligible)	Total
Deductions	$0	($62,346)	$0	$0	($62,346)
Additions	$0	$411,154	$0	$0	$411,154
Estimated Construction Cost	**$0**	**$348,808**	**$0**	**$0**	**$348,808**
Land Acquisition	$0	$0	$0	$0	$0
Basic Engineering	$7,800	$6,000	$3,800	$2,400	$20,000
RPR Services	$0	$0	$0	$0	$0
Assessment Process and Staking Services	$0	$0	$0	$0	$0
Legal and Admin	$950	$775	$475	$300	$2,500
Testing	$0	$0	$0	$0	$0
Non-Construction Cost Subtotal	**$8,750**	**$6,775**	**$4,275**	**$2,700**	**$22,500**
Interim Interest	$2,850	$2,325	$1,425	$900	$7,500
Estimated Total Capital Cost	**$11,600**	**$357,908**	**$5,700**	**$3,600**	**$378,808**

Item	Engineering Fees Breakdown - Change Order No. 4 (OEA Amendment 2)				
	Wastewater Eligible	Water Eligible	Storm Eligible	City Cost (Not Eligible)	Total
Study and Report Phase (already complete)	$0	$0	$0	$0	$0
Preliminary Design	$4,251	$3,270	$2,071	$1,308	$10,900
Final Design	$3,549	$2,730	$1,729	$1,092	$9,100
Bidding Services	$0	$0	$0	$0	$0
Construction Services	$0	$0	$0	$0	$0
Post-Construction Services	$0	$0	$0	$0	$0
BASIC ENGINEERING SUBTOTAL	**$7,800**	**$6,000**	**$3,800**	**$2,400**	**$20,000**
RPR Services	$0	$0	$0	$0	$0
ENGINEERING SUBTOTAL	**$7,800**	**$6,000**	**$3,800**	**$2,400**	**$20,000**
Additional Services	$0	$0	$0	$0	$0
OEA AMENDMENT TOTAL	**$7,800**	**$6,000**	**$3,800**	**$2,400**	**$20,000**

*Note: Soft Costs (engineering, legal/admin, and interest) are to be drawn based on the weighted averages of each eligibility category for the project as a whole. Weighted percentages for each category are as follows:

- Wastewater: 39%
- Water: 30%
- Storm: 19%
- City Cost: 12%

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MEMORANDUM

TO: Silver Lake Mayor and Council Members

FROM: Sam Fink, PE (Lic. MN, NE), Project Manager
Brody Bratsch, PE (Lic. MN), Project Engineer
Simon McCormack, PE (Lic. MN), Water Engineer

DATE: November 12, 2025

RE: Well No. 1 Options - Silver Lake Infrastructure Improvements Project
SEH No. SILAK 171969 16.03

This memo responds to action items requested by City Council on November 6 regarding Well No. 1.

BACKGROUND

The existing well north of the Auditorium (Well No. 1) was constructed in 1964 and has been the city's backup well since 1974, when the primary well (Well No. 2) was constructed north of the water tower. The original scope of this project at Well No. 1 was to rehabilitate the well, pump/motor, and piping to extend the well's serviceable life until funding was available for a water treatment plant. The scope included cleaning the well casing/screen, installing a new pump/motor, and replacing the process piping in the well house. It was an affordable improvement option to allow the well to continue to be utilized at its usual capacity (used during hydrant flushing, fire events, etc.).

On August 19, 2025, McCarthy Well underwent the process of cleaning the well by brushing the casing and screen. Unfortunately, the existing lead packer, which connects the screen to the casing, was in a weakened state and broke off from the casing. On August 26th, McCarthy provided pricing for various options to repair the well. The options were reviewed by SEH, USDA-RD, and city staff shortly after. Based on discussion USDA-RD and the City, SEH provided McCarthy authorization to proceed with attempting to remove sediment to redeploy the screen on August 29th, for a not-to-exceed price of $32,500. McCarthy attempted to remove sediment in late September to early October to redeploy the screen, but was unsuccessful. Following McCarthy's unsuccessful attempts to remove sediment, an onsite meeting was held at the well on October 9th to discuss other options. Attendees included representatives from McCarthy, SEH, Traut Companies (a well drilling contractor), and the City.

Two options (in addition to the unsuccessful "Option 1") were discussed with Council on October 20th following the meeting on October 9th:

- Option 1 – McCarthy's original option to remove sediment (unsuccessful)
- Option 2 – Traut to well vac existing well to redeploy the screen.
  - Risk of failure (similar to Option 1)
  - No improvements to the well
  - Traut did not recommend this option
  - Preliminary cost estimate of $115,000
- Option 3 - Drill a new well, plumb to existing wellhouse, and abandon/seal the old well
  - Total preliminary cost estimate to do this work was $235,000

- Chemical feeds were estimated to add $70,000 to the total estimated cost
- This brought the total preliminary estimated cost to $305,000

Based on the conversations, options, and preliminary cost estimates presented on October 20th, City Council directed SEH prepare a change order ("Change Order No. 4") for a Special City Council meeting to be held on November 6th. Pricing was to be developed by R&R and the proposed scope was to include:

- Drilling a new 10" steel well outside of the well house
- Plumbing the new well to the existing well house
- Reconfiguring the process piping of the well house for the new well
- Add three chemical feeds to Well 1 and sodium hypochlorite to Well 2
- Sealing and abandoning the existing well

The change order presented on November 6th included a net increase to the construction cost of $390,000. For budgeting purposes, a total estimated cost (to include soft costs and a 10% construction contingency) of **$449,000** was presented to council (about $144,000 higher than the preliminary total cost presented on October 20th). With the elevated cost, council decided to table the decision of approving the change order to a future council meeting.

To refine council's decisions, the City provided SEH with the following action items on November 6th:

1. Determine feasibility of demolishing the existing well house and constructing a new well house
2. Explore opportunities to lower the costs associated with the scope presented in the Change Order dated November 6, 2025. Items to explore included:
   a. Collect more quotes from drilling contractors with options to drill in Winter or Spring 2026
   b. Refine chemical feed pricing
   c. Investigate casing material alternatives (steel vs PVC)
   d. Explore opportunities for omissions to the scope

FEASIBILITY OF DEMOLISHING AND CONSTRUCTING A NEW WELL HOUSE NO. 1

Demolishing and constructing a new Well House No. 1 is technically feasible but presents significant financial and scheduling challenges. Based on comparable projects, the estimated construction cost for a new well house would likely cost at least $650,000, but could be much higher. As a reminder, this project includes Prevailing Wage and American Iron and Steel (AIS) requirements that ultimately lead to elevated construction costs.

Example Projects and Additional Costs

A well house in Maiden Rock, Wisconsin constructed in 2021 with a scope that closely resembles the proposed Silver Lake scope, had a low bid of $690,767 (see **Exhibit 1**). Due to inflation of labor and material costs since 2021, we expect that same project today to cost more than it did four years ago. It's important to note that no two projects are identical, as the Maiden Rock project included features not proposed in Silver Lake like an asphalt drive, generator, and sanitary drain. However, the Maiden Rock project did not require the demolition of an existing well house.

Two other recent wellhouse projects are attached for comparison purposes (**Exhibits 2** and **3**). **Exhibit 2** shows a wellhouse that was constructed in Cascade, Wisconsin in 2024 for a $1.3M construction cost for the wellhouse aspects (that construction cost does not include site work or drilling a new well). **Exhibit 3** shows a wellhouse that is currently being constructed in Rosemount, Minnesota for a $1.8M construction cost for the wellhouse aspects (also does not include site work or drilling a new well). Again, these projects are not the same as Silver Lake as the proposed wellhouses are about twice the size of the Silver Lake wellhouse, but even half the cost of these projects is above $650,000, and that does not include drilling a new well and sealing an existing well.

Additionally, design fees for a new wellhouse would be higher than the current change order. Rather than the current $20,000 for design, the design services will likely exceed $75,000 due to the need for more architectural, structural, mechanical, and electrical review.

Alternative Building Option

Utilizing a pre-fabricated fiberglass shelter in lieu of a structural CMU building was considered at the request of Mayor Bebo. **Exhibit 4** shows an example of this type of construction. This would likely lead to cost savings, however, it is our opinion that the potential savings will not offset the total costs enough to make this option more affordable than Option 3 presented above. Additionally, there are concerns of structural integrity of this type of construction during storm/wind events when compared to the existing building. Furthermore, there are aesthetic considerations with installing a pre-fabricated fiberglass shelter in place of the existing well house that has a brick façade that closely resembles the adjacent historical auditorium.

Scheduling Issues

From a scheduling perspective, the timeline for a new well house would be considerably longer. Based on comparable projects, the earliest reasonable completion date for the new well house would be Fall 2026. This delay would likely impact the broader infrastructure schedule, particularly work planned for Tower Avenue. From a "big picture" perspective, constructing a new wellhouse does not appear cost effective considering the city's ultimate goal is to construct a water treatment plant in place of the existing wellhouse.

Conclusion

The project is funded through USDA-RD, which mandates that funded improvements be the most modest solution reasonably achievable*. In our professional opinion, constructing a new well house would not meet USDA-RD's modest project criteria, potentially jeopardizing funding eligibility*. Given these considerations, the "demolish and construct new" option is less favorable compared to the scope presented in Option 3. We do not recommend this as a feasible option.

REFINING R&R'S PRICING FOR CHANGE ORDER 4

Scheduling Options

We have begun exploring opportunities to lower the costs associated with the proposed scope for Well No. 1 by seeking additional quotes from drilling contractors for both winter and spring 2026 installation. R&R initially contacted three well drillers: Traut, Schaeffer, and DC Drilling. Traut was the only contractor available; Schaeffer's schedule is fully booked until Fall 2026, which does not align with the project timeline, and DC Drilling declined to bid due to their focus on residential work. To expand the pool of potential bidders, SEH provided contact information for Steffl Drilling and Pump (Willmar, MN), who is currently reviewing the project and preparing quotes for both seasonal drilling options.

SEH has reviewed and confirmed that spring installation is feasible from a scheduling standpoint due to the inclusion of a variable frequency drive (VFD) at Well House No. 1, which will allow the City to maintain water pressure and temporarily shut down the water tower during Tower Avenue water main construction.

Steel Casing vs PVC Casing

Another possible cost saving measure that was proposed by Mayor Bebo was constructing the well casing with PVC rather than steel. Utilizing PVC casing appears to be a feasible option. Though it is our opinion that steel casing offers improved durability and reliability, PVC is likely to be a more affordable option. In an effort for us to perform cost-benefit analysis with council, we are requesting R&R to provide costs for "optional" line items to change the proposed casing material from steel to PVC.

Chemical Feed Pricing

In addition to drilling costs, we are working with R&R, McCarthy, and Vessco to refine the pricing for the chemical feed systems included in the change order. Our goal is to ensure the selected systems meet regulatory requirements while identifying any opportunities to reduce material and installation unknowns. These refinements, along with updated drilling quotes, will be incorporated into a revised cost estimate for Council consideration.

OTHER CONSIDERATIONS

Grant Eligibility

The proposed improvements at Well No. 1 presented in Change Order No. 4 are anticipated to be fully water-eligible and there appear to be USDA-RD grant-eligible funds remaining to cover the costs. That said, there are concerns from Council regarding running out of grant-eligible contingencies. With this in mind, there are possibilities of partially or fully omitting scope from other aspects of the project if grant-eligible funds are depleted

Potential Omissions

The scope of work at Well House No. 2 (currently estimated construction cost of approximately $200,000), may be partially or fully omitted at the discretion of city council. This scope includes cleaning the casing and screen, installing a new pump and motor, and updating process piping (much of which has already been procured by R&R, and they must be compensated for the procurement). Furthermore, approximately $225,000 of grant-eligible construction costs proposed for the north side of TH 7 have been deferred per Council direction at the November 6 meeting, freeing up additional funding flexibility for critical infrastructure needs. We recommend reassessing these elements of the project following the successful construction of Well No. 1, and refinement of quantities for Change Order 2 (Main Street total reconstruct).

CONCLUSIONS AND RECOMMENDATIONS

Based on our evaluation of alternatives, cost refinement efforts, and funding considerations, SEH recommends proceeding with the scope presented in Change Order No. 4, with updated pricing to be provided following receipt of additional drilling quotes and chemical feed refinements. Constructing a new well house is technically feasible but significantly more expensive, time-consuming, and unlikely to meet USDA-RD’s modest project criteria. Spring drilling has been confirmed as a viable option from a scheduling standpoint, and efforts are underway to reduce costs where possible. We believe the current approach remains the most practical, cost-effective, and fundable solution to restore reliable water service and maintain project momentum.

jb
Enclosure

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EXHIBIT 1

VILLAGE OF MAIDEN ROCK

MUNICIPAL WELL NO. 2
WELL AND WELL HOUSE CONSTRUCTION

PIERCE COUNTY, WI

N PROJECT LOCATION

SHEET INDEX	
SHEET	DESCRIPTION
G1	COVER SHEET
G2	GENERAL NOTES
C1	EXISTING CONDITIONS
C2	SITE AND UTILITY PLAN
C3	GRADING PLAN
C4	EROSION CONTROL
A1	ARCH. FLOOR PLAN AND ELEVATIONS
S1	STRUCTURAL NOTES
S2	STRUCTURAL FLOOR PLAN
P1	WELL DRILLING PLAN
P2	PROCESS FLOOR PLAN
P3	FOUNDATION PIPING PLAN
DP1	CONSTRUCTION DETAILS
DP2	CONSTRUCTION DETAILS
E1	ELECTRICAL SYMBOLS AND ABBR.
E2	ELECTRICAL SITE PLAN
E3	ELECTRICAL FLOOR PLAN
E4	ELECTRICAL ONE LINES
E5	ELECTRICAL SCHEMATICS
E6	ELECTRICAL DETAILS
E7	ELECTRICAL DETAILS

10 NORTH BRIDGE STREET
CHIPPEWA FALLS, WI 54729
PHONE: 715.720.6200
FAX: 888.908.8166
TOLL FREE: 800.552.3555
www.sehinc.com

MUNICIPAL WELL NO. 2
VILLAGE OF MAIDEN ROCK
PIERCE COUNTY, WI

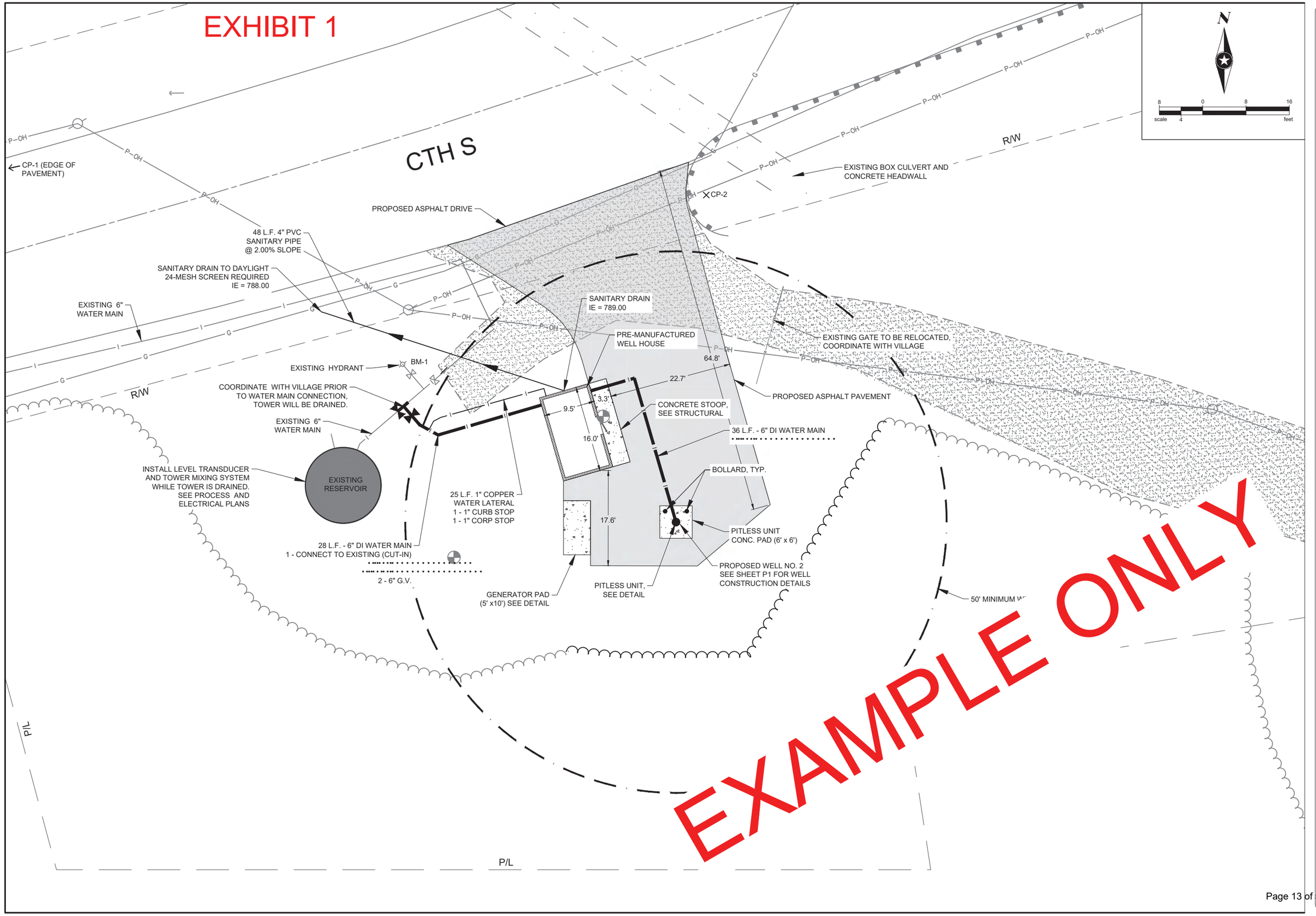
MARK	DATE	DESCRIPTION
REVISIONS		

MAIDE 152702
FILE NO.
CITY PROJECT NO.
ISSUE DATE FEB 2021
DESIGNED BY ICS
DRAWN BY ICS

SHEET TITLE
MUNICIPAL WELL NO. 2
COVER SHEET

SHEET
G1

EXHIBIT 1



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MUNICIPAL WELL NO. 2
VILLAGE OF MAIDEN ROCK
PIERCE COUNTY, WI

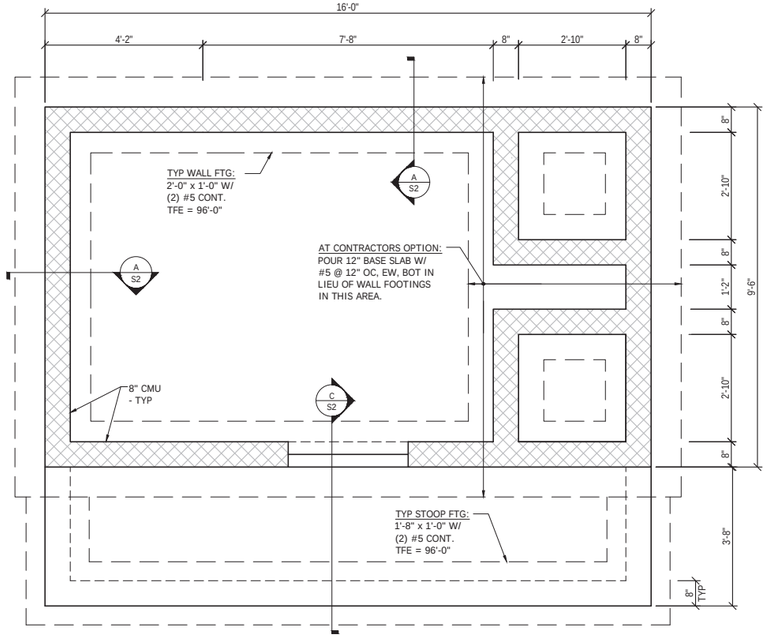
MARK	DATE	DESCRIPTION
		REVISIONS

FILE NO.	MAIDE 152702
CITY PROJECT NO.	
ISSUE DATE	FEB 2021
DESIGNED BY	ICS
DRAWN BY	ICS

SHEET TITLE
CIVIL
SITE AND UTILITY PLAN

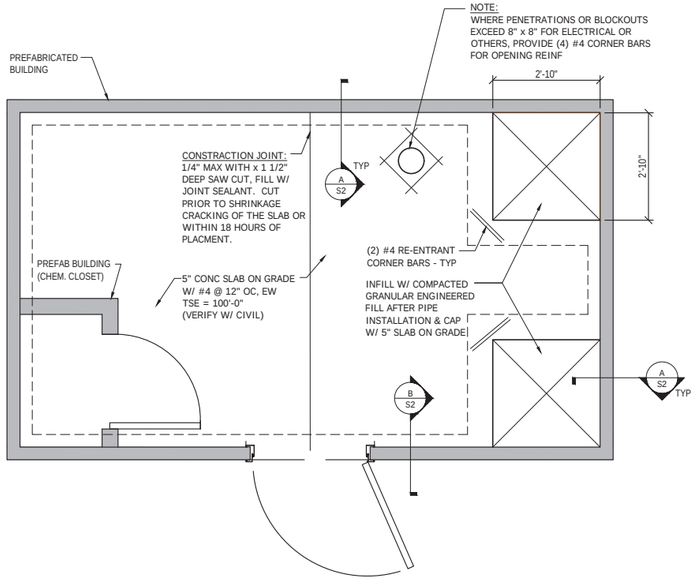
SHEET
C2

EXHIBIT 1



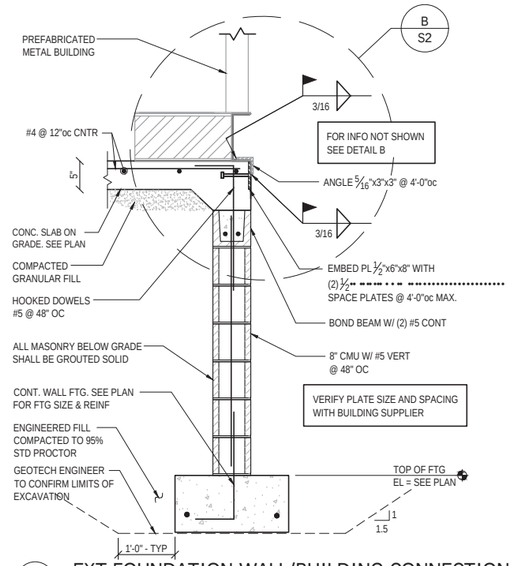
1 FOUNDATION PLAN

Scale: 1/2" = 1'-0"



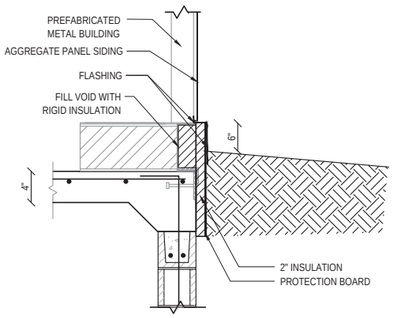
2 FLOOR PLAN

Scale: 1/2" = 1'-0"



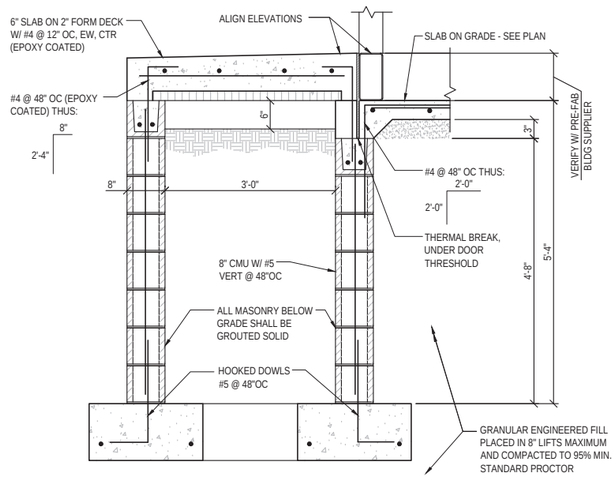
A EXT FOUNDATION WALL/BUILDING CONNECTION

Scale: 3/4" = 1'-0"



B BASE FLASHING DETAIL

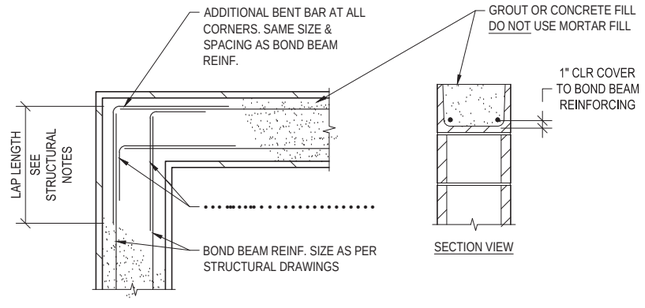
Scale: 3/4" = 1'-0"



NOTE:
CONTRACTOR SHALL HAVE SOILS ENGINEER ON SITE TO REVIEW EXCAVATION PROCESS AND MAKE RECOMMENDATIONS FOR SOILS CORRECTION.

C CONCRETE STOOP

Scale: 3/4" = 1'-0



PLAN VIEW

NOTE:
AT CONTROL JOINTS - CONSTRUCT DUMMY JOINTS, W/ JOINT SEALANT AND BACKER ROD, IN BOND BEAM EXPOSED FACES AND CONTINUE REINF. AND GROUT THRU JOINT.

D BOND BEAM CORNER REINFORCING

Scale: NOT TO SCALE

PLAN VIEW

NOTE:
AT CONTROL JOINTS - CONSTRUCT DUMMY JOINTS, W/ JOINT SEALANT AND BACKER ROD, IN BOND BEAM EXPOSED FACES AND CONTINUE REINF. AND GROUT THRU JOINT.

E BOND BEAM INTERSECTION REINFORCING

Scale: NOT TO SCALE

EXAMPLE ONLY

10 NORTH BRIDGE STREET
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FAX: 888.908.8166
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SEH

VILLAGE OF MAIDEN ROCK
MUNICIPAL WELL NO. 2
MAIDEN ROCK, WISCONSIN

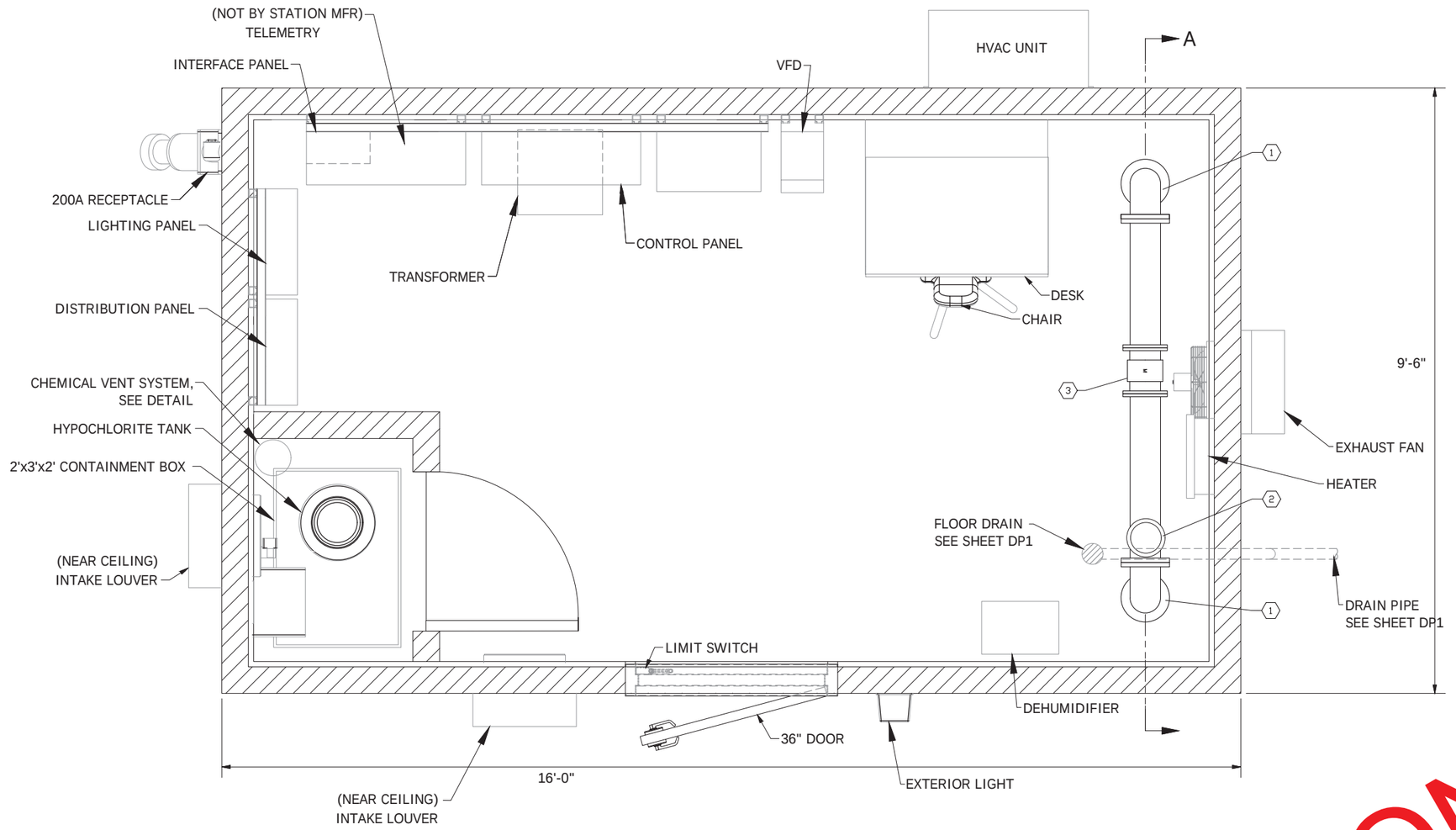
MARK	DATE	DESCRIPTION
		REVISIONS

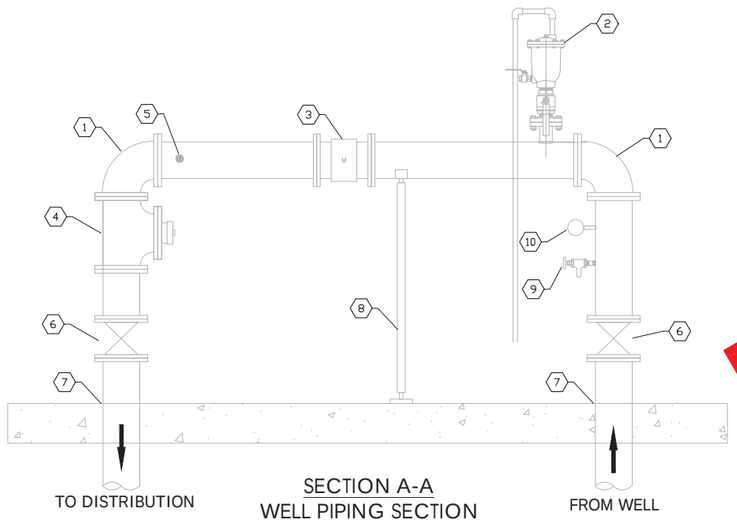
MAIDE 152702
FILE NO.
CITY PROJECT NO.
FEB 2021
ISSUE DATE
CTM, AMC
DESIGNED BY
PAM
DRAWN BY

SHEET TITLE
WELL HOUSE
PLANS AND DETAILS

SHEET
S2

EXHIBIT 1





SECTION A-A
WELL PIPING SECTION

KEYNOTES

	...RE HOSE CONNECT
	...OCHLORITE INJECTION POINT
	...UTTERFLY VALVE
	FLOOR PENETRATION
8	PIPE SUPPORT
9	PRESSURE GAUGE
10	SAMPLE TAP

10 NORTH BRIDGE STREET
CHIPPEWA FALLS, WI 54729
PHONE: 715.720.6200
FAX: 608.268.2464
TOLL FREE: 800.325.2055
www.sehinc.com

VILLAGE OF MAIDEN ROCK
MUNICIPAL WELL NO. 2
MAIDEN ROCK, WISCONSIN

MARK	DATE	DESCRIPTION
		REVISIONS

FILE NO. MAIDE 152702
CITY PROJECT NO.
ISSUE DATE FEB 2021
DESIGNED BY ICS
DRAWN BY KAK

SHEET TITLE
PROCESS
FLOOR PLAN

SHEET
P2

Maiden Rock, WI - Municipal Well No. 2 Well and Well House Construct... 52)
Owner: Village of Maiden Rock
Solicitor: SEH - Chippewa Falls, WI
02/25/2021 02:00 PM CST

EXAMPLE ONLY

Item No.	Item Description	Unit	Est. Quantity	Haas Sons, Inc. Unit Price	Total Price
Schedule A Well Construction Phase I					
1	Mobilization	LS	1	$50,453.00	$50,453.00
2	Furnish, Drill, and Drive 18-inch Temporary Casing	LF	~~30~~ 14 + $1,0000 for RAD tests = 26	$85.00	$2,550.00
3	Furnish and Install 8-inch Removal Centering Pipe	LF	~~30~~ 36	$45.00	$1,350.00
4	Drill 8-inch Open Hole	LF	~~670~~ 664	$60.00	$40,200.00
5	Sampling and Testing	LS	1	$2,500.00	$2,500.00
6	Development	HR	~~8~~ 2	$250.00	$2,000.00
7	Furnish, Install, and Remove Performance Pumping Equipment	LS	1	$10,000.00	$10,000.00
8	Performance Pump Test	HR	24	$150.00	$3,600.00
9	Basic Water Quality Analysis	EA	1	$1,000.00	$1,000.00
10	Gamma Logging	LS	1	$3,000.00	$3,000.00
	Schedule A Total				**$116,653.00**
Schedule B - Well Construction Phase II					
11	Ream 8-inch Borehole to 14-inch	LF	500	$50.00	$25,000.00
12	Furnish and Install 10-inch Inner Casing	LF	530	$70.00	$37,100.00
13	Grouting	CY	20	$750.00	$15,000.00
14	Ream 8-inch Borehole to 14-inch Open Borehole	LF	170	$40.00	$6,800.00
15	Sampling and Testing	LS	1	$5,000.00	$5,000.00
16	Development	HR	60	$150.00	$9,000.00
17	Furnish, Install, and Remove Performance Pumping Equipment	LS	1	$7,500.00	$7,500.00
18	Performance Pump Test	HR	24	$150.00	$3,600.00
19	WI DNR Water Quality Analysis	EA	1	$5,000.00	$5,000.00
20	Video Logging	LS	1	$3,000.00	$3,000.00
21	Furnish and Install Well Cap	EA	1	$250.00	$250.00
	Schedule B Total				**$117,250.00**

EXHIBIT 1

					Haas Sons, Inc.	
Item No.	Item Description	Unit	Est. Quantity	Unit Price	Total Price
Schedule C - Well House						
22	Well House Lump Sum - USEMCO Pre-packaged well house including the building, foundations, concrete stoop, process piping, chemical feed equipment, electrical and SCADA controls, HVAC, plumbing, utility services, and other appurtenances	LS	1	$280,225.00	$280,225.00
	Schedule C Total				**$280,225.00**
Schedule D - Site/Civil Improvements					
23	Site and civil improvements include removals, grubbing, excavation, water main, sanitary sewer, pitless unit to house the well, driveway improvements including base course and asphalt pavement, erosion control, rip rap, restoration and other site improvements	LS	1	$161,639.00	$161,639.00
	Schedule D Total				**$161,639.00**
Allowance					
24	Allowance	LS	1	$15,000.00	$15,000.00
	Allowance Total				**$15,000.00**
Alternate 1					
25	Alternate 1: Add or Deduct for Alternative Pre-Packaged Well House Manufacturer	LS	1	$30,000.00	$30,000.00
	Alternate 1 Total				**$30,000.00**
	Base Bid Total:				**$690,767.00**

EXHIBIT 1

EXAMPLE ONLY

CONSTRUCTION DRAWINGS FOR

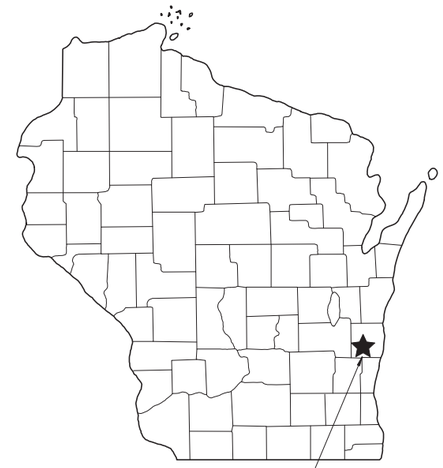
EXHIBIT 2

WELL NO. 3 WELL HOUSE & SITE IMPROVEMENTS FOR THE VILLAGE OF CASCADE, WISCONSIN

PROJECT LOCATION

PROJECT LOCATION MAP

INDEX



VILLAGE OF CASCADE WISCONSIN
SHEBOYGAN COUNTY

WISCONSIN

SEH

Project Owner

VILLAGE OF CASCADE
WELL NO. 3 WELL HOUSE & SITE IMPROVEMENTS
WELLHOUSE NO. 3

SEH Project	CASCA 158945
Checked By	MS
Drawn By	LAP

Project Status	**Issue Date**
BIDDING DOCUMENTS	3/29/2024

REVISION SCHEDULE

REV. #	DESCRIPTION	DATE

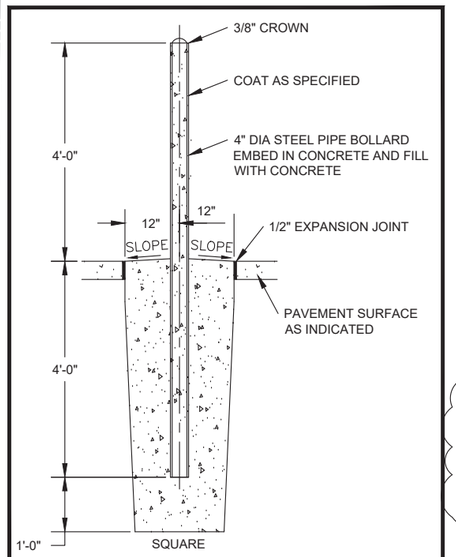
TITLE SHEET

G001

EXHIBIT 2

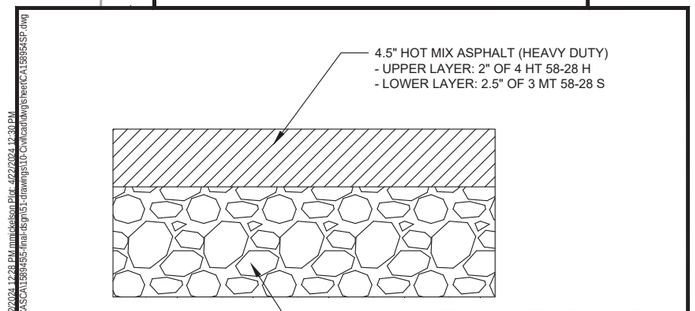
EXAMPLE ONLY

MILL POND / N BRANCH MILWAUKEE RIVER

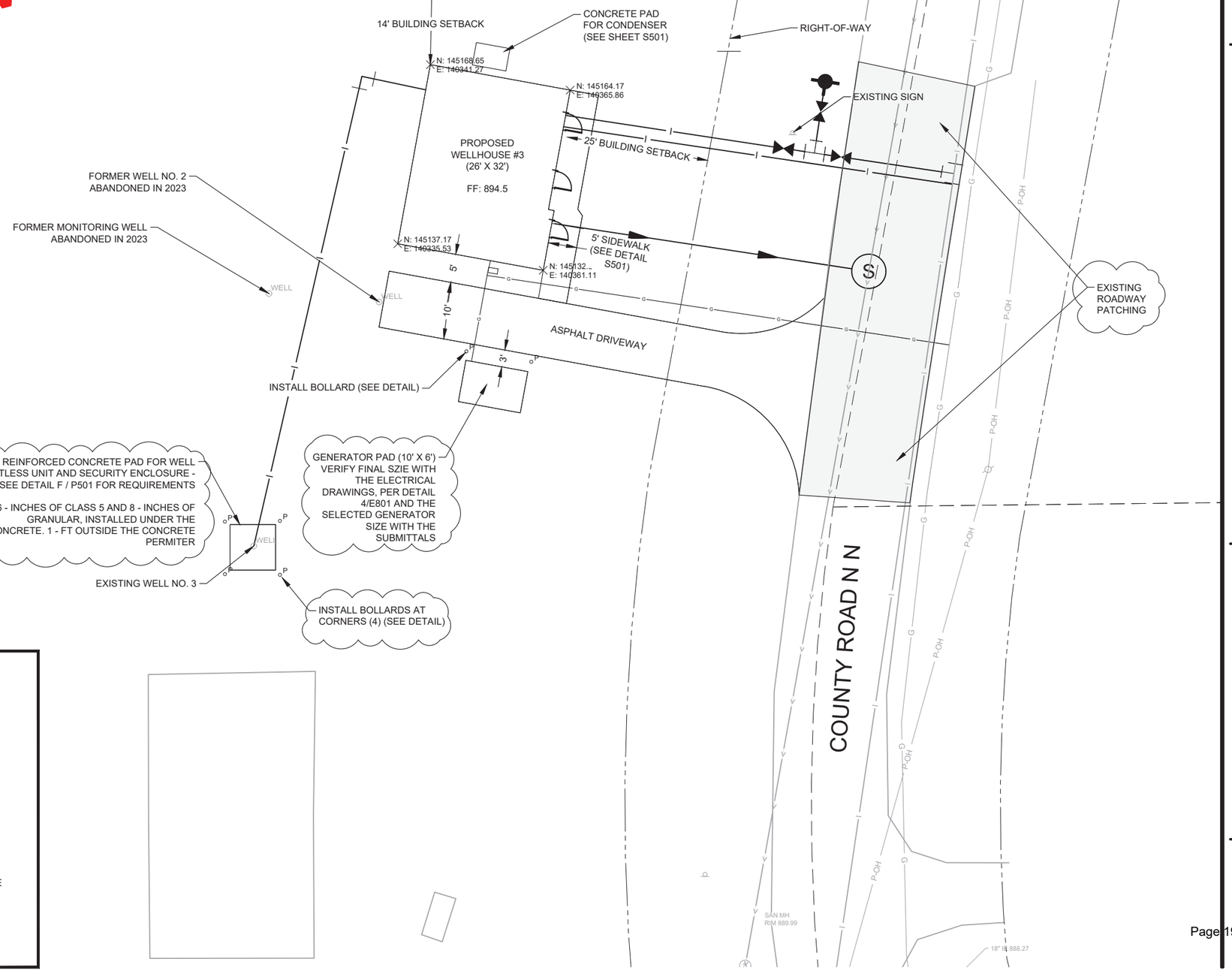


BOLLARD DETAIL

NTS



ASPHALT DRIVE CROSS-SECTION
(AND STREET PATCHING) NTS



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SEH

DATE _____ LICENSE NO. _____

Project Owner

VILLAGE OF CASCADE
WELL NO. 3 WELL HOUSE & SITE IMPROVEMENTS
WELL HOUSE NO. 3

SEH Project	CASCA 158945
Checked By	MM
Drawn By	JLS

Project Status	Issue Date
DNR REVIEW	2/12/2024
BID SET	3/29/2024
ADDENDUM 2	4/22/2024

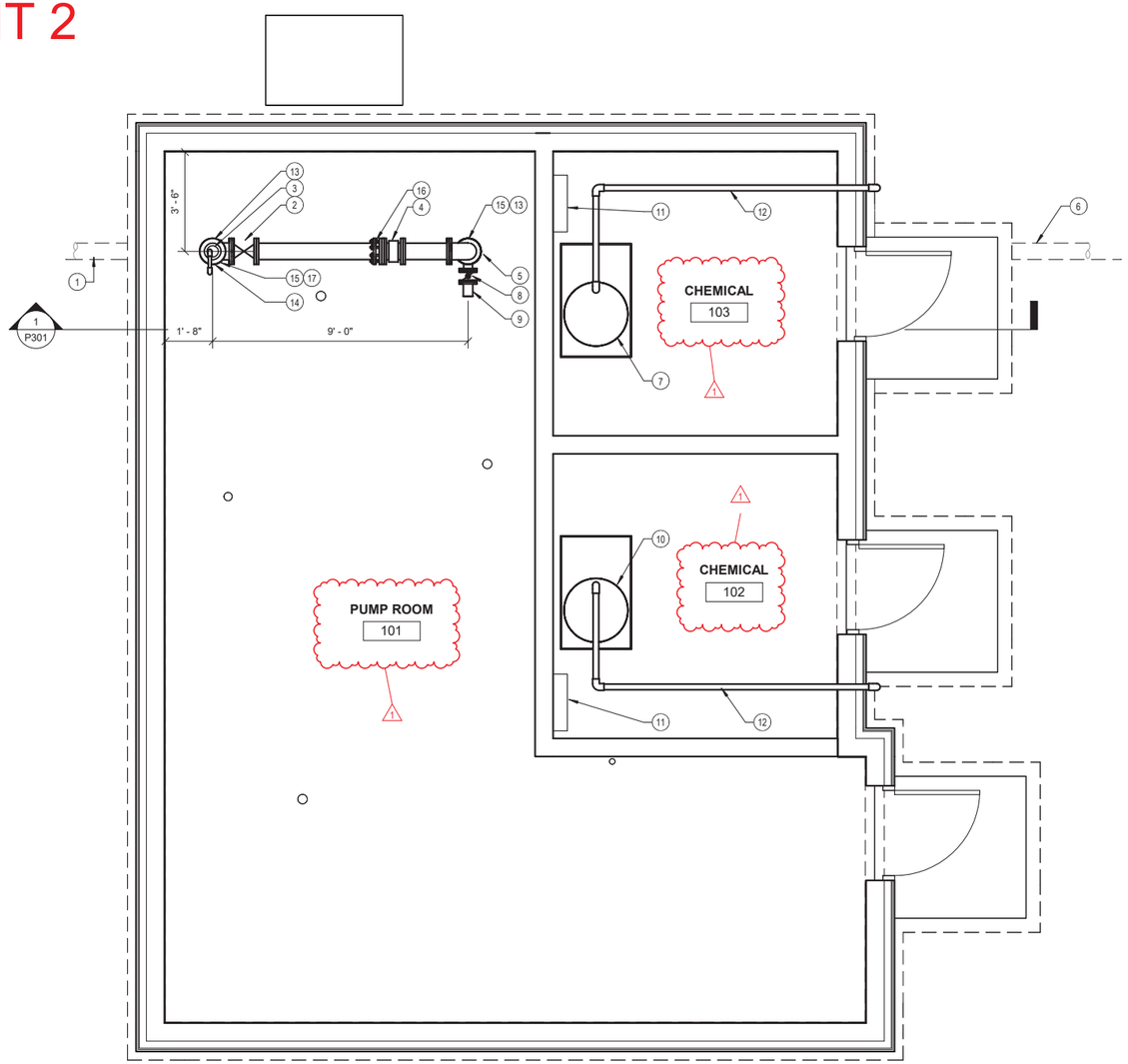
REVISION SCHEDULE

REV. #	DESCRIPTION	DATE

SITE PLAN

CC 1

EXHIBIT 2



1 MAIN LEVEL PLAN
P101 3/8" = 1'-0"
0 2' 4' 6'

KEYNOTES

1. 6" PIPE FROM PITLESS WELL LOCATED ON SITE
2. 6" GATE VALVE
3. 6" AIR RELEASE VALVE SEE DETAIL D/DP501 - ROUTE DISCHARGE TO NEARBY OPEN SITE DRAIN - SEE MECHANICAL
4. 6" MAGNETIC FLOW METER
5. INSTALL 6"x4" TEE FOR FIRE HOSE CONNECTION
6. 6" FINISHED WATER TO SYSTEM
7. 140 GALLON CHLORINE STORAGE TANK IN CONTAINMENT TUB SIZED FOR 125% THE VOLUME OF THE TANK BEING CONTAINED
8. 2" BALL VALVE
9. 2" FIRE HOSE CONNECTION
10. 40 GALLON CORROSION INHIBITOR STORAGE TANK IN CONTAINMENT TUB SIZED FOR 150% THE VOLUME OF THE TANK BEING CONTAINED
11. PREASSEMBLED CHEMICAL METERING PUMP AND ACCESSORIES MOUNTED ON WALL MOUNT - ROUTE CHEMICAL FEED TUBE TO INJECTION POINT.
12. ROUTE 2" SCH 40 PVC CHEMICAL VENT - SEE DETAIL B/DP501
13. INSTALL WAFER STYLE STATIC MIXER BETWEEN FLANGES - MIXER SHALL HAVE THREADED LUG w/ INJECTION QUILL FOR CHEMICAL INJECTION - MIXER SHALL BE SUPPLIED WITH A REMOVABLE STAINLESS STEEL INJECTION QUILL. INSTALL KOFLO PICO SERIES WAFER-STYLE STAINLESS STEEL STATIC MIXER OR EQUAL
14. TAP TEE FOR RAW WATER SAMPLE TAP - SEE DETAIL F/DP501
15. CORROSION INHIBITOR INJECTION POINT ON STATIC MIXER
16. FLANGE ADAPTER
17. CHLORINE INJECTION POINT

NOTES

1. ROUTE CHEMICAL FEED TUBING IN CARRIER PIPES ABOVE GRADE FROM ROOM TO INJECTION POINT ASSEMBLY AT EACH STATIC MIXER LOCATION, SEE DETAIL F/P501
2. SAMPLE TAP AND SMOOTH END SAMPLE FAUCET FOR THE FINISHED WATER SAMPLE AT THE ENTRY POINT IS LOCATED AS SHOWN ON THE MECHANICAL DETAIL 2/M102, DOWNSTREAM OF THE WATER METER ON THE 2" COPPER LINE

SEH

Project Owner

VILLAGE OF CASCADE
WELL NO. 3 WELL HOUSE & SITE IMPROVEMENTS
WELLHOUSE NO. 3

SEH Project	CASCA 158945
Checked By	MS
Drawn By	LP

Project Status	**Issue Date**
BIDDING DOCUMENTS	3/29/2024

REVISION SCHEDULE

REV. #	DESCRIPTION	DATE
1	ADDENDUM 2	4/22/2024

PROCESS PLAN

P101

Cascade, WI - Well No. 3 Well House and Site Improvements (CASCA 158945) (#90
Owner: Village of Cascade
Solicitor: SEH - Chippewa Falls
04/24/2024 02:00 PM CDT

EXHIBIT 2

Line Item	Item Code	Item Description	UofM	Qty	MIKE KOENIG CONSTRUCTION CO., INC. Unit Price	MIKE KOENIG CONSTRUCTION CO., INC. Extension	Mid City Corporation Unit Price	Mid City Corporation Extension
Part 1 - Well No. 3 Well House								
1	1	Well No. 3 Well House	LS	1	$1,303,625.00	$1,303,625.00	$1,599,000.00	$1,599,000.00
Part 1 - Total						**$1,303,625.00**		**$1,599,000.00**
Allowances								
2	1	Allowances	LS	1	$35,000.00	$35,000.00	$35,000.00	$35,000.00
Allowances - Total						**$35,000.00**		**$35,000.00**
Part 2 - Site Improvements								
3	1	Sanitary Sewer Lining, Cured In Place	LF	860	$366.58	$315,258.80	$175.00	$150,500.00
4	2	Sanitary Sewer Service, 4-inch PVC C-900	LF	60	$124.66	$7,479.60	$250.00	$15,000.00
5	3	Sanitary Sewer Manhole	LS	1	$17,517.86	$17,517.86	$15,000.00	$15,000.00
6	4	Sanitary Sewer Manhole Rehabilitation	EA	2	$10,212.50	$20,425.00	$2,400.00	$4,800.00
7	5	6-inch D.I. Water Main and Appurtenances	LF	200	$149.62	$29,924.00	$140.00	$28,000.00
8	6	Hydrant Assembly (Inc. Hydrant, Gate Valve and Tee)	EA	1	$14,082.25	$14,082.25	$14,000.00	$14,000.00
9	7	6-inch Gate Valve and Box	EA	3	$3,397.12	$10,191.36	$2,500.00	$7,500.00
10	8	Connect to Existing Water Main	EA	1	$13,213.46	$13,213.46	$20,000.00	$20,000.00
11	9	2-inch Copper Service	LF	70	$120.89	$8,462.30	$120.00	$8,400.00
12	10	2-inch Curb Stop and Box	EA	1	$1,241.63	$1,241.63	$2,500.00	$2,500.00
13	11	2-inch Saddle Tap and Corporation Stop	EA	1	$922.35	$922.35	$2,500.00	$2,500.00
14	12	Sawcut Existing Asphalt Pavement	LF	50	$3.55	$177.50	$10.00	$500.00
15	13	Common Excavation	LS	1	$31,894.39	$31,894.39	$35,000.00	$35,000.00
16	14	Remove Asphalt	SY	215	$4.29	$922.35	$15.00	$3,225.00
17	15	Crushed Aggregate Base	CY	290	$38.67	$11,214.30	$45.00	$13,050.00
18	16	Hot Mix Asphalt	SY	350	$84.50	$29,575.00	$80.00	$28,000.00
19	17	Erosion Control	LS	1	$4,129.29	$4,129.29	$5,000.00	$5,000.00

Cascade, WI - Well No. 3 Well House and Site Improvements (CASCA 158945) (#9049433)
Owner: Village of Cascade
Solicitor: SEH - Chippewa Falls
04/24/2024 02:00 PM CDT

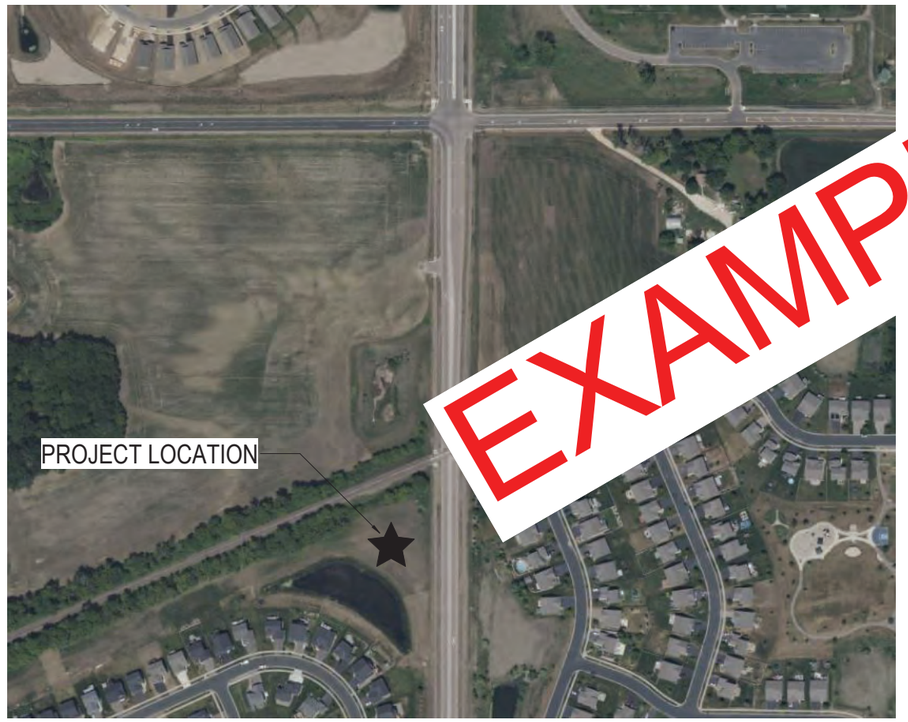
EXHIBIT 2

					MIKE KOENIG CONSTRUCTION CO., INC.		Mid City Corporation	
Line Item	**Item Code**	**Item Description**	**UofM**	**Qty**	**Unit Price**	**Extension**	**Unit Price**	**Extension**
20	18	Turf Restoration	SY	1000	$11.83	$11,830.00	$10.00	$10,000.00
21	19	Concrete Sidewalk	SY	25	$150.50	$3,762.50	$90.00	$2,250.00
22	20	Bollards	EA	6	$236.50	$1,419.00	$1,500.00	$9,000.00
Part 2 - Total						**$533,642.94**		**$374,225.00**
Part 3 - Alternate								
23	1	Sanitary Sewer Relay, 8-inch PVC C-900	LF	860	$250.60	$215,516.00	$275.00	$236,500.00
24	2	Hot Mix Asphalt	SY	1000	$45.85	$45,850.00	$46.00	$46,000.00
25	3	Crushed Aggregate Base	CY	833	$38.67	$32,212.11	$50.00	$41,650.00
26	4	Sawcut Pavement	LF	900	$3.55	$3,195.00	$3.00	$2,700.00
27	5	Remove Asphalt	SY	1000	$4.29	$4,290.00	$18.00	$18,000.00
Part 3 - Total						**$301,063.11**		**$344,850.00**
Base Bid Total:						**$1,872,267.94**		**$2,008,225.00**

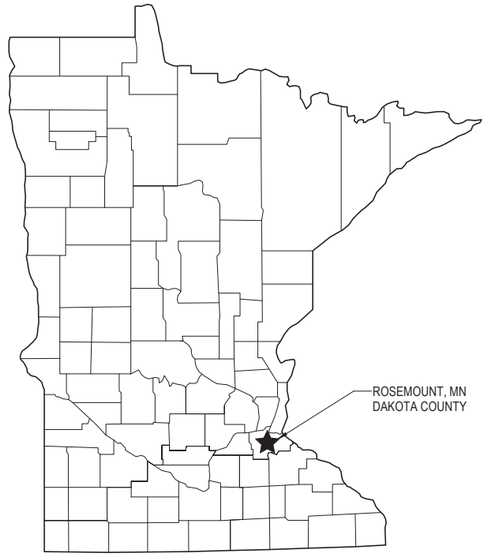
BIDDING DOCUMENTS

EXHIBIT 3

CONSTRUCTION DRAWINGS FOR
WELL NO. 17 - WELLHOUSE
FOR THE CITY OF ROSEMOUNT
ROSEMOUNT, MN



PROJECT LOCATION MAP



MINNESOTA

SHEET INDEX	
SHT NO	SHT NAME
G001	COVER AND INDEX SHEET
G1	STATEMENT OF ESTIMATED QUANTITIES
G2	CONSTRUCTION NOTES
G3	UTILITY CONTACTS
C1	EXISTING CONDITIONS AND REMOVALS
C2	SITE AND GRADING PLAN
C3	SITE UTILITY AND RESTORATION PLAN
C4	DETAILS
C5	DETAILS
C6	DETAILS
C7	DETAILS
S001	GENERAL STRUCTURAL ABBREVIATIONS, SYMBOLS AND TABLES
S002	GENERAL STRUCTURAL NOTES
S101	FOUNDATION AND LEVEL 1 PLAN
S111	PRECAST PLANK PLAN
S112	ROOF FRAMING PLAN
S301	BUILDING SECTIONS
S501	CONCRETE DETAILS
S511	FRAMING DETAILS
S512	FRAMING DETAILS
A001	GENERAL INFORMATION AND ABBREVIATIONS
A002	CODE PLAN & INFORMATION
A101	FLOOR/ROOF PLANS, SCHEDULES AND TYPES
A201	EXTERIOR ELEVATIONS
A301	BUILDING SECTIONS
A401	WALL SECTIONS AND DETAILS
A501	DETAILS
A502	DETAILS
P101	PLAN
P301	SECTIONS
P501	DETAILS
P502	DETAILS
M001	MECHANICAL SYMBOLS AND ABBREVIATIONS
M101	HVAC PLANS
M102	PLUMBING PLANS
M501	HVAC DETAILS
M502	PLUMBING DETAILS
M503	PLUMBING RISER DIAGRAMS
M601	MECHANICAL SCHEDULES
FP101	FIRE PROTECTION PLAN
E001	SYMBOLS, ABBREVIATIONS AND NOTES
E101	ELECTRICAL TITLE SHEET
E201	WELL 17 WELLHOUSE LIGHTING PLAN
E301	WELL 17 WELLHOUSE POWER AND INSTRUMENTATION PLAN
E501	ONE-LINE DIAGRAMS
E601	ELECTRICAL SCHEMATICS & DETAILS
E701	SCHEDULES

SEH

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIMON C. McCORMACK, PE

DATE 1/31/25 LICENSE NO. 56159

Project Owner

City of Rosemount

City Project No. 2025-07.

CITY OF ROSEMOUNT
WELL NO. 17 - WELLHOUSE
ROSEMOUNT, MINNESOTA
(CONTRACT B)

SEH Project	ROSEM 172294
Checked By	SCM
Drawn By	KAK

Project Status	**Issue Date**
BIDDING DOCUMENTS	1/31/25

REVISION SCHEDULE

REV. #	DESCRIPTION	DATE

TITLE SHEET

THIS BAR IS INTENDED TO BE 1" PRINTED AT FULL SCALE 1/29/2025 2:46:58 PM

G001

EXHIBIT 3

N

10 0 10 20
scale 5 feet

LEGEND

- BITUMINOUS PAVEMENT
- BITUMINOUS TRAIL
- 6" CONCRETE WALK
- 8" REINFORCED CONCRETE
- CONCRETE COMMERCIAL DRIVEWAY
- NEW CASTING, DRIVEWAY CATCH BASIN
- CONCRETE CURB & GUTTER, B618
- NEW HYDRANT & VALVE BOX

UNION PACIFIC RR ROW

EX. BIT. TRAIL (TYP.)

AKRON AVE.

949 950 951 952

4.00:1

957.23 29' 957.24 5' CURB TRANSITION

956.80 957.30 RIBBON CURB

PROPOSED WELL LOCATION

4' 956.84

6" DROP FROM SLAB ELEVATION TO TOP OF GRADING GRADE

WELL HOUSE FOOTPRINT

B618 CURB (TYP.)

4.00' @0.60%

29' 52' 31'

36' TS=957.30 47'

4.00:1

14.02' @0.00%

957.23 6"

956.80 957.30 0"

956.77

SNOW STORAGE

12'

7.02' @6.76%

956.76 RIBBON CURB

957.06

956.67

957.06

3.00:1

EX. PROP. LINE (TYP.)

51' SETBACK PROPOSED WELL LOCATION

DRAINAGE & UTILITY EASEMENT

DRAINAGE & UTILITY EASEMENT

R10' R10'

8' 956.70 956.70

11.00 11.49.22

956.05 956.12

13'

SEE COMMERCIAL DRIVEWAY DE

955.45 955.40

8" REINFORCED CONCRETE INSET

#4 REBAR AT 12" ON CENTER MAT (TIED), TOP AND BOTTOM (INCIDENTAL)
8" CONCRETE
6" AGGREGATE BASE CLASS 5
COMPACTED BASE

6" CONCRETE WALK INSET

6" CONCRETE WALK
6" AGGREGATE BASE CLASS 5
COMPACTED BASE

BITUMINOUS TRAIL INSET

1.5" TYPE SP 9.5 WEARING COURSE MIXTURE (SPWEB540L)
BITUMINOUS TACK COAT (INCIDENTAL)
1.5" TYPE SP 9.5 WEARING COURSE MIXTURE (SPWEB540L)
6" AGGREGATE BASE CLASS 5
COMPACTED BASE

COUNTY ROAD 73 (AKRON AVENUE) INSET

1.5" TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEA340C)
BITUMINOUS TACK COAT (INCIDENTAL)
2.5" TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEA340C)
BITUMINOUS TACK COAT (INCIDENTAL)
3.0" TYPE SP 12.5 NON-WEARING COURSE MIXTURE (SPNWB330B)
8" AGGREGATE BASE CLASS 5
36" SELECT GRANULAR MATERIAL

DRIVEWAY INSET

2" TYPE SP 9.5 WEARING COURSE MIXTURE (SPWEB540L)
BITUMINOUS TACK COAT (INCIDENTAL)
2" TYPE SP 9.5 WEARING COURSE MIXTURE (SPWEB540L)
8" AGGREGATE BASE CLASS 5
COMPACTED BASE

Save: 1/31/2025 8:38 AM mstely Plot: 1/31/2025 8:49 AM X:\PT\R\ROSEM\172294\5-final-dsgn\51-drawings\10-Civil\cad\dwg\RO172294SP.dwg

SEH Project	ROSEM 172294	Rev.#	Revision Issue Description	Date	Rev.#	Revision Issue Description	Date	
Drawn By	MWS							
Designed By	MWS							
Checked By	BJH							

SEH

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

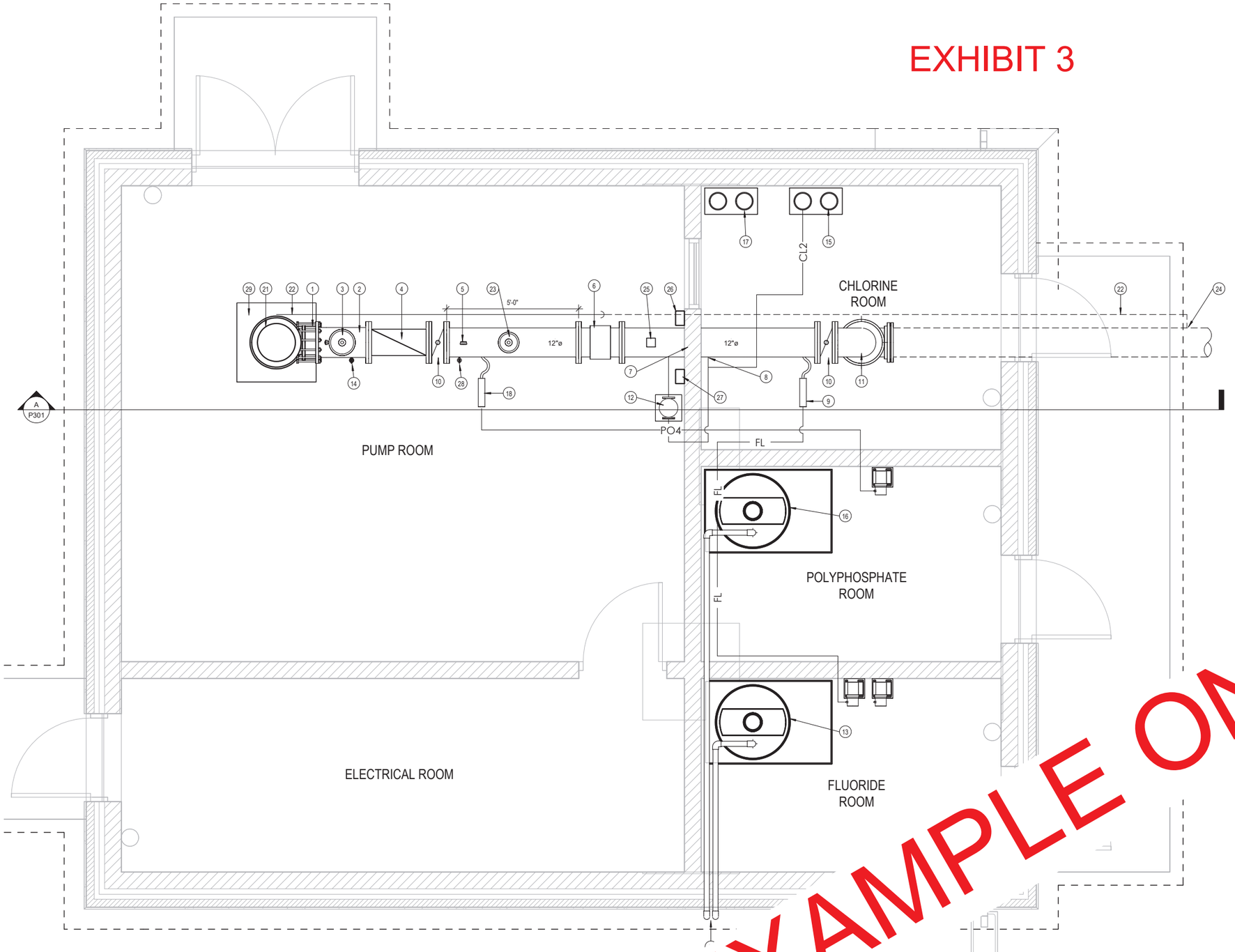
BRIAN J. HARE
DATE 1-31-2025 LICENSE NO. 52610

WELL NO. 17 SITE DESIGN
ROSEMOUNT, MINNESOTA

SITE AND GRADING PLAN

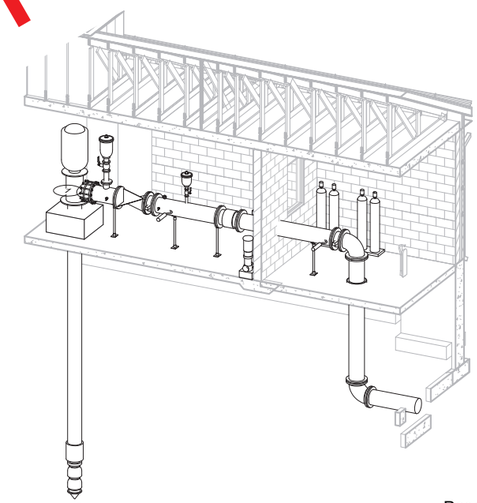
C2
of 11

EXHIBIT 3



EXAMPLE ONLY

1 P101 LOWER LEVEL PLAN
1/2" = 1'-0"
PROJECT NORTH



2 P101 3D ISO - WELL & PIPING
NOT TO SCALE

GENERAL NOTES

1. SEE DETAIL D/P501 AND H/P502 FOR ALL INTERIOR WALL PENETRATIONS.
2. EXTEND 24" AND 18" CASINGS TO 2 FEET ABOVE FFE. CASINGS SHALL BE INSTALLED PER MINNESOTA RULES 4725. INSTALL NEAT CEMENT GROUT BETWEEN CASINGS UP TO TOP OF CASINGS.

KEYNOTES

1. 12" FLANGED COUPLING ADAPTER
2. 12"x4" TEE
3. AIR/VAC VALVE WITH REDUCING FLANGE. ROUTE TO DRAIN. SEE E/P501
4. 12" CHECK VALVE
5. PRESSURE GAUGE. SEE F/P501
6. 12" MAGNETIC FLOW METER
7. FLxPE WALL SLEEVE WITH FLANGE ADAPTER. SEE D/P501
8. CHLORINE CHEM INJECTION POINT. SEE D/P502
9. FLUORIDE CHEM INJECTION POINT. SEE D/P502
10. 12" BUTTERFLY VALVE
11. 12" 90 DEGREE BEND
12. CHLORINE BOOSTER PUMP. SEE E/P502
13. FLUORIDE DAY TANK WITH CONTAINMENT. SEE A/P502
14. SAMPLE TAP. SEE G/P501
15. CHLORINE GAS FEED SYSTEM. SEE B/P502
16. POLYPHOSPHATE DAY TANK WITH CONTAINMENT. SEE J/P502
17. MOUNTING BRACKET AND CHAINS FOR TWO (2) SPARE 150LB CYLINDERS.
18. PHOSPHATE CHEM INJECTION POINT. SEE D/P502
19. CHEMICAL TANK VENT WALL PENETRATION. SEE C/P502
20. PIPE SUPPORT. (TYP). SEE J/P501
21. VERTICAL TURBINE PUMP. SEE A/P501
22. 3/4" TYPE K COPPER SERVICE/PRE-LUBE LINE. SUPPORT FROM WELL DISCHARGE PIPING. SEE DETAIL C/P501
23. AUTOMATIC AIR RELEASE VALVE. SEE DETAIL J/P502
24. TAP FOR COPPER SERVICE
25. PRESSURE TRANSMITTER. SEE ELECTRICAL
26. GAS CHLORINE LEAK DETECTOR
27. GAS CHLORINE PUMP MCC
28. RAW WATER TAP. SEE G/P501
29. PUMP BASE. SEE H/P501

SEH

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REVISION SCHEDULE

REV. #	DESCRIPTION	DATE

PLAN

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SEH

TABULATION OF BIDS

EXHIBIT 3

Well No. 17 - Wellhouse (Contract B) **Rosemount, MN** **SEH No.: ROSEM 172294** **Bid Date: 10:00 a.m., Friday, February 21, 2025**				Engineer's Estimate $2,137,648.50		Rice Lake Construction Group 22360 County Road 12 Deerwood, MN 56444 $2,219,500.00		Magney Construction, Inc. 1401 Park Road Chanhassen, MN 55317 $2,389,978.00		Municipal Builders, Inc. 7900 Old Viking Blvd NW Nowthen, MN 55303 $2,420,000.00	
Item No.	**Item**	**Unit**	**Est. Quantity**	**Unit Price**	**Total Price**	**Unit Price**	**Total Price**	**Unit Price**	**Total Price**	**Unit Price**	**Total Price**
2021.501	MOBILIZATION	LS	1	$33,000.00	$33,000.00	$100,000.00	$100,000.00	$195,000.00	$195,000.00	$121,000.00	$121,000.00
2101.501	CLEARING & GRUBBING	LS	1	$4,000.00	$4,000.00	$6,290.00	$6,290.00	$7,850.00	$7,850.00	$5,841.24	$5,841.24
2104.502	REMOVE CASTING	EACH	1	$500.00	$500.00	$735.00	$735.00	$1,000.00	$1,000.00	$104.15	$104.15
2104.502	REMOVE HYDRANT	EACH	1	$1,000.00	$1,000.00	$1,469.00	$1,469.00	$4,800.00	$4,800.00	$1,105.96	$1,105.96
2104.503	REMOVE WATER MAIN	LF	103	$30.00	$3,090.00	$67.00	$6,901.00	$35.00	$3,605.00	$56.51	$5,820.53
2104.503	REMOVE CURB & GUTTER	LF	64	$20.00	$1,280.00	$22.00	$1,408.00	$20.00	$1,280.00	$8.98	$574.72
2104.504	REMOVE BITUMINOUS PAVEMENT	SY	71	$30.00	$2,130.00	$22.00	$1,562.00	$15.00	$1,065.00	$23.87	$1,694.77
2104.504	REMOVE BITUMINOUS WALK	SY	69	$30.00	$2,070.00	$23.00	$1,587.00	$15.00	$1,035.00	$7.10	$489.90
2105.607	SELECT GRANULAR BORROW (CV)	CY	71	$50.00	$3,550.00	$44.00	$3,124.00	$35.00	$2,485.00	$34.48	$2,448.08
2106.507	EXCAVATION - COMMON (EV)	CY	4	$35.00	$140.00	$155.00	$620.00	$40.00	$160.00	$1,242.09	$4,968.36
2106.507	COMMON EMBANKMENT (CV)	CY	1297	$40.00	$51,880.00	$28.00	$36,316.00	$	10.00	$29.42	$38,157.74
2123.61	STREET SWEEPER (WITH PICKUP BROOM)	HR	20	$250.00	$5,000.00	$181.00	$3,620.00		.00	$150.00	$3,000.00
2211.509	AGGREGATE BASE, CLASS 5	TON	278	$50.00	$13,900.00	$36.00	$10,008.0		.00	$11.00	$3,058.00
2301.503	CONCRETE CURB & GUTTER DESIGN B618	LF	90	$80.00	$7,200.00	$39.00	$3		,770.00	$37.20	$3,348.00
2301.503	CONCRETE CURB & GUTTER DESIGN RIBBON	LF	102	$70.00	$7,140.00	$29.00			$5,406.00	$27.55	$2,810.10
2301.504	8" REINFORCED CONCRETE	SF	400	$15.00	$6,000.00	$18.00			$8,000.00	$26.10	$10,440.00
2360.509	TYPE SP 12.5 WEARING COURSE MIX (3;C)	TON	26	$175.00	$4,550.00	$1	150.00		$3,900.00	$143.00	$3,718.00
2360.509	TYPE SP 12.5 NON-WEARING COURSE MIX (3;B)	TON	16	$180.00	$2,880.00		$134.00		$2,144.00	$128.00	$2,048.00
2360.509	TYPE SP 9.5 WEARING COURSE MIX (5;L)	TON	128	$175.00	$22,400.00		00	$152.00	$19,456.00	$145.00	$18,560.00
2502.503	6" PVC PIPE DRAIN - SCH 40	LF	41	$35.00	$1		2,050.00	$25.00	$1,025.00	$25.91	$1,062.31
2502.602	4" PVC PIPE DRAIN CLEANOUT	EACH	2	$75.00			$988.00	$500.00	$1,000.00	$244.84	$489.68
2503.603	4" PVC SANITARY SERVICE PIPE - SCH 40	LF	30	$100.00			$2,700.00	$25.00	$750.00	$35.97	$1,079.10
2504.602	CONNECT TO EXISTING WATER MAIN	EACH	2	$4,00			355.00	$10,710.00	$2,500.00	$5,000.00	$3,876.40	$7,752.80
2504.602	4" GATE VALVE AND BOX	EACH	1			$2,447.00	$2,447.00	$4,000.00	$4,000.00	$2,126.55	$2,126.55
2504.602	6" GATE VALVE AND BOX	EACH				00	$3,654.00	$7,308.00	$5,000.00	$10,000.00	$2,722.03	$5,444.06
2504.602	12" GATE VALVE AND BOX	EACH				,000.00	$7,456.00	$37,280.00	$7,000.00	$35,000.00	$6,940.06	$34,700.30
2504.602	HYDRANT	EACH			$30,000.00	$8,879.00	$17,758.00	$9,000.00	$18,000.00	$7,567.23	$15,134.46
2504.603	12" DIP WATER MAIN - CL52	LF			$24,000.00	$165.00	$26,400.00	$115.00	$18,400.00	$184.16	$29,465.60
2504.603	6" DIP WATER MAIN - CL52	LF		25.00	$6,375.00	$140.00	$7,140.00	$95.00	$4,845.00	$109.87	$5,603.37
2504.603	4" DIP WATER MAIN - CL52	LF		$115.00	$8,625.00	$98.00	$7,350.00	$95.00	$7,125.00	$133.21	$9,990.75
2504.608	DUCTILE IRON FITTINGS	LB	1033	$6.00	$6,198.00	$12.00	$12,396.00	$13.00	$13,429.00	$17.02	$17,581.66
2506.502	INSTALL CASTING	EACH	1	$3,000.00	$3,000.00	$2,541.00	$2,541.00	$500.00	$500.00	$1,252.18	$1,252.18
2506.602	INSTALL 48" MANHOLE - WITH SEEPAGE PIT	EACH	2	$15,000.00	$30,000.00	$10,598.00	$21,196.00	$4,000.00	$8,000.00	$7,559.50	$15,119.00
2521.518	6" CONCRETE WALK	SF	261	$8.50	$2,218.50	$13.00	$3,393.00	$15.00	$3,915.00	$25.00	$6,525.00
2531.604	7" CONCRETE VALLEY GUTTER	SY	27	$75.00	$2,025.00	$155.00	$4,185.00	$205.00	$5,535.00	$147.20	$3,974.40

EXHIBIT 3

SEH TABULATION OF BIDS

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Item No.	**Item**	**Unit**	**Est. Quantity**	**Unit Price**	**Total Price**	**Unit Price**	**Total Price**	**Unit Price**	**Total Price**	**Unit Price**	**Total Price**
2563.601	TRAFFIC CONTROL	LS	1	$10,000.00	$10,000.00	$2,324.00	$2,324.00	$3,500.00	$3,500.00	$2,500.00	$2,500.00
2573.501	STABILIZED CONSTRUCTION EXIT	EACH	1	$6,000.00	$6,000.00	$1,811.00	$1,811.00	$2,000.00	$2,000.00	$1,608.91	$1,608.91
2573.502	STORM DRAIN INLET PROTECTION	EACH	2	$1,000.00	$2,000.00	$604.00	$1,208.00	$350.00	$700.00	$223.52	$447.04
2573.503	SILT FENCE; TYPE MS	LF	362	$6.00	$2,172.00	$7.00	$2,534.00	$4.00	$1,448.00	$6.15	$2,226.30
2573.503	SEDIMENT CONTROL LOG TYPE COMPOST	LF	100	$4.00	$400.00	$7.00	$700.00	$3.00	$300.00	$7.68	$768.00
2574.507	COMMON TOPSOIL BORROW	CY	180	$50.00	$9,000.00	$57.00	$10,260.00	$30.00	$5,400.00	$48.55	$8,739.00
2575.504	ROLLED EROSION PREVENTION CATEGORY 20	SY	2460	$3.50	$8,610.00	$2.25	$5,535.00	$1.00	$2,460.00	$4.00	$9,840.00
2575.508	SEEDING (MIXTURE 25-141)	LB	33	$10.00	$330.00	$25.00	$825.00	$50.00	$1,650.00	$15.00	$495.00
	WELL NO. 17 WELLHOUSE BUILDING, FOUNDATION,	LS	1	$1,750,000.00	$1,750,000.00	$1,815,653.00	$1,815,653.00	$1,923,100.00	$1,923,100.00	$2,006,886.98	$2,006,886.98
TOTAL BID PRICE					**$2,137,648.50**		**$2,219,500.00**		**$2,389,978.00**		**$2,420,000.00**

Example

EXHIBIT 4

SHELTER WORKS

SHELTER WORKS

FIBERGLASS SHELTERS FOR THE WATER & WASTEWATER INDUSTRIES

WHY SHELTER WORKS?

EXHIBIT 4

When thinking about a protective solution for your critical field equipment, you'll find that a fiberglass shelter from Shelter Works is hard to beat.

Our fiberglass enclosures are some of the strongest, most flexible, most cost-effective, and highest-performing equipment shelters in the industry. If you are looking for less hassle and lower cost, with proven durability and long-lasting performance, you should consider Shelter Works.

We are an American-based manufacturer of fiberglass equipment shelters with over forty years of experience in designing and manufacturing equipment enclosures for every industry. We take pride in the quality and durability of our buildings and are dedicated to delivering the right protective solution and optimal operating environment for your critical field equipment. We provide equipment protection solutions for industrial and municipal applications throughout the country. Our fiberglass field equipment shelters meet most military, government, and enterprise equipment enclosure needs.

INDUSTRY LEADING WARRANTY

When you work with Shelter Works, you can specify with confidence. All of our fiberglass shelters are backed by our industry-leading 25-year warranty.

Our motto is that "If it was built by Shelter Works, It was Built for Life." To live up to it, we take a tremendous amount of care in designing the highest quality shelters - engineering each element for unmatched durability. We combine top-quality components with our innovative FiberBeam™ and FiberWrap™ technologies to ensure the integrity of our products.

Our shelters are put through extensive quality checks to make sure that each one will perform to expectations and live up to our claim. We back that up with an industry-leading 25 year warranty so you can have the peace of mind knowing your field equipment is protected.

BUILT FOR LIFE

EXHIBIT 4

POLYMER TECHNOLOGY : GEL COAT VS. PAINT

Shelter Works' gel coat provides superior resistance to Ultra Violet deterioration and hydrolysis. It uses the same resin chemistry found in the structural fiberglass composite. Sprayed into the molds as the first step in the manufacturing process, the gel coat chemically transforms from a liquid to a solid through cross-link polymerization. When the fiberglass composite is applied, a cross linking of the polymer chains occurs between the layer of gel coat and the fiberglass composite, bonding the two layers into one at the molecular level. The color is now an integral part of the fiberglass, not a coating. Therefore, it will never flake, peel or need to be reprepainting

CHEMICAL FEED SHELTERS AT WATER TREATMENT PLANT

Shelter Works recently provided three chemical feed shelters to a new water treatment plant that serves a community located 50 miles from the Gulf Coast. The facility delivers 2,000,000 gallons of water per day to the residents and businesses in the area. The processes at the plant require certain chemicals to be added to the water to maintain safe, potable water.

The new field equipment required a protective solution that would withstand exposure to Gulf Coast humidity and moisture as well as the chemicals used in processing the water for the town.

- The first building protects antiscalant dosing equipment that adds a pretreatment water additive for the reverse osmosis system.

- The second shelter protects the dosing pumps used to raise the pH levels of the water by managing the addition of sodium hydroxide which controls the water's acidity.

- The third building houses the equipment that ensures the proper levels of calcium chloride (required by law) to prevent any biological growth.

We spoke with Allan Wright, Site Construction Manager of H2O Innovation, who explained how the system functions and why Shelter Works buildings were specified. *"Our company has worked with Shelter Works in the past and has been really pleased with the quality of the buildings Shelter Works provides,"*

EXHIBIT 4

"SHELTER WORKS MAKE SOME REALLY GREAT PRODUCTS SO WE COULDN'T BE HAPPIER."

ALLAN WRIGHT, *SITE CONSTRUCTION MANAGER* - H20 INNOVATION

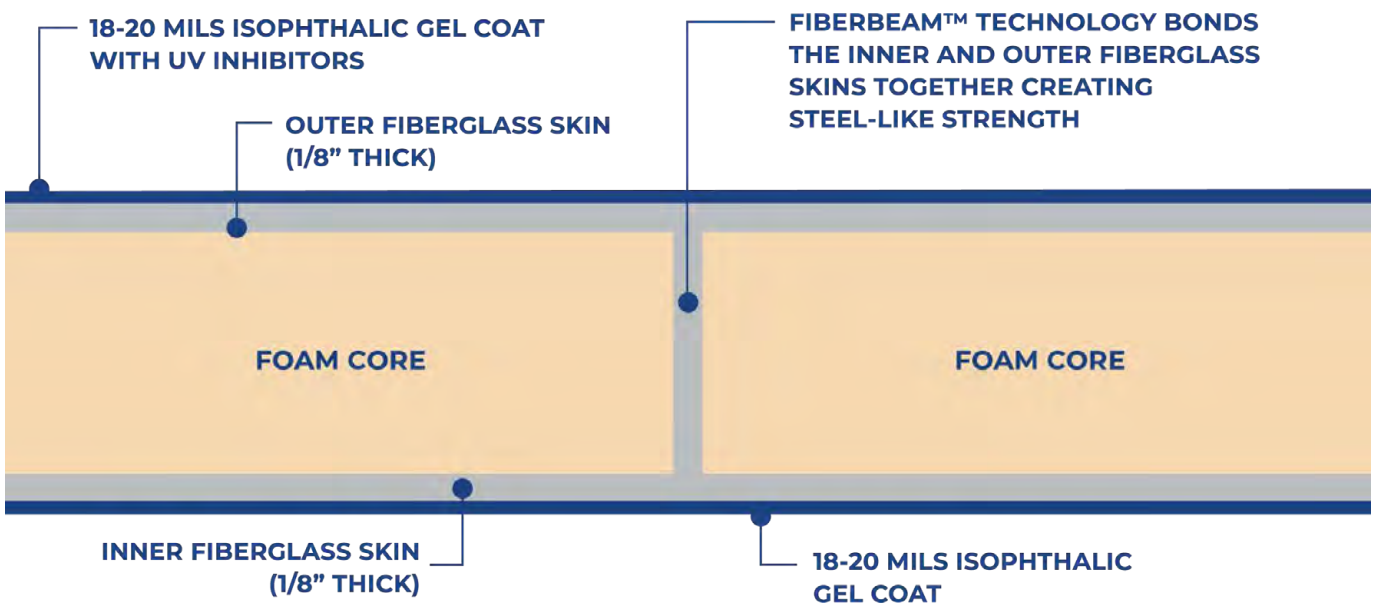
FIBERBEAM TECHNOLOGY

EXHIBIT 4

Shelter Works fiberglass shelters feature our exclusive FiberBeam™ technology - an innovative and proprietary composite lamination process that results in a shelter that is pound for pound, stronger than steel.

Foam may be a good insulator but it is not a great structural material. Unlike a typical FRP sandwich panel with a foam core that can fail when placed under stress, Shelter Works fiberglass enclosures are made using our proprietary FiberBeam™ technology.

FiberBeams are essentially fiberglass studs that run vertically through the walls and roof of the shelter. They provide a solid structural connection between the inner and outer layers of the fiber-glass skins. The result is a lightweight composite building, equal to the strength of steel, that will not come apart or delaminate.



VIDEO - WHY IS FIBERBEAM SO IMPORTANT?

PUMP HOUSE SHELTER AND COMPRESSOR BUILDING

EXHIBIT 4

THE PROJECT

The Wanaque Reservoir was created by the construction of the Raymond Dam across the Wanaque River in Wanaque Borough, Passaic County, New Jersey. Breaking ground in 1920, the first delivery of water through the 21-mile aqueduct occurred in March 1930. The reservoir can hold up to 29.6 billion gallons with a water surface area of 2,310 acres. Operated by the North Jersey District Water Supply Commission (NJDWSC), water from the Wanaque Reservoir helps to service NJDWSC's 13 member municipalities.

The NJDWSC is currently in the process of upgrading its facilities at the Wanaque Reservoir. The Lagoon Decant Project includes two Shelter Works prefabricated fiberglass buildings. The smaller of the two shelters will be a pump house, the second will be a compressor building. Bob McIntyre of Stone Hill Contracting in Doylestown, PA explained that both shelters will be located at the residuals lagoon and protect equipment that is a part of the residuals process train at the water treatment facility. Due to their location, fiberglass was the chosen building material because of its high level of corrosion resistance and its ability to withstand water and humidity.

THE SHELTERS

- The pump house protects the new triplex pump system, replacing the existing duplex system, and the control panels for the decant structure. The 14' x 14' x 9' shelter includes a full electrical package with interior and exterior LED lighting, heater, and exhaust.

- The second shelter protects the compressors that provide the air for the DAF (Dissolved Air Flotation) units that remove total suspended solids (TSS) and FOG (fats, oils, and grease) particles during the treatment process. This 10' x 15' x 9' shelter has a fully customized electrical package including two load centers, a transformer, interior and exterior LED lighting, and a heater.

The State of New Jersey participates in an Interstate Compact for the construction of modular buildings which requires prefabricated buildings that enter the state to be IBC (International Building Code) compliant. The code requires these shelters to have wood in their walls and roofs for the thermal barrier to achieve IBC compliance. The fiberglass buildings also have 4-1/2" Elfoam in their roofs and 2-1/2" foam in the walls to meet IECC (International Energy Conservation Code) standards, also required by the New Jersey state labeling process.

WORKING WITH SHELTER WORKS

Shelter Works has worked with McIntyre on several NJDWSC projects and when asked about working with Shelter works he described his experience as *"Excellent, they (Shelter Works) work with us every step of the way."*

EXHIBIT 4

"IF YOU ARE LOOKING FOR A HIGH-QUALITY SHELTER LOOK NO FURTHER, THIS IS IT! SHELTER WORKS IS A CLASS ACT COMPANY WITH A CUSTOMER SERVICE THAT COMPARES TO NO OTHER."

BARBARA BENDLIN
BENDLIN, INC. - SHELTER WORKS MANUFACTURER'S REPRESENTATIVE - NEW JERSEY

PE STAMPS AND STATE LABELS

Shelter Works can provide certified PE stamped drawings and structural calculations for any US state. We are also certified in various states' modular/industrial building programs to provide buildings that are

- Code Compliant
- Inspected and Approved
- Labeled Per State's Requirement
- Permitted Prior to Shipping

THREE ROOM SHELTER SOLUTION FOR CHEMICAL FEED SYSTEM

EXHIBIT 4

CHEMICAL FEED SYSTEM NEEDED

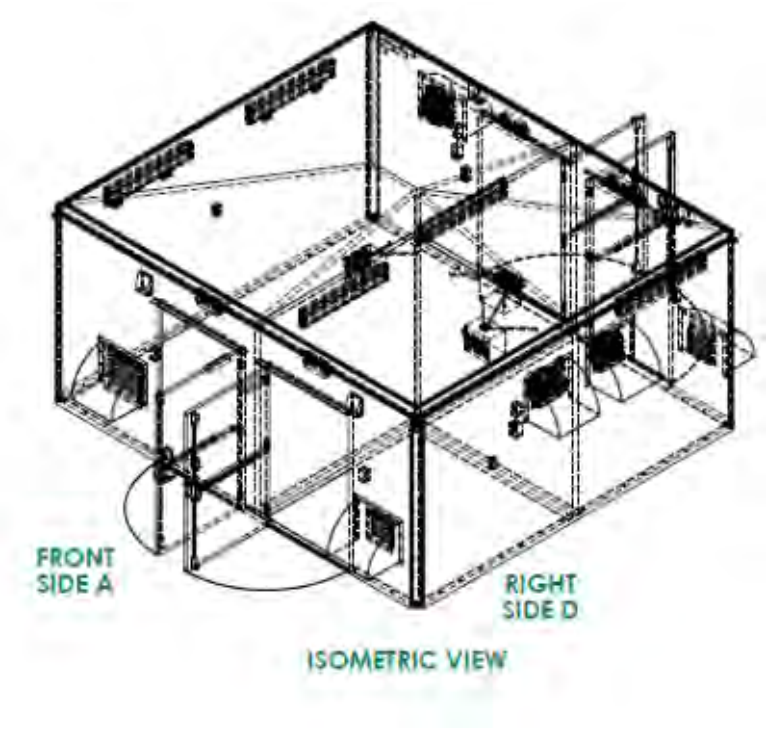
DuPage County Illinois recently made some facility upgrades to their Knollwood Wastewater Treatment Plant to upgrade the plant's processes to meet the phosphorus removal requirements outlined in their operating permit. Deuchler Engineering did the design and specifications work for the upgrade and they worked with Drydon Equipment, Inc. to supply the equipment needed for a complete, enclosed chemical feed system for biological phosphorus removal. They used a Shelter Works fiberglass building to house the system.

CUSTOM SOLUTION

A fiberglass building was specified because of its high chemical resistance. Ferric chloride, a chemical used in the water purification process, is considered to be a high fuming chemical that can be corrosive to metals.

The system design required the shelter to be constructed with three separate compartments, with individual access doors.

- Room One - Chemical Feed System
- Roo Two - Water Heater
- Room Three - The SCADA system consisting of the computers, instrumentation, and controls necessary to properly monitor the systems.



Each room was designed to provide the proper operating environment for the equipment it housed while limiting exposure to chemicals and fumes for the equipment not directly attached to the chemical feed system.

CUSTOMER SATISFACTION

"The neat thing about this cost-effective chemical feed system solution is that it was able to be designed all in one piece." That's what George Argiris, Sales Representative for Drydon Equipment, explained about the Shelter Works' custom-engineered building.

Drydon Equipment is a manufacturer's representative that serves water and wastewater treatment operations for industrial applications and municipalities throughout northern Illinois, Wisconsin, and Michigan's Upper Peninsula.

BUILT FOR LIFE

SHELTER WORKS

EXHIBIT 4

"SHELTER WORKS ALLOWS US TO DELIVER THE WHOLE PACKAGE–NOT JUST THE EQUIPMENT ITSELF BUT ALSO THE BEST PROTECTION FOR THAT EQUIPMENT AT A GREAT PRICE."

GEORGE ARGIRIS
DRYDON EQUIPMENT SALES

TOUGH SHELTERS ENSURE REPEAT CUSTOMER IN HURRICANE ZONE

TROPICAL ENVIRONMENT

The city of Destin, Florida, known for its white beaches and emerald green waters, is located on a peninsula between the Gulf of Mexico and Choctawhatchee Bay. It's a popular vacation spot frequented by thousands each summer who go to enjoy the many attractions offered by the tropical beach community. It is a growing city that hosts a robust tourist season as well as an influx of snowbirds during the winter months.

Destin Water Users (DWU) provides water utility, wastewater, and reclaimed water services to Destin and portions of unincorporated Okaloosa County. The wastewater from these areas goes to the George French Water Reclamation Facility (WRF) where it is treated and sent back out into the community for beneficial reuse as landscape irrigation at shopping centers, condominium complexes, golf courses, parks, individual residences, and for in-plant operations.

EXHIBIT 4

HOUSING CHEMICAL FEED SYSTEMS

DWU recently purchased two Shelter Works fiberglass buildings to protect chemical feed systems. The first for Alum, a commonly used coagulant aiding in clarification and phosphorus removal for many industrial and sanitary wastewater treatment applications. The second, houses the sampler for the influent flow sampling at the facility's headworks.

Fiberglass shelters are an ideal solution for protecting chem feed systems because of their corrosion resistance. The harsh elements found in wastewater and tropical environments cannot find their way through Shelter Works' fiberglass shelters because they utilize the same gel coats used to produce today's marine craft. The gel coat outer layer protects the shelter from moisture, chemicals, and UV damage that can cause the corrosion and rot seen in metal and wood structures. Gel coat is one of the reasons we can offer an industry-leading 25-year warranty.

STRENGTH AND QUALITY

Shelter Works' manufacturing process results in a lightweight composite building system, equal to the strength of steel that will not come apart or delaminate. Over the years, Destin Water Users has purchased several Shelter Works fiberglass buildings because of their durability, longevity, and overall value.

These two shelters were purchased with assistance from our manufacturer's rep, Mike Sims at Eco-Tech, Inc., who represents Shelter Works in Alabama and the Florida panhandle. Sims enjoys working with Shelter Works because *"They help me get the best product to my customers… and they work with me to provide each customer's unique build."*

EXHIBIT 4

"THE BUILDINGS ARE VERY STURDY AND BUILT VERY WELL. THEY HAVE HELD UP THROUGH SEVERAL HURRICANES AND IN THIS AREA, IF THEY MAKE IT THROUGH A HURRICANE THEY ARE TOUGH. THEY ARE BUILT WELL AND VERY ECONOMICAL."

LOGAN LAW, *PLANT MANAGER*
GEORGE FRENCH WATER RECLAMATION FACILITY

BOOSTER PUMP STATION

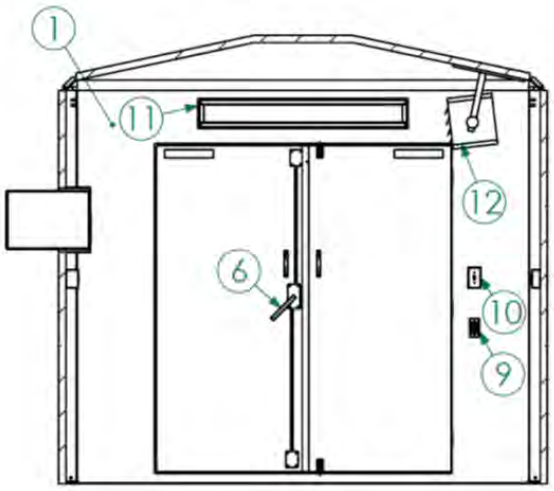
EXHIBIT 4

SYSTEM SUPPLIER

Pumps of Oklahoma is a wholesale distributor and packaged systems provider who works with municipalities and commercial companies to engineer systems for water wells, irrigation, water transfer, pressure boosting, waste water treatment systems and more. When they were called upon to add a pump booster station to increase the water pressure for a rural water district in Mound City, Kansas there were several reasons why they included on Shelter Works to protect that system.

TURNKEY SOLUTION

Tyler Engebretson, Outside Sales Representative for Pumps of Oklahoma explained that by using a Shelter Works fiberglass enclosure there was no need to deal with the scheduling and permitting hassles of having to hire multiple outside contractors to build something onsite. Pumps of Oklahoma created a complete, all-in-one, fabricated pump skid station using the Shelter Works field equipment shelter that would protect the pump booster as well as the electrical equipment that monitors and manages that equipment. “We wanted a double door entrance in case we need to move or service the equipment at some point in time, and we were able to specify exactly what we wanted. The shelter comes from the manufacturing facility ready to go, with all electrical completely wired, user-friendly and ‘plug-and-play’ ready.”



ENGINEERED FOR ALL WEATHER

Shelter Works field equipment buildings provide protection from all weather extremes. This pump station sits in a remote field in an environment where temperatures can range from -10°F in winter to 110°F in summer. With air-conditioning units that cool in summer, a heating unit for winter operation, and adjustable louver vents that facilitate airflow in spring and fall, optimal functioning temperatures can be maintained.

WARRANTY

We put all of our shelters through extensive quality checks to ensure that every shelter will perform to expectations and live up to our claim. Shelter Works field equipment buildings come with a standard 25-year warranty to put customers at ease.

SHELTER WORKS CUSTOM ENGINEERED SOLUTION WAS SUPER-EASY FOR US TO USE, AND WE WERE IMPRESSED WITH THE VALUE COMPARED TO A SITE-BUILT BRICK BUILDING WE COULD HAVE SPECIFIED. THE BUILDING LOOKS GREAT AND THE CUSTOMER WAS VERY HAPPY.”

TYLER ENGEBRETSON, *OUTSIDE SALES REPRESENTATIVE*
PUMPS OF OKLAHOMA

EQUIPMENT PROTECTION FOR HYDRO-ELECTRIC FACILITY IN REMOTE LOCATION

The West Fork Upper Battle Creek Diversion project, a $46 million expansion of Alaska's largest hydroelectric facility at Bradley Lake Dam, sits about 30 miles northeast of Homer at the head of Kachemak Bay. The facility supplies wholesale power to six electric utilities that comprise the Railbelt electrical grid. The project expects to increase the practical power production capacity at the Bradley Lake Dam by approximately 10% and add around 5,000 homes to the Railbelt region's main grid.

PROTECTION FROM THE ELEMENTS

The two-year project consists of laying a 1.7mile-long pipeline to redirect glacial runoff to the Bradley Lake Dam, and a three-mile access road leading to the diversion site. Shelter Works worked with GMC Contracting of Anchorage, AK to provide ten fiberglass shelters that were placed along the access road to house and protect the pipeline's intake air valve access port assemblies from the elements. Each 6' x 9' x 8' shelter has a 3.5" foam core insulation furnishing them with an R-Value of R-24 to prevent the pipeline from freezing in average winter lows of 21°F that can dip as low as 3°F.

BY 25 YEAR WARRANTY

The customer chose Shelter Works fiberglass field equipment buildings because of their longevity and a 25-year warranty. The minimal maintenance required by the enclosures makes them the perfect solution for remote locations. Knowing the shelter is backed by the 25-year warranty provides additional peace of mind.

WHY SHELTER WORKS

According to Cherie Ball, Contract Administrator for GMC Contracting, this was their first time working with prefabricated fiberglass buildings. They found the 3,940 miles between production in St. Louis, MO, and installation in Kachemak Bay daunting, not knowing what to expect, but ultimately the entire process ended up being smooth and Shelter Works provided a quality product. Ball stated, "The staff was professional, friendly, and helpful from the estimate process to the coordination in dealing with the shipping company." Asked if GMC would work with Shelter Works again Ball said, "Yes, and I already have, and will continue to recommend Shelter Works to other Alaska contractors who need fiberglass buildings."

EXHIBIT 4

WELL HOUSES ON A FLOODPLAIN

FIBERGLASS SHELTER ON A PEDESTAL

The Premier 370 Business Park is an 850-acre business development located in St. Peters, Missouri, a growing city nestled between the Missouri and Mississippi Rivers. The Business Park is home to several warehouses, distribution centers, and manufacturing facilities. When the city of St. Peters needed three new wells drilled to support the development's operations, they worked with Martin General Contracting, a family-owned and operated company specializing in water and wastewater treatment projects for state and government entities. For field equipment protection, Martin General Contracting turned to Shelter Works.

ACCOMMODATING THE OPERATING ENVIRONMENT

This project consisted of three fiberglass equipment shelters. Two shelters, measuring 12' x 12' x 8' were located in the area's floodplain. To accommodate their location and the threat of potential floodwaters, they were mounted on elevated metal platforms, using a crane, then welded to the wells' casings.

The third and largest structure, measuring 12' x 21' x 8', was anchored to a cement pad located outside of the floodplain. Tim Harrelson, Superintendent for Martin General Contracting, oversaw the shelters' arrival and said "Delivery was on time and installation was a breeze."

Each shelter has a 4' x 4' aluminum roof hatch to be utilized when the pumps need to be repaired or replaced. The location of the hatches above the pumps allows for easy crane removal and replacement of the equipment. Primary access to the shelters is a single door with an inset window and a low profile threshold.

EXHIBIT 4

EXHIBIT 4

VENTILATION AND ELECTRICAL PACKAGES

Ventilation and heating systems were installed to maintain interior temperatures below 100 degrees in the summer and a minimum of 50 degrees in the winter. The ventilation system, controlled by an HOA selector switch, was sized to prevent the indoor temperature from exceeding the indoor design temperature when the outdoor design temperature occurs. Ideally at 6 air changes per hour.

The heating system, controlled by a wall-mounted thermostat, was sized based on heat loss calculations and positioned to distribute heat to all areas inside of the shelter. Both systems took into account the additional heat loads generated by the equipment housed and the increased R-value provided by the 3-inch foam in the ceilings of the shelters.

Each enclosure included an electrical package consisting of a load center, fluorescent lights, switch with weatherproof cover, GFCI receptacle with weatherproof cover, thermostat, and the above-mentioned ventilation and heating systems.

MEETING THE SPECIFICATION

All three shelters received PE Stamps, as required by the specifications, to ensure structural integrity with regard to snow, wind, and seismic loads. The spec also required IECC and ASHRAE 90.1 conformity, therefore COMchecks were run by the professional engineer to verify the shelters would meet the Department of Energy's commercial energy compliance requirements. Wood was placed in all four walls of each shelter to achieve IBC and seismic certifications.

STRONGER, SAFER, MORE ENERGY EFFICIENT SHELTERS

IBC - The International Building Code is a model developed by the International Code Council (ICC) that has been adopted as a base code standard for new construction safety by many states and/or cities in the United States.

IEEC - The International Energy Conservation Code is a resource that sets out minimum efficiency standards for the walls, floors, ceilings, lighting, windows, doors, and duct leakage for new construction. It is often used by states that have adopted energy codes that will result in the optimal use of fossil fuel and renewable energy resources.

ASHRAE - The American Society of Heating, Refrigerating and Air Conditioning Engineers serves as a source for technical standards and guidelines so HVAC professionals have access to up to date procedures when designing, installing, and testing HVAC systems.

LEACHATE PUMP STATION AT COUNTY LANDFILL

In December of 2016 the County Commissioners of Somerset County, Maryland approved the decommissioning of the Fairmount Wastewater Treatment Plant and then extending of the sewer lines to link to an existing wastewater plant in the nearby Westover Sewer System. The project included demolishing the Fairmount plant, upgrading the pumps at the Fairmount Pump Station, and running a force main from the pump station to the Westover Sewer System.

Flow previously pumped from the Fairmount Pump Station to the Fairmount WWTP will now be directed to the existing Westover Sewer System and processed in nearby Princess Anne. By running a force main 5 ½ miles to connect to the Westover system, they extended service and allowed for the sewer transfer of treated leachate from the Somerset County landfill, eliminating the need for hauling to the Princess Anne treatment plant for further processing. As part of the system expansion, Shelter Works was called upon to provide a replacement fiberglass shelter for the existing leachate pump station at the landfill.

EXHIBIT 4

ENVIRONMENTAL FACTORS

Somerset County sits on Maryland's Eastern Shore between the Chesapeake Bay and the Atlantic. It experiences average rainfalls of 45 inches a year and average humidity of 77%.
A fiberglass field equipment shelter will have a longer lifespan, with minimal maintenance, than other building materials when exposed to high levels of moisture from both the weather and the leachate collection process.

The building Shelter Works provided includes an electrical package consisting of a load center and LED lighting. To accommodate the average winter temperature lows of 29° the shelter's insulation was increased, providing an R-Value of 15. A heater was also installed to ensure the pumps would not freeze on the occasions when temperature lows dipped into the teens.

AN IDEAL SOLUTION

According to Dwight Swan, Sales Engineer at Envirep/TLC "Shelter Works fiberglass enclosures are a great option for protecting the equipment for a landfill pumping station. Leachate is very corrosive and could damage other types of shelters. Because it is resistant to corrosive elements, chemicals, and gasses found in a landfill environment, fiberglass is an ideal medium for housing a leachate pump station."

"SHELTER WORKS SHIPS THEIR ENCLOSURES FULLY ASSEMBLED, MAKING INSTALLATION AT THE JOB SITE QUICK AND EASY FOR THE CONTRACTOR. THEY ASSIST THE ENGINEER IN ALL PHASES OF A PROJECT, FROM DESIGN ASSISTANCE TO EQUIPMENT SPECIFICATIONS/DRAWINGS, SUBMITTALS, AND INSTALLATION MANUALS".

DWIGHT SWAN, *SALES ENGINEER*
ENVIREP/TLC

EXHIBIT 4

WHAT IS LEACHATE?

Leachate is the liquid by-product of the the chemical, physical, and biological changes that result from water percolating through a solid waste disposal site like a landfill, incineration plant, transfer plant, or composting plant. The volume of leachate produced varies with the amount of fluid in the waste, rainfall, and storm water run off.

FIELD EQUIPMENT SHELTERS THAT WON'T RUST, ROT, CORRODE, OR DECAY

The unique characteristics of Shelter Works' fiberglass field equipment shelters make them naturally resistant to cracking, peeling, and dents which are catalysts for rot and corrosion. Shelter Works fiberglass field equipment shelters stand up to pollution, humidity, chemicals, and water, making them the ideal solution for water applications and locations prone to humidity and rain. No routine maintenance is required making for a lower lifetime cost and a longer-lasting shelter.

Metal buildings experience corrosion in the form or rust or pitting. Corrosion is preventable with the use of coatings, paints, and other inhibitors but these solutions require regular maintenance and can increase the overall lifetime cost of the building.

The only exterior metal used in a Shelter Works assembly is the stainless steel screws that hold the walls and roof to each other. These screws can be upgraded to 316 stainless steel for the most aggressively corrosive environments.

Wood shelters will experience wood rot caused by moisture and fungi that deteriorate the timber used in stick-built construction. Once discovered rot usually requires replacement of the affected wood. The best prevention for rot is routine maintenance and repainting of areas that exhibit cracking and peeling.

Shelter Works Fiberglass Reinforced Polymer (FRP) buildings only use wood that is encapsulated within the protective coating of the FRP, guaranteeing that the wood will not rot for the duration of the building's 25 Year Warranty.

Corrosive fumes and microorganisms cannot find their way through Shelter Works' fiberglass shelters because we utilize the same gel coats used to produce today's marine craft, transportation equipment, and aircraft. Gel coat is not a paint applied after production. It is molecularly bonded to the fiberglass during the manufacturing process becoming a part of the composite. It will not crack or peel like paint. The gel coat outer layer protects the shelter from moisture, chemicals, and UV damage that can cause the corrosion and rot seen in metal and wood shelters.

Our customers need durable, maintenance-free structures that will be aesthetically pleasing over long periods of time. That's why we are putting science to work for our customers and using high quality gel coats instead of paints.

WHY FIBERGLASS IS BETTER EXHIBIT 4

- **Maintenance Free** – A molded fiberglass shelter will last for decades exposed to the harshest elements without noticeable deterioration. The gel coat may eventually fade, but the FRP composite will remain as strong as the day it was delivered.

- **Lowest Lifetime Cost of Ownership** Because you don't have to paint, repair or replace it, there is no costly maintenance. The shelter pays for itself many times over during it's long and useful life.

- **Easy to Install** – The shelter arrives fully assembled and ready to set in place using common construction site equipment.

- **Energy Efficient** – Shelter Works' unique manufacturing process creates continuous insulation throughout the walls and roof, with no thermal bridges. The foam insulation, encapsulated within the fiberglass, protects it from damage and will retain its insulation properties for the life of the shelter.

- **Performs in Any Environment** – The durability of a Shelter Works shelter remains unchanged, even in extreme temperatures, hurricane winds, Alaskan snow loads, and coastal climates. Fiberglass can easily withstand humidity, chemical exposure, and other corrosive environments.

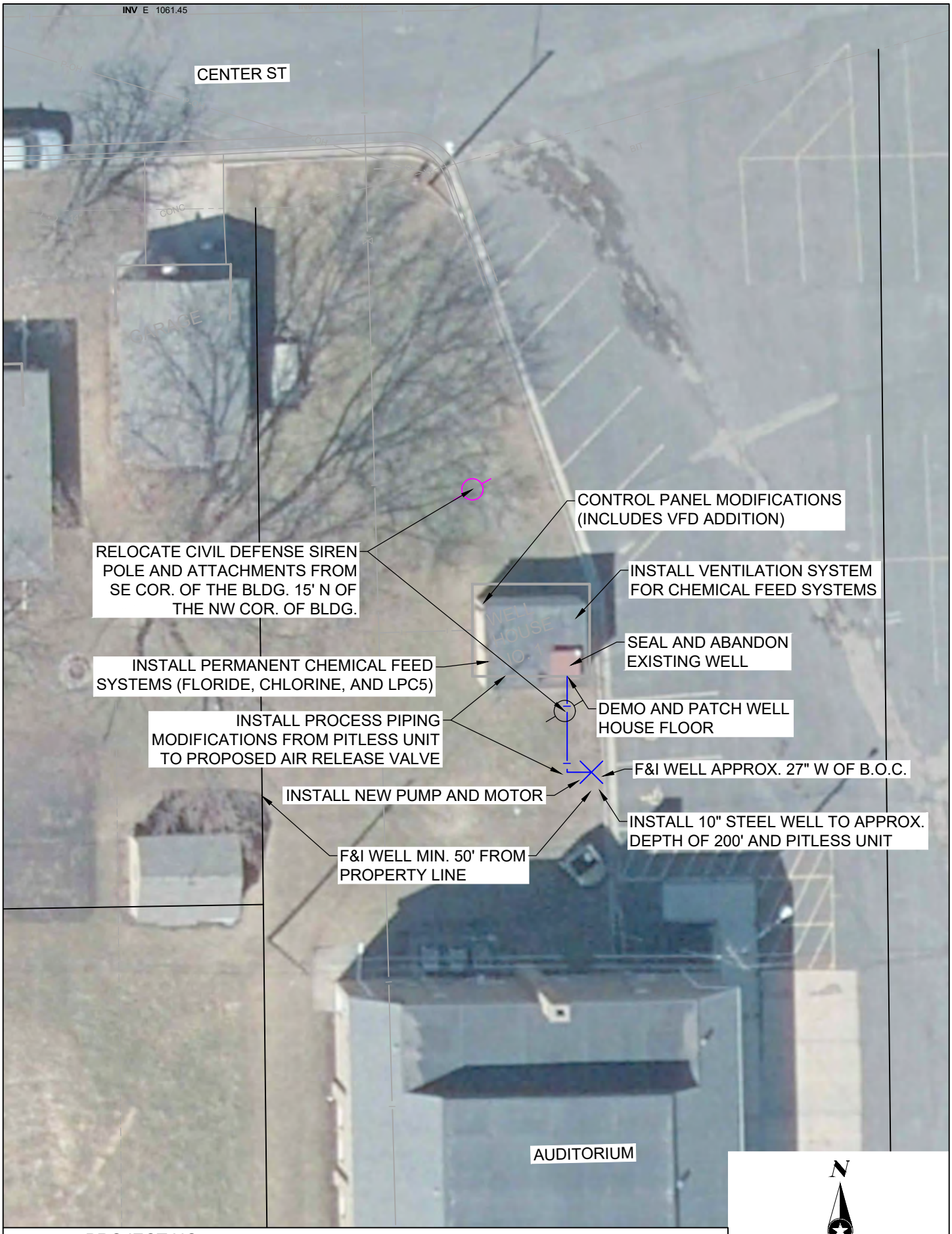
- **Customizable** – Every shelter is engineered to order.

BUILT FOR LIFE

SHELTER WORKS FIBERGLASS SHELTERS ARE MAINTENANCE-FREE STRUCTURES THAT ARE "BUILT FOR LIFE" AND COVERED BY OUR INDUSTRY LEADING 25-YEAR WARRANTY. MANUFACTURED USING UV RESISTANT GEL COATS THAT CAN WITHSTAND DECADES OF EXPOSURE TO THE ELEMENTS WITH MINIMAL FADING, OUR SHELTERS WILL NOT RUST, ROT, CORRODE OR DECAY.

VISIT OUR WEBSITE WWW.SHELTERWORKS.COM

BUILT FOR LIFE



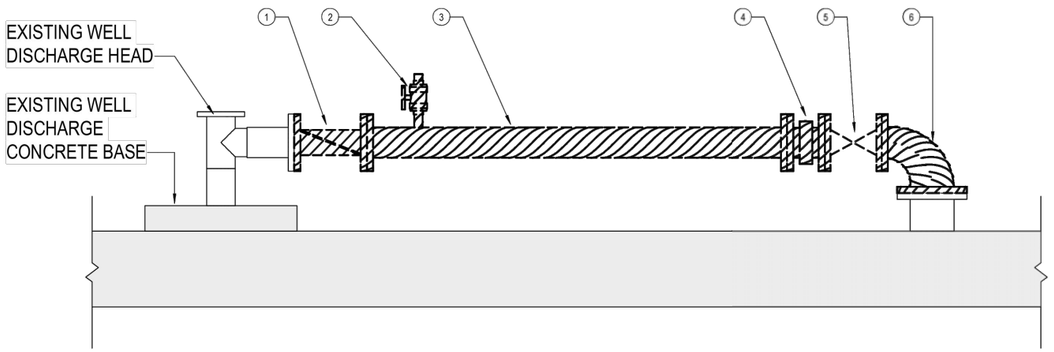
PROJECT NO. 171969

DATE: 10/23/2025

CHANGE ORDER 4
NEW WELL FOR WELL HOUSE #1
SILVER LAKE, MINNESOTA

FIGURE NO. 1

FOR COST ESTIMATING PURPOSES ONLY



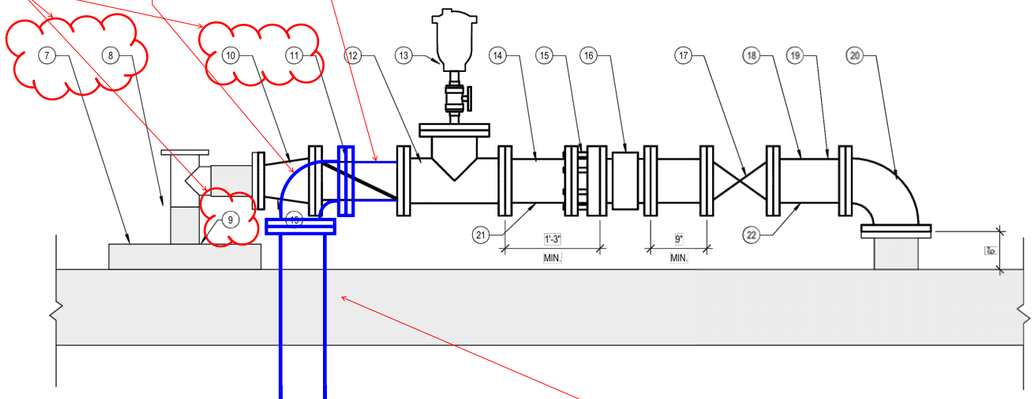
1 P101 WELL #1 REMOVAL SECTION
1" = 1'-0"
0 6" 1' 2'

INSTALL VFD FOR WELL #1. VFD TO BE CONTROLLED VIA 4-20 FROM FLOW METER AND CHEMICAL FEED PUMPS TO BE FLOW-PACED. PROVIDE NECESSARY CONTROLS PANELING/EQUIPMENT AND RUN POWER AND CONTROLS TO NEW WELL. A PRESSURE SWITCH FOR TURNING WELL #1 ON/OFF IS ALREADY DESIGNED FOR - SWAP FOR PRESSURE TRANSDUCER THAT CONTROLS VFD VIA 4-20

6" DIP WITH FLANGE ADAPTER

6" DIP ELBOW

NOT NEEDED



6" DIP (TIE RODED)

2 P101 WELL #1 INSTALLS SECTION
1" = 1'-0"
0 6" 1' 2'

FLOOR JACKING/REPAIR, EXCAVATION, BACKFILLING, ETC. SEE STRUCTURAL SHEETS

6" DIP ELBOW (TIE RODDED AND BLOCKING)

6" WATER MAIN TO PITLESS UNIT

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY DIMENSIONS AND LOCATIONS IN THE FIELD.
2. PAINT DISCHARGE PIPING AND APPURTENANCES, WELLHOUSE FLOOR (INCLUDING CHEMICAL ROOM), AND WELLHOUSE WALLS (INCLUDING CHEMICAL ROOM) ACCORDING TO SECTION 09 97 21.
3. COORDINATE WITH OWNER AND ENGINEER FOR ITEMS TO DEMOLISH OR SALVAGE.
4. REMOVE AND DISPOSE OF ALL CHEMICAL FEED EQUIPMENT AND APPURTENANCES.
5. REMOVE BOTH WELLHOUSE DOORS AND FURNISH AND INSTALL NEW DOORS, FRAMES, AND DOOR HARDWARE. FURNISH AND INSTALL NEW INTRUSION ALARMS ON THE NEW DOORS. INTRUSIONS SHALL SEND AN ALARM TO STAFF THROUGH THE EXISTING DIALER. SEE ELECTRICAL DRAWINGS AND SPECIFICATIONS.
6. CONNECT NEW THERMOSTAT TO EXISTING DIALER. OPERATOR ADJUSTABLE LOW TEMPERATURE SETTING SHALL SEND AN ALARM TO STAFF THROUGH THE EXISTING DIALER. SEE ELECTRICAL DRAWINGS AND SPECIFICATIONS.
7. ALL NEW HARDWARE SHALL BE STAINLESS STEEL.
8. INSTALL PIPE SUPPORTS. SEE DETAIL 6/P501.
9. TEMPORARILY RELOCATE LPC-5 CHEMICAL FEED EQUIPMENT TO WELL #1 FROM WELL #2. MAKE ALL NECESSARY CONNECTIONS AND ENSURE SATISACTORY OPERATION. COORDINATE WITH OWNER AND ENGINEER.
10. FURNISH AND INSTALL TEMPORARY SODIUM HYPOCHLORITE FEED EQUIPMENT. MAKE ALL NECESSARY CONNECTIONS AND ENSURE SATISFACTORY OPERATION. COORDINATE WITH OWNER AND ENGINEER. SEE SECTION 44 44 17.
11. ALL ITEMS ON SHEET P101 AND P104 TO BE INCLUDED IN THE "WELL REMOVALS AND INSTALLS" LUMP SUM BID ITEM.

KEYNOTES

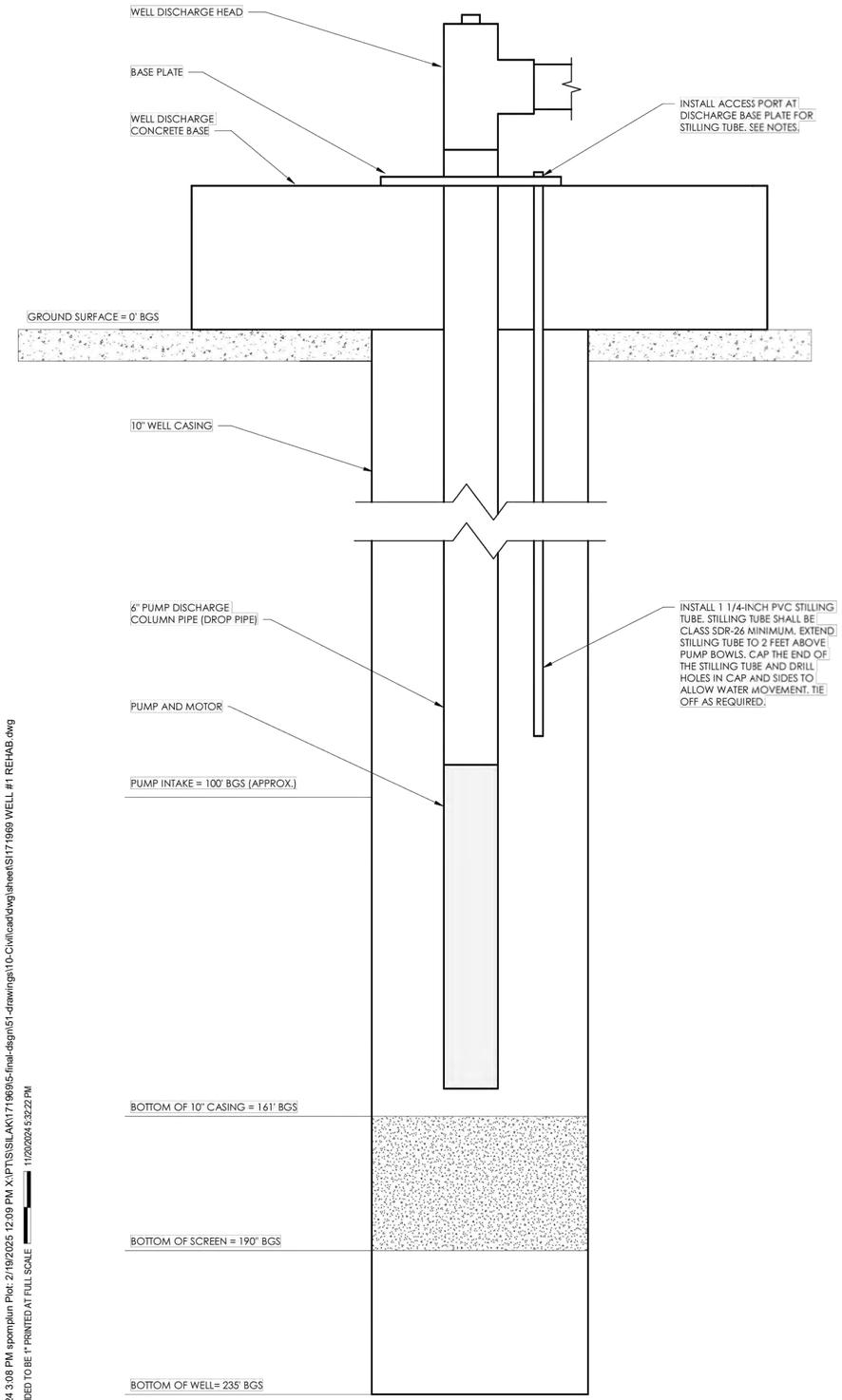
1. REMOVE AND DISPOSE OF EXISTING 4" CHECK VALVE.
2. REMOVE AND DISPOSE OF EXISTING AIR RELEASE/VACUUM RELIEF VALVE.
3. REMOVE AND DISPOSE OF EXISTING 4" PROCESS PIPE, CHEMICAL FEED EQUIPMENT, TAPS, COUPLING, AND PIPE SUPPORTS.
4. REMOVE AND DISPOSE OF EXISTING 4" FLOW METER.
5. REMOVE AND DISPOSE OF EXISTING 4" GATE VALVE.
6. REMOVE AND DISPOSE OF EXISTING 4" X 6" INCREASING ELBOW. REPLACE ALL HARDWARE.
7. PAINT WELL DISCHARGE CONCRETE BASE ACCORDING TO SECTION 09 97 21.
8. REMOVE AND DISPOSE OF EXISTING AND FURNISH AND INSTALL NEW WELL VENT CAPS WITH 24-MESH CORROSION RESISTANT SCREENS SEE SECTION 33 28 20. PAINT VENTS AND VENT CAPS ACCORDING TO SECTION 09 97 21.
9. PAINT BASE PLATE ACCORDING TO SECTION 09 97 21. REMOVE EXISTING PLATE SEALANT AND INSTALL NEW GASKET.
10. FURNISH AND INSTALL NEW 4"X6" DIP INCREASER.
11. FURNISH AND INSTALL NEW 6" DIP CHECK VALVE.
12. FURNISH AND INSTALL NEW 6" DIP TEE WITH BLIND FLANGE.
13. FURNISH AND INSTALL NEW AIR RELEASE VALVE. TAP INTO BLIND FLANGE ON NEW UPTURNED TEE. SEE DETAIL 4/P501.
14. FURNISH AND INSTALL NEW 6" DIP PROCESS PIPING (TYP.).
15. FURNISH AND INSTALL NEW FLANGED COUPLING ADAPTER.
16. FURNISH AND INSTALL NEW FLOW METER. LOCATE TO PROVIDE 2.5' OF UPSTREAM SPACING AND 1.5' OF DOWNSTREAM SPACING BETWEEN FITTINGS AS SPACE ALLOWS.
17. FURNISH AND INSTALL NEW 6" GATE VALVE.
18. FURNISH AND INSTALL NEW PRESSURE GAUGE. SEE DETAIL 1/P501.
19. FURNISH AND INSTALL NEW SAMPLE TAP. SEE DETAIL 2/P501. SAMPLE TAP SHALL BE INSTALLED TO PROVIDE A MINIMUM OF 18" OF SPACING FROM THE FLOOR.
20. FURNISH AND INSTALL NEW 6" 90 DEGREE ELBOW. REUSE AND INSTALL TIE BARS. TIE BARS SHALL BE PAINTED
21. FURNISH AND INSTALL CHEMICAL INJECTION TAP FOR LPC-5. SEE DETAIL 3/P501.
22. FURNISH AND INSTALL CHEMICAL INJECTION TAP FOR SODIUM HYPOCHLORITE. SEE DETAIL 3/P501.

LOCATE ON NEW ELBOW

LPC-5 (PHOSPHATE FEED SYSTEM) AND SODIUM HYPOCHLORITE FEED SYSTEM TO BE LOCATED WITHIN PUMP ROOM. FLUORIDE FEED SYSTEM TO BE LOCATED WITHIN CHEMICAL ROOM. WELL #2 SODIUM HYPOCHLORITE FEED SYSTEM TO BE LOCATED WITHIN PUMP ROOM AND EXISTING GAS CHLORINE SYSTEM TO BE DEMOLISHED.

OUTLETS FOR CHEMICAL FEED PUMPS ARE REQUIRED TO BE "HOT" ONLY WHEN WELL PUMP TURNS ON. THIS WAS PART OF ORIGIINAL DESIGN. THE OUTLET FOR THE FLUORIDE PUMP IN THE CHEMICAL ROOM SHALL BE WIRED TO BE "HOT" ONLY WHEN THE WELL PUMP TURNS ON.

CHEMICAL FEED SYSTEMS TO INCLUDE:
CHEMICAL TANK WITH BALL FOOT VALVE AND ALL NECESSARY TANK OPENINGS
SPILL CONTAINMENT TANK
BLUE-WHITE M1 PERISTALTIC CHEMICAL FEED PUMP. TWO FOR FLUORIDE FEED SYSTEM.
SHELVING FOR PUMP
BREAK TANK (FLUORIDE FEED SYSTEM ONLY).
VENTILATION SYSTEM WITH EXHAUST THROUGH CHEMICAL ROOM WALL. DOOR SWITCH ON CHEMICAL ROOM DOOR TO OPERATE THE VENTILATION SYSTEM (FLUORIDE FEED SYSTEM ONLY).
VENTILATION TUBING THROUGH CHEMICAL ROOM WALL (FLUORIDE FEED SYSTEM ONLY).
CHEMICAL FEED TUBING AND PVC CARRIER PIPING
DIFFUSER (WITH CORPORATION STOP, CHECK VALVE, ETC.)
NECESSARY WALL PENETRATIONS
NECESSARY PPE
OUTLET SIGNAGE INDICATING WHAT OUTLET IS FOR THE CHEMICAL PUMPS.
SIGNAGE FOR CARRIER PIPING INDICATING THE CHEMICAL TYPE.
OPERATOR TRAINING



1 P103 WELL #1 PROFILE
NOT TO SCALE

WELL #1 DATA

-UNIQUE WELL NO.:	00210416
-DRILLER:	MUELLER WELL CO.
-DRILLING DATE:	9/18/84
-STATIC WATER LEVEL:	40 FEET
-PUMPING LEVEL:	53 FEET @ 250 GPM
-ORIGINAL CASING ELEVATION	1,089.6 FEET

PUMP DATA:

-PUMP TYPE:	SUBMERSIBLE
-CAPACITY:	260 GPM
-POWER:	20 HP, 240 VOLTS, 3 PHASE, 60 HZ

NOTES:
1. INSTALL NEW 1 1/4-INCH PVC STILLING TUBE. SEE SECTION 33 21 11.

2. INCLUDE ACCESS PORT AT DISCHARGE BASE PLATE FOR STILLING TUBE. CONTRACTOR MAY ALSO INSTEAD, AFTER AGREEMENT WITH ENGINEER, UTILIZE EXISTING UNUSED VENT PIPE FOR STILLING TUBE. CONTRACTOR SHALL INSTALL SATISFACTORY BULKHEAD OR OTHER FORM OF SEAL ON VENT PIPE. SEE SECTION 33 21 11 AND 33 28 20.

3. REMOVE EXISTING PUMP, MOTOR, AND DOWNHOLE EQUIPMENT. REHABILITATE WELL ACCORDING TO SECTION 33 21 11 AND BID SCHEDULE.

4. CONTRACTOR SHALL VERIFY ALL DEPTHS AND PUMP DISCHARGE COLUMN PIPE SIZE. UNIT PRICES SHALL BE ADJUSTED ACCORDINGLY.

2 P103 WELL #1 AERIAL LOCATION
NOT TO SCALE

SEH

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIMON McCORMACK
DATE 11/18/2024 LICENSE NO. 56159

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Silver Lake
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308 MAIN ST. W.
SILVER LAKE, MN 55381
www.cityofsilverlake.org

CITY OF SILVER LAKE, MINNESOTA
SILVER LAKE INFRASTRUCTURE PROJECT
308 MAIN ST. W.SILVER LAKE,
MN 55381

SEH Project	171999
Checked By	CB
Drawn By	DD

Project Status	Issue Date
ISSUED FOR BIDDING	11/18/2024

REVISION SCHEDULE

REV. #	DESCRIPTION	DATE

WELL #1 PROFILE VIEW AND LOCATION

Save: 11/26/2024 3:08 PM spomplun Plot: 2/19/2025 12:09 PM X:\PT\S\SILAK\171969\5-final-dsgn\51-drawings\10-Civil\cad\dwg\sheet\SI171969 WELL #1 REHAB.dwg
THIS BAR IS INTENDED TO BE 1" PRINTED AT FULL SCALE — 11/20/2024 5:32:22 PM

Water Quality Sampling and Analysis Schedule of Tests for Additional Samples

PARAMETER	UNITS	RESULT	MCL
Inorganic			
Antimony	mg/l		0.006
Arsenic	mg/l		0.01
Asbestos	MFL		7
Barium	mg/l		2
Beryllium	mg/l		0.004
Cadmium	mg/l		0.005
Chloride	mg/l		250
Chromium	mg/l		100
Cyanide (as Free Cyanide)	mg/l		0.2
Fluoride	mg/l		4
Iron	mg/l		0.3
Lead	mg/l		0.015
Manganese	mg/l		0.5
Mercury	mg/l		0.002
Nickel	mg/l		
Nitrate	mg/l		10
Nitrite	mg/L		1.0
Selenium	mg/l		0.05
Thallium	mg/l		0.002
Turbidity	NTU		0.3
Copper	mg/l		1.3
Total Dissolved Solids	mg/l		1,000
Calcium	mg/l		
Magnesium	mg/l		
Sodium	mg/l		100
Sulfate	mg/l		500
Potassium	mg/l		
Ammonia	mg/l		
Carbon Dioxide	mg/l		
Total Organic Carbon	mg/l		
Total Alkalinity	mg/l		
Total Hardness	mg/l		
Volatile Organics			
Benzene	mg/l		0.005
Carbon Tetrachloride	mg/l		0.005
Chlorobenzene	mg/l		0.1
o-Dichlorobenzene	mg/l		0.6
para-Dichlorobenzene	mg/l		0.075
1,2-Dichloroethane	mg/l		0.005
1,1-Dichloroethene	mg/l		0.007
cis-1,2-Dichloroethylene	mg/l		0.07
trans-1,2-Dichloroethylene	mg/l		0.1
1,2-Dichloropropane	mg/l		0.005
Ethylbenzene	mg/l		0.7
Dichloromethane	mg/l		0.005
Styrene	mg/l		0.1
Tetrachloroethylene	mg/l		0.005
Toluene	mg/l		1
Total Trihalomethanes	mg/l		0.008
1,2,4 Trichlorobenzene	mg/l		0.07
1,1,1-Trichloroethane	mg/l		0.2
1,1,2-Trichloroethane	mg/l		0.005
Trichloroethylene	mg/l		0.005
Vinyl chloride	mg/l		0.002
Xylene (Total)	mg/l		10

PARAMETER	UNITS	RESULT	MCL
Synthetic Organics			
Acrylamide	mg/l		Trace
Alachlor	mg/l		0.002
Aldicarb	mg/l		0.003
Aldicarb Sulfoxide	mg/l		0.004
Aldicarb Sulfone	mg/l		0.002
Atrazine	mg/l		0.003
Benzo(a)pyrene (PAHs)	mg/l		0.0002
Carbofuran	mg/l		0.04
Chlordane	mg/l		0.002
2,4-D	mg/l		0.07
Dalapon	mg/l		0.2
Di(2-ethylhexyl)adipate	mg/l		0.4
Di(2-ethylhexyl)phthalate	mg/l		0.006
Dibromochloro-propane (DBCP)	mg/l		0.0002
Dinoseb	mg/l		0.007
Diquat	mg/l		0.02
Endothall	mg/l		0.1
Endrin	mg/l		0.002
Epichlorohydrin	mg/l		
Ethylene dibromide (EBD)	mg/l		0.00005
Glyphosate	mg/l		0.7
Heptachlor	mg/l		0.0004
Heptachlor epoxide	mg/l		0.0002
Hexachlorobenzene	mg/l		0.001
Hexachlorocyclopentadiene (HEX)	mg/l		0.05
Lindane	mg/l		0.0002
Methoxychlor	mg/l		0.04
Oxamyl (Vydate)	mg/l		0.2
Pentachlorophenol (PCP)	mg/l		0.001
Picloram	mg/l		0.5
Polychlorinated biphenyls (PCBs)	mg/l		0.0005
Simazine	mg/l		0.004
2,3,7,8-TCDD (Dioxin)	mg/l		0.00000003
Toxaphene	mg/l		0.003
2,4,5-TP (silvex)	mg/l		0.05
Radionuclides			
Radium 226 and 228	pCi/l		5
Gross Alpha including Radium 226 but exclude Radon and Uranium	pCi/l		15
Gross Beta Radiation	mr/yr		4
Radon	pCi/l		
Uranium	ug/l		30
Bacteriological			
Coliform	MPN		0
Iron Bacteria	MPN		
pH**			6.5 to 8.5

**** Recorded by well contractor during the pumping test.**

END OF SECTION

Part Number – 8PS1012WBWE04M6EHX

CORROSION PROTECTION — all water passages are either hot-dipped lead free galvanized or constructed of corrosion resistant material

EASY TO SERVICE — Well cap can be removed without disconnecting cables. O-ring seals on spool permit withdrawal of the entire inner assembly simply by lifting. Replacement is equally simple. Spool support eliminates vertical adjustment and any possibility of dropping the inner assembly into the wall.

RELIABLE SEAL — Neoprene O-Rings between accurately machined hot-dipped lead free galvanized surfaces on the spool and within the unit provide positive seals.

O–RING SEAL PROTECTION — Monitor seal protection prevents seal damage during installation and service.

FROST PROOF — No Heating is required

QUICK TO INSTALL — A quality pump installation can be made easily and economically without delay for masonry or building construction

WATERTIGHT WELL CAP WITH SCREENED AIR VENT — Designed to permit removal without disconnecting cables. Watertight cable and conduit sealing is optional

HOLD–DOWN — Supplied with each unit. Hold-down pipe also serves as lift-out pipe for installation and servicing.

REINFORCED O–RING LANDS — Cast in to prevent discharge body from becoming out of round

DEPTH TEST BLOCK — Standard on all units

LOCKING BOLTS

OPTIONS

SEALED CONDUIT CONNECTION — Watertight conduit seals made of neoprene are available for most common cable sizes. (Round Wire Only)

EPOXY PAINTING — Can be done, if required for extra protection in certain soil types

ADDITIONAL TAPPING IN SPOOL

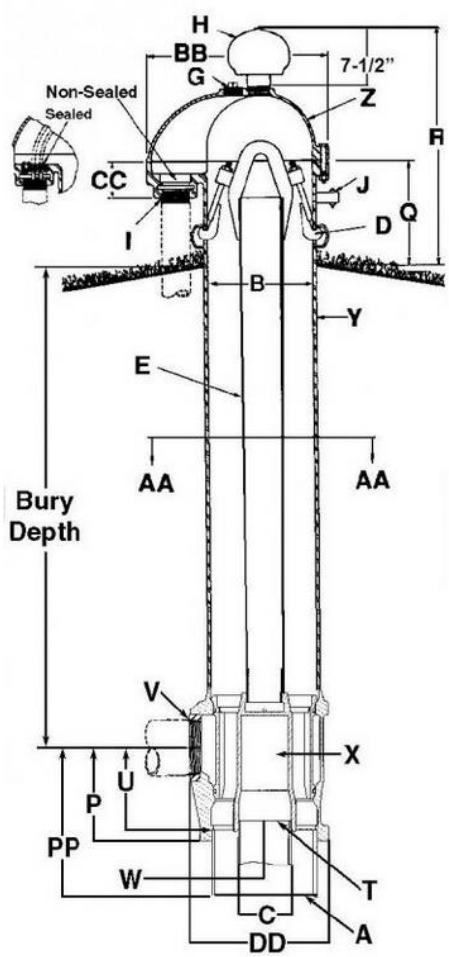
TRANSITION SLEVE FOR MECHANICAL JOINT DISCHARGE

FLOWING WELL UNITS

PROBE TUBE

WATER SAMPLER VALVE

A	Pitless Unit to Well Casing Connection:	Chamfered for butt weld
B	Pitless Unit with black upper case:	13-1/8" I.D., 14" O.D.
C	Discharge body minimum I.D.	12"
D	Hold-down mechanism: Locks spools in place and prevents lifting and turning during pump start-up. Two adjustable hooks on lift-out pipe hook into sides of pitless case	
E	Lift-out pipe with lifting bail	4" NPT assembly designed for a 48,000 lb load
G	Tap Size	2" NPT
H	Well Vent	Screws into a 2-1/2" NPT Tap
I	Conduit tappings	2" & 1" NPT std. Also available with single 2", 3", or 4" NPT
J	Depth tester block tappings	1/4" NPT
K	Pressure zone tappings	(2) 3/8" NPT
L	**MOTOR CABLE PASSAGES - THROUGH SPOOL** (Section AA-AA) - Will clear rigid rod parallel to casing	1.77"
M		4-1/2"
N	Some Restrictions Apply	1-1/2"
O		1-1/2"
P	Dimension from center of discharge outlet to bottom of discharge Body	11-7/8"
PP	Dimension from center of discharge outlet to bottom of weld nipple	17-1/4"
Q	Distance from ground level to top of pitless case	12"
R	Distance from ground level to top of screened well vent	27-9/16"
S	Water Sampler Tapping	optional
T	**SPOOL TO DROP PIPE CONNECTION**	6" NPT tapping spool designed for 48,000lb load
U	Dimension from center of discharge outlet to bottom of spool	10-1/2"
V	Discharge connection tapping size	6" NPT
W	Dimension from center of well casing to the end of the discharge outlet	9-1/16"
X	**SPOOL ASSEMBLY**	
Y	Pitless case wall thickness	.375"
Z	**SEAL CAP** - watertight cap bolts into gasketed surface securing around the pitless casing and comes installed with 2-1/2" screened well vent	
BB	Overall length of seal cap	22-1/2"
CC		4-5/8"
DD		17"



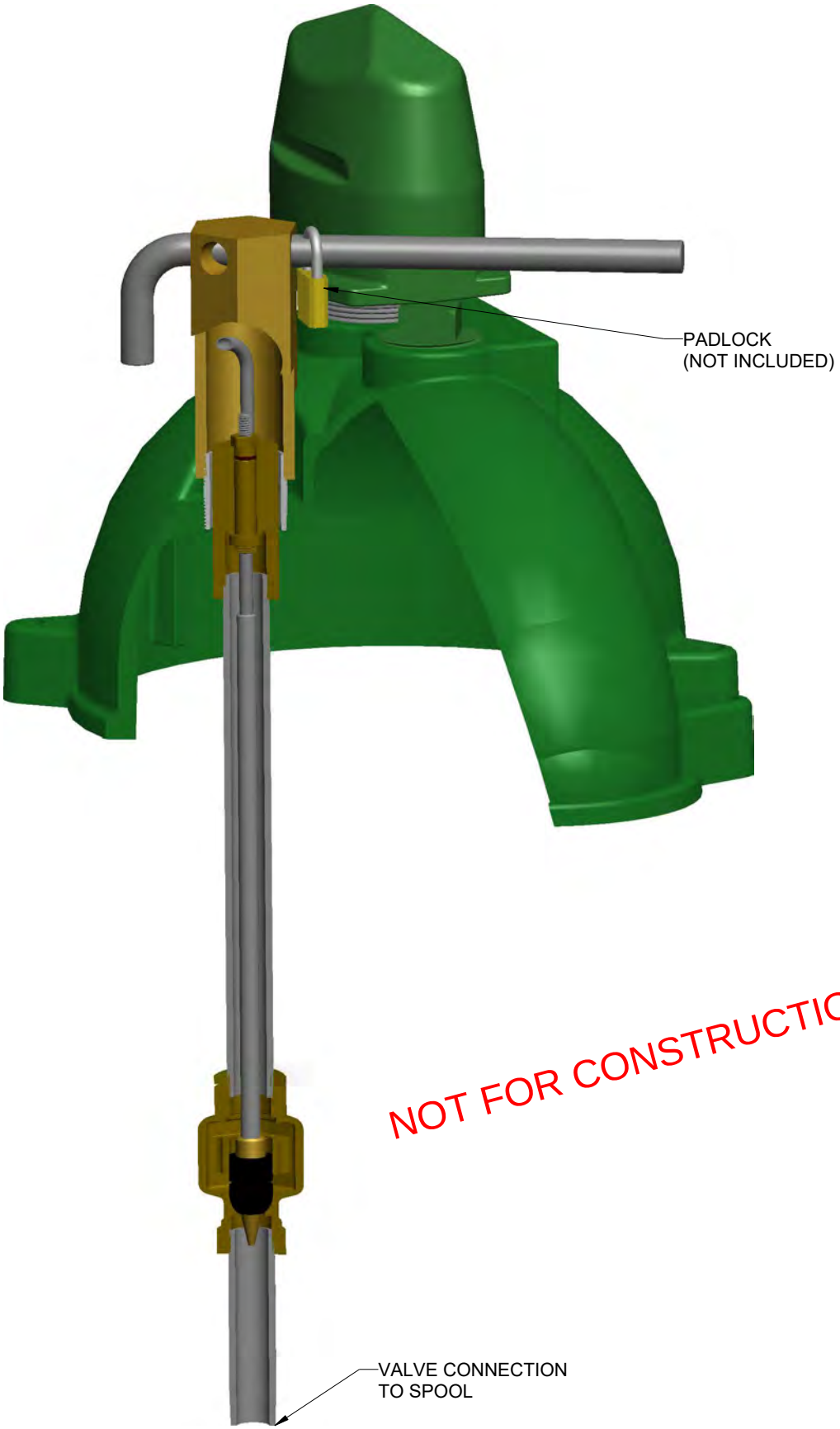
Specifications are Subject to Change Without Notice.
*For Flowing Well spool concept, see Booster Station section.
*Optional flange, weld or mechanical joint available upon request.

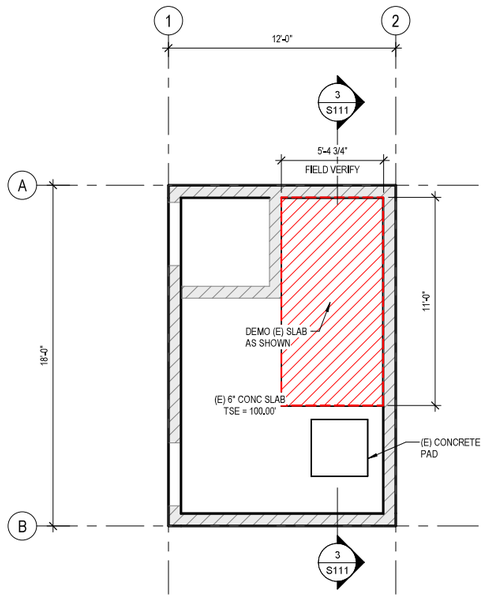
Note: Pitless units conform to the Recommended Standards for Water works, Great Lakes Upper Mississippi River Board of State Public Health & Environmental Managers and Water Systems Council PAS-97 (04) Standards.

COMPONENT MATERIALS

Well Vent - cast iron, green enamel finish.
Cap & Conduit Box - cast iron, green enamel finish.
Hold-Down Spider - cast iron, green enamel finish.
Hold-Down Pipe, 3" - steel Sch. 80, black.
Pitless Case - steel, black.
Spool - ductile iron, lead-free galvanized.
Discharge Body - ductile iron, lead-free galvanized.
Check Valve Body & Arms - brass.
Check Valve Seat - Brass.
Check Valve Spring - Monel.
Compression Seal Ring & Check Valve Facing - Neoprene.
Electrical Conduit Cable Seal - Neoprene.
Maximum Rated Discharge Pressure - 300PSI

WATER SAMPLER VALVE





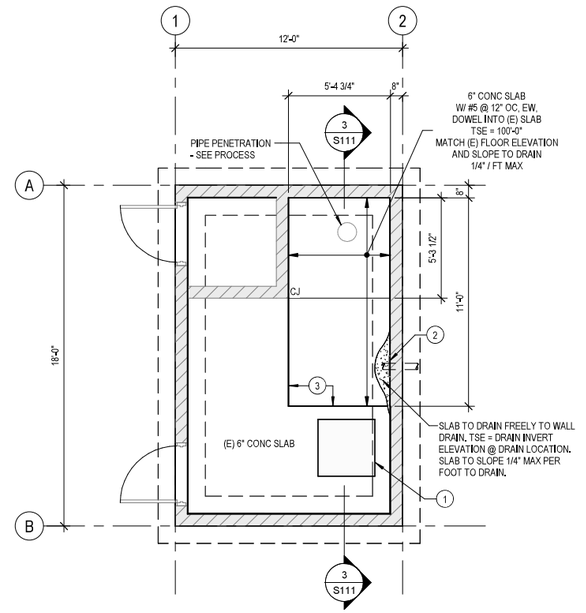
2 S111 DEMOLITION PLAN
1/4" = 1'-0"

0 2' 4' 8'

DEMOLITION PLAN GENERAL NOTES:

(TYPICAL UNLESS NOTED OTHERWISE)

1. PROTECT IN PLACE EXISTING STRUCTURE AND CONCRETE.
2. REMOVE AND DISPOSE OF ANY CONDUIT IN THE FLOOR. ABANDON IN PLACE CONDUIT IN FLOOR NOT BEING REPLACED.



1 S111 FLOOR PLAN
1/4" = 1'-0"

0 2' 4' 8'

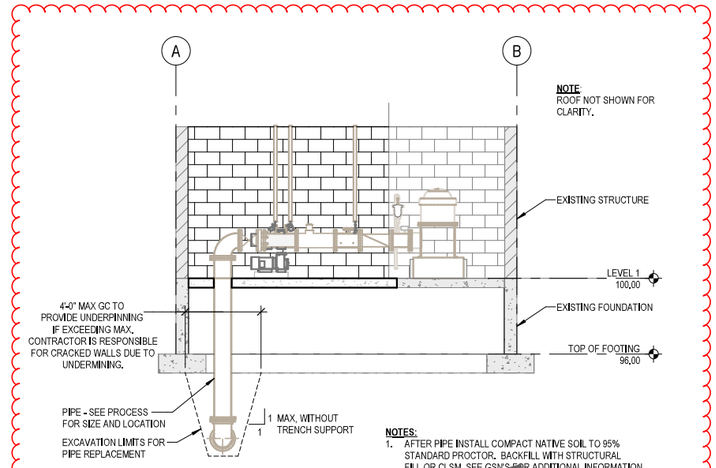
LEVEL 1 PLAN GENERAL NOTES:

(TYPICAL UNLESS NOTED OTHERWISE)

1. CONTRACTOR TO IMMEDIATELY CONTACT STRUCTURAL ENGINEER FOR VERIFICATION IF EXISTING CONDITIONS VARY FROM THOSE STATED IN THESE DOCUMENTS.
2. CARE SHALL BE TAKEN TO REMOVE EQUIPMENT AND NOT DAMAGE STRUCTURAL COMPONENTS ON SITE.

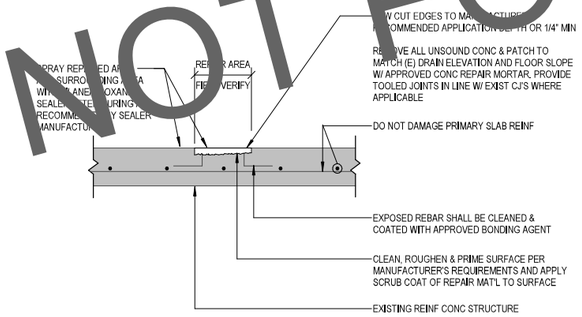
LEVEL 1 PLAN KEY NOTES

1. EXISTING EQUIPMENT PAD, FILL GAP BETWEEN EXISTING CONCRETE EQUIPMENT BASE AND EXISTING CONCRETE FLOOR WITH RODSTOCK AND SEALANT.
2. EXISTING DRAIN - SEE PROCESS DRAWINGS. ADD STAINLESS STEEL NO. 24 SCREEN TO END OF DRAIN PIPE.
3. ROUGHEN VERTICAL TO 1/4" AMPLITUDE OF EXISTING CONCRETE AROUND PERIMETER OF REMOVAL BEFORE POURING NEW CONCRETE



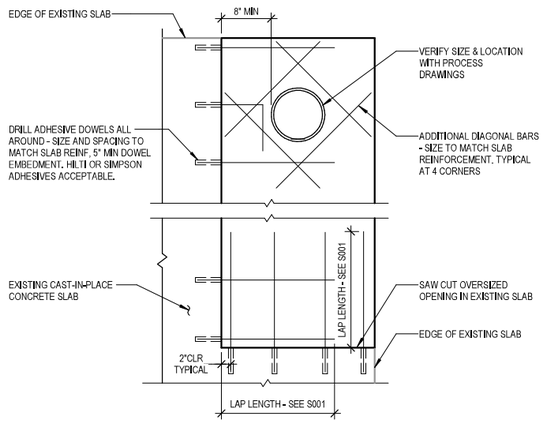
3 S111 SECTION
1/4" = 1'-0"

0 2' 4' 8'

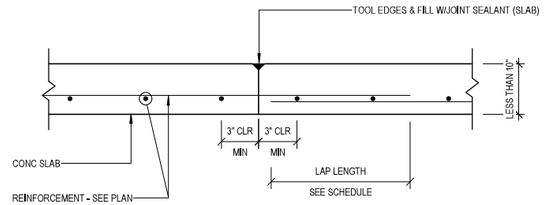


NOTES:
1. SEE GENERAL STRUCTURAL NOTES FOR APPROVED PRODUCTS AND ADDITIONAL INFO.

4 S111 CONC REPAIR DETAIL (HORIZ)
NOT TO SCALE



5 S111 PENETRATION AT EXISTING CIP SLAB
NOT TO SCALE



6 S111 SLAB CONSTRUCTION JT DETAIL (SINGLE MAT)
NOT TO SCALE

SECTION 01 73 29

CUTTING AND PATCHING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Procedures for administration of cutting and patching of existing structures and buildings.
      a. Submittals.
      b. Quality assurance.
   2. Materials.
   3. Examination: Site conditions.
   4. Preparation:
      a. Temporary Support.
      b. Protection.
   5. Construction:
      a. Special techniques.
      b. Interface with others.
   6. Cleaning.

B. Related Sections:
   1. Section 01 33 00 - Submittal Procedures
   2. Individual Specification Sections inferred by Cutting and Patching required.

1.02 SUBMITTALS

A. Refer to Section 01 33 00.

B. Schedules:
   1. Initial Schedule:
      a. 5 days prior to proposed start of work, submit to Engineer 6 copies of schedule of work involving cutting or patching.
   2. Utility Schedule:
      a. Include with initial schedule the following utility information:
         1) Which utilities will be disturbed or affected, including those that will be relocated or temporarily out-of-service.
         2) Length of time service will be disrupted.
   3. Revised Schedules: Submit 6 copies of updated schedules not less than once per week.

C. Structural Elements: Where cutting and patching involves addition to reinforcement to structural elements, submit 6 copies of Shop Drawings including all details and structural calculations showing how reinforcement is integrated with the original structure.

1.03 QUALITY ASSURANCE

A. Qualifications:
   1. Personnel: Employ skilled workers.

B. Regulatory Requirements:
   1. Structural Work Limitations:
      a. Do not cut and patch structural elements in manner to reduce load-carrying capacity or load-deflection ratio. Obtain acceptance of cutting and patching proposal before cutting and patching following structural elements:
         1) Foundation construction.
         2) Bearing walls.

3) Structural concrete.
4) Structural steel.
5) Lintels.
6) Structural decking.
7) Miscellaneous structural metals.
8) Equipment supports.

b. Operational and Safety Limitations:
1) Do not cut and patch operating elements or safety related components in manner to reduce their capacity to perform as intended, or result in increased maintenance or decreased operational life and safety. Obtain acceptance of cutting and patching proposal before cutting operating elements or safety related systems.
2) Visual Requirements:
a) Do not cut and patch construction exposed on exterior or in occupied spaces in manner to, in Engineer's opinion, reduce structure's/building's aesthetic qualities, or result in visual evidence of cutting and patching. Remove and replace work cut and patched in visually unsatisfactory manner. If possible, retain project contractors to patch following categories of exposed work, otherwise engage other recognized experienced, specialized firms including, but not limited to:
(1) Special concrete finishes.
(2) Masonry.
(3) Stucco and plaster.
(4) Acoustical ceilings.
(5) Ceramic tile.
(6) Flooring.
(7) Roofing.

C. Preinstallation Meetings: Before proceeding, meet at Site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures, resolve potential conflicts before proceeding.

PART 2 PRODUCTS

2.01 MATERIALS

A. Identical to existing materials. If not available or not usable where exposed surfaces are involved, match existing adjacent surfaces to fullest extent possible with regard to visual effect. Use materials whose installed performance equals or surpasses that of existing materials.

PART 3 EXECUTION

3.01 EXAMINATION

A. Site Conditions: Before cutting existing surfaces, examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed. If unsafe or unsatisfactory conditions are encountered, correct before proceeding.

3.02 PREPARATION

A. Temporary Support: Provide temporary support of work to be cut.

B. Protection:
1. Prevent damage to existing construction. Protect portions of project that might be exposed during work from adverse weather conditions.
2. Avoid interference with use of or free passage to adjoining areas.
3. Take necessary precautions to avoid cutting existing pipe, conduit, ductwork.

3.03 CONSTRUCTION

A. Special Techniques:
   1. Cutting:
      a. General:
         1) Use methods least likely to damage elements to be retained or adjoining construction. Cut holes and slots neatly to size required with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
         2) Equipment:
            a) Hand or small power tools designed for sawing or grinding. For concrete and masonry, use cutting machine such as carborundum saw or diamond core drill.
         3) Existing finished surfaces: Avoid marring; cut or drill from exposed or finished side into concealed surfaces.
         4) Excavating and Backfilling: Comply with requirements of applicable Sections of Division 31.
         5) Utility services:
            a) Where services are shown or required to be removed, relocated or abandoned, bypass before cutting.
            b) Cut off pipe or conduit in walls or partitions to be removed.
            c) Cap, valve or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture, other foreign matter after by-passing and cutting.
      b. Patching:
         1) Seams: Durable, invisible as possible.
         2) Exposed finishes:
            a) Restore, extend finish restoration into retained adjoining construction in manner to eliminate evidence of patching and refinishing.
            b) Where finished areas extend into others, patch and repair floor and wall surfaces in new space to provide even surface of uniform color and appearance. Remove existing floor and all coverings, replace with new materials, if necessary to achieve uniform color and appearance.
            c) Where patching occurs in smooth painted surface, extend final paint coat over entire unbroken area containing patch, after patched area has received primer and second coat.
            d) Patch, repair, rehang existing ceilings as necessary to provide even plane surface of uniform appearance.

B. Interface with Others: Cut to provide for installation of other components or performance of the reconstruction activities and subsequent fitting and patching required to restore surfaces to original condition.

3.04 CLEANING

A. Thoroughly clean areas, spaces where cutting and patching is performed or used as access. Remove completely paint, mortar, oils, putty, similar items. Thoroughly clean piping, conduit, similar features before painting or other finishing is applied. Restore damaged pipe covering to original condition.

END OF SECTION