



CITY OF MAYVILLE UTILITIES COMMISSION
MEETING AGENDA
JUNE 22, 2026
5:00 PM
MAYVILLE CITY HALL
15 S. SCHOOL STREET

1. CALL TO ORDER AND ROLL CALL

2. CITIZEN COMMENTS

Citizen Comments are to be kept to a maximum of five minutes per speaker unless the chairperson allows an extension of time. Each citizen is to make comments at the podium after stating name and address. Each citizen may comment only one time per public hearing / meeting.

3. APPROVAL OF MINUTES

3.1. Approval of the May 26, 2026, Utility Commission Meeting

4. APPROVAL OF BILLS

4.1. Approval of the Water Utility Bills and Wastewater Utility Bills of May 2026

5. WATER REPORT

5.1. Well & Distribution System Report Discussion

6. WASTEWATER REPORT

6.1. Sewer System Report Discussion

7. DISCUSS WITH POSSIBLE ACTION

7.1. Monthly Update on the Water/Wastewater Facility Project

7.2. Discuss, with Possible Action, Request for Reduction in Sewer Billing for April 2026

Requester: Kristin Bartoli

Location: 465 Alley Street

7.3. Discuss, with Possible Recommendation, Kekoskee Sewer Request for Residential Development

7.4. Discuss, with Possible Recommendation, Change Order #3

Project: Water/Wastewater Facility Upgrade

7.5. Discussion Regarding Triennial Residential Lead and Copper Testing Results

7.6. Discuss, with Possible Recommendation, Pay Request #12, in the Amount of \$893,897.34, Payable to C.D. Smith Construction, Inc.

Project: Water/Wastewater Facility Upgrade

7.7. Discuss, with Possible Action, the Request by the Village of Kekoskee for Sewer Connections for New Residential Development

8. FUTURE AGENDA ITEMS

9. NEXT MEETING DATE AND TIME

9.1. Next Meeting Date - July 27, 2026, at 5:00PM

10. ADJOURNMENT

Ald. Ken Neumann, Presiding Officer

NOTE: Persons with disabilities requiring special accommodations for attendance at the meeting should contact City Hall at least one (1) business day prior to the meeting.



CITY OF MAYVILLE UTILITIES COMMISSION
MEETING MINUTES
MAY 26, 2026
5:00 PM
MAYVILLE CITY HALL

1. CALL TO ORDER AND ROLL CALL

Meeting was called to order at 5:00 p.m. by Commissioner Engel with the following roll call:

Present: Ald. Olson, Ald. Smith, Ald. DeBaker, Ald. Henkel , Rob Boelk, Mike Engel

Excused: Gene Frings

Staff present: Utilities Director Courtney Steger and Utilities Accountant Gwen Owens

2. CITIZEN COMMENTS

None

3. APPROVAL OF MINUTES

Motion by Boelk, Seconded Ald. DeBaker motion passed 6-0

3.1. Approval of the April 27, 2026, Utility Commission Meeting

4. APPROVAL OF BILLS

Motion by Ald. Smith. Seconded Boelk. Motion passed 6-0

4.1. Approval of the Water Utility Bills and Wastewater Utility Bills of April 2026

5. WATER REPORT

-Hydrant flushing continues through June 5th. There are under 100 hydrants left to complete

-Due to customer request stemming from a previous consumption complaint, we changed out a meter at 876 Green Bay Drive per customer request. The meter was then sent to a 3rd party testing service. The meter tested within limits and is not found to be faulty. Results were sent to the customer.

-We had 2 main breaks on 5/4/26. During the hydrant flushing when the operator opened the cap, the hydrant was live. The internal rod was stuck open and fell once the cap was open causing the water hammer and two main breaks on N Walnut. While the repairs were completed, a gas service lateral was snagged and the area was evacuated.

5.1. Well & Distribution System Report Discussion

6. WASTEWATER REPORT

- Annual backflow certifications are complete
- The 2007 F150 that was replaced with the utility van sold at auction for \$3,550 and has been picked up
- Due to our chloride reduction partnership with Culligan, 6 softener replacements were done by them in 2025, totaling over 2,000 pounds of chloride reduction.
- Allen/Muzzy and Grove Street projects are wrapping up and completing pressure testing and bacoti samples. Crews should be out next week to pave.
- Plant boiler failed. We will not proceed with repairs as it's being replaced.
- Due to structural issues, plant blowers are cutting out. Electricians on site were able to keep them from shorting until the new blowers are in place.
- The secondary pump at Golf View lift station failed. The volute fell into the station. We had a spare on site to replace it but the previous pump is not replaceable.
- As the Utility Commission body has changed, I'd like to encourage reaching out for a plant tour if you are not familiar with it. I will also resend information for DNR governing body training courses. If at least half of the body has taken these courses, the municipality is granted more points for Safe & Clean drinking water loans, generating more principal forgiveness dollars.

6.1. Sewer System Report Discussion

7. DISCUSS WITH POSSIBLE ACTION

7.1. Monthly Update on the Water/Wastewater Facility Project

Director Steger updated on building progress. Everything is still on track for the given timeline.

7.2. Discussion Regarding New Sewer Service Application for Parcel 143-1216-0344-007 Location: 51 Valley Street, Kekoskee, WI

-item has been tabled while awaiting a response from the attorney in regard to the moratorium.

7.3. Discussion Regarding New Sewer Service Application for 33 S Elm Street, Kekoskee, WI

-item has been tabled while awaiting a response from the attorney in regard to the moratorium

7.4. Discuss, with Possible Action, Utilities Commission Resolution 0001-2026, "Resolution to Approve Electronic Compliance Maintenance (eCMAR) Annual Report"

-motion by Engel, 2nd by Ald. Olson. motion passed 6-0

8. FUTURE AGENDA ITEMS

- research 2015 rates for connection fees applied to Leroy and Kekoskee
- review current connection fees

9. NEXT MEETING DATE AND TIME

9.1. Next Meeting Date - June 22, 2026, at 5:00PM

10. ADJOURNMENT

Motion to adjourn at 5:39 pm by Ald. Smith. 2nd Ald. Olson.



WEEKLY REPORT #37

1702 Pankratz St.
Madison, WI 53704
608-242-7779

TO: City of Mayville
400 Kekoskee St.
Mayville, WI 53050

Dates: May 17th-May 22th, 2026

Project No.: 00052028

Project: WWTF Upgrade Construction Related Services

Location: Mayville, Wisconsin

Contractor: C.D. Smith

Owner: City of Mayville

Present at Site: C.D. Smith; Van Ert; August Winter & Sons;
Maccos, Andrews, Taylor Insulation



Exterior Doors and Door Frames being Installed in STR 800.

WEEKLY REPORT



STR 800 / Site Concrete work continuing.



Overflow spillway lined and RIP RAP installed. STR 800 West Pond.

WEEKLY REPORT



STR 800 DI/RO System Installed and Tagged. Non Potable Water system installed and tagged.

WEEKLY REPORT



STR 650 electrical buildout continuing

WEEKLY REPORT



WEEKLY REPORT



STR 100 bathroom and hallway CMU walls installed.

WEEKLY REPORT



STR 650 underground piping and sludge manhole piping being installed.

WEEKLY REPORT

PROGRESS OF WORK COMPLETED

STR 800 floor sealing complete.
STR 650 electrical buildout beginning.
STR 800 wet pond spillway liner and rip rap installed. Wet Pond complete.
Site concrete and site grading around STR 800 is continuing
STR 100 bathroom and hallway CMU wall installed.
STR 650 underground piping being installed.
MSA punch list walkthrough for STR 800.

REQUEST FOR INFORMATION

RFI 110 – Existing Digester/ Storage Tank
Received and MSA working through internally
RFI 126 -- 650 Condensing Unit Location
RFI 127 – AHU-4 Location
RFI 128 -- Unit Heater Venting Insulation
RFI 129 – Shower S

PENDING PROPOSALS (RFPS)/WORK CHANGE DIRECTIVES/FIELD ORDERS

PAY APPLICATIONS

Pay App #12 – Received by MSA on 5/4/26. Pending on receiving certified payrolls.

LOOK AHEAD

Finalize finish work – ceiling tile and insulation, washer & dryer install, finalize fixture installation in STR 800.
Clean STR 800, complete engineers provided punch list. (To be provided week of 5/25)
STR 650 electrical installation is in progress.
STR 650 underground piping and manhole connections.

WRITTEN BY:



Sam Scholz
Graduate Engineer II - Water
MSA Professional Services, Inc.



WEEKLY REPORT #38

1702 Pankratz St.
Madison, WI 53704
608-242-7779

TO: City of Mayville
400 Kekoskee St.
Mayville, WI 53050

Dates: May 23th-May 29th, 2026

Project No.: 00052028

Project: WWTF Upgrade Construction Related Services

Location: Mayville, Wisconsin

Contractor: C.D. Smith

Owner: City of Mayville

Present at Site: C.D. Smith; Van Ert; August Winter & Sons,
Andrews, Taylor Insulation



STR 800 sidewalk concrete work complete.

WEEKLY REPORT

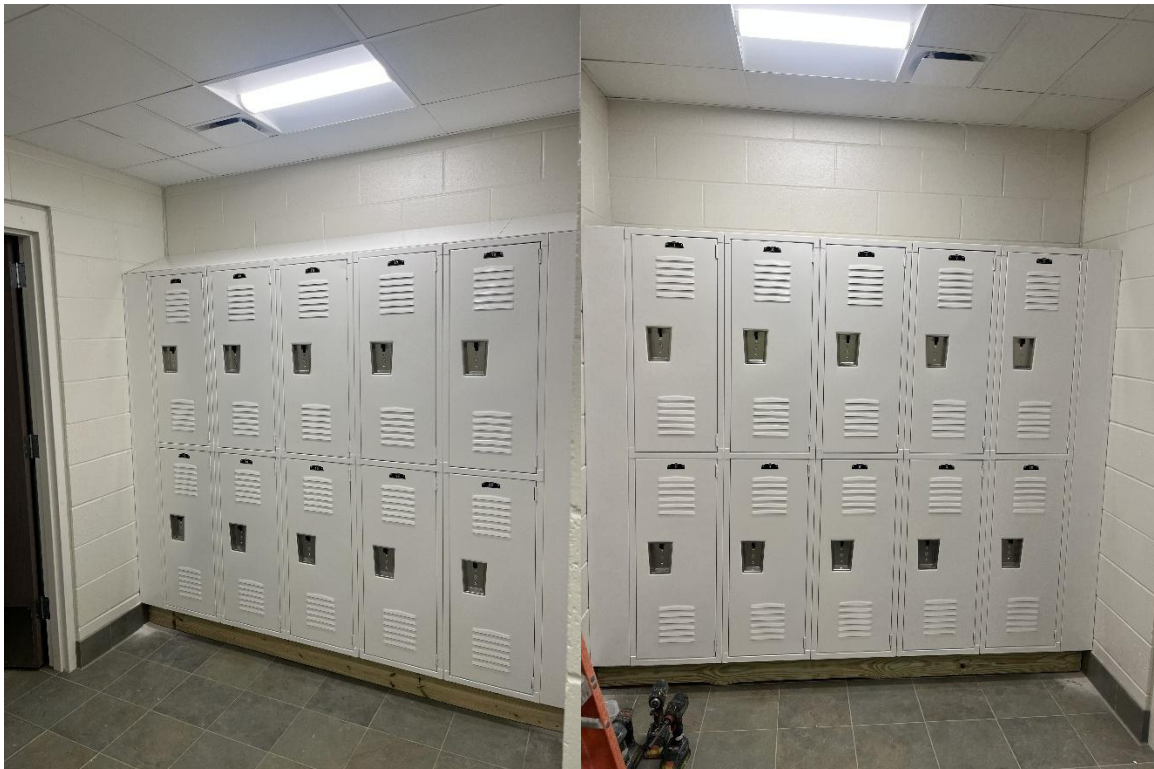


Non Potable Water system insulation installed.

WEEKLY REPORT



Garage floor sealed and trench grating installed.



Lockers installed in mens and womens locker rooms STR 800.

WEEKLY REPORT



Electrical feeders being pulled across site from STR 800 to STR 100 & STR 650

WEEKLY REPORT



STR 600/650/700 underground piping and sludge manhole piping being installed.

WEEKLY REPORT

PROGRESS OF WORK COMPLETED

STR 650 floors were prepped to be sealed.
STR 800 wet pond spillway liner and rip rap installed. Wet Pond complete.
Site concrete and site grading around STR 800 is complete
STR 100 bathroom mechanical and electrical rough in taking place.
STR 600/650/700 underground piping being installed.

REQUEST FOR INFORMATION

RFI 126 -- 650 Condensing Unit Location
RFI 127 -- AHU-4 Location
RFI 128 -- Unit Heater Venting Insulation

PENDING PROPOSALS (RFPS)/WORK CHANGE DIRECTIVES/FIELD ORDERS

N/A

PAY APPLICATIONS

Pay App #12 – Received by MSA on 5/4/26. Pending on receiving certified payrolls.

LOOK AHEAD

Finalize finish work – ceiling tile and insulation, washer & dryer install, finalize fixture installation in STR 800.
Clean STR 800, complete engineers provided punch list. (To be provided week of 5/25)
STR 650 electrical installation is in progress.
STR 600/650/700 underground piping and manhole connections to continue.
DN Tanks are preparing to be on site and begin construction of digester and sludge storage tanks (STR 600 and 700).

WRITTEN BY:



Sam Scholz
Graduate Engineer II - Water
MSA Professional Services, Inc.

5/21/26

To whom it may concern,

I am writing regarding my water bill for the month of April. A hose spicket outside was running even though it was turned off. I ~~had~~ ^{have turned off the source point (90)} the necessary repairs completed, but this resulted in 9 units of additional sewer usage. I would like the commission to consider reducing the sewer bill for the additional \$105.60 on my bill that did not go to the sewer facility.

Thank you for your consideration,

Kristin Bartoli 5/21/26
Kristin Bartoli

CHANGE ORDER NO.: 03

Owner:	City of Mayville	Owner's Project No.:	00052025
Engineer:	MSA Professional Services, Inc.	Engineer's Project No.:	00052028
Contractor:	C.D. Smith Construction, Inc.	Contractor's Project No.:	
Project:	City of Mayville WWTF Upgrade		
Contract Name:	General Construction		
Date Issued:	December 19, 2024	Effective Date of Change Order:	5/22/2026

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

Description:

WCD 06/COR 012 – STR 800 Fire Barrier Wall Details adjustments per DSPS review.
FO 06/COR 016 – STR 800 Wall Intersection and Transition Details (Fire Caulking).
RFI 089/COR 017 – STR 800 North Lab Wall Electrical Power.
RFI 076/COR 018 – STR 800 ERU Support Stand
COR 020 – STR 800 additional Wireless Access Points
FO 08R1/COR 021 – STR 800 HVAC Snorkel Ventilation Reroute
RFI081/097/COR 022 – Relocation & Reroute of STR 800 condensing units and furnace venting.
RFI 102/COR 023 – Addition of STR 800 EF-800-1 Damper
FO 07/COR 024 – FO 07 STR 800 & 100 HVAC Sequence of Operations Timers & RCP panels
COR 026 – Elimination of Garage Floor Paint Striping

Attachments:

- **Summary Table**
- **COR 012 – Response to Work Change Directive 06**
 - **STR 800 Fire Barrier Wall Details**
- **COR 016 - Response to Field Order 07**
 - **STR 800 Wall Intersection and Transitions Details (Fire Caulking)**
- **COR 017 – Response to RFI 089**
 - **STR 800 North Lab Wall Electrical Power**
- **COR 018 – Response to RFI 079**
 - **STR 800 ERU Support Stand**
- **COR 020 – Response to City IT Requirements**
 - **STR 800 Additional Wireless Access Points**
- **COR 021 – Response to Field Order 08 Revision 1**
 - **STR 800 HVAC Snorkel Ventilation Reroute**
- **COR 022 – Response to RFIs 081 & 097**
 - **Relocation & Reroute of STR 800 condensing units and furnace venting.**
- **COR 023 – Response to RFI 102**
 - **Addition of STR 800 EF-800-1 Damper**
- **COR 024 – Response to Field Order 07**
 - **STR 800 & 100 additional timers and RCP panels.**
- **COR 026 – Response to Owner Request**
 - **Credit to exclude garage STR 800 paint striping.**

Change in Contract Price	Change in Contract Times
Original Contract Price: \$ 26,338,359.00	Original Contract Times: Substantial Completion: July 30, 2027 Ready for final payment: Dec. 30, 2027
[Increase] [Decrease] from previously approved Change Orders No. 1 to No. 2: \$ 451,314.21	[Increase] [Decrease] from previously approved Change Orders No. 1 to No. 1: Substantial Completion: 25 days Ready for final payment: No Change
Contract Price prior to this Change Order: \$ 26,789,673.21	Contract Times prior to this Change Order: Substantial Completion: Aug. 24, 2027 Ready for final payment: Dec. 30, 2027
[Increase] [Decrease] this Change Order: \$ 115,555.15	[Increase] [Decrease] this Change Order: Substantial Completion: 8 Days Ready for final payment: No Change
Contract Price incorporating this Change Order: \$ 26,905,228.36	Contract Times with all approved Change Orders: Substantial Completion: Sept. 1, 2027 Ready for final payment: Dec. 30, 2027

Recommended by Engineer (if required)

By: Steven Sell

Title: Project Manager

Date: 5/22/2026

Authorized by Owner

By:

Title:

Date:

Accepted by Contractor

Karley Krupp

Project Manager

5/22/26

Approved by Funding Agency (if applicable)

Summary of Cost Changes		
Item	Cost	Additional Notes
COR 012 - Response to WCD 06	\$35,103.57	STR 800 Fire Barrier Wall Details (T&M - City Approval)
COR 016 - Response to FO 07	\$13,828.92	STR 800 Wall Intersection and Transition Details (Fire Caulking).
COR 017 - Response to RFI 089	\$4,807.25	STR 800 North Lab Wall Electrical Power
COR 018 - Response to RFI 079	\$13,253.07	STR 800 ERU Support Stand
COR 020 - Response to City IT Requirements	\$804.92	STR 800 Additional Wireless Access Points
COR 021 - Response to FO 08 Revision 1	\$15,926.59	STR 800 HVAC Snorkel Ventilation Reroute
COR 022 - Response to RFIs 081 & 097	\$27,822.22	Relocation & Reroute of STR 800 condensing units and furnace venting
COR 023 - Response to RFI 102	\$878.09	STR 800 addition of EF-800-1 Damper
COR 024 - Response to FO 07 Part 2	\$3,865.52	STR 800 & 100 HVAC Sequence of Operations Timers/
COR 026 - STR 800 Garage Striping Credit	(\$735.00)	Removal of STR 800 Garage Striping per Owner's Request
TOTAL	\$115,555.15	

COR 012 - Response to WCD 06 STR 800 Fire Barrier Wall Details



PCI #COR0012

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935
Phone: 1 920 924.2900

Project: 240224 - Mayville WWTF 2024 Upgrade
400 Kekoskee Street
Mayville, WI 53050

Potential Change Item #COR0012

Work Change Directive No. 6 - Fire Barrier Wall Detail

To:	City Of Mayville 15 S School Street Mayville, WI 53050	From:	C.D. Smith Construction, Inc. 125 Camelot Drive Fond du Lac WI, 54935
Status:	Pricing-No Forecast	Created Date	2025-12-10
Schedule Impact:	7 Days	OCO Number:	

POTENTIAL CHANGE ITEM SCOPE DESCRIPTION: *(The Contract Is Changed As Follows)*

Revise Fire Barrier Wall Detail to Allow the Use of 3 5/8" Metal Stud and 2-Hour Rated Joint at Top of Wall

ATTACHMENTS:

Description	Cost Code	Category	Quantity	W/M	Rate	Final Amount
Red Hawk - Metal Building	133423	S		LS	\$	\$10,750.00
Carpentry Material - Studs	060000	M	200	LF	\$5.7	\$1,425.00
Carpentry Material - Drywall	060000	M	16	EA	\$20	\$320.00
Carpentry Labor - Drywall	061000	L	64	HR	\$97.2	\$6,220.80
Carpentry Labor - Steel Studs	054000	L	128	HR	\$97.2	\$12,441.60
Bond:						\$347.56
Self Perform Markup:						\$3,061.11
Subcontract Markup (5%):						\$537.50
Grand Total:						\$35,103.57

City Of Mayville
15 S School Street
Mayville, WI 53050

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935

SIGNATURE

DATE

SIGNATURE

DATE

City Signed for Work Not to
Exceed \$36,909.93 on WCD 06
on T&M basis on 2/18/2026

FIELD ORDER #6 T & M REQUEST

Field Order No.: 6

Customer: C.D. Smith Construction, Inc.

Customer Representative: Karley Krupp

Customer Rep Phone #:920-979-8756

Date: May 12th 2026

Redhawk Job#: 2015

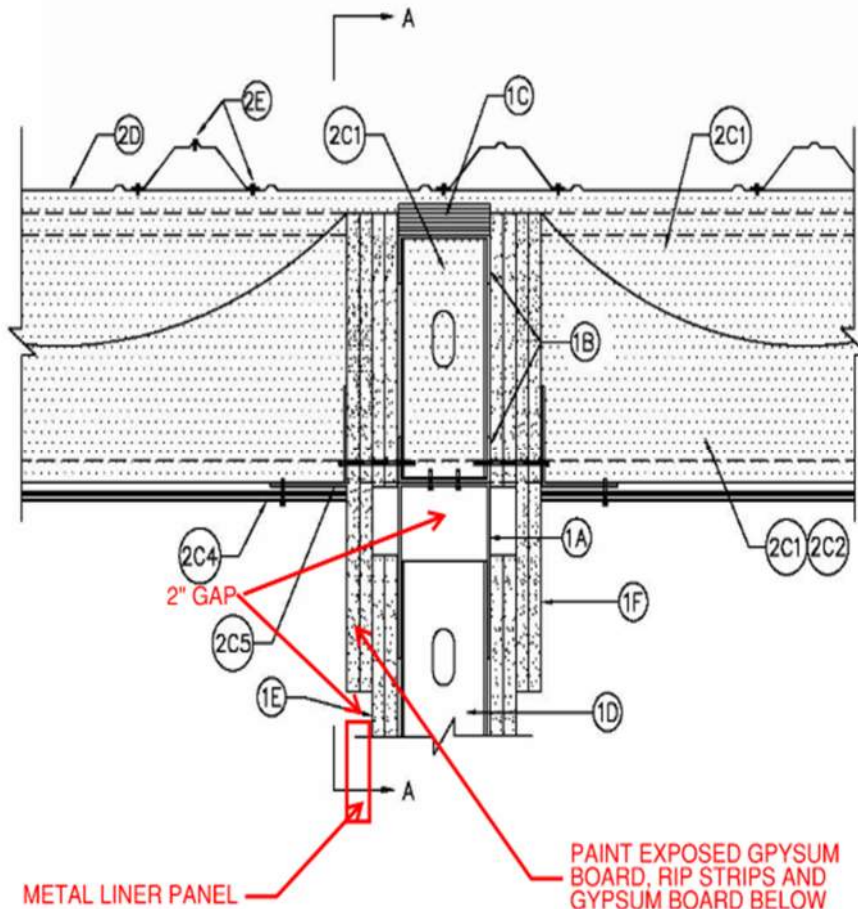
Job Name: City of Mayville WWTF Upgrade

Description of Changes

Additional Cost/Credit

The scope of work includes slicing the existing vapor barrier as required to access the purlin cavity and insulation. Insulation support banding will be terminated at new 3" x 5" x 14 ga. support angles installed on both sides of the fire-assembly wall. These angles will be fastened to 6" x 18 ga. steel stud supports (provided by others) installed between purlins at 48" O.C. Reattachment of vapor barrier when wall assembly is installed.

This quote includes all applicable tax, freight, materials, equipment, labor and re-mobilization required to complete the work described above.



ITEMIZED BREAK DOWN:

Labor rate per hour.....\$145.00
Install Labor hours.....38.50 total
Labor Cost.....\$5,582.50
Materials.....\$1853.15
Mobilization charges on 2/24/2026 and 4/20/2026.....\$6,000 total
Overhead Charge (10%).....\$1,343.57

TOTAL-----	\$ 14,779.22
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Based on the listed changes, the construction time will be extended by approximately 5 working days.

Redhawk Metal Buildings LLC

Name: Tony Katarincic

Signature:



Date: 5/12/2025



DAILY JOB LOG

Reference: Mayville WWTF - 949

Job Site: 400 Kekoskee St

Mayville, WI 53050

Contract:

Date: 02/24/2026

Weather:

Delay: No

Customer
Redhawk Metal Buildings LLC

Contractor
NuStructures

Architect

Summary

Safety Incidents:
Summary:

Time Sheet

Employee Name	Crew	Occupation	Hours	Pay Code	Cost Item
Dustan Jackowski	001	FOREMAN	7.50	E01	0205

Subcontract

Vendor	Employee Count	Hours	Cost Item	Note
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Visitors

Visitor Name	Representing	Note
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Photos

Project Manager:

Superintendent:



DAILY JOB LOG

Reference: Mayville WWTF - 949

Job Site: 400 Kekoskee St

Mayville, WI 53050

Contract:

Date: 04/17/2026

Weather:

Delay: No

Customer
Redhawk Metal Buildings LLC

Contractor
NuStructures

Architect

Summary

Safety Incidents:
Summary:

Time Sheet

<i>Employee Name</i>	<i>Crew</i>	<i>Occupation</i>	<i>Hours</i>	<i>Pay Code</i>	<i>Cost Item</i>
Tony Sanders	001	ERECTOR	10.00	E01	0202
Billy Jackowski	001	ERECTOR	1.00	E01	0202

Subcontract

<i>Vendor</i>	<i>Employee Count</i>	<i>Hours</i>	<i>Cost Item</i>	<i>Note</i>
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Visitors

<i>Visitor Name</i>	<i>Representing</i>	<i>Note</i>
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Photos





Project Manager:

Superintendent:

11:41 AM

04/21/26

Metcon Building Systems, Inc.
Time by Job Detail
 January 1 through April 21, 2026

Date	Name	Payroll Item	Duration
Nu Structures, Inc.:Mayville WWTF			
15 Trims			
04/01/2026	Monnot, Dayne	2026A	10:00
04/01/2026	Churchill, Tyler	2026A	10:00
04/03/2026	Churchill, Tyler	2026A	10:00
Total 15 Trims			30:00
17 Insulation:17.2 Insulation Fabric			
04/20/2026	Follett, Timothy	2026A	10:00
04/20/2026	Bernegger, Gavyn	2026A	10:00
Total 17 Insulation:17.2 Insulation Fabric			20:00
Total Nu Structures, Inc.:Mayville WWTF			50:00
TOTAL			50:00



INVOICE

SILVERCOTE
M22-MARSHFIELD WI, SC, MBI
2215 YELLOWSTONE DR
MARSHFIELD WI 54449-2303
(715) 387-1281

INVOICE DATE	INVOICE NUMBER	TOTAL AMOUNT DUE	
02/26/2026	63458399	\$ 20,518.59	
DUE DATE	PO NUM	SALES ORDER NUMBER	BILL TO NUMBER
03/26/2026	Mayville - WWTF	62380650	9287156
SHIP DATE	TERMS	ACCOUNT NUMBER	
02/26/2026	2% 10 Net 30	1816404	

SOLD TO:
REDHAWK METAL BUILDINGS LLC 730995 - SC
307 HELSAN DR# F
RICHFIELD WI 53076

SHIP TO:
REDHAWK METAL BUILDINGS LLC 730995 - SC
307 HELSAN DR# F
RICHFIELD WI 53076

REMIT TO:
SILVERCOTE
PO BOX 746945
ATLANTA GA 30374-6945

SALES PERSON: Oliva, Robert R

ORDER NOTES: TD pallet shipping direct to jobsite

FREIGHT TERMS:

USD

CONTACT INFORMATION							
NAME: Billy Jackowski				PHONE: 920-979-0873		EMAIL:	
15.1	1	RL	TAPS30150V7WH	3" X 150' 1537CW WHITE PSK TAPE VENTURE (16RL/CS)	21	RL	21.00
17.1	1	EA	F	FREIGHT	0	EA	0.00
18.1	1	EA	FSC	FREIGHT SURCHARGE	287.42	EA	287.42

FULLFILLMENT LOCATION	POINT OF SALE	Visit www.SpecialtyDistributionBillPay.com to manage your invoices and make payments online. This invoice is subject to our Terms and Conditions of Sale in effect on the invoice date, which are incorporated herein by reference and available at: https://www.silvercote.com/terms-and-conditions-of-sale/	MERCHANDISE SUB-TOTAL	21.00
SILVERCOTE 2215 YELLOWSTONE DR MARSHFIELD WI 54449-2303	REDHAWK METAL BUILDINGS LLC 211 RIVER KNOLL DR MAYVILLE WI 53050		*PRICE REDUCTIONS	-0.00
			ADDITIONAL CHARGES	287.42
			FREIGHT	0.00
			SALES TAX	1.16
			TOTAL DUE	309.58



Order Summary

User Name	Information	Company	Order #	P.O. #	Order Date	Planned Load Date	Total	Status
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Tony Katarinic **7275745** REDHAWK METAL BUILDINGS 07488653 R202382-001 03/12/2026 03/26/2026 \$1,543.57 Complete
Tax Exempt: **No** LLC

Order Item

Description	Qty	Total Sq. Ft.	Unit Price	Option Charges	Total
 14 x 4" Deck Screw Color: Black Part Number: #211 Sold in Quantities of: 250 Bundle Mark: _____	500		\$258.53	\$0.00	\$129.27
 12-14 x 1" Long Life with #3 Drill Point Color: Signature® 200 - Bright White Part Number: #27 Sold in Quantities of: 250 Bundle Mark: _____	250		\$245.27	\$0.00	\$61.32
 Angle Color: Galvanized Nominal Size: 3" x 3" Sold in Quantities of: 1 Thickness: 16 GA. Standard Length: 20' Custom Punch: _____ Bundle Mark: _____	11		\$38.13	\$0.00	\$419.43

Items : **3**

Subtotal: **\$610.02**

Pricing Summary		Payment Information	
Subtotal:	\$610.02	Payment Method:	Account Payment
Packaging:	\$150.00	P.O.#:	R202382-001
Freight:	\$750.00		
Tax:	\$33.55		
Total:	\$1,543.57		
Freight Summary		Order Notes	
Estimated Weight (in lbs): 826.2564			
Shipping Information			
Shipping via:	Standard Delivery		
Company Name:	Redhawk Metal Buildings		
Address:	3070 Helsan Drive Richfield, WI 53076		
Country:	United States		
Phone:	9205790878		
Bill to Customer		Sold to Customer	
Address:	3070 HELSAN DR # F RICHFIELD, WI 53076-9582	Name	Tony Katarincic
Country:	United States	Customer ID:	173974
Ship to Contact Information			
Name	Phone	Email	
Tony Katarincic	9205790878	tony@redhawkmetalbuildings.com	
Sales Order Contact Information			
Name	Phone	Email	
Tony Katarincic	9205790878	tony@redhawkmetalbuildings.com	

CDS JOB NO.	JOB NAME	CHANGE ORDER REQUEST NUMBER	DATE
240224-300	Mayville WWTF		2/27/20

WORK DESCRIPTION, LOCATION:

"Signature acknowledges labor, equipment, time and material used but does not change contractual obligations of either party."

C.D. SMITH CONSTRUCTION, INC. **CLIENT / TRADE CONTRACTOR / SUBCONTRACTOR**

NAME _____

TITLE _____



CDS JOB NO.	JOB NAME	CHANGE ORDER REQUEST NUMBER	DATE
240224-300	Mayville WWTF		4/1/2024

WORK DESCRIPTION, LOCATION:

"Signature acknowledges labor, equipment, time and material used but does not change contractual obligations of either party."

C.D. SMITH CONSTRUCTION, INC. **CLIENT / TRADE CONTRACTOR / SUBCONTRACTOR**

NAME
TITLE

FIELD ORDER #6 QUOTE REQUEST

Field Order No.: 6

Customer: C.D. Smith Construction, Inc.

Customer Representative: Karley Krupp

Customer Rep Phone #:920-979-8756

Date: Friday December 8th 2025

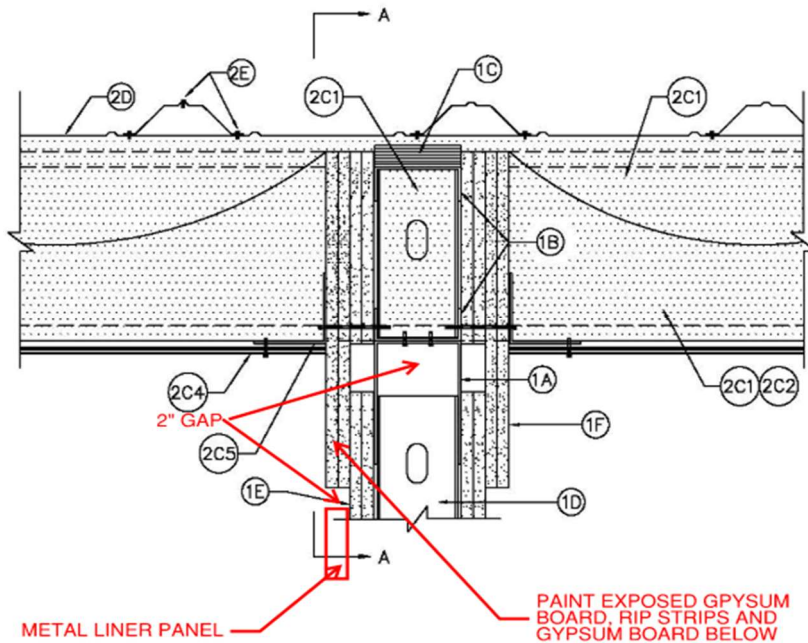
Redhawk Job#: 2015

Job Name: City of Mayville WWTF Upgrade

Description of Changes

The scope of work includes slicing the existing vapor barrier as required to access the purlin cavity and insulation. Insulation support banding will be terminated at new 3" x 5" x 14 ga. support angles installed on both sides of the fire-assembly wall. These angles will be fastened to 6" x 18 ga. steel stud supports (provided by others) installed between purlins at 48" O.C. Reattachment of vapor barrier when wall assembly is installed. This quote includes all applicable tax, freight, materials, equipment, labor and re-mobilization required to complete the work described above.

Additional Cost/Credit



TOTAL -----	\$ 10,750.00
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Based on the listed changes, the construction time will be extended by approximately 3 working days.

Redhawk Metal Buildings LLC

Name: Tony Katarincic

Signature: 

Date: 12/08/2025

WORK CHANGE DIRECTIVE NO.: 006

Owner: City of Mayville Owner's Project No.: 00052025
Engineer: MSA Professional Services, Inc. Engineer's Project No.: 00052028
Contractor: C.D. Smith Construction, Inc. Contractor's Project No.:
Project: City of Mayville WWTF Upgrade
Contract Name: General Construction
Date Issued: 10/8/2025 Effective Date of Work Change Directive: 10/8/2025

Contractor is directed to proceed promptly with the following change(s):

Description:

Revise fire barrier wall detail to allow the use of 3 5/8" metal stud and 2-hour rated joint at top of wall.

Attachments:

800A503, 800A505, CJ-D-0032

Purpose for the Work Change Directive:

Revise fire barrier wall detail to allow the use of 3 5/8" metal stud and 2-hour rated joint at top of wall.

Directive to proceed promptly with the Work described herein, prior to agreeing to change in Contract Price and Contract Time, is issued due to:

Notes to User—Check one or both of the following

☐ Non-agreement on pricing of proposed change. ☒ Necessity to proceed for schedule or other reasons.

Estimated Change in Contract Price and Contract Times (non-binding, preliminary):

Contract Price: \$ _____ [not yet estimated].

Contract Time: _____ days [not yet estimated].

Basis of estimated change in Contract Price:

☐ Lump Sum ☐ Unit Price ☐ Cost of the Work ☐ Other

Recommended by Architect

Authorized by Owner

By: Carter Arndt

Title: Project Architect

Date:

EJCDC® C-940, Work Change Directive.

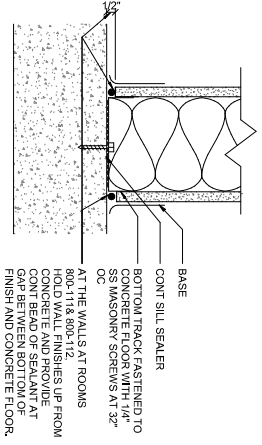
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PROJECT NO.	8004503	PROJECT NO.	00050205
ADMINISTRATION BUILDING ARCHITECTURAL DETAILS		WASTEWATER TREATMENT FACILITY UPGRADE CITY OF MAYVILLE DOOBE COUNTY, WI	
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8 INTERIOR BASE OF METAL STUD WALL

800x200 3" = 1'-0" (22"x34") 0 3" 6" 12" 18"

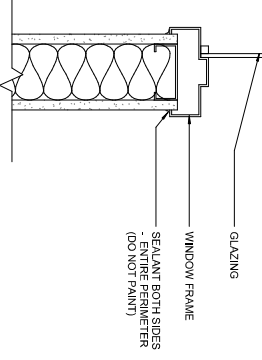
1 1/2" = 1'-0" (11"x17") 0 3" 6" 12" 18"



9 INTERIOR WINDOW SILL DETAIL AT MTL STUD

800x200 3" = 1'-0" (22"x34") 0 3" 6" 12" 18"

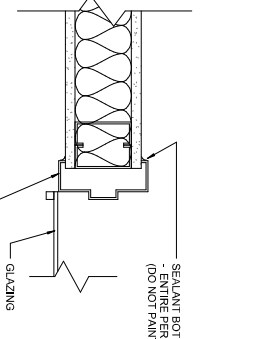
1 1/2" = 1'-0" (11"x17") 0 3" 6" 12" 18"



10 INTERIOR WINDOW JAMB DETAIL AT MTL STUD

800x200 3" = 1'-0" (22"x34") 0 3" 6" 12" 18"

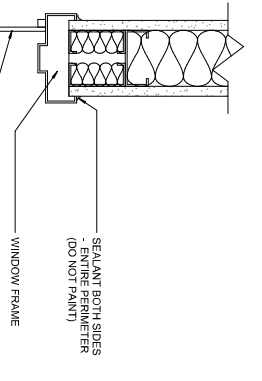
1 1/2" = 1'-0" (11"x17") 0 3" 6" 12" 18"



11 INTERIOR WINDOW HEAD DETAIL AT MTL STUD

800x200 3" = 1'-0" (22"x34") 0 3" 6" 12" 18"

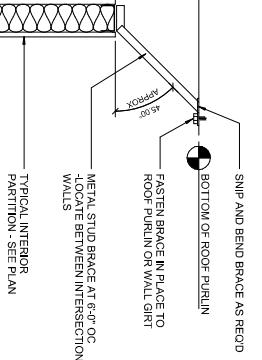
1 1/2" = 1'-0" (11"x17") 0 3" 6" 12" 18"



4 INTERIOR TOP OF WALL STUD BRACING

800x200 3" = 1'-0" (22"x34") 0 3" 6" 12" 18"

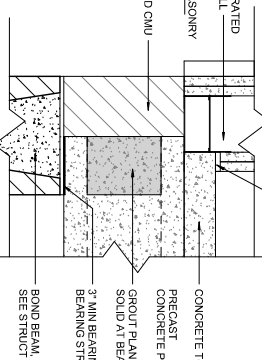
3/4" = 1'-0" (11"x17") 0 3" 6" 12" 18"



5 PRECAST PLANK AT CMU WALL

800x200 3" = 1'-0" (22"x34") 0 3" 6" 12" 18"

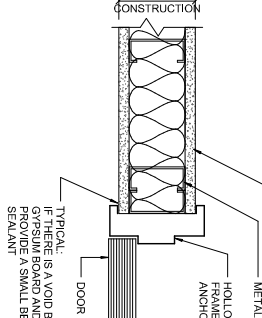
1 1/2" = 1'-0" (11"x17") 0 3" 6" 12" 18"



6 TYPICAL INTERIOR DOOR JAMB DETAIL

800x200 3" = 1'-0" (22"x34") 0 3" 6" 12" 18"

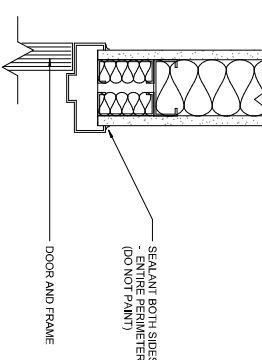
1 1/2" = 1'-0" (11"x17") 0 3" 6" 12" 18"



7 INTERIOR DOOR HEAD DETAIL AT MTL STUD

800x200 3" = 1'-0" (22"x34") 0 3" 6" 12" 18"

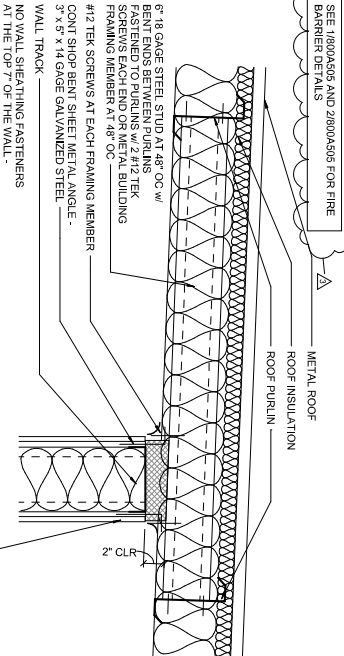
1 1/2" = 1'-0" (11"x17") 0 3" 6" 12" 18"



1 INT WALL TO ROOF SLIP CONNECTION TO WALL PARALLEL TO PURLINS

800x200 3" = 1'-0" (22"x34") 0 3" 6" 12" 18"

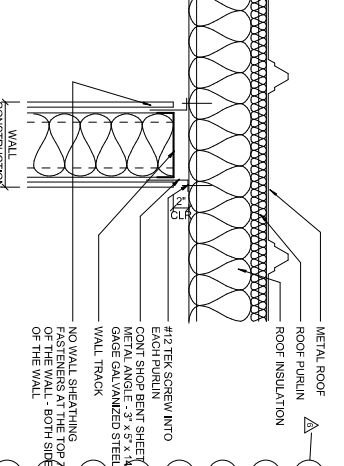
3/4" = 1'-0" (11"x17") 0 3" 6" 12" 18"



2 PERPENDICULAR TO PURLINS

800x200 3" = 1'-0" (22"x34") 0 3" 6" 12" 18"

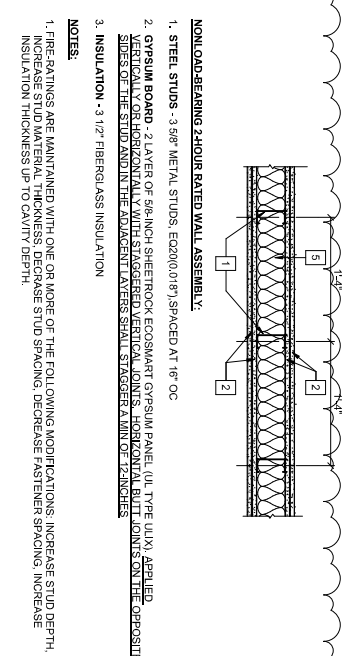
3/4" = 1'-0" (11"x17") 0 3" 6" 12" 18"



3 2-HR WALL ASSEMBLY (UL-U419)

800x200 3" = 1'-0" (22"x34") 0 3" 6" 12" 18"

3/4" = 1'-0" (11"x17") 0 3" 6" 12" 18"



1 FIRE BARRIER TOP OF WALL DETAIL (ALIGN WITH ROOF PURLINS)
800A505 NONE

UL JOINT ASSEMBLY
CJ-D-0032

A NONE


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WASTEWATER TREATMENT FACILITY UPGRADE
CITY OF MAYVILLE
DODGE COUNTY, WI

ADMINISTRATION BUILDING ARCHITECTURAL DETAILS

PROJECT NO.	00052025
SHEET	800A505

① Coming October 20th, discover our sleek new design and powerful features. [Learn More](#)

UL Product iQ®



Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

XHBO - Continuity Head-of-wall Joint Systems

See General Information for Continuity Head-of-wall Joint Systems

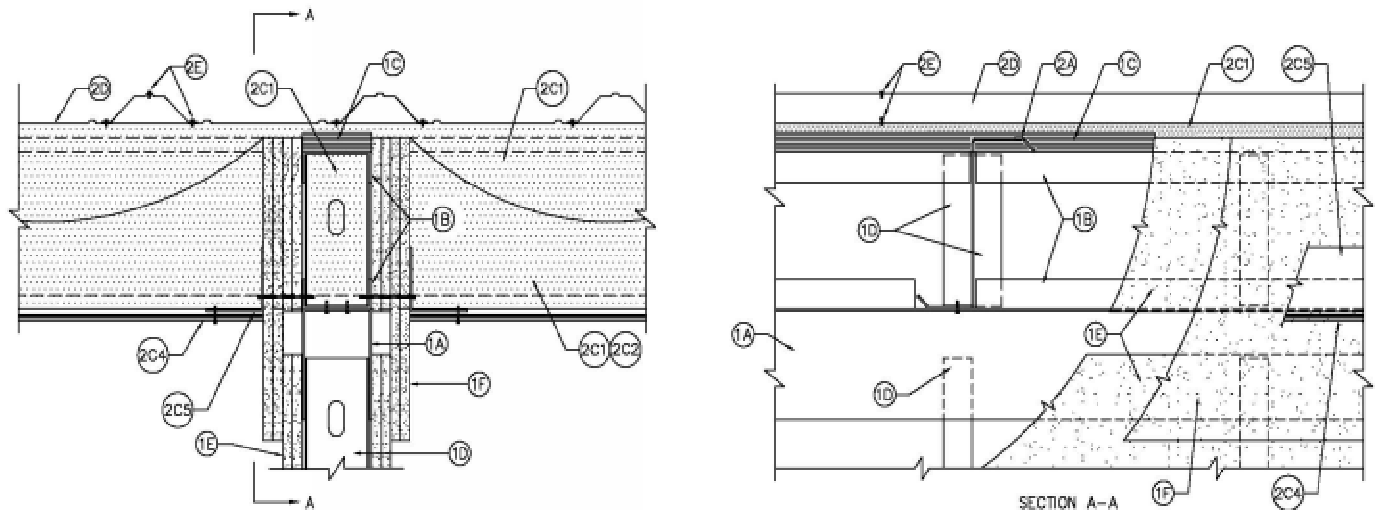
System No. **CJ-D-0032**

January 03, 2025

Joint Rating — 2 Hr

Nominal Joint Width — 2 in.

Class II or III Movement Capabilities — 100% Compression and Extension



1. Wall Assembly — The minimum 2 hr fire rated gypsum board/steel stud wall assembly shall be constructed of the materials and in the manner specified in the individual U400, V400 or W400 Series **Wall and Partition Design** in the UL Fire Resistance Directory and shall include the following construction features:

A. Ceiling Deflection Channel — U-shaped channel formed from min 16 ga steel sized to accommodate steel studs (Item 1D) and provided with nom 5 in. (127 mm) flanges. Deflection channel installed perpendicular to purlins (Item 2A) and secured to bottom flange of purlins (Item 2A) with min No. 14 self-tapping, hex-head, plated steel or stainless steel screws.

B. Steel Floor and Ceiling Runners — Floor runner of the wall assembly and the floor and ceiling runners of the cripple wall above the wall assembly shall consist of min 1-1/4 in. (32 mm) deep min 25 ga galv steel channels sized to accommodate steel studs (Item 1D). Floor runner of cripple wall aligned with and screw-attached to top of ceiling deflection channel (Item 1A). Ceiling runner of cripple wall installed to compress unfaced batts and blankets (Item 2C1) to nom thickness of 3/8 in. (10 mm) by wedging lengths of stud (Item 1D) between the runners. Steel studs (Item 1D) of cripple wall attached to each side of purlin (Item 2A) web and to floor and ceiling runners with steel screws.

C. Batts and Blankets* - Packing Material — Unfaced compressible mineral wool batt insulation having a nom 2 in. (51 mm) thickness before compression and a nom density of 4 pcf (64 kg/m³). Strips of nom 2 in. (51 mm) thick batt cut to width of cripple wall ceiling runner (Item 1B) and compressed min 50 percent in thickness between cripple wall ceiling runner (Item 1B) and unfaced batts and blankets (Item 2C1). Compression of mineral wool batt packing material to result in compression of unfaced batts and blankets (Item 2C1) to nom 3/8 in. (10 mm) thickness.

See **Batts and Blankets (BZJZ)** category in the UL Fire Resistance Directory or **Batts and Blankets (BKNV)** category in the UL Building Materials Directory for names of manufacturers.

D. Studs — Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut max 2 in. (51 mm) less in length than the wall assembly height beneath purlins (Item 2A) with bottom nesting in and resting on the floor runner (Item 1B) and with top nesting in ceiling deflection channel (Item 1A) without attachment. Stud spacing not to exceed 24 in. (610 mm) O.C. Studs of cripple wall cut to length as required to compress packing material (Item 1C) and unfaced batts and blankets (Item 2C1) to nom thicknesses of 1 in. (25 mm) and 3/8 in. (10 mm), respectively. Studs spaced max 24 in. (610 mm) OC.

E. Gypsum Board* — Min two layers of 5/8 in. (16 mm) thick gypsum board sheets installed on each side of wall. Wall to be constructed as specified in the individual U400, V400 or W400 Series Design in the UL Fire Resistance Directory except that a max 2 in. (51 mm) wide gap shall be maintained between the gypsum board of the wall assembly below the purlin (Item 2A) and the gypsum board of the cripple wall. Top edge of gypsum board of wall assembly to be max 2 in. (51 mm) below top of ceiling deflection channel (Item 1A). Bottom edge of gypsum board of cripple wall to be flush with top of ceiling deflection channel (Item 1A). Screws securing gypsum board to steel studs (Item 1D) of wall assembly to be located 2-1/4 in. to 2-1/2 in. (57 to 64 mm) below flange of ceiling deflection channel (Item 1A). Screws securing gypsum board of cripple wall to be driven into studs (Item 1D) and runners (Item 1B) of cripple wall. No screws are to be driven into flanges of ceiling deflection channel (Item 1A).

F. Gypsum Board* — Min two layers of 5/8 in. (16 mm) thick "rip strip" of gypsum board installed to cover both layers of gypsum board on cripple wall and to lap min 4 in. (102 mm) onto gypsum board of wall assembly on each side of wall. The "rip strip" of gypsum board is to be the same material used for the wall assembly (Item 1E) and is to be secured to the studs (Item 1D) and runners (Item 1B) of the cripple wall. No screws are to be driven into flanges of ceiling deflection channel (Item 1A). Joints of "rip strip" to be offset from joints of gypsum board on wall assembly (Item 1E).

See **Gypsum Board (CKNX) category in the Fire Resistance Directory for names of manufacturers.**

Max separation between top of wall assembly gypsum board and bottom of cripple wall gypsum board (at time of installation of joint system) is 2 in. (51 mm). The joint system is designed to accommodate a max 100 percent compression or extension from its installed width.

2. Nonrated Horizontal Assembly — The nonrated horizontal assembly shall be constructed of the materials and in the manner described in the individual **Roof Deck Constructions (TGKX)** in the UL Roofing Materials and Systems Directory and shall include the following construction features:

A. Purlin — Min 16 ga coated steel. Max spacing as specified in the individual **Roof Deck Constructions (TGKX).**

B. Lateral Bracing — (Not Shown) - As required.

C1. Unfaced Batts and Blankets* — Used in two layers or one layer in combination with faced batts and blankets (Item 2C2). Any unfaced glass fiber batt material or mineral wool insulation bearing the UL Classification marking having a min 6 in. (152 mm) thickness before compression and a min density of 0.6 pcf (9.6 kg/m³). Insulation draped over purlins prior to installation of panel clips (Item 2F) and/or metal roof deck panels (Item 2D). Side edges of the batts shall be butted or overlapped a max of 3 in. (76 mm).

See **Batts and Blankets (BZJZ) Category in UL Fire Resistance Directory or Batts and Blankets (BKNV) in the UL Building Materials Directory for list of Classified Companies.**

C2. Faced Batts and Blankets* — Used in combination with unfaced batts and blankets (Item 2C1). Any faced glass fiber batt material or mineral wool insulation bearing the UL Classification marking.

See **Batts and Blankets (BZJZ) Category in UL Fire Resistance Directory or Batts and Blankets (BKNV) in the UL Building Materials Directory for list of Classified Companies.**

C3. Vapor Retarder Fabric* — (Not Shown) - Used only with two layers of unfaced batts and blankets (Item 2C1), as specified in the respective insulation system, and continuously sealed to wall angle (Item 2C5).

C4. Steel Banding — Fastened to wall angle (Item 2C5). As specified in the respective insulation system.

C5. Wall Angle — Galv steel angle with 2 in. legs, No. 20 MSG (0.0329 in., min bare metal thickness), attached to wall with fasteners at every stud (Item 1D) to support vapor retarder fabric (Item 2C3) and steel banding (Item 2C4).

D. Metal Roof Deck Panels* — Min 26 ga coated steel. Panels continuous over two or more spans. Roof panel end laps, if required, centered over purlins (Item 2A) with min 3 in. (76 mm) panel overlap as specified in the individual **Roof Deck Constructions (TGKX).** A line of tube sealant or tape sealant may be used at panel end and side laps.

See **Metal Roof Deck Panels** (TJPV) category in the UL Roofing Materials and Systems Directory for names of manufacturers.

E. Fasteners — Fasteners used for panel-to-purlin and panel-to-panel connections to be self-tapping, hex-head, plated steel or stainless steel screws with either an integral or a separate steel washer fitted with a compressible sealing washer. Fastener type, length, pilot hole diam and spacing to be as specified in the individual **Roof Deck Constructions** (TGKX).

F. Roof Deck Fasteners* - Panel Clips — (Not Shown) - Panel clips used for panel-to-purlin connections to be secured to purlin (Item 2A) through insulation as specified in the individual **Roof Deck Constructions** (TGKX).

See **Roof Deck Fasteners** (TLSX) category in the UL Roofing Materials and Systems Directory for names of manufacturers.

G. Thermal Spacer Blocks — (Not Shown) - Expanded polystyrene strips cut to fit between panel clips (Item 2F) as specified in the individual **Roof Deck Constructions** (TGKX). Thermal spacer blocks, when used, are to be installed between unfaced batts and blankets (Item 2C1) and metal roof deck panels (Item 2D) over purlins (Item 2A).

3. Fill, Void or Cavity Material* (XHHW) — Caulk — (Not Shown) - Min 5/8 in. (16 mm) thickness of fill material installed to fill any gap between top of cripple wall gypsum board (Item 1E) and unfaced batts and blankets (Item 2C1) on each side of the wall. Additional sealant installed to fill annular space between purlin (Item 2A) and gypsum board "rip strip" (Item 1F) on both sides of wall. Additional nom 1/2 in. (13 mm) diam bead of sealant to be applied around perimeter of purlin at its interface with the "rip strip" (Item 1F) on each side of the wall.

3M COMPANY 3M FIRE PROTECTION PRODUCTS — CP 25WB+ Caulk

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2025-01-03

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WORK CHANGE DIRECTIVE NO.: 006

Owner: City of Mayville
Engineer: MSA Professional Services, Inc.
Contractor: C.D. Smith Construction, Inc.
Project: City of Mayville WWTF Upgrade
Contract Name: General Construction
Date Issued: 10/8/2025
Owner's Project No.: 00052025
Engineer's Project No.: 00052028
Contractor's Project No.:
Effective Date of Work Change Directive: 10/8/2025

Contractor is directed to proceed promptly with the following change(s):

Description:

Revise fire barrier wall detail to allow the use of 3 5/8" metal stud and 2-hour rated joint at top of wall.

Attachments:

800A503, 800A505, CJ-D-0032

Purpose for the Work Change Directive:

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Contract Price: \$ [not yet estimated].

Contract Time: _____ days [not yet estimated].

Basis of estimated change in Contract Price:

☐ Lump Sum ☐ Unit Price ☐ Cost of the Work ☐ Other

City Signed for Work Not to Exceed \$36,909.93 on T&M basis.

Recommended by Architect

By: Carter Arndt

Title: Project Architect

Date:

Authorized by Owner



Mayor

2/18/26

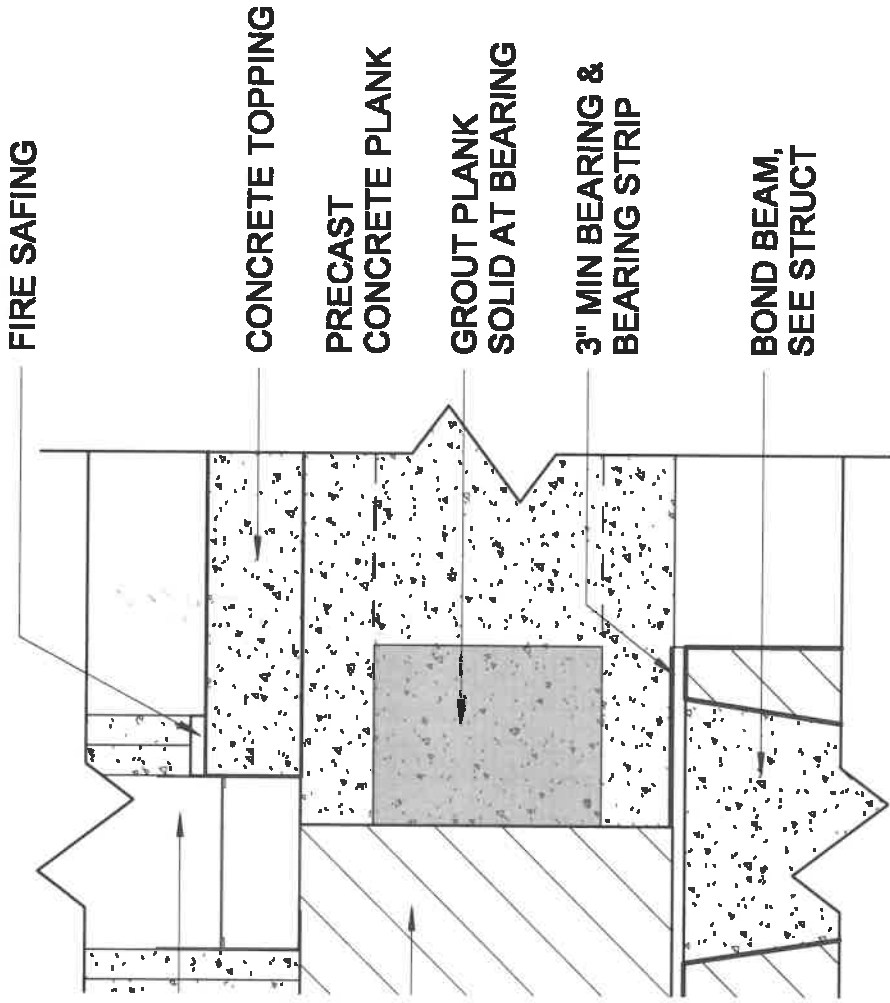
EJCDC® C-940, Work Change Directive.

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Page 1 of 2

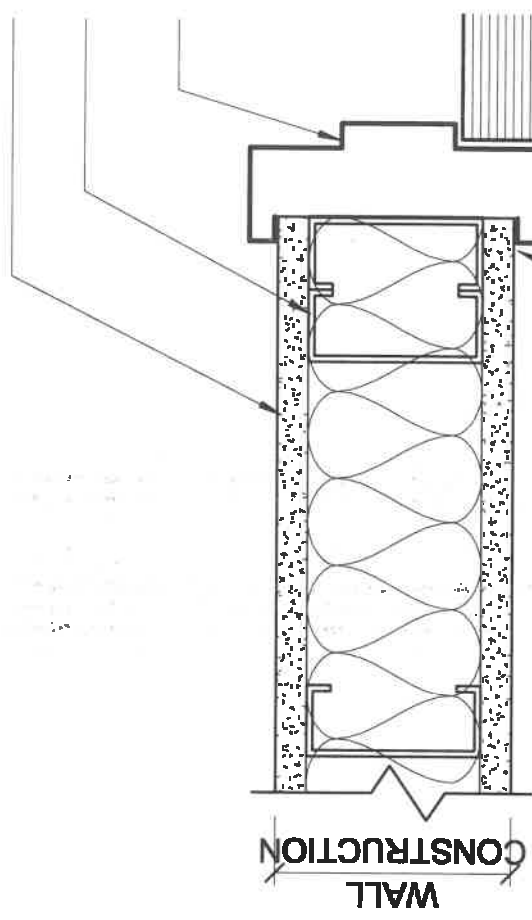
800A503 1 1/2" = 1'-0" (22"x34") 0 3" 6" 12" 18"

800A503 1 1/2" = 1'-0" (22"x34") 0 1 1/2" 3" 6" 9"



LANK AT CMU WALL

800A503 1 1/2" = 1'-0" (22"x34") 0 1 1/2" 3" 6" 9"



TYPICAL:
IF THERE IS A
GYPSUM BOA
PROVIDE A SH
SEALANT

6 TYPICAL INTERIOR DOOR JAMB DETAIL

800A503 3" = 1'-0" (22"x34") 0 1 1/2" 3" 6" 9"

GLAZING

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935
Phone: 1 920 924.2900

Project: 240224 - Mayville WWTF 2024 Upgrade
400 Kekoskee Street
Mayville, WI 53050

Potential Change Item #COR0012

Work Change Directive No. 6 - Fire Barrier Wall Detail

To:	City Of Mayville 15 S School Street Mayville, WI 53050	From:	C.D. Smith Construction, Inc. 125 Camelot Drive Fond du Lac WI, 54935
Status:	Pricing-No Forecast	Created Date	2025-12-10
Schedule Impact:	4	OCO Number:	

POTENTIAL CHANGE ITEM SCOPE DESCRIPTION: (The Contract Is Changed As Follows)

Revise Fire Barrier Wall Detail to Allow the Use of 3 5/8" Metal Stud and 2-Hour Rated Joint at Top of Wall

ATTACHMENTS:

Description	Cost Code	Category	Quantity	W/M	Rate	Final Amount
Red Hawk - Metal Building	133423	S		LS	\$	\$10,750.00
Carpentry Material - Studs	060000	M	200	LF	\$5.7	\$1,425.00
Carpentry Material - Drywall	060000	M	16	EA	\$20	\$320.00
Carpentry Labor - Drywall	061000	L	64	HR	\$97.2	\$7,776.00
Carpentry Labor - Steel Studs	054000	L	128	HR	\$97.2	\$12,441.60
Bond:						\$365.44
Self Perform Markup:						\$3,294.39
Subcontract Markup (5%):						\$537.50
Grand Total:						\$36,909.93

City Of Mayville
15 S School Street
Mayville, WI 53050

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935

Karley Krupp
Digitally signed by Karley Krupp
Date: 2026.01.21 13:51:30-06'00'

SIGNATURE

DATE

SIGNATURE

DATE



FIELD ORDER #6 QUOTE REQUEST

Field Order No.: 6

Customer: C.D. Smith Construction, Inc.

Customer Representative: Karley Krupp

Customer Rep Phone #:920-979-8756

Description of Changes

The scope of work includes slicing the existing vapor barrier as required to access the purlin cavity and insulation. Insulation support banding will be terminated at new 3" x 5" x 14 ga. support angles installed on both sides of the fire-assembly wall. These angles will be fastened to 6" x 18 ga. steel stud supports (provided by others) installed between purlins at 48" O.C. Reattachment of vapor barrier when wall assembly is installed.

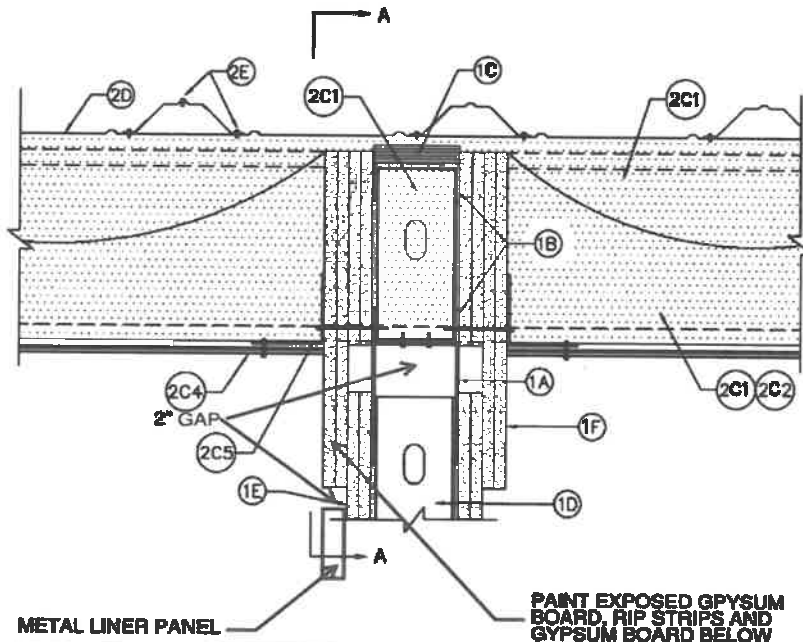
This quote includes all applicable tax, freight, materials, equipment, labor and re-mobilization required to complete the work described above.

Date: Friday December 8th 2025

Redhawk Job#: 2015

Job Name: City of Mayville WWTF Upgrade

Additional Cost/Credit



TOTAL	\$ 10,750.00
--------------	---------------------

Based on the listed changes, the construction time will be extended by approximately 3 working days.

Redhawk Metal Buildings LLC

Name: Tony Katarincic

Signature:

Date: 12/08/2025



① Coming October 20th, discover our sleek new design and powerful features. [Learn More](#)

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Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

XHBO - Continuity Head-of-wall Joint Systems

[See General Information for Continuity Head-of-wall Joint Systems](#)

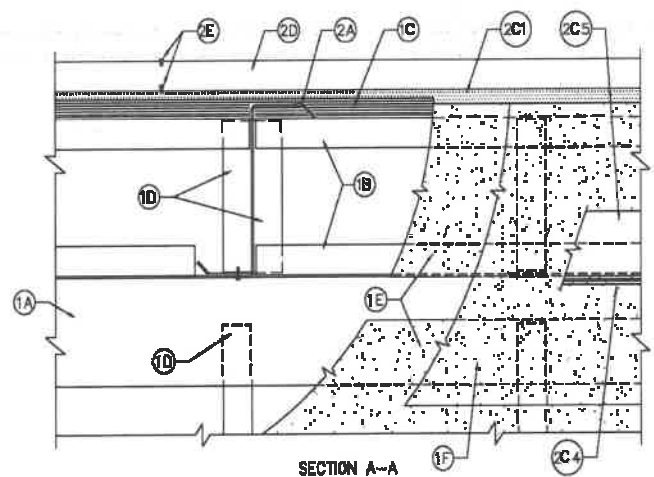
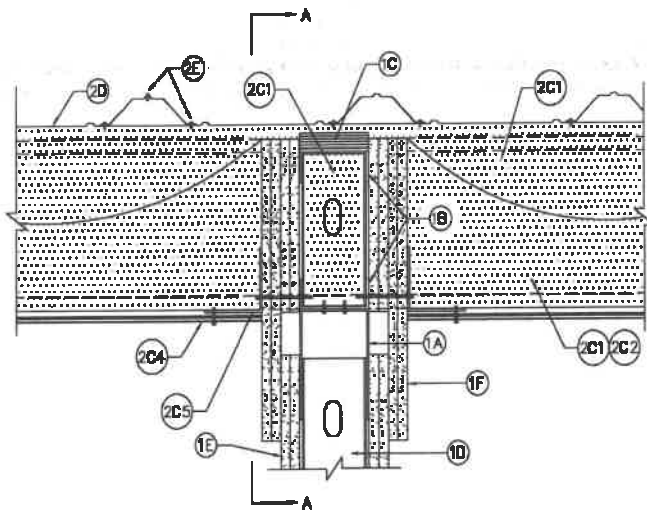
System No. **CJ-D-0032**

January 03, 2025

Joint Rating — 2 Hr

Nominal Joint Width — 2 in.

Class II or III Movement Capabilities — 100% Compression and Extension



1. Wall Assembly — The minimum 2 hr fire rated gypsum board/steel stud wall assembly shall be constructed of the materials and in the manner specified in the individual U400, V400 or W400 Series **Wall and Partition Design** in the UL Fire Resistance Directory and shall include the following construction features:

A. Ceiling Deflection Channel — U-shaped channel formed from min 16 ga steel sized to accommodate steel studs (Item 1D) and provided with nom 5 in. (127 mm) flanges. Deflection channel installed perpendicular to purlins (Item 2A) and secured to bottom flange of purlins (Item 2A) with min No. 14 self-tapping, hex-head, plated steel or stainless steel screws.

B. Steel Floor and Ceiling Runners — Floor runner of the wall assembly and the floor and ceiling runners of the cripple wall above the wall assembly shall consist of min 1-1/4 in. (32 mm) deep min 25 ga galv steel channels sized to accommodate steel studs (Item 1D). Floor runner of cripple wall aligned with and screw-attached to top of ceiling deflection channel (Item 1A). Ceiling runner of cripple wall installed to compress unfaced batts and blankets (Item 2C1) to nom thickness of 3/8 in. (10 mm) by wedging lengths of stud (Item 1D) between the runners. Steel studs (Item 1D) of cripple wall attached to each side of purlin (Item 2A) web and to floor and ceiling runners with steel screws.

C. Batts and Blankets* - Packing Material — Unfaced compressible mineral wool batt insulation having a nom 2 in. (51 mm) thickness before compression and a nom density of 4 pcf (64 kg/m³). Strips of nom 2 in. (51 mm) thick batt cut to width of cripple wall ceiling runner (Item 1B) and compressed min 50 percent in thickness between cripple wall ceiling runner (Item 1B) and unfaced batts and blankets (Item 2C1). Compression of mineral wool batt packing material to result in compression of unfaced batts and blankets (Item 2C1) to nom 3/8 in. (10 mm) thickness.

See **Batts and Blankets (BZJZ)** category in the UL Fire Resistance Directory or **Batts and Blankets (BKNV)** category in the UL Building Materials Directory for names of manufacturers.

D. Studs — Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut max 2 in. (51 mm) less in length than the wall assembly height beneath purlins (Item 2A) with bottom nesting in and resting on the floor runner (Item 1B) and with top nesting in ceiling deflection channel (Item 1A) without attachment. Stud spacing not to exceed 24 in. (610 mm) O.C. Studs of cripple wall cut to length as required to compress packing material (Item 1C) and unfaced batts and blankets (Item 2C1) to nom thicknesses of 1 in. (25 mm) and 3/8 in. (10 mm), respectively. Studs spaced max 24 in. (610 mm) OC.

E. Gypsum Board* — Min two layers of 5/8 in. (16 mm) thick gypsum board sheets installed on each side of wall. Wall to be constructed as specified in the individual U400, V400 or W400 Series Design in the UL Fire Resistance Directory except that a max 2 in. (51 mm) wide gap shall be maintained between the gypsum board of the wall assembly below the purlin (Item 2A) and the gypsum board of the cripple wall. Top edge of gypsum board of wall assembly to be max 2 in. (51 mm) below top of ceiling deflection channel (Item 1A). Bottom edge of gypsum board of cripple wall to be flush with top of ceiling deflection channel (Item 1A). Screws securing gypsum board to steel studs (Item 1D) of wall assembly to be located 2-1/4 in. to 2-1/2 in. (57 to 64 mm) below flange of ceiling deflection channel (Item 1A). Screws securing gypsum board of cripple wall to be driven into studs (Item 1D) and runners (Item 1B) of cripple wall. No screws are to be driven into flanges of ceiling deflection channel (Item 1A).

F. Gypsum Board* — Min two layers of 5/8 in. (16 mm) thick "rip strip" of gypsum board installed to cover both layers of gypsum board on cripple wall and to lap min 4 in. (102 mm) onto gypsum board of wall assembly on each side of wall. The "rip strip" of gypsum board is to be the same material used for the wall assembly (Item 1E) and is to be secured to the studs (Item 1D) and runners (Item 1B) of the cripple wall. No screws are to be driven into flanges of ceiling deflection channel (Item 1A). Joints of "rip strip" to be offset from joints of gypsum board on wall assembly (Item 1E).

See Gypsum Board (CKNX) category in the Fire Resistance Directory for names of manufacturers.

Max separation between top of wall assembly gypsum board and bottom of cripple wall gypsum board (at time of installation of joint system) is 2 in. (51 mm). The joint system is designed to accommodate a max 100 percent compression or extension from its installed width.

2. Nonrated Horizontal Assembly — The nonrated horizontal assembly shall be constructed of the materials and in the manner described in the individual **Roof Deck Constructions** (TGKX) in the UL Roofing Materials and Systems Directory and shall include the following construction features:

A. Purlin — Min 16 ga coated steel. Max spacing as specified in the individual **Roof Deck Constructions** (TGKX).

B. Lateral Bracing — (Not Shown) - As required.

C1. Unfaced Batts and Blankets* — Used in two layers or one layer in combination with faced batts and blankets (Item 2C2). Any unfaced glass fiber batt material or mineral wool insulation bearing the UL Classification marking having a min 6 in. (152 mm) thickness before compression and a min density of 0.6 pcf (9.6 kg/m³). Insulation draped over purlins prior to installation of panel clips (Item 2F) and/or metal roof deck panels (Item 2D). Side edges of the batts shall be butted or overlapped a max of 3 in. (76 mm). See **Batts and Blankets** (BZJZ) Category in UL Fire Resistance Directory or **Batts and Blankets** (BKNV) in the UL Building Materials Directory for list of Classified Companies.

C2. Faced Batts and Blankets* — Used in combination with unfaced batts and blankets (Item 2C1). Any faced glass fiber batt material or mineral wool insulation bearing the UL Classification marking. See **Batts and Blankets** (BZJZ) Category in UL Fire Resistance Directory or **Batts and Blankets** (BKNV) in the UL Building Materials Directory for list of Classified Companies.

C3. Vapor Retarder Fabric* — (Not Shown) - Used only with two layers of unfaced batts and blankets (Item 2C1), as specified in the respective insulation system, and continuously sealed to wall angle (Item 2C5).

C4. Steel Banding — Fastened to wall angle (Item 2C5). As specified in the respective insulation system.

C5. Wall Angle — Galv steel angle with 2 in. legs, No. 20 MSG (0.0329 in., min bare metal thickness), attached to wall with fasteners at every stud (Item 1D) to support vapor retarder fabric (Item 2C3) and steel banding (Item 2C4).

D. Metal Roof Deck Panels* — Min 26 ga coated steel. Panels continuous over two or more spans. Roof panel end laps, if required, centered over purlins (Item 2A) with min 3 in. (76 mm) panel overlap as specified in the individual **Roof Deck Constructions** (TGKX). A line of tube sealant or tape sealant may be used at panel end and side laps.

See **Metal Roof Deck Panels (TJPV)** category in the UL Roofing Materials and Systems Directory for names of manufacturers.

E. Fasteners — Fasteners used for panel-to-purlin and panel-to-panel connections to be self-tapping, hex-head, plated steel or stainless steel screws with either an integral or a separate steel washer fitted with a compressible sealing washer. Fastener type, length, pilot hole diam and spacing to be as specified in the individual **Roof Deck Constructions (TGKX)**.

F. Roof Deck Fasteners* - Panel Clips — (Not Shown) - Panel clips used for panel-to-purlin connections to be secured to purlin (Item 2A) through insulation as specified in the individual **Roof Deck Constructions (TGKX)**.

See **Roof Deck Fasteners (TLSX)** category in the UL Roofing Materials and Systems Directory for names of manufacturers.

G. Thermal Spacer Blocks — (Not Shown) - Expanded polystyrene strips cut to fit between panel clips (Item 2F) as specified in the individual **Roof Deck Constructions (TGKX)**. Thermal spacer blocks, when used, are to be installed between unfaced batts and blankets (Item 2C1) and metal roof deck panels (Item 2D) over purlins (Item 2A).

3. Fill, Void or Cavity Material* (XHHW) — Caulk — (Not Shown) - Min 5/8 in. (16 mm) thickness of fill material installed to fill any gap between top of cripple wall gypsum board (Item 1E) and unfaced batts and blankets (Item 2C1) on each side of the wall. Additional sealant installed to fill annular space between purlin (Item 2A) and gypsum board "rip strip" (Item 1F) on both sides of wall. Additional nom 1/2 in. (13 mm) diam bead of sealant to be applied around perimeter of purlin at its interface with the "rip strip" (Item 1F) on each side of the wall.

3M COMPANY 3M FIRE PROTECTION PRODUCTS — CP 25WB+ Caulk

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2025-01-03

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COR 016 - Response to FO 07
STR 800 Wall Intersection and Transition Details
(Fire Caulking)



PCI #COR0016

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935
Phone: 1 920 924.2900

Project: 240224 - Mayville WWTF 2024 Upgrade
400 Kekoskee Street
Mayville, WI 53050

Potential Change Item #COR0016

Field Order No. 06 - Str. 800 Wall Intersection and Transition Details

To: City Of Mayville
15 S School Street
Mayville, WI 53050

From: C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935

Status: Pricing-No Forecast
Schedule Impact:

Created Date: 2026-01-21
OCO Number:

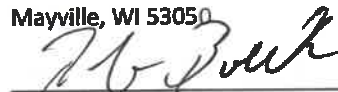
POTENTIAL CHANGE ITEM SCOPE DESCRIPTION: *(The Contract Is Changed As Follows)*

Provide Firestopping per Details Distributed in FO 06 and WCD 06.

ATTACHMENTS:

Description	Cost Code	Category	Quantity	W/M	Rate	Final Amount
Caulking	079000	S		LS	\$	\$13,040.00
Bond:						\$136.92
Subcontract Markup (5%):						\$652.00
Grand Total:						\$13,828.92

City Of Mayville
15 S School Street
Mayville, WI 53050



SIGNATURE

DATE

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935

Karley Krupp

Digitally signed by Karley Krupp
Date: 2026.04.02 14:38:58 -0500

SIGNATURE



DATE



Proposal

Date: April 1, 2026

JOB NAME: Mayville WWTF

Proposal Submitted to:
CD Smith

Attn: Cory Flesch
cflesch@csmith.com

From: Dwight Drescher (414)406-6131
dwight@sidssealants.com
Sid's SEALANTS, LLC
PO Box 347 Port Washington, WI 53074
Sid (414)350-8215 sid@sidssealants.com

**We propose to Furnish & Install Fire Rated Sealant at the CMU Top of Wall
-includes Beam Pockets & Mineral Wool**

Cost would be: \$13,040.00

ABAA licensed, Tremco certified applicator and BAC local 8 member.

Sid's Sealants will supply all materials and equipment to complete this project. This estimate includes the materials and tools for proper installation. Work to start upon approval and be performed in a workmanlike timely manner. Lift equipment costs are applicable if lift is not provided by Contractor/Owner. Dumpster and electricity supplied by others. The installation of air barrier and caulk is weather permitting and requires ample time for substrate to dry after precipitation per manufacturers specifications not following this voids any warranty. This Proposal does not include third party testing costs. Estimate may not be split unless prior contact is made and agreed in writing. Additional insured are subject to \$250.00 charge per insured. Additional insured endorsements (CG2010 10/01 & CG2037 10/01) cost will be \$300/Each (est) a year.

WE PROPOSE to furnish material and labor, complete in accordance with the above specification, for the sum of:

See Description Above

DOLLARS (\$See Above)

It is agreed that the buyer(s) signature(s) appears(s) below will pay for all purchases within terms of NET 30. TERMS ARE SET FROM THE DATE OF THE INVOICE.

In the event of nonpayment or late payment, the buyer(s) further agree(s) to pay a late payment service charge at the rate of 1.5% per month on all past due balances. Should collection action become necessary, the buyer(s) agree(s) that he/she/they will pay all costs and expenses of the collection action in addition to all unpaid balances at that time. Said costs are to include reasonable legal fees. Taxes on materials not included and will be an added line item.

This proposal may be withdrawn if a signed acceptance is not received by Sid's Sealants within 30 days from the date of the proposal.

Sid Arthur, Sole Member

ACCEPTANCE OF PROPOSAL:

The buyer(s), as undersigned, individually and as an owner or an officer of the company, has/have read, understand(s) and agree(s) to all of the above, and his/her/their signature(s) below attest(s) thereto.

Date of Acceptance: _____

Signature: _____

Signature: _____

FIELD ORDER NO.: 006

Owner:	City of Mayville	Owner's Project No.:	00052025
Engineer:	MSA Professional Services, Inc.	Engineer's Project No.:	00052028
Contractor:	C.D. Smith Construction, Inc.	Contractor's Project No.:	
Project:	City of Mayville WWTF Upgrade		
Contract Name:	General Construction		
Date Issued:	November 25, 2025	Effective Date of Field Order:	November 25, 2025

Contractor is hereby directed to promptly perform the Work described in this Field Order, issued in accordance with Paragraph 11.04 of the General Conditions, for minor changes in the Work without changes in Contract Price or Contract Times. If Contractor considers that a change in Contract Price or Contract Times is required, submit a Change Proposal before proceeding with this Work.

Reference:

Drawing(s) / Detail(s): 800A503, 800A504, CJ-D-0032

Description:

All firestopping shall be provided in accordance to specification section 07 84 00 - Firestopping. Details provide clarification for fire stopping locations and spacing for wall finish termination at the top of fire barrier.

Attachments:

800A503, 800A504, CJ-D-0032

Issued by Engineer

By:	Carter Arndt
Title:	Senior Project Architect
Date:	11/24/2025

EJCDC® C-942, Field Order.

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Page 1 of 1

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- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

XHBO - Continuity Head-of-wall Joint Systems

See General Information for Continuity Head-of-wall Joint Systems

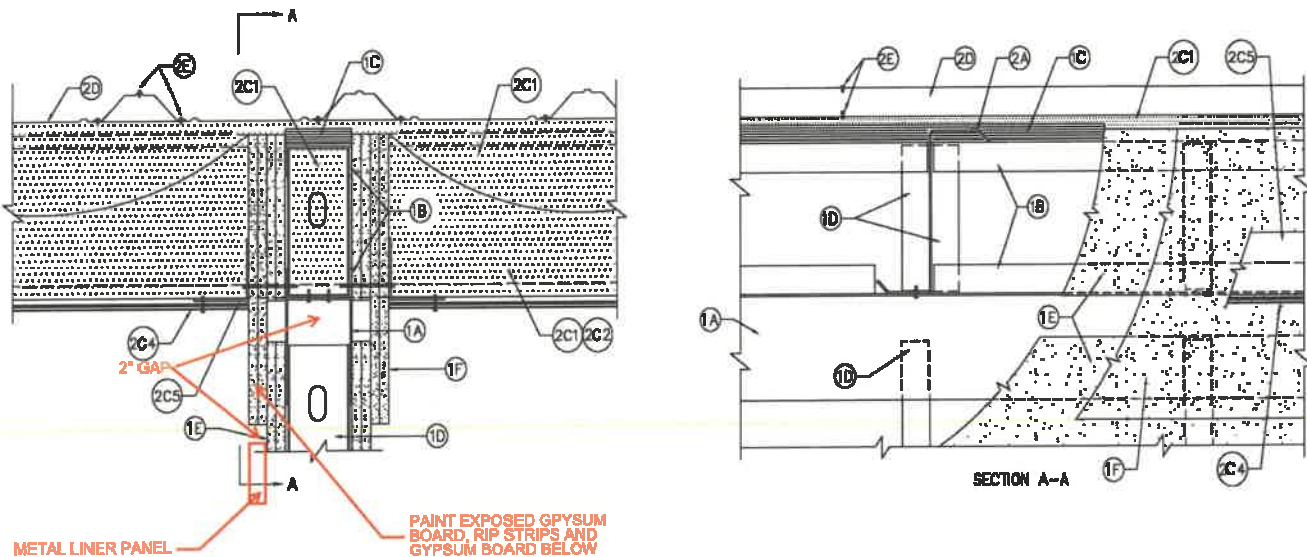
System No. **CJ-D-0032**

January 03, 2025

Joint Rating — 2 Hr

Nominal Joint Width — 2 in.

Class II or III Movement Capabilities — 100% Compression and Extension



1. Wall Assembly — The minimum 2 hr fire rated gypsum board/steel stud wall assembly shall be constructed of the materials and in the manner specified in the individual U400, V400 or W400 Series **Wall and Partition Design** in the UL Fire Resistance Directory and shall include the following construction features:

A. Ceiling Deflection Channel — U-shaped channel formed from min 16 ga steel sized to accommodate steel studs (Item 1D) and provided with nom 5 in. (127 mm) flanges. Deflection channel installed perpendicular to purlins (Item 2A) and secured to bottom flange of purlins (Item 2A) with min No. 14 self-tapping, hex-head, plated steel or stainless steel screws.

B. Steel Floor and Ceiling Runners — Floor runner of the wall assembly and the floor and ceiling runners of the cripple wall above the wall assembly shall consist of min 1-1/4 in. (32 mm) deep min 25 ga galv steel channels sized to accommodate steel studs (Item 1D). Floor runner of cripple wall aligned with and screw-attached to top of ceiling deflection channel (Item 1A). Ceiling runner of cripple wall installed to compress unfaced batts and blankets (Item 2C1) to nom thickness of 3/8 in. (10 mm) by wedging lengths of stud (Item 1D) between the runners. Steel studs (Item 1D) of cripple wall attached to each side of purlin (Item 2A) web and to floor and ceiling runners with steel screws.

C. Batts and Blankets* - Packing Material — Unfaced compressible mineral wool batt insulation having a nom 2 in. (51 mm) thickness before compression and a nom density of 4 pcf (64 kg/m³). Strips of nom 2 in. (51 mm) thick batt cut to width of cripple wall ceiling runner (Item 1B) and compressed min 50 percent in thickness between cripple wall ceiling runner (Item 1B) and unfaced batts and blankets (Item 2C1). Compression of mineral wool batt packing material to result in compression of unfaced batts and blankets (Item 2C1) to nom 3/8 in. (10 mm) thickness.

See **Batts and Blankets (BZJZ)** category in the UL Fire Resistance Directory or **Batts and Blankets (BKNV)** category in the UL Building Materials Directory for names of manufacturers.

D. Studs — Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut max 2 in. (51 mm) less in length than the wall assembly height beneath purlins (Item 2A) with bottom nesting in and resting on the floor runner (Item 1B) and with top nesting in ceiling deflection channel (Item 1A) without attachment. Stud spacing not to exceed 24 in. (610 mm) O.C. Studs of cripple wall cut to length as required to compress packing material (Item 1C) and unfaced batts and blankets (Item 2C1) to nom thicknesses of 1 in. (25 mm) and 3/8 in. (10 mm), respectively. Studs spaced max 24 in. (610 mm) OC.

E. Gypsum Board* — Min two layers of 5/8 in. (16 mm) thick gypsum board sheets installed on each side of wall. Wall to be constructed as specified in the individual U400, V400 or W400 Series Design in the UL Fire Resistance Directory except that a max 2 in. (51 mm) wide gap shall be maintained between the gypsum board of the wall assembly below the purlin (Item 2A) and the gypsum board of the cripple wall. Top edge of gypsum board of wall assembly to be max 2 in. (51 mm) below top of ceiling deflection channel (Item 1A). Bottom edge of gypsum board of cripple wall to be flush with top of ceiling deflection channel (Item 1A). Screws securing gypsum board to steel studs (Item 1D) of wall assembly to be located 2-1/4 in. to 2-1/2 in. (57 to 64 mm) below flange of ceiling deflection channel (Item 1A). Screws securing gypsum board of cripple wall to be driven into studs (Item 1D) and runners (Item 1B) of cripple wall. No screws are to be driven into flanges of ceiling deflection channel (Item 1A).

F. Gypsum Board* — Min two layers of 5/8 in. (16 mm) thick "rip strip" of gypsum board installed to cover both layers of gypsum board on cripple wall and to lap min 4 in. (102 mm) onto gypsum board of wall assembly on each side of wall. The "rip strip" of gypsum board is to be the same material used for the wall assembly (Item 1E) and is to be secured to the studs (Item 1D) and runners (Item 1B) of the cripple wall. No screws are to be driven into flanges of ceiling deflection channel (Item 1A). Joints of "rip strip" to be offset from joints of gypsum board on wall assembly (Item 1E).

See Gypsum Board (CKNX) category in the Fire Resistance Directory for names of manufacturers.

Max separation between top of wall assembly gypsum board and bottom of cripple wall gypsum board (at time of installation of joint system) is 2 in. (51 mm). The joint system is designed to accommodate a max 100 percent compression or extension from its installed width.

2. Nonrated Horizontal Assembly — The nonrated horizontal assembly shall be constructed of the materials and in the manner described in the individual **Roof Deck Constructions** (TGKX) in the UL Roofing Materials and Systems Directory and shall include the following construction features:

A. Purlin — Min 16 ga coated steel. Max spacing as specified in the individual **Roof Deck Constructions** (TGKX).

B. Lateral Bracing — (Not Shown) - As required.

C1. Unfaced Batts and Blankets* — Used in two layers or one layer in combination with faced batts and blankets (Item 2C2). Any unfaced glass fiber batt material or mineral wool insulation bearing the UL Classification marking having a min 6 in. (152 mm) thickness before compression and a min density of 0.6 pcf (9.6 kg/m³). Insulation draped over purlins prior to installation of panel clips (Item 2F) and/or metal roof deck panels (Item 2D). Side edges of the batts shall be butted or overlapped a max of 3 in. (76 mm). See **Batts and Blankets** (BZJZ) Category in UL Fire Resistance Directory or **Batts and Blankets** (BKNV) in the UL Building Materials Directory for list of Classified Companies.

C2. Faced Batts and Blankets* — Used in combination with unfaced batts and blankets (Item 2C1). Any faced glass fiber batt material or mineral wool insulation bearing the UL Classification marking. See **Batts and Blankets** (BZJZ) Category in UL Fire Resistance Directory or **Batts and Blankets** (BKNV) in the UL Building Materials Directory for list of Classified Companies.

C3. Vapor Retarder Fabric* — (Not Shown) - Used only with two layers of unfaced batts and blankets (Item 2C1), as specified in the respective insulation system, and continuously sealed to wall angle (Item 2C5).

C4. Steel Banding — Fastened to wall angle (Item 2C5). As specified in the respective insulation system.

C5. Wall Angle — Galv steel angle with 2 in. legs, No. 20 MSG (0.0329 in., min bare metal thickness), attached to wall with fasteners at every stud (Item 1D) to support vapor retarder fabric (Item 2C3) and steel banding (Item 2C4).

D. Metal Roof Deck Panels* — Min 26 ga coated steel. Panels continuous over two or more spans. Roof panel end laps, if required, centered over purlins (Item 2A) with min 3 in. (76 mm) panel overlap as specified in the individual **Roof Deck Constructions** (TGKX). A line of tube sealant or tape sealant may be used at panel end and side laps.

See **Metal Roof Deck Panels** (TJPV) category in the UL Roofing Materials and Systems Directory for names of manufacturers.

E. Fasteners — Fasteners used for panel-to-purlin and panel-to-panel connections to be self-tapping, hex-head, plated steel or stainless steel screws with either an integral or a separate steel washer fitted with a compressible sealing washer. Fastener type, length, pilot hole diam and spacing to be as specified in the individual **Roof Deck Constructions** (TGKX).

F. Roof Deck Fasteners* - Panel Clips — (Not Shown) - Panel clips used for panel-to-purlin connections to be secured to purlin (Item 2A) through insulation as specified in the individual **Roof Deck Constructions** (TGKX).

See **Roof Deck Fasteners** (TLSX) category in the UL Roofing Materials and Systems Directory for names of manufacturers.

G. Thermal Spacer Blocks — (Not Shown) - Expanded polystyrene strips cut to fit between panel clips (Item 2F) as specified in the individual **Roof Deck Constructions** (TGKX). Thermal spacer blocks, when used, are to be installed between unfaced batts and blankets (Item 2C1) and metal roof deck panels (Item 2D) over purlins (Item 2A).

3. Fill, Void or Cavity Material* (XHHW) — Caulk — (Not Shown) - Min 5/8 in. (16 mm) thickness of fill material installed to fill any gap between top of cripple wall gypsum board (Item 1E) and unfaced batts and blankets (Item 2C1) on each side of the wall. Additional sealant installed to fill annular space between purlin (Item 2A) and gypsum board "rip strip" (Item 1F) on both sides of wall. Additional nom 1/2 in. (13 mm) diam bead of sealant to be applied around perimeter of purlin at its interface with the "rip strip" (Item 1F) on each side of the wall.

3M COMPANY 3M FIRE PROTECTION PRODUCTS — CP 25WB+ Caulk

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2025-01-03

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C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935
Phone: 1 920 924.2900

Project: 240224 - Mayville WWTF 2024 Upgrade
400 Kekoskee Street
Mayville, WI 53050

Potential Change Item #COR0016

Field Order No. 06 - Str. 800 Wall Intersection and Transition Details

To:	City Of Mayville 15 S School Street Mayville, WI 53050	From:	C.D. Smith Construction, Inc. 125 Camelot Drive Fond du Lac WI, 54935
Status:	Pricing-No Forecast	Created Date	2026-01-21
Schedule Impact:		OCO Number:	

POTENTIAL CHANGE ITEM SCOPE DESCRIPTION: (The Contract Is Changed As Follows)

Provide Firestopping per Details Distributed In FO 06 and WCD 06.

ATTACHMENTS:

Description	Cost Code	Category	Quantity	W/M	Rate	Final Amount
Caulking	079000	S		LS	\$	\$14,800.00
Bond:						\$155.40
Subcontract Markup (5%):						\$740.00
Grand Total:						<u>\$15,695.40</u>

City Of Mayville
15 S School Street
Mayville, WI 53050

SIGNATURE

[Handwritten Signature]

DATE

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935

Karley Krupp

SIGNATURE

Digitally signed by Karley Krupp
Date: 2026.01.21 13:58:19-0600

DATE

4/6/26

Work is to be completed and costs still to be negotiated/reduced.



Change Order / Field Order 6

Date: January 16, 2026

JOB NAME: Mayville WWTF

Proposal Submitted to:
CD Smith
Attn: Karly Krupp
Kkrupp@cdsmith.com

From: Dwight Drescher (414)406-6131
dwight@sidssealants.com
Sid's SEALANTS, LLC
PO Box 347 Port Washington, WI 53074
Sid (414)350-8215 sid@sidssealants.com

Administration Building

Furnish & Install Firestopping at the Purlin Wall

Includes:

Base of Wall (5/800-A503)

Vertical JT's at end of Wall (9/800-A504)

Top of Wall (1/800-A503)

Beam & Stud Penetrations thru the wall based on the PDF provided by CDS on 1-16-2026

Cost would be: \$14,800.00

ABAA licensed, Tremco certified applicator and RAC local 8 member.

Sid's Sealants will supply all materials and equipment to complete this project. This estimate includes the materials and tools for proper installation. Work to start upon approval and be performed in a workmanlike timely manner. Lift equipment costs are applicable if lift is not provided by Contractor/Owner. Dumpster and electricity supplied by others. The installation of air barrier and caulk is weather permitting and requires ample time for substrate to dry after precipitation per manufacturers specifications not following this voids any warranty. This Proposal does not include third party testing costs. Estimate may not be split unless prior contact is made and agreed in writing. Additional insured are subject to \$250.00 charge per insured. Additional insured endorsements (CG2010 10/01 & CG2037 10/01) cost will be \$300/Each (est) a year.

WE PROPOSE to furnish material and labor, complete in accordance with the above specification, for the sum of:
See Description Above DOLLARS (\$See Above)

It is agreed that the buyer(s) signature(s) below will pay for all purchases within terms of NET 30. TERMS ARE SET FROM THE DATE OF THE INVOICE.

In the event of nonpayment or late payment, the buyer(s) further agree(s) to pay a late payment service charge at the rate of 1.5% per month on all past due balances. Should collection action become necessary, the buyer(s) agree(s) that he/she/they will pay all costs and expenses of the collection action in addition to all unpaid balances at that time. Said costs are to include reasonable legal fees. Taxes on materials not included and will be an added line item.

This proposal may be withdrawn if a signed acceptance is not received by Sid's Sealants within 30 days from the date of the proposal.

Sid Arthur, Sole Member

ACCEPTANCE OF PROPOSAL:

The buyer(s), as undersigned, individually and as an owner or an officer of the company, has/have read, understand(s) and agree(s) to all of the above, and his/her/their signature(s) below attest(s) thereto.

Date of Acceptance: _____

Signature: _____

Signature: _____

FIELD ORDER NO.: 006

Owner:	City of Mayville	Owner's Project No.:	00052025
Engineer:	MSA Professional Services, Inc.	Engineer's Project No.:	00052028
Contractor:	C.D. Smith Construction, Inc.	Contractor's Project No.:	
Project:	City of Mayville WWTF Upgrade		
Contract Name:	General Construction		
Date Issued:	November 25, 2025	Effective Date of Field Order:	November 25, 2025

Contractor is hereby directed to promptly perform the Work described in this Field Order, issued in accordance with Paragraph 11.04 of the General Conditions, for minor changes in the Work without changes in Contract Price or Contract Times. If Contractor considers that a change in Contract Price or Contract Times is required, submit a Change Proposal before proceeding with this Work.

Reference:

Drawing(s) / Detail(s): 800A503, 800A504, CJ-D-0032

Description:

All firestopping shall be provided in accordance to specification section 07 84 00 - Firestopping. Details provide clarification for fire stopping locations and spacing for wall finish termination at the top of fire barrier.

Attachments:

800A503, 800A504, CJ-D-0032

Issued by Engineer

By: Carter Arndt
Title: Senior Project Architect
Date: 11/24/2025

EJCDC® C-942, Field Order.

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Page 1 of 1

NON-LOAD-BEARING 2-HOUR RATED WALL ASSEMBLY:

1. STEEL STUDS - 3 5/8" METAL STUDS, E02(X001P1), SPACED AT 16"
2. GYPSUM BOARD - 2 LAYER OF 5/8-INCH SHEETROCK ECOSMART (VERTICALLY OR HORIZONTALLY WITH STAGGERED VERTICAL JOINT SIDES OF THE STUD AND IN THE ADJACENT LAYERS SHALL STAGGER)
3. INSULATION - 3 1/2" FIBERGLASS INSULATION

NOTES:

1. FIRE-RATINGS ARE MAINTAINED WITH ONE OR MORE OF THE FOLLOWING: INCREASE STUD MATERIAL THICKNESS, DECREASE STUD SPACING, INCREASE INSULATION THICKNESS UP TO CAVITY DEPTH.

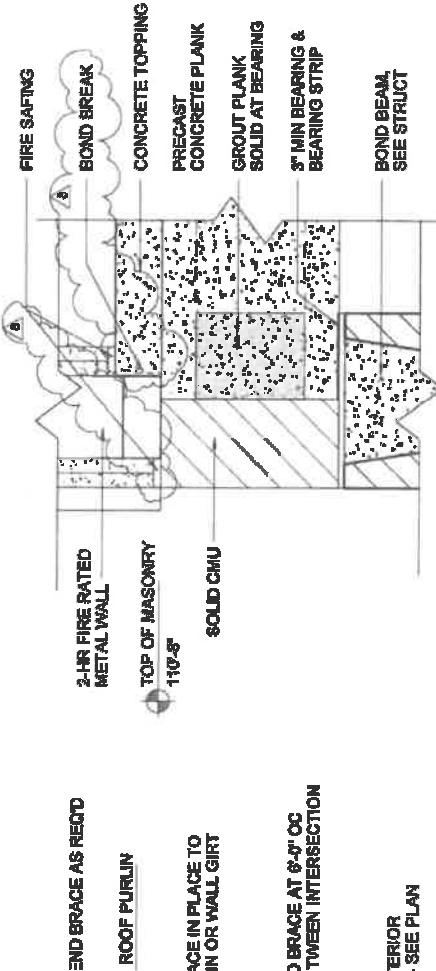
2-HR WALL ASSEMBLY (UL-U419)



INTERIOR WALL TO ROOF SLIP CONNECTION PERPENDICULAR TO PURLINS



INJECTION TO WALL PARALLEL TO PURLINS



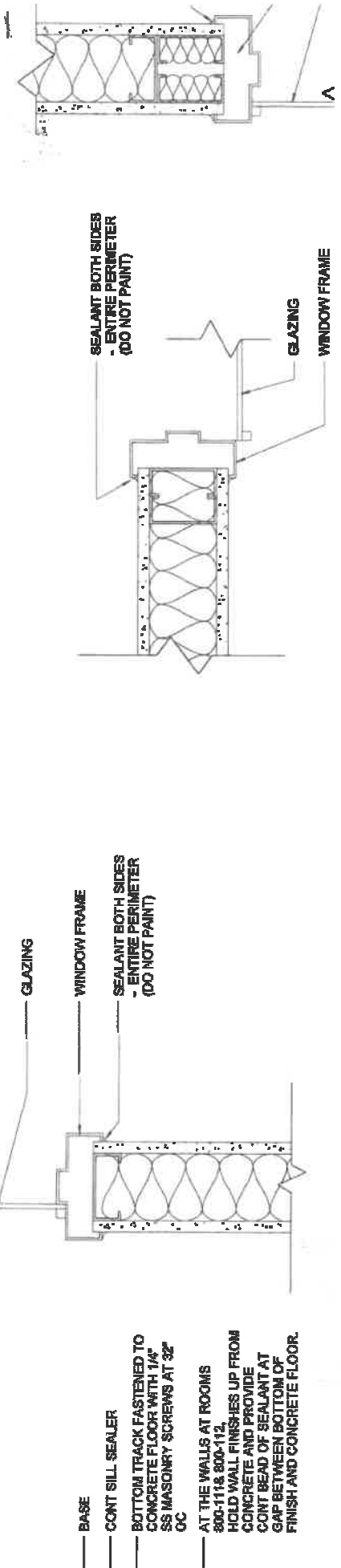
5 PRECAST PLANK AT CMU WALL

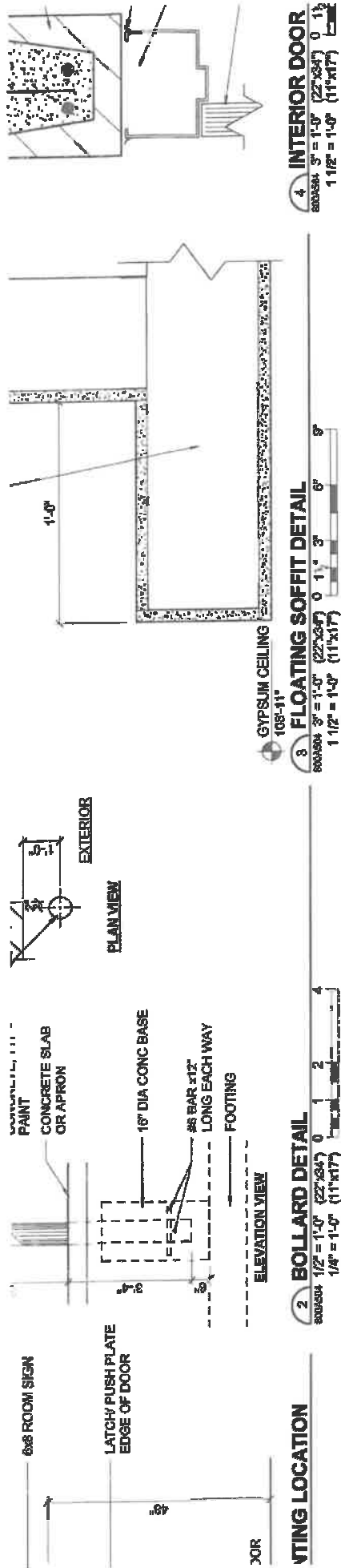


6 TYPICAL INTERIOR DOOR JAMB DETAIL



7 INTERIOR DOOR





INSTALLATION LOCATION

2 BOLLARD DETAIL

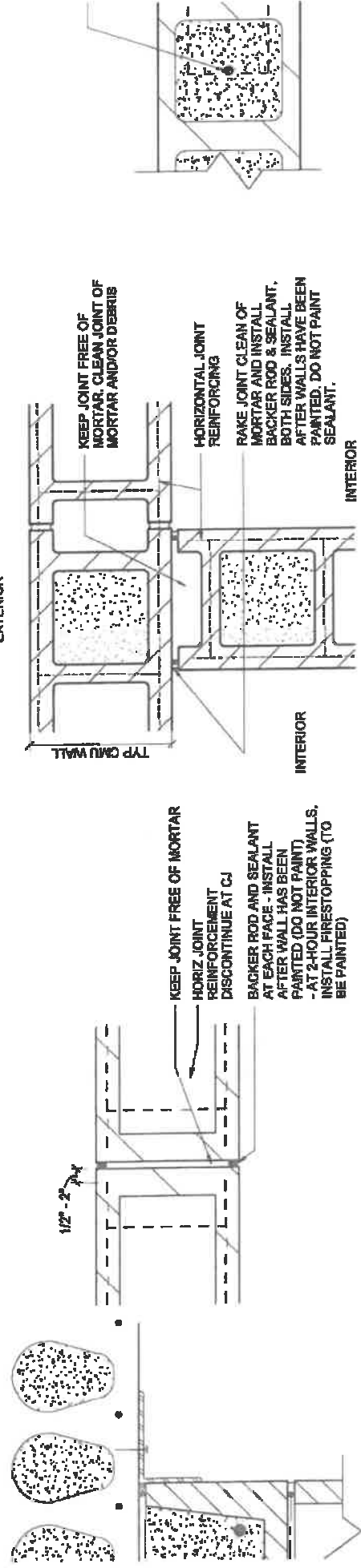
8004504 3" = 1'-0" (22"x34") 0 1' 2' 3' 4' 1 1/2" = 1'-0" (11"x17")

3 FLOATING SOFFIT DETAIL

8004504 3" = 1'-0" (22"x34") 0 1' 2' 3' 4' 1 1/2" = 1'-0" (11"x17")

4 INTERIOR DOOR

8004504 3" = 1'-0" (22"x34") 0 1' 2' 3' 4' 1 1/2" = 1'-0" (11"x17")



DETAIL (PRECAST)

6 INTERIOR CMU CONTROL JOINT (CJ) DETAIL

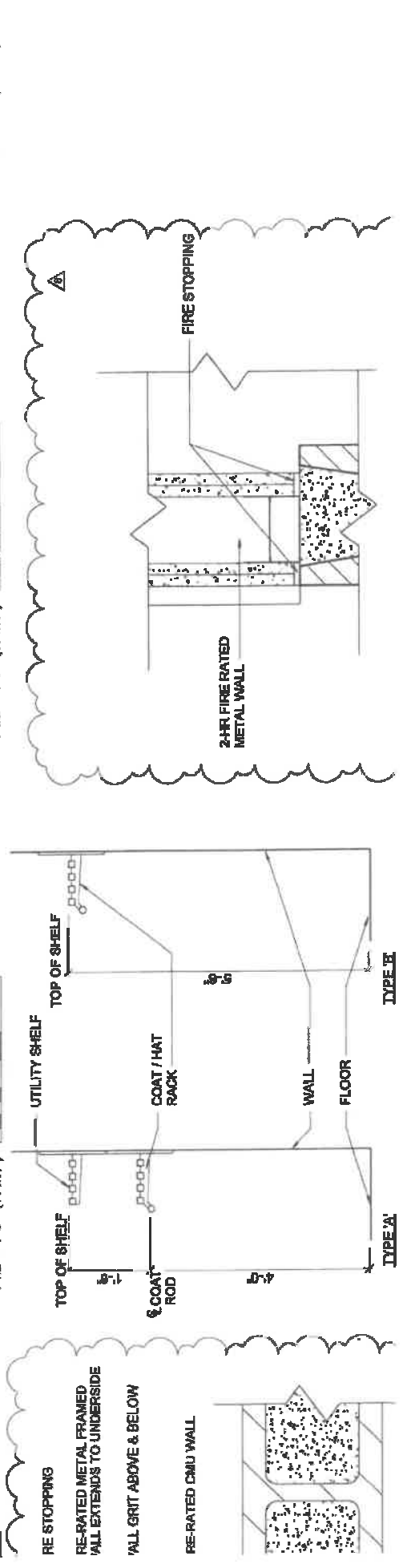
8004504 3" = 1'-0" (22"x34") 0 1' 2' 3' 4' 1 1/2" = 1'-0" (11"x17")

7 CMU INTERSECTION CONTROL JOINT (CJ) DETAIL

8004504 3" = 1'-0" (22"x34") 0 1' 2' 3' 4' 1 1/2" = 1'-0" (11"x17")

8 INTERIOR DOOR

8004504 3" = 1'-0" (22"x34") 0 1' 2' 3' 4' 1 1/2" = 1'-0" (11"x17")



① Coming October 20th, discover our sleek new design and powerful features. [Learn More](#)

UL Product iQ®



Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

XHBO - Continuity Head-of-wall Joint Systems

[See General Information for Continuity Head-of-wall Joint Systems](#)

System No. **CJ-D-0032**

January 03, 2025

Joint Rating — 2 Hr

Nominal Joint Width — 2 in.

Class II or III Movement Capabilities — 100% Compression and Extension



Page 71 of 229

D. Studs — Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut max 2 in. (51 mm) less in length than the wall assembly height beneath purlins (Item 2A) with bottom nesting in and resting on the floor runner (Item 1B) and with top nesting in ceiling deflection channel (Item 1A) without attachment. Stud spacing not to exceed 24 in. (610 mm) O.C. Studs of cripple wall cut to length as required to compress packing material (Item 1C) and unfaced batts and blankets (Item 2C1) to nom thicknesses of 1 in. (25 mm) and 3/8 in. (10 mm), respectively. Studs spaced max 24 in. (610 mm) OC.

E. Gypsum Board* — Min two layers of 5/8 in. (16 mm) thick gypsum board sheets installed on each side of wall. Wall to be constructed as specified in the individual U400, V400 or W400 Series Design in the UL Fire Resistance Directory except that a max 2 in. (51 mm) wide gap shall be maintained between the gypsum board of the wall assembly below the purlin (Item 2A) and the gypsum board of the cripple wall. Top edge of gypsum board of wall assembly to be max 2 in. (51 mm) below top of ceiling deflection channel (Item 1A). Bottom edge of gypsum board of cripple wall to be flush with top of ceiling deflection channel (Item 1A). Screws securing gypsum board to steel studs (Item 1D) of wall assembly to be located 2-1/4 in. to 2-1/2 in. (57 to 64 mm) below flange of ceiling deflection channel (Item 1A). Screws securing gypsum board of cripple wall to be driven into studs (Item 1D) and runners (Item 1B) of cripple wall. No screws are to be driven into flanges of ceiling deflection channel (Item 1A).

F. Gypsum Board* — Min two layers of 5/8 in. (16 mm) thick "rip strip" of gypsum board installed to cover both layers of gypsum board on cripple wall and to lap min 4 in. (102 mm) onto gypsum board of wall assembly on each side of wall. The "rip strip" of gypsum board is to be the same material used for the wall assembly (Item 1E) and is to be secured to the studs (Item 1D) and runners (Item 1B) of the cripple wall. No screws are to be driven into flanges of ceiling deflection channel (Item 1A). Joints of "rip strip" to be offset from joints of gypsum board on wall assembly (Item 1E).

See Gypsum Board (CKNX) category in the Fire Resistance Directory for names of manufacturers.

Max separation between top of wall assembly gypsum board and bottom of cripple wall gypsum board (at time of installation of joint system) is 2 in. (51 mm). The joint system is designed to accommodate a max 100 percent compression or extension from its installed width.

2. Nonrated Horizontal Assembly — The nonrated horizontal assembly shall be constructed of the materials and in the manner described in the individual **Roof Deck Constructions** (TGKX) in the UL Roofing Materials and Systems Directory and shall include the following construction features:

A. Purlin — Min 16 ga coated steel. Max spacing as specified in the individual **Roof Deck Constructions** (TGKX).

B. Lateral Bracing — (Not Shown) - As required.

C1. Unfaced Batts and Blankets* — Used in two layers or one layer in combination with faced batts and blankets (Item 2C2). Any unfaced glass fiber batt material or mineral wool insulation bearing the UL Classification marking having a min 6 in. (152 mm) thickness before compression and a min density of 0.6 pcf (9.6 kg/m³). Insulation draped over purlins prior to installation of panel clips (Item 2F) and/or metal roof deck panels (Item 2D). Side edges of the batts shall be butted or overlapped a max of 3 in. (76 mm). See **Batts and Blankets** (BZJZ) Category in UL Fire Resistance Directory or **Batts and Blankets** (BKNV) in the UL Building Materials Directory for list of Classified Companies.

C2. Faced Batts and Blankets* — Used in combination with unfaced batts and blankets (Item 2C1). Any faced glass fiber batt material or mineral wool insulation bearing the UL Classification marking. See **Batts and Blankets** (BZJZ) Category in UL Fire Resistance Directory or **Batts and Blankets** (BKNV) in the UL Building Materials Directory for list of Classified Companies.

C3. Vapor Retarder Fabric* — (Not Shown) - Used only with two layers of unfaced batts and blankets (Item 2C1), as specified in the respective insulation system, and continuously sealed to wall angle (Item 2C5).

C4. Steel Banding — Fastened to wall angle (Item 2C5). As specified in the respective insulation system.

C5. Wall Angle — Galv steel angle with 2 in. legs, No. 20 MSG (0.0329 in., min bare metal thickness), attached to wall with fasteners at every stud (Item 1D) to support vapor retarder fabric (Item 2C3) and steel banding (Item 2C4).

D. Metal Roof Deck Panels* — Min 26 ga coated steel. Panels continuous over two or more spans. Roof panel end laps, if required, centered over purlins (Item 2A) with min 3 in. (76 mm) panel overlap as specified in the individual **Roof Deck Constructions** (TGKX). A line of tube sealant or tape sealant may be used at panel end and side laps.

See **Metal Roof Deck Panels (TJPV)** category in the UL Roofing Materials and Systems Directory for names of manufacturers.

E. Fasteners — Fasteners used for panel-to-purlin and panel-to-panel connections to be self-tapping, hex-head, plated steel or stainless steel screws with either an integral or a separate steel washer fitted with a compressible sealing washer. Fastener type, length, pilot hole diam and spacing to be as specified in the individual **Roof Deck Constructions (TGKX)**.

F. Roof Deck Fasteners* - Panel Clips — (Not Shown) - Panel clips used for panel-to-purlin connections to be secured to purlin (Item 2A) through insulation as specified in the individual **Roof Deck Constructions (TGKX)**.

See **Roof Deck Fasteners (TLSX)** category in the UL Roofing Materials and Systems Directory for names of manufacturers.

G. Thermal Spacer Blocks — (Not Shown) - Expanded polystyrene strips cut to fit between panel clips (Item 2F) as specified in the individual **Roof Deck Constructions (TGKX)**. Thermal spacer blocks, when used, are to be installed between unfaced batts and blankets (Item 2C1) and metal roof deck panels (Item 2D) over purlins (Item 2A).

3. Fill, Void or Cavity Material* (XHHW) — Caulk — (Not Shown) - Min 5/8 in. (16 mm) thickness of fill material installed to fill any gap between top of cripple wall gypsum board (Item 1E) and unfaced batts and blankets (Item 2C1) on each side of the wall. Additional sealant installed to fill annular space between purlin (Item 2A) and gypsum board "rip strip" (Item 1F) on both sides of wall. Additional nom 1/2 in. (13 mm) diam bead of sealant to be applied around perimeter of purlin at its interface with the "rip strip" (Item 1F) on each side of the wall.

3M COMPANY 3M FIRE PROTECTION PRODUCTS — CP 25WB+ Caulk

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2025-01-03

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COR 017 - Response to RFI 089
STR 800 North Lab Wall Electrical Power



PCI #COR0017

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935
Phone: 1 920 924.2900

Project: 240224 - Mayville WWTF 2024 Upgrade
400 Kekoskee Street
Mayville, WI 53050

Potential Change Item #COR0017

COR 017 - Adding Electrical on Str. 800 North Lab Wall

To:	City Of Mayville 15 S School Street Mayville, WI 53050	From:	C.D. Smith Construction, Inc. 125 Camelot Drive Fond du Lac WI, 54935
Status:	Pricing-No Forecast	Created Date	2026-02-10
Schedule Impact:		OCO Number:	

POTENTIAL CHANGE ITEM SCOPE DESCRIPTION: *(The Contract Is Changed As Follows)*

Additions Made to Str. 800 North Lab Wall Power per RFI #89.

ATTACHMENTS:

Description	Cost Code	Category	Quantity	W/M	Rate	Final Amount
Electrical	260000	S		LS	\$	\$4,533.00
Bond:						\$47.60
Subcontract Markup (5%):						\$226.65
Grand Total:						\$4,807.25

City Of Mayville
15 S School Street
Mayville, WI 53050


SIGNATURE

DATE

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935

Karley Krupp
Digitally signed by Karley Krupp
Date: 2026.02.09 14:33:48-06'00'

SIGNATURE

DATE



CHANGE ORDER

To: Karley Krupp
CD Smith
Ph: 920-979-8756
Email: kkrupp@cdsmith.com

Date: 2/9/2026
Project Name: Mayville WWTF
Location: Mayville, WI
Proposal No: M2735 – CO.006
RFP: RFI #89 – Bldg. 800 North Lab Wall

Van Ert Electric Co. is pleased to furnish this Proposal for installation of wiring, material and equipment for the above referenced project. This proposal is submitted per your request and includes the clarifications listed within.

"By submission of its bid, Van Ert Electric Company, Inc. reserves the right to negotiate mutually acceptable contract terms, including review of any applicable Prime contract provisions, upon award of the work."

Labor.....	\$2,391.00
Materials	\$1,476.00
Equipment	\$75.00
OH&P	\$591.00

Scope of Work:

- Install Power to Bldg. 800 North Lab Wall, As directed through RFI #89 Answers

Clarifications:

- All work to be performed during normal business hours, Monday through Friday, 7am to 4pm
- Due to the fluctuating cost and availability of commodity & distribution materials, pricing will need to be verified upon the acceptance of this proposal.
- Van Ert Electric Company, Inc. reserves the right in its sole discretion to add surcharge(s) to the quotation and/or invoice for increased costs related to, without limitation, freight, fuel, and/or tariffs.
- Pricing is valid for (25) days

Proposal may be withdrawn if not accepted by: 25 Days

Payment to be made as follows: 30 Days

Authorized Signature:

Andy Gross

Title: Project Manager

Phone Number: 262.900.2065

The above prices, specifications, and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Signature of Acceptance:

Date of Acceptance:

Please return executed proposal by emailing to: agross@vanert.com

We appreciate the opportunity to submit our proposal on this project. If you have any questions or concerns, please feel free to contact Andy Gross @ 262.900.2065



C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac, Wisconsin 54935
P: (920) 924-2900
F: (920) 924-2910

Project: 240224 Mayville WWTF 2024 Upgrade
400 Kekoskee Street
Mayville, Wisconsin 53050
P: 920-387-7900

RFI #89: Bldg. #800 Laboratory North Wall Power

Revision	0	Status	Open
To	Shane Dennis (MSA Professional Services, Inc.) Coty Weathersby (MSA Professional Services, Inc.) Kerry Hackert (MSA Professional Services, Inc.) Leslie Deuchars (MSA Professional Services, Inc.) Steve Sell (MSA Professional Services, Inc.)	From	Kayla Steger (C.D. Smith Construction, Inc.) 125 Camelot Dr Fond du lac, Wisconsin 54935
Date Initiated	Jan 21, 2026	Due Date	Jan 26, 2026
Location			
Cost Impact		Schedule Impact	
Spec Section			
Drawing Number			
Linked Drawings			
Received From	Andy Gross (Van Ert Electric Company, Inc.)		
Copies To	Cory Flesch (C.D. Smith Construction, Inc.), Andy Gross (Van Ert Electric Company, Inc.), Karley Krupp (C.D. Smith Construction, Inc.), Kayla Steger (C.D. Smith Construction, Inc.)		

Activity

Question

Question from Kayla Steger C.D. Smith Construction, Inc. on Wednesday, Jan 21, 2026 at 08:56 AM CST

We discovered during our weekly jobsite meeting there is no power called out for any equipment along the north wall of the laboratory (see below). City of Mayville has indicated this area to have (2) incubators, (1) dishwasher, (1) refrigerator, and a DI/RO. We will need to know the electrical specifications of each piece of equipment, along with outlet locations. I can then work up a change order cost for the missing equipment.

Attachments
[Bldg. 800 Laboratory North Wall Power.pdf](#)

Awaiting an Official Response

All Replies

Response from Leslie Deuchars MSA Professional Services, Inc. on Thursday, Jan 29, 2026 at 09:08 AM CST

Please refer to markups labeled RFI089 on sheets 800E101 and 999E603 attached to this RFI response for power requirements for the north wall laboratory equipment. Electrical Engineer will call Van Ert project manager to discuss change order on Thursday, January 29th.

Attachments
[999E603 - PANEL SCHEDULES.pdf](#), [800E101 - ELECTRICAL PLAN.pdf](#)

GENERAL NOTES

- [illegible]

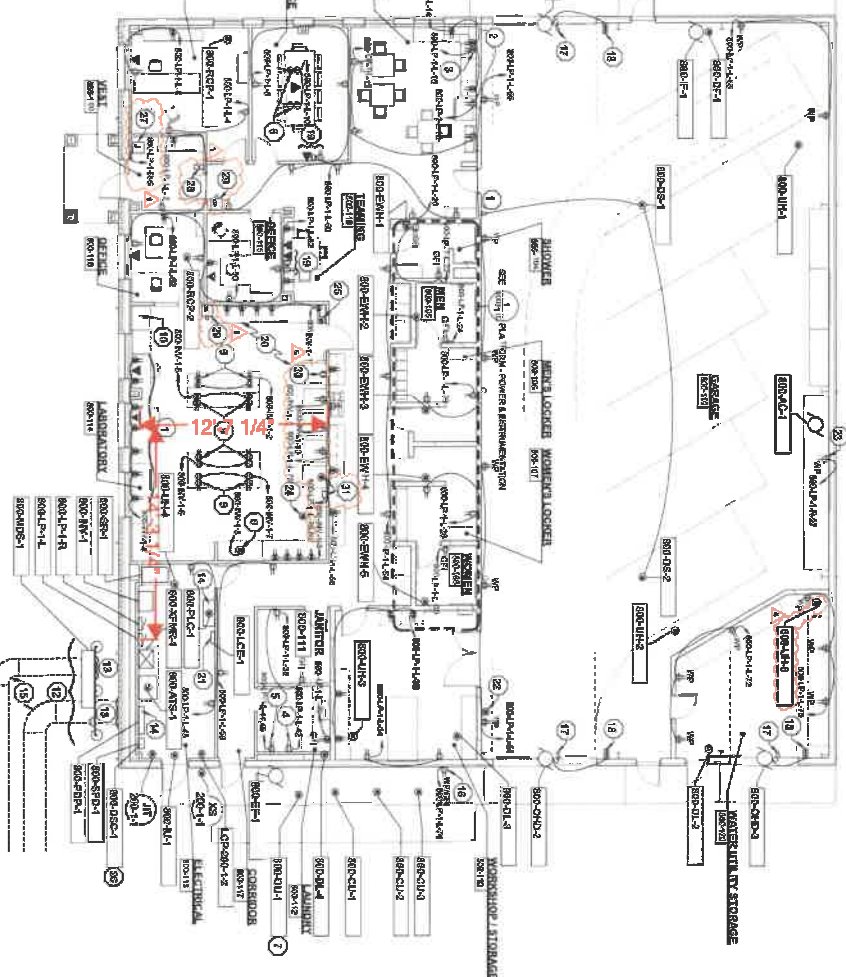
KEY NOTES

- [illegible]

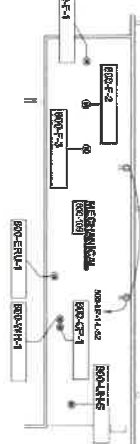
ENVIRONMENT CLASSIFICATIONS

PRJ#	NUMBER	SPR#	NAME / DESCRIPTION	EMPHASIS
800-100	NEST			
800-101	DIRECTOR			
800-102	CONFERENCE			
800-103	DRINK ROOM			
800-104	RESTROOM			
800-105	MEN			
800-106	MEN'S LOCKER			
800-107	WOMEN'S LOCKER			
800-108	WOMEN			
800-109	MET-CANICAL			
800-110	WORKS/SHOP/STORAGE			
800-111	JAMMER			
800-112	LABOR			
800-113	LABORATORY			
800-114	LABORATORY			
800-115	OFFICE			
800-116	OFFICE			
800-117	CONSTRUCTION			
800-118	CONSTRUCTION			
800-119	CONSTRUCTION			
800-120	CONSTRUCTION			

FIRST FLOOR - POWER & INSTRUMENTATION



PLATFORM - POWER & INSTRUMENTATION



WASTEWATER TREATMENT FACILITY UPGRADE
CITY OF MAYVILLE
MAYORGE COUNTY, WI

ADMINISTRATION BUILDING ELECTRICAL PLAN

[illegible]

ENGINEERING ARCHITECTURE INTERIOR DESIGNING FURNISHING PLANNING CONSTRUCTION 11000 W. 11TH AVE. SUITE 200 MINNEAPOLIS, MN 55410 (612) 922-2779 an Equal Opportunity Employer	WASTEWATER TREATMENT FACILITY UPGRADE CITY OF MAYVILLE BOONE COUNTY, IN	STANDARD DETAILS AND SCHEDULES PANEL SCHEDULES PROJECT NO. 00021005 DATE 04/20/88 00025000
--	---	--

COR 018 - Response to RFI 079 STR 800 ERU Support Stand



PCI #COR0018

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935
Phone: 1 920 924.2900

Project: 240224 - Mayville WWTF 2024 Upgrade
400 Kekoskee Street
Mayville, WI 53050

Potential Change Item #COR0018

COR 018 - ERU Support Stand

To:	City Of Mayville 15 S School Street Mayville, WI 53050	From:	C.D. Smith Construction, Inc. 125 Camelot Drive Fond du Lac WI, 54935
Status:	Pricing-No Forecast	Created Date	2026-02-13
Schedule Impact:	5	OCO Number:	

POTENTIAL CHANGE ITEM SCOPE DESCRIPTION: *(The Contract Is Changed As Follows)*

ERU Support Stand

ATTACHMENTS:

Description	Cost Code	Category	Quantity	W/M	Rate	Final Amount
Process Piping - Wastewater	400000	S		LS	\$	\$12,497.00
Bond:						\$131.22
Subcontract Markup (5%):						\$624.85
Grand Total:						\$13,253.07

City Of Mayville
15 S School Street
Mayville, WI 53050

SIGNATURE

3/7/26

DATE

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935

Karley Krupp

Digitally signed by Karley Krupp
Date: 2026.02.13 13:18:26-06'00'

SIGNATURE

DATE



AUGUST WINTER & SONS, INC.
MECHANICAL CONTRACTOR & FABRICATOR

www.augustwinter.com

2323 N. Roemer Road
Appleton, WI 54911
PO Box 1896
Appleton, WI 54912-1896
P: (920) 739-8881
F: (920) 739-2230

5613 Schofield Ave.
Schofield, WI 54476
P: (715) 355-7555
F: (715) 355-9048

February 12, 2026

Karley Krupp
CD Smith

8

CHANGE ORDER PRICE AND BREAKDOWN

Project/Job#: Mayville WWTP 92125
Description: ERU Support Stand

Our change order price and breakdown follows:

August Winter

Material.....	\$	1,244
Labor**..... 72 hrs	\$	7,577
Direct Costs.....	\$	2,046
Subtotal.....	\$	10,867
Overhead.....	\$	1,630
Subsistence.....	\$	-
Total.....	\$	12,497

Equipment

Total Equipment Costs.....	\$	-
Equipment Markup.....	\$	-
Total Equipment Costs w/overhead.....	\$	-

Subcontracts

Total Subcontractor Costs.....	\$	-
Subcontractor Markup.....	\$	-
Total Subcontractor Costs w/overhead.....	\$	-

Total AWS/Subcontractor Costs.....	\$	12,497
Profit/Bond.....	\$	-

Change Order Total..... \$ 12,497

Time extension required is 5 days.

This quotation based upon acceptance within 30 days.

** Labor rate may include multiple trades with straight and premium time.

Exclusions: slurry/flowable fill for abandonment, bypassing for sewer tie ins

Dave Thiel

August Winter & Sons, Inc.
PH: 920-739-8881 FX: 920-739-2230

VISIT OUR WEB SITE AT WWW.AUGUSTWINTER.COM

Branch Office: 5613 Schofield Avenue * Schofield, WI 54476 * PH: 715/355-7555 * FAX: 715/355-9048
HVAC * PLUMBING * TANK FABRICATION * PROCESS PIPING * IND. SHEETMETAL
SPECIALTY METAL FAB. * ASME PRESSURE VESSELS * ASME CODE WELDING * 24 HR. SERVICE * ENGINEERING
STATE OF WISCONSIN LICENSED MASTER PLUMBERS, LICENSE NUMBER 871958

August Winter Sons, Inc.
Change Order/Small Projects Report

Page 1

Project/Job#: Mayville WWTP 92125
Description: ERU Support Stand

Date: 2/12/2026

MATERIAL

Material Credit w/restocking	0.00
Material ADD	\$ 1,244.00
Sales Tax	0.0%

Material Subtotal \$ 1,244

LABOR

General Foreman Hours	8.00	@	\$ 111.32	\$ 890.56
Foreman Hours	0.00	@	\$ -	\$ -
Field Plumber/Fitter Hours - REG	0.00	@	\$ -	\$ -
Field Plumber/Fitter Hours - OT	0.00	@	\$ -	\$ -
Field Tinner Hours - REG	36.00	@	\$ 104.48	\$ 3,761.28
Field Tinner Hours - OT	0.00	@	\$ -	\$ -
Shop Hours	28.00	@	\$ 104.48	\$ 2,925.44
Operator Hours	0.00	@	\$ -	\$ -

Labor Subtotal \$ 7,577

DIRECT COSTS

Payroll Taxes + Insurance (WC and Liability)	27.0% of Labor	\$ 2,045.87
--	----------------	-------------

Subtotal \$ 2,046

Subtotal Contractor Costs \$ 10,867

Overhead 15.0% \$ 1,630

Subsistence \$ -

Total Contractor Costs \$ 12,497

Equipment	0.00	week	@	\$ -	\$ -
	0.00	week	@	\$ -	\$ -
	0.00	week	@	\$ -	\$ -
	0.00	week	@	\$ -	\$ -
	0.00	week	@	\$ -	\$ -
	0.00	week	@	\$ -	\$ -

Subtotal \$ -

Equipment Overhead 0.0% \$ -

Subtotal Equipment Costs \$ -

SUBCONTRACTS

	\$ -
	\$ -
	\$ -
	\$ -

Total Subcontractor Costs \$ -

Subcontractor Overhead 5.0% \$ -

Subtotal Subcontractors Costs \$ -

NOTE: This change order does not address impact costs on base contract.

Total Contractor/Subcontractor Costs \$ 12,497

Profit 0.0% \$ -

Bond 0.0% \$ -

Total Amount Of Change \$ 12,497

Time extension required is 5 days. This quotation based upon acceptance within 30 days.

Exclusions: slurry/flowable fill for abandonment, bypassing for sewer tie ins

NOTE: This change order does not address impact costs on base contract.

COR 020 - Response to City IT Requirements

STR 800 Additional Wireless Access Points



PCI #COR0020

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935
Phone: 1 920 924.2900

Project: 240224 - Mayville WWTF 2024 Upgrade
400 Kekoskee Street
Mayville, WI 53050

Potential Change Item #COR0020

COR 020 - Added WAPs and CAT6A Cabling

To:	City Of Mayville 15 S School Street Mayville, WI 53050	From:	C.D. Smith Construction, Inc. 125 Camelot Drive Fond du Lac WI, 54935
Status:	Pricing-No Forecast	Created Date	2026-03-09
Schedule Impact:		OCO Number:	

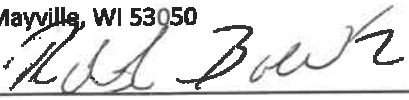
POTENTIAL CHANGE ITEM SCOPE DESCRIPTION: *(The Contract Is Changed As Follows)*

Add (3) WAP Locations, Cable and Terminations Only.

ATTACHMENTS:

Description	Cost Code	Category	Quantity	W/M	Rate	Final Amount
Electrical	260000	S		LS	\$	\$759.00
Bond:						\$7.97
Subcontract Markup (5%):						\$37.95
Grand Total:						\$804.92

City Of Mayville
15 S School Street
Mayville, WI 53050


SIGNATURE

DATE

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935

Karley Krupp

Digitally signed by Karley Krupp
Date: 2026.04.13 07:46:12-0500

SIGNATURE

DATE


DATE



CHANGE ORDER

To: Karley Krupp
CD Smith
Ph: 920-979-8756
Email: kkrupp@cdsmith.com

Date: 3/6/2026
Project Name: Mayville WWTF
Location: Mayville, WI
Proposal No: M2735 – CO.007 Rev.01
RFP: Added WAP

Van Ert Electric Co. is pleased to furnish this Proposal for installation of wiring, material and equipment for the above referenced project. This proposal is submitted per your request and includes the clarifications listed within.

“By submission of its bid, Van Ert Electric Company, Inc. reserves the right to negotiate mutually acceptable contract terms, including review of any applicable Prime contract provisions, upon award of the work.”

Labor.....	\$486.00
Materials	\$135.00
Equipment	\$45.00
OH&P	\$93.00

Scope of Work:

- Add (3) WAP locations, cable and terminations only. WAPs provided and installed by Genesis

Clarifications:

- All work to be performed during normal business hours, Monday through Friday, 7am to 4pm
- Due to the fluctuating cost and availability of commodity & distribution materials, pricing will need to be verified upon the acceptance of this proposal.
- Van Ert Electric Company, Inc. reserves the right in its sole discretion to add surcharge(s) to the quotation and/or invoice for increased costs related to, without limitation, freight, fuel, and/or tariffs.
- Pricing is valid for (25) days

We appreciate the opportunity to submit our proposal on this project. If you have any questions or concerns, please feel free to contact Andy Gross @ 262.900.2065

COR 021 - Response to FO 08 R1
STR 800 HVAC Snorkel Ventilation Reroute

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935
Phone: 1 920 924.2900

Project: 240224 - Mayville WWTF 2024 Upgrade
400 Kekoskee Street
Mayville, WI 53050

Potential Change Item #COR0021

Field Order No. 08 - HVAC Snorkel Ducting

To:	City Of Mayville 15 S School Street Mayville, WI 53050	From:	C.D. Smith Construction, Inc. 125 Camelot Drive Fond du Lac WI, 54935
Status:	Pricing-No Forecast	Created Date	2026-03-23
Schedule Impact:	3 Days	OCO Number:	

POTENTIAL CHANGE ITEM SCOPE DESCRIPTION: (The Contract Is Changed As Follows)

HVAC Snorkel Ducting Requirements

ATTACHMENTS:

Description	Cost Code	Category	Quantity	W/M	Rate	Final Amount
Electrical	260000	S		LS	\$	\$3,291.00
Process Piping - Wastewater	400000	S		LS	\$	\$11,727.00
Bond:						\$157.69
Subcontract Markup (5%):						\$750.90
Grand Total:						\$15,926.59

City Of Mayville
15 S School Street
Mayville, WI 53050

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935

Karley Krupp
Digitally signed by Karley Krupp
Date: 2026.03.25
16:03:00-05'00'

SIGNATURE

DATE

SIGNATURE

DATE



AUGUST WINTER & SONS, INC.

MECHANICAL CONTRACTOR & FABRICATOR

www.augustwinter.com

Appleton, WI 54911
PO Box 1896
Appleton, WI 54912-1896
P: (920) 739-8881
F: (920) 739-2230

5613 Schofield Ave.
Schofield, WI 54476
P: (715) 355-7555
F: (715) 355-9048

March 23, 2026

Karley Krupp
CD Smith

11

CHANGE ORDER PRICE AND BREAKDOWN

Project/Job#: Mayville WWTP 92125

Description: FO 8 Snorkel

Our change order price and breakdown follows:

August Winter

Material.....	\$	1,774
Labor**..... 42 hrs	\$	4,429
Direct Costs.....	\$	1,196
Subtotal.....	\$	7,399
Overhead.....	\$	1,110
Subsistence.....	\$	-
Total.....	\$	8,509

Equipment

Total Equipment Costs.....	\$	640
Equipment Markup.....	\$	-
Total Equipment Costs w/overhead.....	\$	640

Subcontracts

Total Subcontractor Costs.....	\$	2,455
Subcontractor Markup.....	\$	123
Total Subcontractor Costs w/overhead.....	\$	2,578

Total AWS/Subcontractor Costs.....	\$	11,727
Profit/Bond.....	\$	-

Change Order Total..... \$ 11,727

Time extension required is 3 days.

This quotation based upon acceptance within 30 days.

** Labor rate may include multiple trades with straight and premium time.

Exclusions: slurry/flowable fill for abandonment, bypassing for sewer tie ins

Dave Thiel

August Winter & Sons, Inc.
PH: 920-739-8881 FX: 920-739-2230

VISIT OUR WEB SITE AT WWW.AUGUSTWINTER.COM

Branch Office: 5613 Schofield Avenue * Schofield, WI 54476 * PH: 715/355-7555 * FAX: 715/355-9048

HVAC * PLUMBING * TANK FABRICATION * PROCESS PIPING * IND. SHEETMETAL

SPECIALTY METAL FAB. * ASME PRESSURE VESSELS * ASME CODE WELDING * 24 HR. SERVICE * ENGINEERING

STATE OF WISCONSIN LICENSED MASTER PLUMBERS, LICENSE NUMBER 871958

Project/Job#: Mayville WWTP 92125
Description: FO 8 Snorkel

Date: 3/23/2026

MATERIAL

Material Credit w/restocking		0.00
Material ADD		\$ 1,774.00
Sales Tax	0.0%	\$ -

Material Subtotal \$ 1,774

LABOR

General Foreman Hours	4.00	@	\$ 111.32	\$ 445.28
Foreman Hours	0.00	@	\$ -	\$ -
Field Plumber/Fitter Hours - REG	0.00	@	\$ -	\$ -
Field Plumber/Fitter Hours - OT	0.00	@	\$ -	\$ -
Field Tinner Hours - REG	32.00	@	\$ 104.48	\$ 3,343.36
Field Tinner Hours - OT	0.00	@	\$ -	\$ -
Shop Hours	4.00	@	\$ 104.48	\$ 417.92
Service Hours	2.00	@	\$ 111.32	\$ 222.64

Labor Subtotal \$ 4,429

DIRECT COSTS

Payroll Taxes + Insurance (WC and Liability)	27.0% of Labor	\$ 1,195.88
--	----------------	-------------

Subtotal \$ 1,196

Subtotal Contractor Costs

Overhead 15.0% \$ 1,110

Subsistence \$ -

Total Contractor Costs \$ 8,509

Equipment

	0.00	week	@	\$ -	\$ -
Man Lift	1.00	week	@	\$ 640.00	\$ 640.00
	0.00	week	@	\$ -	\$ -
	0.00	week	@	\$ -	\$ -
	0.00	week	@	\$ -	\$ -
	0.00	week	@	\$ -	\$ -

Subtotal \$ 640

Equipment Overhead

0.0% \$ -

Subtotal Equipment Costs

\$ 640

SUBCONTRACTS

Precision		\$ 875.00
Taylor		\$ 1,580.00
		\$ -
		\$ -

Total Subcontractor Costs

\$ 2,455

Subcontractor Overhead

5.0% \$ 123

Subtotal Subcontractors Costs

\$ 2,578

NOTE: This change order does not address impact costs on base contract.

Total Contractor/Subcontractor Costs

\$ 11,727

Profit

0.0% \$ -

Bond

0.0% \$ -

Total Amount Of Change

\$ 11,727

Time extension required is 3 days.

This quotation based upon acceptance within

30 days.

Exclusions: slurry/flowable fill for abandonment, bypassing for sewer tie ins

NOTE: This change order does not address impact costs on base contract.

From: Dewitt, Michael <MDewitt@vyron.com>
Sent: Monday, March 2, 2026 4:12 PM
To: Thiel, David
Cc: Risch, Jack
Subject: FW: [EXTERNAL]- Fw: Mayville WWTF - Constraint Log and Delay
Attachments: Submittal GFC 800-IF-2 Field Order 008 3.2.26.pdf

Hi Dave,

Please see quote below. I did notice 800-UH-6 got added to this job. However, I can not tell much about it. You did purchase Modine from us on this job, so if it is a GUH please let me know. We did not sell you the electric heat on this job so if it is electric it is out of our scope.

Greenheck

(1) Inline Fan – Model: SQ-80 – tagged – 800-IF-2 – Performance – 180CFM @ .5inwc with 1/12HP motor wire for 115V/1Ph power. Provided with NEMA-1 disconnect.
(1) Wall Cap – Model: WC-8

Standard 4 Week Lead Time - \$806.00

Due to fluctuation in material costs we are currently only able to guarantee pricing for 30 days from the time of quote. Lead times are also subject to change based on date of release.

Please let me know if you have any additional questions.

Thank you,



Michael Dewitt
Inside Sales

2150 Holmgren Way Suite 101, Green Bay, WI 54304

Direct Dial: 920.393.8740

mdewitt@vyron.com | [website](#) | [line card](#) | [customer portal](#) | [terms & conditions](#)

**WOMEN
OWNED**



From: Thiel, David <dthiel@augustwinter.com>
Sent: Monday, March 2, 2026 7:48 AM
To: Risch, Jack <jrisch@vyron.com>; Dewitt, Michael <mdewitt@vyron.com>
Subject: FW: [EXTERNAL]- Fw: Mayville WWTF - Constraint Log and Delay

Jack/Michael,

Please see the attached for field order #008, let me know if you have a cost impact.

Thanks!



David Thiel
Project Manager
August Winter & Sons, Inc.
N850 Cty Rd. CB, Appleton, WI 54914
Cell: 920-851-9763
Direct: 920-560-2233
Office: 920-739-8881
Email: dthiel@augustwinter.com

From: Karley Krupp <kkrupp@cdsmith.com>
Sent: Monday, March 2, 2026 7:18 AM
To: Thiel, David <dthiel@augustwinter.com>; Andy Gross <agross@vanert.com>
Cc: Cory Flesch <cflesch@cdsmith.com>
Subject: [EXTERNAL]- Fw: Mayville WWTF - Constraint Log and Delay

All,

Please see Field Order No. 08 in regard to the snorkel tube. We will be issuing this via Procore, but wanted to make you aware ASAP.

Please provide pricing if necessary.

Thank you,
Karley Krupp

Karley Krupp
Project Manager

920.979.8756 (mobile)
kkrupp@cdsmith.com
www.cdsmith.com



CD. SMITH
CONSTRUCTION



From: Steve Sell <ssell@msa-ps.com>
Sent: Friday, February 27, 2026 4:07 PM
To: Karley Krupp <kkrupp@cdsmith.com>
Cc: Kerry Hackert <khackert@msa-ps.com>
Subject: RE: Mayville WWTF - Constraint Log and Delay

CAUTION: External Email

Here is the field order clarification for the snorkel tube.

Steven Sell

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

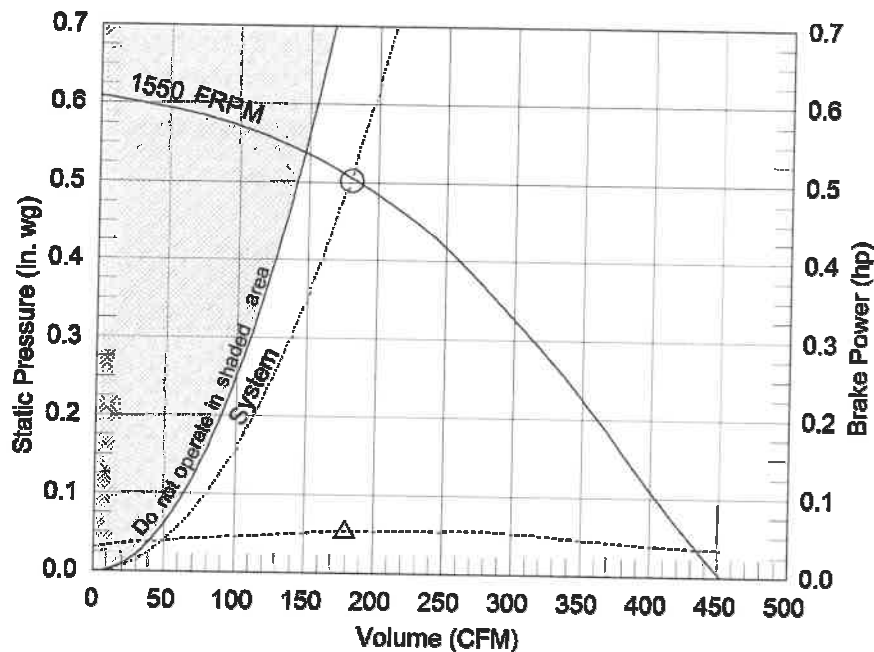
Model: SQ-80

Direct Drive Centrifugal Inline Fan

Dimensional	
Quantity	1
Weight w/o Acc's (lb)	34
Weight w/ Acc's (lb)	36

Performance	
Requested Volume (CFM)	180
Actual Volume (CFM)	181
Total External SP (in. wg)	0.503
Fan RPM	1550
Operating Power (hp)	0.05
Elevation (ft)	919
Airstream Temp.(F)	70
Air Density (lb/ft ³)	0.073
Tip Speed (ft/min)	4,413
Static Eff. (%)	28

Misc Fan Data	
Fan Energy Index (FEI)	-
Outlet Velocity (ft/min)	181



- △ Operating Bhp point
- Operating point at Total External SP
- Fan curve
- System curve
- Brake horsepower curve

Static Pressure Calculations

External SP	0.5 in. wg
Direct Drive RPM Adjustment	0.003 in. wg
Total External SP	0.503 in. wg

Motor	
Motor Mounted	Yes
Size (hp)	1/12 (or greater)
Voltage/Cycle/Phase	115/60/1
Enclosure	TEAO
Motor RPM	1550
Windings	1
FLA (Amps)	0.88
Short Circuit Current Rtg (SCCR)	5 kA

Nameplate Model: SQ-80-X

Sound Power by Octave Band

Sound Data	62.5	125	250	500	1000	2000	4000	8000	LwA	dBA	Sones
Inlet	68	74	69	61	60	57	52	46	66	55	7.3
Radiated	69	76	63	55	55	51	46	42	63	51	6.5

Notes:

All dimensions shown are in units of in.
*Please consult factory for actual motor amp draw
LwA - A weighted sound power level, based on ANSI S1.4
dBA - A weighted sound pressure level, based on 11.5 dB
attenuation per Octave band at 5 ft - dBA levels are not
licensed by AMCA International
Sones - calculated using AMCA 301 at 5 ft



Model: SQ-80

Direct Drive Centrifugal Inline Fan

Greenheck model SQ Mixed Flow meets or exceeds legacy centrifugal models SQ/BSQ in performance and features. SQ Mixed flow is an approved equal and can be considered a direct replacement for these models.

Standard Construction Features:

- Galvanized steel housing - Backward inclined composite (sizes 80-95) or aluminum (sizes 97-180) wheel - Two bolted access panels - Integral duct connection flanges - Ball bearing motors (sizes 97-160 and all var-green motors), sleeve bearing motors (sizes 80-95) - Corrosion resistant fasteners

Selected Options & Accessories:

UL/cUL 705 Listed - "Power Ventilators"

Junction Box Mounted and Wired
Switch, NEMA-1, Toggle, Shipped Separate

Galvanized Housing

Composite Centrifugal Wheel

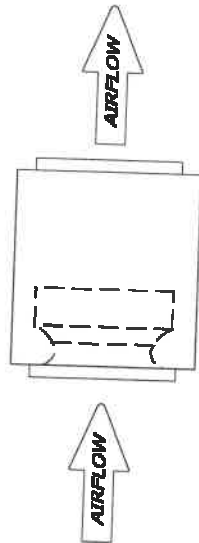
Composite Inlet Cone

Wheel Baffle

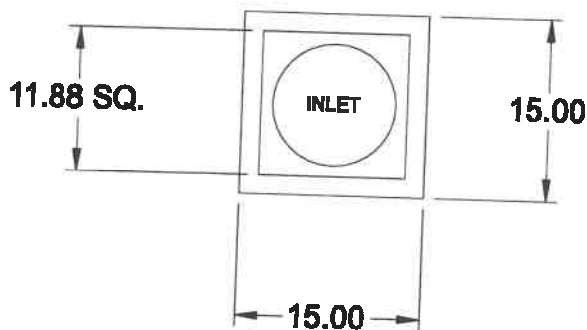
Unit Warranty: 1 Yr (Standard)

SQ-80

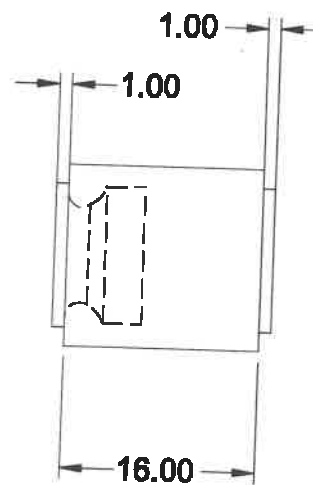
Direct Drive Centrifugal Inline Fan



TOP VIEW



END VIEW



SIDE VIEW

Notes: All dimensions shown are in units of in.

Disconnect Switch

Enclosure Rating: NEMA-1

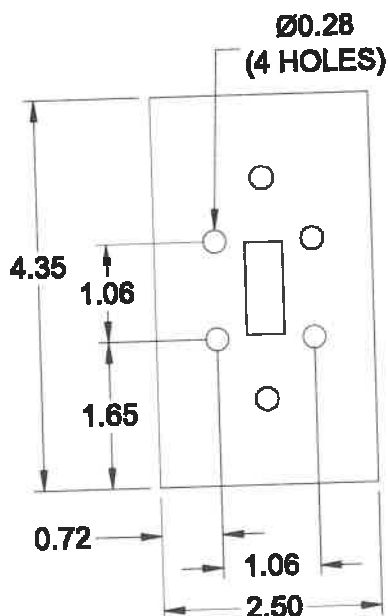
Standard Construction Features:

Enclosure constructed for indoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment and to provide a degree of protection against falling dust. This enclosure meets the rod entry and the indoor corrosion protection design tests. The rod entry test is intended to simulate incidental contact with enclosure equipment. Enclosure is equipped with provision to lockout in the off position with customer supplied lock.

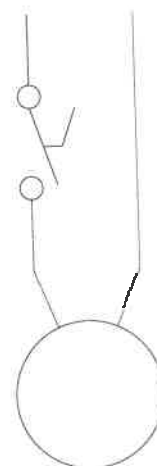
Disconnect Switch Configuration

Type:	Toggle	Motor Size:	1/12 hp	Voltage:	115	UL Listed:	Yes
Manufacturer:	Pass and Seymour	Cycle:	60	Amperage:	15	CSA Approved:	Yes
Overload Protection:	None	Phase:	1	Switch Pole(s):	1	Rating:	1/2 hp
Junction Box Mtg.:	Ship Separate	RPM:	1550	Exp. Resist. Wiring:	None		
Switch Mounting:	Shipped Separate						

Electrical Drawing Details



Wiring Schematic

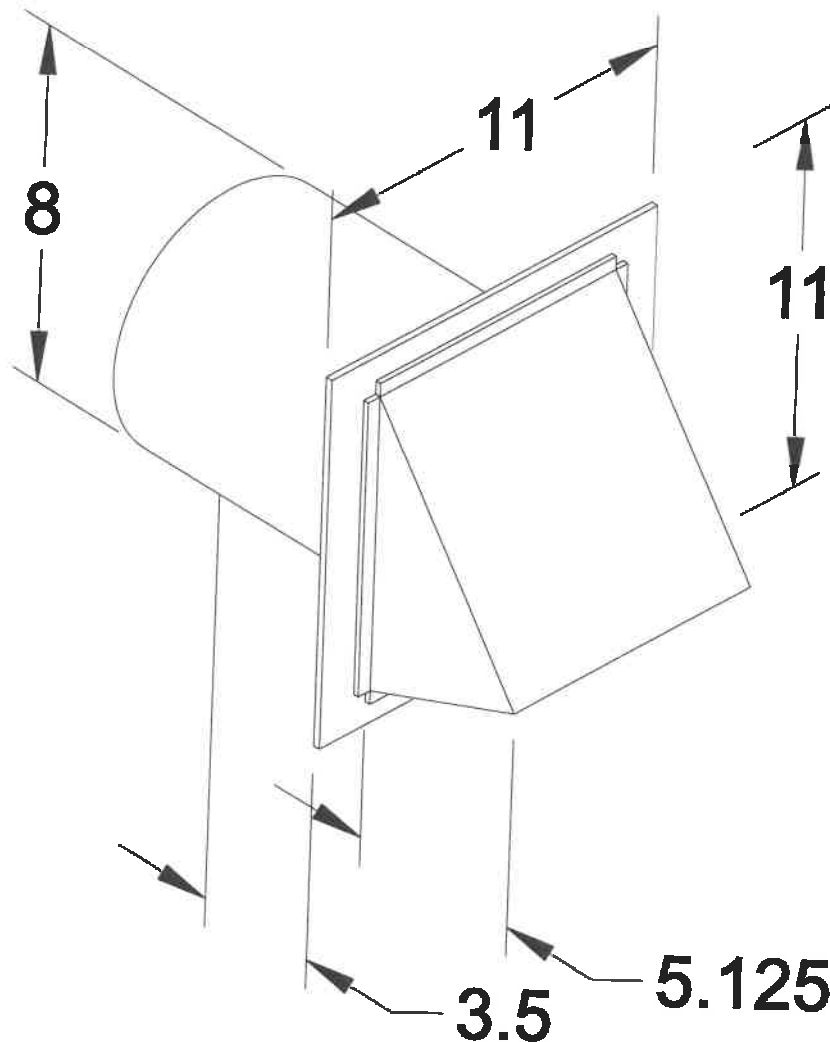


Notes: All dimensions shown are in units of in.
P:\Mayville WWTF Upgrade - 44745\Mayville Field Order 008.gfc
Generated by: mdewitt@vyron.com

WC-8

Standard Construction Features:

- Aluminum construction - Designed for outside wall applications - Built in damper.



Notes: All dimensions shown are in units of in.

Precision Balancing Group

Ryan Hilbert
549 Pine Tree Dr
Fond du Lac, WI 54935

August Winter & Sons

920-979-3825
rhilbert@pbgtab.com

03/02/2026

Proposal for Mayville WWTP Field Order #008:

Provide NEBB certified test and balance report for the following. Functional performance test 1 IF. Price is based off plan and spec dated 2/27/2026.

\$875.00

Terms & Conditions

- Quote is good for 30 days from proposal date.
- Prices are for normal business hours. Special conditions or scheduling changes that require premium time will be billed accordingly.
- The daily minimum charge may be applied to jobs requesting tab services, that are not ready for tab per coordination or scheduling. As well as lost time due to circumstances out of PBG's control.

Not included in proposal

- Lift Rental if needed
- Control Contractor if needed
- Preconstruction Air/Hydronic Survey
- Duct Air Leakage Testing (If mechanical contractor needs TAB to perform, please figure \$1050.00 per trip)
- Equipment Start-up
- Hydronic tab of plumbing system
- Belts and Sheaves

**PRECISION
BALANCING
GROUP**



W4648 County Rd. G
P.O. Box 436
Merrill, WI 54452
(715) 536-2102 Phone
(715) 536-8793 Fax
www.taylorinsulation.net

Taylor Insulation Co., Inc.

Project Name: Field Order #8.

Date: 03/06/25

Materials and Labor for Field Order #8: -----\$1,580

Notes:

- Price built per plans and specs.
- All work to be done on straight time.
 - **Above price includes:**
 - Exhaust duct from damper to exterior wall.
 - Taxes.
 - **Above price does not include:**
 - Lifts.



CHANGE ORDER

To: Karley Krupp
CD Smith
Ph: 920-979-8756
Email: kkrupp@cdsmith.com

Date: 3/9/2026
Project Name: Mayville WWTF
Location: Mayville, WI
Proposal No: M2735 – FO.008
RFP: HVAC Snorkel Ducting Fan

Van Ert Electric Co. is pleased to furnish this Proposal for installation of wiring, material and equipment for the above referenced project. This proposal is submitted per your request and includes the clarifications listed within.

"By submission of its bid, Van Ert Electric Company, Inc. reserves the right to negotiate mutually acceptable contract terms, including review of any applicable Prime contract provisions, upon award of the work."

Labor.....	\$2,152.00
Materials	\$570.00
Equipment	\$140.00
OH&P.....	\$429.00

Scope of Work:

- Provide and install conduit, wire, associated fittings and breaker for exhaust fan for HVAC snorkel duct.
- Provide and install switch to turn snorkel fan on and off per document notes.

Clarifications:

- All work to be performed during normal business hours, Monday through Friday, 7am to 4pm
- Due to the fluctuating cost and availability of commodity & distribution materials, pricing will need to be verified upon the acceptance of this proposal.
- Van Ert Electric Company, Inc. reserves the right in its sole discretion to add surcharge(s) to the quotation and/or invoice for increased costs related to, without limitation, freight, fuel, and/or tariffs.
- Pricing is valid for (25) days

Proposal may be withdrawn if not accepted by: 25 Days

Payment to be made as follows: 30 Days

Authorized Signature: _____

Andy Gross

Title: Project Manager

Phone Number: 262.900.2065

The above prices, specifications, and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Signature of Acceptance: _____

Date of Acceptance: _____

Please return executed proposal by emailing to: agross@vanert.com

We appreciate the opportunity to submit our proposal on this project. If you have any questions or concerns, please feel free to contact Andy Gross @ 262.900.2065

FIELD ORDER NO.: 8 REVISION 2

Owner:	City of Mayville	Owner's Project No.:	00052025
Engineer:	MSA Professional Services, Inc.	Engineer's Project No.:	00052028
Contractor:	C.D. Smith Construction, Inc.	Contractor's Project No.:	
Project:	City of Mayville WWTF Upgrade		
Contract Name:	General Construction		
Date Issued:	December 19, 2024	Effective Date of Field Order:	3/19/2026

Contractor is hereby directed to promptly perform the Work described in this Field Order, issued in accordance with Paragraph 11.04 of the General Conditions, for minor changes in the Work without changes in Contract Price or Contract Times. If Contractor considers that a change in Contract Price or Contract Times is required, submit a Change Proposal before proceeding with this Work.

Reference:

Specification Section(s): 11 53 13, 23 00 00

Drawing(s) / Detail(s): 800H101

Description:

Provide clarification notes to HVAC and Electrical sheets relating to the TSS heater snorkel and fan as described 11 53 13 – 6. This includes updated drawings showing finalized duct routing, as well as penetration location. Associated electrical plans, schedules, and routing remain the same as FO 008.

Attachments:

800H101

Issued by Engineer

By: Steven Sell
Title: Project Manager
Date: 03/19/2026

CTURERS REQUIREMENTS.

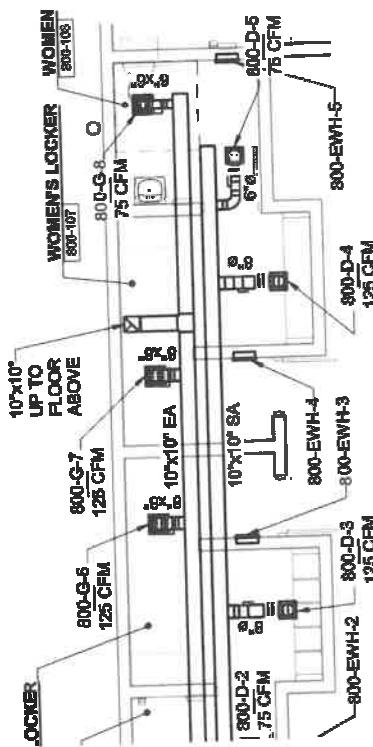
TH SCREWLESS CONSTRUCTION,
3M VERTICAL DUCT, BACKDRAFT
XIMATELY 30" AFF. COORDINATE
R PROVIDED DRIVER

FLOW AND ACCESS INTO WALL

N SPACE. PROVIDE
G BRACKET. ANGLE HEATER DOWN

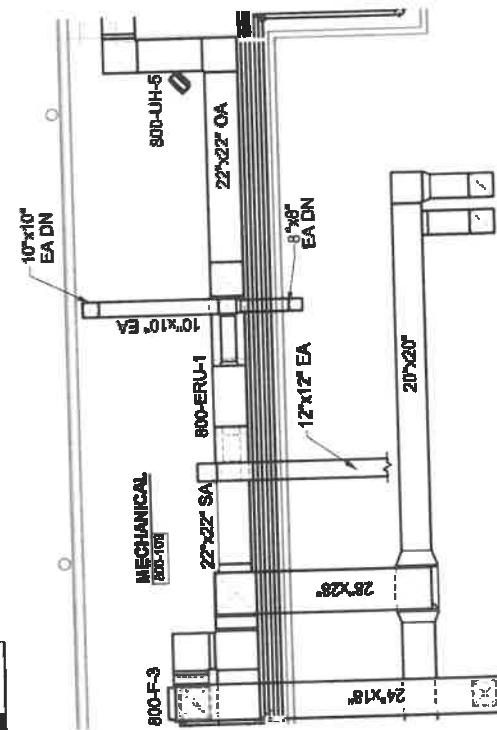
AP AT EXTERIOR OF BUILDING.
RFERING WITH STRUCTURAL

HAUST SYSTEM. COORDINATE
OFF



AN - UNDER PLATFORM

8 12



FIELD ORDER NO.: 8

Owner: City of Mayville
Engineer: MSA Professional Services, Inc.
Contractor: C.D. Smith Construction, Inc.
Project: City of Mayville WWTF Upgrade
Contract Name: General Construction
Date Issued: December 19, 2024
Owner's Project No.: 00052025
Engineer's Project No.: 00052028
Contractor's Project No.:
Effective Date of Field Order: 2/27/2026

Contractor is hereby directed to promptly perform the Work described in this Field Order, issued in accordance with Paragraph 11.04 of the General Conditions, for minor changes in the Work without changes in Contract Price or Contract Times. If Contractor considers that a change in Contract Price or Contract Times is required, submit a Change Proposal before proceeding with this Work.

Reference:

Specification Section(s): 11 53 13, 23 00 00

Drawing(s) / Detail(s): 800H101, 800E101, 999H602, 999E603, 999E609

Description:

Provide clarification notes to HVAC and Electrical sheets relating to the TSS heater snorkel and fan as described 11 53 13 – 6. This includes updated drawings showing preferred duct routing, as well as penetration location and associated electrical plans, schedules, and routing.

Attachments:

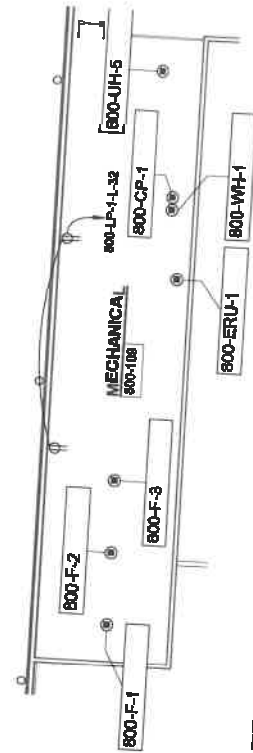
800H101, 800E101, 999H602, 999E603, 999E609

Issued by Engineer

By: Steven Sell
Title: Project Manager
Date: 02/27/2026

CLASSIFICATIONS

FINISHED, DRY, NEW CONSTRUCTION
FINISHED, DRY, NEW CONSTRUCTION
FINISHED, DRY, NEW CONSTRUCTION
FINISHED, DRY, NEW CONSTRUCTION
FINISHED, WET, NEW CONSTRUCTION
FINISHED, DAMP, NEW CONSTRUCTION
FINISHED, DAMP, NEW CONSTRUCTION
FINISHED, DAMP, NEW CONSTRUCTION
FINISHED, DAMP, NEW CONSTRUCTION
FINISHED, DRY, NEW CONSTRUCTION
FINISHED, DRY, NEW CONSTRUCTION
FINISHED, DAMP, NEW CONSTRUCTION
FINISHED, DAMP, NEW CONSTRUCTION
FINISHED, DRY, NEW CONSTRUCTION
FINISHED, DAMP, NEW CONSTRUCTION
FINISHED, DAMP, NEW CONSTRUCTION
FINISHED, DAMP, NEW CONSTRUCTION
FINISHED, DRY, NEW CONSTRUCTION



BY B.A.S.	ROOF CURB	GREENHECK CUE-200-VG	480 V	3	1.2.3.4.6.22.
BY B.A.S.	ROOF CURB	GREENHECK CUE-160-A-XP	480 V	3	1.2.3.4.6.10.19.22.29.
BY B.A.S.	ROOF CURB	GREENHECK CUE-160-VG	480 V	3	1.2.3.4.6.22.
BY B.A.S.	ROOF CURB	GREENHECK CUE-160-VG	480 V	3	1.2.3.4.6.22.
BY B.A.S.	ROOF CURB	GREENHECK CUE-160-VG	480 V	3	1.2.3.4.6.22.
BY B.A.S.	ROOF CURB	GREENHECK CUE-140-VG	480 V	3	1.2.3.4.6.22.
BY B.A.S.	ROOF CURB	GREENHECK CUE-80-VG	120 V	1	1.2.3.4.6.22.
BY B.A.S.	ROOF CURB	GREENHECK CUE-160-VG	480 V	3	
		GREENHECK CUE-130-A	480 V	3	
BY B.A.S.		GREENHECK CUE-140-A-XP	208 V	1	1.2.3.4.6.10.19.22.30.33.
BY B.A.S.	WALL MOUNT				

DEL	VOLTAGE	PHASE	Comments
37MC	120 V	1	1.2.4.11.13.14.
37MC	120 V	1	1.2.4.11.13.14.
37MC	120 V	1	1.2.4.11.13.14.

DIFFUSERS					MANUF. MODEL	Commer
Mark	SERVICE	NECK SIZE	DUCT CONN. SIZE	VOLUME DAMPER LOCATION	AIR PATTERN	
800-D-1	PLAQUE DIFFUSER	12x12	8"Ø	DUCT TAKEOFF	4-WAY	PRICE SPD 24.
800-D-2	PLAQUE DIFFUSER	12x12	8"Ø	DUCT TAKEOFF	4-WAY	PRICE SPD 24.
800-D-3	PLAQUE DIFFUSER	12x12	8"Ø	DUCT TAKEOFF	4-WAY	PRICE SPD 24.
800-D-4	PLAQUE DIFFUSER	12x12	8"Ø	DUCT TAKEOFF	4-WAY	PRICE SPD 24.
800-D-5	PLAQUE DIFFUSER	12x12	8"Ø	DUCT TAKEOFF	4-WAY	PRICE SPD 24.
800-D-6	PLAQUE DIFFUSER	24x24	8"Ø	DUCT TAKEOFF	4-WAY	PRICE SPD 24.
800-D-7	PLAQUE DIFFUSER	24x24	8"Ø	DUCT TAKEOFF	4-WAY	PRICE SPD 24.
800-D-8	PLAQUE DIFFUSER	24x24	8"Ø	DUCT TAKEOFF	4-WAY	PRICE SPD 24.
800-D-9	PLAQUE DIFFUSER	24x24	8"Ø	DUCT TAKEOFF	4-WAY	PRICE SPD 24.
800-D-10	PLAQUE DIFFUSER	24x24	8"Ø	DUCT TAKEOFF	4-WAY	PRICE SPD 24.
800-D-11	PLAQUE DIFFUSER	24x24	8"Ø	DUCT TAKEOFF	4-WAY	PRICE SPD 24.

COR 022 - Response to RFIs 081 & 097
STR 800 Relocation & Reroute of condensing
units and furnace venting



PCI #COR0022

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935
Phone: 1 920 924.2900

Project: 240224 - Mayville WWTF 2024 Upgrade
400 Kekoskee Street
Mayville, WI 53050

Potential Change Item #COR0022

WCD 08 - Str. 800 Furnace and Condenser Line Set Runs

To:	City Of Mayville 15 S School Street Mayville, WI 53050	From:	C.D. Smith Construction, Inc. 125 Camelot Drive Fond du Lac WI, 54935
Status:	Pricing-No Forecast	Created Date	2026-03-23
Schedule Impact:		OCO Number:	

POTENTIAL CHANGE ITEM SCOPE DESCRIPTION: *(The Contract Is Changed As Follows)*

Rerouting of Furnace Vent Piping and Condenser Unit Line Set Locations - Code Compliant (Option 1)

ATTACHMENTS:

Description	Cost Code	Category	Quantity	W/M	Rate	Final Amount
Electrical	260000	S		LS	\$	\$7,510.00
Process Piping - Wastewater - Option 1	400000	S		LS	\$	\$18,725.00
Bond:						\$275.47
Subcontract Markup (5%):						\$1,311.75
Grand Total:						\$27,822.22

City Of Mayville
15 S School Street
Mayville, WI 53050

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935

Karley Krupp
Digitally signed by Karley Krupp
Date: 2026.04.09 13:34:27-05'00'

SIGNATURE

DATE

SIGNATURE

DATE

City Signature on next page for Option 1.
This page provides cost associated with
Option 1 only as Option 2 was eliminated.

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935
Phone: 1 920 924.2900

Project: 240224 - Mayville WWTF 2024 Upgrade
400 Kekoskee Street
Mayville, WI 53050

Potential Change Item #COR0022

WCD 08 - Str. 800 Furnace and Condenser Line Set Runs

To:	City Of Mayville 15 S School Street Mayville, WI 53050	From:	C.D. Smith Construction, Inc. 125 Camelot Drive Fond du Lac WI, 54935
Status:	Pricing-No Forecast	Created Date	2026-03-23
Schedule Impact:	6 Days	OCO Number:	

POTENTIAL CHANGE ITEM SCOPE DESCRIPTION: *(The Contract Is Changed As Follows)*

Rerouting of Furnace Vent Piping and Condenser Unit Line Set Locations - Code Compliant (Option 1) and PVC (Option 2)

ATTACHMENTS:

Description	Cost Code	Category	Quantity	W/M	Rate	Final Amount
Electrical	260000	S		LS	\$	\$7,510.00
Process Piping - Wastewater - Option 1	400000	S		LS	\$	\$18,725.00
Process Piping - Wastewater - Option 2	400000	S		LS	\$	\$16,022.00
Bond:						\$443.70
Subcontract Markup (5%):						\$2,112.85
Grand Total:						\$44,813.55

City Of Mayville
15 S School Street
Mayville, WI 53050

SIGNATURE

DATE

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935

Karley Krupp

SIGNATURE

DATE

Cost for Option 1 only
on previous page.

Digitally signed by Karley Krupp
Date: 2026.04.03
07:04:23-05'00'



AUGUST WINTER & SONS, INC.
MECHANICAL CONTRACTOR & FABRICATOR

www.augustwinter.com

2323 N. Roemer Road
Appleton, WI 54911
PO Box 1896
Appleton, WI 54912-1896
P: (920) 739-8881
F: (920) 739-2230

5613 Schofield Ave.
Schofield, WI 54476
P: (715) 355-7555
F: (715) 355-9048

March 31, 2026

Karley Krupp
CD Smith

009-1

CHANGE ORDER PRICE AND BREAKDOWN

Project/Job#: Mayville WWTP 92125

Description: RFI 081, 097, 099, & COR's 019, 022 Furnace & WH Venting Code Compliant

Our change order price and breakdown follows:

August Winter

Material.....	\$	4,271
Labor**..... 90 hrs	\$	9,458
Direct Costs.....	\$	2,554
Subtotal.....	\$	16,283
Overhead.....	\$	2,442
Subsistence.....	\$	-
Total.....	\$	18,725

Equipment

Total Equipment Costs.....	\$	-
Equipment Markup.....	\$	-
Total Equipment Costs w/overhead.....	\$	-

Subcontracts

Total Subcontractor Costs.....	\$	-
Subcontractor Markup.....	\$	-
Total Subcontractor Costs w/overhead.....	\$	-

Total AWS/Subcontractor Costs.....	\$	18,725
Profit/Bond.....	\$	-

Change Order Total..... \$ 18,725

Time extension required is 6 days.

This quotation based upon acceptance within 30 days.

** Labor rate may include multiple trades with straight and premium time.

Exclusions: slurry/flowable fill for abandonment, bypassing for sewer tie ins

Dave Thiel

August Winter & Sons, Inc.
PH: 920-739-8881 FX: 920-739-2230

VISIT OUR WEB SITE AT WWW.AUGUSTWINTER.COM

Branch Office: 5613 Schofield Avenue * Schofield, WI 54476 * PH: 715/355-7555 * FAX: 715/355-9048

HVAC * PLUMBING * TANK FABRICATION * PROCESS PIPING * IND. SHEETMETAL

SPECIALTY METAL FAB. * ASME PRESSURE VESSELS * ASME CODE WELDING * 24 HR. SERVICE * ENGINEERING

STATE OF WISCONSIN LICENSED MASTER PLUMBERS, LICENSE NUMBER 871958

August Winter Sons, Inc.
Change Order/Small Projects Report

Page 1

Project/Job#: Mayville WWTP 92125

Date: 3/31/2026

**Description: RFI 081, 097, 099, & COR's 019, 022 Furnace & WH Venting
Code Compliant**

MATERIAL

Material Credit w/restocking		(347.00)
Material ADD		\$ 4,618.00
Sales Tax	0.0%	\$ -

Material Subtotal \$ 4,271

LABOR

General Foreman Hours	8.00	@	\$ 111.32	\$ 890.56
Foreman Hours	0.00	@	\$ -	\$ -
Field Plumber/Fitter Hours - REG	110.00	@	\$ 104.48	\$ 11,492.80
Field Plumber/Fitter Hours - OT	-28.00	@	\$ 104.48	\$ (2,925.44)
Field Tinner Hours - REG	0.00	@	\$ 104.48	\$ -
Field Tinner Hours - OT	0.00	@	\$ -	\$ -
Shop Hours	0.00	@	\$ 104.48	\$ -
Operator Hours	0.00	@	\$ -	\$ -

Labor Subtotal \$ 9,458

DIRECT COSTS

Payroll Taxes + Insurance (WC and Liability)	27.0% of Labor	\$ 2,553.64
--	----------------	-------------

Subtotal \$ 2,554

Subtotal Contractor Costs

\$ 16,283

Overhead

15.0% \$ 2,442

Subsistence

\$ -

Total Contractor Costs

\$ 18,725

Equipment

0.00	week	@	\$ -	\$ -
0.00	week	@	\$ -	\$ -
0.00	week	@	\$ -	\$ -
0.00	week	@	\$ -	\$ -
0.00	week	@	\$ -	\$ -
0.00	week	@	\$ -	\$ -

Subtotal \$ -

Equipment Overhead

0.0% \$ -

Subtotal Equipment Costs

\$ -

SUBCONTRACTS

.....	\$ -
.....	\$ -
.....	\$ -
.....	\$ -

Total Subcontractor Costs

\$ -

Subcontractor Overhead

5.0% \$ -

Subtotal Subcontractors Costs

\$ -

NOTE: This change order does not address impact costs on base contract.

Total Contractor/Subcontractor Costs

\$ 18,725

Profit

0.0% \$ -

Bond

0.0% \$ -

Total Amount Of Change

\$ 18,725

Time extension required is **6** days.

This quotation based upon acceptance within **30** days.

Exclusions: slurry/flowable fill for abandonment, bypassing for sewer tie ins

NOTE: This change order does not address impact costs on base contract.

WORK CHANGE DIRECTIVE NO.: 8

Owner:	City of Mayville	Owner's Project No.:	00052025
Engineer:	MSA Professional Services, Inc.	Engineer's Project No.:	00052028
Contractor:	C.D. Smith Construction, Inc.	Contractor's Project No.:	
Project:	City of Mayville WWTF Upgrade		
Contract Name:	General Construction		
Date Issued:	December 19, 2024	Effective Date of Work Change Directive:	3/25/2026

Contractor is directed to proceed promptly with the following change(s):

Description:

Rerouting of furnace vent piping and condenser unit line set locations.

Attachments:

RFI 081 Response

RFI 097 Response

RFI 099 Response

Original COR 019

Purpose for the Work Change Directive:

The purpose of the Work Change Directive is to summarize the suggested locations for furnace venting and condenser lines sets according to previous communication with the general contractor regarding RFIs 081, 097, 099 and previously submitted COR 019 & future COR 022. COR 019 and COR 022 should be issued with the modified lengths and provide options for the specified vent pipe vs the upgrade in material

Directive to proceed promptly with the Work described herein, prior to agreeing to change in Contract Price and Contract Time, is issued due to:

Notes to User—Check one or both of the following

☐ Non-agreement on pricing of proposed change. ☒ Necessity to proceed for schedule or other reasons.

Estimated Change in Contract Price and Contract Times (non-binding, preliminary):

Contract Price: \$ _____ ~~{increase}~~ ~~{decrease}~~ ~~{not yet estimated}~~.

Contract Time: _____ days ~~{increase}~~ ~~{decrease}~~ ~~{not yet estimated}~~.

Basis of estimated change in Contract Price:

☐ Lump Sum ☐ Unit Price ☐ Cost of the Work ☐ Other

Recommended by Engineer

Authorized by Owner

EJCDC® C-940, Work Change Directive.

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Page 1 of 2

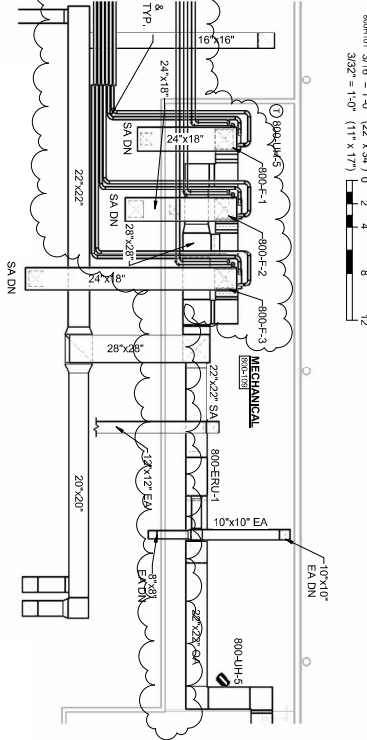
By: Steven Sell

Title: Project Manager

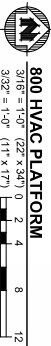
Date: 3/25/2026

[illegible]

1 800 HVAC FIRST FLOOR PLAN - UNDER PLATFORM



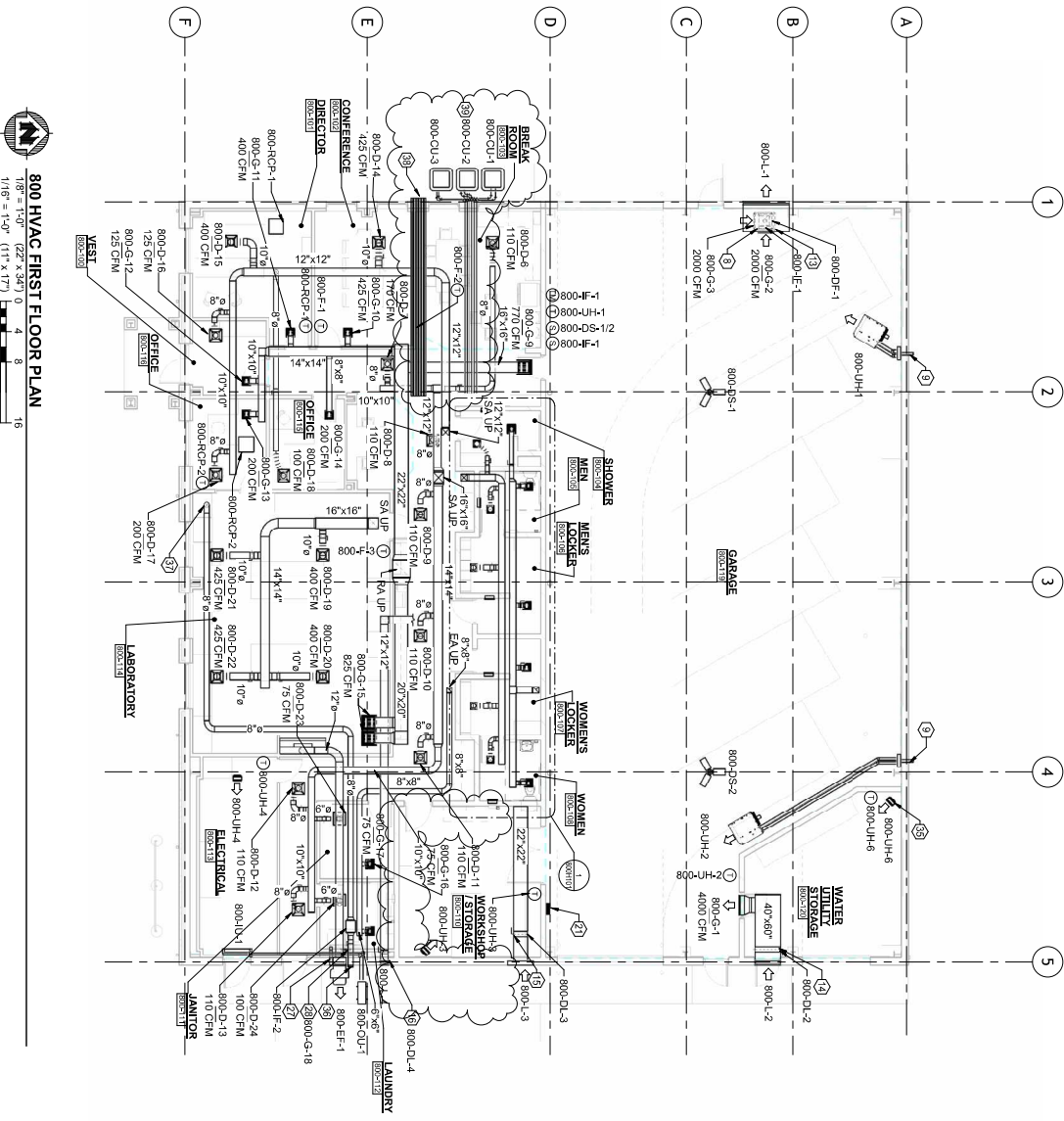
800 HVAC PLATFORM



WASTEWATER TREATMENT FACILITY
CITY OF MAYVILLE
DODGE COUNTY, WISCONSIN

UTILITY UPGRADE	ADMINISTRATION BUILDING HVAC PLANS
-------------------------------	--

	PROJECT NO.	00052025
	SHEET	800H101



800 HVAC FIRST FLOOR PLAN

$1/8'' = 1-0''$ (22' x 34')	0	4	8	16
$1/16'' = 1-0''$ (11' x 17')				



C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac, Wisconsin 54935
P: (920) 924-2900
F: (920) 924-2910

Project: 240224 Mayville WWTF 2024 Upgrade
400 Kekoskee Street
Mayville, Wisconsin 53050
P: 920-387-7900

RFI #81: Furnace Venting

Revision	0	Status	Open	
To	Coty Weathersby (MSA Professional Services, Inc.) Shane Dennis (MSA Professional Services, Inc.) Steve Sell (MSA Professional Services, Inc.) Leslie Deuchars (MSA Professional Services, Inc.)	From	Stacie Cherney (August Winter & Sons, Inc.) 2323 N. Roemer Rd. Appleton, Wisconsin 54911	
Date Initiated	Dec 22, 2025	Due Date	Dec 25, 2025	
Location				
Cost Impact	Schedule Impact			
Spec Section				
Drawing Number	999H501			
Linked Drawings				
Received From	Stacie Cherney (August Winter & Sons, Inc.)			
Copies To	Stacie Cherney (August Winter & Sons, Inc.), Cory Flesch (C.D. Smith Construction, Inc.), Karley Krupp (C.D. Smith Construction, Inc.), Kayla Steger (C.D. Smith Construction, Inc.)			

Activity

Question	Question from Stacie Cherney August Winter & Sons, Inc. on Friday, Dec 19, 2025 at 10:50 AM CST Please provide a location to terminate the furnaces exhaust and combustion intake vent pipes. Please reference detail 999H501 detail 5. Would it be acceptable to have a side mount return air on the furnaces? With the height restrictions there is not enough room to mount the return air boxes on the bottom of the furnaces.” <i>Awaiting an Official Response</i>
All Replies	Response from Leslie Deuchars MSA Professional Services, Inc. on Tuesday, Dec 30, 2025 at 09:37 AM CST There appears to be space above the east door of corridor 800-117. Maintain clearance to any operable doors. Side mounting return air is acceptable.



C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac, Wisconsin 54935
P: (920) 924-2900
F: (920) 924-2910

Project: 240224 Mayville WWTF 2024 Upgrade
400 Kekoskee Street
Mayville, Wisconsin 53050
P: 920-387-7900

RFI #97: Venting Gas-Fired Equipment

Revision	0	Status	Open
To	Leslie Deuchars (MSA Professional Services, Inc.) Coty Weathersby (MSA Professional Services, Inc.) Kerry Hackert (MSA Professional Services, Inc.) Shane Dennis (MSA Professional Services, Inc.) Steve Sell (MSA Professional Services, Inc.)		From Wendy Zeinert (August Winter & Sons, Inc.) N850 Cty Rd CB Appleton, Wisconsin 54914
Date Initiated	Feb 11, 2026	Due Date	Feb 16, 2026
Location			
Cost Impact	Schedule Impact		
Spec Section			
Drawing Number			
Linked Drawings			
Received From	Eric LeBlanc (August Winter & Sons, Inc.)		
Copies To	Cory Flesch (C.D. Smith Construction, Inc.), Karley Krupp (C.D. Smith Construction, Inc.), Eric LeBlanc (August Winter & Sons, Inc.), Kayla Steger (C.D. Smith Construction, Inc.), Wendy Zeinert (August Winter & Sons, Inc.)		

Activity

Question	Question from Wendy Zeinert August Winter & Sons, Inc. on Wednesday, Feb 11, 2026 at 02:06 PM CST Since the project started, the state is updating the requirements for venting gas fired appliances and equipment. The UL 1738 venting system is expected to become the national standard in the near future. With that being said, we would normally use schedule 40 PVC to vent the appliances and equipment. We are still able to use PVC pipe and fittings, but if the code is updated in the future, any replacement of the equipment would also require replacing the venting to the new system. Should we still vent the water heater and furnaces with schedule 40 PVC, or get pricing for installing the new UL 1738 pipe and fittings?
	Awaiting an Official Response
All Replies	Response from Leslie Deuchars MSA Professional Services, Inc. on Thursday, Feb 12, 2026 at 01:40 PM CST Please get pricing for owner consideration.



C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac, Wisconsin 54935
P: (920) 924-2900
F: (920) 924-2910

Project: 240224 Mayville WWTF 2024 Upgrade
400 Kekoskee Street
Mayville, Wisconsin 53050
P: 920-387-7900

RFI #99: Furnace Refrigeration and Vent Piping

Revision	0	Status	Open
To	Kerry Hackert (MSA Professional Services, Inc.) Coty Weathersby (MSA Professional Services, Inc.) Leslie Deuchars (MSA Professional Services, Inc.) Shane Dennis (MSA Professional Services, Inc.) Steve Sell (MSA Professional Services, Inc.)		From Wendy Zeinert (August Winter & Sons, Inc.) N850 Cty Rd CB Appleton, Wisconsin 54914
Date Initiated	Mar 3, 2026	Due Date	Mar 6, 2026
Location			
Cost Impact	Schedule Impact		
Spec Section			
Drawing Number			
Linked Drawings			
Received From	David Thiel (August Winter & Sons, Inc.)		
Copies To	David Thiel (August Winter & Sons, Inc.), Cory Flesch (C.D. Smith Construction, Inc.), Karley Krupp (C.D. Smith Construction, Inc.), Kayla Steger (C.D. Smith Construction, Inc.), Wendy Zeinert (August Winter & Sons, Inc.)		

Activity

Question	Question from Wendy Zeinert August Winter & Sons, Inc. on Tuesday, Mar 3, 2026 at 02:21 PM CST Please reference the attached drawing. Can the (3) furnaces refrigeration and vent piping be routed out the west wall? This location would be approximately 64' of linear feet which would get us inside of the acceptable OEM line lengths for the refrigeration piping and venting. This would also include relocating (3) condensing units and the concrete pad. Attachments RFI 22 attachment.pdf
Awaiting an Official Response	
All Replies	Response from Kerry Hackert MSA Professional Services, Inc. on Wednesday, Mar 11, 2026 at 02:05 PM CDT • Provide a diagram of proposed change for final approval and prior to installation. ◦ The furnace vents shall maintain a separation of 3 feet above or 10 feet horizontally from any operable windows or doors. ◦ The condensing units shall be moved to keep them out of view as much as possible from windows. The installation manual for the condensing units indicates that longer distances of refrigerant piping can be accomplished through contacting distributor or through Daiken Technical Publication TP-111. Moving the condensing units to the west wall shall be at no cost to the project unless these have been investigated and deemed not acceptable.



PCI #COR0019

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935
Phone: 1 920 924.2900

Project: 240224 - Mayville WWTF 2024 Upgrade
400 Kekoskee Street
Mayville, WI 53050

Potential Change Item #COR0019

COR 019 - Furnace and WH Venting

To:	City Of Mayville 15 S School Street Mayville, WI 53050	From:	C.D. Smith Construction, Inc. 125 Camelot Drive Fond du Lac WI, 54935
Status:	Pricing-No Forecast	Created Date	2026-02-26
Schedule Impact:	10	OCO Number:	

POTENTIAL CHANGE ITEM SCOPE DESCRIPTION: *(The Contract Is Changed As Follows)*

Furnace and WH Venting per RFI 081.

ATTACHMENTS:

Description	Cost Code	Category	Quantity	W/M	Rate	Final Amount
Process Piping - Wastewater	400000	S		LS	\$	\$28,812.00
Bond:						\$302.53
Subcontract Markup (5%):						\$1,440.60
Grand Total:						\$30,555.13

City Of Mayville
15 S School Street
Mayville, WI 53050

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935

SIGNATURE

DATE

SIGNATURE

DATE



AUGUST WINTER & SONS, INC.
MECHANICAL CONTRACTOR & FABRICATOR

www.augustwinter.com

2323 N. Roemer Road
Appleton, WI 54911
PO Box 1896
Appleton, WI 54912-1896
P: (920) 739-8881
F: (920) 739-2230

5613 Schofield Ave.
Schofield, WI 54476
P: (715) 355-7555
F: (715) 355-9048

February 24, 2026

Karley Krupp
CD Smith

9

CHANGE ORDER PRICE AND BREAKDOWN

Project/Job#: Mayville WWTP 92125
Description: 1738 Furnace & WH Venting

Our change order price and breakdown follows:

August Winter

Material.....	\$	4,816
Labor**..... 152 hrs	\$	15,936
Direct Costs.....	\$	4,303
Subtotal.....	\$	25,054
Overhead.....	\$	3,758
Subsistence.....	\$	-
Total.....	\$	28,812

Equipment

Total Equipment Costs.....	\$	-
Equipment Markup.....	\$	-
Total Equipment Costs w/overhead.....	\$	-

Subcontracts

Total Subcontractor Costs.....	\$	-
Subcontractor Markup.....	\$	-
Total Subcontractor Costs w/overhead.....	\$	-

Total AWS/Subcontractor Costs.....	\$	28,812
Profit/Bond.....	\$	-

Change Order Total..... \$ 28,812

Time extension required is 10 days.

This quotation based upon acceptance within 30 days.

** Labor rate may include multiple trades with straight and premium time.

Exclusions: slurry/flowable fill for abandonment, bypassing for sewer tie ins

Dave Thiel

August Winter & Sons, Inc.
PH: 920-739-8881 FX: 920-739-2230

VISIT OUR WEB SITE AT WWW.AUGUSTWINTER.COM

Branch Office: 5613 Schofield Avenue * Schofield, WI 54476 * PH: 715/355-7555 * FAX: 715/355-9048

HVAC * PLUMBING * TANK FABRICATION * PROCESS PIPING * IND. SHEETMETAL

SPECIALTY METAL FAB. * ASME PRESSURE VESSELS * ASME CODE WELDING * 24 HR. SERVICE * ENGINEERING

STATE OF WISCONSIN LICENSED MASTER PLUMBERS, LICENSE NUMBER 871958

Primary Labor

Company: August Winter & Sons Inc.
JobName: Mayville WTF - 92225 - Furnace Vent CO []
Material Set: Bid
Labor Set: Full MCAA (MCAA)
Run Date: 02-24-2026 @ 13:29:58
Sort Key: By Zone/LaborCode

NOTE:
List Total is before Noah's finalized
multipliers and quote pricing

ALL

Items

Zone	Labor Code	Description	Qty/Ft	Job Fact	Labor Total	Excel CF	Final Labor	2-Man Days	Subtotal TMD	Subtotal Hours	Avg/Ft TMD	Avg/Ft Hour	Pipe Ft/ Hanger	Hanger Count	Pipe Ft Total
Deduct - Furnace Venting	2050-0	PIPE PVC40 4in & Dn	60	1.00	4.2	1.00	4.2	0.3							
Deduct - Furnace Venting	2050-1	FTGS PVC40 4in & Dn	24	1.00	12.1	1.00	12.1	0.8							
Deduct - Furnace Venting	3400-0	*****MISC*****	42	1.00	0.0	1.00	0.0	0.0							
Deduct - Furnace Venting	3401-0	Hangers	12	1.00	11.9	1.00	11.9	0.7	1.8	28.2	34.0	2.1	5.0	12.0	60.0
TOTALS:			138		28.2		28.2	1.8	1.8	28.2	0.0	0.0	#DIV/0!	0.0	0.0

Primary Labor

Company: August Winter & Sons Inc.
JobName: Mayville WTF - 92225 - Furnace Vent CO []
Material Set: Bid
Labor Set: Full MCAA (MCAA)
Run Date: 02-24-2026 @ 13:43:38
Sort Key: By Zone/LaborCode

NOTE:
List Total is before Noah's finalized
multipliers and quote pricing

ALL

Items



Zone	Labor Code	Description	Qty/Ft	Job Fact	Labor Total	Excel CF	Final Labor	2-Man Days	Subtotal TMD	Subtotal Hours	Avg/Ft TMD	Avg/Ft Hour	Pipe Ft/ Hanger	Hanger Count	Pipe Ft Total
ADD - Furnace Venting	2050-0	PIPE PVC40 4in & Dn	530	1.00	36.9	1.00	36.9	2.3							
ADD - Furnace Venting	2050-1	FTGS PVC40 4in & Dn	67	1.00	30.1	1.00	30.1	1.9							
ADD - Furnace Venting	3400-0	*****MISC*****	122	1.00	0.0	1.00	0.0	0.0							
ADD - Furnace Venting	3401-0	Hangers	107	1.00	105.7	1.00	105.7	6.6	10.8	172.7	49.1	3.1	5.0	107.0	530.0
TOTALS:			826		172.7		172.7	10.8	10.8	172.7	0.0	0.0	#DIV/0!	0.0	0.0

Company: August Winter & Sons Inc.

JobName: Mayville WTF - 92225 - Furnace Vent CO []

Material Set: Bid

Labor Set: Full MCAA (MCAA)

Run Date: 02-24-2026 @ 13:29:58

Sort Key: By Zone

Zone	Qty	Size	Description	Price Total	Labor Total
Deduct - Furnace Venting	60	3	Sch 40 PVC DWV PE Pipe	\$ 67.20	4.2
	3	3x1/2	PVC Sch 40 Red Tee w/FIPT Branch	\$ 30.77	3.78
	3	3	PVC DWV Fitting Cleanout w/CO PI	\$ 9.62	1.02
	3	3	PVC DWV San Tee	\$ 15.96	1.65
	9	3	PVC DWV 1/4 Bend	\$ 32.84	3.42
	6	3	PVC DWV 1/8 Bend	\$ 19.62	2.28
	42	3	Solvent Weld Joints	\$ 21.00	0.0
	12	3	Plain Clevis Hanger Assembly	\$ 149.71	11.88
Deduct - Furnace Venting	138	(SUBTOTAL)		\$ 346.74	28.23
138.0		(TOTAL)		\$ 346.74	28.23

Company: August Winter & Sons Inc.

JobName: Mayville WTF - 92225 - Furnace Vent CO []

Material Set: Bid

Labor Set: Full MCAA (MCAA)

Run Date: 02-24-2026 @ 13:43:38

Sort Key: By Zone

Zone	Qty	Size	Description	Price Total	Labor Total
ADD - Furnace Venting	20	2	Sch 40 PVC DWV PE Pipe	\$ 59.85	1.2
	510	3	Sch 40 PVC DWV PE Pipe	\$ 2,998.80	35.7
	6	3x1/2	PVC Sch 40 Red Tee w/FIPT Branch	\$ 103.66	7.56
	25	3	PVC DWV Coupling	\$ 170.25	9.25
	6	3x2	PVC DWV Reducer	\$ 59.22	1.92
	18	3	PVC DWV 1/4 Bend	\$ 252.63	6.84
	12	3	PVC DWV 1/8 Bend	\$ 150.96	4.56
	6	2	Solvent Weld Joints	\$ 1.98	0.0
	116	3	Solvent Weld Joints	\$ 58.00	0.0
	4	2	Plain Clevis Hanger Assembly	\$ 22.77	3.72
	103	3	Plain Clevis Hanger Assembly	\$ 1,285.05	101.97
ADD - Furnace Venting		826	(SUBTOTAL)	\$ 5,163.17	172.72
826.0 (TOTAL)				\$ 5,163.17	172.72



C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac, Wisconsin 54935
P: (920) 924-2900
F: (920) 924-2910

Project: 240224 Mayville WWTF 2024 Upgrade
400 Kekoskee Street
Mayville, Wisconsin 53050
P: 920-387-7900

RFI #81: Furnace Venting

Revision	0	Status	Closed on 12/30/25
To	Coty Weathersby (MSA Professional Services, Inc.) Shane Dennis (MSA Professional Services, Inc.) Steve Sell (MSA Professional Services, Inc.) Leslie Deuchars (MSA Professional Services, Inc.)		
From	Stacie Cherney (August Winter & Sons, Inc.) 2323 N. Roemer Rd. Appleton, Wisconsin 54911		
Date Initiated	Dec 22, 2025	Due Date	Dec 25, 2025
Location			
Cost Impact	Schedule Impact		
Spec Section			
Drawing Number	999H501		
Linked Drawings			
Received From	Stacie Cherney (August Winter & Sons, Inc.)		
Copies To	Stacie Cherney (August Winter & Sons, Inc.), Matt Conradt (August Winter & Sons, Inc.), David Thiel (August Winter & Sons, Inc.), Eric Fane (August Winter & Sons, Inc.), Cory Flesch (C.D. Smith Construction, Inc.), Karley Krupp (C.D. Smith Construction, Inc.), Eric LeBlanc (August Winter & Sons, Inc.), Jeff Luczak (August Winter & Sons, Inc.), Kayla Steger (C.D. Smith Construction, Inc.), Andrew Wyman (August Winter & Sons, Inc.), Wendy Zeinert (August Winter & Sons, Inc.)		

Activity

Question	Question from Stacie Cherney August Winter & Sons, Inc. on Friday, Dec 19, 2025 at 10:50 AM CST Please provide a location to terminate the furnaces exhaust and combustion intake vent pipes. Please reference detail 999H501 detail 5. Would it be acceptable to have a side mount return air on the furnaces? With the height restrictions there is not enough room to mount the return air boxes on the bottom of the furnaces."
Official Response	Response from Leslie Deuchars MSA Professional Services, Inc. on Tuesday, Dec 30, 2025 at 09:37 AM CST There appears to be space above the east door of corridor 800-117. Maintain clearance to any operable doors. Side mounting return air is acceptable.
All Replies	Response from Leslie Deuchars MSA Professional Services, Inc. on Tuesday, Dec 30, 2025 at 09:37 AM CST There appears to be space above the east door of corridor 800-117. Maintain clearance to any operable doors. Side mounting return air is acceptable.



CHANGE ORDER

To: Karley Krupp
CD Smith
Ph: 920-979-8756
Email: kkrupp@cdsmith.com

Date: 3/9/2026
Project Name: Mayville WWTF
Location: Mayville, WI
Proposal No: M2735 – FO
RFP: Relocate 3 Condensing Units

Van Ert Electric Co. is pleased to furnish this Proposal for installation of wiring, material and equipment for the above referenced project. This proposal is submitted per your request and includes the clarifications listed within.

“By submission of its bid, Van Ert Electric Company, Inc. reserves the right to negotiate mutually acceptable contract terms, including review of any applicable Prime contract provisions, upon award of the work.”

Labor.....	\$4,756.00
Materials	\$1,398.00
Equipment	\$377.00
OH&P.....	\$979.00

Scope of Work:

- Provide and install conduit, wire, associated fittings, hangers and supports to relocate Condensing units to west side of building 800.

Clarifications:

- All work to be performed during normal business hours, Monday through Friday, 7am to 4pm
- Due to the fluctuating cost and availability of commodity & distribution materials, pricing will need to be verified upon the acceptance of this proposal.
- Van Ert Electric Company, Inc. reserves the right in its sole discretion to add surcharge(s) to the quotation and/or invoice for increased costs related to, without limitation, freight, fuel, and/or tariffs.
- Pricing is valid for (25) days

Proposal may be withdrawn if not accepted by: 25 Days

Payment to be made as follows: 30 Days

Authorized Signature:

Andy Gross

Title: Project Manager

Phone Number: 262.900.2065

The above prices, specifications, and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Signature of Acceptance:

Date of Acceptance:

Please return executed proposal by emailing to: agross@vanert.com

We appreciate the opportunity to submit our proposal on this project. If you have any questions or concerns, please feel free to contact Andy Gross @ 262.900.2065

COR 023 - Response to RFI 102
STR 800 addition of EF-800-1 Damper

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935
Phone: 1 920 924.2900

Project: 240224 - Mayville WWTF 2024 Upgrade
400 Kekoskee Street
Mayville, WI 53050

Potential Change Item #COR0023

COR 023 - EF-800-1 Damper

To:	City Of Mayville 15 S School Street Mayville, WI 53050	From:	C.D. Smith Construction, Inc. 125 Camelot Drive Fond du Lac WI, 54935
Status:	Pricing-No Forecast	Created Date	2026-03-25
Schedule Impact:		OCO Number:	

POTENTIAL CHANGE ITEM SCOPE DESCRIPTION: *(The Contract Is Changed As Follows)*

Per RFI 102, contractor shall provide duct sized backdraft damper.

ATTACHMENTS:

Description	Cost Code	Category	Quantity	W/M	Rate	Final Amount
Process Piping - Wastewater	400000	S		LS	\$	\$828.00
Bond:						\$8.69
Subcontract Markup (5%):						\$41.40
Grand Total:						\$878.09

City Of Mayville
15 S School Street
Mayville, WI 53050

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935

SIGNATURE

DATE

SIGNATURE

DATE

Karley Krupp
Digitally signed by Karley Krupp
Date: 2026.03.25 10:20:46-05'00'



AUGUST WINTER & SONS, INC.

MECHANICAL CONTRACTOR & FABRICATOR

www.augustwinter.com

Appleton, WI 54911
PO Box 1896
Appleton, WI 54912-1896
P: (920) 739-8881
F: (920) 739-2230

5613 Schofield Ave.
Schofield, WI 54476
P: (715) 355-7555
F: (715) 355-9048

March 23, 2026

Karley Krupp
CD Smith

12

CHANGE ORDER PRICE AND BREAKDOWN

Project/Job#: Mayville WWTP 92125
Description: RFI 24 800-EF-1 Damper

Our change order price and breakdown follows:

August Winter

Material.....	\$	189
Labor**..... 4 hrs	\$	418
Direct Costs.....	\$	113
Subtotal.....	\$	720
Overhead.....	\$	108
Subsistence.....	\$	-
Total.....	\$	828

Equipment

Total Equipment Costs.....	\$	-
Equipment Markup.....	\$	-
Total Equipment Costs w/overhead.....	\$	-

Subcontracts

Total Subcontractor Costs.....	\$	-
Subcontractor Markup.....	\$	-
Total Subcontractor Costs w/overhead.....	\$	-

Total AWS/Subcontractor Costs.....	\$	828
Profit/Bond.....	\$	-

Change Order Total..... \$ 828

Time extension required is 0 days.

This quotation based upon acceptance within 30 days.

** Labor rate may include multiple trades with straight and premium time.

Exclusions: slurry/flowable fill for abandonment, bypassing for sewer tie ins

Dave Thiel

August Winter & Sons, Inc.
PH: 920-739-8881 FX: 920-739-2230

VISIT OUR WEB SITE AT WWW.AUGUSTWINTER.COM

Branch Office: 5613 Schofield Avenue * Schofield, WI 54476 * PH: 715/355-7555 * FAX: 715/355-9048

HVAC * PLUMBING * TANK FABRICATION * PROCESS PIPING * IND. SHEETMETAL

SPECIALTY METAL FAB. * ASME PRESSURE VESSELS * ASME CODE WELDING * 24 HR. SERVICE * ENGINEERING

STATE OF WISCONSIN LICENSED MASTER PLUMBERS, LICENSE NUMBER 871958

Project/Job#: Mayville WWTP 92125
Description: RFI 24 800-EF-1 Damper

Date: 3/23/2026

MATERIAL

Material Credit w/restocking	0.00	
Material ADD	\$ 189.00	
Sales Tax	0.0%	\$ -

Material Subtotal \$ 189

LABOR

General Foreman Hours	0.00	@	\$ 111.32	\$ -
Foreman Hours	0.00	@	\$ -	\$ -
Field Plumber/Fitter Hours - REG	0.00	@	\$ -	\$ -
Field Plumber/Fitter Hours - OT	0.00	@	\$ -	\$ -
Field Tinner Hours - REG	4.00	@	\$ 104.48	\$ 417.92
Field Tinner Hours - OT	0.00	@	\$ -	\$ -
Shop Hours	0.00	@	\$ 104.48	\$ -
Service Hours	0.00	@	\$ 111.32	\$ -

Labor Subtotal \$ 418

DIRECT COSTS

Payroll Taxes + Insurance (WC and Liability)	27.0% of Labor	\$ 112.84
--	----------------	-----------

Subtotal \$ 113

Subtotal Contractor Costs

Overhead

15.0% \$ 108

Subsistence

\$ -

Total Contractor Costs

\$ 828

Equipment	0.00	week	@	\$ -	\$ -
	0.00	week	@	\$ -	\$ -
	0.00	week	@	\$ -	\$ -
	0.00	week	@	\$ -	\$ -
	0.00	week	@	\$ -	\$ -
	0.00	week	@	\$ -	\$ -

Subtotal \$ -

Equipment Overhead

0.0% \$ -

Subtotal Equipment Costs

\$ -

SUBCONTRACTS

	\$ -
	\$ -
	\$ -
	\$ -

Total Subcontractor Costs

\$ -

Subcontractor Overhead

5.0% \$ -

Subtotal Subcontractors Costs

\$ -

NOTE: This change order does not address impact costs on base contract.

Total Contractor/Subcontractor Costs

\$ 828

Profit

0.0% \$ -

Bond

0.0% \$ -

Total Amount Of Change

\$ 828

Time extension required is 0 days.

This quotation based upon acceptance within

30 days.

Exclusions: slurry/flowable fill for abandonment, bypassing for sewer tie ins

NOTE: This change order does not address impact costs on base contract.

RFI #102: EF-800-1 Damper

Revision	0	Status	Closed on 03/19/26
To	From Coty Weathersby (MSA Professional Services, Inc.) Steve Sell (MSA Professional Services, Inc.) Kerry Hackert (MSA Professional Services, Inc.) Leslie Deuchars (MSA Professional Services, Inc.) Shane Dennis (MSA Professional Services, Inc.)		Wendy Zeinert (August Winter & Sons, Inc.) N850 Cty Rd CB Appleton, Wisconsin 54914
Date Initiated	Mar 11, 2026	Due Date	Mar 16, 2026
Location			
Cost Impact	Schedule Impact		
Spec Section			
Drawing Number			
Linked Drawings			
Received From	David Thiel (August Winter & Sons, Inc.)		
Copies To	David Thiel (August Winter & Sons, Inc.), Cory Flesch (C.D. Smith Construction, Inc.), Karley Krupp (C.D. Smith Construction, Inc.), Kayla Steger (C.D. Smith Construction, Inc.), Wendy Zeinert (August Winter & Sons, Inc.)		

Activity

Question	Question from Wendy Zeinert August Winter & Sons, Inc. on Tuesday, Mar 10, 2026 at 01:11 PM CDT 800-EF-1 was not scheduled with a backdraft damper or a motorized damper. Please advise if one of the previously mentioned dampers is required.
Official Response	Response from Leslie Deuchars MSA Professional Services, Inc. on Thursday, Mar 19, 2026 at 08:46 AM CDT The contractor shall provide duct sized backdraft damper.
All Replies	Response from Leslie Deuchars MSA Professional Services, Inc. on Thursday, Mar 19, 2026 at 08:46 AM CDT The contractor shall provide duct sized backdraft damper.

COR 024 - Response to FO 07
STR 800 & 100 Sequence of Operations

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935
Phone: 1 920 924.2900

Project: 240224 - Mayville WWTF 2024 Upgrade
400 Kekoskee Street
Mayville, WI 53050

Potential Change Item #COR0024

Field Order No. 07 - HVAC Sequence of Operations

To:	City Of Mayville 15 S School Street Mayville, WI 53050	From:	C.D. Smith Construction, Inc. 125 Camelot Drive Fond du Lac WI, 54935
Status:	Pricing-No Forecast	Created Date	2026-04-10
Schedule Impact:		OCO Number:	

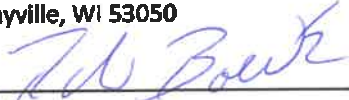
POTENTIAL CHANGE ITEM SCOPE DESCRIPTION: (The Contract Is Changed As Follows)

Field Order Provides Clarification and Revisions to RFI's. Includes and Updated/Added Sequence of Operations in the Specifications and Updated Drawings to Match.

ATTACHMENTS:

Description	Cost Code	Category	Quantity	W/M	Rate	Final Amount
Process Piping - Wastewater	400000	S		LS	\$	\$3,645.00
Bond:						\$38.27
Subcontract Markup (5%):						\$182.25
Grand Total:						\$3,865.52

City Of Mayville
15 S School Street
Mayville, WI 53050



SIGNATURE

5/20/26

DATE

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935



SIGNATURE

Digitally signed by Karley Krupp
Date: 2026.04.10 07:08:24-05'00'

DATE



AUGUST WINTER & SONS, INC.

MECHANICAL CONTRACTOR & FABRICATOR

www.augustwinter.com

2323 N. Roemer Road
Appleton, WI 54911
PO Box 1896
Appleton, WI 54912-1896
P: (920) 739-8881
F: (920) 739-2230

5613 Schofield Ave.
Schofield, WI 54476
P: (715) 355-7555
F: (715) 355-9048

April 9, 2026

Karley Krupp
CD Smith

10

CHANGE ORDER PRICE AND BREAKDOWN

Project/Job#: Mayville WWTP 92125

Description: Field Order 7

Our change order price and breakdown follows:

August Winter

Material.....	\$	1,075
Labor**..... 0 hrs	\$	-
Direct Costs.....	\$	-
Subtotal.....	\$	1,075
Overhead.....	\$	161
Subsistence.....	\$	-
Total.....	\$	1,236

Equipment

Total Equipment Costs.....	\$	-
Equipment Markup.....	\$	-
Total Equipment Costs w/overhead.....	\$	-

Subcontracts

Total Subcontractor Costs.....	\$	2,294
Subcontractor Markup.....	\$	115
Total Subcontractor Costs w/overhead.....	\$	2,409

Total AWS/Subcontractor Costs.....	\$	3,645
Profit/Bond.....	\$	-

Change Order Total..... \$ 3,645

Time extension required is 0 days.

This quotation based upon acceptance within 30 days.

** Labor rate may include multiple trades with straight and premium time.

Exclusions: slurry/flowable fill for abandonment, bypassing for sewer tie ins

Dave Thiel

August Winter & Sons, Inc.
PH: 920-739-8881 FX: 920-739-2230

VISIT OUR WEB SITE AT WWW.AUGUSTWINTER.COM

Branch Office: 5613 Schofield Avenue * Schofield, WI 54476 * PH: 715/355-7555 * FAX: 715/355-9048

HVAC * PLUMBING * TANK FABRICATION * PROCESS PIPING * IND. SHEETMETAL

SPECIALTY METAL FAB. * ASME PRESSURE VESSELS * ASME CODE WELDING * 24 HR. SERVICE * ENGINEERING

STATE OF WISCONSIN LICENSED MASTER PLUMBERS, LICENSE NUMBER 871958

August Winter Sons, Inc.
Change Order/Small Projects Report

Page 1

Project/Job#: Mayville WWTP 92125
Description: Field Order 7

Date: 4/9/2026

MATERIAL

Material Credit w/restocking		0.00
Material ADD		\$ 1,075.00
Sales Tax	0.0%	\$ -

Material Subtotal \$ 1,075

LABOR

General Foreman Hours	0.00	@	\$ 111.32	\$ -
Foreman Hours	0.00	@	\$ -	\$ -
Field Plumber/Fitter Hours - REG	0.00	@	\$ 104.48	\$ -
Field Plumber/Fitter Hours - OT	0.00	@	\$ -	\$ -
Field Tinner Hours - REG	0.00	@	\$ 104.48	\$ -
Field Tinner Hours - OT	0.00	@	\$ -	\$ -
Shop Hours	0.00	@	\$ 104.48	\$ -
Operator Hours	0.00	@	\$ -	\$ -

Labor Subtotal \$ -

DIRECT COSTS

Payroll Taxes + Insurance (WC and Liability)	27.0% of Labor	\$ -
--	----------------	------

Subtotal \$ -

Subtotal Contractor Costs

\$ 1,075

Overhead

15.0% \$ 161

Subsistence

\$ -

Total Contractor Costs

\$ 1,236

Equipment

	0.00	week	@	\$ -	\$ -
	0.00	week	@	\$ -	\$ -
	0.00	week	@	\$ -	\$ -
	0.00	week	@	\$ -	\$ -
	0.00	week	@	\$ -	\$ -
	0.00	week	@	\$ -	\$ -

Subtotal \$ -

Equipment Overhead

0.0% \$ -

Subtotal Equipment Costs

\$ -

SUBCONTRACTS

AWS Controls		\$ 2,294.00
		\$ -
		\$ -
		\$ -

Total Subcontractor Costs

\$ 2,294

Subcontractor Overhead

5.0% \$ 115

Subtotal Subcontractors Costs

\$ 2,409

NOTE: This change order does not address impact costs on base contract.

Total Contractor/Subcontractor Costs

\$ 3,645

Profit

0.0% \$ -

Bond

0.0% \$ -

Total Amount Of Change

\$ 3,645

Time extension required is **0** days.

This quotation based upon acceptance within **30** days.

Exclusions: slurry/flowable fill for abandonment, bypassing for sewer tie ins

NOTE: This change order does not address impact costs on base contract.



AUGUST WINTER & SONS, INC.
MECHANICAL CONTRACTOR & FABRICATOR

www.augustwinter.com

2323 N. Roemer Road
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P: (920) 739-8881
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5613 Schofield Ave.
Schofield, WI 54476
P: (715) 355-7555
F: (715) 355-9048

April 9, 2026
Re: Mayville WWTP No. 7

Proposal

Description: Cost incurred to engineering due to change in sequence of operation and scope of work.

- Lump Sum - \$95.00 hr. x 23 hrs. + 5%.....\$2,294.00

Sincerely,
Eric Fane

Project Name: **Mayville - Field Order 7**

Quote#: Q260031KHC01

Customer: August Winter & Sons

Location: Mayville, WI

Freight Included: Yes

Quote Date: 02/24/2026

Bid Date: 02/24/2026

Addendum#: -

Revision#: -

We are pleased to submit the following quotation to David Thiel.

Electric Heating Equipment			
Qty.	Manufacturer	Tag	Lead Time
	Berko/Qmark	800-RCP-1,2	-
2	(2) 24 x 24 Model CP251F radiant ceiling panels- 120W- 250W		
	Electric Heating Equipment Total		\$660.00
	Addition: If surface mount frames are required		+\$415.00

Quantities are listed in good faith. Please report major discrepancies.

Terms: PAYMENT TERMS ARE NET 30 DAYS FROM DATE OF INVOICE. The quantities quoted are in direct relation to the prices given. Sales, use, or other similar taxes are not included and shall be paid by the purchaser. This quotation is subject to your written acceptance within 30 days. Goods sold under this agreement are warranted to the terms of the manufacturer. Start-up and owner training services are NOT included in the prices specified unless otherwise noted. Field warranty charges need to be authorized in writing prior to work completed. All credit card payments are subject to an additional 5% processing fee. 1 ½% per month will be added to all past due accounts.

Quotation prepared by:
Ken Henrichs
(414) 973-7419
khenrichs@airflowreps.com

FIELD ORDER NO.: 7

Owner:	City of Mayville	Owner's Project No.:	00052025
Engineer:	MSA Professional Services, Inc.	Engineer's Project No.:	00052028
Contractor:	C.D. Smith Construction, Inc.	Contractor's Project No.:	
Project:	City of Mayville WWTF Upgrade		
Contract Name:	General Construction		
Date Issued:	December 19, 2024	Effective Date of Field Order:	2/17/2025

Contractor is hereby directed to promptly perform the Work described in this Field Order, issued in accordance with Paragraph 11.04 of the General Conditions, for minor changes in the Work without changes in Contract Price or Contract Times. If Contractor considers that a change in Contract Price or Contract Times is required, submit a Change Proposal before proceeding with this Work.

Reference:

Specification Section(s): 23 00 00

Drawing(s) / Detail(s): 100H104, 100H106, 100H107, 100H109, 100H110, 800H101, 999H601, 99H602, 999H603

Description:

Provide clarification and revisions to previously submitted RFI's and other contractor questions. This includes updated/added sequence of operations in the specifications and updated drawings to match, added radiant ceiling panel schedule, updated grille sizes, and updated control locations and items.

Attachments:

Sheets: 100H104, 100H106, 100H107, 100H109, 100H110, 800H101, 999H601, 99H602, 999H603

Specification Section: 23 00 00 – Heating, Ventilation and Air Conditioning

Issued by Engineer

By: Alex Feudner
Title: Project Engineer
Date: 2/10/2026

SECTION 23 00 00
HEATING, VENTILATING AND AIR CONDITIONING (HVAC)

PART 1 GENERAL

1.01 APPLICABLE PROVISIONS

- A. Applicable provisions of Division 01 shall govern work of this section.

1.02 WORK INCLUDED

- A. Provide system where shown on the Drawings, as specified herein, and as needed for a complete and proper installation including, but not necessarily limited to:
1. Exhaust fans, motors. Roof curbs.
 2. Unit heaters, vent pipes, concentric vent kits, hoods, brackets.
 3. Forced air furnace and air conditioning system: furnace, coil, condensing unit, filters, motors, refrigerant piping and appurtenances.
 4. Make-up air heat recovery system: heater, supply fan with motor, return fan with motor, filters, recovery wheel, and controls.
 5. Make-up air system: fan section with motor and filters. Roof curbs.
 6. Forced air furnace and air conditioning system: furnace, coil, condensing unit, filters, motors, refrigerant piping and appurtenances.
 7. Boilers, hydronic system pumps, vent and intake piping, chemical treatment.
 8. Air conditioning split ductless system: indoor unit with blower, condensing unit, refrigerant piping, thermostat, and appurtenances.
 9. Controls: Low-voltage wiring, conduit, relays, thermostats, dampers, damper operators, switches, etc.
 10. Air Distribution: Ductwork, insulation, duct accessories, louvers, gravity roof ventilators, diffusers, grilles, etc. Roof curbs.
 11. Heating water system piping, specialties, valves.
 12. Refrigeration piping, specialties, valves.
 13. Related accessories.
 14. Sealing of ductwork.
 15. Testing, adjusting, and balancing.
 16. Firestopping of penetrations and openings through fire-rated assemblies.
 17. Caulking of penetrations and openings.
- B. American Iron and Steel compliance.

1.03 WORK OF OTHER SECTIONS

- A. Openings for work in walls, floor, roof, ceiling, etc., required by this section shall be provided under other sections. Location and size of these openings shall be the responsibility of this Contractor.
- B. Division 03 - Concrete.
- C. Division 04 - Masonry.
- D. Division 06 - Woods, Plastics, and Composites.
- E. Division 07 - Thermal and Moisture Protection.
- E. Section 07 92 00 - Joint Sealants: Sealing of exterior and interior floor, wall, ceiling, and roof penetrations and fixture perimeters exposed after finished installation.
- G. Division 09 - Finishes.

- H. Section 22 00 00 - Plumbing: Gas piping and final connections for fuel-fired equipment.
- I. Division 26 - Electrical: Electrical line voltage wiring (100 volts and greater) connections. Equipment starters and disconnects not provided under this Section.

1.04 RELATED SECTIONS

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions and Sections in Division 01 of these Specifications.
- B. Division 05 - Metals: Equipment structural supports, anchors, etc.
- C. Section 07 92 00 - Joint Sealers: Sealing of exterior and interior floor, wall, ceiling, and roof penetrations and fixture perimeters.
- D. Section 07 92 00 - Joint Sealants: Requirements for sealing of exterior and interior floor, wall, ceiling, and roof penetrations concealed after finished installation.
- E. Division 26 - Electrical: Execution requirements for electric connections specified by this section.
- E. Division 26 - Electrical: Requirements for low voltage (under 100 volts) wiring, conduit, etc. Requirements for equipment starters and disconnects provided under this Section.

1.05 GENERAL PROVISIONS

- A. Everything essential for the completion of the work implied to be covered by these Specifications to make the system ready for normal and proper operation must be furnished and installed by the Contractor. Accordingly, any omission from either the plans or the Specifications, or both, of details necessary for the proper installation and operation of the System shall not relieve the Contractor from furnishing such detail in full and proper manner.
- B. The Drawings show various details indicating the general arrangement of the heating and ventilating work, sizes, locations of units, etc., the said plans with figures, lettering, etc., shall be considered a part of these Specifications and no charge or alternation shall be made in either case, unless ordered by the Engineer.
- C. In addition to the heating and ventilating plans, see General Plans of the building, heating and ventilating work appearing on the latter plans will be part of this contract unless especially specified to be done by other contractors, as well as, the said work detailed on the heating and ventilating plans.
- D. "Chemical Area" indicated on the Drawing shall define materials to be used in the area designated as described herein or on the Drawings. Miscellaneous materials not specifically scheduled or specified and used in this space shall be resistant to corrosion from the chemical contained in the room under non-immersion, non-splash, or non-spray service.
- E. "Corrosion Area" indicated on the Drawing shall define materials to be used in the area designated as described herein or on the Drawings. Miscellaneous materials not specifically scheduled or specified and used in this space shall be resistant to corrosion from direct exposed to water or condensation due to the moist environment.
- E. "Hazardous Area" indicated on the Drawing shall define materials to be used in the area designated as described herein or on the Drawings. Miscellaneous materials not specifically scheduled or specified and used in this space shall be resistant to corrosion from direct exposed to water or highly acidic condensation or air vapor.

1.06 QUALITY ASSURANCE

- A. Section 01 45 00 - Quality Control: Quality provisions.

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- B. Perform work in accordance with State of Wisconsin and industry standards.
- C. Qualification of Installer:
 - 1. Company specializing in performing the work of this section with minimum three (3) years documented experience.
 - 2. For the actual fabrication, installation, and testing, adjusting, and balancing of heating and ventilating work, use only thoroughly trained and experienced workers completely familiar with the items required and manufacturer's is current recommended methods of installation.
 - 3. In acceptance or rejection of installed work, the Architect or Engineer shall make no allowance for lack of skill on part of the workers.
- D. Qualification of Manufacturer:
 - 1. Company specializing in manufacturing the products specified in this section with minimum 10 years documented experience.
 - 2. Equal products shall be of similar quality, be functionally similar, and have the controls specified. Where more than one type of product is specified in a particular section, the listed acceptable manufacturers may not have an equal product for every type of product specified.
- E. Codes and Regulations:
 - 1. In addition to complying with the specified requirements, comply with pertinent regulations of State or local governmental agencies having jurisdiction, including building codes and local ordinances.
 - 2. In the event of conflict between or among specified requirements and pertinent regulations, the more stringent requirement will govern when so directed by the Engineer.
- F. Report Forms: Testing, adjusting, and balancing - AABC MN-1 National Standards for Total System Balance forms, forms prepared following ASHRAE 111, or NEBB forms.
- G. The following standards, referred hereafter by basic designation only, are imposed, as applicable to work in each instance, and form a part of this specification to the extent indicated by the reference thereto:
 - 1. AABC - Associated Air Balance Council
 - 2. Americans with Disabilities Act (ADA) of 1990, Accessibility Guidelines for Buildings and Facilities, 2010 edition.
 - 3. ARI - Air Conditioning and Refrigeration Institute
 - 4. AMCA - Air Movement and Control Association International, Inc.
 - a. AMCA 500-D – Laboratory Methods for Testing Dampers for Ratings
 - b. AMCA 511 – Certified Ratings Program for Air Control Devices
 - 5. ANSI - American National Standards Institute
 - a. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
 - 6. ASHRAE - American Society of Heating, Refrigerating and Air Conditioning Engineers
 - a. ASHRAE Standard 62 – Ventilation for Acceptable Indoor Air Quality
 - 7. ASME - American Society of Mechanical Engineers
 - 8. ASTM - American Society of Testing and Materials
 - a. ASTM C1363-97 – Thermal performance test in accordance with Architectural Testing Laboratories (ATI)
 - 9. DSPS - Department of Safety & Professional Services, Division of Industry Services, Wisconsin Administrative Code, 2018 Wisconsin Commercial Building Code
 - 10. International Code Council:
 - a. IBC - International Building Code, 2015 edition, and all referenced standards
 - b. IECC - International Energy Conservation Code, 2015 edition, and all referenced standards
 - c. IMC - International Mechanical Code, 2015 edition, and all referenced standards
 - 11. MCA - Mechanical Contractors Association
 - 12. MSS - Manufacturers Standardized Society
 - 13. NEC - National Electric Code
 - a. NFPA 70 - National Electric Code (NEC), 2020 edition.
 - 14. NEMA - National Electrical Manufacturers Association
 - 15. NFPA - National Fire Protection Association
 - 16. SMACNA - Sheet Metal and Air Conditioning Contractors National Association

1.07 PERMITS

- A. The Contractor shall obtain and pay for all construction permits required for Work of this section.
- B. One (1) copy of all permits shall be provided to Owner.
- C. One (1) copy of all permits shall be maintained on site.

1.08 COORDINATION

- A. Section 01 31 13 - Project Coordination: Coordination provisions.
- B. Cooperate and coordinate with other trades to assure that all systems in the work of this section may be installed in the best arrangement. Coordinate as required with all other trades to share space in common areas and to provide the maximum of access to each system.
- C. Arrange heating and ventilating work in neat, well organized manner with piping and similar services running parallel with primary lines of building construction, and with minimum 7 foot overhead clearance. Provide maximum clearances wherever possible.
- D. Locate operating and control equipment properly to provide easy access, and arrange entire heating and ventilating work with adequate access for operation and maintenance.
- E. Give right-of-way to piping that must slope for drainage.

1.09 SUBMITTALS

- A. Section 01 33 00 - Submittals: Submittal provisions.
- B. Contractor shall be responsible for correction of work deemed necessary by the Engineer due to proceeding with the work without shop drawings that have the Engineer's final approval.
- C. Contractor will be responsible for all figures and dimensions. Approval of shop drawings describing equipment that cannot fit in the space allotted does not relieve the Contractor from providing equipment that will meet the space requirements.
- D. Shop Drawings: Include data on physical dimensions, gauges, materials of construction and capacities.
 - 1. Controls: Indicate operating data, system drawings, and written detailed operational description of system.
 - a. Label with settings, adjustable range of control and limits.
 - b. Include written description of control sequence.
 - c. Include description and sequence of operation of operating, user, and application software.
 - 2. Mechanical Identification: Submit schedule of labels.
- E. Product Data:
 - 1. Louvers, diffusers, grilles, registers: Manufacturer's catalog information with sizes, capacities, rough-in requirements, and finishes.
 - 2. HVAC Equipment: Submit dimensions, connections, arrangement, accessories, capacities, and finishes.
 - 3. Refrigerant Condensing Units: Submit capacities, schematic layout of system, piping and electrical connections, sound data, and controls.
 - 4. Air Distribution: Submit sizes, capacities, materials, and connections to other work. Submit catalog performance ratings, construction, electric and duct connections, flashing and dimensions for fans and exhausters.
 - 5. Controls: Submit description and engineering data for each control system component. Submit data for each system component and software module.
 - 6. PVC Coated and Aluminum Ductwork: Submit manufacturer's catalog information.

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- 7. Mechanical Insulation and Finished Jackets: Product description, list of materials, and thickness for each service or equipment scheduled and locations.
- 8. Mechanical Identification: Submit description, dimensions, and materials.
- E. Test Reports: Testing, adjusting, and balancing - submit prior to final acceptance and for inclusion in operating and maintenance manuals. Assemble in soft cover, letter size, 3-ring binder, with table of contents page and tabs, and cover identification. Include reduced scale drawings with air outlets and equipment identified with data sheets, and indicating thermostat locations.

G. AIS Documentation.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Material and Equipment: Product storage and handling provisions.
- B. Accept equipment on site in factory packaging. Inspect for damage.

1.11 ENVIRONMENTAL REQUIREMENTS

- A. Do not install insulation and related products when ambient temperatures and conditions are not meeting manufacturer's requirements.
- B. Maintain temperature before, during, and after installation for a minimum period of 24 hours.

1.12 EXTRA MATERIALS

- A. Section 01 77 00 - Closeout Procedures: Spare parts and maintenance provisions.
- B. Provide two (2) sets of extra filters for each piece of equipment requiring filters, not including the filters installed at substantial completion.

1.13 WARRANTY

- A. Section 01 77 00 - Closeout Procedures: Warranty provisions.
- B. All HVAC equipment shall be provided with a manufacturer's warranty. Equipment warranties shall be effective from the date of substantial completion and acceptance and shall be a minimum of two (2) years unless otherwise indicated in the individual specification sections. This Contractor shall provide factory start-up services for all equipment when available from the equipment manufacturer.
- C. Boiler parts: 1 year
- D. Boiler Heat Exchanger: 10 years
- E. Heat Exchangers and Refrigeration Compressors: Furnish five (5) year warranty.
- E. Split Ductless Air-Conditioning System: Furnish five (5) year warranty on parts and defects and seven (7) years parts on the compressor.
- G. Kynar/Hylar (70% PVFD) Finish on Fans, Louvers, and Accessories: Furnish manufacturer's 10-year paint warranty.
- H. This Contractor guarantees the system to properly circulate heating hot water to all parts of the system.

1.14 CLOSEOUT SUBMITTALS

- A. Section 01 77 00 - Closeout Procedures: Submittal provisions.

- B. Project Record Documents and As-Builts: Record actual location of equipment, ductwork, and controls including thermostats remotely located from equipment in pipes, ducts, and walls.
- C. Operation and Maintenance Data and Instructions:
 - 1. Assembly two (2) complete sets. Prepare in bound copies complete with index tabs.
 - 2. Submit bound copies to Engineer for distribution.
 - 3. Controls:
 - a. Systems descriptions, set points, and controls settings and adjustments.
 - b. Inspection period, cleaning methods, recommended cleaning materials, and calibration tolerances.
 - c. Interconnection wiring diagrams complete field installed systems with identified and numbered system components and devices.
 - 4. Equipment: Submit for each piece of equipment. Submit manufacturer's descriptive literature, operating instructions, service instructions, installation instructions, maintenance and repair data, parts listing, warranties, and piping and wiring diagrams.
- D. Warranties.

PART 2 PRODUCTS

2.01 AMERICAN IRON AND STEEL COMPLIANCE

- A. All iron and steel products used in this project must comply with the "Use of American Iron and Steel" clause of the H.R. 3547 "Consolidated Appropriations Act, 2014" or are the subject of a waiver approved by the Funding Agency or designee.

2.02 ELECTRICAL PROVISIONS

- A. Contractor shall consult with the Division 26 contractor before ordering electrical motors, to ascertain correct electrical current characteristics.
- B. Motors: Comply with applicable provisions of the National Electrical Code, NEMA Standards, and Division 26 of these Specifications, and as follows, unless otherwise indicated.
 - 1. Phases and Current: up to 1/2 HP, capacitor-start, 120 volt, 60 cycle single-phase; 1/2 HP and larger, squirrel-cage induction NEMA rated 460 volt, three phase, 60 cycle. Provide 2 separate windings on 2 speed three-phase motors. Coordinate with actual current characteristics; refer to Division 26.
 - 2. High Efficiency Motors: All motors 1 HP and larger shall be high efficiency motors meeting or exceeding values test in accordance with IEEE Standards 112, Method B procedures as stated in NEMA MG 1-12.53a.
 - 3. Integral Thermal Overload: on all motors less than 1/2 HP.
 - 4. Service Factor: 1.15 for three-phase; 1.35 for single-phase.
 - 5. Construction: General purpose, continuous duty.
 - 6. Frames: NEMA Standard for horsepower specified.
 - 7. Overload Protection: Built-in thermal, with internal sensing device for stopping motor, and for signaling where indicated.
 - 8. Type: Motors in airstream shall be totally enclosed; all others shall be open drip-proof; unless noted otherwise.
- C. Starters:
 - 1. Where starters are indicated to be an integral part of equipment provided by this Section, they shall meet requirements of Division 26 and shall be connected under Division 26.
 - 2. Where an MCC is provided under Division 26, all starters not provided integral with equipment shall be furnished and installed under Division 26.
 - 3. Where an MCC is NOT provided under Division 26 OR an MCC without motor starters is shown as being provided under Division 26, all starters not provided integral with equipment shall be

furnished and installed under this Section, they shall meet requirements of Division 26 and shall be connected under Division 26.

D. Disconnects:

1. Where disconnects are provided as an integral part of equipment provided by this Section or where they are furnished standard for field installation for equipment provided by this Section, they shall meet requirements of Division 26 and shall be connected under Division 26.
2. All disconnects not integral with equipment shall be furnished and installed under this Section, they shall meet requirements of Division 26 and shall be connected under Division 26.

E. General Wiring: Comply with applicable provisions of Division 26 Section.

2.03 SLEEVES

A. Sleeves for pipes through non-fire rated floors: Schedule 80 PVC.

B. Sleeves shall be of sufficient length to pass through entire floor or wall construction. Sleeves through floors shall extend 1 inch above finished floor level.

C. All sleeves shall be of sufficient diameter such that the bare or insulated duct or pipe, as applicable, with unbroken covering, where specified, can pass through and allow for expansion and contraction in all directions.

1. Uninsulated: Provide sleeves two inches larger than the duct or two pipe sizes larger than the pipe passing through; or provide a minimum of 1/2 inch clearance between inside of sleeve and outside of the duct or pipe.
2. Insulated: Provide sleeves of adequate size to accommodate the full thickness of covering, with clearance for packing and caulking.

2.04 ESCUTCHEONS

A. 1 inch wide or of sufficient size to cover the sleeved opening and an inside diameter to fit snugly around pipe.

B. 1-1/2-inch wide and an inside dimension to fit snugly around duct.

C. Finish shall be stainless steel, unless noted otherwise.

2.05 FANS

A. Furnish fans in the size, capacity, and type as scheduled on the drawings. See Schedule on Drawings for additional requirements.

B. Fans shall be quiet operating and vibration free.

C. Fans shall be UL Listed and CSA approved.

D. The fan shall bear the AMCA Certified Ratings Seal for both sound and air performance.

E. Fan shall bear a permanently affixed manufacturer's engraved metal nameplate containing the model number and individual serial number for future identification.

E. Fan shall comply with OSHA guideline 1926.300 – General Requirements for Machine Guarding.

G. A general duty, internal wiring pigtail (flexible metal conduit) shall be provided by the fan manufacturer.

H. Direct Drive Motors, where scheduled:

1. Motor to be an electronic commutation (EC) motor specifically designed for fan applications. AC induction type motors are not acceptable. Examples of unacceptable motors are: Shaded Pole, Permanent Split Capacitor (PSC), Split Phase, Capacitor Start and 3 phase induction type motors. Motors shall be permanently lubricated with heavy-duty ball bearings to match the fan load and prewired to the specific voltage and phase. Internal motor circuitry shall convert AC power supplied to the fan to DC power to operate the motor. Motor shall be speed controllable down to 20% of full speed (80% turndown). Speed shall be controlled by either a potentiometer dial mounted on the motor or by a 0-10 VDC signal. Motor shall be a minimum of 85% efficient at all speeds.
2. Greenheck VG or as approved by manufacturer of fan.

L. Centrifugal Exhaust Fans:

1. Spun aluminum centrifugal type.
 - a. The fan housing and shroud shall be constructed of heavy gauge aluminum with a rigid internal support structure. The fan shroud shall have a rolled bead for added strength.
 - b. The fan wheel shall be centrifugal backward inclined, constructed of aluminum and shall include a wheel cone carefully matched to the inlet cone for precise running tolerances.
 - c. Wheels shall be statically and dynamically balanced.
 - d. Fresh air for motor cooling shall be drawn into the motor compartment from an area free of discharge contaminants.
 - e. Aluminum wire shall protect the fans discharge from birds or small objects.
 - f. Direct Driven:
 - 1) Motors shall be mounted out of the airstream on vibration isolators.
 - 2) A disconnect switch shall be factory installed and wired from the motor compartment for ease of electrical wiring.
 - 3) Greenheck Model G.
2. Roof Mounting:
 - a. Roof Curb:
 - 1) Designed for non-insulated roof decks.
 - 2) Type appropriate for pitched roof installation.
 - 3) Galvanized 18 gauge steel, welded construction, with 1 inch, 3 pound density, insulation.
 - 4) Finish: Same as fan, unless noted otherwise.
 - 5) Greenheck Model GPFP.
3. Birdscreen: Stainless steel [Galvanized]
4. Finish: Kynar 500 (70% PVDF), unless noted otherwise. Color to be selected by Architect from manufacturer's standard colors, minimum of 12.

J. Centrifugal Upblast Exhaust Fans:

1. Spun aluminum upblast centrifugal type.
 - a. The fan wheel shall be centrifugal backward inclined, constructed of aluminum and shall include a wheel cone carefully matched to the inlet cone for precise running tolerances. Wheels shall be statically and dynamically balanced.
 - b. The fan exterior housing, curb cap, windband, motor compartment housing, and motor cover shall be constructed of heavy gauge aluminum. Housing shall have a rigid internal support structure. Windband shall be one-piece spun aluminum construction and maintain original material thickness throughout the housing. Windband to include an integral rolled bead for strength. Curb cap base shall be fully welded to windband for leak proof construction; tack welding, bolting, and caulking are not permitted. Curb cap shall have integral deep spun venture and pre-punched mounting holes for curb alignment. Drain trough shall allow for one-point drainage of water and contaminants.
 - c. Drive frame assemblies shall be constructed of heavy-gauge steel and mounted on vibration isolators.
 - d. Fresh air for motor cooling shall be drawn into the motor compartment free of discharge contaminants. Motors shall be readily accessible for maintenance. Breather tube shall be sized for fresh motor cooling and designed to allow wiring to run through it.
 - e. Vibration isolation shall be provided and be double studed true isolators, no metal to metal contact, and be sized to match the weight of the fan.

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- f. A disconnect switch shall be factory installed and wired from the fan motor to a junction box within the motor compartment.
- 2. Direct Driven:
 - a. Motors shall be mounted out of the airstream on vibration isolators.
 - b. A conduit chase shall be provided through the curb cap to the motor compartment for ease of electrical wiring.
 - c. Greenheck Model CUE.
- 3. Roof Mounting:
 - a. Roof Curb:
 - 1) Designed for insulated and non-insulated roof decks.
 - 2) Type appropriate for flat or pitched roof installation. See Drawings for roof construction.
 - 3) Galvanized 18-gauge steel, welded construction, with 1 inch, 3 pound density, insulation.
 - 4) Finish: None.
 - 5) Greenheck Model appropriate for installation location and per Schedule remarks.
- 4. Birdscreen: Stainless steel
- 5. Finish: Anodized finish, unless noted otherwise. Color to be selected by Architect from manufacturer's standard colors, minimum of 4

K. Centrifugal Inline Fan:

- 1. Duct mounted supply or exhaust fan shall be of the centrifugal direct driven in-line type.
- 2. The fan housing shall be of the square design constructed of heavy gauge galvanized steel, unless scheduled otherwise, and shall include square duct mounting collars.
- 3. Fan construction shall include two removable access panels located perpendicular to the motor mounting panel. The access panels must be of sufficient size to permit easy access to all interior components.
- 4. The fan wheel shall be centrifugal backward inclined, constructed of aluminum and shall include a wheel cone carefully matched to the inlet cone for precise running tolerances. Wheels shall be statically and dynamically balanced.
- 5. Motors shall be readily accessible for maintenance.
- 6. Direct Drive:
 - a. Motors shall be permanently lubricated and carefully matched to the fan loads.
 - b. A NEMA 1 disconnect switch shall be provided as standard, except with explosion resistant motors, where disconnects are optional. Factory wiring shall be provided from motor to the handy box.
 - c. Greenheck SQ.
- 7. Finish shall be as indicated in the Equipment Schedule on the Drawings.

L. Acceptable Manufacturers: Acme, Cook, Greenheck, Penn, or Twin City Fan.

2.06 DESTRATIFICATION FANS

- A. Furnish fans in the size, capacity, and type as scheduled on the drawings. See Schedule on Drawings for additional requirements.
- B. Fans shall be quiet operating and vibration free.
- C. Ceiling Mounted Destratification Fans:
 - 1. Extra heavy-duty industrial fan.
 - 2. All metal construction. No plastic.
 - 3. Energy efficient, 0.71 amps or less.
 - 4. Sealed thermo-protected motor.
 - 5. Permanent, sealed chrome ball bearings.
 - 6. Secondary support cable.
 - 7. Guard: Heavy-duty, non-sagging, 10 gauge steel wire - bright zinc plated, 1 1/2 inch maximum spacing, with secondary support cable.

ADDENDUM #2

- 8. Controls: 2 fan control, speed control.
- 9. Envirofan Gold Line.

D. Acceptable Manufacturers: Envirofan or equal.

2.07 GAS-FIRED UNIT HEATERS

- A. Furnish unit in the size and capacity as scheduled on the drawings. See Schedule on Drawings for additional requirements.
- B. All electrical components shall carry UL, ETL, or CSA listing.
- C. CSA certified as having 80% thermal efficiency.
- D. Conform to the latest ANSI Standards for safe operation.
- E. Factory assembled, piped, wired and tested.
- E. Separated Combustion Tubular Unit Heater:
 - 1. Cabinetry and casework shall be 20-gauge material with baked enamel finish.
 - 2. Heat exchanger shall consist of 20-gauge aluminized steel tubes.
 - 3. Burners shall be "inshot" design. 321 stainless steel burner box.
 - 4. Direct spark ignition with integrated control and combination gas valve.
 - 5. Flame rectification shall be independent of the spark igniter.
 - 6. Efficiency: 82%
 - 7. Direct spark ignition. Single stage gas valve. High limit switch. Air pressure switch.
 - 8. Warranty: Manufacturer's standard 10-year warranty on heat exchanger, flue collector, and burners to be free from defects in materials and workmanship.
 - 9. Concentric vent kit appropriate for installation location by unit manufacturer.
 - 10. Hoods.
 - 11. Reznor UDZGG, Modine HDS, or Sterling GG.
- G. Acceptable manufacturers: Modine, Reznor, Sterling, or equal.

2.08 ELECTRIC HEATERS

- A. Furnish unit in the size and capacity as scheduled on the drawings. See Schedule on Drawings for additional requirements.
- B. All electrical components shall carry UL, ETL, or CSA listing.
- C. Explosion Proof Unit Heater:
 - 1. Designed for areas classified as hazardous locations designated as Class I, Group D.
 - 2. Controls: Pre-wired, self-contained control center. Standard controls shall include manual reset thermal cutout for over-temperature protection, a magnetic contactor, and 24 volt control circuit transformer.
 - 3. Heat Exchanger: Steel tubes, aluminum fins, a non-toxic heat transfer fluid, and a 40 PSIG relief valve.
 - 4. Fan and Motor: Ball bearing permanently lubricated explosion proof motor with built-in thermal overload protection.
 - 5. Cabinet: Powder coated heavy gauge steel cabinet surrounding a 14 gauge heavy duty steel frame which supports internal components.
 - 6. Pilot light.
 - 7. Integral thermostat
 - 8. Disconnect switch.
 - 9. Mounting kit.
 - 10. Q'Mark Model GUX.

- D. Unit Heater:
1. Airflow shall be capable of being directed horizontally, vertically, or any position in between.
 2. Multiple wattage heat selector switch.
 3. Remote thermostat.
 4. Ceiling/wall bracket.
 5. Heavy gauge die-formed steel housing.
 6. Completely enclosed fan motor.
 7. Aluminum-finned, copper clad steel sheath heating element.
 8. Automatic reset linear thermal cutout, capillary type.
 9. Q'Mark Model MUH.
- E. Horizontal/Downflow Unit Heater:
1. Ceiling mounting bracket for horizontal or vertical flow mounting or any position in between.
 2. Built-in single pole thermostat adjustable from 45° to 135°F.
 3. Automatic control which delays fan action until heating element is warm. When thermostat is satisfied, fan shall continue to operate until heating element is cool.
 4. High-level cut out which shall automatically shut off current in event of overheating and shall reactivate the heater when the temperature returns to normal.
 5. Q'Mark Type MWUH5004.
- E. Acceptable manufacturers: Berko, Marley, Markel, Q'Mark, Raywall, or equal.

2.09 GAS-FIRED MAKE-UP AIR UNIT

- A. Furnish unit in the size and capacity as scheduled on the drawings. See Schedule on Drawings for additional requirements.
- B. Standards and Certifications:
1. A.G.A. and C.G.A. Certified furnace which conform to the latest ANSI standards for efficiency and safe performance.
 2. Compliant with FM (Factory Mutual) requirements.
 3. Make-up air unit shall be ETL listed to ANSI Z83.4 and CAN 3.7.
- C. Indirect Gas-Fired Make-up Air Unit:
1. Furnace and Controls:
 - a. Indirect fired gas system shall be 80% efficient and have a blow through design.
 - b. Furnace shall be capable of operation with natural gas and have power venting system.
 - c. The heat exchanger shall be constructed of stainless steel.
 - d. Standard Furnace Features:
 - 1) Main gas pressure regulator
 - 2) Main gas valve
 - 3) Electronic staged controls
 - 4) Direct spark ignition system
 - 5) High limit
 - 6) 24-volt control transformer
 - e. Furnace shall be insulated and have double wall construction.
 2. Temperature Control:
 - a. Furnace heat output shall be controlled based on a field adjustable discharge temperature set point. See "thermostats" for field mounted temperature override information.
 - b. Discharge temperature sensor shall be factory mounted and wired to unit control center.
 - c. Furnace shall have 8-stage modulation.
 3. Unit Casing and Frame:
 - a. Unit shall be of internal frame type construction of galvanized steel.
 - b. All frames and panels shall be G90 galvanized steel.
 - c. Where top panels are joints there shall be a standing seam to insure positive weather protection.

- d. All metal-to-metal surfaces exposed to the weather shall be sealed, requiring no caulking at job site.
 - e. All components shall be easily accessible through hinged doors with quarter turn lockable latches.
4. Insulation:
- a. Unit casing shall be lined with 1 inch fiberglass insulation (double wall). Insulation in accordance with NFPA 90A and tested to meet UL 181 erosion requirements and secured to unit with water proof adhesive and permanent mechanical fasteners.
5. Fan Section:
- a. Centrifugal fans shall be double width, double inlet and forward curved.
 - b. Fan and motor shall be mounted on a common base and shall be internally isolated.
 - c. All blower wheels shall be statically and dynamically balanced.
 - d. Ground and polished steel fan shafts shall be mounted in permanently lubricated ball bearings (up to size 118) or ball bearing pillow blocks (size 120 and larger).
 - e. Bearings shall be selected for a minimum (L10) life in excess of 100,000 hours at maximum cataloged speeds.
6. Motors and Drives:
- a. Motors shall be energy efficient, complying with EPACT standards for ODP and TE enclosures.
 - b. Motors shall be permanently lubricated, heavy duty type, matched to the fan load and furnished at the specified voltage, phase, and enclosure.
 - c. Drives shall be sized for a minimum of 150% of driven horsepower.
 - d. Pulleys shall be cast and have machined surfaces, 15 horse power or less shall be supplied with an adjustable drive pulley.
7. Electrical:
- a. All internal electrical components shall be prewired for single point power connection.
 - b. All electrical components shall be UL listed, recognized or classified where applicable and wired in compliance with the National Electrical Code.
 - c. Remote control panel shall include motor starter, control circuit fusing, control transformer for 24 VAC circuit, integral door interlocking disconnect switch, and terminal strip with relay output for exhaust fan control.
 - d. Contactors, Class 20 adjustable overload protection and single phase protection shall be standard.
8. Filter Section:
- a. Filters shall be mounted in V-bank arrangement such that velocities across the filters do not exceed 550 feet per minute.
 - b. Filters shall be easily accessible through a removable access panel.
9. Weatherhood:
- a. Shall be constructed of G90 galvanized steel with birdscreen mounted at the intake.
10. Mounting: Exterior unit shall be mounted on metal rails with lifting and anchor holes and be suitable for slab or roof curb mounting.
11. Accessories:
- a. Clogged Filter Switch: A factory installed clogged filter switch with indicator light located in the main electrical cabinet shall be provided by the manufacturer.
 - b. Inlet Air Sensor:
 - 1) On/off duct stat that automatically de-energies the gas system and interrupts the gas flow to the burner with the inlet air temperature is above the desired setting.
 - 2) 630-MAU-1 Only: Inlet air sensor that allows modulation of supply fan airflow based on outside air temperature control setpoints.
 - c. Air flow prove switch shall be provided by manufacturer to verify airflow through the unit.
 - d. Remote Control Panel (Industrial type):
 - 1) Status Lamps: Long life factory installed LED lamps shall be provided in the electrical cabinet by the manufacturer to aid in trouble shooting and equipment setup. Power on, fan on, heating energized, dirty filter.
 - 2) Room override temperature set point adjustment.
 - e. Manufacturer provided, shipped loose motorized outlet damper. Damper shall be field installed and wired back to unit terminal strip by Division 23 Contractor.

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12. Finish: Permtector.
13. Curb: Furnish manufacturer's insulated welded insulated curb.
 - a. Ground Mounting: Aluminum construction with finish to match unit. Flat surface installation, pad mounted. See Equipment Schedule on Contract Drawings for height required.
 - b. Roof Mounting: Galvanized steel construction, no finish. Roofing contractor to flash into roof system. Flat surface installation, roof deck mounted. See Equipment Schedule on Contract Drawings for height required.
14. Greenheck Model IGX.

D. Acceptable Manufacturers: Greenheck, Modine, Reznor, or Trane.

2.10 SPLIT DUCTLESS HEAT PUMP SYSTEM

- A. Wall-mounted, heat pump type, split system.
1. Unit shall be tested by a Nationally Recognized Laboratory (NRTL) and bear the ELT label.
 2. All wiring shall be in accordance with the National Electric Code (NEC).
 3. The unit shall be rated in accordance with the Air-Conditioning Refrigeration Institute's (ARI) Standard 210/240 and bear the ARI Certification label.
 4. The unit shall be manufactured in a facility registered to ISO 9001 set of standards.
 5. System efficiency shall meet or exceed 13.0 SEER.
 6. Indoor Unit:
 - a. A dry air holding charge shall be provided in the indoor unit.
 - b. General:
 - 1) The indoor unit shall be factory assembled, wired and run tested. Contained within the unit shall be all factory wiring, internal piping, control circuit board and fan motor.
 - 2) The unit shall have a self-diagnostic function, 3-minute time delay mechanism, an auto restart function, an emergency operation function, and a test run switch.
 - c. Cabinet:
 - 1) The casing shall have a white finish.
 - 2) Multi-directional drain and refrigerant piping offering four (4) directions for refrigerant piping and two (2) directions for draining.
 - 3) There shall be a separate installation plate which secures the unit firmly to the wall.
 - d. Fan:
 - 1) The indoor fan shall be assembled with a line-flow fan direct driven by a single motor.
 - 2) The fan shall be statically and dynamically balanced and run on a motor with permanently lubricated bearings.
 - 3) A manual adjustable vertical guide vane shall be provided with the ability to change the airflow from side to side.
 - 4) An integral, motorized air sweep flow louver shall provide an automatic change in airflow by directing the air up and down to provide for uniform air distribution.
 - 5) The indoor unit fan motor shall operate in three (3) selectable speeds (high-medium-low).
 - e. Filter:
 - 1) Return air shall be filtered by means of easily removed air filter.
 - f. Coil:
 - 1) The indoor unit (evaporator) coil shall be of nonferrous construction with smooth, pre-coated aluminum fins on copper tubing.
 - 2) Tubing shall have inner grooves for high efficiency heat exchange.
 - 3) All tube joints shall be brazed with PhosCopper or silver alloy.
 - 4) The coil shall be pressure tested at the factory.
 - 5) A sloped condensate pan and drain with extension hose shall be provided under the coil.
 - g. Electrical:

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- 1) The system shall be equipped with a system allowing the indoor unit to be powered directly from the outdoor unit using a minimum of 14 gauge, 3-wire polarity sensitive connection plus ground wire to provide both power and control signal between the indoor and outdoor units.
- 2) The indoor unit shall not have any supplemental electrical heat elements.
- h. Control:
 - 1) This system shall have a wired remote controller to perform input functions necessary to operate the system. The controller shall consist of a Power On/Off switch, Mode Selector, Temperature Setting, Timer Control, Fan Speed Select and Auto Vane Selector.
 - 2) Temperature changes shall be by 1°F increments with a range of 65°F to 87°F.
 - 3) There shall be a 24 hour On/Off timer.
 - 4) The unit shall have an emergency operation mode to allow operation without the remote controller.
 - 5) The microprocessor located in the indoor unit shall have the capability of sensing return air temperature and indoor coil temperature, receiving and processing commands from the wired remote controller, providing emergency operation and controlling the outdoor unit.
 - 6) The control voltage between the indoor unit and the outdoor unit shall be 115 volts, AC.
 - 7) The system shall be capable of automatic restart when power is restored after power interruption.
 - 8) The control system shall control the operation of the air sweep louvers, as well as provide on/off and system/mode function switching.
7. Outdoor Unit:
 - a. Vertical with side discharge.
 - b. Refrigerant: R410A.
 - c. General:
 - 1) The outdoor unit shall be specifically designed for use with the indoor unit.
 - 2) The outdoor unit shall be completely factory assembled, internally piped and wired.
 - 3) Each unit shall be run tested at the factory.
 - 4) The outdoor unit shall be equipped with a reversing valve for heat pump operation in colder temperatures.
 - 5) Manufacturer wall mount kit.
 - d. Cabinet:
 - 1) The casing shall be fabricated from zinc coated steel, bonderized with acrylic or polyester power coating for corrosion protection.
 - e. Fan:
 - 1) The unit shall be furnished with a direct drive propeller type fan, statically and dynamically balanced for smooth and quiet operation.
 - 2) The fan motor shall have inherent protection, be equipped with permanently lubricated bearings. The fan motor shall be mounted and isolated for quiet operation.
 - 3) The fan shall be provided with a raised guard to prevent contact with moving parts.
 - 4) The outdoor unit shall have horizontal discharge airflow.
 - f. Coil:
 - 1) The condenser coil shall be of nonferrous construction with pre-coated aluminum strake fins on copper tubing.
 - 2) The coil shall be protected with an integral metal guard.
 - 3) Refrigerant flow from the condenser shall be controlled by means of a metering orifice.
 - g. Compressor:
 - 1) The compressor shall be a high performance, hermetic, rolling piston, rotary type.
 - 2) Compressor shall be mounted using rubber isolating bushings to avoid the transmission of vibration.
 - 3) Compressor shall be protected by an automatic over current relay and a thermal overload switch.

- h. Operation:
 - 1) The outdoor unit shall have an accumulator.
 - 2) The outdoor unit must have the ability to operate with a maximum height difference of 35 feet between indoor and outdoor units.
 - 3) The unit shall have a maximum refrigerant tubing length of 65 feet between indoor and outdoor units without the need for line size changes, traps or additional oil.
 - 4) The unit shall be pre-charged for a maximum of 25 feet of refrigerant tubing.
 - i. Electrical:
 - 1) The outdoor unit shall be controlled by the microprocessor located in the indoor unit. The control voltage between the indoor unit and the outdoor unit shall be 115 volts, AC.
 - 8. Electrical:
 - a. The electrical power of the system shall be 115 volts, 1 phase, 60 hertz. The unit shall be capable of satisfactory operation within voltage limits of 103 volts to 127 volts.
 - b. The electrical power of the system shall be 230/208 volts, 1 phase, 60 hertz. The unit shall be capable of satisfactory operation within stated voltage limits.
 - 9. Thermostat: Provide manufacturer's wired remote controller.
 - 10. Low ambient cooling, to 14 degrees F outside temperature.
- B. Acceptable Manufacturers: Carrier, Mitsubishi Electric, Daikin, Friedrich, Panasonic, or equal.

2.11 ENERGY RECOVERY MAKE-UP AIR UNIT

- A. Furnish unit in the size and capacity as scheduled on the drawings.
- B. Standards and Certifications:
 - 1. A.G.A. and C.G.A. Certified duct furnace which conform to the latest ANSI standards for efficiency and safe performance.
 - 2. Compliant with FM (Factory Mutual) requirements.
 - 3. Unit shall be listed per ANSI/UL 1995, Heating and Cooling Equipment.
 - 4. Energy transfer ratings of the energy recovery wheel shall be ARI Certified to Standard 1060 and bear the ARI certification symbol for ARI Air-to-Air Energy Recovery Ventilation Equipment Certification Program based on ARI 1060. Ratings "in accordance with 1060" without certification are not acceptable.
 - 5. Ventilators shall bear the AMCA Certified Ratings Seal for Air Performance.
 - 6. Motors shall be energy efficient, complying with EPACT standards, for single speed ODP and TE enclosures.
 - 7. All electrical components shall be UL Listed, Approved, or Classified where applicable and wired in compliance with the National Electrical Code.
- C. Acceptable Manufacturers: Greenheck or equal.

2.12 GAS FIRED FORCED-AIR FURNACE

- A. See schedule on Drawings for manufacturer, model, and capacity.
- B. Quality Assurance:
 - 1. Unit shall be designed, tested and constructed to the current ANSI Z 21.47/CSA 2.3 design standard for gas-fired central furnaces.
 - 2. Unit shall be 3rd party certified by CSA to the current ANSI Z 21.47/CSA 2.3 design standard for gas-fired central furnaces.
 - 3. Unit shall carry the CSA Blue Star and Blue Flame labels.
 - 4. Unit efficiency shall be performed per the current DOE test procedure as listed in the Federal Register.
 - 5. Unit shall be certified for capacity and efficiency and listed in the latest GAMA Consumer's Directory of Certified Efficiency Ratings.
 - 6. Unit shall carry the current Federal Trade Commission Energy Guide efficiency label.

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- C. Unit shall be shipped as single package only and shall be stored and handled per unit manufacturer's recommendations.
- D. Self-contained, packaged, factory assembled, sealed combustion, direct vent, ultra-high efficient, pre-wired unit consisting of cabinet, supply fan, heating element, controls, air filter and accessories; wired for single power connection with control transformer.
 - 1. Air Flow Configuration: See Drawings.
 - 2. Fuel: Natural gas fired.
- E. Blower Wheel and ECM Blower Motor
 - 1. Galvanized blower wheel shall be centrifugal type, statically and dynamically balanced.
 - 2. Blower motor of ECM type shall be permanently lubricated with sealed ball bearings and have infinitely variable speed from 300 to 1300 RPM operating only when 24 VAC motor inputs are provided.
 - 3. Blower motor shall be direct drive and soft mounted to the blower scroll to reduce vibration transmission.
- F. Filters: Furnace shall have reusable-type filters.
- G. Casing: Casing shall be 0.030 inch thickness minimum, pre-painted galvanized steel.
- H. ECM Inducer Motor: Shall be variable speed design being soft mounted to the assembly to reduce vibration transmission.
- I. Heat Exchangers
 - 1. Primary heat exchangers shall be a 3-Pass 20 gauge corrosion resistant aluminized steel of fold-and-crimp sectional design when applied operating under negative pressure.
 - 2. Secondary heat exchangers shall be of a flow-through design having an interior coating of polypropylene with fold-and-crimp design when applied operating under negative pressure. Units without special interior coating shall be aluminized steel.
- J. Controls
 - 1. Controls shall include a micro-processor based integrated electronic control board with at least 16 service troubleshooting codes displayed via diagnostic flashing LED light on the control, a self-test feature that checks all major functions of the furnace, and a replaceable automotive-type circuit protection fuse.
 - 2. Multiple operational settings shall be available, including separate blower speeds for low heat, high heat, low cooling, high cooling and continuous fan. Continuous fan speed may be adjusted from the thermostat. Cooling airflow shall be selectable between 350 or 400 CFM per ton of air conditioning.
 - 3. Features shall also include temporary reduced airflow in the cooling mode for improved dehumidification when an Infinity Control or Thermostat is selected as the thermostat.
- K. Acceptable Manufacturers: Airstrong Air Conditioning, Carrier Corp., Lennox, The Trane Company, York, or equal.

2.13 AIR-COOLED, SPLIT-SYSTEM AIR CONDITIONER

- A. System Description: Outdoor-mounted, air-cooled, split-system air conditioner unit suitable for ground installation. Unit consists of a hermetic compressor, an air-cooled coil, propeller-type condenser fan, and a control box. Unit will discharge supply air upward as shown on Drawings. Unit will be used in a refrigeration circuit to match up to a packaged fan coil unit.
- B. Quality Assurance
 - 1. Unit shall be rated in accordance with the latest edition of ARI Standard 20.
 - 2. Unit shall be certified for capacity, efficiency, and listed in the latest ARI directory.
 - 3. Unit construction shall comply with the latest edition of ANSI/ASHRAE and with NEC.

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4. Unit shall be constructed in accordance with UL standards and will carry the UL label of approval.
 5. Unit cabinet shall be capable of withstanding Federal Test Method Standard No. 141 (Method 6061) 500-hr salt spray test.
 6. Air-cooled condenser coils shall be leak tested at 150 psig and pressure tested at 300 psig.
 7. Unit constructed in ISO9001 approved factory.
- C. Unit will be shipped as a single package only and is stored and handled per unit manufacturer's recommendations.
- D. Equipment: Factory assembled, single piece, air-cooled air conditioner unit. Contained within the unit enclosure is all factory wiring, piping, controls, compressor, refrigerant charge (Puron, R-410A), and special features required prior to field start-up.
- E. Acceptable Manufacturers: Airstrong Air Conditioning, Carrier Corp., Lennox, The Trane Company, York, or equal.

2.14 GAS VENTS

- A. Type: Type B double wall gas vent or as required by manufacturer or code.
- B. Fabrication: Inner pipe of sheet stainless steel, and outer pipe of sheet stainless steel tested in compliance with UL 441.

2.15 PUMPS

- A. See schedule on Drawings for manufacturer, model, and capacity.
- B. General
1. Pump sizes, capacities, pressures and operating characteristics shall be as scheduled.
 2. Provide all pumps with motors, impellers, drive assemblies, bearings, coupling guards and other accessories specified. Statically and dynamically balance all rotating parts.
 3. Provide all base-mounted pumps and pumps controlled by variable frequency drives with shaft grounding rings.
 4. Pump motors to be sized for non-overloading over the entire pump curve. Motors to be 1750 rpm unless otherwise scheduled.
 5. Pumps serving water systems containing glycol shall be provided with glycol-rated seals.
 6. Test all pumps before shipment. The manufacturer shall certify all pump ratings.
 7. Pump selections shall not be made with the largest available impeller to achieve the scheduled operating conditions. The pump selected and submitted shall have the ability to receive a larger impeller (minimum 10% larger in diameter) in the event that field installed conditions require additional capacity.
 8. Pump selections shall be such that the dead-head pressure condition is at least 15% higher than the system design head pressure scheduled.
 9. All pumps shall meet Department of Energy pump standards and tested using the PEI_{CL} method. The pump nameplate shall bear the PEI_{CL} index. Pumps bearing only the PEI_{VL} index will not be allowed. Submittals for review shall clearly identify the PEI's index and affirm that the index meets all DOE pump standards.
- C. Base-mounted Pumps
1. Manufacturers: Armstrong, Aurora, Bell & Gossett, Flo Fab, Grundfos, Patterson, Taco, Thrush, or Wilo.
 2. Furnish close coupled single suction centrifugal type with direct connected open drip-proof motor, enclosed type bronze impeller trimmed for the operation condition, internally self-flushing mechanical seals, stainless steel shaft sleeve, bronze fitted with cast iron pump body with bronze wearing rings, and suction and discharge gauge tapings.
 3. Submit pump operating curves with shop drawings.

- D. In-Line Pumps
 - 1. Manufacturers: Armstrong, Aurora, Bell & Gossett, Flo Fab, Grundfos, Patterson, Taco, Thrush, or Wilo.
 - 2. Furnish pipe-line mounting type with flexible coupling connected, variable speed ECPM motor or open drip-proof motor as indicated with coupling enclosure, enclosed bronze impeller trimmed for the operation condition, externally replaceable mechanical shaft seal, bronze fitted with cast iron pump body with bronze wearing rings and suction and discharge gauge tappings.
 - 3. Submit pump operating curves with shop drawings.

2.16 SEALED COMBUSTION CONDENSING BOILERS

- A. Manufacturers: Burnham Aspen, Camus DynaMax or Valiant, Lochinvar Knight, IBC, NTI, Raypak XPakFT, Riello Condexa Pro, Triangle Tube, or Viessmann.
- B. Boiler shall be complete in accordance with all CSD-1 certified requirements.
- C. Where wall or rack hung boilers with top venting connections are shown, floor-mounted boilers with rear venting and piping connections are not acceptable.
- D. Furnish each boiler built for minimum 80 PSIG design pressure and equipped with a 45 PSIG ASME relief valve and trim. The Boiler shall be capable of handling 50 deg. F return water and be of a full condensing design. Furnish the following boiler trim: modulating combustion air blower assembly, fan motor overload protection, ignition transformer, pilot igniter, high-limit aqua-stat, operating limit aqua-stat, low water cutoff, and full modulation burner operation.
- E. Furnish GCA, FM or UL listed factory mounted and wired main gas train including following main components: main entrance shut-off gas cock, low gas pressure switch, main gas regulator, redundant automatic gas valves and test ports. Furnish one motorized and one diaphragm gas valve on boilers. Equip each boiler with an intermittent gas pilot with pilot gas train. Furnish a positive shutoff step-down gas pressure regulator suitable for pressure indicated with internal relief if required.
- E. Control:
 - 1. Furnish a BACnet (ASHRAE 135) digital controller to provide burner start up sequencing, flame supervision, safety shutdown with display of error, fault history log and modulating burner control.
 - 2. Controller shall be capable of resetting the set point from an external analog signal. The controller shall provide the ability to continuously monitor fault history, time of fault, inlet water temperature, outlet water temperature, desired supply water temperature, burner modulation rate, stack temperature, outside air temperature, outside air/supply water reset control, boiler lead/lag, and alarms, and shall be able to relay this information to the BAS and operator workstation.
- G. The factory pre-wired control panel shall include an on-off switch, electronic combination temperature control/flame safeguard system, circuit breaker, LED Display module used to adjust set points and control parameters. LED display to indicate burner sequence, all service codes, fan speed, boiler set point, sensor temperature values such as inlet, outlet, flue gas and outdoor air.
- H. The boiler heat exchanger shall be of stainless steel arranged in a counter flow design. The heat exchanger shall be arranged in a reverse return configuration to assure balanced water flow through each section. The boiler heat exchanger headers shall be completely removable for waterside inspection.
- I. The natural gas power burner shall be fully modulating minimum 5:1 turndown. The blower shall be variable speed. The burner shall be constructed from stainless steel material. Furnish positive shutoff step-down gas pressure regulator suitable for pressure indicated with internal relief if required.
- J. For each boiler, furnish drains, combustion air and vent piping including vertical combustion air and vertical vent pipe to the outdoors in accordance with the boiler manufacturers' recommendations.
- K. Combustion air ductwork shall be single wall and insulated. Flue vent piping shall be double wall type,

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category four, UL 1738 listed with a boiler manufacturer approved stainless steel inner wall with Viton gaskets or RTV Red gaskets. Plastic venting of any type will not be accepted.

- L. Condensate piping with inline acid neutralizer per manufacturer recommendations.
- M. The boiler manufacturer shall, in addition to initial start-up, provide parts, service and adjustment of the boiler for a period of one year after final acceptance of boilers. A qualified representative of the manufacturer shall perform all service work. Copies of a certified service agreement shall accompany the boiler shop drawings submitted for approval.
- N. In addition to the above warranty, the burner will be covered by a 10-year replacement warranty. This burner warranty will cover all freight, service and equipment costs should a burner fail within 10-years from date of initial start-up.

2.17 HOT WATER HEATING UNIT HEATERS

- A. Manufacturers: Airtherm, Embassy, Modine, Rittling, Rosemex, Sigma, Sterling, Trane, VTS Volcano, or Vulcan.
- B. Furnish units with direct driven propeller fan, hot water or steam coil as indicated, constructed of copper tubes and aluminum fins and totally enclosed resiliently mounted motor of speed indicated with unit-mounted disconnect.
- C. Horizontal units to have adjustable horizontal discharge louvers and safety fan guard.
- D. All units to have manufacturers standard baked enamel finish.

2.18 SMOKE DETECTORS

- A. Detector shall be capable of shutting down complete system in the event of smoke detection.
- B. Detector shall be designed to comply with NFPA and ICC standards regarding HVAC supply and return duct smoke detectors.
- C. Unit shall be UL 268A listed.
- D. Detector shall have the following features:
 - 1. LED visual indicator lights for normal operation and alarm
 - 2. Reset switch and alarm test switch on unit. Unit shall be capable of being tested and reset without removal of the cover.
 - 3. Internal duct filtering with no screens or filters to clean
 - 4. Compatible with building automation and fire alarm systems
 - 5. Output terminals shall be provided for the following remote accessories (whether provided or not): horns, strobes, remote status indicators, and test/reset key switches or push buttons.
 - 6. Method of testing the alarm function with a magnet shall be provided.
 - 7. All unit, remote accessory, and common function connection designations must be permanently affixed to the unit.
 - 8. Capability for interconnection of up to 30 units shall be provided for common functions.
 - 9. Cover and sampling/exhaust tube installation or removal shall not require the use of tools.
 - 10. Unit shall operate at ambient temperatures from 30 degrees F to 120 degrees F; humidity from 10% to 85% RH; and air velocities from 300 feet per minute to 3,000 feet per minute.
 - 11. NEMA 3R rated weatherproof enclosure.
- E. Detector shall be photoelectric type.

2.19 GAS DETECTORS

- A. Detectors:
 - 1. Electrochemical or solid state sensor.
 - 2. Factory calibrated.
 - 3. Power loss fail-safe mode.
 - 4. Digital display.
 - 5. Built in self test.
- B. Carbon monoxide detector and transmitter.
 - 1. Audible alarm on high CO levels and send signal to make-up air and exhaust control.
 - 2. Set low level alert at 35 ppm.
 - 3. Mount CO sensor(s) on wall, approximately 60" AFF, or as recommended by manufacturer.
- C. Nitrogen dioxide detector and transmitter.
 - 1. Audible alarm on high NO₂ levels and send signal to make-up air and exhaust control.
 - 2. Set low level alert at 1 ppm.
 - 3. Mount NO₂ sensor(s) on ceiling, or as recommended by manufacturer.
- D. Verify with the manufacturer the maximum floor area coverage for each detector/sensor. The entire installation location shall be provided with the quantity of detector/sensor(s) required for full coverage.
- E. Acceptable manufacturers: Brasch or equal.

2.20 TIMERS

- A. Programmable timer.
 - 1. Time-of-day, single channel electronic time control.
 - 2. Duration: Minimum 5 minutes
 - 3. Duty Cycling: Minimum 12 on/off events per 24 hour period.
 - 4. MSA 3R non-metallic enclosure with clear-view cover.
 - 5. Control shall provide 7-day power outage carry-over. Digital display. "On" or "Off" or "OVR" display to indicate current status. Control shall have manual override that remains in effect until overridden again or until next setpoint is reached.
 - 6. UL and CSA listed.
 - 7. EC70001-PC by Paragon.
- B. Acceptable manufacturers: Paragon Electrical Products or equal.

2.21 REFRIGERANT PIPING

- A. Comply with manufacturer's written installation instructions and as required for warranty.
- B. Comply with local building codes.
- C. Provide all items for a complete and functional system, including, but not limited to: valves; flanges, unions, couplings; strainers; moisture and liquid indicators; strainers; check valves; pressure relief valves; filter dryers; solenoid valves; expansion valves; receivers; flexible connectors; etc.

2.22 DUCTWORK

- A. Materials:
 - 1. Polyvinylchloride Coated Aluminum Sheet (Structure 610 exhaust ductwork): Aluminum sheet with prime coat and a polyvinyl chloride film on both sides. Thickness of coating to be a minimum of 4 mils on each side.
 - a. Where any duct surface is scratched, marred, or otherwise damaged, paint with PVC aerosol spray.

- b. Couplings shall be slip-joint construction with a minimum 2 inches insertion length. Seal all couplings with sealant as specified.
 - 2. Aluminum Ducts: Aluminum sheet, alloy 3003-H14.
 - 3. Galvanized Steel Sheet: ASTM A653 Galvanized steel sheet of lock-forming quality. Galvanized coating tube 1.25 ounces per square foot, both sides of sheet, G90 in accordance with ASTM A90.
 - 4. Flexible Ducts: Fabric supported by helical wound spring steel wire or flat sheet bands.
 - 5. Insulated Flexible Ducts: Flexible duct wrapped with flexible glass fiber insulation, enclosed by a vapor barrier jacket. This type of ductwork shall be limited to directly adjacent to equipment for exhaust and supply and return grilles.
 - 6. Sealant (Mastic): Non-hardening, water-based, water resistant, fire resistive, used alone or with tape. UL 181A-M listed / UL 181B-M listed. Suitable for field painting.
 - 7. Duct Joint Sealing Tape: Pressure sensitive duct joint sealer, UL-181B-FX listed, 2.0-mil annealed aluminum foil coated tape, for flexible and sheet metal ducts. Suitable for field painting.
 - 8. Ductwork located in Chemical areas or exposed to air from Chemical areas shall be PVC coated galvanized steel.
 - 9. Ductwork in Corrosion and Hazardous areas, as well as garage spaces, shall be Aluminum.
 - 10. Ductwork for all other areas may be galvanized sheet steel.
- B. Metal Ductwork:
- 1. Fabricate and support in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible; except as indicated on Drawings.
 - 2. Construct T's, bends, and elbows with radius of 1 1/2 times the width of the duct on centerline. Where not possible, furnish turning vanes.
 - 3. Increase duct sizes gradually, not exceeding 30 degrees divergence and 45 degrees convergence.
- C. Duct Accessories:
- 1. Volume Control Dampers:
 - a. Fabricate in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, and as indicated on Drawings.
 - b. Fabricate splitter dampers of material duct gauge to 24 inches size in each direction, and two gages heavier for larger sizes. Secure with continuous hinge or rod. Operate with minimum 1/4 inch diameter rod.
 - c. Fabricate single blade dampers for duct sizes to 12 inches by 30 inches.
 - d. Except in round ductwork 12 inches and smaller, furnish end bearings.
 - e. Furnish locking, indicating quadrant regulators on single and multi-blade dampers.
 - 2. Turning Devices and Extractors:
 - a. Multi-blade device with blades aligned in short dimension; steel or aluminum construction; with individually adjustable blades, mounting straps.
 - b. Multi-blade device with radius blades attached to pivoting frame and bracket, steel or aluminum construction, with push-pull operator strap.
 - 3. Flexible Duct Connections:
 - a. UL listed fire-retardant neoprene coated woven glass fiber to NFPA 90A, approximately 3 inches wide, crimped into metal edging strip.
 - 4. Duct Access Doors:
 - a. Fabricate in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible.
 - b. Access doors smaller than 12 inches square secured with sash locks. Access doors with sheet metal screw fasteners are not acceptable.

2.23 HEATING WATER SYSTEM PIPING, FITTINGS, VALVES, AND SPECIALTIES

- A. Quality Assurance
- 1. Order all Type E and Type S steel pipe with heat numbers rolled, stamped, or stenciled to each length or each bundle, depending on the size of the pipe, and in accordance with the appropriate ASTM specification.
 - 2. All grooved joint couplings, fittings, valves and specialties shall be the products of a single manufacturer. Grooving tools shall be of the same manufacturer as the grooved components.

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3. Order all copper water tube with each length marked with the name or trademark of the manufacturer and type of tube; with each shipping unit marked with the purchase order number, metal or alloy designation, temper, size, and name of supplier; all in accordance with ASTM B88.
4. Order all copper refrigeration tube with each shipping unit marked with the purchase order number, metal or alloy designation, temper, size, and name of supplier; with soft straight lengths or coils identified with a tag indicating that the product was manufactured in accordance with ASTM B280; and with each hard temper straight length identified throughout its length by a blue colored marking not less than 3/16 inch in height and a legend at intervals of not greater than three feet that includes the designation "ACR" and pipe outside diameter.
5. Any installed material not meeting the specification requirements must be replaced with material that meets these specifications without additional cost to the Owner.

B. Design Criteria

1. Use only new material, free of defects, rust and scale, and meeting the latest revision of ASTM specifications as listed in this specification.
2. Construct all piping for the highest pressures and temperatures in the respective system in accordance with ANSI B31, but not less than 150 PSIG unless specifically indicated otherwise.
3. Non-metallic piping will be acceptable only for the services indicated. It will not be acceptable in occupied spaces and ventilation plenum spaces, including plenum ceilings.
4. For all pipe sizes and materials, welded, threaded or soldered, use only long radius elbows having a centerline radius of 1.5 pipe diameters. Short radius elbows will not be allowed.
5. Where ASTM A53 type F pipe is specified, ASTM A53 grade A type E or S, or ASTM A53 grade B type E or S may be substituted at Contractor's option. Where ASTM A53 grade A pipe is specified, ASTM A53 grade B pipe may be substituted at Contractor's option. Where the grade or type is not specified, Contractor may choose from those commercially available.
6. Where ASTM B88, type L hard temper copper tubing is specified, ASTM B88, type K hard temper copper tubing may be substituted at Contractor's option.

C. Heating Hot Water

1. Three inch (3") and Smaller:
 - a. ASTM A53, type F, standard weight (Schedule 40) black steel pipe with ASTM A126/ANSI B16.4, Class 150, standard weight black malleable threaded fittings.
 - b. ASTM B88 seamless, Type L, hard temper copper tube with ANSI B16.22 wrought copper solder-joint fittings or mechanical press couplings and fittings, Apollo Press, FNW, Viega or Nibco.
2. ASTM A53, Schedule 40 black steel pipe with mechanical grooved pipe connections for all hot water piping 2-1/2" and larger.

D. Drain Piping

1. ASTM A53 Schedule 40 galvanized steel pipe with ASTM A-47 Class 150 galvanized malleable iron screwed fitting. Galvanizing shall conform to ASTM A-153.
2. The Contractor, at his option, may use ASTM A312, Schedule 10S, stainless steel pipe with Vic-Press couplings and fittings.
3. The Contractor, at his option, may use ASTM B88 seamless, Type L, hard temper copper tube with ANSI B16.22 wrought copper solder-joint fittings or mechanical press couplings and fittings; Viega or Nibco.

E. Air Vents

1. ASTM B-88 type "L", 1/2" nominal size copper tubing with wrought copper sweat fittings with silver soldered joints.

E. Unions and Flanges

1. Two inch (2") and Smaller: ASTM A197/ANSI B16.3 malleable iron unions with brass seats. Use black malleable iron on black steel piping and galvanized malleable iron on galvanized steel piping. Use unions of a pressure class equal to or higher than that specified for the fittings of the respective piping service.

2. Two and one-half inch (2-1/2") and Larger: ASTM A181 or A105, grade 1 hot forged steel flanges of threaded, welding neck, or slip-on pattern and of a pressure class compatible with that specified for valves, piping specialties and fittings of the respective piping service. Use raised face flanges ANSI B16.5 for mating with other raised face flanges or equipment with flat ring or full face gaskets. Use ANSI B16.1 flat face flanges with full face gaskets for mating with other flat face flanges on equipment. Gasket material to be non-asbestos and suitable for pressures and temperatures of the piping system.

G. Mechanical Grooved Pipe Connections

1. Manufacturers: Victaulic or Anvil Gruvlok.
2. Mechanical grooved pipe couplings and fittings may be used with steel pipe on the systems indicated. Either cut-groove or equivalent roll-groove products are acceptable providing the system temperature and pressure requirements are met. Where ductile iron fittings are indicated, they shall conform to ASTM A536. Where forged steel fittings are indicated, they shall conform to ASTM A234, Grade WPB. Where factory fabricated steel fittings are indicated, they shall conform to ASTM A53, type F in sizes 3/4" through 1-1/2" and type E or S, grade B in sizes 2" through 20". Do not use fabricated fittings where malleable iron or forged steel fittings are available. Gaskets in all cases shall be EPDM suitable for temperatures to 230 degrees F.
3. The entire grooved piping system shall be of a single manufacturer.
4. Fittings and couplings must be suitable for the temperature and pressure involved. In no case is the final system to have a pressure rating of less than 250 PSIG at the design temperature of the fluid.
5. Acceptable fittings and couplings are listed below, based on Victaulic. When used on galvanized piping, fittings and couplings shall be galvanized. When used on black steel piping, fittings and couplings shall have an enamel coating.
6. Couplings: Couplings shall consist of two ductile iron housing segments and shall conform to ASTM F1476 Standard Specification for the Performance of Gasketed Mechanical Couplings for Use In Piping Applications.
 - a. Rigid Type (Victaulic Style 107 or Style 07 Zero-Flex): Coupling housings shall be cast with offsetting, angle-pattern bolt pads to provide joint rigidity and support and hanging in accordance with ANSI B31.1 and B31.9.
 - b. Flexible Type (Victaulic Style 77 or 177): For use in locations where vibration attenuation and stress relief are required.
7. Flanges: Ductile iron Style 741 or W741 except at lug type butterfly valves where standard welding flanges shall be used.
8. Fittings: Ductile iron elbows and tees of the manufacturer's standard line may be used in all sizes. Bullhead tees will not be accepted. Factory fabricated steel fittings may be used in all sizes where fitting wall thickness conforms to standard weight pipe. Mechanical T Style 920/920N fittings with ductile iron housings may be used for up to 2" outlet size.

H. Hot Water Valves

1. Manufacturers: Apollo Valve, Milwaukee Valve, Nexus, Nibco, Stockham, Anvil Gruvlok, Victaulic, or approved equal.
2. Ball Valves:
 - a. Two-inch (2") and smaller: Complete with two-piece bronze body, full port, screwed or sweat connections, blowout-proof stem, zinc-plated steel nut and handle with polyvinyl handle cover, chrome plated brass ball, reinforced PTFE seats and RPTFE packing. All suitable for 600 PSI CWP and 150 PSI SWP. Temperature range shall be 0°F - 400°F.
 - b. For press-type valves: Complete with two-piece brass body, full port, chrome plated brass ball, blowout-proof brass stem, reinforced PTFE seats, EPDM seals, zinc-plated steel nut and handle with polyvinyl handle cover. All suitable for minimum 250 PSI CWP and 250 PSI maximum operating pressure. Temperature range shall be 0°F - 250°F.
3. Drain Valves:
 - a. Three-quarter inch (3/4"): Complete with two piece bronze body, screwed connections, lever operated handle and stop, chrome plated bronze ball, reinforced Teflon seats and Teflon packing. All suitable for 600 PSI CWP and 150 PSI SWP. Fitted with hose thread adaptor and cap.

ADDENDUM #2

4. Gauge Valves:
 - a. One-quarter inch (1/4"): Complete with bronze body, union bonnet, renewable seat and disc, packing, packing gland and handwheel. All suitable for 300 PSI CWP and 150 PSI SWP.
5. Check Valves
 - a. Manufacturers: Keckley, Nibco, Metraflex, Mueller, Muessco, Anvil Gruvlok, or Victaulic.
 - b. Two inch (2") and smaller, Nibco T-480, or equal ring silent check valve. Complete with bronze body, stainless-steel stem and spring, stainless steel seat and PTFE disc. All suitable for 250 PSI CWP and 125 PSI SWP. Temperature range shall be 0°F - 250°F.
 - c. Two and one-half inch (2½") to 10", Nibco W-960 or equal non-slam wafer type silent check valve. Complete with cast iron body, bronze seat with bronze disc, and 316 stainless-steel spring. All suitable for 400 PSI CWP. Temperature range shall be 0°F - 200°F.
6. Calibrated Balancing Valves
 - a. Manufacturers: Armstrong, Bell & Gossett, IMI Engineering, FlowCon, Hays Fluid Controls, Nexus, Nibco, Taco, Tour & Anderson, Anvil Gruvlok, or Victaulic.
 - b. Furnish valves with bronze body with brass ball, differential pressure taps, adjustment knob, indexing pointer and locking stops and positive shut-off. Internal seat rings, drain and purge connection and preformed polyurethane for valve body.
 - c. At Contractor's option, factory pre-set automatic flow control valves may be used in lieu of manual balancing valves. Y-type body shall include flow-control cartridge, ball valve, pressure/temperature ports, and union-end connection. Cartridge design shall consist of a brass, stainless steel, or elastomeric diaphragm and polyphenylsulfone orifice plate. Manufacturer shall offer optional valve body style that allows for flow-control cartridge change-out. Hays, IMI, or Griswold.
 - d. The use of a factory pre-set automatic flow control valve or combination type balancing valve does not eliminate the requirement for separate isolation valves as shown on the plans and details.
7. Triple Duty valves
 - a. Manufacturers: American Wheatley, Armstrong, Bell & Gossett, Taco, Anvil Gruvlok, or Victaulic.
 - b. Furnish valves with cast iron body, brass seat, bronze disc and stainless-steel spring and stem and brass readout valves.
 - c. Non-slam check valve with spring loaded soft seat disc.
 - d. Calibrated balancing valve.
 - e. Suitable for 175 PSIG.

I. Thermometers

1. Manufacturers: Weiss, Miljoco, Trerice or U.S. Gauge.
2. Furnish industrial type thermometers with separable sockets and provide extension necks on thermometers and sockets for piping with 2" or thicker insulation.
3. Thermometers shall be the adjustable angle type with black cast aluminum case and frame front, clear glass window, red appearing mercury tubes and bright finished metal scales with black etched figures and graduations. For hot water piping provide a 9" scale with 30 deg. F to 240 deg. F range and for chilled and condenser water piping provide 12" scale with 30 deg. F to 130 deg. F range.

J. Pressure Gauges

1. Manufacturers: Weiss, Miljoco, Trerice or U.S. Gauge.
2. Furnish gauges with a minimum face diameter of 4-1/2", with cast aluminum case with black finish and black finish case ring, white background and black figures on dial face, bronze bushing movement and for ranges as applicable.

K. Tanks

1. Pressurized Expansion Tank:
 - a. Manufacturers: American Wheatley, Amtrol, Armstrong, Bell & Gossett, Delta, Flo Fab, Grundfos, John Wood, Niles, Taco or Wessels.
 - b. ASME stamped for 125 PSIG working pressure.

ADDENDUM #2

- c. Vertical pressurized steel tank.
 - d. Each complete with replaceable heavy duty butyl rubber bladder, 1-1/2" system connection, 3/4" drain connection, charging valve connection and lifting ring and floor mounting skirt for vertical mounting.
- L. Magnetic Air and Dirt Separators
 - 1. Manufacturers: Amtrol, Bell & Gossett, Caleffi, Grundfos, Taco, Wessels, or pre-approved equal.
 - 2. Furnish in-line magnetic air and dirt separator of size indicated with steel body, stainless steel coalescing medium, bottom collection chamber, removable top air vent, side-tap hose connection, minimum 1" bottom blow-down tapping with ball valve, ASME constructed and stamped for 150 PSIG working pressure with flanged connections.
 - 3. Magnetic rod insert for ferrous material removal.
 - 4. Note: the use of a separate in-line magnetic ferrous material remover (full line size) with a standard air and dirt separator is acceptable. ADEY MagnaClean, or approved equal.
- M. High Capacity Air Vent
 - 1. Manufacturers: Armstrong, Bell & Gossett, Caleffi, Thrush or Taco.
 - 2. Float actuated high-capacity air vent rated for 150 PSIG at a maximum temperature of 250 deg. F. Constructed of cast iron body and fitted with components of stainless steel, brass and EPDM.
- N. Manual Air Vents
 - 1. Manufacturers: Caleffi, Dole or approved equal.
 - 2. Dole No. 9P coin valve manual air vent or No. 14A coin air valve assembly.
- O. Strainers
 - 1. Manufacturers: Armstrong, Hoffman, OC Keckley, Metraflex, Nibco, Sarco, Victaulic or Webster.
 - 2. Furnish cast iron Y-type or basket type body as indicated with perforated monel or stainless-steel screen and blow off connection with brass plug. 2" and smaller with screwed connections and 2-1/2" and larger with flanged or grooved connections. All strainers rated for 125 PSIG service.
- P. Hydronic System Feeder: Provide (1) near boilers.
 - 1. Storage/mixing tank:
 - a. 17 gallon capacity, molded-in liquid level gauge, 4" fill/access opening and cover
 - b. Pump suction hose with inlet strainer
 - c. Pressure pump with fuse protection
 - d. Low fluid level pump cut-out float switch
 - e. Manual diverter valve for purging air and agitating contents of storage tank
 - f. Digital pressure switch, adjustable from 0 psig to 45 psig cut-out pressure, factory set to 18 psig
 - g. Digital pressure display, visual alarm on low level, low level alarm with remote dry contacts
 - h. Unit to be UL listed and fused power supply adapter with LED power indicator light, 100-240 VAC/60/1-24 VDC, supplied loose for field installation.
 - i. Axiom Industries Model DMF300.
 - 1) Or equal.

2.24 AIR INLETS AND OUTLETS

- A. Furnish inlets and outlets in the type, size, thickness, free area, and static pressure as scheduled on the drawings. See Schedule on Drawings for additional requirements.
- B. Exterior Louver:
 - 1. Furnish louver in the size, thickness, free area, and type as scheduled on the drawings.
 - 2. Factory-assembled louver section shall be designed to withstand wind loadings of 25 PSI (100 MPH wind equivalent). Louver frames, mullions, and section joints shall be adequately supported from the building structure to withstand this same wind loading.

3. Louver performance data shall be licensed under the AMCA Certified Ratings Program and shall bear the AMCA Certified Ratings Seal. This certified performance data shall include airflow pressure loss and water penetration.
 4. Stationary Non-Drainable Louver with J-Style Blades, 4-inch deep:
 - a. Design shall incorporate stationary horizontal blades, sloped sill, and high free area.
 - b. Louvers shall be fabricated from 6063-T5 aluminum extrusions of 0.081 in nominal wall thickness.
 - c. Blades shall be positioned at 37° and 45° angles on approximate 4-inch centers.
 - d. Greenheck Model ESJ-401.
 5. Screen: Flattened expanded aluminum in removable rear-mounted (inside) frame.
 - a. Exhaust Service: Bird screen.
 - b. Intake Service, no filter: Insect screen.
 6. Extended sill.
 7. Finish: Kynar 500/Hylar 5000 (70% PVDF), unless noted otherwise. Color shall be selected by Architect from manufacturer's standard colors, minimum of 12.
 8. Acceptable manufacturers: Aerolite, Arrow United, Carnes, Greenheck, Pottorff, Ruskin, United Enertech, or equal.
- C. Gravity Roof Ventilator:
1. Ventilator:
 - a. Spun aluminum ventilator designed as intake or exhaust. See schedules for application.
 - b. Finish: Kynar 500/Hylar 5000 (70% PVDF) finish, unless noted otherwise. Color shall be selected by Architect from manufacturer's standard colors, minimum of 12.
 - c. Greenheck Model GRS.
 2. Roof Curb:
 - a. Designed for insulated roof decks.
 - b. Type appropriate for flat roof installation.
 - c. Galvanized 18 gage steel, welded construction, with 1 inch, 3 pound density, insulation.
 - d. Finish: None.
 - e. Greenheck Model GPFP.
 3. Acceptable manufacturers: Greenheck, Ruskin, or equal.
- D. Supply, Return, Intake, and Exhaust
1. Egg Crate Face Returns:
 - a. Construction: Aluminum grid core.
 - b. Frame: Suitable for installation location.
 - c. Finish: Baked enamel - white.
 - d. Core Size: 1-inch by 1-inch by 1 inch.
 - 1) Price 80 series.
 - e. Core Size: 1/2-inch by 1/2-inch by 1 inch.
 - 1) Price 81 series.
 2. Wall and duct mounted louvered grilles:
 - a. Frame: Surface mount border with countersunk screw holes.
 - b. Finish: Baked enamel - white.
 - c. Damper: Match grille construction.
 - d. Return:
 - 1) Construction:
 - i. 1/2 inch blade spacing. Blades parallel to floor.
 - ii. Aluminum. Price 630 Series.
 3. Louvered grilles:
 - a. Frame: Surface mount border with countersunk screw holes.
 - b. Finish: Baked enamel - white.
 - c. Supply, Double Deflection:
 - 1) Blades: 3/4-inch spacing.
 - 2) Front blades perpendicular to floor or long direction.
 - 3) Construction: Aluminum.
 - iii. Price 620 series.

4. Acceptable Manufacturers: Carnes, Krueger, Metal Aire, Nailor Industries, Price, Titus, or equal.

2.25 FILTER HOUSING AND FILTERS

- A. Filter Housing:
 1. Furnish filter housing with filters in the following location: in the supply air stream before an electric heating coil and where shown on the Drawings.
- B. Disposable Panel Filters:
 1. Fiber blanket, factory sprayed with flameproof, non-drip, non-volatile adhesive.
 2. Thickness: 2 inch.
 3. Casing: Galvanized steel frame with expanded metal grid on outlet side and steel rod grid on inlet side.
 4. Efficiency: 30% minimum.
 5. Performance Rating: 500 FPM face velocity.
 6. Acceptable Manufacturers: Eco-Air, Purolator, or equal.

2.26 ACTUATED DAMPERS

- A. Furnish damper in size, thickness, static pressure, and type as scheduled on drawings. See Schedule on Drawings for additional requirements.
- B. All dampers shall be of low leakage design with linkages out of the airstream.
- C. Thermally Broken, Insulated Type:
 1. Ratings:
 - a. Dampers to be designed for operation in temperatures ranging between -70 degrees F and 200 degrees F.
 - b. Air leakage through a 48 inch by 48 inch damper shall not exceed 3-cfm per square foot against 1-inch water gauge or 8-cfm per square foot against 4-inches water gauge differential static pressure at standard air. Standard air leakage data shall be certified under the AMCA certified ratings program and the IECC requirements.
 - c. Pressure drop of a fully open 48 inch by 48 inch damper shall not exceed 0.03 inch water gauge at 1000 fpm.
 - d. Damper shall have a maximum velocity rating of 4000-fpm.
 - e. Damper shall bear the AMCA Certified Ratings Seal for air leakage performance.
 2. Frame: Extruded aluminum (6063T5)
 - a. Quick connection damper frame shall be aluminum formed into a 4-inch by 1-inch structural hat channel with 0.125-inch minimum wall thickness. (ICD-45).
 - b. Optional frame types:
 - 1) Channel frame (ICD-45): aluminum formed 5-inch by 1¼-inch structural hat channel.
 3. Blades: Extruded aluminum (6063T5) profiles, internally insulated with non-CFC, expanded polyurethane foam and thermally broken. Complete blade shall have an insulating factor of R-2.29 and a temperature index of 55.
 - a. Damper blades shall be heavy gauge extruded aluminum airfoil shape with metal blade to blade overlap. Each blade shall be symmetrical relative to its axle pivot point, presenting identical performance characteristics with air flowing in either direction through the damper.
 - b. Blade orientation shall be horizontal, and operation shall be parallel or opposed.
 - c. Polyurethane foam shall fill the airfoil blade cavity. Ends of blade shall have a thermal break to isolate the transfer of heat/cold through the aluminum material from one side of the blade to the other.
 4. Blade Stops: Each blade stop (at top and bottom of damper frame) shall occupy no more than ½-inch of the damper opening area to allow for maximum free area and to minimize pressure loss across the damper.

5. Seals:
 - a. Blade Edge: Silicone blade seals shall be mechanically fastened to each blade.
 - b. Jamb Seal:
 - 1) ICD-45: Silicone.
 6. Linkage:
 - a. Concealed in frame out of the airstream, plated steel material. Optional stainless steel.
 7. Axles: Minimum 1/2-inch diameter plated steel. Optional stainless steel. Removable control shaft shall extend 6-inches beyond the damper frame.
 8. Bearings: Dual bearing with acetal inner sleeve, flanged outer bearing resulting in no metal-to-metal or metal-to-plastic contact.
 9. Finish: Mill aluminum is standard. Optional factory applied coatings.
 10. Mounting: Either vertical or horizontal.
 11. Options: Low leakage, thermal insulation shall be provided from the factory upon request.
 12. Factory Tests: factory cycle damper and actuator assembly to assure proper operation.
 13. Greenheck Greenheck ICD-45 (thermally broken blades and frame).
 14. Acceptable Manufacturers: AlumaVent, Arrow, Greenheck, Ruskin, Tamco, United Enertech, or Vertex. No substitutions.
- D. Frames: Control dampers shall be flanged to duct type wherever feasible and as required to reduce velocity and static pressure drop across damper.
- E. Coating: Chemical resistant coating on dampers in Chemical areas or exposed to air exhausted from Chemical areas.

2.27 PIPE INSULATION – A/C LINES

- A. Flexible closed cell type as recommended and/or provided unit manufacturer. May be provided as kit with refrigerant piping.
- B. Finished Jackets:
 1. Fabricated Line Set Cover: PVC. Standard professional grade, durable and UV and weather-resistant; indoor and outdoor. Minimum 3-inch wide, designed to cover line set, wiring, and drainage lines for split air-conditioning systems. Material shall be easily cut for custom configuration and proper fit.
 - a. Wall cover, coupler, elbow, end cap, mounting hardware, etc.
 - b. Color: White or brown, paintable. Satin finish.
 - c. Hide-A-Line Tubing by Breezzone, Fortress by Rectorseal, Cover Guard, or equal.
- C. Schedule:
 1. Install insulated refrigerant piping provided with ductless split heat pump units. Install fabricated line set.

2.28 PIPING INSULATION

- A. EPDM-Rubber: ASTM C534 Type I and II, ASTM D1056, flexible, closed-cell EPDM-rubber based elastomeric, tube and sheet, UV resistant, indoor/outdoor, mold and fungal growth resistant, paintable.
 1. Physical Properties:
 - a. k Value: 0.245 at 75 degrees F (ASTM C518/C117)
 - b. Density: 3 to 6 psf
 - c. Service Temperature (continuous): -297°F to 300°F
 - d. Water Vapor Permeability: 0.03 perm (ASTM E96)
 - e. Water Absorption (weight %): 0.2% (ASTM C209)
 - f. Flame Spread/Smoked Developed Ratings: 25/50, self-extinguishing
 2. Acceptable Products:
 - a. Aerocel Stay-Seal with Protape (SSPT) by Aeroflex, 423-337-2493, www.aeroflexusa.com. Provide manufacturer's rigid pipe supports (Aerofix), fabricated fitting covers (AeroFit), tape (Protape), and adhesive.

ADDENDUM #2

- b. ArmaFlex products by Armacell are not acceptable as they are not self-extinguishing.
 - c. Tundra products by Armacell are not acceptable as they are not EPDM-based, but rather PE foam, and are not self-extinguishing.
- B. Hot Piping: Supply and return.
 - 1. Type of piping and thickness:
 - a. Hot water supply and return piping (200 deg. F or less).
 - 1) One and one-half inch (1-1/2") thickness on piping 1-1/2" and less.
 - 2) Two-inch (2") thickness on piping 2" and larger.
 - b. All valve bodies, flanges, clamp type pipe couplings and fittings shall be wrapped with pre-molded, one-piece 25/50 rated PVC insulated fitting covers. Factory pre-cut insulation shall be applied to the fitting with the insulation tucked into the throat of the fitting and the edges of the adjacent pipe covering. The PVC cover shall be applied and secured by stapling and applying pressure sensitive tape over the staples and at the circumferential edges.
- C. Hot Equipment
 - 1. Type of Equipment:
 - a. Magnetic Air and Dirt Separators:
 - 1) One and one-half inch (1-1/2") thickness. Insulation shall be adhered to the surfaces with fire resistive adhesive (100% coverage). All edges and joints shall be sealed with 3" wide reinforced aluminum foil pressure sensitive joint sealing tape.
- D. Valve Covering:
 - 1. all control valves, isolation valves, and balancing valves shall be wrapped with insulation of thickness as for the piping system served.
- E. Finished Jackets:
 - 1. PVC Plastic: One piece molded type fitting covers and sheet material, off-white color.
 - a. Thickness: 20 mil, 30 mil for exterior applications.
 - b. Connections: Brush on welding adhesive.
 - c. Install on all exposed piping, fittings, valves, etc.

2.29 DUCTWORK INSULATION

- A. EPDM-Rubber: ASTM C534 Type I and II, ASTM D1056, flexible, closed-cell EPDM-rubber based elastomeric, tube and sheet, UV resistant, indoor/outdoor, mold and fungal growth resistant, paintable.
 - 1. Physical Properties:
 - a. k Value: 0.245 at 75 degrees F (ASTM C518/C117)
 - b. Service Temperature (continuous): -297°F to 300°F
 - c. Water Vapor Permeability: 0.03 perm (ASTM E96)
 - d. Water Absorption (weight %): 0.2% (ASTM C209)
 - e. Flame Spread/Smoke Developed Ratings: 25/50, self-extinguishing
 - 2. Acceptable Products:
 - a. Aeroflex EPDM by Aeroflex, 423-337-2493, www.aeroflexusa.com
 - b. Or approved equal.
 - c. Not Acceptable Products:
 - 1) ArmaFlex products by Armacell are not acceptable as they are not self-extinguishing.
 - 2) Tundra products by Armacell are not acceptable as they are not EPDM-based, but rather PE foam, and are not self-extinguishing.
- B. Duct Liner: ASTM C1071; flexible, noncombustible blanket with acrylic polymer meeting ASTM G21 and ASTM G22 impregnated surface and edge coat.
 - 1. k (ksi) Value: ASTM C1071.
 - 2. Maximum Velocity on Coated Air Side: 5,000 ft/min.

ADDENDUM #2

3. Adhesive: Waterproof fire-retardant type.
 4. Liner Fasteners: Galvanized steel, self-adhesive pad or welded with press-on head.
- C. Finished Jackets:
1. Aluminum: 0.025-inch thick sheet, embossed finish, with longitudinal slip joints and 2 inch laps.
 2. Aluminum Cladding: flexible, fabric reinforced insulation cladding, self-adhesive, mold inhibited, UL Listed, zero permeability. 13-ply material, aluminum.
 - a. VentureClad 1579CW-E by 3M
- D. Schedule:
1. Installer's option where more than one type is indicated.
 2. Exterior Ductwork:
 - a. Insulation: EPDM Rubber: 2-inch thick.
 - b. Finished Jacket:
 - 1) Exposed: Aluminum
 - 2) Concealed: None
 3. Exhaust Duct, Inside Building, between damper and exterior penetration:
 - a. Insulation: EPDM Rubber, 2-inch thick
 - b. Finished Jacket: Aluminum Cladding
 4. Outside Air Intake Duct, Inside Building, between exterior penetration and outlet:
 - a. Insulation: EPDM Rubber, 2-inch thick.
 - b. Finished Jacket:
 - 1) Exposed: Aluminum Cladding
 - 2) Concealed: None
 5. Supply, Return, and Relief Air Duct (heating and cooling systems), Inside Building:
 - a. Supply and Relief Duct Insulation:
 - 1) Exposed: 1-1/2-inch thick.
 - 2) Concealed: 1-1/2-inch thick.
 - b. Return Duct Insulation:
 - 1) Exposed: 1-inch thick.
 - 2) Concealed: 1-inch thick.
 - c. Supply and Return Duct, within 10' of furnace
 - 1) Duct Liner: 1-inch thick
 - 2) Duct liner may reduce thickness required of exterior ductwork by thickness of duct liner.
 - d. Finished Jacket:
 - 1) Exposed: Aluminum Cladding.
 - 2) Concealed: None
 6. Supply Ducts (Heating systems only):
 - a. Insulation: None
 - b. Finished Jacket: None

2.30 CONTROLS

- A. Contractor shall be responsible for all automatic electric controls for HVAC equipment as indicated on the Drawings and as described herein.
- B. Furnish all motorized dampers, protected relays, interlocks, and transformers as required. Contractor shall mount same in suitable control panels, occupied space, or on equipment as required, specified herein, or shown on drawings. Furnish low voltage relays as required for all fans and motors automatically controlled.
- C. Furnish necessary wiring diagrams and be responsible for obtaining proper working installation. Furnish all multi-speed switches and control apparatus.
- D. Damper Operators:
 1. Furnish and install commercial quality damper actuators for all dampers requiring operators.
 2. Actuator type, which meet requirements of operation described in the sequence of control.

ADDENDUM #2

3. Furnish proportional control with sufficient power for air velocities 20 percent greater than maximum design velocity and to seal against maximum system pressures.
4. Electric Operators: Adjustable stroke motor with spring, having oil immersed gear train.
5. Acceptable Manufacturer: Belimo or equal.

E. Enclosures:

1. Damper actuators and controls installed in Corrosion Areas or exposed to air exhausted from Corrosion Areas shall be installed in a NEMA 4X box.
2. Damper actuators and controls installed in Chemical Areas or exposed to air exhausted from Chemical Areas shall be installed in a NEMA 4X box.
3. Damper actuators and controls installed in wash-down areas subject to frequent wetting or mounted exterior to the building shell shall be installed in a NEMA 4 box.
4. Damper actuators and controls installed in attic spaces shall be installed in a minimum NEMA 4 or NEMA 12 protective box.
5. Damper actuators and controls installed in Hazardous Areas or exposed to air exhausted from Hazardous Areas shall be installed in a XP rated box.
6. Controls located inside the building shall be installed in a NEMA 1 box, unless noted otherwise.

E. Relays: Furnish necessary relays to interlock motorized fresh air dampers with occupied/unoccupied scheduling, as well as related control of fan and exhaust fan operation.

G. Thermostats:

1. Electric Room Thermostats:
 - a. 24 volt with setback/setup temperature control.
 - b. Covers with set point adjustment and set point indication with thermometer.

H. Programmable Thermostats

1. Manufacturers: Thermostat to be provided by or approved by furnace manufacturer.
2. Manufacturers: Thermostat to be provided by or approved by air conditioner manufacturer.
3. Programmable Thermostat: Low voltage, to control heating system on and off operation, heater stages in sequence with delay between stages, and supply fan to maintain temperature setting and occupancy schedule.
4. Electric solid state microcomputer based room thermostat with remote sensor.
 - a. Automatic switching from heating to cooling (with 2-stage heating, 2-stage cooling).
 - b. Preferential rate control to minimize overshoot and deviation from setpoint.
 - c. Fan to run continuous during all occupied periods.
 - d. Override of unoccupied period for timed period from one to four hours.
 - e. Short cycle protection.
 - f. Programming based on weekdays, Saturday and Sunday (7-day).
 - g. Set-up for occupied/unoccupied periods for each day.
 - h. Selection features including degree F display, 24-hour clock, remote sensor, fan on-auto.
 - i. Battery replacement without program loss.
 - j. Thermostat display:
 - 1) Time of day.
 - 2) Actual room temperature.
 - 3) Actual outdoor temperature.
 - 4) Programmed temperature.
 - 5) Programmed time.
 - 6) Duration of timed override.
 - 7) Day of week.
 - 8) System mode indication: heating, cooling, auto, occupied, unoccupied, off.

2.31 FLASHING AND TRIM

- A. Provide all opening trim as shown on drawings and as required for a complete and weather-tight installation.

2.32 MECHANICAL IDENTIFICATION

- A. Plastic Nameplates: Laminated three-layer plastic with engraved black letters on light background color.
- B. Plastic Pipe Markers: Factory fabricated, flexible, semi-rigid plastic, preformed to fit around pipe or pipe covering. Larger sizes may have a minimum sheet size with stainless steel spring fastener. Minimum width of 3 inches, to comply with State of Wisconsin Plumbing Code. Color and Lettering: Conform to ASME A13.1 and State of Wisconsin Plumbing Code.
 - 1. Acceptable Manufacturers: Marking Services Incorporated, Seton Nameplate Corporation, or equal.
- C. Valve Tags: Circle shape, minimum 1 1/2 inches diameter, lettering shall be a minimum of 1/2 inch in height.
 - 1. Material:
 - a. Plastic: Laminated three-layer plastic with engraved black letters on light background color.
 - 1) Acceptable Manufacturers: Marking Services Incorporated, Seton Nameplate Corporation, or equal.
- D. Framed, typewritten directory under glass for all valves.
- E. All items in Hazardous, Corrosion or Chemical areas shall be Type 316 stainless steel, FRP, plastic, or equal chemical or corrosion resistance, space dependent.

2.33 OTHER MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Engineer.
- B. Formed steel channels:
 - 1. 12 gage thick stainless steel or aluminum with holes 1 1/2 inches on center. Provide type 316 SS in Chemical areas.
 - 2. Manufacturers: Allied Tube & Conduit Corp., B-Line Systems, Midland Ross Corp., Unistrut Corp., or equal.
- C. Provide all supporting steel and related materials not indicated on structural drawings as required for the installation of equipment and materials, including angles, channels, beams and hangers.
- D. Prime coat paint all supports.
- E. All items in Hazardous (corrosion), Corrosion and Chemical areas shall be Type 316 stainless steel (304 is acceptable in Corrosion areas), plastic or equal chemical/corrosion resistance.
- E. All items in Hazardous areas shall be stainless steel.
- G. Manufactured Equipment Pads: textured 3-inch thick reinforced plastic equipment pad, polypropylene or equal; complying with ASTM D2299; UV, weather, refrigerant, compressor oil, canine urine, and salt resistant. Pad shall extend a minimum of 1-inch beyond face of equipment.

PART 3 EXECUTION

3.01 JOB CONDITIONS

- A. Section 01 31 13 - Project Coordination: Coordination and project conditions.
- B. Surface Conditions: Examine the areas and conditions under which the work of this section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

- C. Cooperate as necessary with other trades in order that all system the work may be installed in the best arrangement. Coordinate as required with all other trades to share space in common areas and to provide the maximum access to each system.
- D. Measurements:
 - 1. Field measure existing conditions.
 - 2. Lay out work, properly locate all apparatus, piping, ductwork, equipment, etc. Adjust work, as necessary, to insure that work shall fit into the spaces that have been allotted for such work. Due regard shall be taken for the work of other trades.
- E. Start of work means acceptance of existing conditions.

3.02 ELECTRICAL PROVISIONS

- A. Control Wiring:
 - 1. Exposed low voltage (less than 100 volts) control wiring in connection with work of this section shall be provided and installed under this section in strict accordance with the applicable sections of Division 26.
 - 2. All control wiring shall be less than 100 volts, unless noted otherwise. If Contractor opts to install control wiring of 100 volts or over, Contractor shall contract with a certified electrical contractor for its installation under this section in strict accordance with the applicable sections of Division 26.
- B. Division 26: All line voltage (100 volts and greater) electrical wiring connections. Certain equipment connections have been assumed to be over 100 volts, see Electrical Drawings for equipment and locations.
- C. Furnish complete list and location of equipment requiring electrical connections and necessary wiring diagrams to Division 26.

3.03 INSTALLATION - GENERAL

- A. Locations: Install all equipment in the locations shown on the drawings, except where specifically otherwise approved on the job by the Owner.
 - 1. Install all thermostats, switches, timers, controls, etc., 4 feet 0 inch (4'-0") above finished floor.
- B. All equipment, as called for on the drawings and herein specified, shall be installed in strict accordance with manufacturer's recommendations.
- C. Interferences: Avoid interference with structure, and with work of other trades, preserving adequate headroom and clearing all doors and passage ways.
- D. Inspection: Check each piece of equipment in the system for defects, verifying that all parts are properly furnished and installed, that all items function properly, and that all adjustments have been made.
- E. Section 07 92 00: Caulking around the exterior perimeter of exterior equipment and where called for on the drawings in areas visible after finished construction.
- E. General: All volume dampers, equipment, and accessories shall be installed to permit access to equipment for maintenance, servicing, or repairs. Relocation of piping, ducts, or equipment to accomplish equipment access shall be completed by the Contractor, at no additional cost to the Owner.
- G. Provide access panels in ductwork at all dampers not accessible from open end of duct.

3.04 FLOOR, WALL, ROOF, AND CEILING OPENINGS

- A. All openings for work of this section shall be provided under other sections. Openings shall be made as necessary in ceiling, floors, walls, etc., as required to permit the installation of Work specified or shown on

the Drawings. Openings shall be made with care to avoid damage which cannot be concealed when work is completed.

- B. Provisions for openings and holes and clearances through walls, floors, and ceilings to be made in advance of construction of such parts of the building. Contractor is responsible for the correct size and location of these openings.

3.05 INSTALLATION - SLEEVES

- A. Provide and install sleeves wherever ductwork or piping passes through floors, walls, partitions, etc.
- B. Sleeves shall be set and maintained in place during the progress of the work. Set sleeves in position in forms. Set sleeves in place before concrete is placed. Provide reinforcing around sleeves.
- C. Sleeves shall be securely fastened in place.
- D. Extend sleeves through floors 1 inch above finished floor level.
- E. Exterior watertight entries:
 - 1. Above-grade: Sleeve pipe and seal with caulk.
- E. Where ductwork penetrates floor, close off space between sleeve and duct with insulation to within 1/2 inch of top of sleeve. Caulk the space between the sleeve and duct per Section 07 92 00.
- G. Where ductwork or piping penetrates floor, ceiling, or wall, close off space between duct or pipe and adjacent work with stuffing, for penetrations through non-rated assemblies, and firestopping, for penetrations through rated assemblies, insulation to within 1/2 inch of wall face.
- H. Caulk the space between the sleeve and duct or pipe for all sleeves and penetrations not visible after finished installation at non-rated assemblies.
- I. Section 07 92 00: Caulking of all sleeves and penetrations visible after finished installation.
- J. Provide close fitting metal collar, escutcheon cover, or plate wherever piping or hanger rods are exposed to view and pass through floor, wall, ceiling, partition, or similar locations. Hold escutcheons in place with set screw.
- K. Provide close fitting metal collar wherever duct is exposed to view and passes through ceiling. Hold escutcheons in place with screws.

3.06 INSTALLATION - PIPE HANGERS AND SUPPORTS

- A. Support horizontal piping as scheduled.
- B. Install hangers with minimum 1/2 inch space between finished covering and adjacent work.
- C. Place hangers within 12 inches of each horizontal elbow.
- D. Use hangers with 1 1/2-inch minimum vertical adjustment.
- E. Where piping is installed in parallel and at same elevation, provide multiple pipe or trapeze hangers.
- E. Support riser piping independently of connected horizontal piping.
- G. For copper piping, provide sheet lead packing between hanger or support and piping.
- H. Design hangers for pipe movement without disengagement of supported pipe.

I. Prime coat exposed steel hangers and supports. Hangers and supports located in suspended ceiling spaces are not considered exposed.

J. Pipe Hanger Spacing Schedule:

<u>Pipe size:</u>	<u>max. hanger spacing</u>	<u>hanger rod diameter</u>
1/2 to 1-1/4	6'	3/8"
1-1/2 to 2	10'	3/8"
2-1/2 to 3	10'	1/2"

3.07 INSTALLATION - PIPING SYSTEMS

- A. Install dielectric connections wherever jointing dissimilar metals.
- B. Install unions downstream of valves and at equipment or apparatus connections.
- C. Route piping parallel to building structure and maintain gradient.
- D. Install piping to maintain headroom. Group piping to conserve space. Group piping wherever practical at common elevations.
- E. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
- E. Provide clearance to hangers and from structure and other equipment for installation of insulation and access to valves and fittings.
- G. Install piping system allowing clearance for insulation and access to valves and fittings.
- H. Install identification on piping system including underground piping.

3.08 INSTALLATION - VALVES

- A. Install valves with stems upright or horizontal, not inverted.
- B. Install gate, ball, or butterfly valves for shut-off and to isolate equipment.
- C. Provide lug end butterfly valves adjacent to equipment when functioning to isolate equipment.

3.09 INSTALLATION - REFRIGERANT PIPING

- A. Install refrigerant piping in accordance with ASME B31.5.
- B. Arrange refrigeration piping to return oil to compressor. Provide traps and loops in piping, and provide double risers as required. Slope horizontal piping 0.4 percent in direction of flow.
- C. Flood refrigerant piping system with nitrogen when brazing.
- D. Follow ASHRAE 15 procedures for charging and purging of systems and for disposal of refrigerant.
- E. Install line size liquid indicators in main liquid line leaving condenser. When system contains a receiver, install in liquid line leaving receiver.
- E. Install line size strainer upstream of each automatic valve. Where multiple expansion valves with integral strainers are used install single main liquid line strainer.
- G. Install refrigerant charging valve connections in liquid line between receiver shut-off valve and expansion valve.

- H. Install flexible connectors at right angles to axial movement of compressor, parallel to crankshaft, near compressor connections.
- I. Connect inlet and outlet of condensing units and refrigerant condensers to piping.
- J. Fully charge completed system with refrigerant after testing.
- K. Test refrigeration system in accordance with ASME B31.5.
- L. Pressure test system with nitrogen to 200 psig. Test to no leakage.

3.10 INSTALLATION - REFRIGERANT CONDENSING UNITS

- A. Install units on rubber in shear or spring isolators. Mount on manufacturer's provided wall bracket, unless noted otherwise.
- B. Put system into operation and test equipment performance. Furnish cooling season startup, and winter season shutdown for first year of operation.

3.11 INSTALLATION - DUCTWORK

- A. Examination:
 1. Verify sizes of equipment connections before fabricating transitions
 2. Verify ducts and equipment installation is ready for accessories.
 3. Check location of air outlets and inlets and make necessary adjustments in position to conform to architectural features, symmetry, and lighting arrangements.
- B. Installation:
 1. Install in accordance with State of Wisconsin and Industry Standards.
 2. Metal Ducts: Install in accordance with SMACNA Duct Construction Standards - Metal and Flexible.
 3. Connect flexible ducts to metal ducts with liquid adhesive plus sheet metal screws.
 4. Use crimp joints with or without bead for joining round duct sizes to 8 inches and smaller with crimp in direction of airflow.
 5. All ductwork joints shall be sealed, including longitudinal joints. Sealing shall be in compliance with SMACNA Duct Construction Standards and meet requirements of the State of Wisconsin Commercial Mechanical and Energy Conservation Codes.
 6. Install flexible connections immediately adjacent to fans and motorized equipment. Install flexible connections specified between fan inlet and discharge ductwork. Prevent flexible connectors being in tension while running.
 7. Prevent passage of unfiltered air around filters by installing felt, rubber, or neoprene gaskets.
 8. Cut openings in ductwork to accommodate thermometers and controllers. Cut pitot tube openings for testing of systems, complete with metal can with spring device or screw to eliminate against air leakage.
 9. Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities. Apply duct insulation.
 10. During construction install temporary closures of metal or taped polyethylene on open ductwork to prevent construction dust from entering ductwork system.
 11. Install duct access doors for inspection and cleaning before and after filters, coils, fans, automatic dampers, and elsewhere as indicated on Drawings. Install minimum 8 inch by 8 inch size for hand access, 18 inch by 18 inch for shoulder access.
 12. Support terminal units individually from structure. Do not support from adjacent ductwork.
 13. Install balancing dampers on duct take-off to diffusers and grilles and louvers, regardless of whether dampers are specified as part of the diffuser, louver, or grille assembly.
 14. Do not operate fans until ductwork is clean, filters are in place, and fan has been test run under observation.

3.12 INSTALLATION - FANS

ADDENDUM #2

- A. Install fans with resilient mountings and flexible electrical leads.
- B. Install sheaves required for final air balance. Speed controls may be used on direct drive motors for final air balance. Duct mounted balancing dampers may also be used where speed controls and sheave replacement is impractical.
- C. Install safety screen where fan inlet or outlet is exposed.
- D. Install fans with access to adjustable blade axial fan wheels for varying blade angle setting. Adjust blades for varying range of volume and pressure.

3.13 INSTALLATION - FURNACES

- A. Install refrigerant piping to remote condenser.
- B. Mount air cooled condenser-compressor package on vibration isolators.
- C. Install flexible duct connections on inlet and outlet of furnaces.
- D. Install control wiring between indoor and outdoor units and remotely mounted components.

3.14 INSTALLATION – MAKE-UP AIR UNITS

- A. Install flexible duct connections on outlet of unit.
- B. Install control wiring between units and remotely mounted components.

3.15 INSTALLATION - GAS VENTS

- A. Install concentric vent kit, as required by manufacturer and as indicated on drawings, as close to the exterior wall as practical.
- B. Install vent pipes continuously from appliance to exterior of building.
- C. Maintain UL listed minimum clearances from combustibles. Assemble pipe and accessories for complete installation.
- D. Completely insulate combustion air intake vent, flue vent, and concentric vent kit to discharge point from building.
- E. Install exterior hood per manufacturer's written instructions. Maintain minimum clearances to doors, windows, and intake louvers, and to roof overhang. Maintain minimum distance above roof surface.

3.16 INSTALLATION - ELECTRIC HEATERS

- A. Install units from manufacturer bracket where available.
- B. Install to provide minimum clearances to combustibles.
- C. Install control wiring between unit and remotely mounted control components and thermostats.

3.17 INSTALLATION - FUEL-FIRED HEATERS

- A. Install gas unit heaters per manufacturer's instructions.
- B. Install flexible duct connections on inlet and outlet of fuel-fired air units.

- C. Install all manufacturer provided, shipped loose components.
- D. Install control wiring between unit and remotely mounted control components and thermostats.

3.18 INSTALLATION – HOT WATER HEATING SYSTEM

- A. Install complete all equipment and accessories as required for a complete and fully functional system.
- B. Fill and flush system with distilled water.

3.19 INSTALLATION – CONTROL DAMPERS

- A. Install dampers in accordance with manufacturer's Installation Instructions.
- B. Dampers must be accessible to allow inspection, adjustment, and replacement of components. The sheet metal contractor shall furnish any access doors or removable section of duct in ductwork or plenums required to provide this access. The general contractor shall furnish any access doors required in walls, ceilings, or other general building construction.
- C. Install dampers square and free from racking.
- D. The installing contractor shall provide and install bracing for multiple section assemblies to support assembly weight and to hold against system pressure.
- E. Do not compress or stretch the damper frame into the duct or opening.
- E. Attach multiple damper section assemblies together in accordance with manufacturer's instructions. Install support mullions as reinforcement between assemblies as required.
- G. Handle dampers using the frame or sleeve. Do not lift or move dampers using blades, actuator or jackshaft.
- H. Install connections to electric actuators per Division 26.

3.20 INSTALLATION - CONTROLS

- A. After completion of installation, test and adjust control equipment. Submit data showing set points and final adjustments of controls.
- B. Install panels and other hardware in position on permanent walls not subject to excessive vibration.

3.21 TESTING, ADJUSTING, AND BALANCING

- A. Examination:
 - 1. Before starting work, verify systems are complete and operable.
 - 2. Report defects, deficiencies, or abnormal conditions in mechanical systems preventing system balance.
 - 3. Beginning of work means acceptance of existing conditions.
- B. Installation Tolerances:
 - 1. Air Handling Systems: Adjust to within plus or minus 5 percent of design for supply systems and plus or minus 10 percent for return and exhaust systems.
 - 2. Air Outlets and Inlets: Adjust to within plus or minus 10 percent of design.
 - 3. Positive, negative, or neutral system design relationship shall be maintained during final balance of system.

- C. Air System Procedure:
1. Adjust air handling and distribution systems to deliver design supply, return, and exhaust air quantities within previously stated tolerances.
 2. Make air quantity measurements in ducts by traverse of entire cross-sectional area of duct.
 3. Measure air quantities at air inlets and outlets.
 4. Use volume control devices to regulate air quantities only to extent those adjustments do not create objectionable air motion or sound levels. Change volume using dampers mounted in ducts.
 5. Vary total system air quantities by adjustment of fan speeds. Provide drive changes to accomplish system air flow, speed controls may be used on direct drive motors where allowed by manufacturer. Vary branch air quantities by damper regulation.
 6. Measure static pressure conditions on air supply units, including filter and coil pressure drops, and total pressure across fan. Allow for pressure drop equivalent to 50 percent loading of filters.
- D. Field Quality Control:
1. Verify recorded data represents actually measured or observed conditions.
 2. Permanently mark settings of valves, dampers, or other adjustment devices. Set and lock memory stops.

3.22 MECHANICAL IDENTIFICATION

- A. Install adequate marking of exposed accessible HVAC equipment, ductwork and control devices, per ANSI A13.1.
- B. Install plastic nameplates with adhesive.
- C. Equipment:
1. Identify all major HVAC equipment with plastic nameplates minimum 1 1/2 inches high. Lettering size and plate length to be sufficient to convey adequate information at each location. Minimum length: 4 inches. Minimum lettering height: 3/8 inch.
 2. Control Equipment: 1 1/2 inch by 4 inch plastic nameplates with 1/4 inch high lettering.
- D. Install tags with corrosion resistant metal chain.
- E. Piping: Plastic pipe markers or plastic tape pipe markers. Space no farther than 15 feet apart, with a minimum of one marker on each straight section of pipe.

3.23 PAINTING

- A. Touch-up all factory finishes damaged during construction.

3.24 CLEANING

- A. Equipment: After the equipment has been started and proved operational, carefully clean all accessible parts of each piece of equipment, thoroughly removing all traces of dirt, oil, grease, and other foreign substances.
- B. Make-up air units must not operate without adequate filters to prevent plugging secondary coils. Contractor is responsible for cleaning secondary coil, if necessary, prior to turning over to Owner.

3.25 LUBRICATION

- A. Upon completion of the work and before turning over to the Owner, clean and lubricate all bearings, except sealed and permanently lubricated bearings. Use only lubricant recommended by the manufacturer.
- B. Contractor is responsible for maintaining lubrication of all mechanical equipment under his contract until work is accepted by the Owner.

- C. Furnish a chart with each piece of equipment listed, itemizing location for lubricant required and recommended periods of lubrication. Incorporate chart in Instruction Manual.

3.26 INSTRUCTIONS

- A. Instruct Owner's representative in the operation and maintenance of all mechanical systems.
- B. Assemble two (2) complete sets of manufacturer's printed operating and maintenance instructions for all mechanical equipment installed under the contract. Prepare in bound copies with index tabs. Information must include parts list and wiring diagrams. Submit to Engineer for presentation to the Owner.

3.27 CLOSEOUT OPERATIONS

- A. Section 01 77 00 - Closeout Procedures: Closeout provisions.
- B. Closeout Equipment/System Operations: Sequence operations properly so that work of the project will not be damaged or endangered. Coordinate with seasonal requirements.
 - 1. Operate each item of equipment and each item in a test run of appropriate duration with the Owner's operating personnel present to demonstrate sustained, satisfactory performance.
 - 2. Adjust and correct operations as required for proper performance.
 - 3. Clean and lubricate each system, and replace dirty filters, especially worn belts and parts and similar expendable items of the work.
- C. Instruction, O&M: Instruct Owner or Owner's personnel in the proper operation and maintenance of the HVAC systems. Train personnel in the setting and scheduling of programmable thermostats for occupied/unoccupied periods.
- D. Turn-Over of Operations: At time of substantial completion, turn over the prime responsibility for operation of HVAC equipment and systems to the Owner's operating personnel
- E. Extra Materials.
- E. Record Drawings.

3.28 SEQUENCE OF OPERATION

- A. Building 100 – Service Building:
 - 1. Screening 100-B101/100-111:
 - a. Written Description:
 - 1) Ventilation: System operation shall be controlled by ~~a-room~~ light switch, freeze-stat, and SCADA by division 26 ~~and SCADA~~.
 - 2) Heating: Systems shall be controlled by thermostats.
 - b. 100-AHU-2: Control with room light switches (occupancy), Division 26 SCADA freeze-stat by Division 26, T-100-AHU-1, and T-100-AHU-2, MCC switch by Division 26 and internal controls. Interlock with fan 100-EF-2 and 100-DM-2
 - ~~1) AHU ON/OFF shall be by manual switch by Division 26~~
 - ~~2) When switch is turned on, AHU shall turn on and damper shall open.~~
 - ~~3) When switch is turned off, AHU shall turn off and damper shall close.~~
 - ~~1) When MCC switch is in HAND position, unit shall be activated. When MCC switch is in AUTO, system shall be controlled by light switch and SCADA.~~
 - ~~2) When MCC switch is in AUTO position and light switch is in ON position, unit shall be activated. When light switch is in OFF position, unit shall be controlled by SCADA and MCC switch.~~
 - ~~1)3) Heater shall be operated to maintain discharge air temperature within thermostat set-point range while unit is activated. When unit is deactivated, heat shall not be available.~~

- ~~5.4)~~ Provide means to lock out heater during warm temperatures. Set-point temperature of lock-out shall be field adjustable from minimum of 45-degrees F to maximum 70-degrees F.
- ~~6.5)~~ When freeze-stat indicates that temperatures are below thermostat set-point, unit shall be deactivated and alarm shall be activated.
- c. T-100-AHU-12: Discharge air thermostat in air handling unit 100-AHU-2 and remote room override thermostat by unit manufacturer
 1) Monitor and control discharge air temperature of unit.
- ~~c. Interlock control with heater 100-AHU-1.~~
- ~~d. Analog, non-set back type, corrosion resistant, XP-rated. Type acceptable to unit manufacturer~~
- ~~c. Set points: minimum 40-degrees F; maximum 85-degrees F.
 Range: 3 to 5-degrees F.~~
- ~~g.d.~~ 100-EF-12: Control with unit 100-AHU-2 and MCC switch by Division 26. Interlock control with damper 100-DF-2 and damper 100-DM-2.
 1) When MCC switch is in HAND position, Shall be activated. When MCC switch is in AUTO position, fan shall be controlled by SCADA.
 2) When 100-AHU-2 is activated, fan shall be activated
 3) When 100-AHU-2 is deactivated, fan shall be deactivated
 1) ~~Fan ON/OFF shall be by manual switch provided by Division 26.~~
 2) ~~When switch is turned on, fan shall turn on and dampers shall open.~~
 3) ~~When switch is turned off, fan shall turn off and dampers shall close.~~
- e. MCC Switch:
 1) Interlock with 100-EF-2.
 a) Two position (hand-auto) switch by division 26. Switch is for maintenance purposes only.
 b) Switch shall be located on MCC.
- ~~h. 100-CH-1: Control with thermostat T-100-CH-1:
 1) When thermostat calls for heating, unit shall be activated.
 2) When thermostat is satisfied, unit shall be deactivated.~~
- ~~T-100-CH-1: Interlock control with heater 100-CH-1.
 1) Analog, non-set back type, corrosion resistant, XP-rated. Type acceptable to unit manufacturer
 2) Set points: minimum 40-degrees F; maximum 85-degrees F.
 3) Range: 3 to 5-degrees F.~~
- ~~j.f.~~ Dampers:
 1) 100-DF-2: Interlock with fan 100-EF-2
 a) Fast acting type: full movement within 20-seconds.
 b) Two-position actuator with NEMA 4X enclosure. Spring open, power closed.
 c) When switch is turned on and 100-AHU-2 fan is activated, fan shall turn on and dampers shall go to 100% open position. Damper does not need to be 100% open to activate fan.
 d) When switch is turned off and 100-AHU-2 fan is deactivated, fan shall turn off and dampers shall go to 100% closed position.
 2) 100-DM-2: Interlock with fan 100-AHU-2 Control by SCADA
 a) Fast acting type: full movement within 20-seconds.
 b) Two-position actuator with NEMA 4X enclosure. Spring open, power closed.
 c) When unit is activated by SCADA, damper shall be in 100% open position. Damper shall be in 100% open position for unit to be activated.
 d) When unit is deactivated by SCADA, damper shall be in 100% closed position. Damper need not be in 100% closed position for unit to be deactivated.

- g. 100-CH-1: Control with thermostat T-100-CH-1:
 - 1) When thermostat calls for heating, unit shall be activated.
 - 2) When thermostat is satisfied, unit shall be deactivated.
- h. T-100-CH-1: Interlock control with heater 100-CH-1.
 - 1) Analog, non-set back type, corrosion resistant, XP rated. Type acceptable to unit manufacturer
 - 2) Set points: minimum 40 degrees F; maximum 85 degrees F.
 - 3) Range: 3 to 5 degrees F.
- 2. Workshop North Room 100-113
 - a. Written Description:
 - 1) Ventilation: System shall be controlled by switch
 - 2) Heating: System shall be controlled by thermostat
 - b. 100-EX-EF-N: Control fan with switch. Interlock with existing damper
 - 1) When switch is activated, fan shall be activated and damper shall open.
 - 2) When switch is deactivated, fan shall be deactivated and damper shall close.
- 2.3. Workshop South/Pump/Pump Rooms 100-112/100-B102/100-B201:
 - a. Written Description:
 - 1) Ventilation:
 - 2) System operation shall be controlled by freeze-stat, and SCADA by division 26 with continuous airflow.
 - ~~1)3) System operation shall be controlled by a thermostat and SCADA with continuous airflow.~~
 - ~~2)4) Heating: Systems shall be controlled by thermostats.~~
 - b. 100-AHU-1: Control with Division 26 SCADA, freeze-stat by Division 26, T-100-AHU-1, MCC switch by Division 26 and internal controls. Interlock with fan 100-EF-1 and damper 100-DM-1. Intent is for fan to run continuous. Control with T-100-AHU-1 and SCADA
 - 1) When MCC switch is in HAND position, unit shall be activated.
 - 2) When MCC switch is in AUTO, system shall be controlled by SCADA.
 - ~~1) AHU ON/OFF shall be by SCADA~~
 - ~~2) When switch is turned on, AHU shall turn on and damper shall open.~~
 - ~~3) When switch is turned off, AHU shall turn off and damper shall close.~~
 - ~~1)3) Heater shall be operated to maintain discharge air temperature within thermostat set-point range while unit is activated. When unit is deactivated, heat shall not be available.~~
 - ~~5)4) Provide means to lock out heater during warm temperatures. Set-point temperature of lock-out shall be field adjustable from minimum of 45-degrees F to maximum 70-degrees F.~~
 - ~~6)5) When freeze-stat indicates that temperatures are below thermostat set-point, unit shall be deactivated and alarm shall be activated.~~
 - c. T-100-AHU-1: Discharge air thermostat in air handling unit 100-AHU-1 by unit manufacturer
 - 1) Monitor and control discharge air temperature of unit.
 - ~~c. Interlock control with heater 100-AHU-1.~~
 - ~~1) Analog, non-set back type, corrosion resistant, XP rated. Type acceptable to unit manufacturer~~
 - ~~2) Set points: minimum 40 degrees F; maximum 85 degrees F.~~
 - ~~3) Range: 3 to 5 degrees F.~~
 - d. Existing unit heaters located in rooms shall remain with existing controls. Field verify.
 - e. 100-EF-1: Controlled by Division 26 SCADA and MCC switch by Division 26.
 - 1) When MCC switch is turned Hand, fan shall be activated.
 - 2) When MCC switch is turned auto, fan shall be controlled by SCADA.
 - a) Fan shall run continuously unless low temperature thermostat, by Division 26, turns the system off.
 - b) When 100-AHU-1 is activated fan shall be activated. When 100-AHU-2 is deactivated fan shall be deactivated.

- f. 100-EX-EF-S: Controlled by switch controlling 100-EF-1 on MCC by Division 26.
 - 1) When 100-AHU-1 is activated fan shall be activated. When 100-AHU-1 is deactivated fan shall be deactivated.
- g. MCC Switch
 - 1) Interlock with 100-EF-1 and 100-EX-EF-S.
 - a) Two position switch by division 26. Switch is for equipment maintenance purposes only.
 - b) Switch shall be located on MCC.
- h. Dampers:
 - 1) 100-DM-1: Controlled by Division 26
 - a) Two-position actuator with NEMA 4X enclosure. Spring open, power closed.
 - b) When unit is activated, damper shall be in 100% open position. Damper shall be in 100% open position for unit to be activated.
 - c) When unit is deactivated, damper shall be in 100% closed position. Damper need not be in 100% closed position for unit to be deactivated.
 - 2) 100-DF-1: Controlled by Division 26
 - a) Two-position actuator with NEMA 4X enclosure. Spring open, power closed.
 - b) When fan is activated, damper shall be in 100% open position. Damper shall be in 100% open position for fan to be activated.
 - c) When fan is deactivated, damper shall be in 100% closed position. Damper need not be in 100% closed position for fan to be deactivated.
- ~~c. Dampers:~~
 - ~~1) 100-DM-1: Interlock with 100-AHU-1~~
 - ~~a) Fast acting type: full movement within 20-seconds.~~
 - ~~b) Two position actuator with NEMA 4X enclosure. Spring open, power closed.~~
 - ~~c) When unit is activated, damper shall be in 100% open position. Damper shall be in 100% open position for unit to be activated.~~
 - ~~d) When unit is deactivated, damper shall be in 100% closed position. Damper need not be in 100% closed position for unit to be deactivated.~~

3.4. Electrical Room 100-110

- a. 100-IU-1: Control with thermostat T-100-IU-1 and internal controls.
 - 1) When thermostat calls for cooling, unit shall be activated.
 - 2) When thermostat is satisfied, unit shall be deactivated.
- b. T-100-IU-1: Remote room wall mounted adjustable thermostat.
 - 1) Digital by unit manufacturer.
 - 2) Set points: minimum 40 degrees F; maximum 85 degrees F.
 - 3) Range: 3 to 5 degrees

4.5. Garage/Storage Rooms 100-108/100-201:

- a. Written Description:
 - 1) Ventilation: System operation shall be controlled by Intermittent Ventilation Switch, Timer, and CO2/NO2 monitor.
 - 2) Heating: Systems shall be controlled by thermostats.
- b. 100-AHU-3: Control with timer TM-100-AHU-3, switch S-100-AHU-3, thermostat T-100-AHU-3, room light switches (occupancy), CO/NO2 sensors by Division 23, and internal controls. System is designed for intermittent operation. Interlock with fan 100-EF-3 and damper 100-DM-3.
 - 1) When switch S-100-AHU-3 is in ON position, unit high-speed shall be activated.
 - 2) When switch S-100-AHU-3 is in AUTO position, fan shall be controlled by CO/NO2 sensor, light switches and timer. When switch S-100-AHU-3 is in OFF position, AHU shall turn off and damper shall close.

- ~~2)~~ ~~When switch S-100-AHU-3 is in AUTO position, fan shall be controlled by light switch and timer.~~
- 3) When timer TM-100-AHU-3 calls for operation, unit shall be activated. When timer is not activated, unit shall be controlled by other devices
- 4) When either rooms 100-109 and 100-201 light switch is in ON position, unit shall be activated. When both light switches are in OFF position, unit shall be controlled by other devices.
- 5) When switch is turned off, AHU shall turn off and damper shall close.
- 6) Heater shall be operated to maintain discharge air temperature within thermostat set-point range while unit is activated. When unit is deactivated, heat shall not be available.
- 7) Provide means to lock out heater during warm temperatures. Set-point temperature of lock-out shall be field adjustable from minimum of 45-degrees F to maximum 70-degrees F.
- 8) When ~~freeze-stat~~thermostat T-100-AHU-3 indicates that temperatures are below thermostat set-point, unit shall be deactivated and alarm shall be activated. Provide indicator light on control panel for when low temperature is indicated, and manual override button to override and activate unit.
- c. T-100-AHU-3: Interlock control with heater 100-AHU-3.
- 1) Thermostat to sense temperature in duct outlet and provide remote setpoint adjustment at the control panel.
- ~~1)2)~~ Remote adjustment shall be Digital, set back type. Type acceptable to unit manufacturer
- ~~2)3)~~ Set points: minimum 40 degrees F; maximum 85 degrees F.
- ~~4)~~ Range: 3 to 5 degrees F.
- d. TM-100-AHU-3:
- 1) TM-100-AHU-3: Interlock with AHU-3 and 100-EF-3
- a) Digital programmable timer. Shall be located at control panel and shall be able to be adjusted without opening the panel.
- e. S-100-AHU-3
- 1) S-100-AHU-3: Interlock with 100-AHU-3 and 100-EF-3.
- a) Switch is HOA three position switch with indicator light. Indicator light shall be activated when air handling unit is active.
- b) Switch shall be located on AHU controller. Switch shall be able to be activated without opening the panel.
- d.f. 100-EF-3: Controlled by 100-AHU-3. Interlock control with damper 100-DF-3~~and damper 100-DM-3.~~
- 1) Whenever 100-AHU-3 is activated fan shall be activated.
- 2) Whenever 100-AHU-3 is deactivated, unit shall be deactivated.
- ~~1)~~ ~~Fan ON/OFF shall be by manual switch provided by Division 26.~~
- ~~2)~~ ~~When switch is turned on and 100-AHU-3 is activated, fan shall turn on and dampers shall open.~~
- 3) ~~When switch is turned off and 100-AHU-3 is deactivated, fan shall turn off and dampers shall close.~~
- c.g.
f.h. Existing unit heaters located in rooms shall remain with existing controls. Field verify.
Dampers:
- 1) 100-DF-3: Interlock with fan 100-EF-3
- a) Fast acting type: full movement within 20-seconds.
- b) Operation: Two-position, fail closed, power open/spring close.
- c) When unit is activated, damper shall be in 100% open position. Damper shall need not be in 100% open position for unit to be activated.
- d) When unit is deactivated, damper shall be in 100% closed position. Damper need not be in 100% closed position for unit to be deactivated.
- 2) 100-DM-3: Interlock with ~~fan-unit~~ 100-AHU-3

- a) Fast acting type: full movement within 20-seconds.
- b) Operation: Two-position, fail closed, power open/spring close.
- c) When unit is activated, damper shall be in 100% open position. Damper ~~shall-need not~~ be in 100% open position for unit to be activated.
- d) When unit is deactivated, damper shall be in 100% closed position. Damper need not be in 100% closed position for unit to be deactivated.

Grit Rooms 100-B104/100-105/100-203:

- a. Written Description:
 - ~~1)~~ Ventilation: ~~System operation shall be controlled by a light switch by division 26 and SCADA.~~
 - ~~2)~~ Heating: Systems shall be controlled by thermostats.
- b. 100-AHU-4: Control with room light switches (occupancy), Division 26 SCADA, freeze-stat by Division 26, T-100-AHU-4, MCC switch by Division 26 and internal controls. Interlock with fan 100-EF-4 and 100-DM-4
 - ~~1)~~ When MCC switch is in HAND position, unit shall be activated. When MCC switch is in AUTO, system shall be controlled by light switch and SCADA.
 - ~~2)~~ When MCC switch is in AUTO position and light switch is in ON position, unit shall be activated. When light switch is in OFF position, unit shall be controlled by SCADA and MCC switch.
 - ~~1)~~ AHU ON/OFF shall be by manual switch by Division 26
 - ~~2)~~ When switch is turned on, AHU shall turn on and damper shall open.
 - ~~3)~~ When switch is turned off, AHU shall turn off and damper shall close.
 - ~~4)~~ Heater shall be operated to maintain discharge air temperature within thermostat set-point range while unit is activated. When unit is deactivated, heat shall not be available.
 - ~~5)~~ Provide means to lock out heater during warm temperatures. Set-point temperature of lock-out shall be field adjustable from minimum of 45-degrees F to maximum 70-degrees F.
 - ~~6)~~ When freeze-stat indicates that temperatures are below thermostat set-point, unit shall be deactivated and alarm shall be activated.
- c. T-100-AHU-4: Discharge air thermostat in air handling unit 100-AHU-4 and remote room override thermostat by unit manufacturer
 - ~~1)~~ Monitor and control discharge air temperature of unit.
- ~~c.~~ Interlock control with heater 100-AHU-4.
- ~~d.~~ Analog, non-set back type, corrosion resistant, XP rated. Type acceptable to unit manufacturer
- ~~c.~~ Set points: minimum 40-degrees F; maximum 85-degrees F.
- ~~f.d.~~ Range: 3 to 5-degrees F.
- ~~g.e.~~ 100-EF-4: Controlled by SCADA by Division 26 and switch on MCC by Division 26. Interlock control with damper 100-DF-4 ~~and damper 100-DM-4.~~
 - 1) Fan ON/OFF shall be by manual switch provided by Division 26.
 - 2) When switch is turned on, fan shall turn on and dampers shall open.
 - 3) When switch is turned off, fan shall turn off and dampers shall close.
- ~~h.f.~~ 100-CH-7: Control with thermostat T-100-CH-7:
 - 1) When thermostat calls for heating, unit shall be activated.
 - 2) When thermostat is satisfied, unit shall be deactivated.
- ~~i.g.~~ T-100-CH-7: Interlock control with heater 100-CH-7.
 - 1) Analog, non-set back type, corrosion resistant, XP rated. Type acceptable to unit manufacturer
 - 2) Set points: minimum 40-degrees F; maximum 85-degrees F.
 - 3) Range: 3 to 5-degrees F.
- ~~j.h.~~ 100-CH-8: Control with thermostat T-100-CH-8:
 - 1) When thermostat calls for heating, unit shall be activated.
 - 2) When thermostat is satisfied, unit shall be deactivated.
- ~~k.i.~~ T-100-CH-8: Interlock control with heater 100-CH-8.

- 1) Analog, non-set back type, corrosion resistant, XP rated. Type acceptable to unit manufacturer
- 2) Set points: minimum 40 degrees F; maximum 85 degrees F.
- 3) Range: 3 to 5 degrees F.



Dampers:

- 1) 100-DF-4: Interlock with fan 100-EF-4
 - a) Two-position actuator with NEMA 4X enclosure. Spring open, power closed.
 - b) When ~~switch is turned~~fan on and 100-AHUEF-4 is activated, fan shall turn on and dampers shall be in 100% open position. Damper does not need to be in 100% open position for unit to be activated
 - c) When ~~switch is turned off and~~fan 100-AHUEF-4 is deactivated, ~~fan shall turn off and~~ dampers shall be in 100% closed position.
- 2) 100-DM-4: ~~Interlock with fan 100-AHU-4~~Controlled by SCADA
 - a) Two-position actuator with NEMA 4X enclosure. Spring open, power closed.
 - b) When unit is activated, damper shall be in 100% open position. Damper shall be in 100% open position for unit to be activated.
 - c) When unit is deactivated, damper shall be in 100% closed position. Damper need not be in 100% closed position for unit to be deactivated.

7. Toilet Room 100-116:

a. Written Description:

- 1) Ventilation: System operation shall be controlled by light switch by division 26

b. 100-EF-9: Interlock control with damper 100-DF-9

- 1) Fan ON/OFF shall be by manual switch provided by Division 26.
- 2) When switch is turned on, fan shall turn on and dampers shall open.
- 3) When switch is turned off, fan shall turn off and dampers shall close.

c. Dampers:

- 1) 100-DF-9: Interlock with fan 100-EF-9
 - a) Fast acting type: full movement within 20-seconds.
 - b) Two-position actuator. Spring open, powered closed.
 - c) When switch is turned on and 100-EF-9 is activated, fan shall turn on and damper shall open
 - d) When switch is turned off and 100-EF-9 is deactivated, fan shall turn off and damper shall close.

8. Mechanical Room 100-103

a. Written description:

- 1) Ventilation: System shall be controlled by thermostat
- 2) Heating: System shall be controlled by thermostat

b. 100-CH-2: Control with thermostat T-100-CH-2:

- 1) When thermostat calls for heating, unit shall be activated.
- 2) When thermostat is satisfied, unit shall be deactivated.

c. T-100-CH-2: Interlock control with heater 100-CH-2.

- 1) Analog, non-set back type, corrosion resistant, XP rated. Type acceptable to unit manufacturer
- 2) Set points: minimum 40 degrees F; maximum 85 degrees F.
- 3) Range: 3 to 5 degrees F.

d. Damper

- 1) 100-DL-4: Controlled by thermostat 100-CH-2
 - a) Fast acting type: full movement within 20 seconds.
 - b) Two-position actuator. Spring open, powered closed.
 - c) When room temperature is above 40°F, damper shall be open.
 - d) When room temperature is less than 40°F, damper shall be closed.

9. East Electric Room 100-104

a. Written Description:

- 1) Ventilation: System operation shall be controlled by switch and thermostat
- 2) Heating: System shall be controlled by thermostat
- b. 100-EF-8: Control Fan with S-100-EF-8 and thermostat T-100-EF-8. Interlock control with dampers 100-DF-8 & 100-DL-3.
 - 1) When switch is activated, fan shall be activated.
 - 2) When switch is deactivated, fan shall be deactivated.
 - 3) When thermostat calls for cooling, fan shall be activated.
 - 4) When thermostat is deactivated, fan shall be deactivated.
- c. 100-CH-3: Control with thermostat T-100-CH-3:
 - 1) When thermostat calls for heating, unit shall be activated.
 - 2) When thermostat is satisfied, unit shall be deactivated.
- d. T-100-CH-3: Interlock control with heater 100-CH-3.
 - 1) Analog, non-set back type, corrosion resistant, XP rated. Type acceptable to unit manufacturer
 - 2) Set points: minimum 40 degrees F; maximum 85 degrees F.
 - 3) Range: 3 to 5 degrees F.
- e. Dampers:
 - 1) 100-DF-8: Interlock with fan 100-EF-8, and damper 100-DL-3
 - a) Fast acting type: full movement within 20-seconds.
 - b) Two-position actuator. Spring open, powered closed.
 - c) When 100-EF-8 is activated, fan shall turn on and damper shall open
 - d) When 100-EF-8 is deactivated, fan shall turn off and damper shall close.
 - 2) 100-DL-3: Interlock with fan 100-EF-8, and damper 100-DF-8
 - a) Fast acting type: full movement within 20-seconds.
 - b) Two-position actuator. Spring open, powered closed.
 - c) When 100-EF-8 is activated, fan shall turn on and damper shall open
 - d) When 100-EF-8 is deactivated, fan shall turn off and damper shall close.

C.10. Blower Room 100-102:

- a. Written Description:
 - 1) Ventilation: System operation shall be controlled by switch and thermostat
 - 2) Heating/cooling: System shall be controlled by thermostat
- b. 100-EF-5 & 6: Control Fan with S-100-EF-5 & 6 and thermostat T-100-EF-5 & 6. Interlock control with damper 100-DF-5 & 6 & 100-DL-1.
 - 1) When switch is activated, fan shall be activated.
 - 2) When switch is deactivated, fan shall be deactivated.
 - 3) When thermostat calls for cooling, fan shall be activated.
 - 4) When thermostat is deactivated, fan shall be deactivated.
 - 5) Thermostats to be set at 5°F difference so one fan turns on before the other.
 - Thermostat set points to be adjustable so fan that turns on first can be adjustable.
- c. 100-EF-7: Control Fan with S-100-EF-7 and thermostat T-100-EF-7. Interlock control with damper 100-DF-7 & 100-DL-2.
 - 1) When switch is activated, fan shall be activated.
 - 2) When switch is deactivated, fan shall be deactivated.
 - 3) When thermostat calls for cooling, fan shall be activated.
 - 4) When thermostat is deactivated, fan shall be deactivated.
- d. T-100-EF-5: Interlock control with fan 100-EF-5.
 - 1) Analog, non-set back type, corrosion resistant, XP rated. Type acceptable to unit manufacturer
 - 2) Set points: minimum 40 degrees F; maximum 85 degrees F.
 - 3) Range: 3 to 5 degrees F.
- e. T-100-EF-6: Interlock control with fan 100-EF-6.
 - 1) Analog, non-set back type, corrosion resistant, XP rated. Type acceptable to unit manufacturer
 - 2) Set points: minimum 40 degrees F; maximum 85 degrees F.
 - 3) Range: 3 to 5 degrees F.
- f. T-100-EF-7: Interlock control with heater 100-EF-7.

- 1) Analog, non-set back type, corrosion resistant, XP rated. Type acceptable to unit manufacturer
- 2) Set points: minimum 40 degrees F; maximum 85 degrees F.
- 3) Range: 3 to 5 degrees F.
- g. 100-CH-4: Control with thermostat T-100-CH-4:
 - 1) When thermostat calls for heating, unit shall be activated.
 - 2) When thermostat is satisfied, unit shall be deactivated.
- h. T-100-CH-4: Interlock control with heater 100-CH-4.
 - 1) Analog, non-set back type, corrosion resistant, XP rated. Type acceptable to unit manufacturer
 - 2) Set points: minimum 40 degrees F; maximum 85 degrees F.
 - 3) Range: 3 to 5 degrees F.
- 100-CH-6: Control with thermostat T-100-CH-6:
 - 1) When thermostat calls for heating, unit shall be activated.
 - 2) When thermostat is satisfied, unit shall be deactivated.
- j. T-100-CH-6: Interlock control with heater 100-CH-6.
 - 1) Analog, non-set back type, corrosion resistant, XP rated. Type acceptable to unit manufacturer
 - 2) Set points: minimum 40 degrees F; maximum 85 degrees F.
 - 3) Range: 3 to 5 degrees F.
- k. Dampers:
 - 1) 100-DF-5 & 6: Interlock with fan 100-EF-5 & 6, and damper 100-DL-1
 - a) Fast acting type: full movement within 20-seconds.
 - b) Two-position actuator. Spring open, powered closed.
 - c) When 100-EF-8 is activated, fan shall turn on and damper shall open
 - d) When 100-EF-8 is deactivated, fan shall turn off and damper shall close.
 - 2) 100-DF-7: Interlock with fan 100-EF-7, and damper 100-DL-2
 - a) Fast acting type: full movement within 20-seconds.
 - b) Two-position actuator. Spring open, powered closed.
 - c) When 100-EF-8 is activated, fan shall turn on and damper shall open
 - d) When 100-EF-8 is deactivated, fan shall turn off and damper shall close.
 - 3) 100-DL-1: Interlock with fan 100-EF-5 & 6, and damper 100-DF-5 & 6
 - a) Fast acting type: full movement within 20-seconds.
 - b) Two-position actuator. Spring open, powered closed.
 - c) When 100-EF-8 is activated, fan shall turn on and damper shall open
 - d) When 100-EF-8 is deactivated, fan shall turn off and damper shall close.
 - 4) 100-DL-2: Interlock with fan 100-EF-7, and damper 100-DF-7
 - a) Fast acting type: full movement within 20-seconds.
 - b) Two-position actuator. Spring open, powered closed.
 - c) When 100-EF-8 is activated, fan shall turn on and damper shall open
 - d) When 100-EF-8 is deactivated, fan shall turn off and damper shall close.

B. Building 500

- 1. Chemical Room 500-101
 - a. Written Description:
 - 1) Ventilations: System operation shall be controlled by switch and timer through SCADA
 - 2) Heating: System shall be controlled by thermostat.
 - b. Existing Fan: Control Fan with light switch and timer by SCADA
 - 1) When switch is activated, fan shall be activated.
 - 2) When switch is deactivated, fan shall be deactivated.
 - 3) When timer is activated, fan shall be activated.
 - 4) When timer is deactivated, fan shall be deactivated
 - c. 500-UH-1: Control with thermostat 500-UH-1:
 - 1) When thermostat calls for heating, unit shall be activated.

2) When thermostat is satisfied, unit shall be deactivated.

C. Building 650

1. Pump Room 650-101

a. Written Description:

1) Ventilations: System operation shall be controlled by switch, thermostat and SCADA.

2) Heating/Cooling: System shall be controlled by thermostat.

b. 650-IF-1: Control fan with thermostat and SCADA. Interlock control with damper 100-DF-1 and damper 100-DM-1.

1) Fan Hand/Auto shall be by manual switch provided by Division 26. Switch shall be located in MCC.

2) When switch is turned Hand, fan shall be on.

3) When switch is turned auto, fan shall be controlled by SCADA. Fan shall run continuously unless Thermostat, by Division 26, turns the system off.

4) Fan Disconnect to be used as off.

c. 650-IF-2: Control fan with S-650-IF-2 and T-650-IF-2 by Div 23. Interlock with damper 650-DF-2 and damper 650-DL-2

1) When switch is activated, fan shall be activated.

2) When switch is deactivated, fan shall be deactivated.

3) When thermostat calls for cooling, fan shall be activated.

4) When thermostat is deactivated, fan shall be deactivated.

d. 650-DF-1: Interlock with fan 650-IF-1, and damper 650-DL-1

1) Fast acting type: full movement within 20-seconds.

2) Two-position actuator. Spring open, powered closed.

3) When 650-IF-1 is activated, fan shall turn on and damper shall open

4) When 650-IF-1 is deactivated, fan shall turn off and damper shall close.

e. 650-DL-1: Interlock with fan 650-IF-1, and damper 650-DF-1

1) Fast acting type: full movement within 20-seconds.

2) Two-position actuator. Spring open, powered closed.

3) When 650-IF-1 is activated, fan shall turn on and damper shall open

4) When 650-IF-1 is deactivated, fan shall turn off and damper shall close.

f. 650-DF-2: Interlock with fan 650-IF-2, and damper 650-DL-2

1) Fast acting type: full movement within 20-seconds.

2) Two-position actuator. Spring open, powered closed.

3) When 650-IF-1 is activated, fan shall turn on and damper shall open

4) When 650-IF-1 is deactivated, fan shall turn off and damper shall close.

g. 650-DL-2: Interlock with fan 650-IF-2, and damper 650-DL-2

1) Fast acting type: full movement within 20-seconds.

2) Two-position actuator. Spring open, powered closed.

3) When switch is activated, fan shall turn on and damper shall open

4) When switch is deactivated, fan shall turn off and damper shall close.

5) When thermostat calls for cooling, fan shall turn on and damper shall open

6) When thermostat is deactivated, fan shall turn off and damper shall close.

h. 650-UH-1: Control with thermostat 650-UH-1:

1) When thermostat calls for heating, unit shall be activated.

2) When thermostat is satisfied, unit shall be deactivated.

2. Electrical Room 650-102

a. Written Description:

1) Heating/Cooling: System shall be controlled by thermostat by Div 23.

b. 650-UH-2: Control with thermostat 650-UH-2:

1) When thermostat calls for heating, unit shall be activated.

2) When thermostat is satisfied, unit shall be deactivated.

c. 650-IU-1 & 650-OU-1: Control with thermostat T-650-IU-1 and integral controls.

1) System fan shall turn on when thermostat calls for cooling

2) System fan shall turn off when thermostat does not call for cooling

D. Building 800

1. Garage Room 800-119

a. Written Description:

1) Ventilation: System operation shall be controlled by Switches, Intermittent Ventilation and CO/NO2 sensor.

2) Heating: Systems shall be controlled by thermostats.

h. Fans

1) 800-IF-1: Control with unit override switch S-800-IF-1, light switch, CO/NO2 sensor and timer TM-800-IF-1. Interlock with dampers, 800-DF-1, 800-DL-2 and louver, 800-L-2.

a) When switch S-800-IF-1 is "On" position, fan shall be activated.

b) When switch S-800-IF-1 is "Auto" position, fan shall be run per timer and CO/NO2 sensor and light switches.

c) When light switches by division 26 is on, fan shall be activated

d) Adjustable time TM-800-IF-1. Unit shall be set to run for 5 total hours every 24 hours.

e) Unit shall activate upon detection of CO/NO2 from sensor.

f) Unit shall run by other control devices when no detection of CO/NO2 in room.

2) 800-DS-1/2: Control with switch S-800-DS-1/2.

a) When switch is "on" position, fan shall be activated.

b) When switch is "off" position, fan shall be deactivated.

c. Dampers:

1) 800-DF-1: Interlock with fan 800-IF-1, Louver 800-L-2 and damper 800-DL-2

a) Two-position actuated damper.

b) Operation: Spring open, power close.

c) When fan is activated, damper shall be in 100% open position. Damper need not be 100% open for fan to be activated.

d) When fan is deactivated, damper shall be in 100% closed position.

2) 800-DL-2: Interlock with fan 800-IF-1, Louver 800-L-1 and damper 800-DF-1

a) Two-position actuated damper.

b) Operation: Spring open, power close.

c) When fan is activated, damper shall be in 100% open position. Damper need not be 100% open for fan to be activated.

d) When fan is deactivated, damper shall be in 100% closed position.

d. Heaters:

1) 800-UH-1: Control with thermostat T-800-UH-1

2) 800-UH-2: Control with thermostat T-800-UH-2

e. Switches:

1) S-800-IF-1/2: Interlock control with fan 800-IF-1

a) Remote room On/Auto switch.

2) S-800-DS-1/2: Interlock control with fan 800-DS-1/2

a) Remote room switch by unit manufacturer.

Thermostats:

1) T-800-UH-1: Interlock control with heater 800-UH-1.

a) Remote room adjustable thermostat.

b) Analog, non-setback type. Type acceptable to manufacturer

c) Set points: minimum 55 degrees F; maximum 95 degrees F.

d) Range: 3 to 5 degrees F.

2) T-800-UH-2: Interlock with heater 800-UH-2

a) Remote room thermostat.

b) Analog, non-setback type. Type acceptable to manufacturer

c) Set points: minimum 55 degrees F; maximum 95 degrees F.

d) Range: 3 to 5 degrees F.

2. Office Areas
 - a. Fans:
 - 1) 800-EF-1: Control fan with fume hood. Interlock control with 800-F-3
 - a) When fume hood switch is ON position, fan shall be activated.
 - 1 800-ERU-1 shall supply makeup outdoor air when fan and fume hood are activated.
 - b) When fume hood switch is OFF position, fan shall be deactivated.
 - b. Furnaces/Compressor:
 - 1) 800-F-1 & 800-CU-1: Control with thermostat T-800-F-1 and integral controls.
 - a) System fan shall run continuously during all thermostat occupied and override periods
 - b) System fan shall operate intermittently during thermostat unoccupied periods to maintain set point temperature
 - 2) 800-F-2 & 800-CU-2: Control with thermostat T-800-F-2 and integral controls
 - a) System fan shall run continuously during all thermostat occupied and override periods
 - b) System fan shall operate intermittently during thermostat unoccupied periods to maintain set point temperature
 - 3) 800-F-3 & 800-CU-3: Control with thermostat T-800-F-3 and integral controls
 - a) System fan shall run continuously during all thermostat occupied and override periods
 - b) System fan shall operate intermittently during thermostat unoccupied periods to maintain set point temperature
 - c. Split System:
 - 1) 800-IU-1 & 800-OU-1: Control with thermostat T-800-IU-1 and integral controls.
 - a) System fan shall turn on when thermostat calls for cooling
 - b) System fan shall turn off when thermostat does not call for cooling
 - d. Energy Recovery Unit:
 - 1) 800-ERU-1: Control with integral controls and furnace thermostat occupancy and override settings and Fan 800-EF-1. Interlock with fan 800-EF-1 and furnaces 800-F-1, 800-F-2, and 800-F-3.
 - a) When thermostats are in unoccupied mode, system shall be deactivated (0 CFM).
 - b) When any thermostat is in occupied or override mode, system low speed (650 CFM) shall be activated.
 - c) When fume hood switch is in ON position, system high speed (1500 CFM) is activated.
 - d) System heater shall turn on when outdoor air is below system setpoint.
 - e. Heaters:
 - 1) 800-UH-3: Control with thermostat T-800-UH-3
 - 2) 800-UH-4: Control with thermostat T-800-UH-4
 - 3) 800-UH-5: Control with thermostat T-800-UH-5
 - 4) 800-RCP-1: Control with thermostat T-800-RCP-1
 - 5) 800-RCP-2: Control with thermostat T-800-RCP-2
 - 6) 800-EWH-1: Control with integral thermostat
 - 7) 800-EWH-2: Control with integral thermostat
 - 8) 800-EWH-3: Control with integral thermostat
 - 9) 800-EWH-4: Control with integral thermostat
 - 10) 800-EWH-5: Control with integral thermostat

Thermostats:

 - 1) T-800-UH-3: Interlock with heater 800-UH-3
 - a) Remote room thermostat.
 - b) Analog, non-setback type. Type acceptable to manufacturer

- c) Set points: minimum 55 degrees F; maximum 95 degrees F.
- d) Range: 3 to 5 degrees F.
- 2) T-800-UH-4: Interlock with heater 800-UH-4
 - a) Remote room thermostat.
 - b) Analog, non-setback type. Type acceptable to manufacturer
 - c) Set points: minimum 55 degrees F; maximum 95 degrees F.
 - d) Range: 3 to 5 degrees F.
- 3) T-800-UH-5: Interlock with heater 800-UH-5
 - a) Remote room thermostat.
 - b) Analog, non-setback type. Type acceptable to manufacturer
 - c) Set points: minimum 55 degrees F; maximum 95 degrees F.
 - d) Range: 3 to 5 degrees F.
- 4) T-800-RCP-1: Interlock with heater 800- RCP -1
 - a) Remote room thermostat.
 - b) Analog, non-setback type. Type acceptable to manufacturer
 - c) Set points: minimum 55 degrees F; maximum 95 degrees F.
 - d) Range: 3 to 5 degrees F.
- 5) T-800-RCP-2: Interlock with heater 800-RCP-2
 - a) Remote room thermostat.
 - b) Analog, non-setback type. Type acceptable to manufacturer
 - c) Set points: minimum 55 degrees F; maximum 95 degrees F.
 - d) Range: 3 to 5 degrees F.
- 6) T-800-F-1: Interlock with Furnace 800-F-1
 - a) Remote room thermostat.
 - b) Heating mode: Thermostat shall control furnace to maintain room temperature within set point range.
 - c) Cooling mode: Thermostat shall control condenser to maintain room temperature within set point range.
 - d) Programmable thermostat shall be capable of having separate set points for day (occupied) and night (unoccupied) for all seven days of the week. Shall also have timed night (unoccupied) override to activate day set point for a preprogrammed amount of time.
 - e) Automatic heating-cooling switch over with modulating or staged heating and cooling compatible with furnace and condensing unit.
- 7) T-800-F-2: Interlock with Furnace 800-F-2
 - a) Remote room thermostat.
 - b) Heating mode: Thermostat shall control furnace to maintain room temperature within set point range.
 - c) Cooling mode: Thermostat shall control condenser to maintain room temperature within set point range.
 - d) Programmable thermostat shall be capable of having separate set points for day (occupied) and night (unoccupied) for all seven days of the week. Shall also have timed night (unoccupied) override to activate day set point for a preprogrammed amount of time.
 - e) Automatic heating-cooling switch over with modulating or staged heating and cooling compatible with furnace and condensing unit.
- 8) T-800-F-3: Interlock with Furnace 800-F-3
 - a) Remote room thermostat.
 - b) Heating mode: Thermostat shall control furnace to maintain room temperature within set point range.
 - c) Cooling mode: Thermostat shall control condenser to maintain room temperature within set point range.

- d) Programmable thermostat shall be capable of having separate set points for day (occupied) and night (unoccupied) for all seven days of the week. Shall also have timed night (unoccupied) override to activate day set point for a preprogrammed amount of time.
- e) Automatic heating-cooling switch over with modulating or staged heating and cooling compatible with furnace and condensing unit.
- 9) T-800-IU-1: Interlock with split system 800-IU-1
 - a) Remote room thermostat.
 - b) Analog, non-setback type. Type acceptable to manufacturer
 - c) Set points: minimum 55 degrees F; maximum 95 degrees F.
 - d) Range: 3 to 5 degrees F.
- g. Dampers:
 - 1) 800-DL-3: Interlock with furnaces 800-F-1, 800-F-2, and 800-F-3.
 - a) Two-position actuated damper.
 - b) Operation: Spring open, power close.
 - c) When fan is activated, damper shall be in 100% open position. Damper need not be 100% open for fan to be activated.
 - d) When fan is deactivated, damper shall be in 100% closed position.
 - 2) 800-DL-4: Interlock with furnaces 800-F-1, 800-F-2, and 800-F-3.
 - a) Two-position actuated damper.
 - b) Operation: Spring open, power close.
 - c) When fan is activated, damper shall be in 100% open position. Damper need not be 100% open for fan to be activated.
 - d) When fan is deactivated, damper shall be in 100% closed position.
- a. ~~Written Description:~~
 - 1) ~~Ventilation: System operation shall be controlled by light switch and~~

3.29 SCHEDULE OF MECHANICAL IDENTIFICATION

- A. Identification shall be mounted on equipment or on wall directly above controls, unless noted otherwise.
- B. Identification shall match unit tags as called out on drawings and drawing schedules.
- C. Main Lift Station – Structure 10:
 - 1. Heaters:
 - a. 100-CH-1: "100-CH-1"
 - b. 100-CH-2: "100-CH-2"
 - c. 100-CH-3: "100-CH-3"
 - d. 100-CH-4: "100-CH-4"
 - e. 100-CH-5: "100-CH-5"
 - f. 100-CH-6: "100-CH-6"
 - g. 100-CH-7: "100-CH-7"
 - h. 100-CH-: "100-CH-8"
 - 2. Make-Up Air Units:
 - a. 100-AHU-1: "100-AHU-1"
 - b. 100-AHU-2: "100-AHU-2"
 - c. 100-AHU-3: "100-AHU-3"
 - d. 100-AHU-4: "100-AHU-4"
 - 3. Air Conditioners:
 - a. 100-IU-1: "100-IU-1" on interior and exterior units
 - 4. Fans:
 - a. 100-EF-1: "100-EF-1"
 - b. 100-EF-2: "100-EF-2"
 - c. 100-EF-3: "100-EF-3"
 - d. 100-EF-4: "100-EF-4"

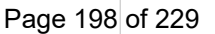
- e. 100-EF-5: "100-EF-5"
- f. 100-EF-6: "100-EF-6"
- g. 100-EF-7: "100-EF-7"
- h. 100-EF-8: "100-EF-8"
- 5. Dampers:
 - a. 100-DL-1: "100-DL-1" on actuator box
 - b. 100-DL-2: "100-DL-2" on actuator box
 - c. 100-DL-3: "100-DL-3" on actuator box
 - d. 100-DF-1: "100-DF-1" on actuator box
 - e. 100-DF-2: "100-DF-2" on actuator box
 - f. 100-DF-3: "100-DF-3" on actuator box
 - g. 100-DF-4: "100-DF-4" on actuator box
 - h. 100-DF-5: "100-DF-5" on actuator box
 - i. 100-DF-6: "100-DF-6" on actuator box
 - j. 100-DF-7: "100-DF-7" on actuator box
 - k. 100-DF-8: "100-DF-8" on actuator box
 - l. 100-DL-1: "100-DL-1" on actuator box
 - m. 100-DL-2: "100-DL-2" on actuator box
 - n. 100-DL-3: "100-DL-3" on actuator box
 - o. 100-DM-1: "100-DM-1" on actuator box
 - p. 100-DM-2: "100-DM-2" on actuator box
 - q. 100-DM-3: "100-DM-3" on actuator box
 - r. 100-DM-4: "100-DM-4" on actuator box
- 6. Thermostats:
 - a. T-100-CH-1: "Unit Heater 100-CH-1"
 - b. T-100-CH-2: "Unit Heater 100-CH-2"
 - c. T-100-CH-3: "Unit Heater 100-CH-3"
 - d. T-100-CH-4: "Unit Heater 100-CH-4"
 - e. T-100-CH-5: "Unit Heater 100-CH-5"
 - f. T-100-CH-6: "Unit Heater 100-CH-6"
 - g. T-100-CH-7: "Unit Heater 100-CH-7"
 - h. T-100-CH-8: "Unit Heater 100-CH-8"
 - i. T-100-AHU-1: "Makeup Air Unit 100-AHU-1"
 - j. T-100-AHU-2: "Makeup Air Unit 100-AHU-2"
 - k. T-100-AHU-3: "Makeup Air Unit 100-AHU-3"
 - l. T-100-AHU-4: "Makeup Air Unit 100-AHU-4"
 - m. T-100-IU-1: "Split System Unit 100-IU-1"
- 7. Switches:
 - a. S-100-AHU-3: None
 - b. S-100-EF-5: None
 - c. S-100-EF-6: None
 - d. S-100-EF-7: None
 - e. S-100-EF-8: None
- D. Chemical Building – Structure 500:
 - 1. Heaters:
 - a. 500-UH-1: "500-UH-1"
 - 2. Dampers:
 - a. 500-DF-1: "500-DF-1"
 - b. 500-DL-1: "500-DL-1"
 - 3. Thermostats:
 - a. T-800-UH-1: "Unit Heater 800-UH-1"
- E. Sludge Pump Building – Structure 650
 - 1. Fans:
 - a. 500-IF-1: "500-IF-1"
 - b. 800-IF-2: "800-IF-2"

2. Air Conditioners:
 - a. 100-IU-1: "100-IU-1" on interior and exterior units
3. Heaters:
 - a. 800-UH-1: "800-UH-1"
 - b. 800-UH-2: "800-UH-2"
4. Dampers:
 - a. 650-DL-1: "650-DL-1"
 - b. 650-DL-2: "650-DL-2"
5. Thermostats:
 - a. T-650-UH-1: "Unit Heater 650-UH-1"
 - b. T-650-UH-2: "Unit Heater 650-UH-2"
 - c. T-650-IU-1: "Unit Heater 650-IU-1"
6. Switches:
 - a. S-650-IF-2: None

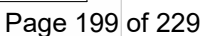
E. Administration Building – Structure 800:

1. Furnace/AC:
 - a. 800-F-1: "800-F-1"
 - b. 800-CU-1: "800-CU-1"
 - c. 800-F-2: "800-F-2"
 - d. 800-CU-2: "800-CU-2"
 - e. 800-F-3: "800-F-3"
 - f. 800-CU-3: "800-CU-3"
2. Fans:
 - a. 800-EF-1: "800-EF-1"
 - b. 800-IF-1: "800-IF-1"
 - c. 800-DS-1: "800-DS-1"
 - d. 800-DS-2: "800-DS-2"
3. Heaters:
 - a. 800-UH-1: "800-UH-1"
 - b. 800-UH-2: "800-UH-2"
 - c. 800-UH-3: "800-UH-3"
 - d. 800-UH-4: "800-UH-4"
 - e. 800-UH-5: "800-UH-5"
 - 800-RCP-1: "800-RCP-1"
 - 800-RCP-2: "800-RCP-2"
 - e.h.
4. Dampers:
 - a. 800-DF-1: "800-DF-1"
 - b. 800-DL-2: "800-DL-2"
 - c. 800-DL-3: "800-DL-3"
 - d. 800-DL-4: "800-DL-4"
5. Thermostats:
 - a. T-800-UH-1: "Unit Heater 800-UH-1"
 - b. T-800-UH-2: "Unit Heater 800-UH-2"
 - c. T-800-UH-3: "Unit Heater 800-UH-3"
 - d. T-800-UH-4: "Unit Heater 800-UH-4"
 - e. T-800-UH-5: "Unit Heater 800-UH-5"
 - f. T-800-F-1: "Furnace 800-F-1"
 - g. T-800-F-2: "Furnace 800-F-2"
 - h. T-800-F-3: "Furnace 800-F-3"
 - i. T-800-RCP-1: "Heater 800-RCP-1"
 - j. T-800-RCP-2: "Heater 800-RCP-2"
6. Switches:
 - a. S-800-IF-1: None
 - S-800-DS-1/2: None

	NO. 100 TUBING UNIT HIGH ON EXTERIOR WALL. ROUTE PIPE TO INDOOR UNIT. RUN REFRIGERANT/POWER LINE AT THROUGH WALL. MAKE INSIDE AND OUTSIDE INSTALL PER REFRIG/POWER LINE KIT WHERE EXPOSED INSIDE AND OUTSIDE BUILDING IN FABRICATED LINET KIT COVER. ROUTE CONDENSATE TO TERMINATE AT THE EXTERIOR OF THE BUILDING.	17
27	DRYER VENT, PROVIDE VENT DUCTWORK WITH SLOPE/LESS CONSTRUCTION. INTERIOR CLEANOUT FOR LINET REMOVAL FROM VERTICAL DUCT. BACKRAFT DAMPER, AND EXTERIOR VENT CAP AT APPROXIMATELY 30" AFF. COORDINATE EXACT PENETRATION LOCATION WITH OWNER PROVIDED DRYER REQUIREMENTS.	



SHEET KEYNOTES	
4	EXISTING PROP. FAN WALL OPENING. COORDINATE SEALING OF WALL OPENING WITH ARCHITECTURAL.
22	HEATING CONTRACTOR SHALL FURNISH AND INSTALL NEW NATURAL GAS PIPING CONNECTION TO EQUIPMENT. MAKE FINAL CONNECTION PER MANUFACTURER REQUIREMENTS AND DETAILS.
23	FURNISH AND INSTALL FLEU VENT AND COMBUSTION AIR IN TAKE PIPING THROUGH ROOF. EXISTING ROOF PENETRATION WITH CONCENTRIC VENT PER SELECTED BOILER MANUFACTURERS RECOMMENDATIONS.



SHEET KEYNOTES

26. CONDUIT CONTROL PANEL, SEE SPECIFICATIONS, PROVIDE SENSORS THROUGHOUT GARAGE, 100-106 AND STORAGE, 100-201 PER MANUFACTURER'S REQUIREMENTS.
27. DUCT UP THROUGH FLOOR TO ROOF ABOVE, TRANSITION TO EXISTING FLOOR OPENING SIZE UP THROUGH FLOOR AND TRANSITION BACK TO NEW DUCT SIZE, INTERIOR DUCTWORK SHALL BE SEALESS CONSTRUCTION.
28. DAMPER AND EXTERIOR VENT CAP, 21" APPROXIMATELY 36" AFF, COORDINATE WITH OWNER PROVIDED DRYER REQUIREMENTS.
29. HEATING CONTRACTOR SHALL FURNISH PLUMBING TO SEAL EXISTING FLOOR OPENING AND NEW DUCTWORK.
34. PROVIDE NEW CONNECTION FROM NEW ROOF MOUNTED EQUIPMENT TO EXISTING DUCTWORK.

HEADWORKS AREA

GARAGE AREA

MATCH LINE

MATCH LINE

GARAGE AREA

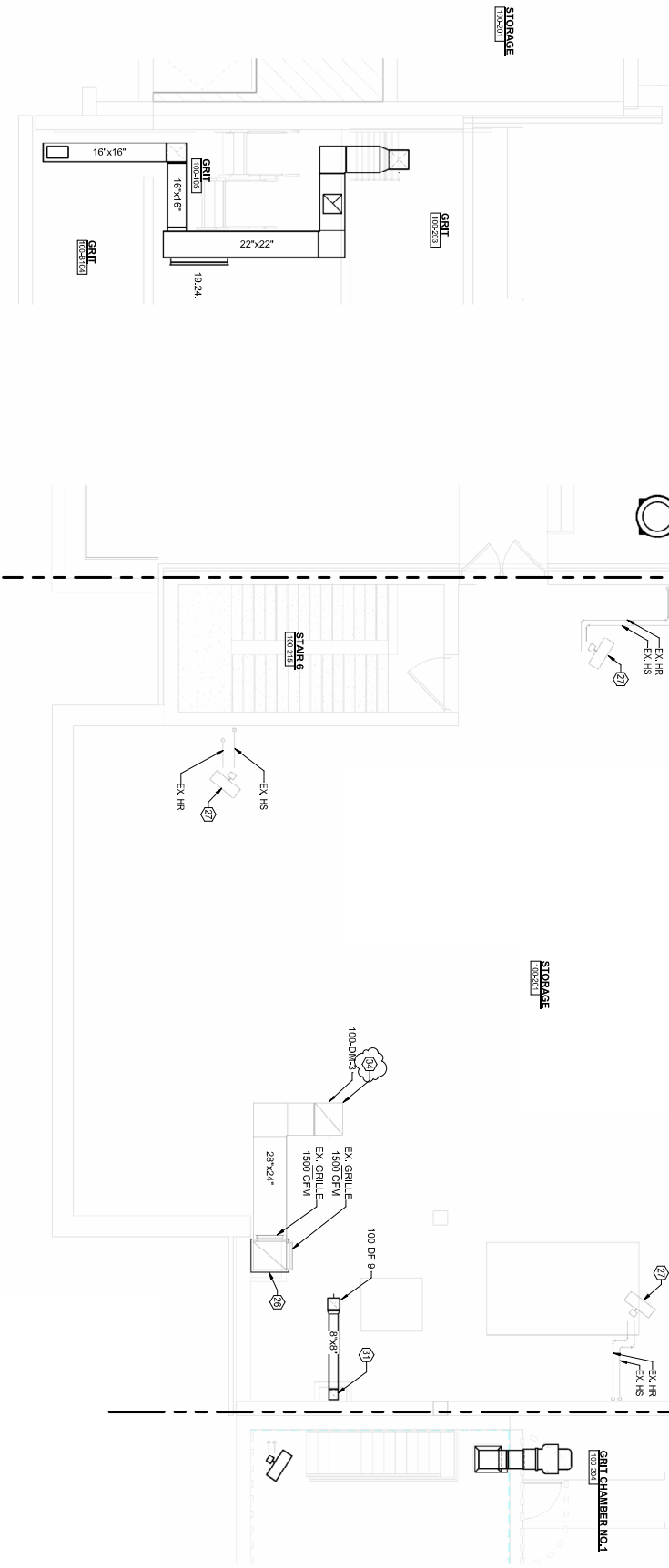
PROCESS AREA

STORAGE
100-201

STORAGE
100-201

GRIT CHAMBER NO.1
100-201

GRIT CHAMBER NO.2
100-201



GRIT EXHAUST DUCTWORK ROUTE

100-107 1/4" = 1'-0" (22'x34') 0 2 4 8
1/8" = 1'-0" (11'x17')

PROJECT DATE	3/11/2024	DRAWN BY	R.S.	1	10/10/2024	REVISIONS	BY	DATE
DESIGNED BY	J.M.	4	1/10/2024				R.S.	
CHECKED BY	J.M.	4	1/10/2024				R.S.	
DATE	3/11/2024							



GARAGE AREA - SECOND FLOOR (EL 916.00) PLAN

100-107 1/4" = 1'-0" (22'x34') 0 2 4 8
1/8" = 1'-0" (11'x17')

WASTEWATER TREATMENT FACILITY UPGRADE
CITY OF MAYVILLE
DOUGLASS COUNTY, WI

SERVICE BUILDING
GARAGE AREA - SECOND FLOOR PLAN

KEY PLAN

PROJECT NO.	00052025
SHEET	100H-107

SHEET KEYNOTES

5	CONNECT MAKEUP AIR UNIT INTO EXISTING DUCTWORK BELOW ROOF. MODIFY ROOF CURB TO ALLOW FOR DUCT TRANSITION ABOVE ROOF AS REQUIRED.
6	PROVIDE EXHAUST FAN PAD CURB ABOVE EXISTING DUCT OPENING. ROUTE EXHAUST THROUGH ROOF AS SHOWN.
29	CONDENSING UNIT HVAC CONTRACTOR TO PROVIDE MANUFACTURED EQUIPMENT PAD ON TOP OF ADDITIONAL ROOF MEMBRANE.
30	GC TO CORE DRILL HOLE THROUGH PRECAST ROOF PLANK FOR REFRIGERANT LINE ROOF PENETRATION, AND PROVIDE 8" DIA. CPVC PIPE w/ GOOSENECK FOR REFRIGERANT LINE. SEAL AROUND HVAC CONTRACTOR TO RUN PIPES THROUGH LINE AND SEAL OPEN END OF PIPE W/MENTIONED IT.

PROJECT DATE: 10/12/2024

DRAWN BY: RAS

CHECKED BY: JAC

DATE: 11/19/2024

BY: RAS

DATE: 11/19/2024

REVISIONS

NO. 1

DATE: 11/19/2024

DESCRIPTION: FIELD CORRECT



ENGINEERING ARCHITECTURE & CONSULTING

7170 PARKWAY ST. JACOBSON WISCONSIN 53021

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HEADWORKS AREA - ROOF (E.L. 912.67) PLAN

1"=1'-0" (11" X 17")

1

2

3

4

5

6

7

8

WASTEWATER TREATMENT FACILITY UPGRADE

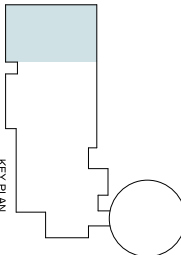
CITY OF MAYVILLE

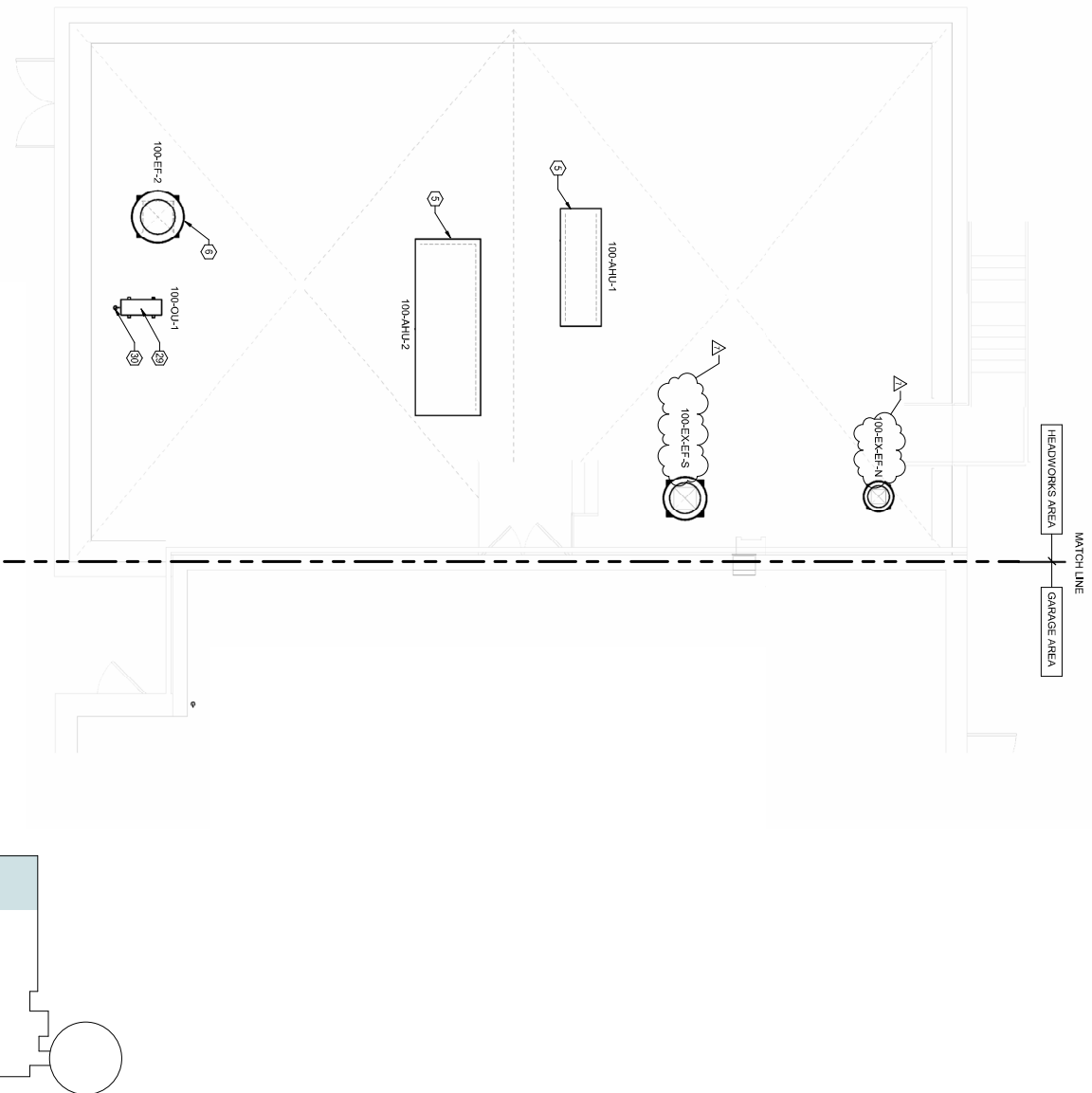
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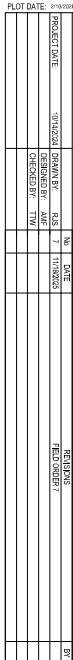
PROJECT NO. 00052025

SHEET 100H109

KEY PLAN







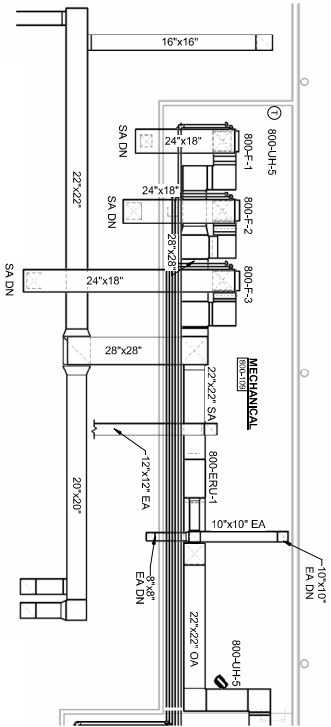
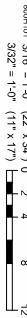
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WASTEWATER TREATMENT FACILITY UPGRADE
CITY OF MAYVILLE
DODGE COUNTY, WI

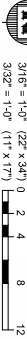
**SERVICE BUILDING
GARAGE AREA - ROOF PLAN**

PROJECT NO.	00052025
SHEET	100H110

1 800 HVAC FIRST FLOOR PLAN - UNDER PLATFORM



800 HVAC PLATFORM

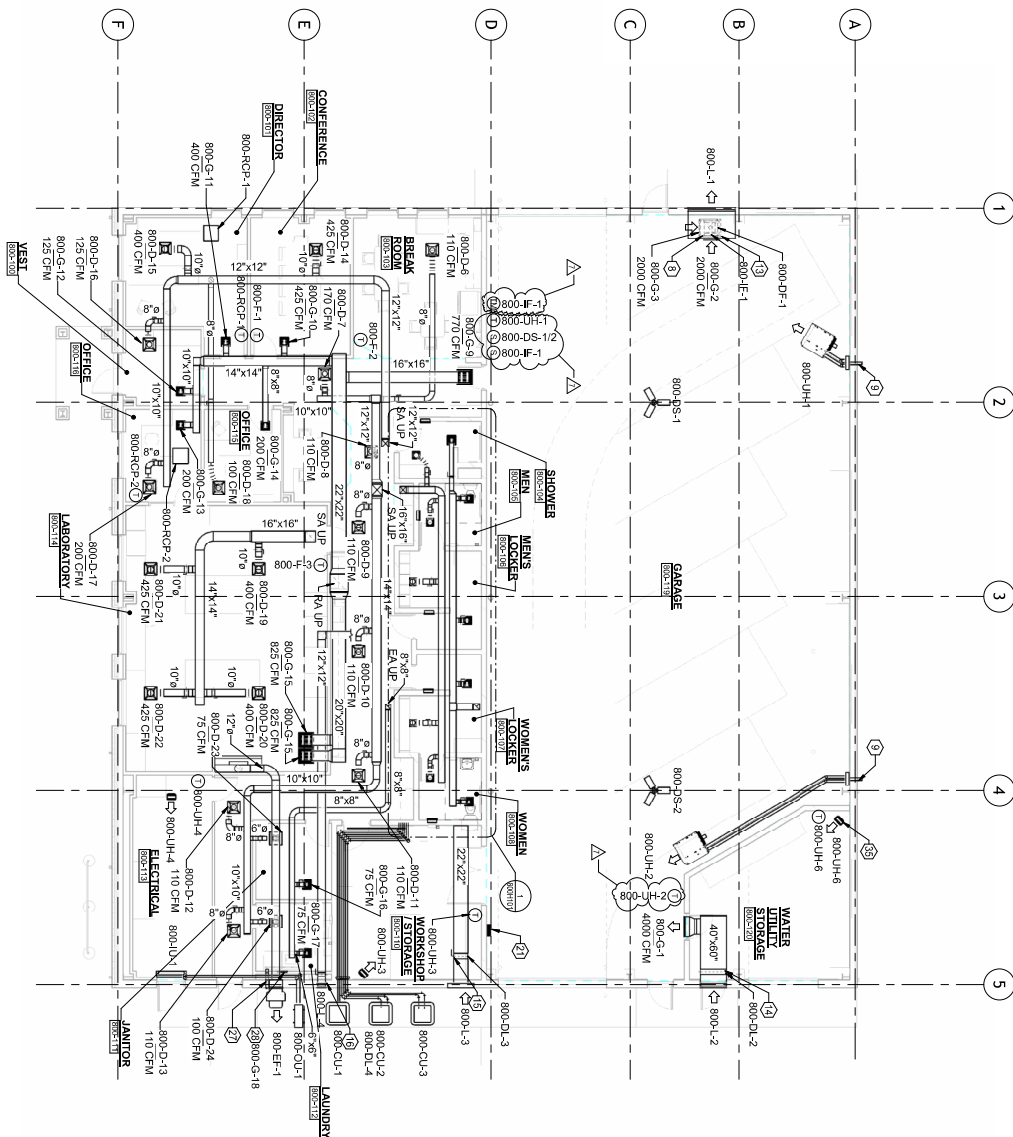



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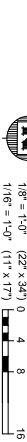
WASTEWATER TREATMENT FACILITY
CITY OF MAYVILLE
DODGE COUNTY, WISCONSIN

ADMINISTRATION BUILDING HVAC PLANS

PROJECT NO.	00052025
SHEET	800H101



800 HVAC FIRST FLOOR PLAN



1. SEE PROJECT MANUAL (PMA) SPECIFICATION FOR SEQUENCE OF OPERATION.
2. MAINTAIN MANUFACTURER REQUIRED CLEARANCES PER MANUFACTURERS INSTALLATION INSTRUCTIONS.
3. FURNISH DISCONNECT - INST. BY MANUFACTURER
4. PROVIDE CONDENSATE DRAINAGE TO THE OUTSIDE
5. KVAH COATING, COLOR TO BE SELECTED BY ARCHITECT
6. MAINTAIN MINIMUM 2" HIGH MOUNTING CLEARANCE RESISTANT CONSTRUCTION
7. UNIT MANUFACTURERS SPK. TAIL INSUL. AROUND FLUISING BY ROOFING CONTRACTOR
8. INSTALL IN EXISTING OPENING, CONTRACTOR TO FIELD VERIFY OPENING SIZE AND ADJUST SCHEDULED LOUVER SIZE TO FIT WITHIN EXISTING OPENING WITHOUT MODIFICATIONS
9. PROVIDE CONDENSATE - SEE DIVISION 35
10. SLOPE DOWN CONNECTION - SEE DIVISION 35
11. PROVIDE CONDENSATE DRAINAGE TO THE OUTSIDE SCHEDULED COOLING AIR ON RATE
12. BALANCE DUCTWORK, GRILLES, AND DIFFUSERS W/ EXHAUST FAN RUNNING AND BALANCE OUTSIDE AIR / EXHAUST FAN RUNNING
13. SLOPE CONNECTION - SEE DIVISION 35
14. MEDIA FILTER CABINET - INSTALL AT N2 RETURN CONNECTION, EXTEND MIN 2' BEYOND EQUIPMENT
15. INDORC AIR FLOW COOLING COIL, APPROPRIATELY SIZED FOR CONDENSING UNIT AND PROVIDE CONDENSATE NEUTRALIZATION KIT
16. BOLLER START UP PROCEDURES SHALL BE COMPLETED BY MANUFACTURER APPROVED TECHNICAL, CONTRACTOR SHALL VERIFY MINIMUM RECOMMENDED CLEARANCE REQUIREMENTS
17. PROVIDE CONDENSATE DRAINAGE TO THE OUTSIDE
18. PROVIDE CONDENSATE DRAINAGE TO THE OUTSIDE
19. PROVIDE CONDENSATE DRAINAGE TO THE OUTSIDE
20. DAMPER TO BE INSTALLED IN DUCT TYPE, SIZE LISTED IS OUTSIDE OF DAMPER SIZE.
21. ALUMINUM GRID SCREEN
22. PROVIDE CONDENSATE DRAINAGE TO THE OUTSIDE
23. ASSEMBLY, WHETHER SHOWN ON PLANS OR NOT
24. CORROSION RESISTANT COATING BY MANUFACTURER (HARD POLYESTER, PERMATECTON OR HERSHEL)
25. MANUFACTURERS PERFORMANCE BAFFLE
26. PROVIDE CONDENSATE DRAINAGE TO THE OUTSIDE
27. EXTENDED SIL, WITH END DAMS, SAME CONSTRUCTION AND FINISH AS LOUVER
28. FURNISH ALUMINUM PENINSULATED BOX
29. BOTTOM OF EXHAUST PAN TO BE 1/2" AFF.
30. BOTTOM OF LOUVER TO BE 1/2" AFF.
31. INTERLOCK 800-D-2, 800-D-3.5 AND 800-E-RFL-1 WITH 800-EF-1, WHEN FLAME HOOD EXHAUST IS TURNED ON OUTDOOR AIR THROUGH DAMPER AND ENERGY RECOVER UNIT SHALL INCREASE FROM 650 CFM TO 1500 CFM

ENERGY RECOVERY UNITS																								
UNIT NO.	SERVICE	FURNACE	SUPPLY SIDE						EXHAUST SIDE						DESIGN DIMENSIONS									
			WINTER			SUMMER			WINTER			SUMMER			WIDTH	LENGTH	HEIGHT	MANUF. MODEL	MCFL	MOOFL	VOLTAGE	PHASE		
			E.T. S.P. IN IN.	D.B. W.B.	E.A.T. L.A.T.	E.T. S.P. IN IN.	D.B. W.B.	E.A.T. L.A.T.	E.T. S.P. IN IN.	D.B. W.B.	E.A.T. L.A.T.	E.T. S.P. IN IN.	D.B. W.B.	E.A.T. L.A.T.										
800-200-1	CAL AIR	1-300	44°	14°	32° F	25°	88° F	75°	83°	71°	650	0.5	88° F	73°	5°	5°	65'-0"	84'-0"	31'-0"	29 A	30	480 V	3	12.4/33.
														C20H14P										

UNIT	SERVICE	CFM OF STD. AIR	CFM OF O.A.	MCA	EXT. S.P. IN IN.	GAS IN IN.	GAS PRESS. IN PSIG	GAS INPUT BTU	GAS OUTPUT BTU	SUPPORT POINT	MANUF. MODEL	VOLTAGE	PHASE	Comments
800-1	OFFICES	1125 CFM	350 CFM	8.8	0.10 in-Hg	GAS	NAT.	2,200 PSF	776600 BTU	CONC. PAD	DANFEN 09797NC	120 V	1	1,2,4,11,13,14
800-2	RECEPTION	1450 CFM	230 CFM	8.8	0.10 in-Hg	GAS	NAT.	2,200 PSF	776600 BTU	CONC. PAD	DANFEN 09797NC	120 V	1	1,2,4,11,13,14
800-3	LAB	1250 CFM	850 CFM	15.4	0.10 in-Hg	GAS	NAT.	2,200 PSF	1000000 BTU	CONC. PAD	DANFEN 09797NC	120 V	1	1,2,4,11,13,14

IN-LINE EXHAUST FANS									
UNIT NO.	SERVICE	CFM OF EXH. FAN	DRIVE	FAN DIA.	VIBRATION ISOLATORS TYPE MIN. STATIC DEFLECT.	MANUF. MODEL	Voltage	PHASE	Comments
630-1	PUMP ROOM	720 CFM @ 0.5" In-Hg	DIRECT	14" DIA	T	GREENHECK SQ-2414G	120V	1	1.2,3,4,10,26,32,71
630-2	PUMP ROOM	3500 CFM @ 0.5" In-Hg	DIRECT	14" DIA	T	GREENHECK SQ-1616G	480V	3	1.2,4,4.5,5,36,71
630-3	PUMP ROOM	4000 CFM @ 0.5" In-Hg	DIRECT	14" DIA	T	GREENHECK SQ-1616G	480V	3	1.2,4,4.5,5,36,71

1. SEE PRODUCT MANUAL (HVC SPECIFICATION FOR SEQUENCE OF OPERATION).
2. MAINTAIN MANUFACTURER SPECIFIED CLEARANCES PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
3. MOUNTING BRACKET BY UNIT MANUFACTURER.
4. FIELD ELECTRICAL CONNECTIONS BY FIELD ELECTRICAL.
5. MOUNT EXTERIOR UNIT TO MAINTAIN CLEARANCES REQUIRED BY MANUFACTURER.
6. PROVIDE EXTERIOR COLOUT TO BE SELECTED BY ARCHITECT.
7. PROVIDE MANUFACTURER'S OPTIONAL (IS) CORROSION RESISTANT CONSTRUCTION.
8. PROVIDE EXTERIOR COLOUT TO BE SELECTED BY ARCHITECT.
9. INSTAL AIR KINGS OPENING CAPTAIN TO FIELD AIRPANE OPENING SIZE AND ADJUST SCHEDULED LOUVER SIZE TO FIT WITH EXISTING OPENING WITHOUT MODIFICATIONS.
10. SCADA CONNECTION - SEE DIVISION 26.
11. SET FURNACE AIRFLOW SWITCHES TO OBTAIN SCHEDULED AIRFLOW RATE.
12. SCADA CONNECTION - SEE DIVISION 26.
13. OUTSIDE AIR EXHAUST FAN RUNNING.
14. MEDIA FILTER CABINET - INSTAL AT UNIT RETURN CONNECTION.
15. SET UNIT ON MINIMUM 2 HIGH MANUFACTURED EQUIPMENT TPAO - EXTEND MIN 2 BEYOND UNIT.
16. INDOOR INDUCT COOLING COIL APPROPRIATELY SIZED FOR CONDENSING UNIT AND FURNACE.
17. PROVIDE CONDENSATE NEUTRALIZATION KIT.
18. PROVIDE TIGHTENED PROPERLY SIZED EXHAUST FAN RUNNING.
19. TECHNICAL CONTRACTOR SHALL VERIFY MINIMUM RECOMMENDED CLEARANCE REQUIREMENTS.
20. CLASS 1 DIVISION 1, AP RATED CORROSION RESISTANT CONSTRUCTION.
21. DAMPER TO BE INSTALLED IN DUCT TYPE, SIZE LISTED IS OUTSIDE OF DAMPER SIZE.
22. ALUMINUM BRUSH SCREEN.
23. ALLOW MIN INSECT SCREEN.
24. PROVIDE LOCKING MANUAL BALANCING DAMPER IN BRANCH DUCT (NOT AS PART OF GRILLE OR HESSELET).
25. CORROSION RESISTANT COATING BY MANUFACTURER (HIPRO POLYESTER, PERMACTOR OR HERESELET).
26. MANUFACTURER'S PERFORMANCE DATA.
27. PROVIDE UNIT FACTURES (HANGING, VIBRATION ISOLATORS).
28. FURNISH ALUMINUM REFINISHED CURB.
29. BOTTOM OF EXHAUST FAN TO BE 15'-0" AFF.
30. BOTTOM OF LOUVER TO BE 12'-0" AFF.
31. INTERLOCK 800F-1, 800F-3 AND 800-FEMU-1 WITH 800-F-1, WHEN FUME HOOD EXHAUSTS TURNED ON OUTDOOR AIR THROUGH DAMPER AND ENERGY RECOVER UNIT SHALL INCREASE FROM 650 CFM TO 1500 CFM.

RADIANT CEILING PANELS									
UNIT NO.	SERVICE	CABINET SIZE D	CABINET SIZE H	CABINET SIZE L	CAB. BTU	CAP. WATTS	VOLTAGE	PHASE	MANUF. MODEL
800-CH-1	OFFICES	0'-1"	2'-0"	2'-0"	855.0 BTU/H	250 W	120 V	1	QMARK CP
800-CH-2	OFFICES	0'-1"	2'-0"	2'-0"	855.0 BTU/H	250 W	120 V	1	QMARK CP

ROOM AIR CONDITIONING UNITS - INDOOR/OUTDOOR

GAS UNIT HEATERS

UNIT NO.	SERVICE	GAS INPUT BTU	GAS OUTPUT BTU	CFM OF AIR	MOTOR HP	DIFFUSER	ELEV. ABOVE FIN. FL.	MAINF. MODEL	VOLTAGE	PHASE	Comments
500-HH-1	CHEMICAL ROOM	300000 Btu/h	264000 Btu/h	456	0.02	HORIZ.	0' - 0"	RECTOR 102	120 V	1	1,2,3,4
650-HH-1	PAPER ROOM	300000 Btu/h	264000 Btu/h	456	0.02	HORIZ.	0' - 0"	RECTOR 102	120 V	1	1,2,3,4
800-HH-1	RECTOR ROOM	225000 Btu/h	189500 Btu/h	2,882	0.25	HORIZ.	0' - 0"	RECTOR 102	120 V	1	1,2,3,4
800-HH-2	GARAGE	225000 Btu/h	189500 Btu/h	2,882	0.25	HORIZ.	0' - 0"	RECTOR 102	120 V	1	1,2,3,4

ELECTRIC UNIT HEATERS

ELECTRIC UNIT HEATERS													
UNIT NO.	SERVICE	TYPE	GAS MBH	CO2 BTU/HR	MOTOR SPEED	MOTOR SPEED	DIFFUSER	ELEV. ABOVE GRADE	MANUF. MODEL	CAP. KW	VOLTAGE	PHASE	Comments
600-1H-3	PLUMB ROOM	HORIZ.	10.2	350	0.01	1650	HORIZ.	0'-0"	QMARK NHH 3W	480 V	480 V	3	1,2,3,4,5
800-1H-3	WORKROOM	HORIZ.	10.2	350	0.01	1650	HORIZ.	0'-0"	QMARK NHH 3W	480 V	480 V	3	1,2,3,4,5
800-1H-4	ELECTRICAL ROOM	HORIZ.	10.2	350	0.01	1650	HORIZ.	0'-0"	QMARK NHH 3W	480 V	480 V	3	1,2,3,4,5
800-1H-5	MECHANICAL	HORIZ.	10.2	350	0.01	1650	HORIZ.	0'-0"	QMARK NHH 3W	480 V	480 V	3	1,2,3,4,5
800-1H-6	WORKROOM	HORIZ.	17	350	0.01	1650	HORIZ.	0'-0"	QMARK NHH 5W	208 V	208 V	3	1,2,3,4,5

WEATHERPROOF HOODS

WEATHERPROOF HOODS						
UNIT NO.	SERVICE	TYPE	CEN OF AIR	THROAT DIMENSIONS	MIN. HOOD FREE AREA AT THROAT	MIN. OPENING HEIGHT TO ROOF
650-WPH-1	PUMP ROOM	EVALUATE	CEN	2'-6"	2'-6"	200%
						3'-0"
					SUPPORT	MANIF.
					ROOF CURB	MODEL
						Comments
						GREENHECK - WPH-3000

WEATHERPROOF LOUVERS

WEATHERPROOF LOUVERS								
UNIT NO.	SERVICE	NON		NON		MAX FREE AREA VELOCITY (FPM)	MANUF. MODEL	Comments
		WIDTH (IN.)	HEIGHT (IN.)	CFM	CFM			
1000-1	SUPPLY AIR	36"	52"	4250	1000 FPM	GREENHECK ED401	1.6,2,3,28	
1000-2	SUPPLY AIR	48"	72"	8000	1000 FPM	GREENHECK ED401	1.6,2,3,28	
1000-3	SUPPLY AIR	48"	16"	2600	1000 FPM	GREENHECK ED401	1.6,2,3,28	
1000-4	SUPPLY AIR	32"	46"	90 CFM	1000 FPM	GREENHECK ED401	1.6,2,3,28	
5000-1	SUPPLY AIR	24"	16"	1400	1000 FPM	GREENHECK ED401	1.6,2,3,28	
6500-1	SUPPLY AIR	56"	48"	4250	1000 FPM	GREENHECK ED401	1.6,2,3,28	
8000-1	EXHAUST AIR	72"	46"	7000	1000 FPM	GREENHECK ED401	1.6,2,3,28	
8000-2	SUPPLY AIR	48"	60"	7000	1000 FPM	GREENHECK ED401	1.6,2,3,28	
8000-3	OUTDOOR	48"	24"	1500	1000 FPM	GREENHECK ED401	1.6,2,3,28,31	
8000-4	EXHAUST AIR	14"	14"	650	1000 FPM	GREENHECK ED401	1.6,2,28,32	

COR 026 - Response to Owner Request STR 800 Garage Striping Credit



PCI #COR0026

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935
Phone: 1 920 924.2900

Project: 240224 - Mayville WWTF 2024 Upgrade
400 Kekoskee Street
Mayville, WI 53050

Potential Change Item #COR0026

Str. 800 Garage Striping

To:	City Of Mayville 15 S School Street Mayville, WI 53050	From:	C.D. Smith Construction, Inc. 125 Camelot Drive Fond du Lac WI, 54935
Status:	Pricing-No Forecast	Created Date	2026-05-08
Schedule Impact:		OCO Number:	

POTENTIAL CHANGE ITEM SCOPE DESCRIPTION: *(The Contract Is Changed As Follows)*

Remove Str. 800 Garage Striping per Owner's Request

ATTACHMENTS:

Description	Cost Code	Category	Quantity	W/M	Rate	Final Amount
Garage Striping	037500	M		LS	\$	\$-700.00
Subcontractor Markup:						\$-35.00
Grand Total:						\$-735.00

City Of Mayville
15 S School Street
Mayville, WI 53050

SIGNATURE

C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac WI, 54935

5/14/26

Karley Krupp

Digitally signed by Karley Krupp
Date: 2026.05.08 11:44:02-0500

SIGNATURE

DATE

20



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Mayville Water/Wastewater Utilities 400 Kekoskee Street Mayville, WI 53050	Project: 2026 Lead and Copper Testing Project Number: 2026 WDNR Drinking Water Requirements Project Manager: Courtney Steger	Reported: 6/8/26 16:04	Work Order: CE05795
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Sample Results

Sample: LC33

CE05795-01 (DW) Sampled: 06/01/26 06:20

Borchardt 225 Grove

X

Analyte	Result	Qualifier	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Laboratory FID
Metals Analytes: 3											
Turbidity, screening - SDWA (200.8)	ND		0.50	0.50	1	NTU	6/4/26 7:08	6/4/26 13:21	SBB	EPA 180.1, Rev 2	2
Copper, Total	33		0.69	2.3	1300	ug/L	6/4/26 7:32	6/4/26 20:40	RAB	EPA 200.8, Rev 5.4	2
Lead, Total	(3.6-2020)	J	0.36	1.2	15	ug/L	6/4/26 7:32	6/4/26 20:40	RAB	EPA 200.8, Rev 5.4	2

Sample: LC51

CE05795-02 (DW) Sampled: 06/01/26 08:10

Hurst 260 N German

Analyte	Result	Qualifier	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Laboratory FID
Metals Analytes: 3											
Turbidity, screening - SDWA (200.8)	ND		0.50	0.50	1	NTU	6/4/26 7:08	6/4/26 13:21	SBB	EPA 180.1, Rev 2	2
Copper, Total	19		0.69	2.3	1300	ug/L	6/4/26 7:32	6/4/26 20:51	RAB	EPA 200.8, Rev 5.4	2
Lead, Total	ND		0.36	1.2	15	ug/L	6/4/26 7:32	6/4/26 20:51	RAB	EPA 200.8, Rev 5.4	2

Sample: LC2

CE05795-03 (DW) Sampled: 06/01/26 05:30

Kamrath 424 N Main

Analyte	Result	Qualifier	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Laboratory FID
Metals Analytes: 3											
Turbidity, screening - SDWA (200.8)	ND		0.50	0.50	1	NTU	6/4/26 7:08	6/4/26 13:21	SBB	EPA 180.1, Rev 2	2
Copper, Total	14		0.69	2.3	1300	ug/L	6/4/26 7:32	6/4/26 21:02	RAB	EPA 200.8, Rev 5.4	2
Lead, Total	(3.7-2020)		0.36	1.2	15	ug/L	6/4/26 7:32	6/4/26 21:02	RAB	EPA 200.8, Rev 5.4	2

Sample: LC47

CE05795-04 (DW) Sampled: 06/01/26 07:30

Decker 230 Highland

Analyte	Result	Qualifier	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Laboratory FID
Metals Analytes: 3											
Turbidity, screening - SDWA (200.8)	ND		0.50	0.50	1	NTU	6/4/26 7:08	6/4/26 13:21	SBB	EPA 180.1, Rev 2	2
Copper, Total	190		0.69	2.3	1300	ug/L	6/4/26 7:32	6/4/26 21:06	RAB	EPA 200.8, Rev 5.4	2
Lead, Total	1.5		0.36	1.2	15	ug/L	6/4/26 7:32	6/4/26 21:06	RAB	EPA 200.8, Rev 5.4	2

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Mayville Water/Wastewater Utilities 400 Kekoskee Street Mayville, WI 53050	Project: 2026 Lead and Copper Testing Project Number: 2026 WDNR Drinking Water Requirements Project Manager: Courtney Steger	Reported: 6/8/26 16:04	Work Order: CE05795
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Sample: LC45

CE05795-05 (DW) Sampled: 06/01/26 07:40

Rassman 1109 Keith

Analyte	Result	Qualifier	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Laboratory FID
Metals Analytes: 3											
Turbidity, screening - SDWA (200.8)	ND		0.50	0.50	1	NTU	6/4/26 7:08	6/4/26 13:21	SBB	EPA 180.1, Rev 2	2
Copper, Total	210		0.69	2.3	1300	ug/L	6/4/26 7:32	6/4/26 21:10	RAB	EPA 200.8, Rev 5.4	2
Lead, Total	4.8		0.36	1.2	15	ug/L	6/4/26 7:32	6/4/26 21:10	RAB	EPA 200.8, Rev 5.4	2

Sample: LC56

CE05795-06 (DW) Sampled: 06/01/26 01:45

Lodahl 428 Allen

Analyte	Result	Qualifier	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Laboratory FID
Metals Analytes: 3											
Turbidity, screening - SDWA (200.8)	ND		0.50	0.50	1	NTU	6/4/26 7:08	6/4/26 13:21	SBB	EPA 180.1, Rev 2	2
Copper, Total	70		0.69	2.3	1300	ug/L	6/4/26 7:32	6/4/26 21:14	RAB	EPA 200.8, Rev 5.4	2
Lead, Total	1.2		0.36	1.2	15	ug/L	6/4/26 7:32	6/4/26 21:14	RAB	EPA 200.8, Rev 5.4	2

Sample: LC65

CE05795-07 (DW) Sampled: 06/01/26 03:57

Brandenburg 914 Bridge

Analyte	Result	Qualifier	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Laboratory FID
Metals Analytes: 3											
Turbidity, screening - SDWA (200.8)	ND		0.50	0.50	1	NTU	6/4/26 7:08	6/4/26 13:21	SBB	EPA 180.1, Rev 2	2
Copper, Total	20		0.69	2.3	1300	ug/L	6/4/26 7:32	6/4/26 21:17	RAB	EPA 200.8, Rev 5.4	2
Lead, Total	ND		0.36	1.2	15	ug/L	6/4/26 7:32	6/4/26 21:17	RAB	EPA 200.8, Rev 5.4	2

Sample: LC12

CE05795-08 (DW) Sampled: 06/01/26 10:30

Helmbrecht 440 Janssen

Analyte	Result	Qualifier	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Laboratory FID
Metals Analytes: 3											
Turbidity, screening - SDWA (200.8)	ND		0.50	0.50	1	NTU	6/4/26 7:08	6/4/26 13:21	SBB	EPA 180.1, Rev 2	2
Copper, Total	320		0.69	2.3	1300	ug/L	6/4/26 7:32	6/4/26 21:21	RAB	EPA 200.8, Rev 5.4	2
Lead, Total	7.8		0.36	1.2	15	ug/L	6/4/26 7:32	6/4/26 21:21	RAB	EPA 200.8, Rev 5.4	2

(11, - 2020)

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Mayville Water/Wastewater Utilities 400 Kekoskee Street Mayville, WI 53050	Project: 2026 Lead and Copper Testing Project Number: 2026 WDNR Drinking Water Requirements Project Manager: Courtney Steger	Reported: 6/8/26 16:04	Work Order: CE05795
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Sample: LC49

CE05795-09 (DW) Sampled: 06/01/26 03:30

Remich

233 S High

Analyte	Result	Qualifier	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Laboratory FID
Metals Analytes: 3											
Turbidity, screening - SDWA (200.8)	ND		0.50	0.50	1	NTU	6/4/26 7:08	6/4/26 13:21	SBB	EPA 180.1, Rev 2	2
Copper, Total	130		0.69	2.3	1300	ug/L	6/4/26 7:32	6/4/26 21:25	RAB	EPA 200.8, Rev 5.4	2
Lead, Total	2.3		0.36	1.2	15	ug/L	6/4/26 7:32	6/4/26 21:25	RAB	EPA 200.8, Rev 5.4	2

Sample: LC29

CE05795-10 (DW) Sampled: 06/01/26 17:30

Mueller

103 S John

Analyte	Result	Qualifier	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Laboratory FID
Metals Analytes: 3											
Turbidity, screening - SDWA (200.8)	ND		0.50	0.50	1	NTU	6/4/26 7:08	6/4/26 13:21	SBB	EPA 180.1, Rev 2	2
Copper, Total	490		0.69	2.3	1300	ug/L	6/4/26 7:32	6/4/26 21:28	RAB	EPA 200.8, Rev 5.4	2
Lead, Total	10		0.36	1.2	15	ug/L	6/4/26 7:32	6/4/26 21:28	RAB	EPA 200.8, Rev 5.4	2

(120, - 2020)

Sample: LC67

CE05795-11 (DW) Sampled: 06/01/26 07:10

Rasbing

75 Shore

Analyte	Result	Qualifier	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Laboratory FID
Metals Analytes: 3											
Turbidity, screening - SDWA (200.8)	ND		0.50	0.50	1	NTU	6/4/26 7:08	6/4/26 13:21	SBB	EPA 180.1, Rev 2	2
Copper, Total	110		0.69	2.3	1300	ug/L	6/4/26 7:32	6/4/26 21:32	RAB	EPA 200.8, Rev 5.4	2
Lead, Total	3.9		0.36	1.2	15	ug/L	6/4/26 7:32	6/4/26 21:32	RAB	EPA 200.8, Rev 5.4	2

Sample: LC32

CE05795-12 (DW) Sampled: 06/01/26 04:00

Walten dahl

217 S John

Analyte	Result	Qualifier	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Laboratory FID
Metals Analytes: 3											
Turbidity, screening - SDWA (200.8)	ND		0.50	0.50	1	NTU	6/4/26 7:08	6/4/26 13:21	SBB	EPA 180.1, Rev 2	2
Copper, Total	76		0.69	2.3	1300	ug/L	6/4/26 7:32	6/4/26 21:43	RAB	EPA 200.8, Rev 5.4	2
Lead, Total	0.76	J	0.36	1.2	15	ug/L	6/4/26 7:32	6/4/26 21:43	RAB	EPA 200.8, Rev 5.4	2

(13, - 2020)

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Mayville Water/Wastewater Utilities 400 Kekoskee Street Mayville, WI 53050			Project: 2026 Lead and Copper Testing Project Number: 2026 WDNR Drinking Water Requirements Project Manager: Courtney Steger				Reported: 6/8/26 16:04		Work Order: CE05795			
Sample: D4 CE05795-13 (DW) Sampled: 06/01/26 04:45												X
Analyte	Result	Qualifier	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Laboratory FID	
Metals Analytes: 3												
Turbidity, screening - SDWA (200.8)	ND		0.50	0.50	1	NTU	6/4/26 7:08	6/4/26 13:21	SBB	EPA 180.1, Rev 2	2	
Copper, Total	84		0.69	2.3	1300	ug/L	6/4/26 7:32	6/4/26 21:54	RAB	EPA 200.8, Rev 5.4	2	
Lead, Total	ND		0.36	1.2	15	ug/L	6/4/26 7:32	6/4/26 21:54	RAB	EPA 200.8, Rev 5.4	2	
Sample: LC31 CE05795-14 (DW) Sampled: 06/01/26 06:10												X
Analyte	Result	Qualifier	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Laboratory FID	
Metals Analytes: 3												
Turbidity, screening - SDWA (200.8)	ND		0.50	0.50	1	NTU	6/4/26 7:08	6/4/26 13:21	SBB	EPA 180.1, Rev 2	2	
Copper, Total	66		0.69	2.3	1300	ug/L	6/4/26 7:32	6/4/26 21:58	RAB	EPA 200.8, Rev 5.4	2	
Lead, Total	1.0	J	0.36	1.2	15	ug/L	6/4/26 7:32	6/4/26 21:58	RAB	EPA 200.8, Rev 5.4	2	
Sample: LC9 CE05795-15 (DW) Sampled: 06/01/26 07:30												X
Analyte	Result	Qualifier	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Laboratory FID	
Metals Analytes: 3												
Turbidity, screening - SDWA (200.8)	ND		0.50	0.50	1	NTU	6/4/26 7:08	6/4/26 13:21	SBB	EPA 180.1, Rev 2	2	
Copper, Total	230		0.69	2.3	1300	ug/L	6/4/26 7:32	6/4/26 22:02	RAB	EPA 200.8, Rev 5.4	2	
Lead, Total	0.85	J	0.36	1.2	15	ug/L	6/4/26 7:32	6/4/26 22:02	RAB	EPA 200.8, Rev 5.4	2	
Sample: LC55 CE05795-16 (DW) Sampled: 06/01/26 07:30												X
Analyte	Result	Qualifier	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Laboratory FID	
Metals Analytes: 3												
Turbidity, screening - SDWA (200.8)	ND		0.50	0.50	1	NTU	6/4/26 7:08	6/4/26 13:21	SBB	EPA 180.1, Rev 2	2	
Copper, Total	81		0.69	2.3	1300	ug/L	6/4/26 7:32	6/4/26 22:06	RAB	EPA 200.8, Rev 5.4	2	
Lead, Total	0.59	J	0.36	1.2	15	ug/L	6/4/26 7:32	6/4/26 22:06	RAB	EPA 200.8, Rev 5.4	2	

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Mayville Water/Wastewater Utilities
400 Kekoskee Street
Mayville, WI 53050

Project: 2026 Lead and Copper Testing
Project Number: 2026 WDNR Drinking Water Requirements
Project Manager: Courtney Steger

Reported:
6/8/26 16:04

Work Order:
CE05795

Sample: LC48

CE05795-17 (DW) Sampled: 06/01/26 05:45

Keller

231 S Walnut

Analyte	Result	Qualifier	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Laboratory FID
Metals Analytes: 3											
Turbidity, screening - SDWA (200.8)	ND		0.50	0.50	1	NTU	6/4/26 7:08	6/4/26 13:21	SBB	EPA 180.1, Rev 2	2
Copper, Total	190		0.69	2.3	1300	ug/L	6/4/26 7:32	6/4/26 22:09	RAB	EPA 200.8, Rev 5.4	2
Lead, Total	1.6		0.36	1.2	15	ug/L	6/4/26 7:32	6/4/26 22:09	RAB	EPA 200.8, Rev 5.4	2

Sample: LC50

CE05795-18 (DW) Sampled: 06/01/26 05:45

Billington

257 N German

Analyte	Result	Qualifier	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Laboratory FID
Metals Analytes: 3											
Turbidity, screening - SDWA (200.8)	ND		0.50	0.50	1	NTU	6/4/26 7:08	6/4/26 13:21	SBB	EPA 180.1, Rev 2	2
Copper, Total	110		0.69	2.3	1300	ug/L	6/4/26 7:32	6/4/26 22:13	RAB	EPA 200.8, Rev 5.4	2
Lead, Total	1.1	J	0.36	1.2	15	ug/L	6/4/26 7:32	6/4/26 22:13	RAB	EPA 200.8, Rev 5.4	2

Sample: LC39

CE05795-19 (DW) Sampled: 06/01/26 10:40

Schaefer

438 Breckenridge

Analyte	Result	Qualifier	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Laboratory FID
Metals Analytes: 3											
Turbidity, screening - SDWA (200.8)	ND		0.50	0.50	1	NTU	6/4/26 7:08	6/4/26 13:21	SBB	EPA 180.1, Rev 2	2
Copper, Total	39		0.69	2.3	1300	ug/L	6/4/26 7:32	6/4/26 22:17	RAB	EPA 200.8, Rev 5.4	2
Lead, Total	(8.5, 2020) 1.0	J	0.36	1.2	15	ug/L	6/4/26 7:32	6/4/26 22:17	RAB	EPA 200.8, Rev 5.4	2

Sample: LC46

CE05795-20 (DW) Sampled: 06/01/26 10:20

Lodahl

150 N German

Analyte	Result	Qualifier	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Laboratory FID
Metals Analytes: 3											
Turbidity, screening - SDWA (200.8)	ND		0.50	0.50	1	NTU	6/4/26 7:08	6/4/26 13:21	SBB	EPA 180.1, Rev 2	2
Copper, Total	180		0.69	2.3	1300	ug/L	6/4/26 7:32	6/4/26 22:21	RAB	EPA 200.8, Rev 5.4	2
Lead, Total	5.1		0.36	1.2	15	ug/L	6/4/26 7:32	6/4/26 22:21	RAB	EPA 200.8, Rev 5.4	2

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.

Page 7 of 10



Northern Lake Service, Inc.

Northern Lake Service, Inc • 400 N Lake Ave • Crandon, WI 54520
800-278-1254 • www.nlslab.com

Mayville Water/Wastewater Utilities	Project: 2026 Lead and Copper Testing		
400 Kekoskee Street	Project Number: 2026 WDNR Drinking Water Requirements	Reported:	Work Order:
Mayville, WI 53050	Project Manager: Courtney Steger	6/8/26 16:04	CE05795

Laboratory Facility Identifications

Code	Description	Number	Expires
2	NLS (Crandon) WDNR Laboratory ID No.	721026460	8/31/26

*The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document.
No duplication of this report is allowed, except in its entirety.*

Page 8 of 10

***** ATTENTION ********** IMPORTANT INFORMATION RE: C.D. SMITH BANKING *****

PLEASE NOTE – C.D. Smith Construction has no intent to change any company banking information, bank institution, bank account numbers, or any other bank-related services. **We also have no intention to change our remit to address.**

With the rise in global bank fraud, cyber fraud, and phishing fraud, we encourage your organization to be cautious when receiving and acting on any purported authorizations to alter the banking information you have on file for our company.

Any “requests” or “authorizations” to alter C.D. Smith’s banking information should be verified by phone with Robert Seibel, CFO, prior to any actions by your company. He can be reached at (920) 907-6414. In addition, we ask you to please report any such requests or authorizations to our attention.

APPLICATION AND CERTIFICATE FOR PAYMENT

Page: 1 of 13

TO OWNER: City Of Mayville
15 S School Street
Mayville, WI 53050

PROJECT: Mayville WWTF 2024 Upgrade
15 S School Street
Mayville, WI 53050

APPLICATION NO.: 12
PERIOD TO : 04/30/2026
PROJECT NOS.: 240224-300
INVOICE NO.: 240224-3-23
CONTRACT DATE : 04/07/2025

Distribution to:
☐ OWNER
☐ ARCHITECT
☐ CONTRACTOR
☐
☐

FROM CONTRACTOR: C.D. Smith Construction, Inc.
125 Camelot Drive
Fond du Lac, WI 54935

ARCHITECT:

CONTRACT FOR: Mayville WWTF 2024 Upgrade

APPLICATION AND CERTIFICATE FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. Continuation sheet is attached.

1. ORIGINAL CONTRACT SUM	\$	26,338,359.00
2. Net change by change orders	\$	451,314.21
3. CONTRACT SUM TO DATE (Line1 +/- 2)	\$	26,789,673.21
4. TOTAL COMPLETED & STORED TO DATE	\$	10,410,683.35

(Column G on G703)

5. RETAINAGE:

(Total retainage Column I of G703)	\$	520,534.19
--	----	------------

6. TOTAL EARNED LESS RETAINAGE	\$	9,890,149.16
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(Line 4 less Line 5 Total)

7. LESS PREVIOUS CERTIFICATES FOR PAYMENT

(Line 6 from prior Certificate)	\$	8,996,251.82
---------------------------------------	----	--------------

8. CURRENT PAYMENT DUE	\$	893,897.34
------------------------------	----	------------

9. BALANCE TO FINISH, INCLUDING RETAINAGE

(Line 3 less Line 6)	\$	16,899,524.05
-----------------------	----	---------------

CHANGE ORDER SUMMARY		ADDITIONS	DEDUCTIONS
Change Order approved in previous months by Owner		451,314.21	0.00
APPROVED THIS MONTH			
Number	Date Approved		
Current Total:		0.00	0.00
Net Change by Change Orders			451,314.21

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for payment were issued and payments received from the Owner, and that current payment shown herein is now due.

Contractor: C.D. Smith Construction, Inc.

By: Cassandra Wuest
Digitally signed by Cassandra Wuest
DN: C=US, E=wuest@cdsmith.com, O=C.D. Smith
Construction, OU=Accounting, CN=Cassandra Wuest
Date: 2026.06.03 09:44:39-0500

Date: 06/02/2026

Payment of: \$ 893,897.34

(Line 8 or other - attach explanation of the other amount)

is recommended by:

Steven Sell
Digitally signed by Steven Sell
DN: C=US, E=sell@msa-ps.com, O="MSA Professional
Services, Inc.", OU=Project Manager, CN=Steven Sell
Reason: I have reviewed this document
Date: 2026.06.05 16:13:24-0500

6/5/2026

(Engineer)

(Date)

Payment of:

\$ _____

(Line 8 or other - attach explanation of the other amount)

is approved by:

(Owner)

(Date)

Approved by:

Funding or Financing Entity (if applicable)

(Date)

CONTINUATION SHEET

Page: 2

APPLICATION AND CERTIFICATE FOR PAYMENT, containing

Contractor's signed Certification is attached.

In tabulation below, amounts are stated to the nearest cent.

Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NUMBER: 12

APPLICATION DATE: 04/30/2026

PERIOD TO: 04/30/2026

PROJECT NO: 240224-300

INVOICE NO.:

240224-3-23

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED (D+E)		F MATERIAL PRESENTLY STORED	G TOTAL COMPLETED AND STORED TO DATE	PER-%(G/C)	H BALANCE TO FINISH	I RETAINAGE
			FROM PREVIOUS APPLICATION	THIS PERIOD					
300	General Construction								
300.800001.A	00 61 13 BONDS	250,000.00	250,000.00	0.00	0.00	250,000.00	100.0	0.00	12,500.00
300.800001.E	00 72 00 BUILDERS RISK	147,004.00	147,004.00	0.00	0.00	147,004.00	100.0	0.00	7,350.20
300.800001.L	01 11 00 SUPERVISION	729,977.00	165,000.00	15,000.00	0.00	180,000.00	24.7	549,977.00	9,000.00
300.800001.M	01 11 00 MANAGEMENT	481,882.00	87,500.00	10,000.00	0.00	97,500.00	20.2	384,382.00	4,875.00
300.800001.R	01 11 00 MOBILIZATION	155,000.00	155,000.00	0.00	0.00	155,000.00	100.0	0.00	7,750.00
300.800001.S	01 11 00 DEMOBILIZATION	40,000.00	0.00	0.00	0.00	0.00	0.0	40,000.00	0.00
300.800002.A	01 11 00 SUBMITTALS	17,000.00	10,000.00	500.00	0.00	10,500.00	61.8	6,500.00	525.00
300.800002.E	01 45 00 MATERIAL TESTING	30,600.00	14,600.00	500.00	0.00	15,100.00	49.4	15,500.00	755.00
300.800002.L	01 50 00 TEMPORARY FACILITIES	250,500.00	63,000.00	7,500.00	0.00	70,500.00	28.1	180,000.00	3,525.00
300.800002.M	01 01 00 EQUIPMENT (CONTRACTORS MACHINERY) AND TOOLS	721,683.00	170,000.00	15,000.00	0.00	185,000.00	25.6	536,683.00	9,250.00
300.800002.R	01 77 00 FINAL CLEANING	6,000.00	0.00	0.00	0.00	0.00	0.0	6,000.00	0.00
300.800002.S	02 41 00 STR 100 - DEMOLITION	121,131.00	0.00	7,000.00	0.00	7,000.00	5.8	114,131.00	350.00
300.800003.A	02 41 00 STR 150 - DEMOLITION	20,000.00	0.00	0.00	0.00	0.00	0.0	20,000.00	0.00
300.800003.E	02 41 00 STR 200 AND 250 - DEMOLITION	40,000.00	0.00	0.00	0.00	0.00	0.0	40,000.00	0.00
300.800003.L	02 41 00 STR 300 - DEMOLITION	500.00	0.00	0.00	0.00	0.00	0.0	500.00	0.00
300.800003.M	02 41 00 DIGESTER TANK DEMOLITION	40,350.00	0.00	0.00	0.00	0.00	0.0	40,350.00	0.00
300.800003.R	02 41 00 STR 750 - DEMOLITION	140,000.00	0.00	0.00	0.00	0.00	0.0	140,000.00	0.00
300.800003.S	02 41 00 STR 900 - DEMOLITION	15,000.00	0.00	0.00	0.00	0.00	0.0	15,000.00	0.00
300.800004.A	03 20 00 STR 100 - CONCRETE REINFORCING MATERIAL	1,212.00	1,212.00	0.00	0.00	1,212.00	100.0	0.00	60.60
300.800004.E	03 20 00 STR 200 - CONCRETE REINFORCING MATERIAL	4,000.00	4,000.00	0.00	0.00	4,000.00	100.0	0.00	200.00
300.800004.L	03 20 00 STR 650 - CONCRETE REINFORCING MATERIAL	6,746.00	6,746.00	0.00	0.00	6,746.00	100.0	0.00	337.30
300.800004.M	03 20 00 STR 800 - CONCRETE REINFORCING MATERIAL	10,080.00	10,080.00	0.00	0.00	10,080.00	100.0	0.00	504.00
300.800004.R	03 20 00 SITE - CONCRETE REINFORCING MATERIAL	6,000.00	0.00	0.00	6,000.00	6,000.00	100.0	0.00	300.00
300.800004.S	03 20 00 STR 100 - CONCRETE REINFORCING LABOR	7,000.00	0.00	0.00	0.00	0.00	0.0	7,000.00	0.00
300.800005.A	03 20 00 STR 200 - CONCRETE REINFORCING LABOR	10,000.00	0.00	0.00	0.00	0.00	0.0	10,000.00	0.00
300.800005.E	03 20 00 STR 650 - CONCRETE REINFORCING LABOR	17,030.00	17,030.00	0.00	0.00	17,030.00	100.0	0.00	851.50
300.800005.L	03 20 00 STR 800 - CONCRETE	29,560.00	29,560.00	0.00	0.00	29,560.00	100.0	0.00	1,478.00

CONTINUATION SHEET

APPLICATION AND CERTIFICATE FOR PAYMENT, containing

Contractor's signed Certification is attached.

In tabulation below, amounts are stated to the nearest cent.

Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NUMBER: 12

APPLICATION DATE: 04/30/2026

PERIOD TO: 04/30/2026

PROJECT NO: 240224-300

Page: 3

INVOICE NO.:

240224-3-23

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED (D+E)		F MATERIAL PRESENTLY STORED	G TOTAL COMPLETED AND STORED TO DATE	PER-%(G/C)	H BALANCE TO FINISH	I RETAINAGE
			FROM PREVIOUS APPLICATION	THIS PERIOD					
300.800005.M	REINFORCING LABOR	14,000.00	0.00	0.00	0.00	0.00	0.0	14,000.00	0.00
300.800005.R	REINFORCING LABOR	47,500.00	0.00	0.00	0.00	0.00	0.0	47,500.00	0.00
300.800005.S	LABOR AND MATERIALS	135,521.00	0.00	0.00	0.00	0.00	0.0	135,521.00	0.00
300.800006.A	LABOR AND MATERIALS	9,500.00	0.00	0.00	0.00	0.00	0.0	9,500.00	0.00
300.800006.E	LABOR AND MATERIALS	22,750.00	0.00	0.00	0.00	0.00	0.0	22,750.00	0.00
300.800006.L	LABOR AND MATERIALS	99,040.00	97,500.00	1,540.00	0.00	99,040.00	100.0	0.00	4,952.00
300.800006.M	LABOR AND MATERIALS	37,230.00	0.00	0.00	0.00	0.00	0.0	37,230.00	0.00
300.800006.R	LABOR AND MATERIALS	201,750.00	198,000.00	0.00	0.00	198,000.00	98.1	3,750.00	9,900.00
300.800006.S	LABOR AND MATERIALS	25,695.00	25,695.00	0.00	0.00	25,695.00	100.0	0.00	1,284.75
300.800007.A	LABOR AND MATERIALS	65,862.00	65,862.00	0.00	0.00	65,862.00	100.0	0.00	3,293.10
300.800007.E	LABOR AND MATERIALS	8,000.00	1,000.00	0.00	0.00	1,000.00	12.5	7,000.00	50.00
300.800007.L	LABOR AND MATERIALS	25,520.00	5,000.00	0.00	0.00	5,000.00	19.6	20,520.00	250.00
300.800007.M	LABOR AND MATERIALS	2,000.00	0.00	0.00	0.00	0.00	0.0	2,000.00	0.00
300.800007.R	LABOR AND MATERIALS	7,000.00	0.00	0.00	0.00	0.00	0.0	7,000.00	0.00
300.800007.S	LABOR AND MATERIALS	38,650.00	38,650.00	0.00	0.00	38,650.00	100.0	0.00	1,932.50
300.800008.A	LABOR AND MATERIALS	95,560.00	95,560.00	0.00	0.00	95,560.00	100.0	0.00	4,778.00
300.800008.E	LABOR AND MATERIALS	49,520.00	49,520.00	0.00	0.00	49,520.00	100.0	0.00	2,476.00
300.800008.L	LABOR AND MATERIALS	120,742.00	120,742.00	0.00	0.00	120,742.00	100.0	0.00	6,037.10
300.800008.M	LABOR AND MATERIALS	3,255.00	3,255.00	0.00	0.00	3,255.00	100.0	0.00	162.75
300.800008.R	LABOR AND MATERIALS	250,922.00	3,500.00	0.00	0.00	3,500.00	1.4	247,422.00	175.00
300.800008.S	LABOR AND MATERIALS	368,580.00	11,658.52	0.00	0.00	11,658.52	3.2	356,921.48	582.93
300.800009.A	LABOR AND MATERIALS	348,793.00	0.00	0.00	0.00	0.00	0.0	348,793.00	0.00
300.800009.E	LABOR AND MATERIALS	68,777.00	40,500.00	10,000.00	0.00	50,500.00	73.4	18,277.00	2,525.00

CONTINUATION SHEET

APPLICATION AND CERTIFICATE FOR PAYMENT, containing Contractor's signed Certification is attached.

In tabulation below, amounts are stated to the nearest cent.

Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NUMBER: 12

APPLICATION DATE: 04/30/2026

PERIOD TO: 04/30/2026

PROJECT NO: 240224-300

Page: 4

INVOICE NO.:

240224-3-23

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED (D+E)		F MATERIAL PRESENTLY STORED	G TOTAL COMPLETED AND STORED TO DATE	PER-%(G/C)	H BALANCE TO FINISH	I RETAINAGE
			FROM PREVIOUS APPLICATION	THIS PERIOD					
300.800009.L	06 10 00 FINISH CARPENTRY LABOR	35,852.00	0.00	20,000.00	0.00	20,000.00	55.8	15,852.00	1,000.00
300.800009.M	06 41 00 WOOD CASEWORK AND SOLID SURFACE FABRICATIONS	22,570.00	0.00	22,570.00	0.00	22,570.00	100.0	0.00	1,128.50
300.800009.R	07 13 00 SHEET WATERPROOFING	11,200.00	11,200.00	0.00	0.00	11,200.00	100.0	0.00	560.00
300.800009.S	07 19 00 WATER/OIL REPELLENT COATING	5,900.00	0.00	0.00	0.00	0.00	0.0	5,900.00	0.00
300.800010.A	07 21 13 BOARD INSULATION	14,500.00	14,250.00	0.00	0.00	14,250.00	98.3	250.00	712.50
300.800010.E	07 27 26 FLUID APPLIED MEMBRANE/AIR VAPOR BARRIER	7,630.00	7,630.00	0.00	0.00	7,630.00	100.0	0.00	381.50
300.800010.L	07 42 13 INSULATED METAL WALL PANELS	146,304.00	144,500.00	0.00	0.00	144,500.00	98.8	1,804.00	7,225.00
300.800010.M	07 53 23 EPDM MEMBRANE ROOFING	319,624.00	0.00	13,500.00	0.00	13,500.00	4.2	306,124.00	675.00
300.800010.R	07 92 00 JOINT SEALANTS	36,520.00	9,000.00	0.00	0.00	9,000.00	24.6	27,520.00	450.00
300.800010.S	08 12 13 DOORS AND FRAMES MATERIAL	97,000.00	25,180.00	0.00	35,246.00	60,426.00	62.3	36,574.00	3,021.30
300.800011.A	08 12 13 STEEL DOORS AND FRAMES LABOR	18,770.00	9,241.39	0.00	0.00	9,241.39	49.2	9,528.61	462.07
300.800011.E	08 34 59 FLOOR (VAULT) DOORS	6,492.00	0.00	0.00	0.00	0.00	0.0	6,492.00	0.00
300.800011.L	08 36 13 SECTIONAL OVERHEAD DOORS	33,821.00	0.00	33,821.00	0.00	33,821.00	100.0	0.00	1,691.05
300.800011.M	08 41 13 ALUMINUM FRAMED ENTRANCES & STOREFRONTS AND GLAZING	68,160.00	45,000.00	0.00	0.00	45,000.00	66.0	23,160.00	2,250.00
300.800011.R	09 29 00 GYPSUM BOARD	110,000.00	95,000.00	0.00	0.00	95,000.00	86.4	15,000.00	4,750.00
300.800011.S	09 30 13 TILING AND RESILIENT FLOORING	52,412.00	0.00	25,000.00	0.00	25,000.00	47.7	27,412.00	1,250.00
300.800012.A	09 51 00 ACOUSTICAL CEILINGS	19,420.00	0.00	10,000.00	0.00	10,000.00	51.5	9,420.00	500.00
300.800012.E	09 91 00 HIGH PERFORMANCE COATINGS	770,224.00	150,000.00	27,000.00	0.00	177,000.00	23.0	593,224.00	8,850.00
300.800012.L	10 14 00 SIGNAGE	14,549.00	0.00	0.00	0.00	0.00	0.0	14,549.00	0.00
300.800012.M	10 26 00 VINYL CORNER AND WALL GAUARDS	2,544.00	0.00	2,544.00	0.00	2,544.00	100.0	0.00	127.20
300.800012.R	10 28 13 TOILET AND BATH ACCESSORIES AND FIRE EXTINGUISHERS	5,390.00	0.00	0.00	0.00	0.00	0.0	5,390.00	0.00
300.800012.S	10 51 13 METAL LOCKERS	4,828.00	0.00	0.00	0.00	0.00	0.0	4,828.00	0.00
300.800013.A	11 16 20 KEY VAULTS	487.00	0.00	0.00	0.00	0.00	0.0	487.00	0.00
300.800013.E	12 24 13 ROLLER WINDOW SHADES	3,800.00	0.00	0.00	0.00	0.00	0.0	3,800.00	0.00
300.800013.L	12 35 53 METAL LABORATORY CASEWORK	71,401.00	0.00	0.00	0.00	0.00	0.0	71,401.00	0.00

CONTINUATION SHEET

Page: 5

APPLICATION AND CERTIFICATE FOR PAYMENT, containing

Contractor's signed Certification is attached.

In tabulation below, amounts are stated to the nearest cent.

Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NUMBER: 12

APPLICATION DATE: 04/30/2026

INVOICE NO.:

PERIOD TO: 04/30/2026

240224-3-23

PROJECT NO: 240224-300

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED (D+E)		F MATERIAL PRESENTLY STORED	G TOTAL COMPLETED AND STORED TO DATE	PER-%(G/C)	H BALANCE TO FINISH	I RETAINAGE
			FROM PREVIOUS APPLICATION	THIS PERIOD					
300.800013.M	13 34 00 FABRICATED ENGINEERED STRUCTURES	502,500.00	495,000.00	7,500.00	0.00	502,500.00	100.0	0.00	25,125.00
300.800013.R	31 22 00 EARTHWORK	916,715.00	522,462.63	0.00	0.00	522,462.63	57.0	394,252.37	26,123.13
300.800013.S	31 22 00 ACCESS ROAD	60,900.00	60,900.00	0.00	0.00	60,900.00	100.0	0.00	3,045.00
300.800014.A	32 12 16 ASPHALTIC CONCRETE PAVEMENT	204,175.00	0.00	0.00	0.00	0.00	0.0	204,175.00	0.00
300.800014.E	32 13 10 CONCRETE SIDEWALKS, CURB & GUTTER LABOR & MAT	266,479.00	0.00	0.00	0.00	0.00	0.0	266,479.00	0.00
300.800014.L	31 31 13 CHAIN LINK FENCES AND GATES	84,085.00	0.00	0.00	0.00	0.00	0.0	84,085.00	0.00
300.800014.M	32 92 19 SEEDING AND RESTORATION	88,110.00	0.00	0.00	0.00	0.00	0.0	88,110.00	0.00
300.800014.R	46 73 10 ANAEROBIC DIGESTER CLEANING	321,150.00	0.00	0.00	0.00	0.00	0.0	321,150.00	0.00
301.01	<i>General Construction Total:</i>		3,476,538.54	228,975.00	41,246.00	3,746,759.54	38.8	5,921,174.46	187,337.98
300.800014.S	Prestressed Concrete- Sludge Tank	120,000.00	0.00	0.00	0.00	0.00	0.0	120,000.00	0.00
300.800015.A	01 11 00 DESIGN (BOTH TANKS)	151,240.00	0.00	0.00	0.00	0.00	0.0	151,240.00	0.00
300.800015.E	03 41 33 TANK FLOOR & WALL FOOTING	280,380.00	0.00	0.00	0.00	0.00	0.0	280,380.00	0.00
300.800015.L	03 41 33 TYPE 3 WALL - CASTING WALL PANELS	266,770.00	0.00	0.00	0.00	0.00	0.0	266,770.00	0.00
300.800015.M	03 41 33 ERECT SHORING & DECKING (CAST IN PLACE DOME)	259,350.00	0.00	0.00	0.00	0.00	0.0	259,350.00	0.00
300.800015.R	03 41 33 TYPE 3 WALL- ERECT WALL PANELS	241,460.00	0.00	0.00	0.00	0.00	0.0	241,460.00	0.00
300.800015.S	03 41 33 WALL SLOTS	109,700.00	0.00	0.00	0.00	0.00	0.0	109,700.00	0.00
300.800016.A	03 41 33 COREWALL SHOTCRETE	60,670.00	0.00	0.00	0.00	0.00	0.0	60,670.00	0.00
300.800016.E	03 41 33 WIRE PRESTRESSING & WIRE COVER SHOTCRETE	165,010.00	0.00	0.00	0.00	0.00	0.0	165,010.00	0.00
300.800016.L	03 41 33 CAST IN PLACE DOME ROOF	173,880.00	0.00	0.00	0.00	0.00	0.0	173,880.00	0.00
300.800016.M	03 41 33 DISMANTLE SHORING & DECKING (CAST IN PLACE DOME)	67,850.00	0.00	0.00	0.00	0.00	0.0	67,850.00	0.00
300.800016.R	03 41 33 SHOTCRETE COVER COAT	65,180.00	0.00	0.00	0.00	0.00	0.0	65,180.00	0.00
300.800016.S	03 41 33 EXTERIOR TANK COATING	23,210.00	0.00	0.00	0.00	0.00	0.0	23,210.00	0.00
300.800017.A	03 41 33 TANK APPURTENANCES	53,910.00	0.00	0.00	0.00	0.00	0.0	53,910.00	0.00
301.02	<i>Prestressed Concrete- Sludge</i>		0.00	0.00	0.00	0.00	0.0	2,038,610.00	0.00
300.800017.E	Prestressed Concrete- Aerobic Tank	109,010.00	0.00	0.00	0.00	0.00	0.0	109,010.00	0.00
300.800017.L	03 41 33 TANK FLOOR & WALL FOOTING	151,890.00	0.00	0.00	0.00	0.00	0.0	151,890.00	0.00

CONTINUATION SHEET

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APPLICATION NUMBER: 12

APPLICATION DATE: 04/30/2026

PERIOD TO: 04/30/2026

PROJECT NO: 240224-300

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INVOICE NO.:

240224-3-23

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED (D+E)		F MATERIAL PRESENTLY STORED	G TOTAL COMPLETED AND STORED TO DATE	PER-%(G/C)	H BALANCE TO FINISH	I RETAINAGE
			FROM PREVIOUS APPLICATION	THIS PERIOD					
300.800017.M	03 41 33 TYPE 3 WALL - CASTING WALL PANELS	120,600.00	0.00	0.00	0.00	0.00	0.0	120,600.00	0.00
300.800017.R	03 41 33 ERECT SHORING & DECKING (CAST IN PLACE DOME)	112,240.00	0.00	0.00	0.00	0.00	0.0	112,240.00	0.00
300.800017.S	03 41 33 TYPE 3 WALL- ERECT WALL PANELS	117,190.00	0.00	0.00	0.00	0.00	0.0	117,190.00	0.00
300.800018.A	03 41 33 WALL SLOTS	50,580.00	0.00	0.00	0.00	0.00	0.0	50,580.00	0.00
300.800018.E	03 41 33 COREWALL SHOTCRETE	28,180.00	0.00	0.00	0.00	0.00	0.0	28,180.00	0.00
300.800018.L	03 41 33 WIRE PRESTRESSING & WIRE COVER SHOTCRETE	57,690.00	0.00	0.00	0.00	0.00	0.0	57,690.00	0.00
300.800018.M	03 41 33 CAST IN PLACE DOME ROOF	89,680.00	0.00	0.00	0.00	0.00	0.0	89,680.00	0.00
300.800018.R	03 41 33 DISMANTLE SHORING & DECKING (CAST IN PLACE DOME)	37,090.00	0.00	0.00	0.00	0.00	0.0	37,090.00	0.00
300.800018.S	03 41 33 SHOTCRETE COVER COAT	22,840.00	0.00	0.00	0.00	0.00	0.0	22,840.00	0.00
300.800019.A	03 41 33 EXTERIOR TANK COATING	10,950.00	0.00	0.00	0.00	0.00	0.0	10,950.00	0.00
300.800019.E	03 41 33 TANK APPURTENANCES	33,450.00	0.00	0.00	0.00	0.00	0.0	33,450.00	0.00
302	<i>Prestressed Concrete- Aerobic Mechanical</i>	<i>941,390.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.0</i>	<i>941,390.00</i>	<i>0.00</i>
300.800019.L	01 11 00 MOBILIZATION	150,000.00	150,000.00	0.00	0.00	150,000.00	100.0	0.00	7,500.00
300.800019.M	01 11 00 GENERAL CONDITIONS	150,000.00	59,000.00	10,000.00	0.00	69,000.00	46.0	81,000.00	3,450.00
300.800019.R	01 11 00 EQUIPMENT	240,000.00	71,000.00	30,000.00	0.00	101,000.00	42.1	139,000.00	5,050.00
300.800019.S	01 11 00 SUPERVISION	270,000.00	97,500.00	15,000.00	0.00	112,500.00	41.7	157,500.00	5,625.00
300.800020.A	01 11 00 DEMOLITION	110,000.00	0.00	0.00	0.00	0.00	0.0	110,000.00	0.00
300.800020.E	22 00 00 INSULATION	130,000.00	0.00	0.00	0.00	0.00	0.0	130,000.00	0.00
300.800020.L	41 22 13.19 JIB CRANE MATERIAL	9,920.00	9,920.00	0.00	0.00	9,920.00	100.0	0.00	496.00
300.800020.M	41 22 13.19 JIB CRANE INSTALL	2,000.00	0.00	0.00	0.00	0.00	0.0	2,000.00	0.00
300.800020.R	44 42 19.20 ROTARY BLOWERS MATERIAL	310,000.00	310,000.00	0.00	0.00	310,000.00	100.0	0.00	15,500.00
300.800020.S	44 42 19.20 ROTARY BLOWERS INSTALL	21,000.00	0.00	0.00	0.00	0.00	0.0	21,000.00	0.00
300.800021.A	44 42 23.20 TROUGHS, WEIR PLATES, BAFFLES MATERIAL	9,810.00	9,810.00	0.00	0.00	9,810.00	100.0	0.00	490.50
300.800021.E	44 42 23.20 TROUGHS, WEIR PLATES, BAFFLES INSTALL	15,000.00	0.00	0.00	0.00	0.00	0.0	15,000.00	0.00
300.800021.L	44 42 23.21 FRP DENSITY CURRENT BAFFLES MATERIAL	52,710.00	52,710.00	0.00	0.00	52,710.00	100.0	0.00	2,635.50
300.800021.M	44 42 23.21 FRP DENSITY CURRENT BAFFLES INSTALL	33,000.00	0.00	0.00	0.00	0.00	0.0	33,000.00	0.00
300.800021.R	44 42 23.22 FRP BAFFLE WALL MATERIAL	98,350.00	0.00	0.00	0.00	0.00	0.0	98,350.00	0.00

CONTINUATION SHEET

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APPLICATION DATE: 04/30/2026

INVOICE NO.:

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240224-3-23

PROJECT NO: 240224-300

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED (D+E)		F MATERIAL PRESENTLY STORED	G TOTAL COMPLETED AND STORED TO DATE	H PER-(G/C)	H BALANCE TO FINISH	I RETAINAGE
			FROM PREVIOUS APPLICATION	THIS PERIOD					
300.800021.S	44 42 23. 22 FRP BAFFLE WALL INSTALL	20,000.00	0.00	0.00	0.00	0.00	0.0	20,000.00	0.00
300.800022.A	44 42 23 24 LAUNDER COVERS MATERIAL	98,130.00	9,813.00	0.00	0.00	9,813.00	10.0	88,317.00	490.65
300.800022.E	44 42 23 24 LAUNDER COVERS INSTALL	33,000.00	0.00	0.00	0.00	0.00	0.0	33,000.00	0.00
300.800022.L	44 42 39.09 AERATED GRIT TANK EQUIPMENT MATERIAL	160,000.00	160,000.00	0.00	0.00	160,000.00	100.0	0.00	8,000.00
300.800022.M	44 42 39.09 AERATED GRIT TANK EQUIPMENT INSTALL	30,000.00	0.00	0.00	0.00	0.00	0.0	30,000.00	0.00
300.800022.R	44 42 39.13 GRIT CLASSIFIER MATERIAL	97,000.00	9,700.00	0.00	0.00	9,700.00	10.0	87,300.00	485.00
300.800022.S	44 42 39.13 GRIT CLASSIFIER INSTALL	4,000.00	0.00	0.00	0.00	0.00	0.0	4,000.00	0.00
300.800023.A	44 42 40.50 SCREEN AND WASHER COMPACTOR MATERIAL	351,400.00	35,140.00	0.00	0.00	35,140.00	10.0	316,260.00	1,757.00
300.800023.E	44 42 40.50 SCREEN AND WASHER COMPACTOR INSTALL	13,250.00	0.00	0.00	0.00	0.00	0.0	13,250.00	0.00
300.800023.L	44 42 56.40 HORIZONTAL CENTRIFUGAL PUMPS MATERIAL	240,000.00	240,000.00	0.00	0.00	240,000.00	100.0	0.00	12,000.00
300.800023.M	44 42 56.40 HORIZONTAL CENTRIFUGAL PUMPS INSTALL	16,000.00	0.00	0.00	0.00	0.00	0.0	16,000.00	0.00
300.800023.R	44 42 56.45 SUBMERSIBLE PROPELLER PUMPS MATERIAL	23,940.00	23,940.00	0.00	0.00	23,940.00	100.0	0.00	1,197.00
300.800023.S	44 42 56.45 SUBMERSIBLE PROPELLER PUMPS INSTALL	3,000.00	0.00	0.00	0.00	0.00	0.0	3,000.00	0.00
300.800024.A	44 45 56.52 HORIZONTAL CHOPPER PUMPS & MIXING SYSTEM MAT	113,800.00	11,380.00	0.00	0.00	11,380.00	10.0	102,420.00	569.00
300.800024.E	44 45 56.52 HORIZONTAL CHOPPER PUMPS & MIXING SYSTEM INSTALL	12,000.00	0.00	0.00	0.00	0.00	0.0	12,000.00	0.00
300.800024.L	44 42 56.54 RECESSED IMPELLER CENTRIFUGAL PUMPS MATERIAL	35,000.00	3,500.00	0.00	0.00	3,500.00	10.0	31,500.00	175.00
300.800024.M	44 42 56.54 RECESSED IMPELLER CENTRIFUGAL PUMPS INSTALL	3,000.00	0.00	0.00	0.00	0.00	0.0	3,000.00	0.00
300.800024.R	44 42 56.70 DOUBLE DISC POSITIVE DISPLACEMENT PUMPS MATERIAL	46,650.00	45,650.00	0.00	0.00	45,650.00	97.9	1,000.00	2,282.50
300.800024.S	44 42 56.70 DOUBLE DISC POSITIVE DISPLACEMENT PUMPS INSTALL	4,000.00	0.00	0.00	0.00	0.00	0.0	4,000.00	0.00
300.800025.A	44 42 76.31 MECHANICAL LIFT SLUICE GATE MATERIAL	52,950.00	5,295.00	0.00	0.00	5,295.00	10.0	47,655.00	264.75
300.800025.E	44 42 76.31 MECHANICAL LIFT SLUICE GATE INSTALL	17,000.00	0.00	0.00	0.00	0.00	0.0	17,000.00	0.00
300.800025.L	44 44 13.11 CHEMICAL PHOSPHORUS REMOVAL SYSTEM	27,810.00	2,781.00	0.00	0.00	2,781.00	10.0	25,029.00	139.05

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PROJECT NO: 240224-300

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A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED (D+E)		F MATERIAL PRESENTLY STORED	G TOTAL COMPLETED AND STORED TO DATE	PER-%(G/C)	H BALANCE TO FINISH	I RETAINAGE
			FROM PREVIOUS APPLICATION	THIS PERIOD					
300.800025.M	MATERIAL 44 44 13.11 CHEMICAL PHOSPHORUS REMOVAL SYSTEM INSTALL	4,000.00	0.00	0.00	0.00	0.00	0.0	4,000.00	0.00
300.800025.R	44 44 73.11 UV MATERIAL	56,685.00	56,685.00	0.00	0.00	56,685.00	100.0	0.00	2,834.25
300.800025.S	44 44 73.11 UV INSTALL	5,000.00	0.00	0.00	0.00	0.00	0.0	5,000.00	0.00
300.800026.A	44 45 16.11 FINAL BUBBLE AERATION MATERIAL	140,000.00	14,000.00	0.00	0.00	14,000.00	10.0	126,000.00	700.00
300.800026.E	44 45 16.11 FINAL BUBBLE AERATION INSTALL	50,000.00	0.00	0.00	0.00	0.00	0.0	50,000.00	0.00
300.800026.L	44 45 16.13 COMPRESSED GAS MIXING SYSTEM MATERIAL	599,500.00	263,950.00	0.00	0.00	263,950.00	44.0	335,550.00	13,197.50
300.800026.M	44 45 16.13 COMPRESSED GAS MIXING SYSTEM INSTALL	42,500.00	0.00	0.00	0.00	0.00	0.0	42,500.00	0.00
300.800026.R	STR. 100 SERVICE BUILDING - PLUMBING MATERIAL	57,500.00	0.00	10,000.00	0.00	10,000.00	17.4	47,500.00	500.00
300.800026.S	STR. 100 SERVICE BUILDING - PLUMBING LABOR	51,300.00	0.00	5,000.00	0.00	5,000.00	9.8	46,300.00	250.00
300.800027.A	STR. 100 SERVICE BUILDING - PROCESS PIPING MATERIAL	494,250.00	0.00	40,000.00	0.00	40,000.00	8.1	454,250.00	2,000.00
300.800027.E	STR. 100 SERVICE BUILDING - PROCESS PIPING LABOR	207,325.00	0.00	0.00	0.00	0.00	0.0	207,325.00	0.00
300.800027.L	STR. 200 ACTIVATED SLUDGE - PROCESS PIPING MATERIAL	760,100.00	100,000.00	125,000.00	0.00	225,000.00	29.6	535,100.00	11,250.00
300.800027.M	STR. 200 ACTIVATED SLUDGE - PROCESS PIPING LABOR	228,300.00	0.00	0.00	0.00	0.00	0.0	228,300.00	0.00
300.800027.R	STR. 300 CLARIFIER COMPLEX - PLUMBING PIPING MATERIAL	400.00	0.00	0.00	0.00	0.00	0.0	400.00	0.00
300.800027.S	STR. 300 CLARIFIER COMPLEX - PLUMBING PIPING LABOR	1,295.00	0.00	0.00	0.00	0.00	0.0	1,295.00	0.00
300.800028.A	STR. 300 CLARIFIER COMPLEX - PROCESS PIPING MATERIAL	235,500.00	0.00	115,000.00	0.00	115,000.00	48.8	120,500.00	5,750.00
300.800028.E	STR. 300 CLARIFIER COMPLEX - PROCESS PIPING LABOR	73,625.00	0.00	5,000.00	0.00	5,000.00	6.8	68,625.00	250.00
300.800028.L	STR. 400 CHEMICAL BUILDING - PROCESS PIPING MATERIAL	3,750.00	0.00	0.00	0.00	0.00	0.0	3,750.00	0.00
300.800028.M	STR. 400 CHEMICAL BUILDING - PROCESS PIPING LABOR	6,250.00	0.00	0.00	0.00	0.00	0.0	6,250.00	0.00
300.800028.R	STR. 600 AEROBIC DIGESTER - PROCESS PIPING MATERIAL	32,500.00	0.00	0.00	0.00	0.00	0.0	32,500.00	0.00
300.800028.S	STR. 600 AEROBIC DIGESTER - PROCESS PIPING LABOR	41,500.00	0.00	0.00	0.00	0.00	0.0	41,500.00	0.00
300.800029.A	STR. 650 SLUDGE PUMPING BUILDING - PLUMBING MATERIAL	10,000.00	5,000.00	0.00	0.00	5,000.00	50.0	5,000.00	250.00

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300.800029.E	STR. 650 SLUDGE PUMPING BUILDING - PLUMBING LABOR	20,000.00	5,000.00	0.00	0.00	5,000.00	25.0	15,000.00	250.00
300.800029.L	STR. 650 SLUDGE PUMPING BUILDING - PROCESS PIPING MATERIAL	175,000.00	43,750.00	85,000.00	0.00	128,750.00	73.6	46,250.00	6,437.50
300.800029.M	STR. 650 SLUDGE PUMPING BUILDING - PROCESS PIPING LABOR	150,000.00	37,500.00	5,000.00	0.00	42,500.00	28.3	107,500.00	2,125.00
300.800029.R	STR. 700 SLUDGE STORAGE TANK - PROCESS PIPING MATERIAL	60,000.00	0.00	0.00	0.00	0.00	0.0	60,000.00	0.00
300.800029.S	STR. 700 SLUDGE STORAGE TANK - PROCESS PIPING LABOR	80,000.00	0.00	0.00	0.00	0.00	0.0	80,000.00	0.00
300.800030.A	STR. 800 ADMINISTRATION BUILDING - PLUMBING MATERIAL	150,000.00	135,000.00	0.00	0.00	135,000.00	90.0	15,000.00	6,750.00
300.800030.E	STR. 800 ADMINISTRATION BUILDING - PLUMBING LABOR	180,000.00	162,000.00	0.00	0.00	162,000.00	90.0	18,000.00	8,100.00
302.01	Site Utilities <i>Mechanical Total:</i>	6,920,000.00	2,130,024.00	445,000.00	0.00	2,575,024.00	37.2	4,344,976.00	128,751.20
300.800030.L	02 41 19 DEMOLITION	150,000.00	37,500.00	0.00	0.00	37,500.00	25.0	112,500.00	1,875.00
300.800030.M	33 10 00 WATER PIPING	475,000.00	358,250.00	0.00	0.00	358,250.00	75.4	116,750.00	17,912.50
300.800030.R	33 41 13 STORM PIPING	240,000.00	97,200.00	84,000.00	0.00	181,200.00	75.5	58,800.00	9,060.00
300.800030.S	40 23 36 DECAINT PIPING	70,000.00	28,000.00	17,500.00	0.00	45,500.00	65.0	24,500.00	2,275.00
300.800031.A	40 23 36 DS PIPING	311,300.00	219,410.00	15,565.00	0.00	234,975.00	75.5	76,325.00	11,748.75
300.800031.E	40 23 36 PALP PIPING	225,600.00	168,680.00	0.00	0.00	168,680.00	74.8	56,920.00	8,434.00
300.800031.L	40 23 36 PSM PIPING	110,000.00	93,500.00	0.00	0.00	93,500.00	85.0	16,500.00	4,675.00
300.800031.M	40 23 36 RAS PIPING	66,000.00	57,700.00	0.00	0.00	57,700.00	87.4	8,300.00	2,885.00
300.800031.R	40 23 36 RWW PIPING	143,100.00	100,860.00	0.00	0.00	100,860.00	70.5	42,240.00	5,043.00
300.800031.S	40 23 36 SAN PIPING	94,000.00	54,000.00	16,500.00	0.00	70,500.00	75.0	23,500.00	3,525.00
302.02	Site Utilities <i>Site Utilities Total:</i>	1,885,000.00	1,215,100.00	133,565.00	0.00	1,348,665.00	71.5	536,335.00	67,433.25
300.800032.A	HVAC 23 00 00 STR. 100 SERVICE BUILDING MATERIALS	295,000.00	133,250.00	14,750.00	0.00	148,000.00	50.2	147,000.00	7,400.00
300.800032.E	23 00 00 STR. 100 SERVICE BUILDING LABOR	384,500.00	38,450.00	38,450.00	0.00	76,900.00	20.0	307,600.00	3,845.00
300.800032.L	23 00 00 STR. 400 CHEMICAL BUILDING MATERIAL	13,500.00	3,375.00	675.00	0.00	4,050.00	30.0	9,450.00	202.50
300.800032.M	23 00 00 STR. 400 CHEMICAL BUILDING LABOR	16,000.00	0.00	1,600.00	0.00	1,600.00	10.0	14,400.00	80.00
300.800032.R	23 00 00 STR. 650 SLUDGE PUMPING BUILDING MATERIAL	19,500.00	5,850.00	0.00	0.00	5,850.00	30.0	13,650.00	292.50
300.800032.S	23 00 00 STR. 650. SLUDGE PUMPING BUILDING LABOR	24,500.00	0.00	2,450.00	0.00	2,450.00	10.0	22,050.00	122.50

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240224-3-23

PROJECT NO: 240224-300

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED (D+E)		F MATERIAL PRESENTLY STORED	G TOTAL COMPLETED AND STORED TO DATE	PER-%(G/C)	H BALANCE TO FINISH	I RETAINAGE
			FROM PREVIOUS APPLICATION	THIS PERIOD					
300.800033.A	23 00 00 STR. 800 ADMINISTRATION BUILDING MATERIAL	161,000.00	128,800.00	8,050.00	0.00	136,850.00	85.0	24,150.00	6,842.50
300.800033.E	23 00 00 STR. 800 ADMINISTRATION BUILDING LABOR	158,000.00	94,800.00	15,800.00	0.00	110,600.00	70.0	47,400.00	5,530.00
303	HVAC Total:	1,072,000.00	404,525.00	81,775.00	0.00	486,300.00	45.4	585,700.00	24,315.00
300.800033.L	Electrical 01 11 00 PROJECT MANAGEMENT/DJE	71,848.00	22,272.00	14,000.00	0.00	36,272.00	50.5	35,576.00	1,813.60
303.01	Electrical Total:	71,848.00	22,272.00	14,000.00	0.00	36,272.00	50.5	35,576.00	1,813.60
300.800033.M	Site - 005 01 11 00 MOBILIZATION/PRECONSTRUCTION /PRECONSTRUCTION	11,235.00	11,235.00	0.00	0.00	11,235.00	100.0	0.00	561.75
300.800033.R	01 11 00 TEMP	14,040.00	14,040.00	0.00	0.00	14,040.00	100.0	0.00	702.00
300.800033.S	26 32 10 GENERATOR/ATS	193,103.00	193,103.00	0.00	0.00	193,103.00	100.0	0.00	9,655.15
300.800034.A	31 23 33 TRENCHING/EXCAVATION	121,862.00	107,220.56	2,437.24	0.00	109,657.80	90.0	12,204.20	5,482.89
300.800034.E	26 05 34 CONDUIT/DUCTBANK	147,635.00	132,871.50	0.00	0.00	132,871.50	90.0	14,763.50	6,643.58
300.800034.L	26 05 19 WIRE/TERMINATIONS	91,412.00	22,853.00	9,141.20	0.00	31,994.20	35.0	59,417.80	1,599.71
303.02	Site - 005 Total:	579,287.00	481,323.06	11,578.44	0.00	492,901.50	85.1	86,385.50	24,645.08
300.800034.M	Service Building- 100 01 11 00	22,186.00	22,186.00	0.00	0.00	22,186.00	100.0	0.00	1,109.30
300.800034.R	MOBILIZATION/PRECONSTRUCTION 02 41 19 DEMO/TEMP	9,200.00	1,840.00	0.00	0.00	1,840.00	20.0	7,360.00	92.00
300.800034.S	26 05 02 SERVICE	70,824.00	14,164.80	0.00	0.00	14,164.80	20.0	56,659.20	708.24
300.800035.A	26 24 19 MCC/PANELS	296,200.00	148,100.00	0.00	0.00	148,100.00	50.0	148,100.00	7,405.00
300.800035.E	26 05 41 LIGHTS/DEVICES	81,986.00	45,092.30	0.00	0.00	45,092.30	55.0	36,893.70	2,254.62
300.800035.L	26 90 00	96,468.00	0.00	0.00	0.00	0.00	0.0	96,468.00	0.00
300.800035.M	INTERGRATOR/INSTRUMENT 26 05 34 BRANCH CONDUIT	134,507.00	13,450.70	0.00	0.00	13,450.70	10.0	121,056.30	672.54
300.800035.R	26 05 19 WIRE/TERMINATIONS	39,128.00	0.00	0.00	0.00	0.00	0.0	39,128.00	0.00
303.03	Service Building-100 Total:	750,499.00	244,833.80	0.00	0.00	244,833.80	32.6	505,665.20	12,241.70
300.800035.S	Activated Sludge-200 01 11 00	4,564.00	1,825.60	456.40	0.00	2,282.00	50.0	2,282.00	114.10
300.800036.A	MOBILIZATION/PRECONSTRUCTION 02 41 19 DEMO/TEMP	5,040.00	504.00	0.00	0.00	504.00	10.0	4,536.00	25.20
300.800036.E	26 05 41 LIGHTS/DEVICES	31,827.00	17,504.85	0.00	0.00	17,504.85	55.0	14,322.15	875.24
300.800036.L	26 90 00	19,340.00	0.00	0.00	0.00	0.00	0.0	19,340.00	0.00
300.800036.M	INTERGRATOR/INSTRUMENT 26 05 34 BRANCH CONDUIT	66,047.00	0.00	0.00	0.00	0.00	0.0	66,047.00	0.00
300.800036.R	26 05 19 WIRE/TERMINATIONS	14,100.00	0.00	0.00	0.00	0.00	0.0	14,100.00	0.00

CONTINUATION SHEET

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APPLICATION AND CERTIFICATE FOR PAYMENT, containing

Contractor's signed Certification is attached.

In tabulation below, amounts are stated to the nearest cent.

Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NUMBER: 12

APPLICATION DATE: 04/30/2026

INVOICE NO.:

PERIOD TO: 04/30/2026

240224-3-23

PROJECT NO: 240224-300

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED (D+E)		F MATERIAL PRESENTLY STORED	G TOTAL COMPLETED AND STORED TO DATE	PER-(G/C)	H BALANCE TO FINISH	I RETAINAGE
			FROM PREVIOUS APPLICATION	THIS PERIOD					
303.04	Activated Sludge-200 Total:	140,918.00	19,834.45	456.40	0.00	20,290.85	14.4	120,627.15	1,014.54
300.800036.S	Clarifier Complex-300	17,804.00	5,341.20	3,560.80	0.00	8,902.00	50.0	8,902.00	445.10
300.800037.A	MOBILIZATION/PRECONSTRUCTION	7,010.00	1,402.00	0.00	0.00	1,402.00	20.0	5,608.00	70.10
300.800037.E	02 41 19 DEMO/TEMP	134,827.00	0.00	0.00	0.00	0.00	0.0	134,827.00	0.00
300.800037.L	26 05 02 SERVICE/GEAR/PANELS	276,919.00	138,459.50	0.00	0.00	138,459.50	50.0	138,459.50	6,922.98
300.800037.M	26 24 19 MCC	50,690.00	0.00	0.00	0.00	0.00	0.0	50,690.00	0.00
300.800037.R	INTEGRATOR/INSTRUMENT/PLC	50,815.00	0.00	0.00	0.00	0.00	0.0	50,815.00	0.00
300.800037.S	26 05 34 BRANCH CONDUIT	24,934.00	13,713.70	0.00	0.00	13,713.70	55.0	11,220.30	685.69
300.800038.A	26 05 19 WIRE/TERMINATIONS	19,233.00	0.00	0.00	0.00	0.00	0.0	19,233.00	0.00
303.05	Clarifier Complex-300 Total:	582,232.00	158,916.40	3,560.80	0.00	162,477.20	27.9	419,754.80	8,123.87
300.800038.E	Chemical Building-500	3,717.00	743.40	1,115.10	0.00	1,858.50	50.0	1,858.50	92.93
300.800038.L	MOBILIZATION/PRECONSTRUCTION	5,224.00	522.40	0.00	0.00	522.40	10.0	4,701.60	26.12
300.800038.M	02 41 19 DEMO/TEMP	14,513.00	0.00	0.00	0.00	0.00	0.0	14,513.00	0.00
300.800038.R	26 05 02 GEAR/PANELS	19,064.00	10,485.20	0.00	0.00	10,485.20	55.0	8,578.80	524.26
300.800038.S	26 05 41 LIGHTS/DEVICES	20,901.00	0.00	0.00	0.00	0.00	0.0	20,901.00	0.00
300.800039.A	INTEGRATOR/INSTRUMENT	30,787.00	0.00	0.00	0.00	0.00	0.0	30,787.00	0.00
300.800039.E	26 05 34 BRACH CONDUIT	18,460.00	0.00	0.00	0.00	0.00	0.0	18,460.00	0.00
303.06	Chemical Building-500 Total:	112,666.00	11,751.00	1,115.10	0.00	12,866.10	11.4	99,799.90	643.37
300.800039.L	Aerobic Digester-600	2,082.00	416.40	624.60	0.00	1,041.00	50.0	1,041.00	52.05
300.800039.M	MOBILIZATION/PRECONSTRUCTION	6,220.00	526.00	0.00	0.00	526.00	8.5	5,694.00	26.30
300.800039.R	02 41 19 DEMO/TEMP	5,260.00	2,367.00	0.00	0.00	2,367.00	45.0	2,893.00	118.35
300.800039.S	26 05 41 LIGHTS/DEVICES	8,357.00	0.00	0.00	0.00	0.00	0.0	8,357.00	0.00
300.800040.A	26 90 00 INTEGRATOR	25,271.00	0.00	0.00	0.00	0.00	0.0	25,271.00	0.00
300.800040.E	26 05 34 BRANCH CONDUIT/WIRE/SITE	11,007.00	0.00	0.00	0.00	0.00	0.0	11,007.00	0.00
303.07	Aerobic Digester-600 Total:	58,197.00	3,309.40	624.60	0.00	3,934.00	6.8	54,263.00	196.70
300.800040.L	Sludge Pumping-650	18,609.00	18,609.00	0.00	0.00	18,609.00	100.0	0.00	930.45
300.800040.M	MOBILIZATION/PRECONSTRUCTION	7,012.00	3,505.20	0.00	0.00	3,505.20	50.0	3,506.80	175.26
300.800040.R	02 41 19 DEMO/TEMP	183,635.00	64,272.25	0.00	0.00	64,272.25	35.0	119,362.75	3,213.61
300.800040.S	26 05 02 SERVICE/GEAR/PANELS	287,919.00	143,958.60	0.00	0.00	143,958.60	50.0	143,960.40	7,197.93

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APPLICATION AND CERTIFICATE FOR PAYMENT, containing

APPLICATION NUMBER: 12

INVOICE NO.:

Contractor's signed Certification is attached.

APPLICATION DATE: 04/30/2026

240224-3-23

In tabulation below, amounts are stated to the nearest cent.

PERIOD TO: 04/30/2026

PROJECT NO: 240224-300

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED (D+E)		F MATERIAL PRESENTLY STORED	G TOTAL COMPLETED AND STORED TO DATE	PER-%(G/C)	H BALANCE TO FINISH	I RETAINAGE
			FROM PREVIOUS APPLICATION	THIS PERIOD					
300.800041.A	26 90 00 INTEGRATOR/INSTRUMENT/PLC	42,258.00	0.00	0.00	0.00	0.00	0.0	42,258.00	0.00
300.800041.E	26 05 34 BRANCH CONDUIT	50,815.00	5,081.50	0.00	0.00	5,081.50	10.0	45,733.50	254.08
300.800041.L	26 05 41 LIGHTS/DEVICES	20,978.00	11,537.90	0.00	0.00	11,537.90	55.0	9,440.10	576.90
300.800041.M	26 05 19 WIRE/TERMINATIONS	7,200.00	0.00	0.00	0.00	0.00	0.0	7,200.00	0.00
303.08	Sludge Pumping-650 Total:	618,426.00	246,964.45	0.00	0.00	246,964.45	39.9	371,461.55	12,348.23
300.800041.R	Sludge Storage-700								
01 11 00		871.00	174.20	261.30	0.00	435.50	50.0	435.50	21.78
300.800041.S	MOBILIZATION/PRECONSTRUCTION	6,990.00	0.00	0.00	0.00	0.00	0.0	6,990.00	0.00
300.800042.A	02 41 19 DEMO/TEMP	4,120.00	2,266.00	0.00	0.00	2,266.00	55.0	1,854.00	113.30
300.800042.E	26 05 41 LIGHTS/DEVICES	3,651.00	0.00	0.00	0.00	0.00	0.0	3,651.00	0.00
300.800042.L	26 90 00 INTEGRATOR	6,253.00	0.00	0.00	0.00	0.00	0.0	6,253.00	0.00
300.800042.M	26 05 34 BRANCH CONDUIT/WIRE/SITE	7,157.00	0.00	0.00	0.00	0.00	0.0	7,157.00	0.00
303.09	Sludge Storage-700 Total:	29,042.00	2,440.20	261.30	0.00	2,701.50	9.3	26,340.50	135.08
300.800042.R	Administration Building-800								
01 11 00		20,335.00	20,335.00	0.00	0.00	20,335.00	100.0	0.00	1,016.75
300.800042.S	MOBILIZATION/PRECONSTRUCTION	19,205.00	19,205.00	0.00	0.00	19,205.00	100.0	0.00	960.25
300.800043.A	02 41 19 DEMO/TEMP	305,592.00	305,592.00	0.00	0.00	305,592.00	100.0	0.00	15,279.60
300.800043.E	26 05 02 SERVICE/GEAR/PANELSATS	108,812.00	0.00	10,881.20	0.00	10,881.20	10.0	97,930.80	544.06
300.800043.L	26 90 00								
300.800043.M	INTEGRATOR/INSTRUMENT/PLC	169,372.00	169,372.00	0.00	0.00	169,372.00	100.0	0.00	8,488.60
300.800043.R	26 05 34 BRANCH CONDUIT	39,906.00	33,920.10	5,985.90	0.00	39,906.00	100.0	0.00	1,995.30
26 05 41 LIGHTS/DEVICES		14,088.00	11,974.80	2,113.20	0.00	14,088.00	100.0	0.00	704.40
26 05 19 WIRE/TERMINATIONS									
Administration Building-800		677,310.00	560,398.90	18,980.30	0.00	579,379.20	85.5	97,930.80	28,968.96
304	Allowance								
300.800043.S	01 20 00 ELECTRIC SERVICE	10,000.00	0.00	0.00	0.00	0.00	0.0	10,000.00	0.00
300.800044.A	01 20 00 GAS SERVICE	10,000.00	0.00	0.00	0.00	0.00	0.0	10,000.00	0.00
300.800044.E	01 20 00 HAZARDOUS MATERIALS TESTING & ABATEMENT	10,000.00	0.00	0.00	0.00	0.00	0.0	10,000.00	0.00
300.800044.L	01 20 00 CONCRETE REPAIRS STR 200	5,000.00	0.00	0.00	0.00	0.00	0.0	5,000.00	0.00
300.800044.M	01 20 00 CONCRETE REPAIRS STR	40,000.00	0.00	0.00	0.00	0.00	0.0	40,000.00	0.00
300.800044.R	100 UPR-LVL STORAGE FLOORING 01 20 00 FACE BRICK MAT ALLOWANCE \$2000/1000 X 9000 BRICK	18,000.00	0.00	0.00	0.00	0.00	0.0	18,000.00	0.00
300.800044.S	01 20 00 SCADA SOFTWARE	50,000.00	0.00	0.00	0.00	0.00	0.0	50,000.00	0.00

C.D. Smith Construction, Inc.

CONTINUATION SHEET

APPLICATION AND CERTIFICATE FOR PAYMENT, containing Contractor's signed Certification is attached.

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APPLICATION NUMBER: 12

APPLICATION DATE: 04/30/2026

PERIOD TO: 04/30/2026

PROJECT NO: 240224-300

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INVOICE NO.:

240224-3-23

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED (D+E)		F MATERIAL PRESENTLY STORED	G TOTAL COMPLETED AND STORED TO DATE	PER-(G/C)	H BALANCE TO FINISH	I RETAINAGE
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300.800045.A	LISCENSING FOR WWTP	50,000.00	0.00	0.00	0.00	0.00	0.0	50,000.00	0.00
390	01.20.00 MANHOLE REHABILITATION FOR WWTF	193,000.00	0.00	0.00	0.00	0.00	0.0	193,000.00	0.00
	Allowance Total:								
300.800046.A	Change Orders	281,679.03	281,679.03	0.00	0.00	281,679.03	100.0	0.00	14,083.95
300.800046.E	CO#1A WCD 001 - River Knoll Road Easement Changes	1,695.37	1,695.37	0.00	0.00	1,695.37	100.0	0.00	84.77
300.800046.L	CO#1B WCD 002 - DSPS Revisions (STR 800 & 650)	53,693.68	53,693.68	0.00	0.00	53,693.68	100.0	0.00	2,684.68
300.800046.M	CO#1C WCD 003 - Excess Rubble and Debris Removal	81,247.25	81,247.25	0.00	0.00	81,247.25	100.0	0.00	4,062.36
300.800046.S	CO#1D WCD 004 - Overexcavation STR 800	-5,626.41	-5,626.41	0.00	0.00	-5,626.41	100.0	0.00	-281.32
300.800047.A	CO#1E RFP 002 - STR 800 & 650 Split Face & Flooring	-10,002.30	-10,002.30	0.00	0.00	-10,002.30	100.0	0.00	-500.12
300.800047.E	CO#1F RFP 003 - Blower and Mixer Sizing	4,801.64	4,801.64	0.00	0.00	4,801.64	100.0	0.00	240.08
300.800048.A	CO#1G RFI 022 - Door Frames & Hardware	34,904.25	34,904.25	0.00	0.00	34,904.25	100.0	0.00	1,745.21
300.800048.E	CO #2A WCD 005 - HVAC Changes	12,547.84	12,547.84	0.00	0.00	12,547.84	100.0	0.00	627.39
300.800048.L	CO #2B WCD 007 - Str 800 HVAC & Wall Infill	-9,449.35	-9,449.35	0.00	0.00	-9,449.35	100.0	0.00	-472.47
300.800048.M	CO #2C RFP 004 - Str 800 Finishes Revisions	5,823.21	5,823.21	0.00	0.00	5,823.21	100.0	0.00	291.16
	CO #2D COR 015 - EnviroMix Changes								
	Change Orders Total:	451,314.21	451,314.21	0.00	0.00	451,314.21	100.0	0.00	22,565.69
Project Total:		26,789,673.21	9,429,545.41	939,891.94	41,246.00	10,410,683.35	38.9	16,378,989.86	520,534.19