



April 2, 2024

Bruce Westby
 City of Ramsey
 7550 Sunwood Drive NW
 Ramsey, MN 55303

Re: Water Treatment Plant – Construction Contingency Expense No. 4

Dear Mr. Westby:

AE2S continues to oversee the construction of the City of Ramsey’s new WTP. Magney has completed a majority of the concrete pours at the subgrade level of the Water Treatment Plant along with both the backwash tank and clearwell base slabs and walls. Our engineering team has continued to coordinate with Magney and further refine the installation details of other pieces of equipment. Through those investigations we have identified some items that will require adjustments. This letter is intended to outline those adjustments and summarize the current project budget in order for the City to fully understand the status of the project.

Basis for of Construction Contingency Expenses:

Currently ten (10) requests for pricing (RFP) have been submitted to Magney. A full list of those requests are shown below. To date AE2S has received pricing back on all ten(10) of the RFP’s, and eight (8) separate proposals. We would like to move forward and process Construction Contingency Expense No. 4, which will include price Proposal No. 017, and 018. If the Contractor would like to include a request for extension as a result of these changes, a formal Change Order request will be issued at a different time.

Proposal No.	RFP No.	Description	Total Cost	Required	Status
001	001	Mixing Pumps Pipe Upsizing	\$51,287.38	Y	Approved – Construction Contingency Expense 1
002	003	Admin Ceiling Grid Color	\$2,609.25	N	Approved – Construction Contingency Expense 1
003		Building Permit Reimbursement	\$62,887.28	Y	Approved – Construction Contingency Expense 2
004	002	Upsizing Air Exchange in Plate Settler Room	\$16,580.02	N	Approved – Construction Contingency Expense 2
005		Storm and Plumbing Updates	\$22,550.28	Y	Approved – Construction Contingency Expense 1
006	005	Flowable Fill	-	N	Rejected
007	004	Blower Pipe Upsizing	\$55,230.60	Y	Approved – Construction Contingency Expense 2
008		Groundbreaking Signage Reimbursement	\$956.12	Y	Approved – Construction Contingency Expense 2
009		Prevailing Wages	\$794,153.71	Y	Approved – Change Order 01
010	007	Backwash Supply Piping Modifications	\$3,068.77	Y	Approved – Construction Contingency Expense 3
011		Electrical Modifications			EXPECTED
012		Accordion Folding Security Door	\$10,010.85	N	Approved – Construction Contingency Expense 3
013	008	Jet Mixing System Pump Modifications	\$16,834.33	Y	Approved – Construction Contingency Expense 3
014	009	Backwash Tank Overflow	\$1,534.38	Y	Approved – Construction Contingency Expense 3



015		Field Order No. 4 - Door Hardware Changes	\$10,922.45	Y	Approved – Construction Contingency Expense 3
016		Door Hardware Changes	\$56,724.85	Y	Approved – Construction Contingency Expense 3
017	012	Filter Slab Modifications	\$96,634.23	Y	Pending – Construction Contingency Expense 4
018		Conduit Encasement	\$5,389.13	Y	Pending – Construction Contingency Expense 4
Note: Any extension delays will be approved as a separate Change Order and will not be included in this Construction Contingency Expense.					

Proposal No. 017 (RFP 012): Filter Slab Modifications:

During construction and submittal review, the Contractor and structural engineer identified some concerns with the constructability of the beams within the Backwash Reclaim Tank and Clearwell that support the filter slabs above. Upon further review, the structural engineer concluded that additional support features should be included to increase the factor of safety of the beams. This included increasing the size of the 24”x24” beams to 24”x52”, thickening the filter slab supporting the underdrain and media, and extending that slab across all three filters (see the attached RFP No. 012 for changes). This change will increase the load capabilities of the filter slab and improve the overall structural design to be more resilient. The change increased the required steel by approximately 28,000 pounds and concrete by approximately 75 cubic yards. AE2S has worked with the contractor to review the required changes and determine a reasonable price to make these adjustments. The attached proposal reflects the Contractor’s associated costs for these modifications.

Included with the proposal is a request for a 10-day extension to account for installation and material lead times as a result of this change. The Contractor has agreed to reassess this request once installation is completed. AE2S requests that the City work to approve this change in a timely manner to reduce impacts to the construction schedule and lead times for materials added.

Proposal No. 018: Conduit Encasement:

To ensure that unexpected settlement under the Backwash Reclaim Tank will not occur, the Contractor was directed to cast-in-place all buried conduit that was to be installed under the tank base slab. The proposal reflects the Contractor’s associated costs for these modifications.

Summary of General Construction Contingency Costs:

AE2S has summarized all known construction contingency expenses at this time in order to help the City of Ramsey better understand the current contingency status. As Construction progresses, AE2S will continue to provide cost updates and coordinate with City staff.

Expense No.	General Construction Contingency Amount
	Original Contingency: \$950,000.00
Expense No. 1	\$76,446.53
Expense No. 2	\$135,654.02
Expense No. 3	\$99,095.63
Expense No. 4	\$102,023.36
Net Expenses to Date:	\$413,219.54
Available Construction Contingency =	\$536,780.46



Proposal

SEND TO Company name AE2S		From Noah Pundsack
Attention Mr. Ryan Hanson		Date 3/19/2024 (Revised 03/29/024)
E-mail Ryan.Hanson@ae2s.com	Phone (612) 220-0154	Magney Proposal # 017 RFP 012 - Filter Slab Modifications

Urgent
 Please comment
 Please review
 For your information

Total pages, including cover: 5

COMMENTS

Re: Ramsey Water Treatment Plant - Ramsey, MN

Ryan,
Magney Construction, Inc. is pleased to present the following quotation to furnish the necessary labor, material, and equipment to complete the requested changes in RFP 012 - Filter Slab Modifications. To extend and thicken the slab at 113' with required rebar modifications, increase the Clearwell and Backwash beam heights to 52". Along with raising the gullet walls to 121'11". The costs associated with change are summarized below.

Labor: Additional Labor For Added Concrete Forming & Pouring	\$	17,282.10
Material: Additional Concrete, Forming, Pumping, etc.	\$	24,778.98
Material: Metro Manufacturing Inc - Enlarge Beam To 12X6X3/8 (see attached)		\$554
Material: Rebarfab - Provide Additional 28,015Lbs Of Rebar (see attached)		\$24,949.84
Material: Plasti-Fab EPS (Added Geofom Under Gullet Walls)		\$735.64
Material: Added Dowel Bar Replacements / Form Savers		\$2,706.66
Equipment: Misc. Small Tools and Equipment (10% of Labor)	\$	1,728.21
Subcontractor: Bald Eagle Erectors - Install Additional 14 Tons Of Rebar		\$11,009.90
Subtotal	\$	83,745.33
General Contractor's Overhead	\$	11,460.81
Bond & Insurance premiums	\$	1,428.09
Lump Sum Total:	\$	96,634.23

Additional Calendar Days Required for this Change (Including material lead time):	10.0
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Please review this proposal and feel free to contact me with any questions, comments or concerns.

Thank you,

Noah Pundsack

Noah Pundsack
Project Engineer

<i>Accepted By</i>	<i>Date</i>



Phone: (651) 633-3337 Shipping: 720 First St. S.W.
Fax: (651) 633-2332 Mailing: P.O. Box 120267
E-mail: nickw@rebarfabinc.com New Brighton, MN 55112

Date: March 29, 2024

To: Magney Construction
Attn: Noah Pundsack
Project: Ramsey WTP
Rebarfab, Inc. Job #23067
Change Order: #3 REVISED
Control Code-Release #N/A

DESCRIPTION OF CHANGES IN THIS CONTRACT:

Added rebar per RFP 012 drawing set changes to well access and upper levels.

Weight Added: 28,015 lbs \$20,600.00 Black Epoxy
Time Added: 22 hours \$2,200.00
Misc. Added: None
Freight Added: \$275.00

Total Cost This Change: \$23,075.00 ** Tax excluded. Add applicable taxes.

ALL PRICES ARE PLUS TAX UNLESS NOTED OTHERWISE.

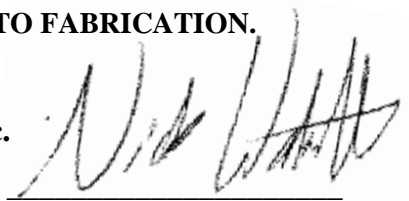
UPON SIGNATURE, CONTRACTOR IS TAKING FULL RESPONSIBILITY.

ALL OTHER TERMS AND CONDITIONS OF THE CONTRACT REMAIN THE SAME.

SIGNED COPY RETURNED VIA FAX REQUIRED PRIOR TO FABRICATION.

Approved by: _____

Rebarfab, Inc.

Approved by: 

Nick Watercott



BALD EAGLE ERECTORS

7309 Lake Drive Lino Lakes Mn 55014

Ph: 651-405-9050 | Fx: 651-405-9057

www.baldeagleerectors.com

PROPOSAL

DATE: March 13, 2024

JOB NAME: CO 12 Filter Slab Modifications

BALD EAGLE ERECTORS, INC. proposes to furnish labor only on the above noted project as follows:

To Install concrete rebar for the unit price of \$786.00 per ton per installed qty.

To Install welded wire fabric for the unit price of \$00.30 per square foot.

This price is based on regular 8-hour days and it **does not** include a performance bond.

Excludes:

Orientation, badging or security screening.

BIM related project management and 3D modeling.

Clarifications:

Hoisting equipment and operator for both unloading and placing of rebar as needed by others.

Hoisting equipment must be able to operate in a timely fashion for this price throughout project.

This bid does not include any overtime.

Please note our "normal" exclusions apply to this job, they are no rock anchor installation, no excessive cutting, no fabricating, no drilling and grouting, **no welding of rebar** and no installation of masonry rebar. All materials furnished by others. Scheduled overtime by general contractor will be discussed prior to proceeding. Line and grade and templates to be supplied by others as needed. All exclusions are at no cost to this erector

AISC Certified Erector

Veteran Owned and TBG

MNUCP Certified DBE/MBE

Certified CERT MBE/SBE Cities of Minneapolis and St. Paul/Hennepin and Ramsey Counties

Certified Member - NMSDC

We hereby propose to furnish labor only - complete in accordance with the above specifications, with payments to be made as follows:

PROGRESS PAYMENTS/NET 30 DAYS FROM DATE OF INVOICE

All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs, will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accident or delays beyond our control.

This proposal is subject to acceptance within 30 days and is void thereafter at the option of the undersigned.

Authorized Signature: _____

Reece Motte

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

ACCEPTED:

Signature _____

Date: _____

Title _____

From: Nick Watercott <NickW@rebarfabinc.com>
Sent: Friday, March 29, 2024 1:31 PM
To: Noah Pundsack; Kevin Vranicar
Subject: RE: Rasmey MN, WTP RFP No. 012 - Filter Slab Modifications
Attachments: Ramsey WTP- Magney #4.pdf

Ok, I got pricing back. The upcharge for going #5 to #6 formsavers adds \$2,407.00 (\$345 males, \$2,062 females)

Sorry my guess of at least \$1,000 was a little off. One thing I didn't account for was the additional freight weight. But in my opinion this cost increase is 100% something you should get paid for.

Please reach out via phone or email if you have any questions.

Nick Watercott
Rebarfab Inc.
Phone: 651.633.3337
Fax: 651.633.2332
Email: nickw@rebarfabinc.com



Proposal

SEND TO			
Company name AE2S		From Noah Pundsack	
Attention Mr. Ryan Hanson		Date 2/23/2024	
E-mail Ryan.Hanson@ae2s.com	Phone (612) 220-0154	Magney Proposal # 18 Electrical Conduit Encasement - T & M	

Urgent
 Please comment
 Please review
 For your information

Total pages, including cover: 3

COMMENTS

Re: Ramsey Water Treatment Plant - Ramsey, MN

Ryan,
Magney Construction, Inc. is seeking compensation for additional labor, material, and equipment required to complete the changes requested onsite by Mr. Ryan Hanson, w/ AE2S on 02/05/2024. The requested change included encasing recently installed conduits in concrete, in lieu of the specified sand backfill. We completed this work on a Time and Material basis, as directed. Please see attached supporting documentation, including work orders and invoices. The costs associated with this change are summarized below.

Labor: Excavate Previously Backfilled Area & Placing Concrete		\$1,646.19
Material: 16 Cubic Yards Concrete (AVR/AME Invoice- see attached)	\$	2,622.42
Equipment: Skid Loader (2 Hours) (including fuel & maintenance)	\$	183.72
Equipment: Misc. Small Tools and Equipment (10% of Labor)	\$	164.62
Subcontractor:		
Subtotal		\$4,616.95
General Contractor's Overhead	\$	692.54
Bond & Insurance premiums	\$	79.64
Lump Sum Total:	\$	5,389.13

Additional Calendar Days Required for this Change (Including material lead time):	0.0
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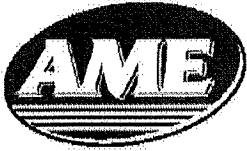
Please review this proposal and feel free to contact me with any questions, comments or concerns.

Thank you,

Noah Pundsack

Noah Pundsack
Project Engineer

<table border="1"> <tr> <td style="width: 50%;"><i>Accepted By</i></td> <td style="width: 50%;"><i>Date</i></td> </tr> </table>	<i>Accepted By</i>	<i>Date</i>
<i>Accepted By</i>	<i>Date</i>	



AME Red-E-Mix, LLC
 14698 Galaxie Avenue
 Apple Valley MN 55124 US
 952-432-7132

Invoice

Invoice #:	150291
Date:	02/6/24
Customer No:	6839
Job #:	10366
PO #:	599
Terms:	Net 30 Days

Sold To: CITY OF RAMSEY % MAGNEY CONSTRUCTION
 1401 PARK ROAD
 CHANHASSEN, MN 55317

Delivered To: 14199 JASPER ST NW
 RAMSEY

Sale Date	Ticket	Mix Design	Material	Description	Units	UM	Unit Price		Matl Total	Haul Total	Tax Code	Tax	Total	
02/6/24	31136486	4047	R000000	MIX #3 5000 STRUC NON-WATER BE	8.00	CY	143.00	E	1,144.00	0.00	MNAN17	81.51	1,225.51	
02/6/24	31136486		7900000	TEMPERING/WINTER SERVICES	8.00	CY	10.00	E	80.00	0.00	MNAN17	5.70	85.70	
02/6/24	31538101	4047	R000000	MIX #3 5000 STRUC NON-WATER BE	8.00	CY	143.00	E	1,144.00	0.00	MNAN17	81.51	1,225.51	
02/6/24	31538101		7900000	TEMPERING/WINTER SERVICES	8.00	CY	10.00	E	80.00	0.00	MNAN17	5.70	85.70	
Total Invoice:							16.00 CY		2,448.00			0.00	174.42	2,622.42

Payment Type: On Account

32.00 Discount	PLEASE PAY THIS INVOICE TOTAL: 2,622.42
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Finance Charge of 1.50% per month (\$1.00 minimum) on all items remaining unpaid from previous month's statement. Invoice is valid as billed unless inquires are made within 15 days.



WORK ORDERS

JOB: Ramsey Water Treatment Plant _____

DATE: 02/07/2024 _____

Subcontractor/Owner: _____

Address: 6900 143rd Avenue NW Ramsey, MN 55303 _____

LABOR	CLASSIFICATION	HOURS
Excavate around conduit	Laborer	7
Excavate around conduit	Carpenter	7

MATERIAL: 16 Yards of concrete

EQUIPMENT: Skid Loader - 2Hours

DESCRIPTION OF WORK:

 Excavate around conduit under Backwash Base. Form and encase in concrete. Backfill and Recompact soil.

Magney Construction Inc.
 Subcontractor

By _____
 By _____



Request For Proposal No. 012

Date of Issuance: 2/23/2024

Project Manager: Aaron Vollmer, P.E.
AE2S
Water Tower Place Ste 184
6901 E. Fish Lake Road
Maple Grove, MN 55369

Contractor: Magney Construction Inc.

Project: Ramsey Water Treatment Plant

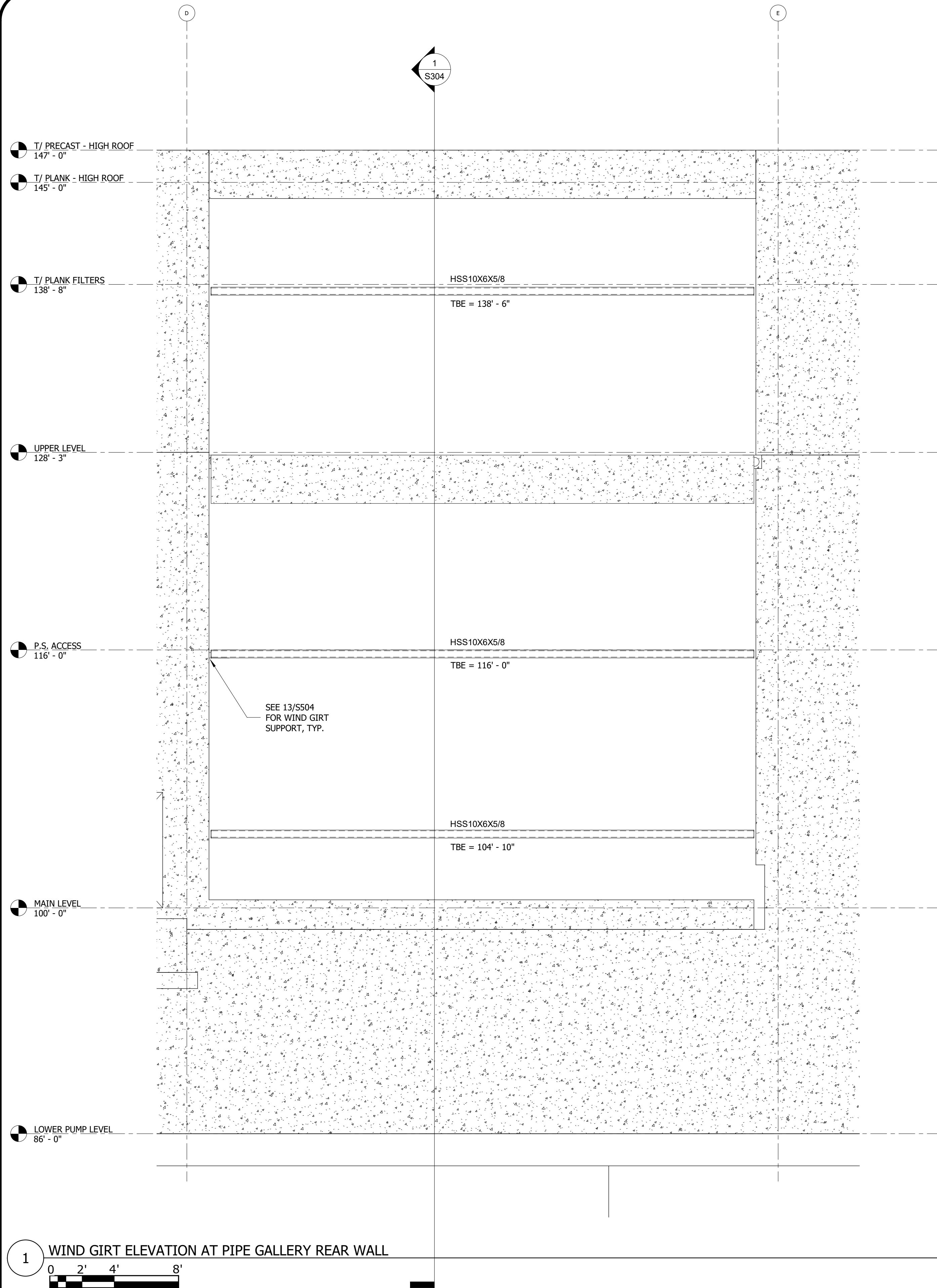
Owner: City of Ramsey, Minnesota

Re: Filter Slab Modifications

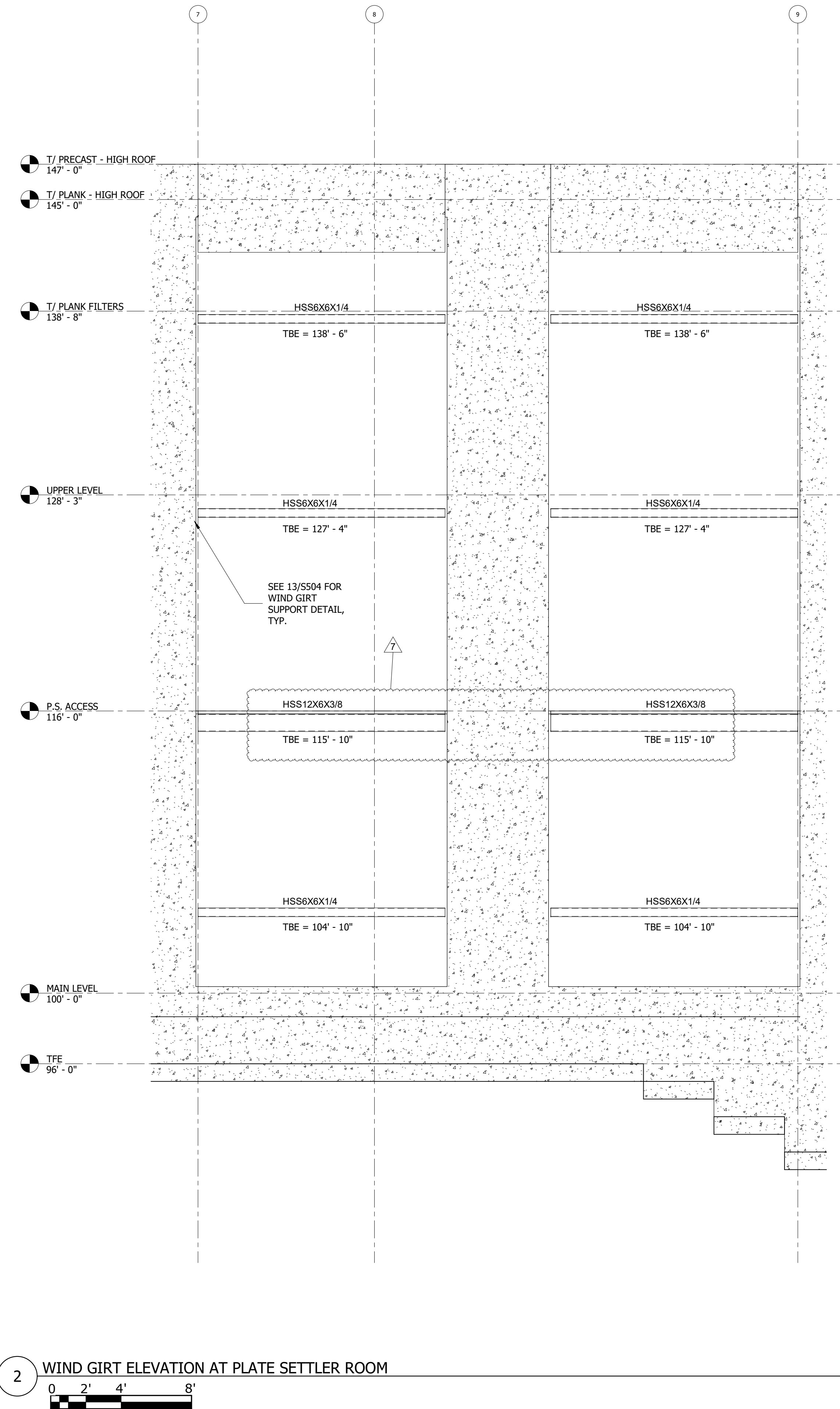
Please submit a cost proposal for changes to the Contract Documents for the following proposed modifications. THIS IS NOT A WORK CHANGE DIRECTIVE, CHANGE ORDER, OR A DIRECTION TO PROCEED WITH THE WORK DESCRIBED IN THE PROPOSED MODIFICATIONS.

Description:

AE2S requests pricing from Magney for changes to the filter slab and CIP supports beams in the clearwell and backwash reclaim tank. Changes include but are not limited to extending the filter slab at elevation 113', increasing the slab thickness to 20" and increasing the CIP beams in the clearwell and backwash tank from 24" to 52". We also request pricing for raising the height of the gullet wall and filter trough to 121'-11". See attached drawings for any additional changes required. Once approved, Contractor will need to resubmit submittal 135 – Concrete reinforcement WTP structural slab, based on provided drawings. See sheets S203, S301, S302, S303, S305, S504, S505 and S601 attached.



1 WIND GIRT ELEVATION AT PIPE GALLERY REAR WALL



2 WIND GIRT ELEVATION AT PLATE SETTLER ROOM

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

SIGNATURE: *Ashley Ann Olson*

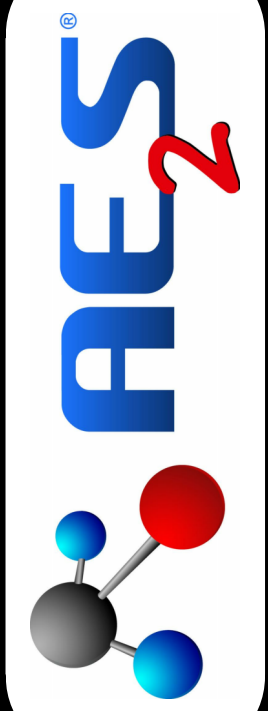
TYPED NAME: ASHLEY A. OLSON

JANUARY 27, 2023

REG. NO. 54295

SYM	DATE	DESCRIPTION	APPR
7	05/02/23	CONFORMED SET	
3		REVISION 7	

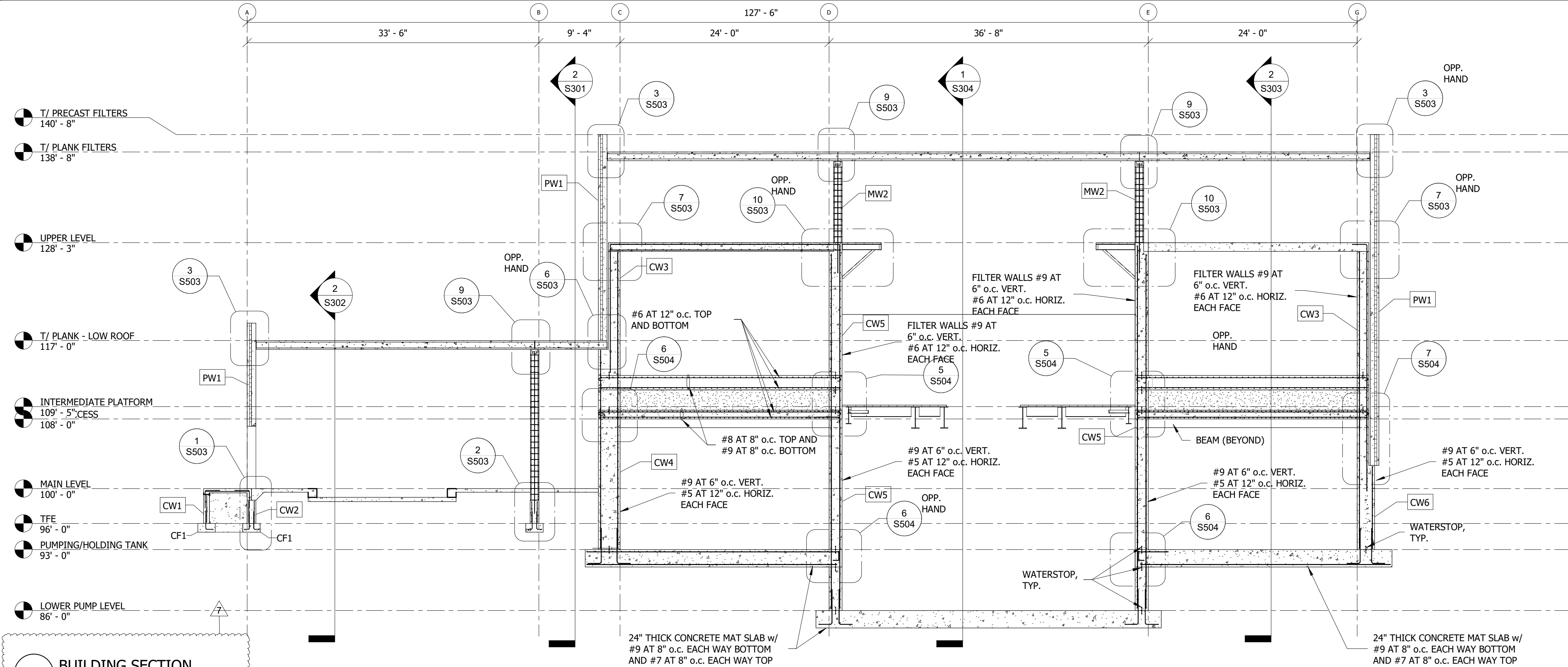
DESIGN TREE
engineering + land surveying
St. Cloud | Alexandria | Rogers
320-217-5557



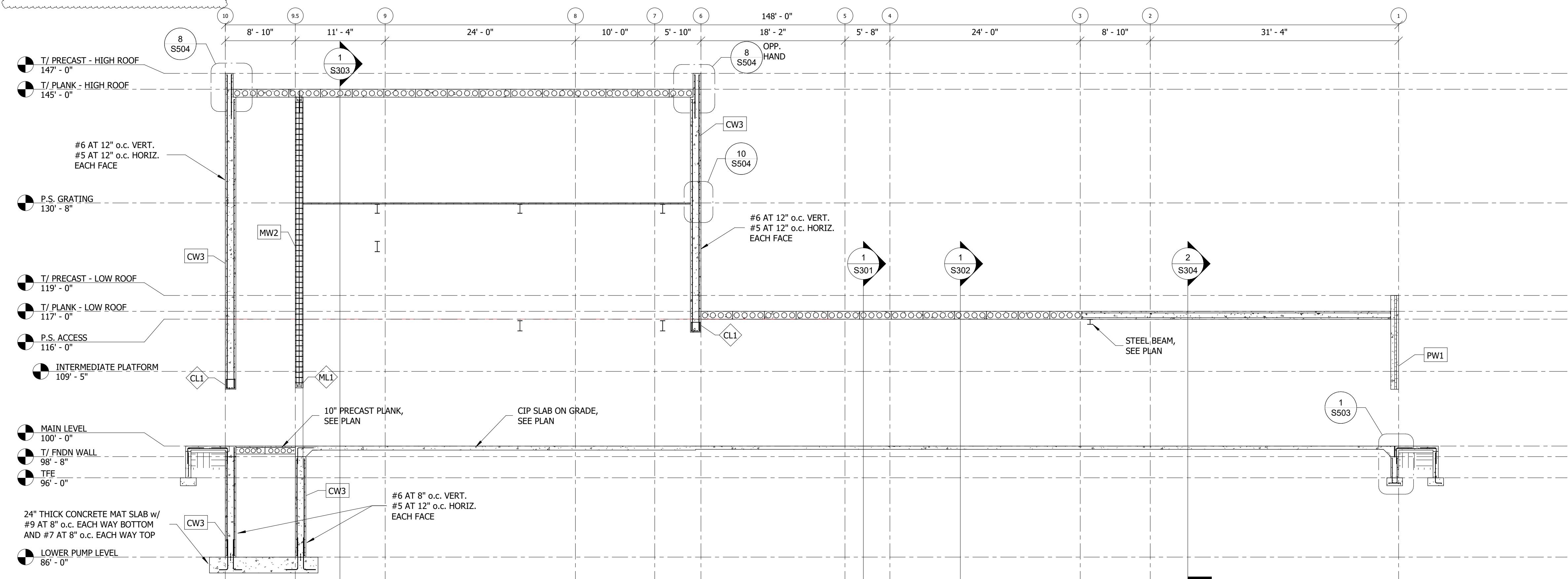
RAMSEY WATER TREATMENT PLANT
CITY OF RAMSEY
RAMSEY, MINNESOTA
BUILDING ELEVATIONS

DRAWING TYPE	CONST
PREPARED BY	AAO
CHECKED / APPROVED	AAO / AAO
DATE	JAN 2023
PROJECT NUMBER	05434-2020-002
SHEET	

DRAWING
S203



1 BUILDING SECTION
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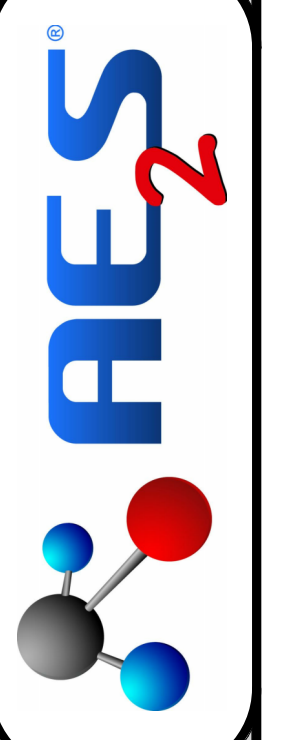
2 BUILDING SECTION
 0 4 8 16

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

SIGNATURE: *Ashley Ann Olson*
 TYPED NAME: ASHLEY A. OLSON
 REG. NO. 54295
 JANUARY 27, 2023

DESIGN TREE
 engineering + land surveying
 St. Cloud | Alexandria | Rogers
 320-217-5557

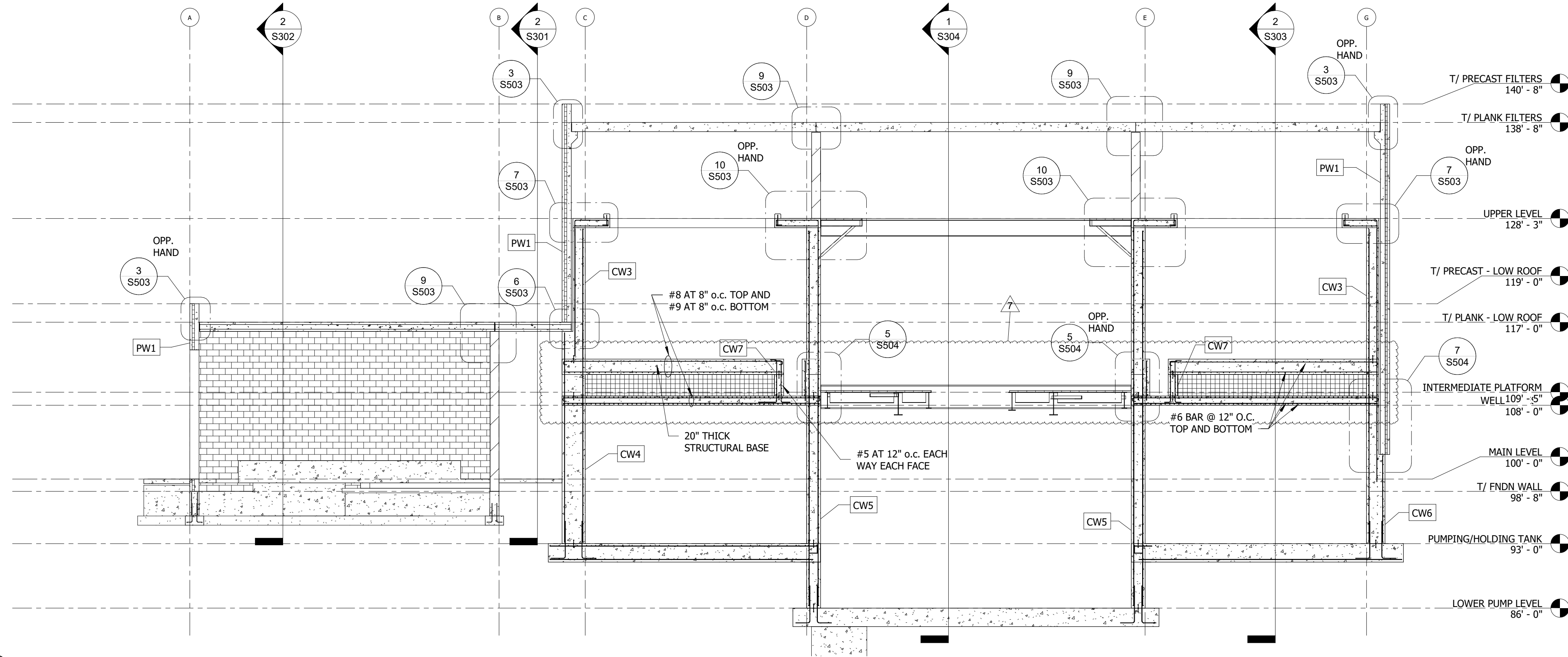
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SYM	DATE	DESCRIPTION		



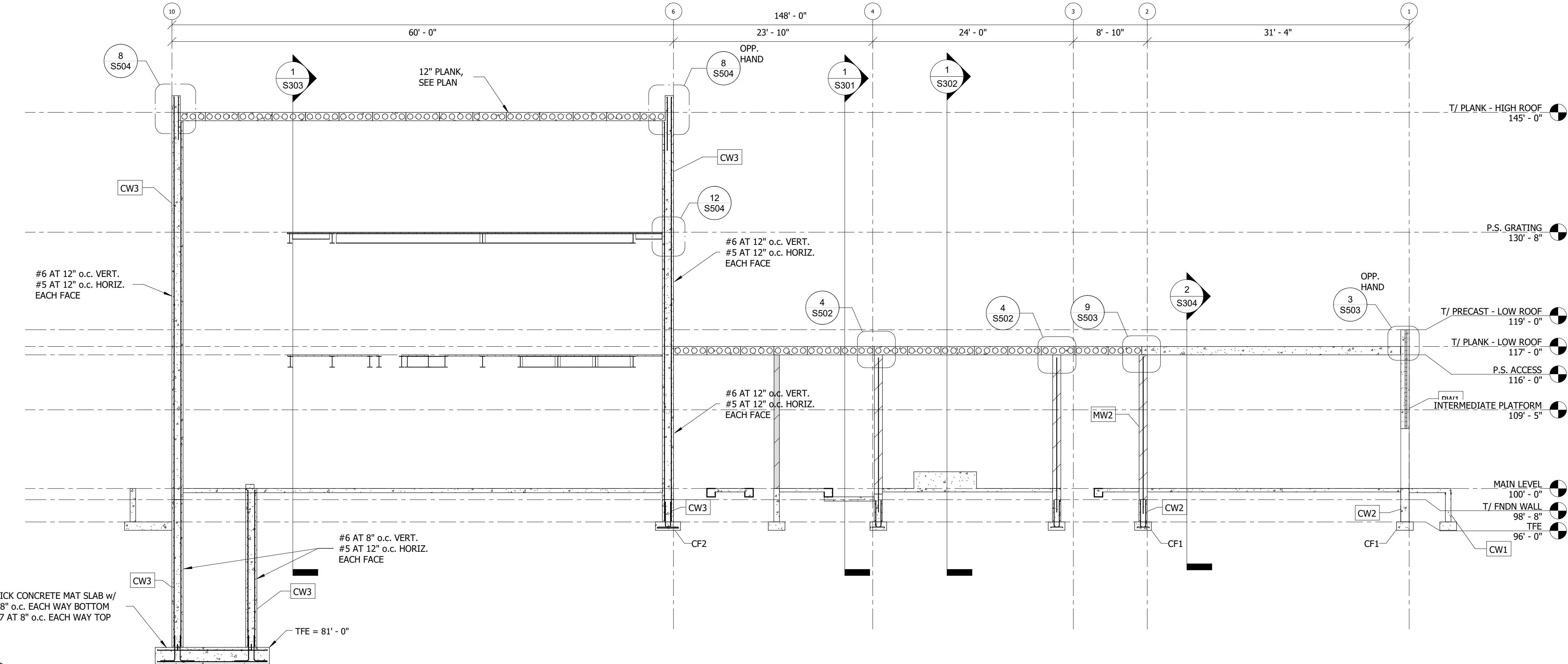
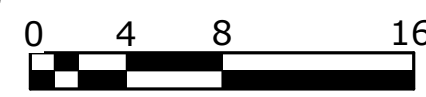
RAMSEY WATER TREATMENT PLANT
 CITY OF RAMSEY
 RAMSEY, MINNESOTA

DRAWING TYPE	CONST
PREPARED BY	AAO
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SHEET	

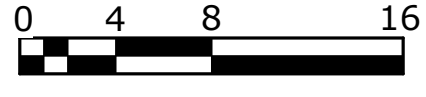
DRAWING
S301



1 BUILDING SECTION



2 BUILDING SECTION



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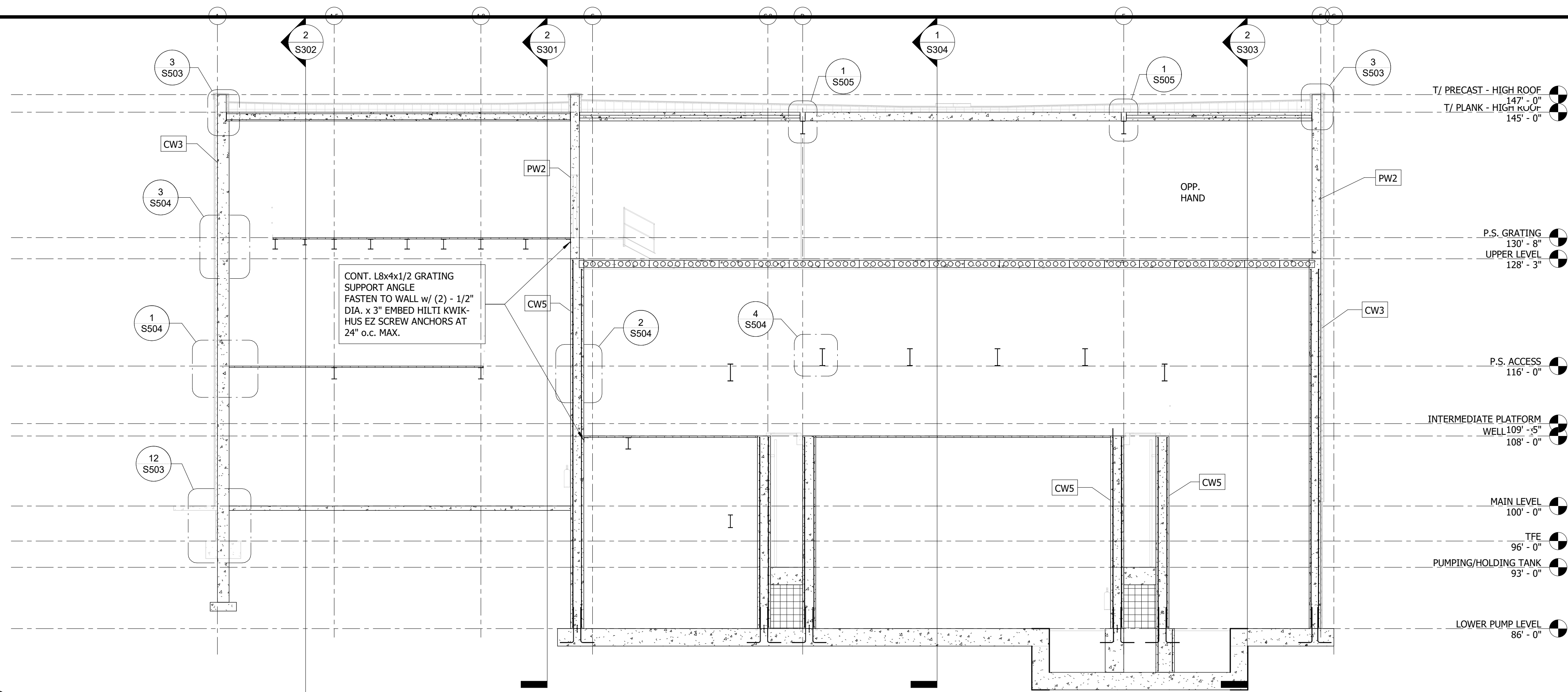
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3	05/02/23	ADDENDUM 3	
2	03/06/23	DESCRIPTION	APPR
	SYM	DATE	



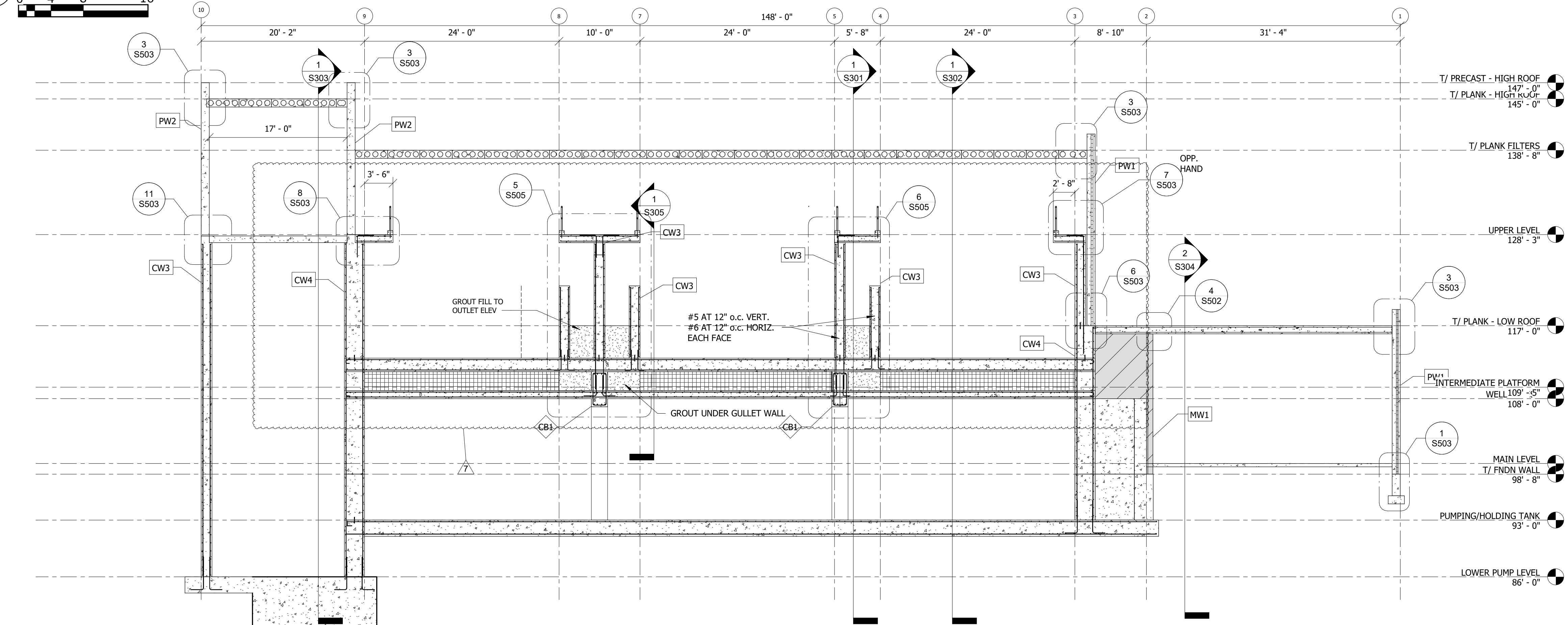
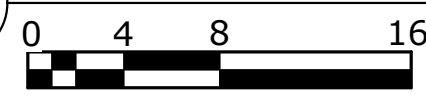
RAMSEY WATER TREATMENT PLANT
 CITY OF RAMSEY
 RAMSEY, MINNESOTA

DRAWING TYPE	CONST
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DATE	JAN 2023
PROJECT NUMBER	05434-2020-002
SHEET	

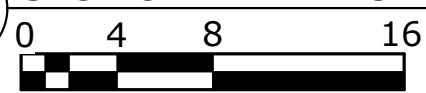
DRAWING
S302



1 BUILDING SECTION



2 SECTION AT PIPE GALLERY



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

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 TYPED NAME: ASHLEY A. OLSON

JANUARY 27, 2023
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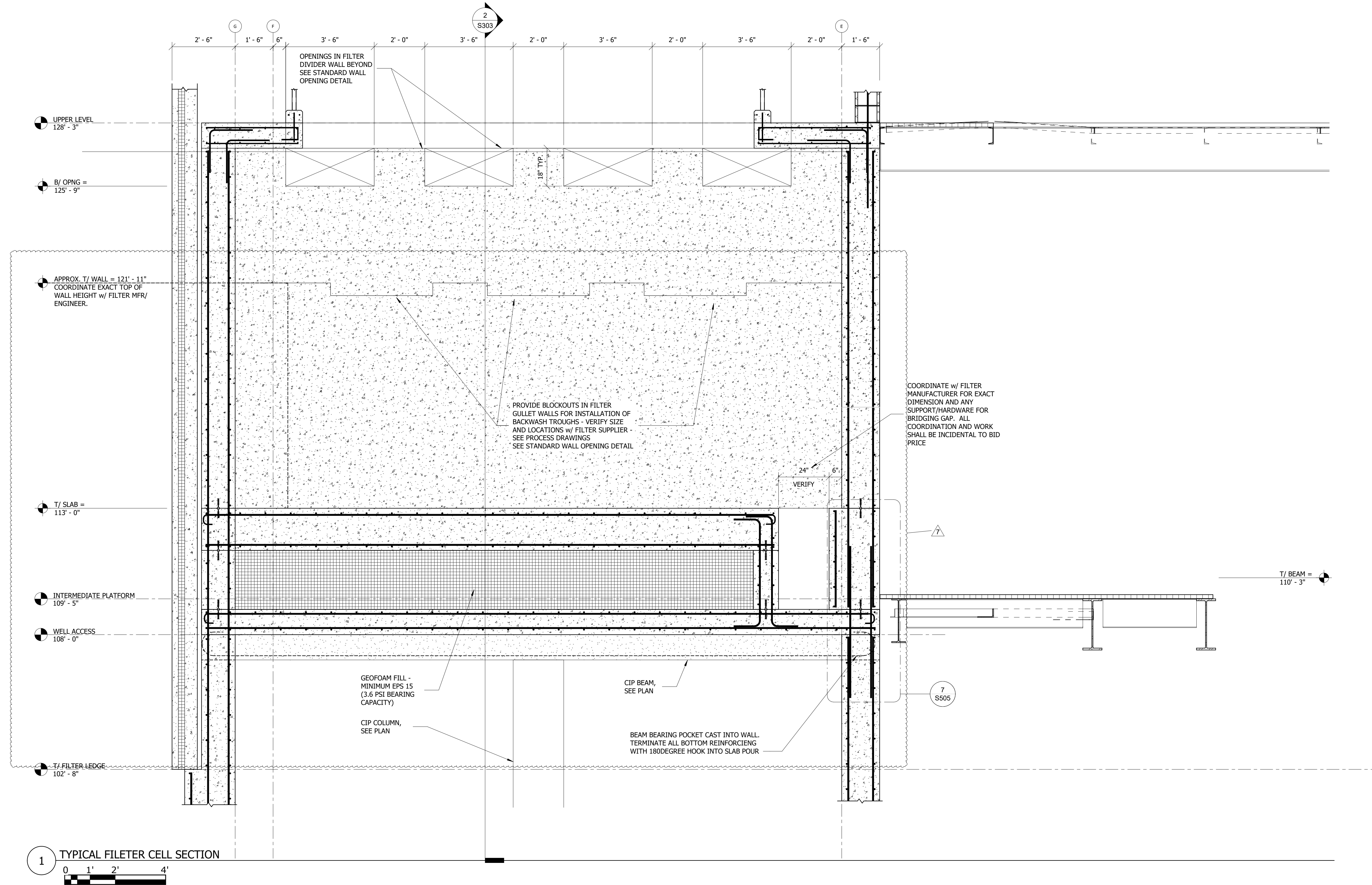
RAMSEY WATER TREATMENT PLANT
 CITY OF RAMSEY
 RAMSEY, MINNESOTA

BUILDING SECTIONS

DRAWING TYPE	CONST
PREPARED BY	AAO
CHECKED / APPROVED	AAO / AAO
DATE	JAN 2023
PROJECT NUMBER	05434-2020-002
SHEET	

DRAWING
S303

7	Date 7	Revision 7	CONFORMED SET
3	05/02/23	ADDENDUM 3	
2	03/06/23	DESCRIPTION	
	SYM	DATE	APPR



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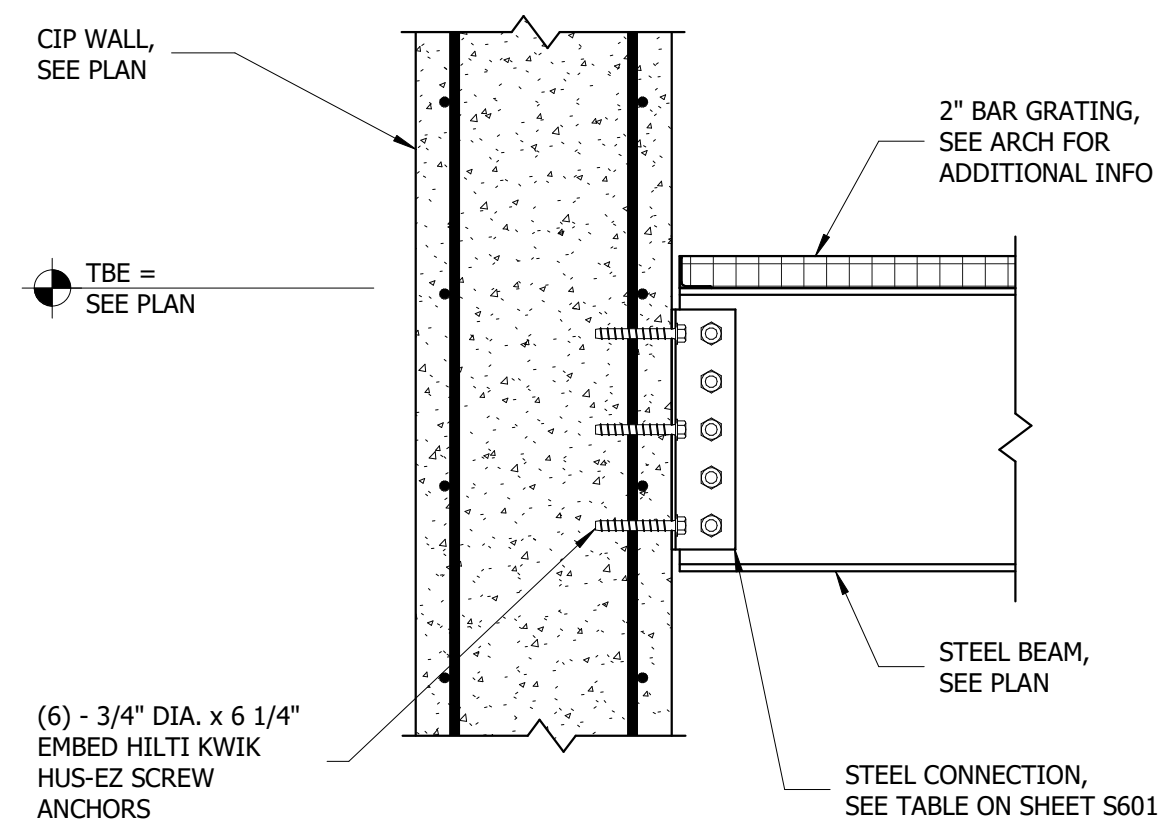


7	Date 7	Revision 7
3	05/02/23	CONFORMED SET
2	03/06/23	ADDENDUM 3
	SYM	DATE
		DESCRIPTION
		APPR

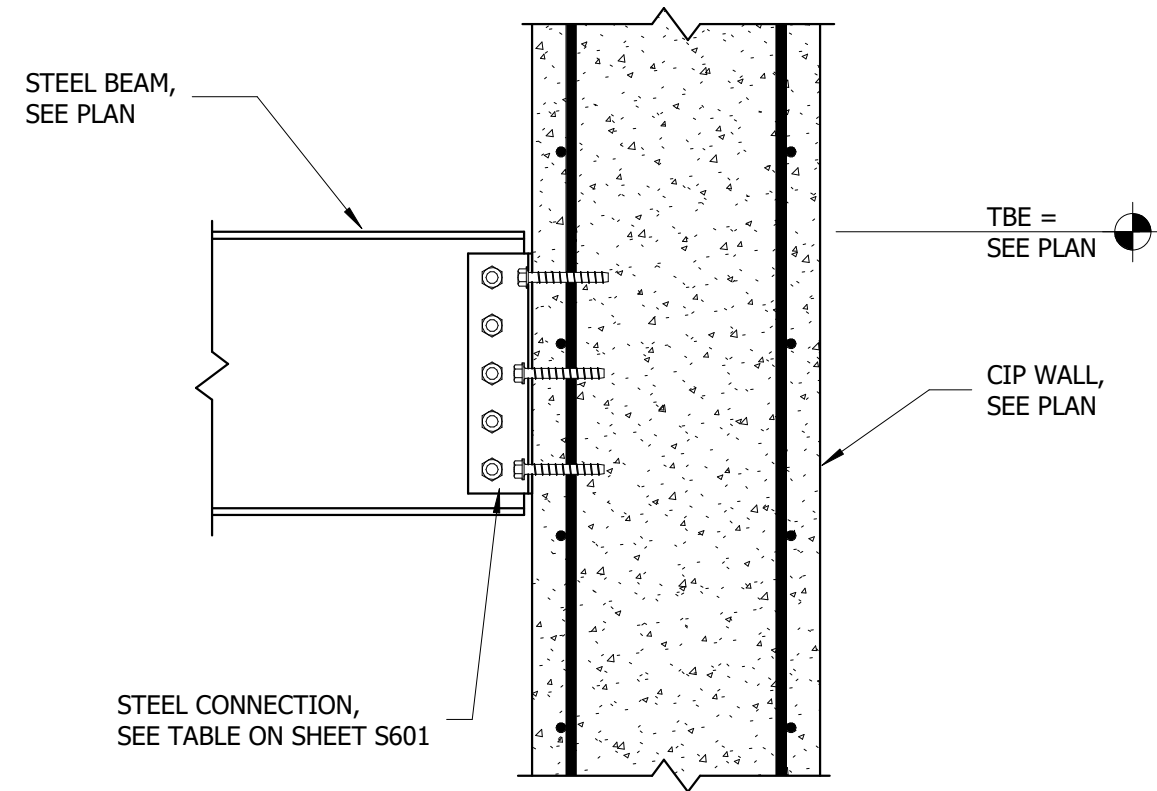
RAMSEY WATER TREATMENT PLANT
 CITY OF RAMSEY
 RAMSEY, MINNESOTA
 FILTER SECTIONS

DRAWING TYPE	CONST
PREPARED BY	AAO
CHECKED / APPROVED	AAO / AAO
DATE	JAN 2023
PROJECT NUMBER	05434-2020-002
SHEET	

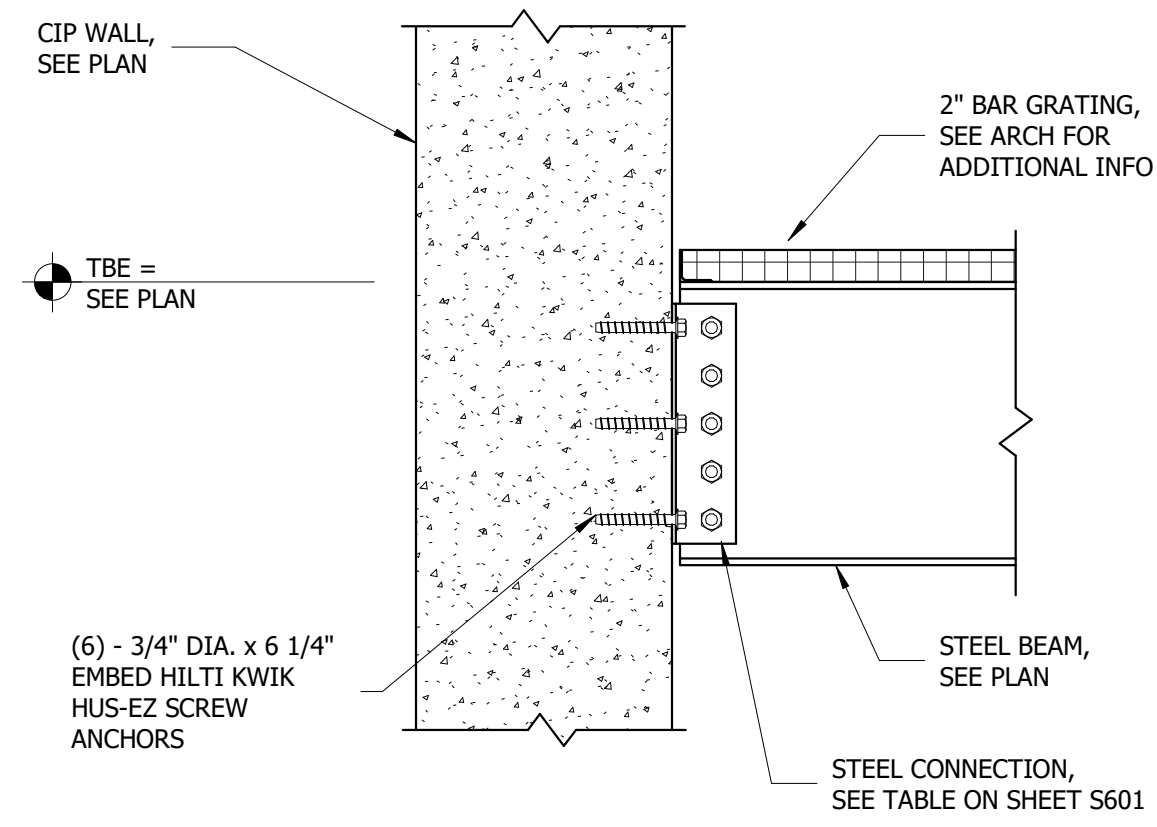
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S305



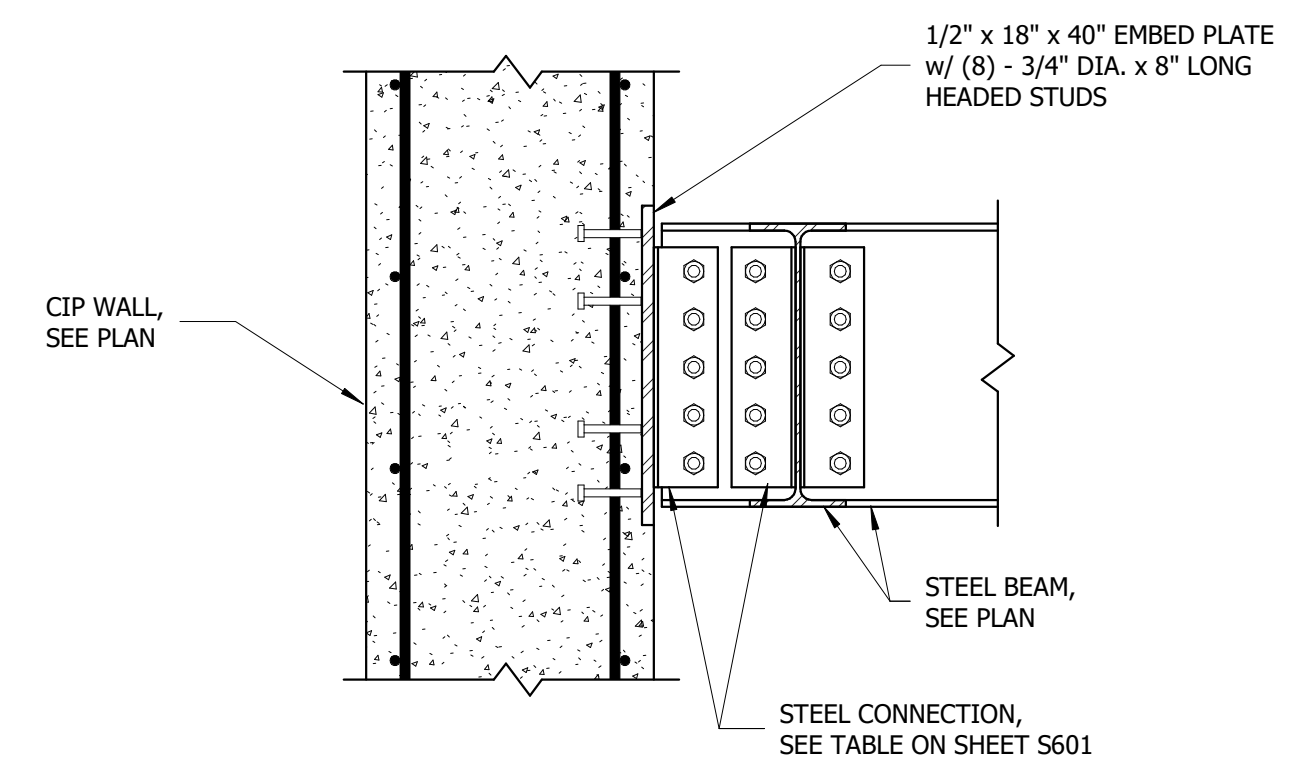
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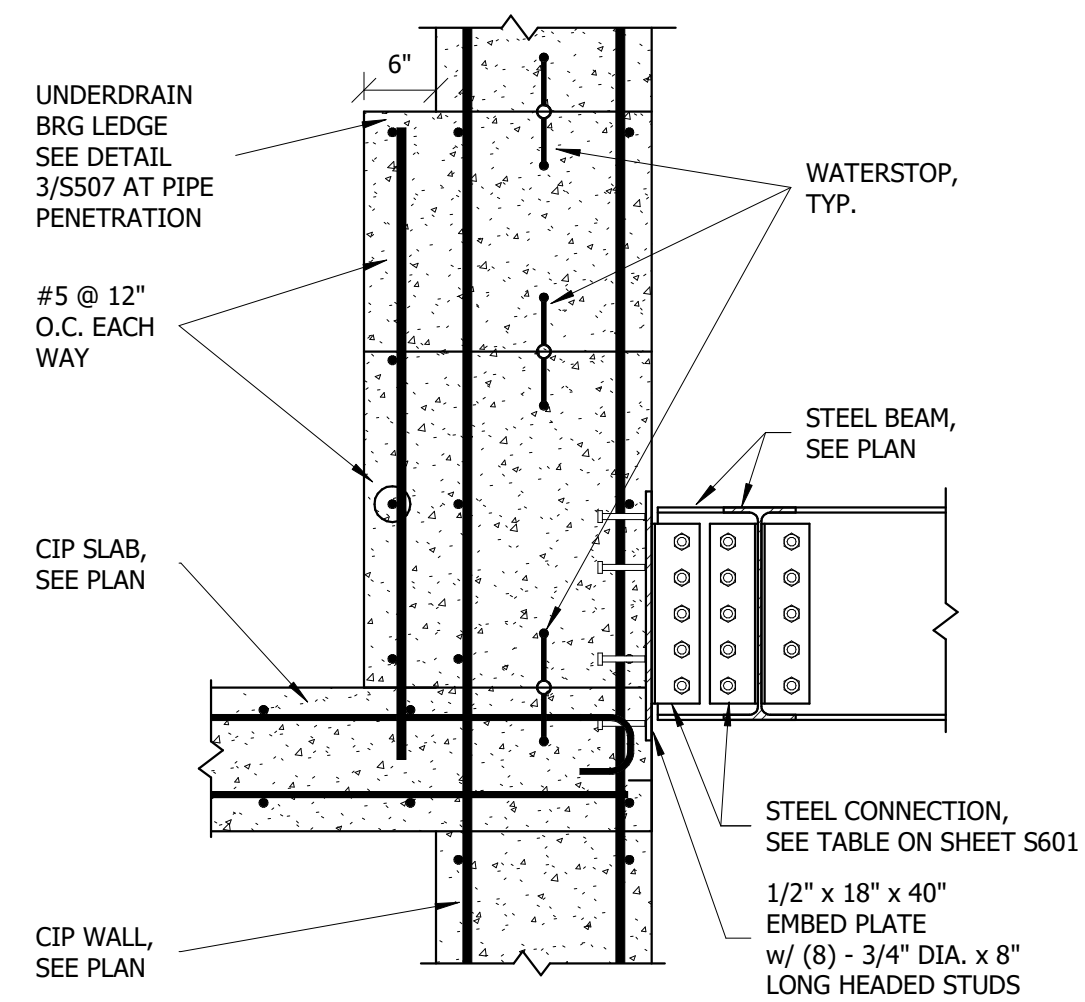
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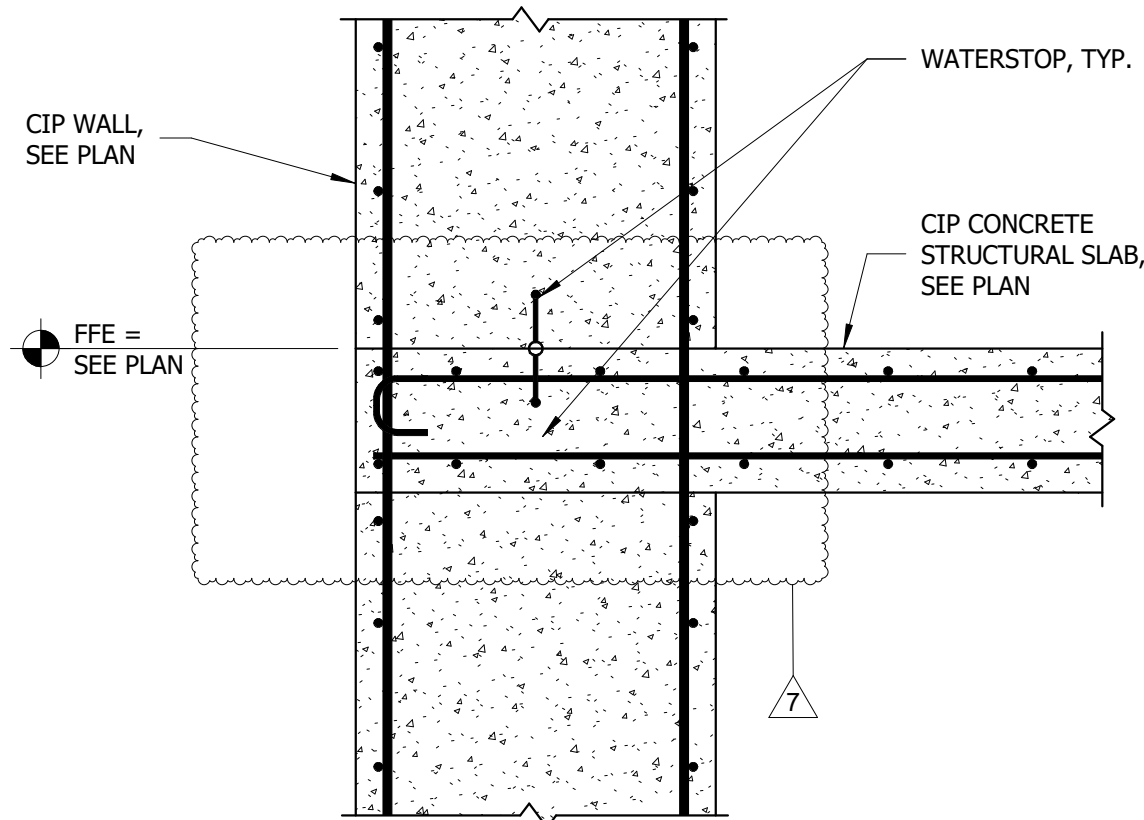
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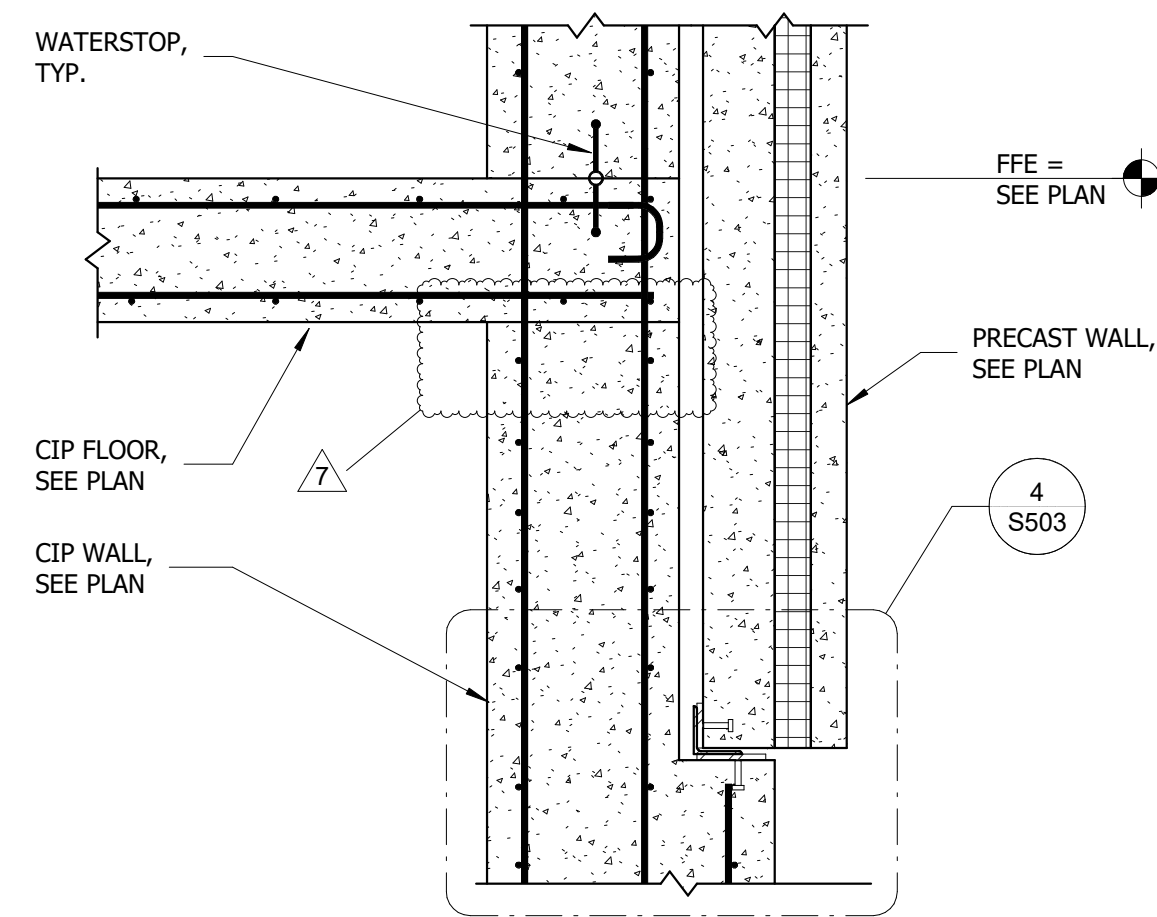
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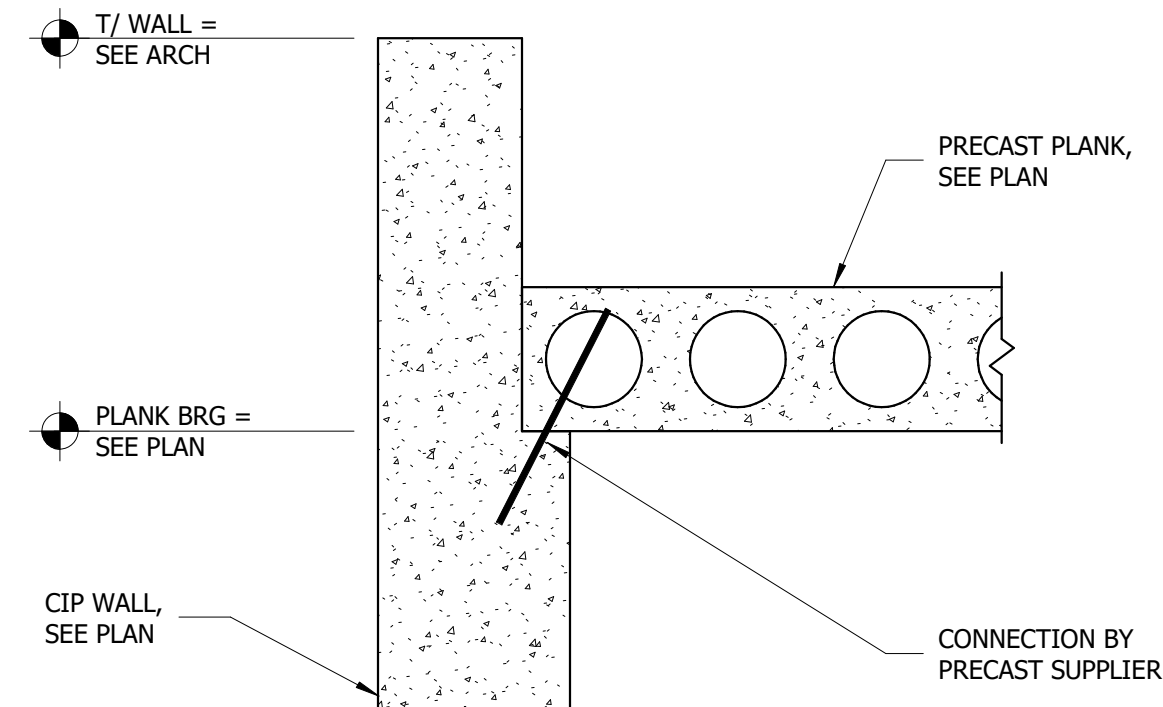
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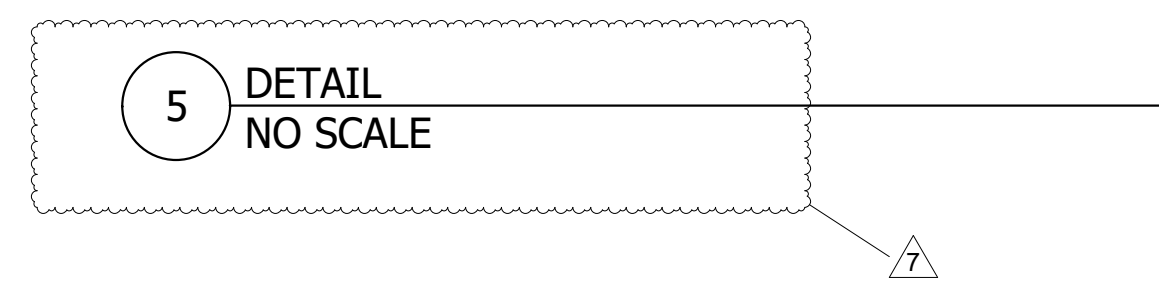
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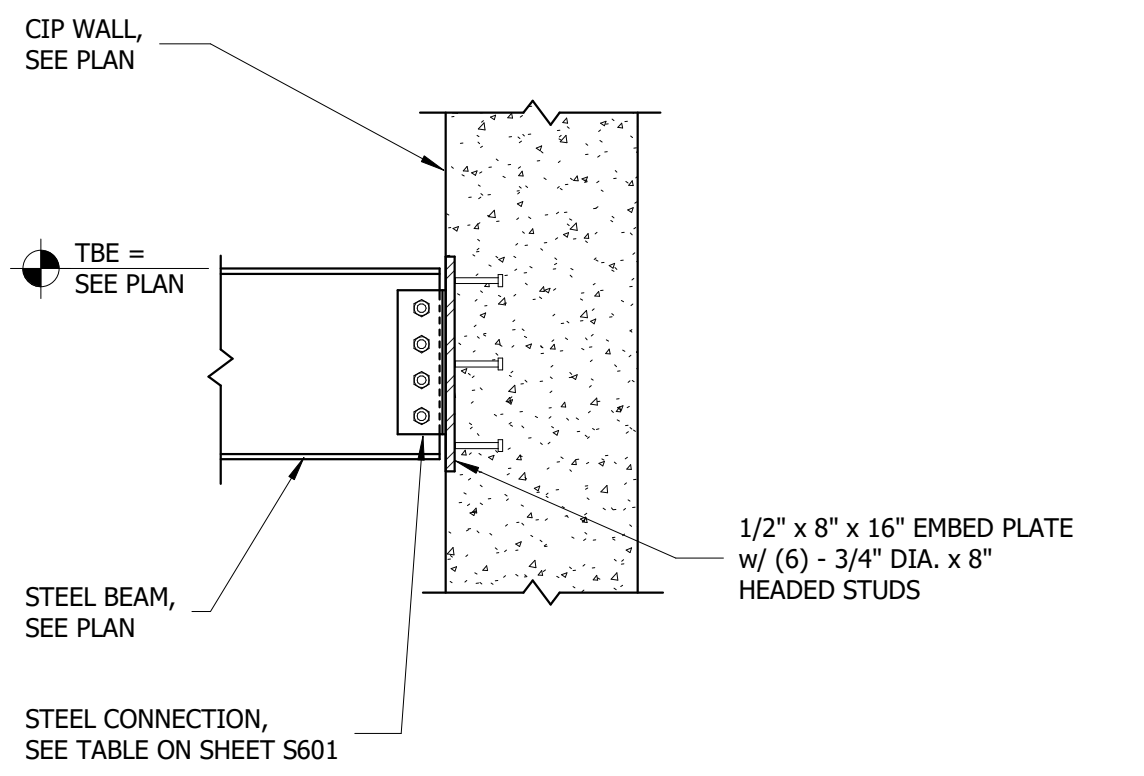
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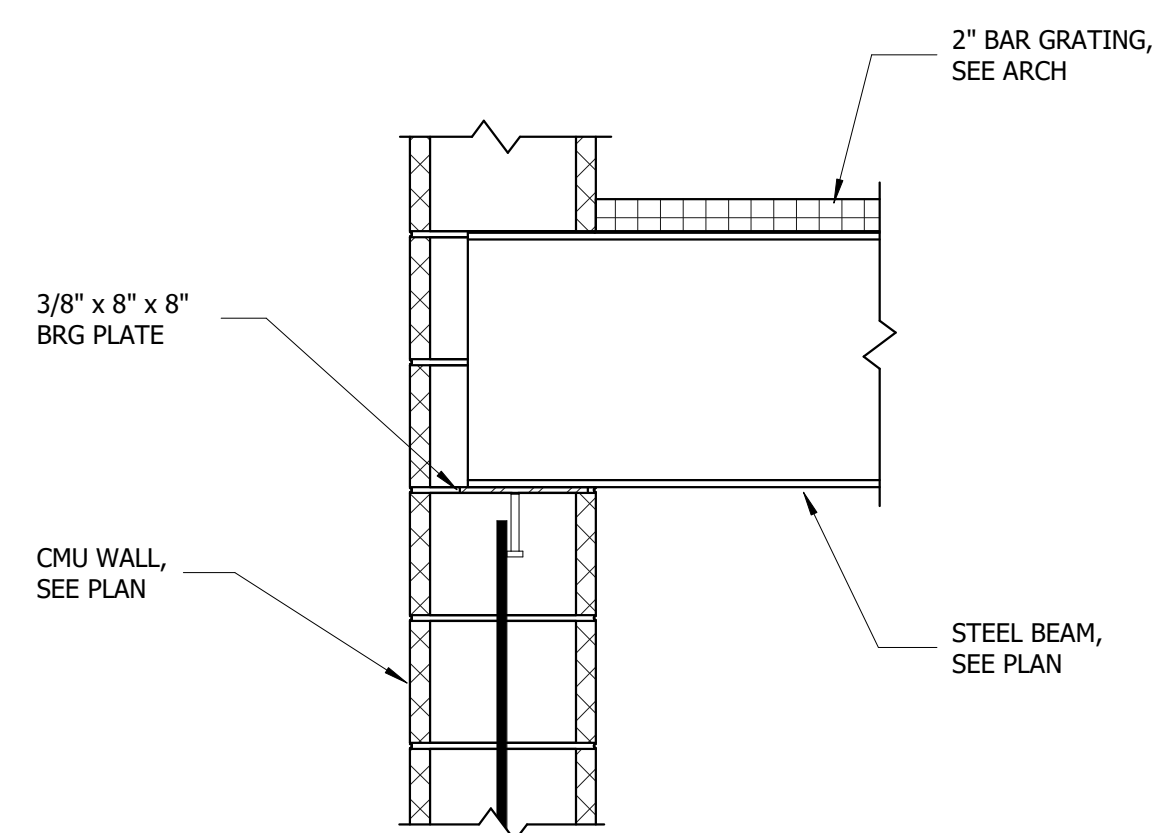
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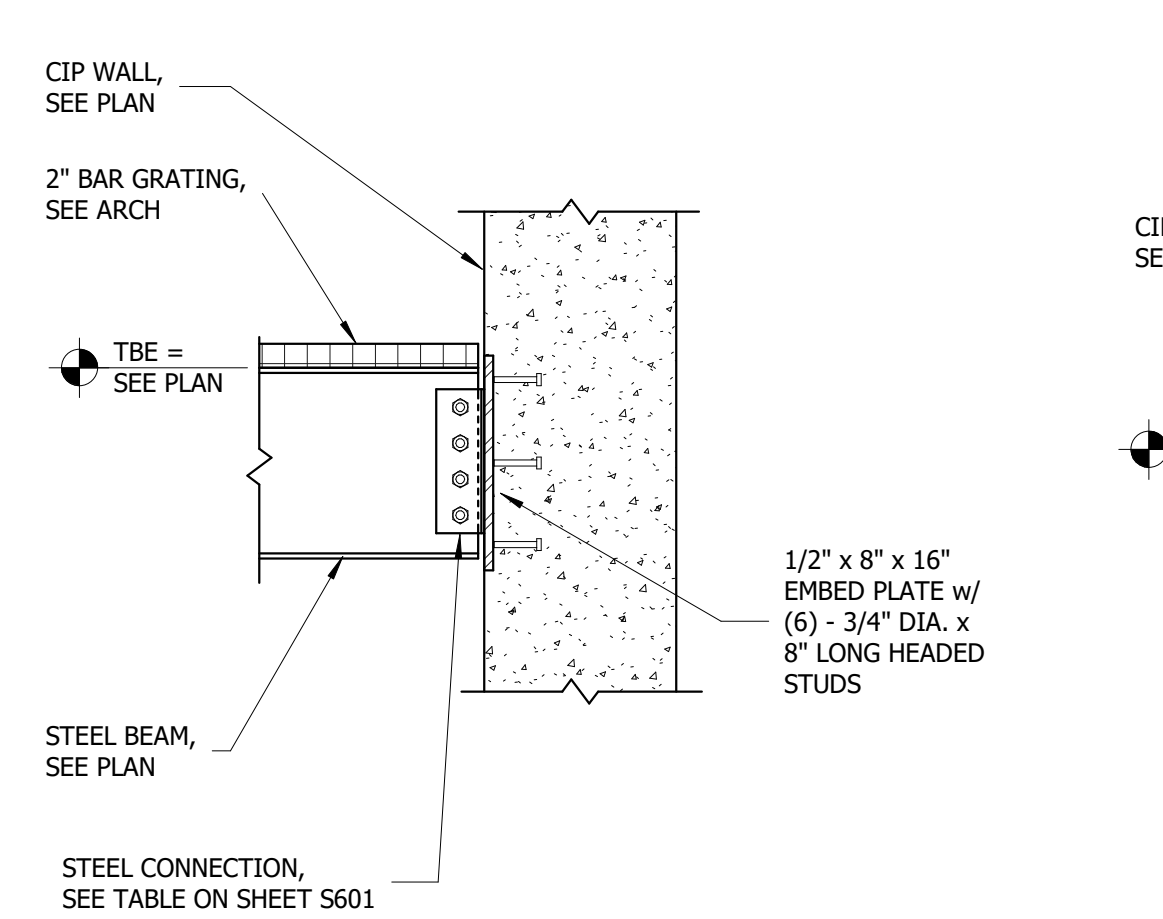
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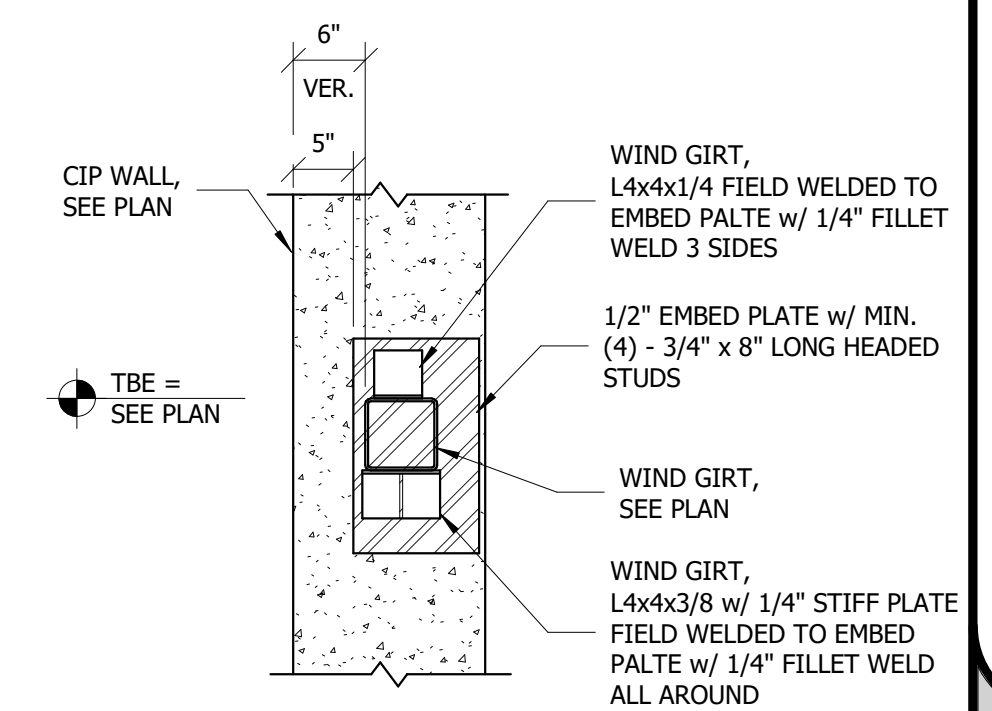
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SIGNATURE: *Ashley Ann Olson*
 TYPED NAME: ASHLEY A. OLSON
 REG. NO. 54295

JANUARY 27, 2023

7	Date 7	Revision 7
3	05/02/23	CONFORMED SET
SYM	DATE	DESCRIPTION
		APPR

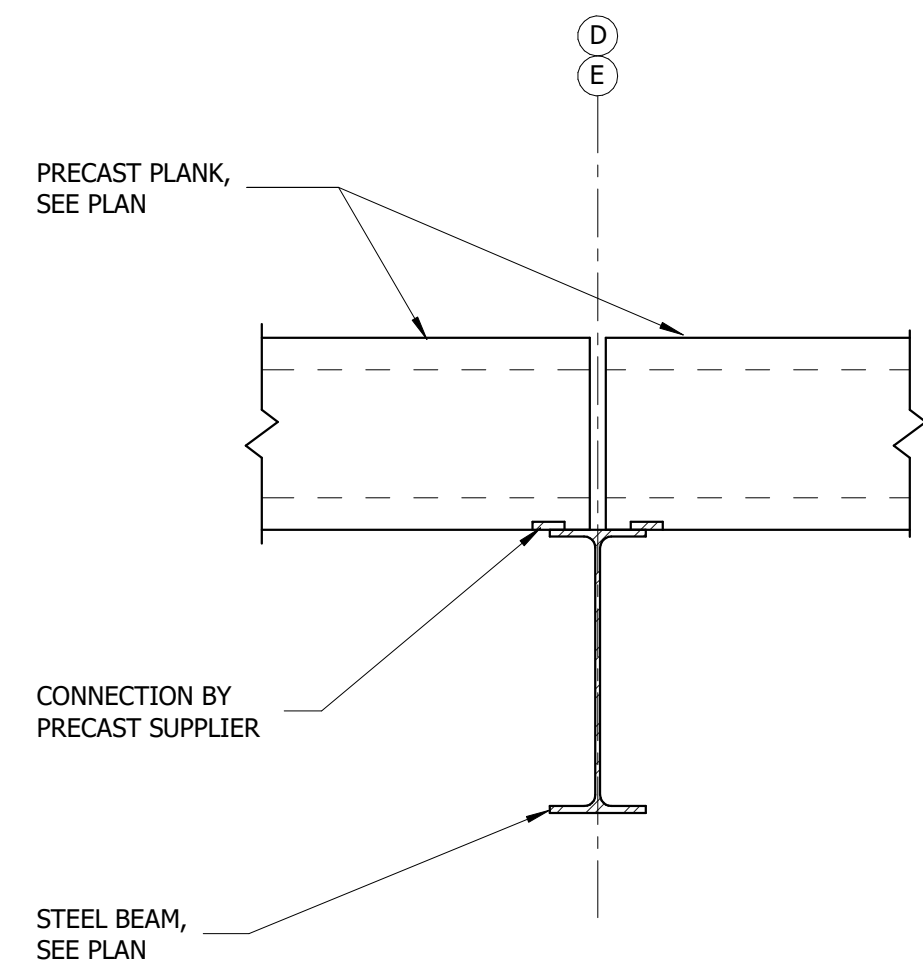
DESIGN TREE
 engineering + land surveying
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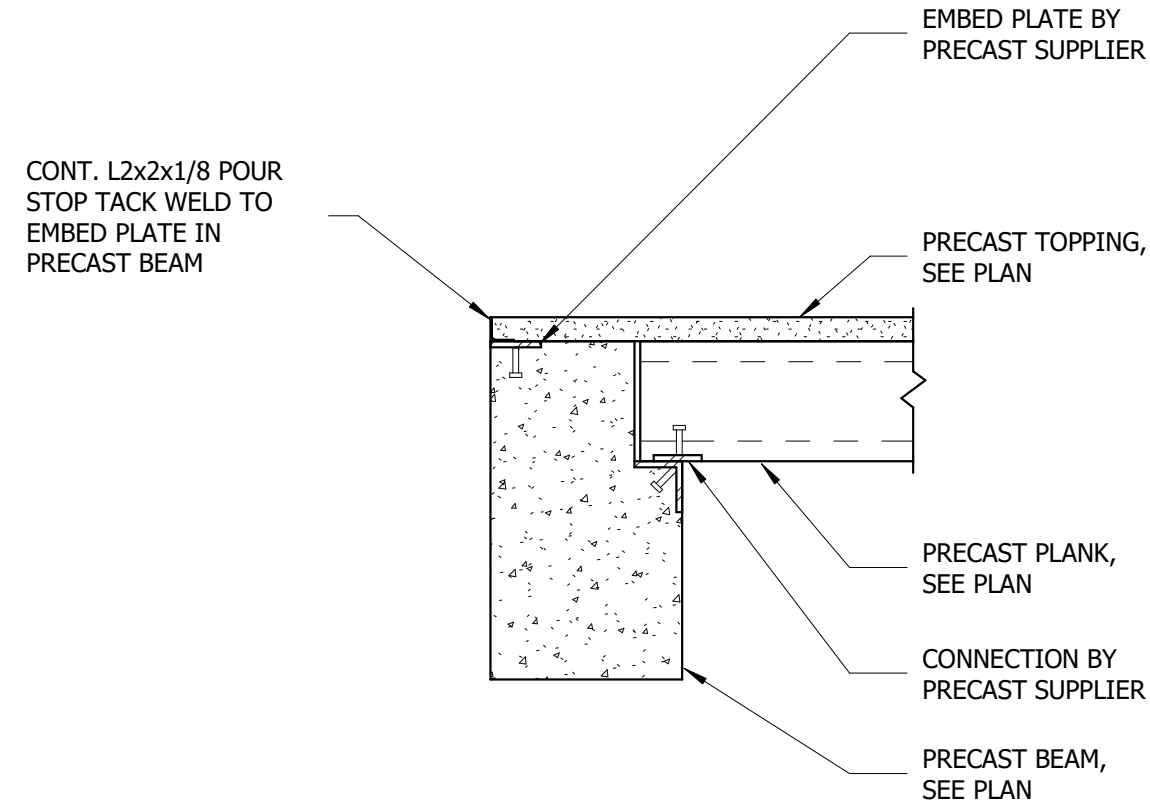
RAMSEY WATER TREATMENT PLANT
 CITY OF RAMSEY
 RAMSEY, MINNESOTA

DRAWING TYPE	CONST
PREPARED BY	AAO
CHECKED / APPROVED	AAO / AAO
DATE	JAN 2023
PROJECT NUMBER	05434-2020-002
SHEET	

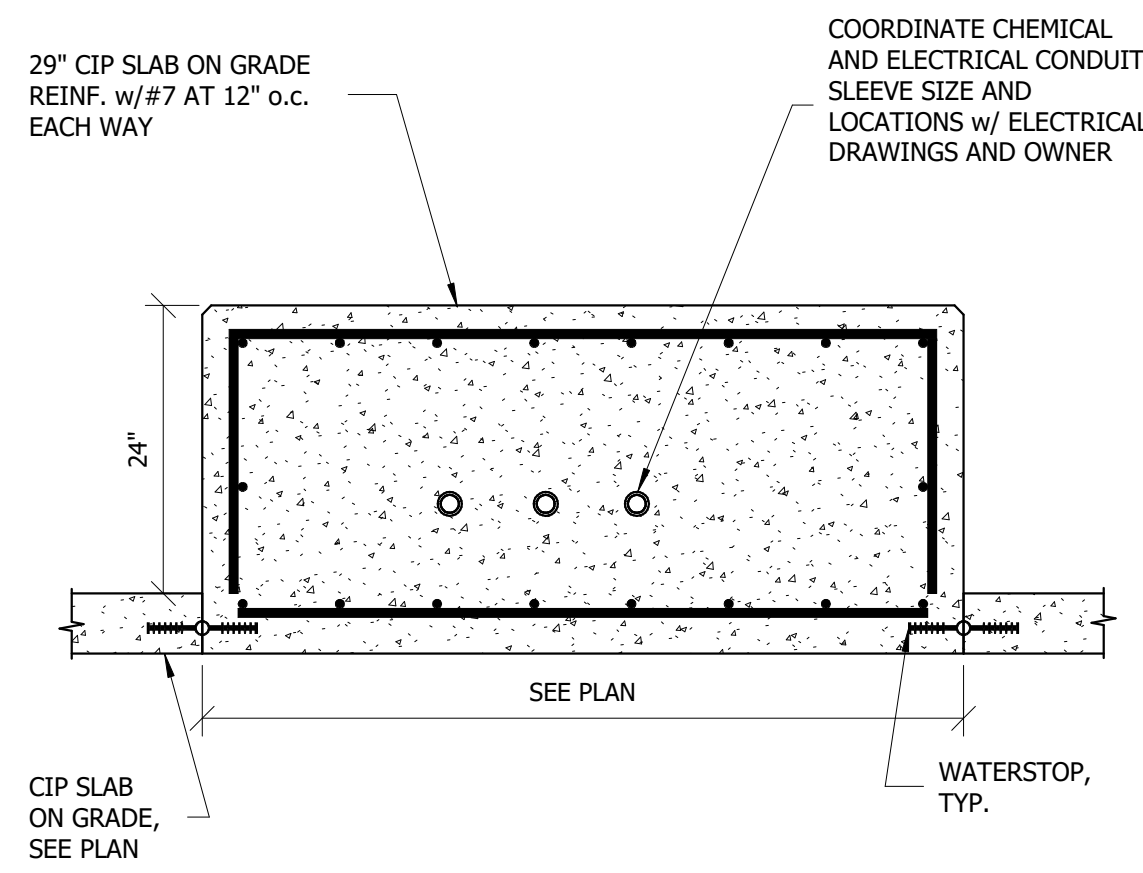
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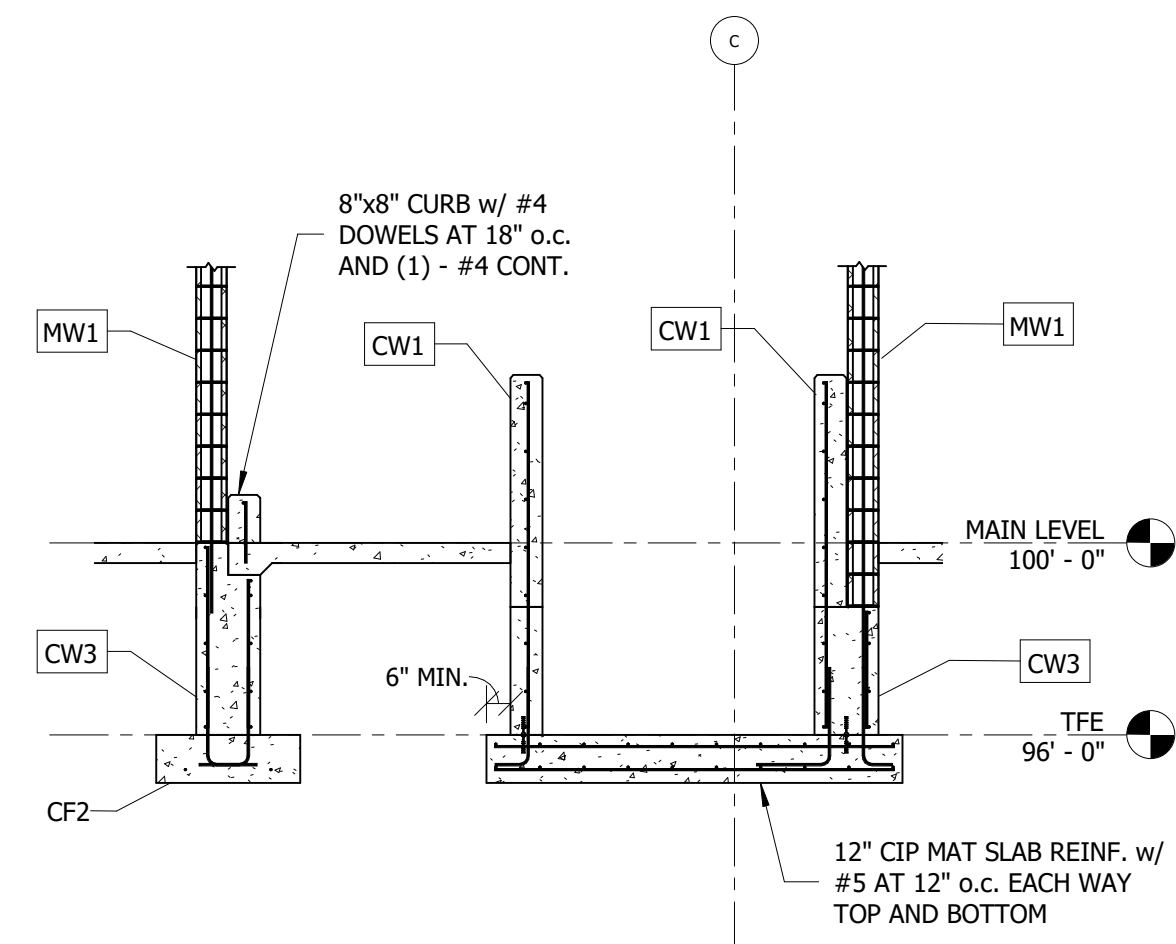
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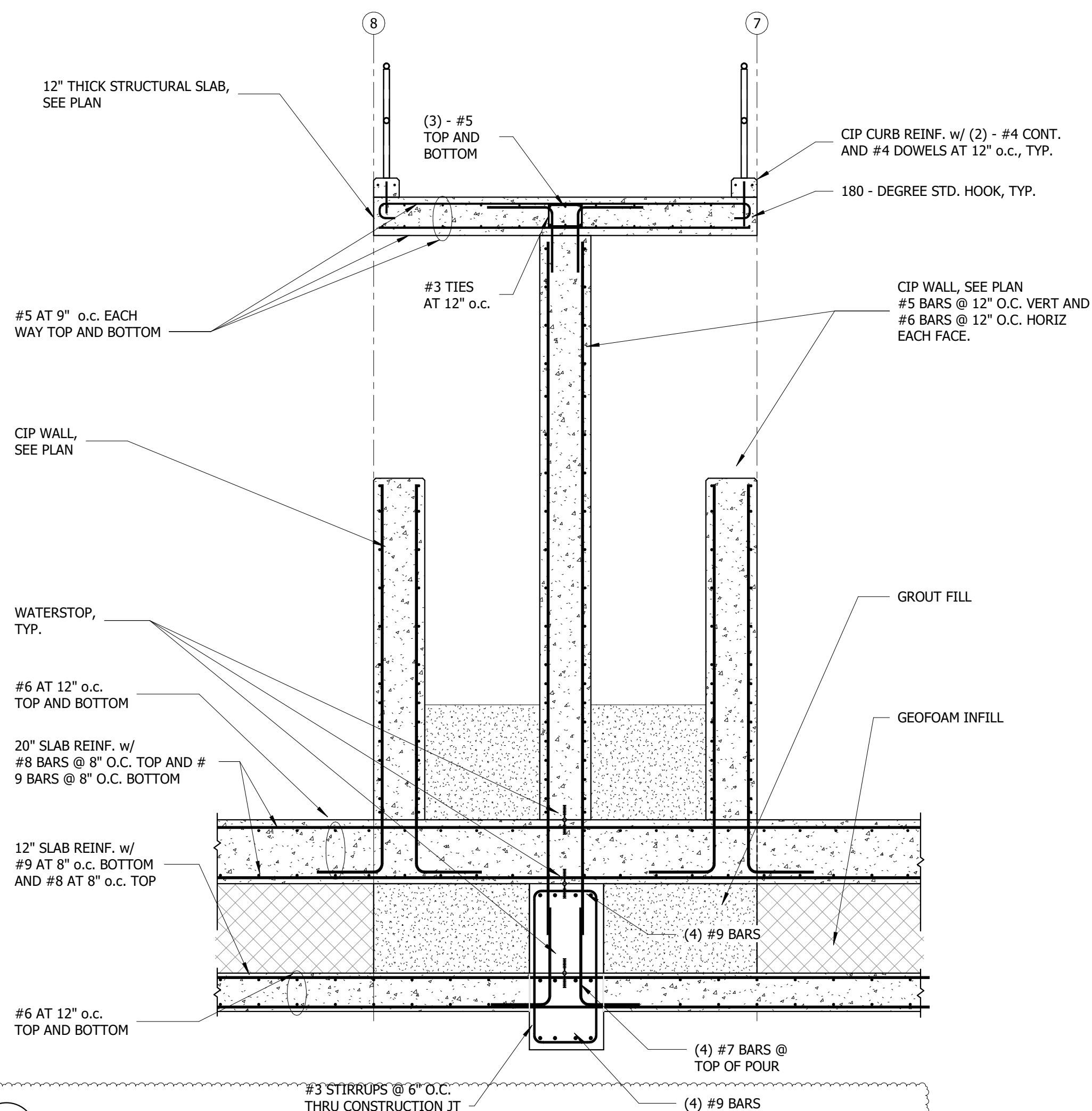
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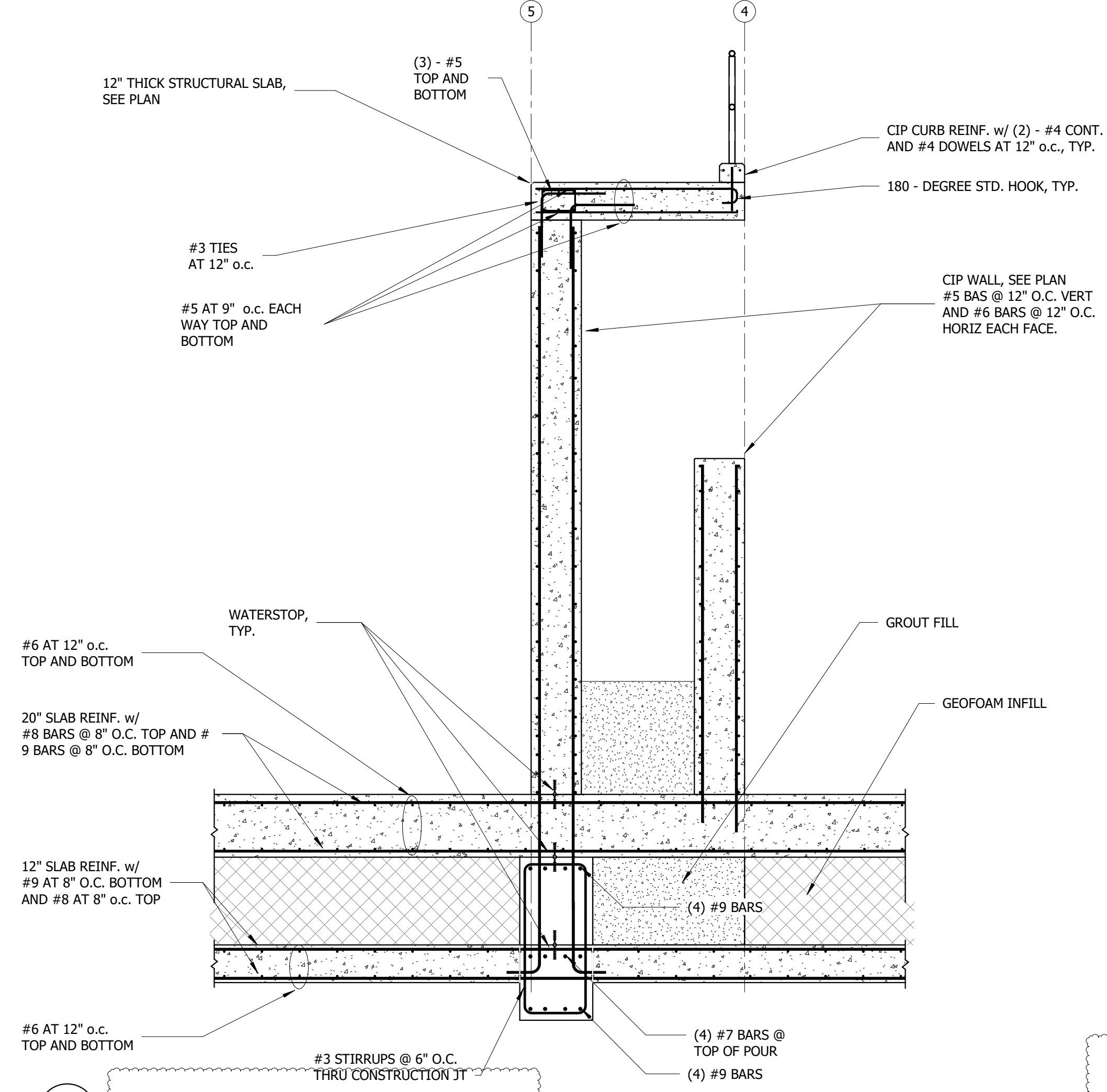
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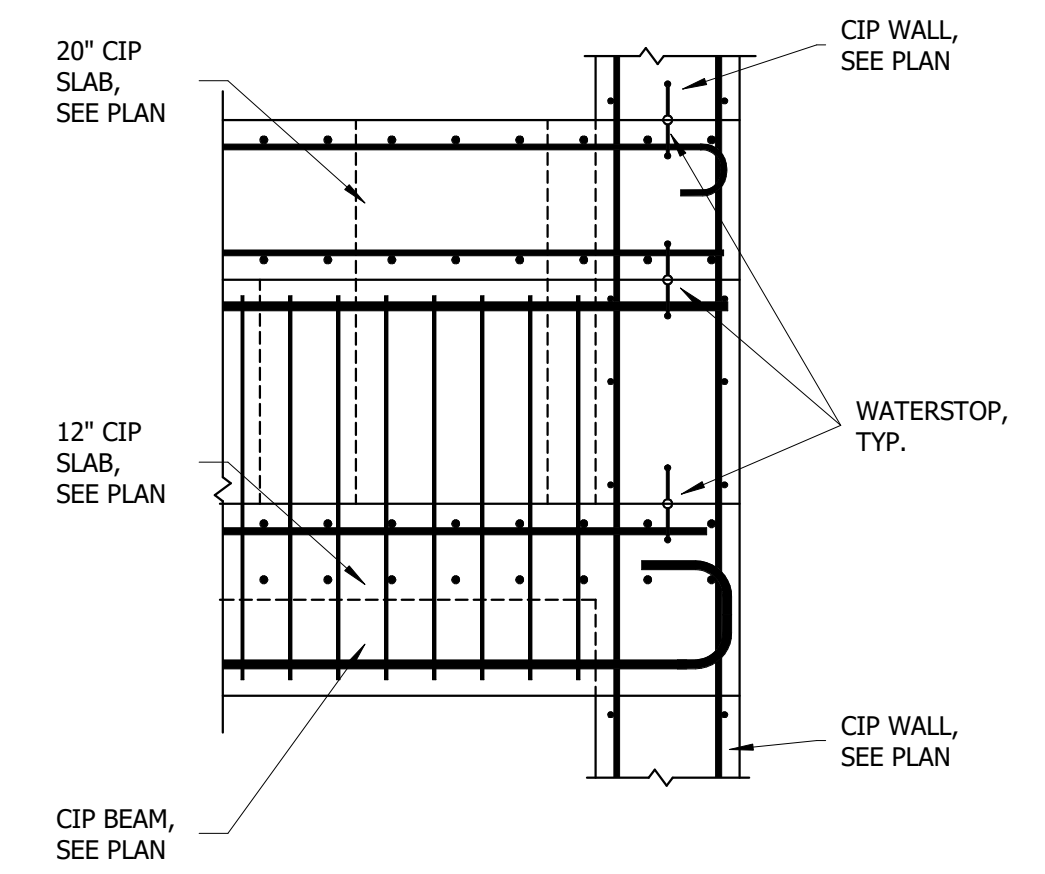
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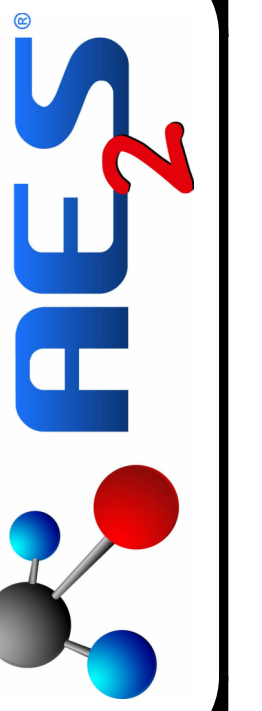
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SIGNATURE: *Ashley Ann Olson*
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 REG. NO. 54295
 JANUARY 27, 2023

DESIGN TREE
 engineering + land surveying
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 320-217-5557

Revision 7	CONFORMED SET	APPR
Date 7	DATE	DESCRIPTION
3 05/02/23		
SYM	DATE	DESCRIPTION



RAMSEY WATER TREATMENT PLANT
 CITY OF RAMSEY
 RAMSEY, MINNESOTA

DRAWING TYPE	CONST
PREPARED BY	AAO
CHECKED / APPROVED	AAO / AAO
DATE	JAN 2023
PROJECT NUMBER	05434-2020-002
SHEET	

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S505

LAP SPlice SCHEDULE (UNCOATED GRADE 60 BARS IN CONCRETE)

Table with 2 main sections: CLASS 'A' TENSION LAP SPlice and CLASS 'B' TENSION LAP SPlice. Each section has columns for BAR SIZE and CONCRETE COMPRESSIVE STRENGTH (PSI) ranging from 3,000 to 10,000.

TYPICAL LAP SPlice SCHEDULE (UNCOATED GRADE 60 IN CMU WALLS)

Table with 2 main sections: TENSION LAP SPlice FOR STRAIGHT BARS and TENSION LAP SPlice FOR DOWELS WITH STANDARD HOOK. Each section has columns for BAR SIZE and CMU WALL THICKNESS (6", 8", 10", 12").

CIP CONCRETE WALL SCHEDULE

Table with columns: MARK, WALL THICKNESS, VERTICAL REINFORCEMENT, HORIZONTAL REINFORCEMENT, REINFORCEMENT LOCATION, COMMENTS. Lists items CW1 through CW11.

CIP CONCRETE WALL SCHEDULE NOTES:

- 1. SPACING OF CONSTRUCTION OR CONTROL JOINTS IN WALL EXPOSED TO VIEW SHALL NOT EXCEED 25 FEET UNLESS NOTED OTHERWISE ON DRAWINGS. LOCATE FIRST CONTROL JOINT WITHIN 15 FEET OF CORNERS. CUT THE HORIZONTAL REINFORCING AT CONTROL JOINTS IN HALF.
- 2. SEE GENERAL NOTES ON SHEET S001 FOR ADDITIONAL REQUIREMENTS.
- 3. SEE FOUNDATION AND WALL DETAILS 6 / S501, 8 / S501, & 9 / S501 FOR DETAILING AT JOINTS, CORNERS, AND INTERSECTIONS.
- 4. VERTICAL REINFORCING IS PRIMARY. WHEN INDICATED AS INSIDE FACE ABOVE, PLACE VERTICAL REINFORCING CLOSEST TO INSIDE (INTERIOR FACE OF WALL AND HORIZONTAL REINFORCING BEHIND THAT. WHERE CENTERED IS INDICATED ABOVE, CENTER THE VERTICAL REINFORCING AND PLACE HORIZONTAL REINFORCING ON EITHER SIDE OF THE VERTICAL BARS.
- 5. SEE SCHEDULES ON SHEET S601 FOR REBAR LAP SPLICES FOR COATED AND UNCOATED REBAR.
- 6. REFER TO ARCHITECTURAL DRAWINGS FOR VENEER SHELF ELEVATIONS AT FOUNDATION WALL.
- 7. PROVIDE STANDARD 90-DEGREE HOOK DOWELS BETWEEN FOUNDATIONS AND WALLS EQUAL TO THE SIZE AND SPACING OF THE VERTICAL REINFORCING UNLESS NOTED OTHERWISE. WET STICKING OF DOWELS NOT PERMITTED UNLESS APPROVED IN WRITING BY S.E.O.R.
- 8. SLEEVES EMBEDDED IN WALLS SHALL BE LOCATED CLEAR BETWEEN REINFORCING BARS AND SHALL MAINTAIN CLEAR SPACING EQUAL TO THE DIAMETER OF THE LARGEST SLEEVE IN ANY DIRECTION. SLEEVE GROUPS THAT DO NOT COMPLY WITH THE ABOVE REQUIREMENTS SHALL BE CONSIDERED AS AN OPENING AND REINFORCED PER NOTE #6 BELOW.
- 9. UNLESS NOTED OTHERWISE ON THE DRAWINGS: PROVIDE EXTRA REINFORCING ON ALL SIDES OF ALL MISCELLANEOUS WALL OPENINGS EQUAL TO ONE HALF THE INTERRUPTED REINFORCING BARS EACH SIDE BUT NOT LESS THAN 2 - #5 FOR EACH LAYER OF REINFORCEMENT. EXTEND BARS CLASS 'B' LAP LENGTH BUT NOT LESS THAN 2 FEET BEYOND EDGE OF OPENINGS. PROVIDE 2 - #4x4'-0" DIAGONAL BARS AT EACH CORNER FOR EACH LAYER OF REINFORCEMENT.

CMU WALL SCHEDULE

Table with columns: MARK, WALL THICKNESS, VERTICAL REINFORCEMENT, REINFORCEMENT LOCATION, COMMENTS. Lists items MW1 and MW2.

CMU WALL SCHEDULE NOTES:

- 1. WALLS SHALL BE GROUTED AT REINFORCING LOCATIONS ONLY, UNLESS NOTED OTHERWISE ON PLAN. SEE DETAIL - / - - FOR TOP OF NON-LOAD BEARING CMU WALLS.
- 2. IN ADDITION TO THE SPECIFIED REINFORCING, PROVIDE CONTINUOUS VERTICAL BAR AT ALL CORNERS, EACH SIDE OF CONTROL JOINTS, AND AT EACH JAMB OF ALL MASONRY OPENINGS PER DETAIL - / - - - MATCH BAR SIZE IN WALL AS REQUIRED. CELLS NEED NOT HAVE MORE THAN (1) BAR PRESENT UNLESS SPECIFICALLY NOTED ON PLAN.
- 3. PROVIDE A CONTINUOUS BOND BEAM AT THE TOP OF ALL CMU WALLS WITH (2) - #5 BARS CONTINUOUS UNLESS NOTED OTHERWISE.
- 4. REINFORCING IS CONTINUOUS FROM TOP OF FOOTING TO TOP OF WALL UNLESS NOTED OTHERWISE ON PLAN AND DETAILS.
- 5. UNITS SHALL UTILIZE FACE SHELL MORTAR BEDDING UNLESS NOTED OTHERWISE.
- 6. MASONRY WALLS SHALL HAVE CONTROL JOINTS AT A MAXIMUM OF 25' - 0" UNLESS NOTED OTHERWISE. SEE ARCH DRAWINGS FOR CONTROL JOINT LOCATIONS IN CMU WALLS. SEE - / - - - FOR CONTROL JOINT DETAIL.
- 7. CONSOLIDATE GROUT POURS OVER 12" BY MECHANICAL VIBRATION. RECONSOLIDATE GROUT IN MASONRY CELLS BY MECHANICAL VIBRATION AFTER INITIAL WATER LOSS. IF NEXT GROUT POUR WILL BE MORE THAN (1) HOUR, TERMINATE GROUT POUR 1 1/2" BELOW TOP OF MASONRY.
- 8. CONTRACTOR OPTION TO USE HIGH-LIFT GROUT PROCEDURES:
 - A. FOR HIGH LIFT GROUTING (OVER 5' - 0") CLEANOUTS ARE REQUIRED AT EVERY GROUTED CORE AT THE BASE OF EACH LIFT. IF NEXT GROUT POUR WILL BE MORE THAN (1) HOUR, TERMINATE GROUT POUR 1 1/2" BELOW TOP OF BARS.
 - B. HIGH LIFT GROUT SHALL NOT EXCEED 10' - 6" IN HEIGHT FOR #5 VERTICAL BARS, 12' - 6" IN HEIGHT FOR #6 VERTICAL BARS.
 - C. THE USE OF SELF-CONSOLIDATING GROUT (SCG) SHALL NOT EXCEED 10' - 6" IN HEIGHT FOR #5 VERTICAL BARS, 12' - 6" IN HEIGHT FOR #6 VERTICAL BARS.
 - D. SCG ON-SITE INSPECTION SHALL VERIFY SLUMP, FLOW, AND VISUAL STABILITY INDEX (VSI) AS DETERMINED BY ASTM C 1611.
- 9. PROVIDE STANDARD 90-DEGREE HOOK DOWELS BETWEEN FOUNDATIONS AND WALLS EQUAL TO THE SIZE AND SPACING OF THE VERTICAL REINFORCING UNLESS NOTED OTHERWISE. WET STICKING OF DOWELS NOT PERMITTED UNLESS APPROVED IN WRITING BY S.E.O.R.
- 10. PROVIDE 9 GA. LADDUR TYPE HORIZONTAL JOINT REINFORCEMENT EVERY COURSE IN STACK BOND WALLS AND EVERY OTHER COURSE IN RUNNING BOND WALLS. PROVIDE 6" MINIMUM LAP SPlice FOR JOINT REINFORCING.
- 11. SEE SCHEDULE ON SHEET S601 FOR LAP LENGTHS AND REBAR IN CMU.
- 12. REINFORCEMENT SHALL BE PLACED PRIOR TO GROUTING. REINFORCEMENT SHALL BE SECURED AGAINST DISPLACEMENT PRIOR TO GROUTING BY WIRE POSITIONERS OR OTHER SUITABLE DEVICES AT INTERVALS NOT TO EXCEED 200 BAR DIAMETERS.
- 13. TOLERANCES FOR THE PLACEMENT OF REINFORCEMENT IN WALLS AND FLEXURAL MEMBERS SHALL BE:
 - A. PLUS OR MINUS 1/2" FOR d EQUAL TO 8" OR LESS
 - B. PLUS OR MINUS 1" FOR d EQUAL TO 24" OR LESS; BUT GREATER THAN 8"
 - C. PLUS OR MINUS 1/4" FOR d GREATER THAN 24"
- 14. SEE SHEET S001 FOR INFORMATION ON CMU MATERIAL REQUIREMENTS.
- 15. ALL MORTAR PROTRUSIONS INTO CELLS TO BE GROUTED ARE REQUIRED TO BE REMOVED BY MASON AND ALL DEBRIS MUST BE REMOVED FROM CORE.

PRECAST CONCRETE WALL SCHEDULE

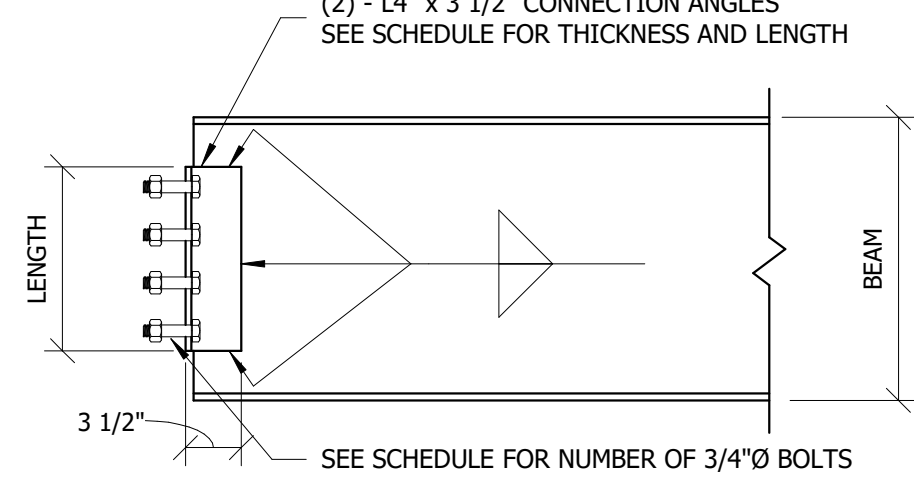
Table with columns: MARK, WALL THICKNESS, WALL TYPE, COMMENTS. Lists items PW1 through PW5.

STEEL BEAM CONNECTION TABLE

Table with columns: BEAM SIZE, NO. OF 3/4"Ø BOLTS EACH SIDE, CONNECTION ANGLES (THICKNESS, LENGTH), WELD SIZE. Lists various beam sizes from W36 to W6.

NOTES:

- 1. WELDS TO BE MINIMUM E70xx ELECTRODES.
- 2. OUTSTANDING LEG ELEMENTS OF CONNECTION ANGLES MAY BE REDUCED TO 3" WHEN BEAM FRAMES INTO W8 COLUMN WEB.
- 3. MATERIAL PROPERTIES:
 - A. STEEL BEAMS: ASTM A992
 - B. STEEL CONNECTION ANGLES: ASTM A36
 - C. HIGH STRENGTH BOLTS: A325N



CIP CONCRETE BEAM SCHEDULE

Table with columns: MARK, BEAM DEPTH, BOTTOM REINFORCEMENT, TOP REINFORCEMENT, TIE REINFORCEMENT, COMMENTS. Lists items CB1 and CB2.

CIP CONCRETE BEAM SCHEDULE NOTES:

- 1. CONTINUE ALL HORIZONTAL REINFORCING A MINIMUM OF 24" BEYOND EDGE OF CIP OPENING. IF LENGTH IS NOT VIABLE, HOOK BARS INTO JAMB.
- 2. SEE GENERAL NOTES ON SHEET S001 FOR ADDITIONAL REQUIREMENTS.
- 3. LINTELS IN NON-BEARING CIP WALLS NOT INDICATED ON PLAN ARE 'CL_', UNLESS NOTED OTHERWISE.
- 4. SEE ARCHITECTURAL DRAWINGS FOR ALL CIP WALL OPENING DIMENSIONS.
- 5. SEE DETAIL 1/S502 FOR OPENING REQUIREMENTS IN CIP WALL.

CIP CONCRETE LINTEL SCHEDULE

Table with columns: MARK, BEAM DEPTH, BOTTOM REINFORCEMENT, TOP REINFORCEMENT, TIE REINFORCEMENT, COMMENTS. Lists items CL1 and CL2.

CIP CONCRETE LINTEL SCHEDULE NOTES:

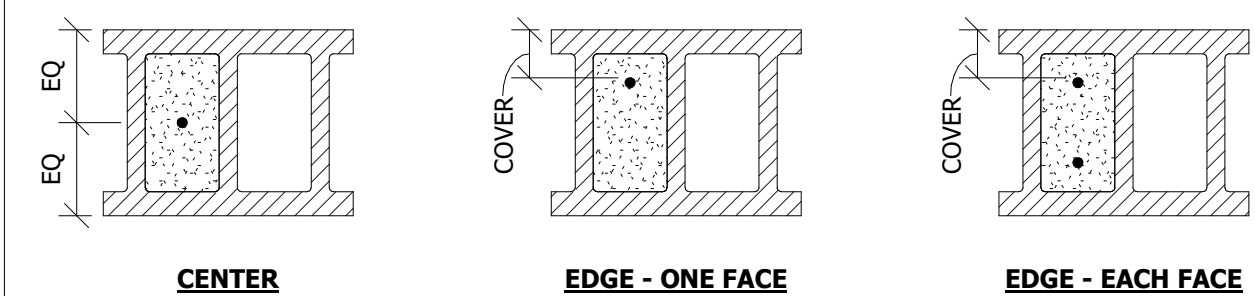
- 1. CONTINUE ALL HORIZONTAL REINFORCING A MINIMUM OF 24" BEYOND EDGE OF CIP OPENING. IF LENGTH IS NOT VIABLE, HOOK BARS INTO JAMB.
- 2. SEE GENERAL NOTES ON SHEET S001 FOR ADDITIONAL REQUIREMENTS.
- 3. LINTELS IN NON-BEARING CIP WALLS NOT INDICATED ON PLAN ARE 'CL_', UNLESS NOTED OTHERWISE.
- 4. SEE ARCHITECTURAL DRAWINGS FOR ALL CIP WALL OPENING DIMENSIONS.
- 5. SEE DETAIL 1/S502 FOR OPENING REQUIREMENTS IN CIP WALL.

CIP CONCRETE LAP SPlice SCHEDULE NOTES:

- 1. THESE TABLES ARE BASED ON THE FOLLOWING ASSUMPTIONS:
 - A. UNCOATED GRADE 60 REBAR IN GROUTED CONCRETE
 - B. CLEAR SPACING OF BARS ≥ d_b
 - C. CLEAR COVER ≥ d_b
 - D. STIRRUPS OR TIES PROVIDED THROUGHOUT DEVELOPMENT LENGTH MINIMUM ≥ OR
 - a. CLEAR SPACE OF BARS ≥ 2*d_b
 - b. CLEAR COVER ≥ d_b
- 2. FOR OTHER CASES, MULTIPLY LENGTHS SHOWN BY 1.5
- 3. TOP BAR SPLICES:
 - A. TOP BARS ARE SUCH THAT 12" OR MORE OF FRESH CONCRETE IS CAST BELOW THE SPlice OR DEVELOPMENT LENGTH
 - B. MULTIPLY LENGTHS SHOWN BY 1.3
- 4. FOR LIGHTWEIGHT CONCRETE, MULTIPLY LENGTHS SHOWN BY 1.3
- 5. FOR HIGHER GRADE STEEL, MULTIPLY LENGTHS SHOWN BY A RATIO OF HIGHER F_y (KSI) OVER 1,160 (KSI). ALL OTHER FACTORS LISTED STILL APPLY.
- 6. FOR COMPRESSIVE LAP SPlice, USE GREATER OF:
 - A. (0.0009)*F_c - 24)*d_b
 - B. 0.0005*F_c*d_b
- 7. ABBREVIATED TERMS:
 - A. d_b = BAR DIAMETER
 - B. F_y = YIELD STRENGTH OF REBAR
- 8. ALL REBAR LAP SPLICES SHALL BE 'CLASS B' UNLESS NOTED OTHERWISE ON PLAN.

CMU LAP SPlice SCHEDULE NOTES:

- 1. THESE TABLES ARE BASED ON THE FOLLOWING ASSUMPTIONS:
 - A. UNCOATED GRADE 60 REBAR IN GROUTED CMU WALLS AND BOND BEAMS
 - B. MASONRY CLEAR COVER AT EDGE CONDITION: 2"
 - C. DOWEL SPlice REDUCED BY 11.25*d_b
- 2. FOR EPOXY COATED BARS, MULTIPLY LENGTHS SHOWN BY 1.5
- 3. ABBREVIATED TERMS:
 - A. d_b = BAR DIAMETER
 - B. f_m = CMU ASSEMBLY COMPRESSIVE STRENGTH
 - C. SEE BELOW FOR REBAR PLACEMENT INFORMATION



SPREAD FOOTING SCHEDULE

Table with columns: MARK, FOOTING SIZE, BOTTOM REINFORCEMENT, TOP REINFORCEMENT, COMMENTS. Lists items F5.0 and F9.0.

SPREAD FOOTING SCHEDULE NOTES:

- 1. SPREAD FOOTINGS SHALL BE CENTERED UNDER COLUMNS UNLESS NOTED OTHERWISE ON PLAN.
- 2. SEE GENERAL NOTES ON SHEET S001 FOR ADDITIONAL REQUIREMENTS.
- 3. SEE SCHEDULE ON SHEET S601 FOR REBAR LAP SPLICES FOR COATED AND UNCOATED REBAR.

CONTINUOUS FOOTING SCHEDULE

Table with columns: MARK, FOOTING SIZE, CONTINUOUS REINFORCEMENT, TRANSVERSE REINFORCEMENT, COMMENTS. Lists items CF1 and CF2.

CONTINUOUS FOOTING SCHEDULE NOTES:

- 1. CONTINUOUS FOOTINGS SHALL BE CENTERED UNDER WALLS UNLESS NOTED OTHERWISE ON PLAN.
- 2. SEE GENERAL NOTES ON SHEET S001 FOR ADDITIONAL REQUIREMENTS.
- 3. SEE SCHEDULE ON SHEET S601 FOR REBAR LAP SPLICES FOR COATED AND UNCOATED REBAR.
- 4. ALL REINFORCING IN BOTTOM OF FOOTING UNLESS NOTED OTHERWISE.

CMU JAMB SCHEDULE

Table with columns: MARK, JAMB LENGTH, VERTICAL REINFORCEMENT, TERMINATING VERTS, TERMINATING LOCATIONS, COMMENTS. Lists items MJ1, MJ2, and MJ3.

CIP CONCRETE PIER SCHEDULE

Table with columns: MARK, SIZE, VERTICAL REINFORCEMENT, TIE REINFORCEMENT, COMMENTS. Lists items P1 and P2.

CIP CONCRETE PIER SCHEDULE NOTES:

- 1. SEE GENERAL NOTES ON SHEET S001 FOR ADDITIONAL REQUIREMENTS.
- 2. SEE SCHEDULES ON SHEET S601 FOR REBAR LAP SPLICES FOR COATED AND UNCOATED REBAR.
- 3. REFER TO DRAWINGS FOR TOP OF PIER ELEVATIONS.
- 4. PIERS SHALL BE LOCATED AT COLUMN CENTERLINE UNLESS NOTED OTHERWISE ON PLAN AND DETAILS.
- 5. DOWEL PIER TO FOOTING WITH BARS MATCHING SIZE AND LOCATION OF VERTICAL REINFORCEMENT UNLESS NOTED OTHERWISE ON PLAN.

CIP CONCRETE COLUMN SCHEDULE

Table with columns: MARK, COLUMN SIZE, VERTICAL REINFORCEMENT, TIE REINFORCEMENT, COMMENTS. Lists item CC1.

CIP CONCRETE COLUMN SCHEDULE NOTES:

- 1. SEE GENERAL NOTES ON SHEET S001 FOR ADDITIONAL REQUIREMENTS.
- 2. SEE SCHEDULES ON SHEET S601 FOR REBAR LAP SPLICES FOR COATED AND UNCOATED REBAR.
- 3. DOWEL COLUMN TO FOOTING WITH BARS MATCHING SIZE AND LOCATION OF VERTICAL REINFORCEMENT UNLESS NOTED OTHERWISE ON PLAN.
- 4. COLUMNS SHALL BE CENTERED ON GRID LINES UNLESS NOTED OTHERWISE.

CMU LINTEL SCHEDULE

Table with columns: MARK, BOND BEAM DEPTH, BOTTOM REINFORCEMENT, TOP REINFORCEMENT, TIE REINFORCEMENT, COMMENTS. Lists item ML1.

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SIGNATURE: Ashley Ann Olson

TYPED NAME: ASHLEY A. OLSON

REG. NO. 54295

JANUARY 27, 2023

Revision table with columns: SYM, DATE, DESCRIPTION, APPR. Shows Revision 7 on 05/02/23.

DESIGN TREE engineering + land surveying St. Cloud | Alexandria | Rogers 320-217-5557



RAMSEY WATER TREATMENT PLANT CITY OF RAMSEY RAMSEY, MINNESOTA SCHEDULES

DRAWING TYPE: CONST
PREPARED BY: AAO
CHECKED / APPROVED: AAO / AAO
DATE: JAN 2023
PROJECT NUMBER: 05434-2020-002
SHEET

DRAWING: S601