CITY OF BENTONVILLE, ARKANSAS

BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

MARCH 2025 PROJECT NO. 2021037

Black Hills Energy:
Josh Knight
1301 Federal Way
PO Box 2129
Lowell, AR 72745
(479) 333-7005
Joshua.knight@blackhillscorp.com

AT&T:
Brent Baldwin
1133 E. Harold St.
Fayetteville, AR 72701
(479) 200-9022 or (479) 571-6609
bb585@att.com or
Layne Rhodes,
(479) 442-1977
lr159@att.com

Cox Communications:
Chad Hodge
4901 S. 48th/ Street
Springdale, AR 72762 C
(479) 263-7057
chad.hodge@cox.com and
Timothy Goss
(479) 651-5583
timothy.goss@cox.com

Fire Department:
City of Bentonville
Justin Scantlin, Fire Chief
800 SW A Street
Bentonville, AR 72712
(479) 271-5927 or (479) 685-1096

Street Department:
City of Bentonville
Tony Davis
3200 SW Municipal Drive
Bentonville, AR 72712
(479) 271-3130

Water Department:
City of Bentonville
Beau Thompson
3200 SW Municipal Drive
Bentonville, AR 72712
(479) 271-3140

Electric Department:
City of Bentonville
Charlie Barnes
3200 SW Municipal Drive
Bentonville, AR 72712
(479) 271-3159

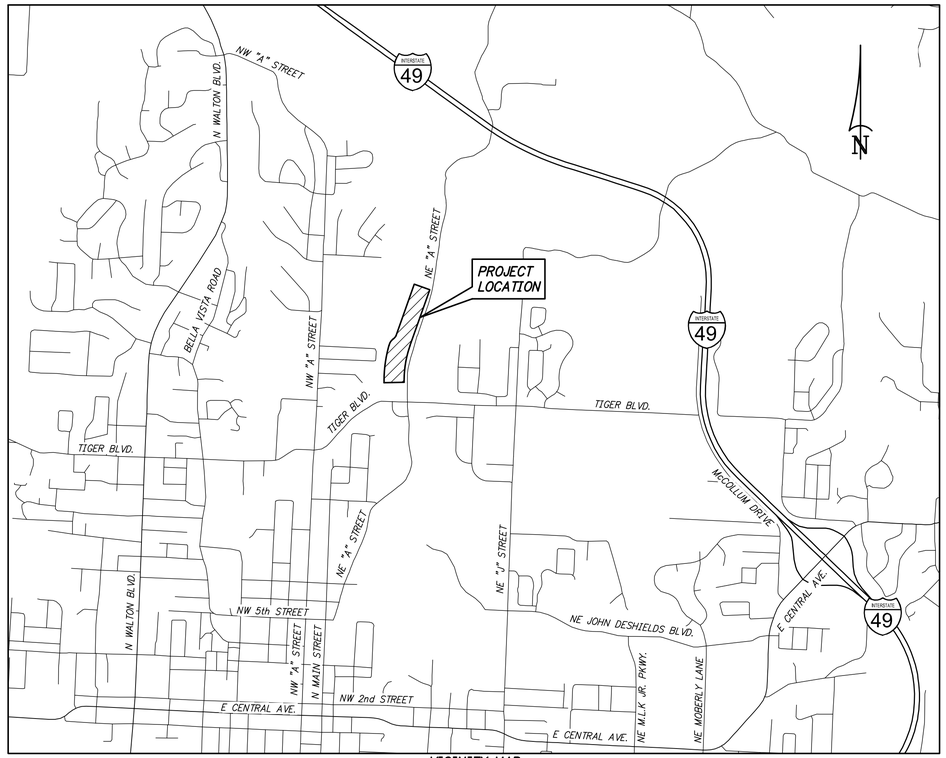
Wastewater Department:
City of Bentonville
Chris Earl
1901 NE A Street
Bentonville, AR 72712
(479) 271-3161

Planning Department:
City of Bentonville
Tyler Overstreet
305 SW A Street
Bentonville, AR 72712
(479) 271-3122

Building and Fire Safety:
City of Bentonville
Brad Arnold
305 SW A Street
Bentonville, AR 72712
(479) 271-3108

City Engineer:
City of Bentonville
Ellen Norvell
3200 SW Municipal Drive
Bentonville, AR 72712
(479) 271-5993

Stormwater:
City of Bentonville
Alison West
3200 SW Municipal Drive
Bentonville, AR 72712
(479) 271-6719
jwest@bentonvillear.com



VICINITY MAP
SCALE: 1"=1500'

VOLUME 2 OF 4

Prepared By:

HAWKINS-WEIR ENGINEERS, INC.
Van Buren (479) 474-1227 | Fort Smith (479) 242-4685 | Fayetteville (479) 455-2206 | Little Rock (501) 374-4846
www.hawkins-weir.com

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CERTIFICATE OF AUTHORIZATION — HAWKINS-WEIR ENGINEERS, INC. No. 101 — ARKANSAS ENGINEER

CERTIFICATE OF AUTHORIZATION — BLACK & VEATCH CORP. No. 381 — ARKANSAS

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 15397 — JOSHUA S. DURHAM — 3/21/25

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 22360 — AMANDA K. JOHNSON — 3/21/2025

BID DRAWINGS
MARCH 21, 2025

811 Know what's below. Call before you dig.

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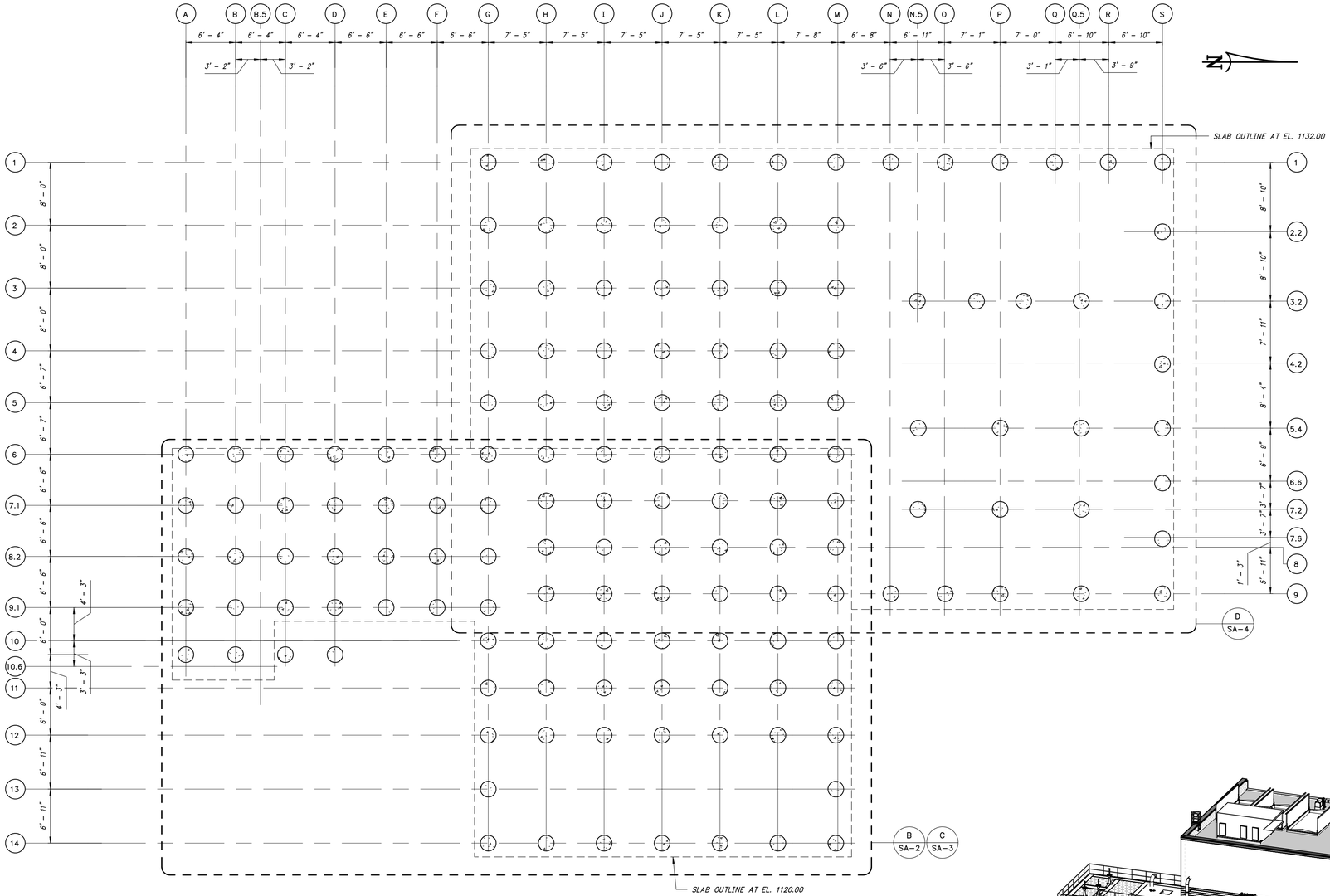
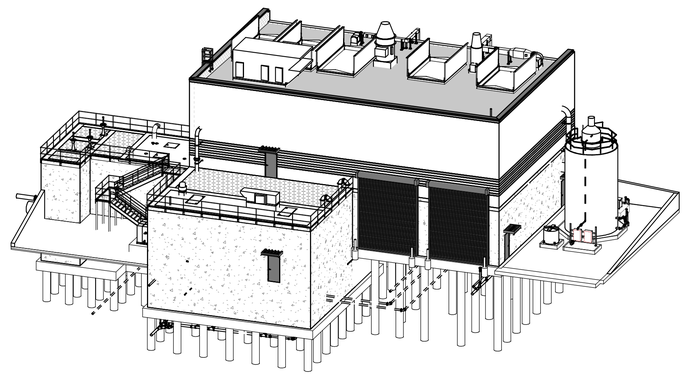
Z:\21\2021037 BENTONVILLE WWTP CAPACITY STUDY\DRAWINGS\CONST PLANS\G-01 COVER VOLUME 2.DWG, 3/14/2025 8:35 AM, MATT WEIR, LAYOUT1



OVERALL PIER PLAN

DETAIL A

1/8" = 1'–0"



ISOMETRIC/3D

N.T.S.

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HAWKINS
NO. 13205

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

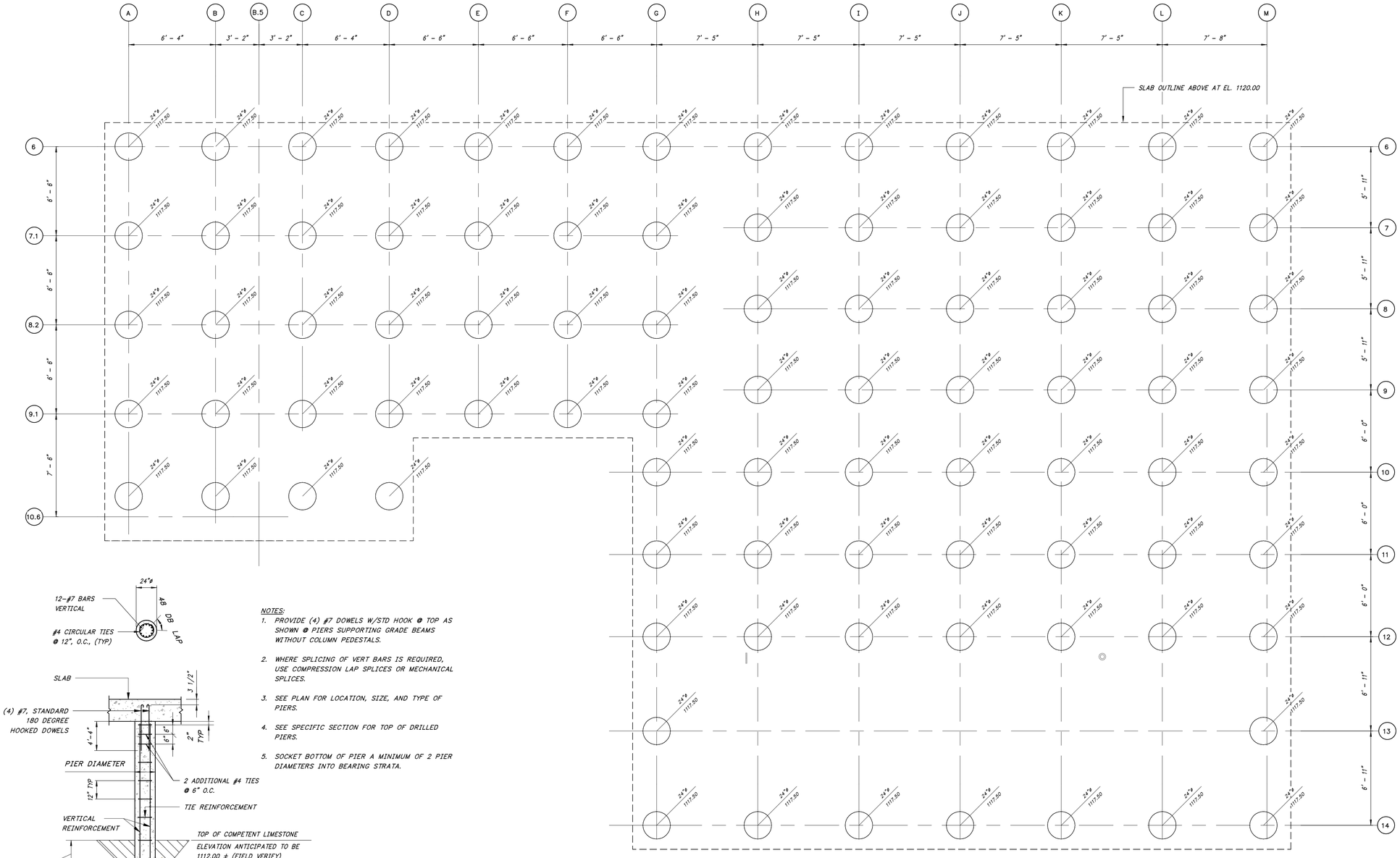
INFLUENT BUILDING OVERALL PIER PLAN

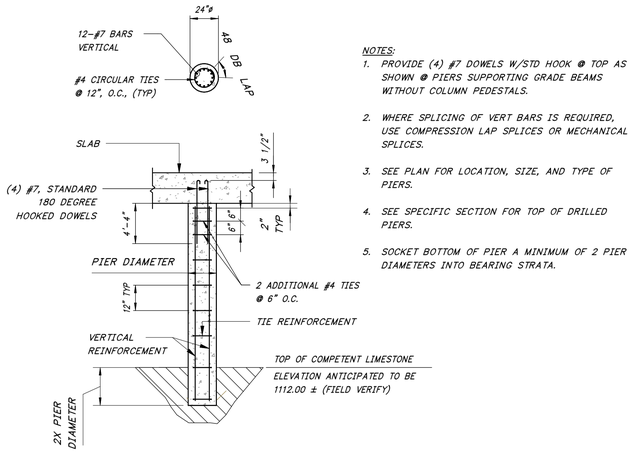
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE:	MARCH 2025
SCALE:	1/8" = 1'–0"
DESIGNED BY:	LCH
DRAWN BY:	CES
HWEI NO.:	2021037
FILENAME:	

SHEET NO.
SA–1

Autodesk Docs://410144 – Bentonville Water Resource Recovery Facility Improvements/NWRF21037–ST.rvt 3/21/2025 1:05:46 PM / CES / INFLUENT BUILDING OVERALL PIER PLAN





STRAIGHT SHAFT DRILLED PIER DETAIL

DETAIL 1 / 3/8" = 1'–0"

NOTES:

1. *PROVIDE (4) #7 DOWELS W/STD HOOK @ TOP AS SHOWN @ PIERS SUPPORTING GRADE BEAMS WITHOUT COLUMN PEDESTALS.*
2. *WHERE SPLICING OF VERT BARS IS REQUIRED, USE COMPRESSION LAP SPLICES OR MECHANICAL SPLICES.*
3. *SEE PLAN FOR LOCATION, SIZE, AND TYPE OF PIERS.*
4. *SEE SPECIFIC SECTION FOR TOP OF DRILLED PIERS.*
5. *SOCKET BOTTOM OF PIER A MINIMUM OF 2 PIER DIAMETERS INTO BEARING STRATA.*

PIER PLAN AT 1117.50'

DETAIL B / 1/4" = 1'–0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 13205
LARRY C. HARRIS
Seventh

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

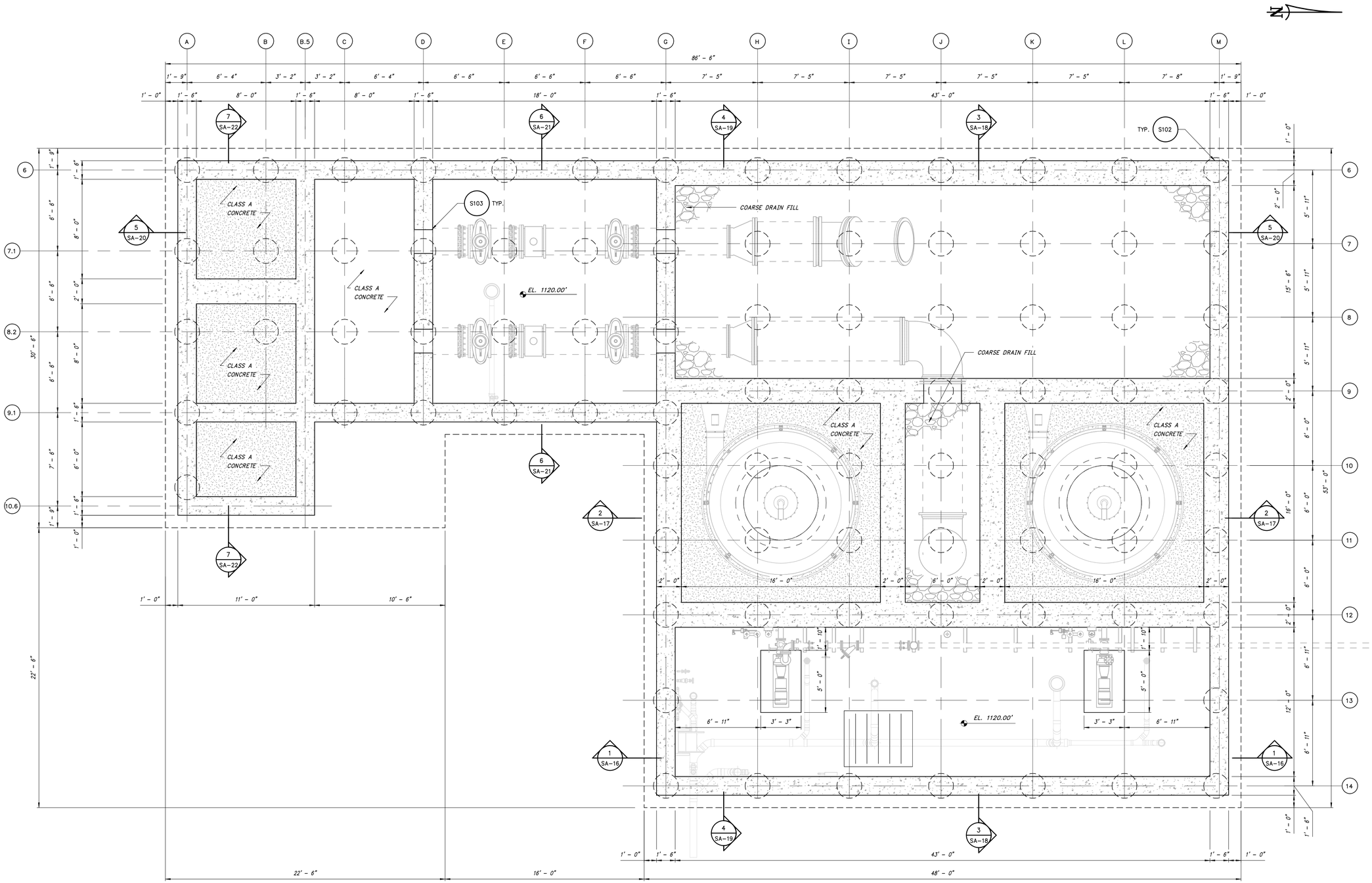
INFLUENT BUILDING PARTIAL AREA PIER PLAN AT EL. 1118.00

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE:	MARCH 2025
SCALE:	As indicated
DESIGNED BY:	LCH
DRAWN BY:	CES
HWEI NO.:	2021037
FILENAME:	WWRF21037–ST

SHEET NO. SA–2

Autodesk Docs://410144 – Bentonville Water Resource Recovery Facility Improvements/WWRF21037–ST.rvt 3/21/2025 1:05:47 PM / CES / INFLUENT BUILDING PARTIAL AREA PIER PLAN



PLAN AT EL. 1124.00'

DETAIL C
1/4" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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LARRY C. HAWKINS
NO. 13205

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING PARTIAL BOTTOM PLAN AT EL. 1124.00

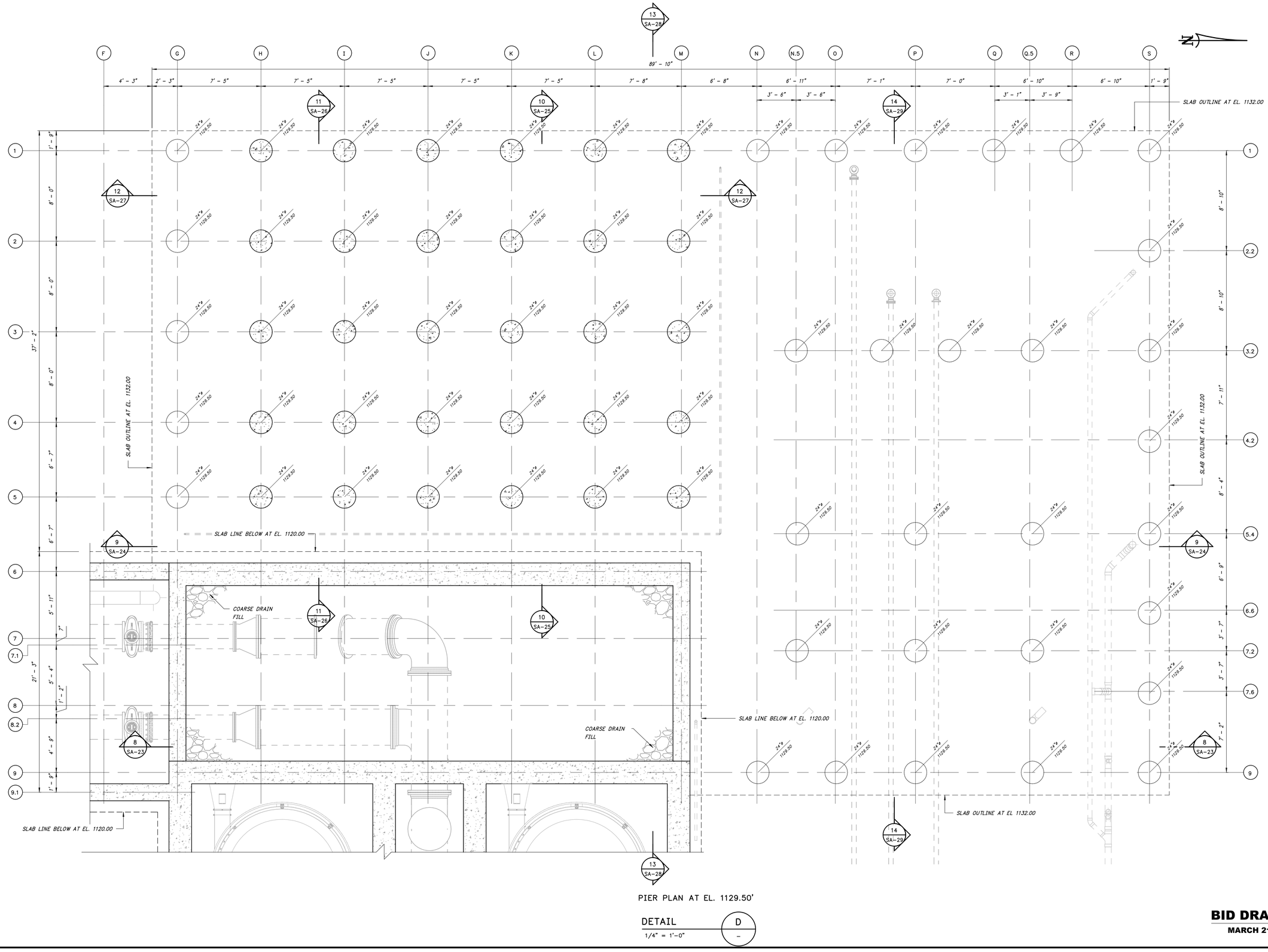
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: LCH
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SA-3

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 1:05:55 PM / CES / INFLUENT BUILDING PARTIAL BOTTOM PLAN

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 1:06:00 PM / CES / INFLUENT BUILDING PARTIAL AREA PIER PLAN



PIER PLAN AT EL. 1129.50'

DETAIL D
1/4" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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LARRY C. HARRIS
NO. 13205

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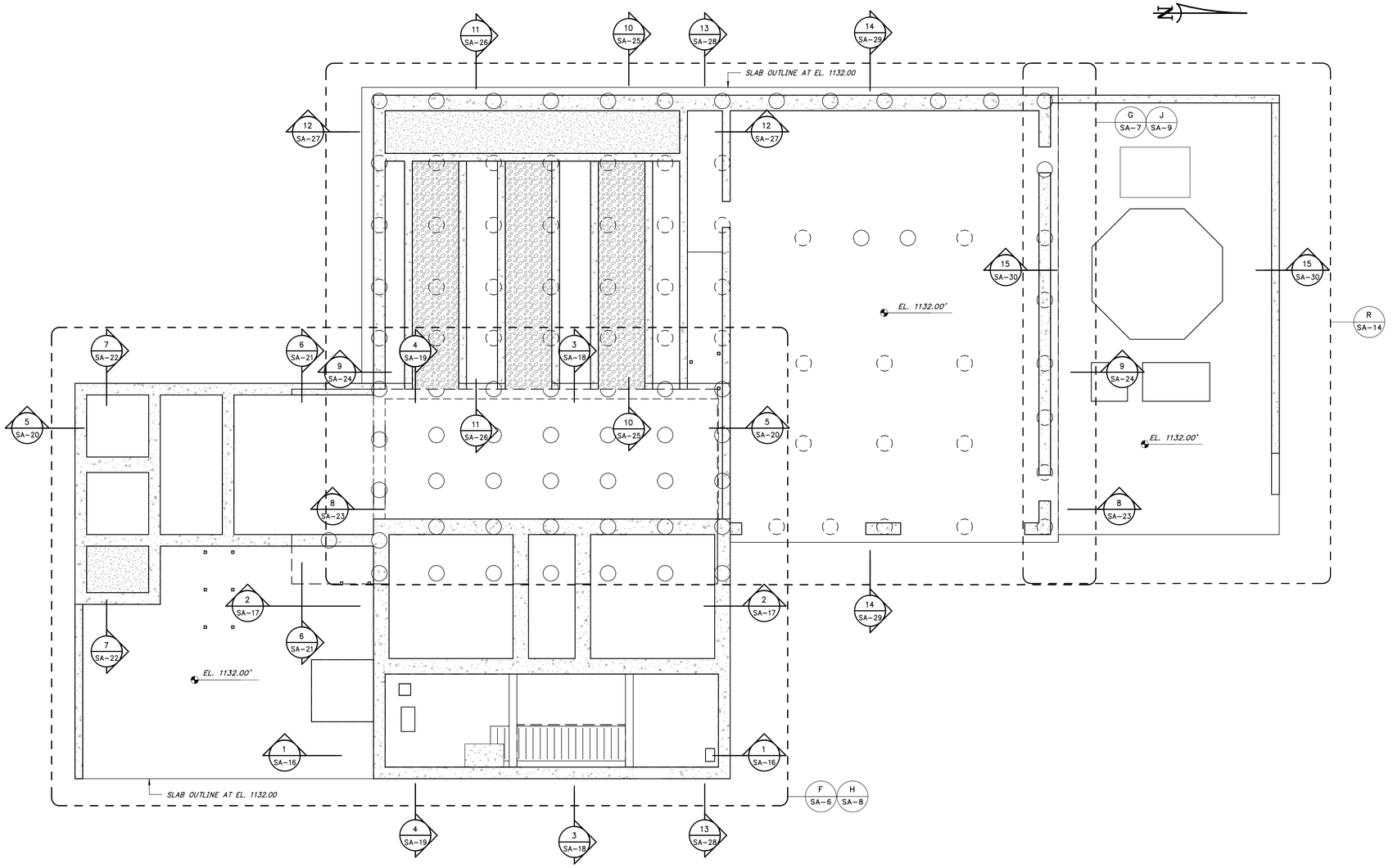
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING PARTIAL AREA PIER PLAN AT EL. 1130.00

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE:	MARCH 2025
SCALE:	1/4" = 1'-0"
DESIGNED BY:	LCH
DRAWN BY:	CES
HWEI NO.:	2021037
FILENAME:	WWRF21037-ST

SHEET NO.
SA-4



OVERALL PLAN AT EL. 1134.50'

DETAIL E
1/8" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 13205
LARRY C. HAWKINS

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

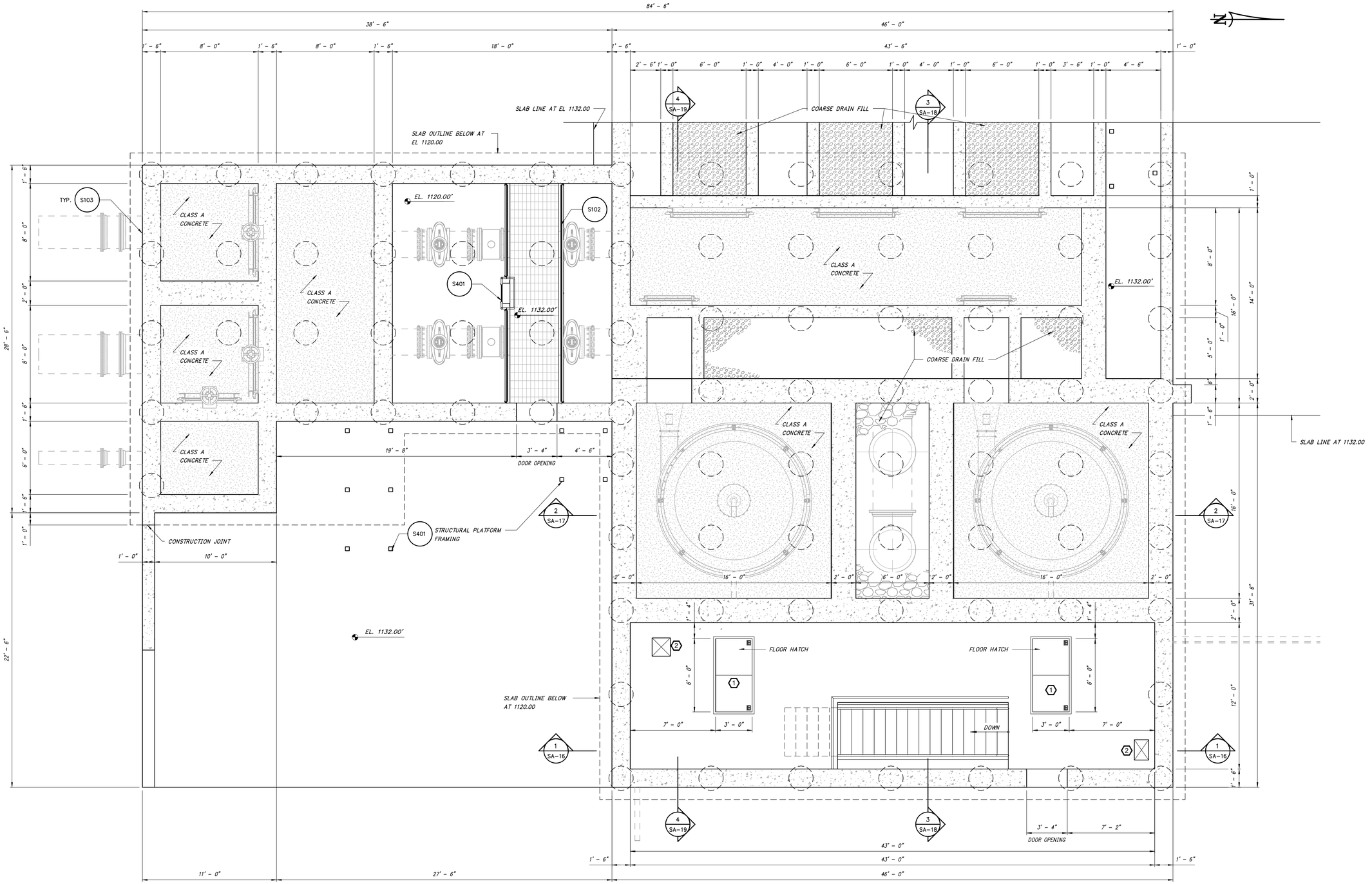
INFLUENT BUILDING OVERALL PLAN
EL. 1134.50

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/8" = 1'-0"
DESIGNED BY: LCH
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SA-5

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 1:06:01 PM / CES / INFLUENT BUILDING OVERALL PLAN



PLAN AT EL. 1134.50'

DETAIL F
1/4" = 1'–0" –

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR ALL WALL AND/OR SLAB PENETRATIONS GREATER THAN 10–INCHES, REFER TO DETAIL S103.
2. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH UNLESS INDICATED OTHERWISE.

KEYED NOTES:

1. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS S2R7236 OR EQUAL, AND INCLUDE OPTIONAL FALL PROTECTION GRATING.
2. COORDINATE SIZE AND LOCATION OF HVAC PENETRATIONS WITH HVAC DRAWINGS.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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LARRY C. HARRIS
NO. 13205

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

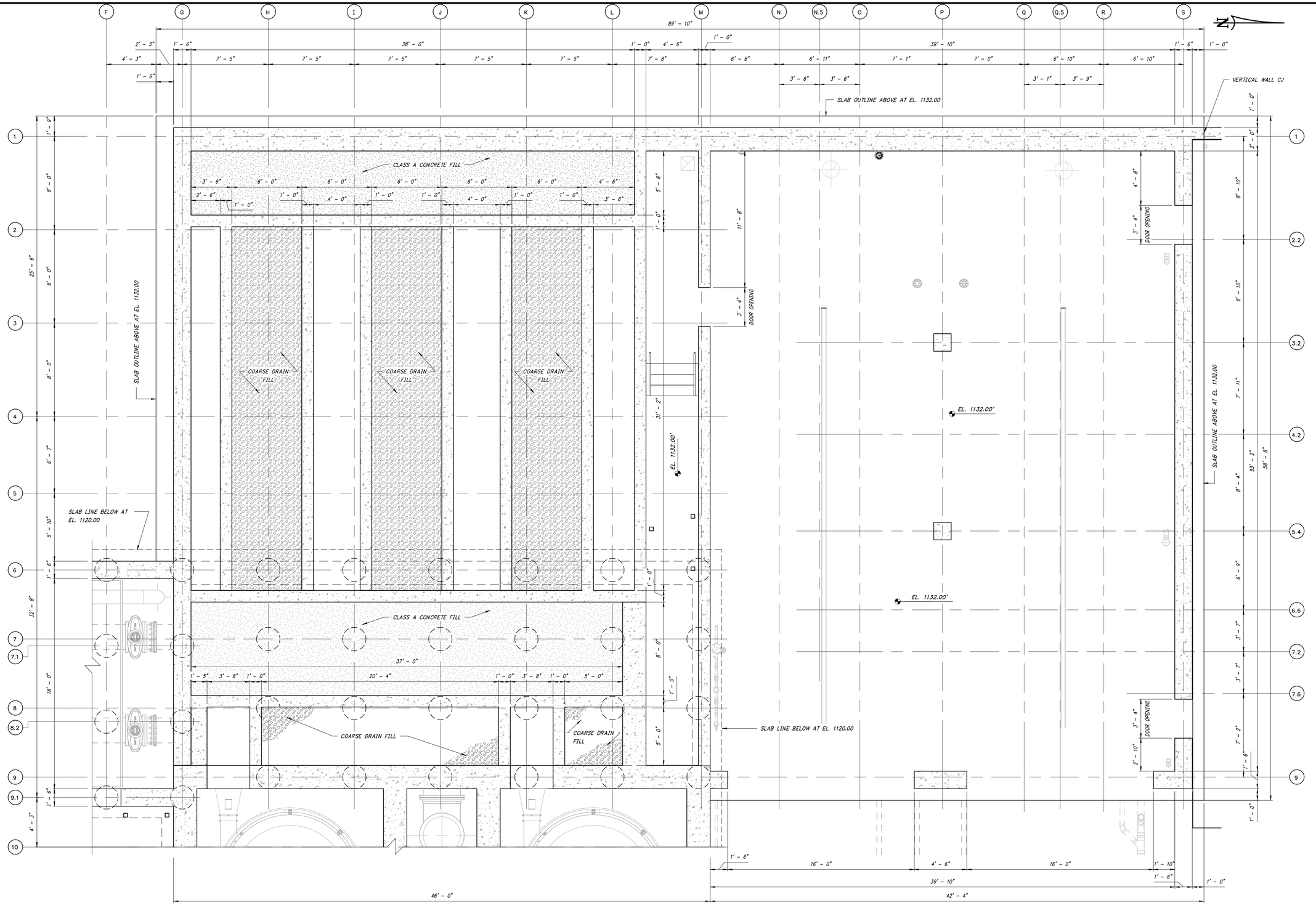
INFLUENT BUILDING PARTIAL BOTTOM PLAN AT 1134.50

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'–0"
DESIGNED BY: LCH
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME: WWRF21037–ST

SHEET NO.
SA–6

Autodesk Docs://410144 – Bentonville Water Resource Recovery Facility Improvements/WWRF21037–ST.rvt 3/21/2025 1:06:11 PM / CES / INFLUENT BUILDING PARTIAL BOTTOM PLAN



PLAN AT EL. 1134.50'

DETAIL G
1/4" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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NO. 13205

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING PARTIAL BOTTOM PLAN AT 1134.50

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE:	MARCH 2025
SCALE:	1/4" = 1'-0"
DESIGNED BY:	LCH
DRAWN BY:	CES
HWEI NO.:	2021037
FILENAME:	WWRF21037-ST

SHEET NO.
SA-7

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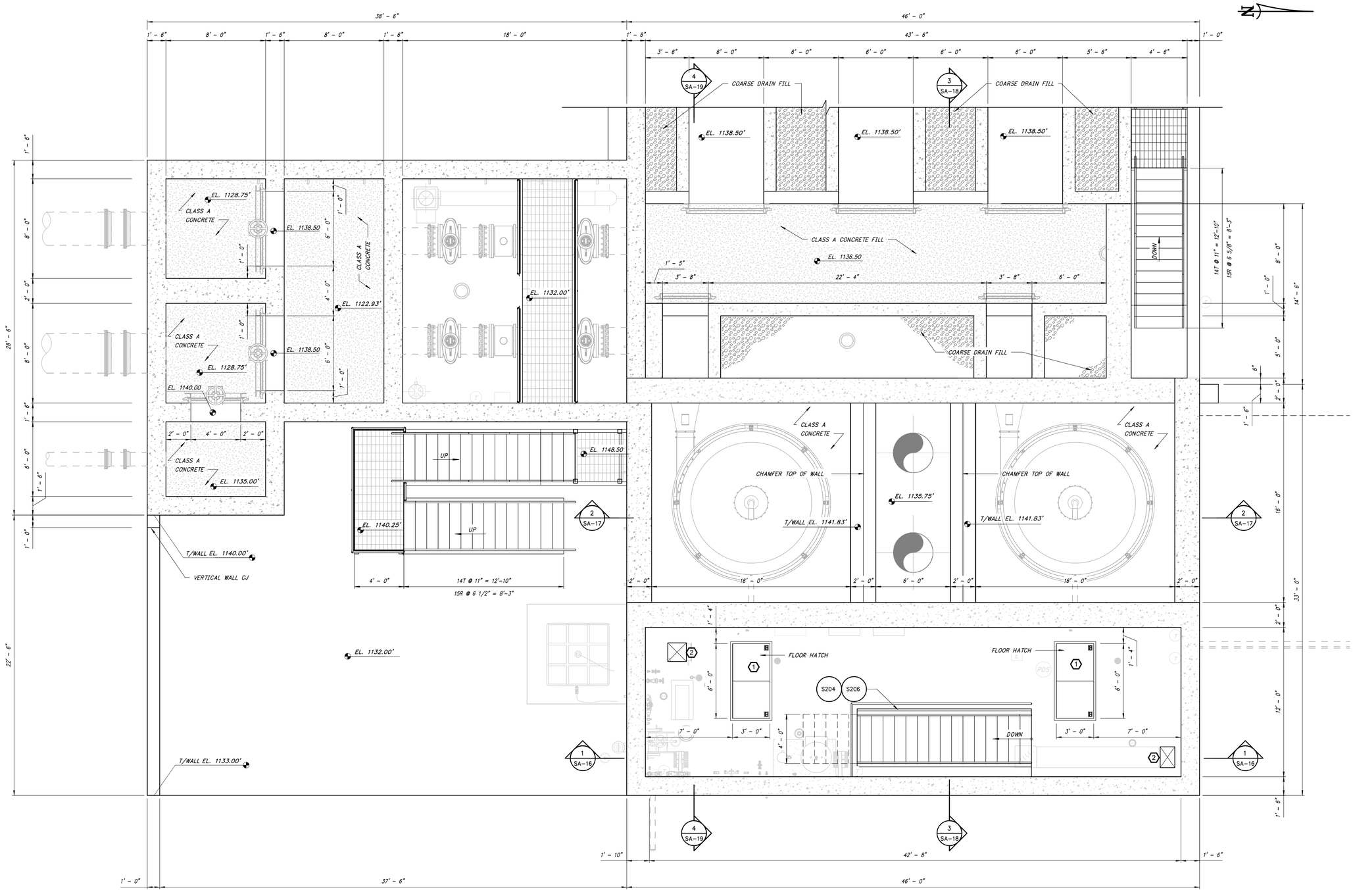

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR ALL WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH UNLESS INDICATED OTHERWISE.

KEYED NOTES:

(1) ACCESS DOOR SHALL BE HALLIDAY PRODUCTS S2R7236 OR EQUAL, AND INCLUDE OPTIONAL FALL PROTECTION GRATING.

(2) COORDINATE SIZE AND LOCATION OF HVAC PENETRATIONS WITH HVAC DRAWINGS.

PLAN AT EL. 1144.50'

DETAIL H
1/4" = 1'-0" –

BID DRAWINGS
MARCH 21, 2025

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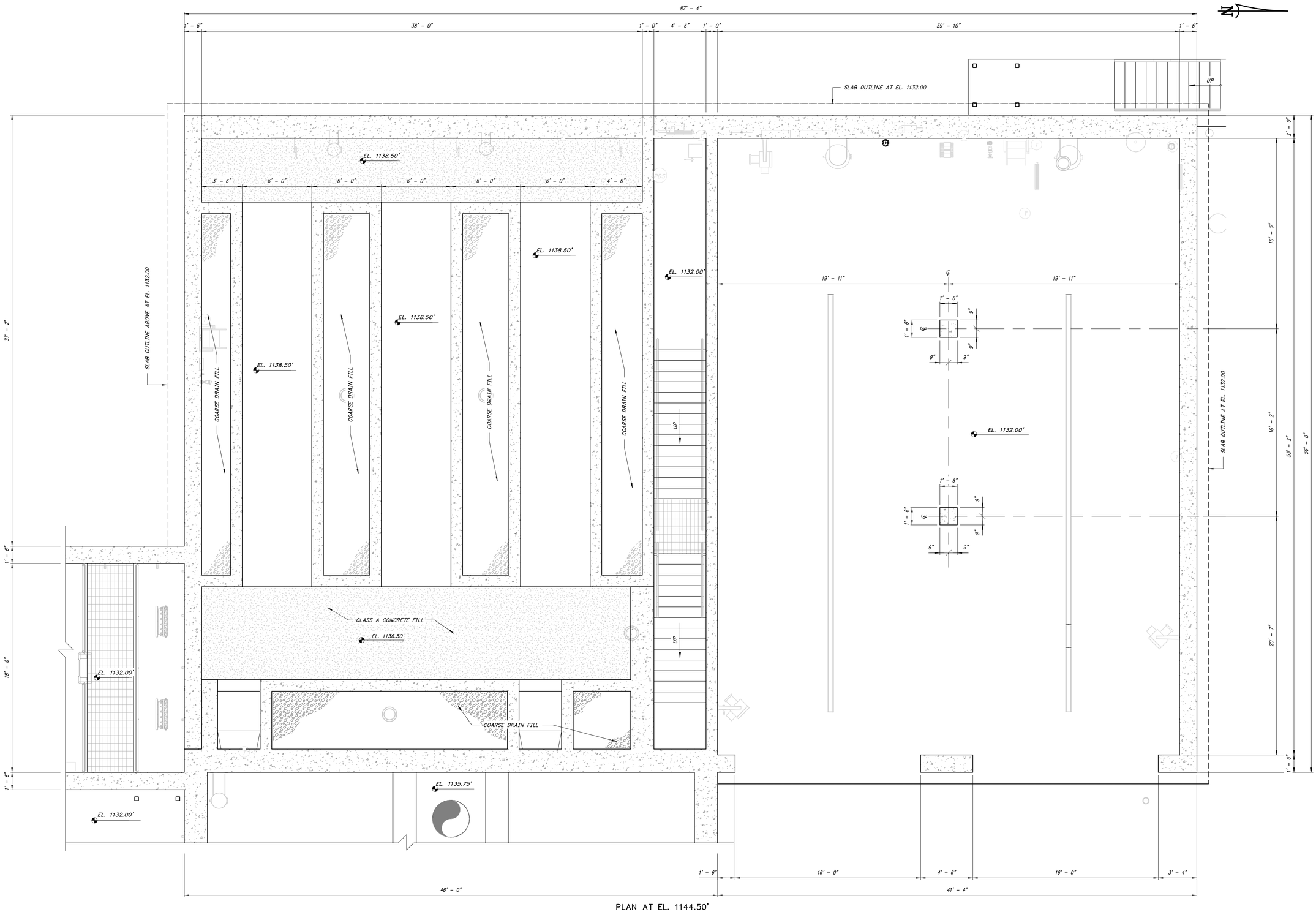

PLAN AT EL. 1144.50'

DETAIL J
1/4" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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LARRY C. HAWKINS
NO. 13205

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

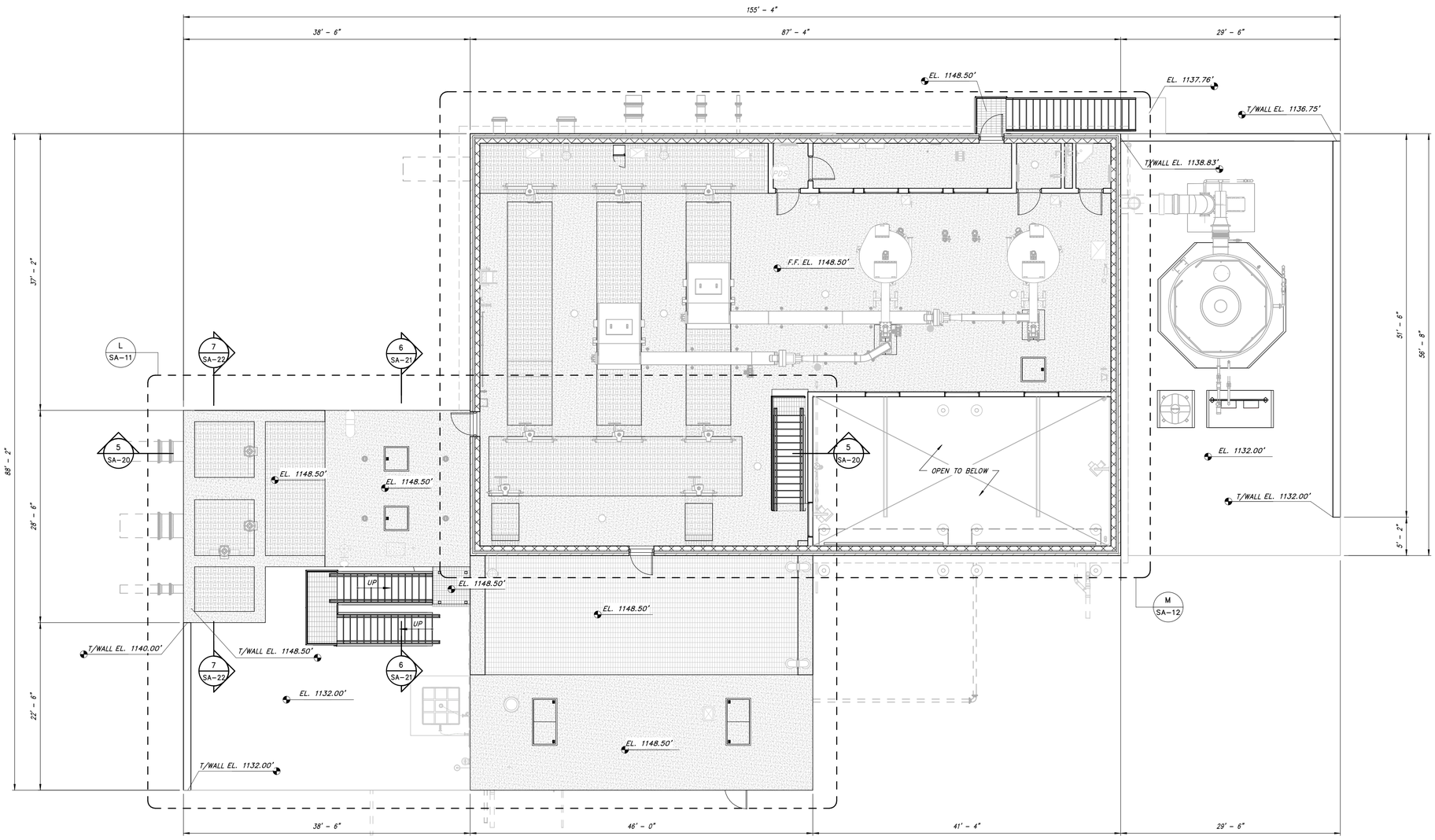
INFLUENT BUILDING PARTIAL INTERMEDIATE PLAN AT EL. 1144.50

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: LCH
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SA–9

Autodesk Docs://410144 – Bentonville Water Resource Recovery Facility Improvements/WWRF21037–ST.rvt 3/21/2025 1:06:28 PM / CES / INFLUENT BUILDING PARTIAL INTERMEDIATE PLAN



OVERALL PAN AT EL. 1149.50

DETAIL K
1/8" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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LARRY C. HAWKINS
NO. 13205

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

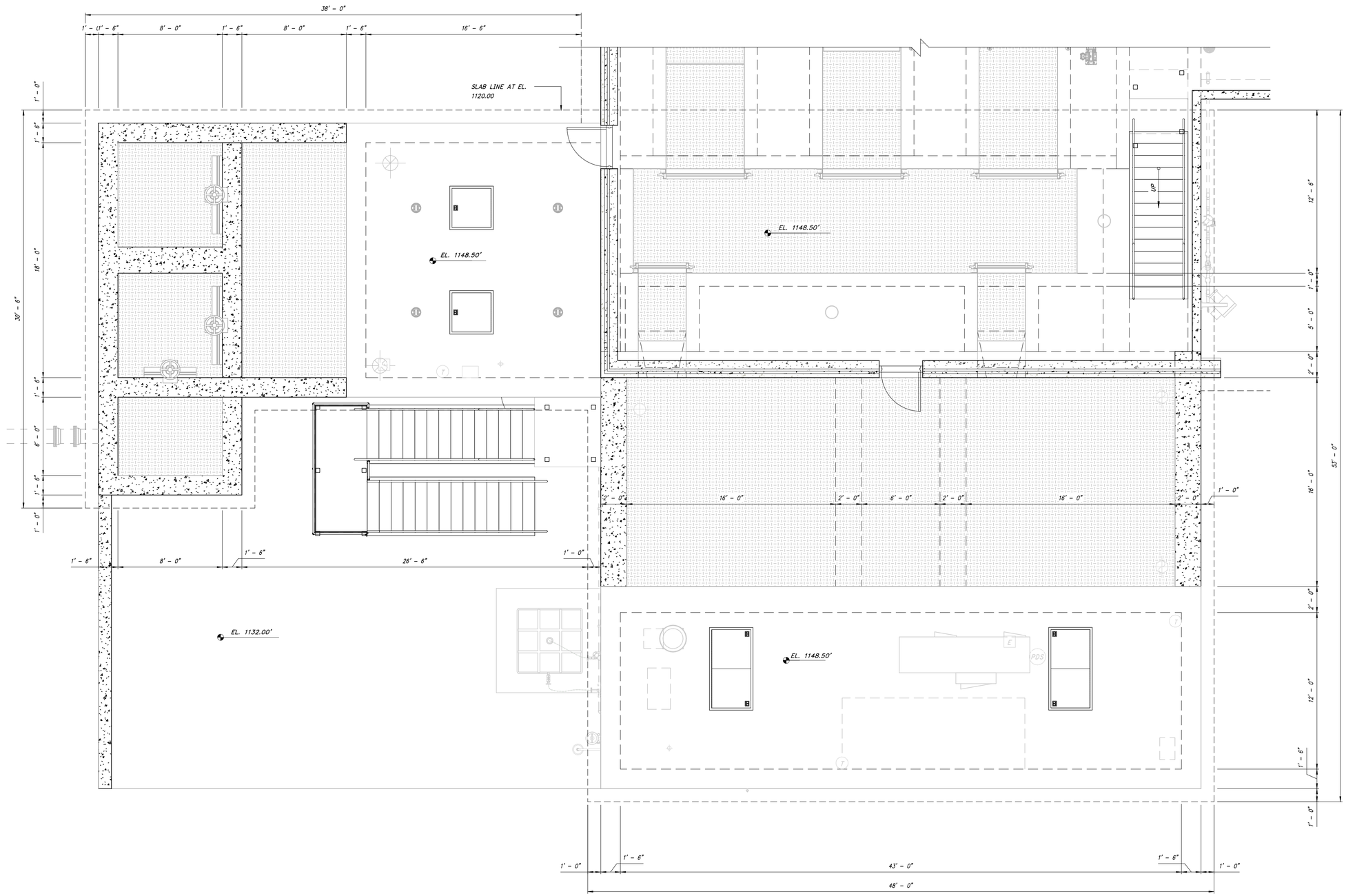
INFLUENT BUILDING OVERALL PLAN AT EL. 1149.50

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/8" = 1'-0"
DESIGNED BY: Designer
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SA-10

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 1:06:33 PM / CES / INFLUENT BUILDING OVERALL PLAN



PLAN AT EL. 1149.50'

DETAIL L
1/4" = 1'-0" –

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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LARRY C. HAWKINS
NO. 13205

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

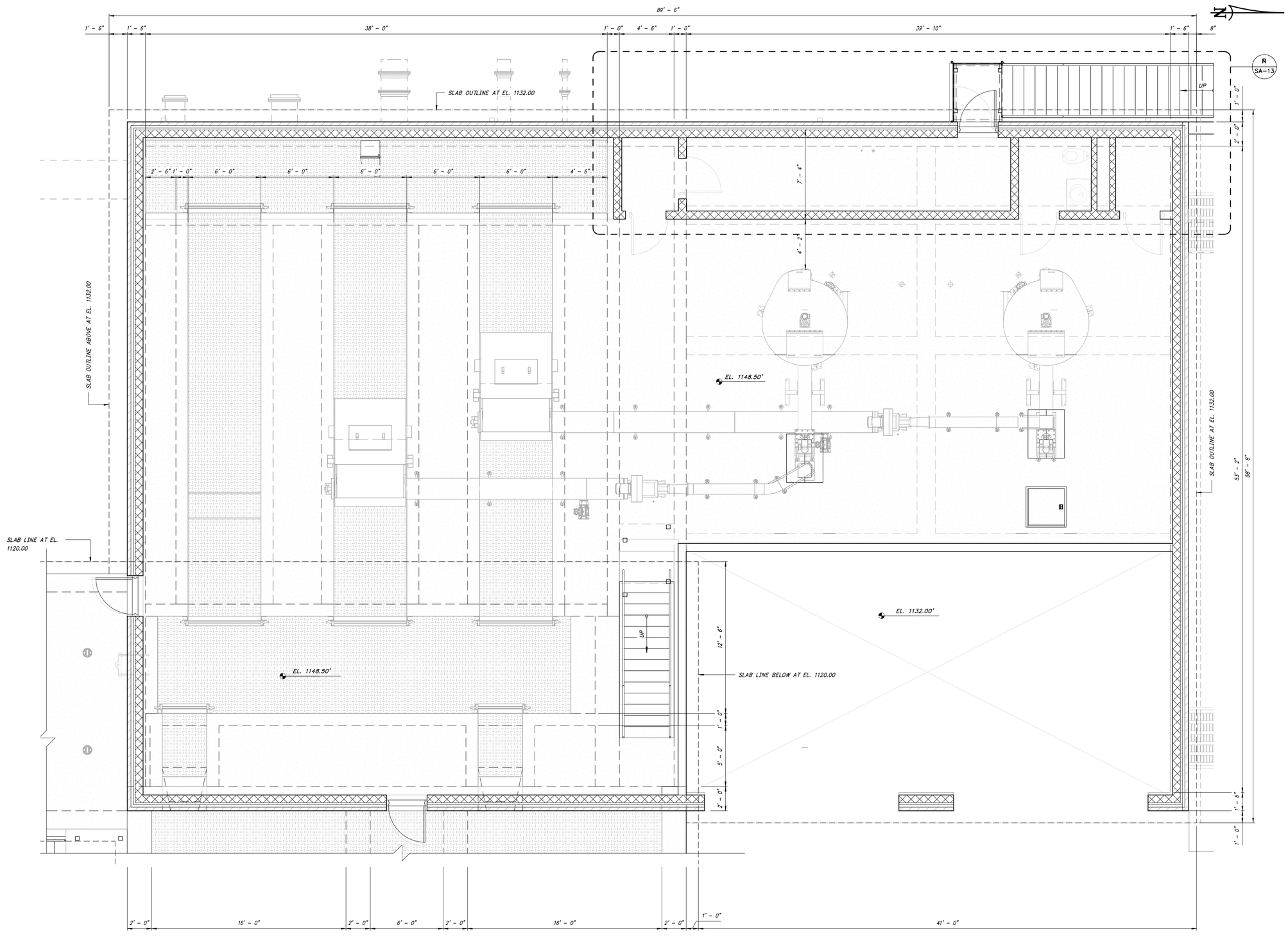
INFLUENT BUILDING PARTIAL PLAN

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: Designer
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SA–11

Autodesk Docs://410144 – Bentonville Water Resource Recovery Facility Improvements/NWRF21037–ST.rvt 3/21/2025 1:06:38 PM / CES / INFLUENT BUILDING PARTIAL PLAN



PLAN AT EL. 1149.50'

DETAIL M
1/4" = 1'–0" –

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HARRIS
NO. 13205

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

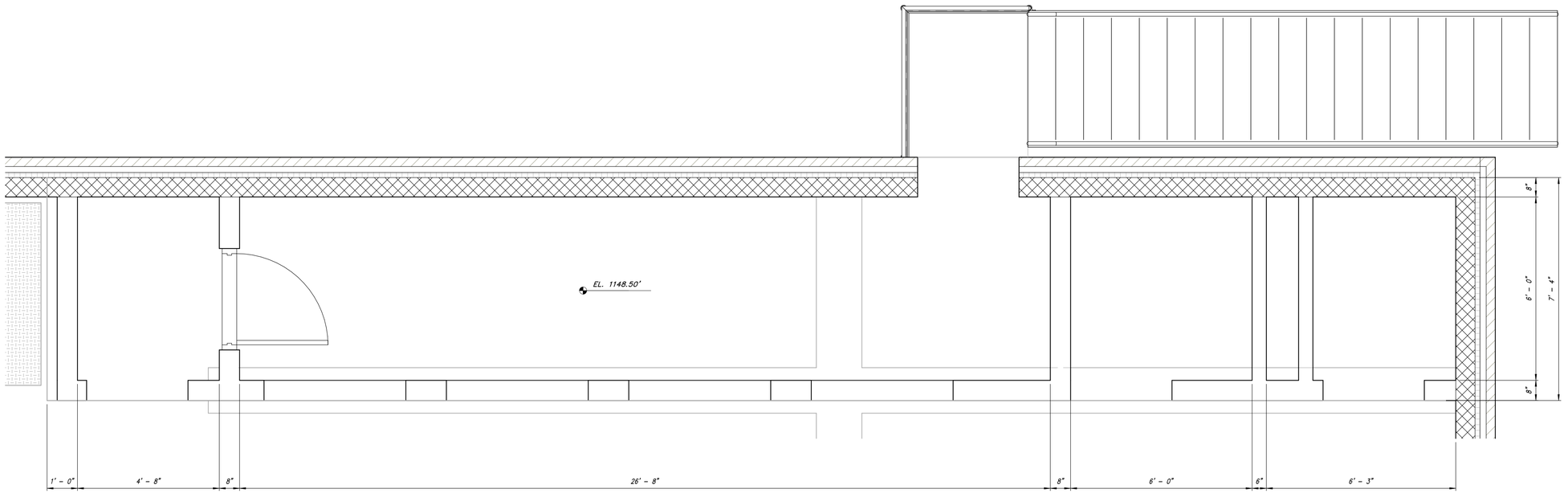
INFLUENT BUILDING PARTIAL PLAN

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'–0"
DESIGNED BY: Designer
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME:

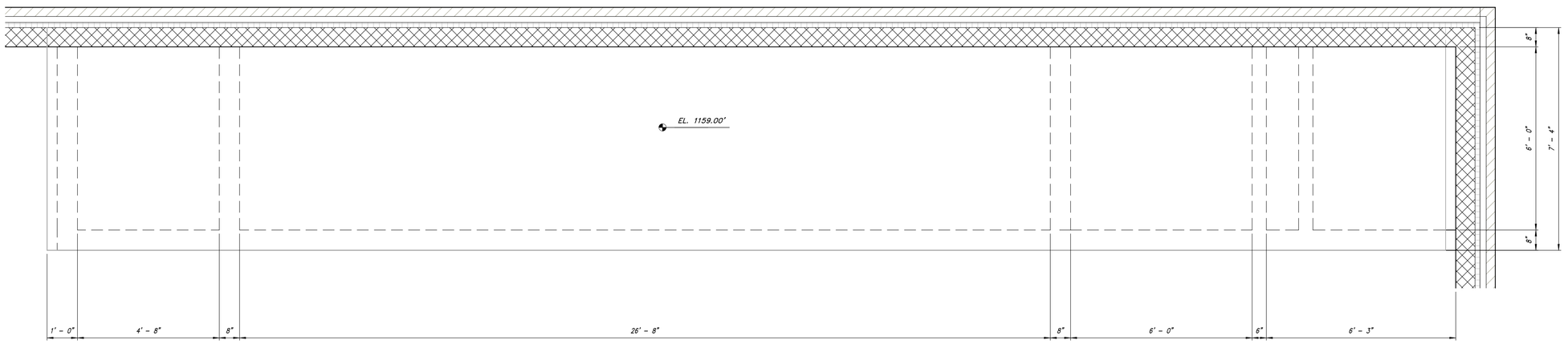
SHEET NO.
SA–12

Autodesk Docs://4410144 – Bentonville Water Resource Recovery Facility Improvements/NWRF21037–ST.rvt 3/21/2025 1:06:44 PM / CES / INFLUENT BUILDING PARTIAL PLAN



PLAN AT EL. 1159.50'

DETAIL N
1/2" = 1'–0" –



PLAN AT EL. 1159.50'

DETAIL P
1/2" = 1'–0" –

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HAWKINS
NO. 13205

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BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

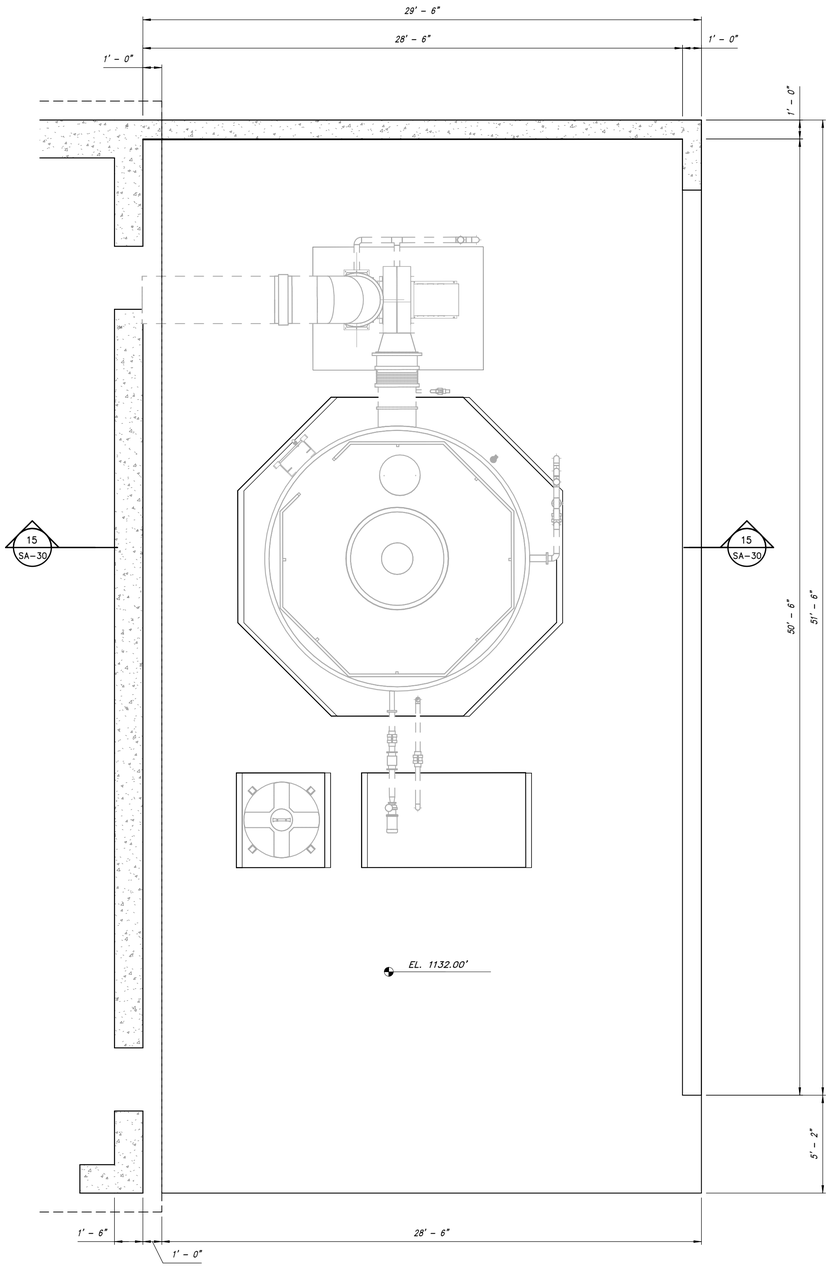
INFLUENT BUILDING PARTIAL PLAN AT EL. 1149.50

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'–0"
DESIGNED BY: Designer
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SA–13

Autodesk Docs://410144 – Bentonville Water Resource Recovery Facility Improvements/WWRF21037–ST.rvt 3/21/2025 1:06:46 PM / CES / INFLUENT BUILDING PARTIAL PLAN



PLAN AT EL. 1134.50'

DETAIL R
1/4" = 1'-0" –

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1"
ONE INCH
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IF NOT ONE INCH
SCALE ACCORDINGLY

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING PARTIAL PLAN

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: Designer
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SA–14

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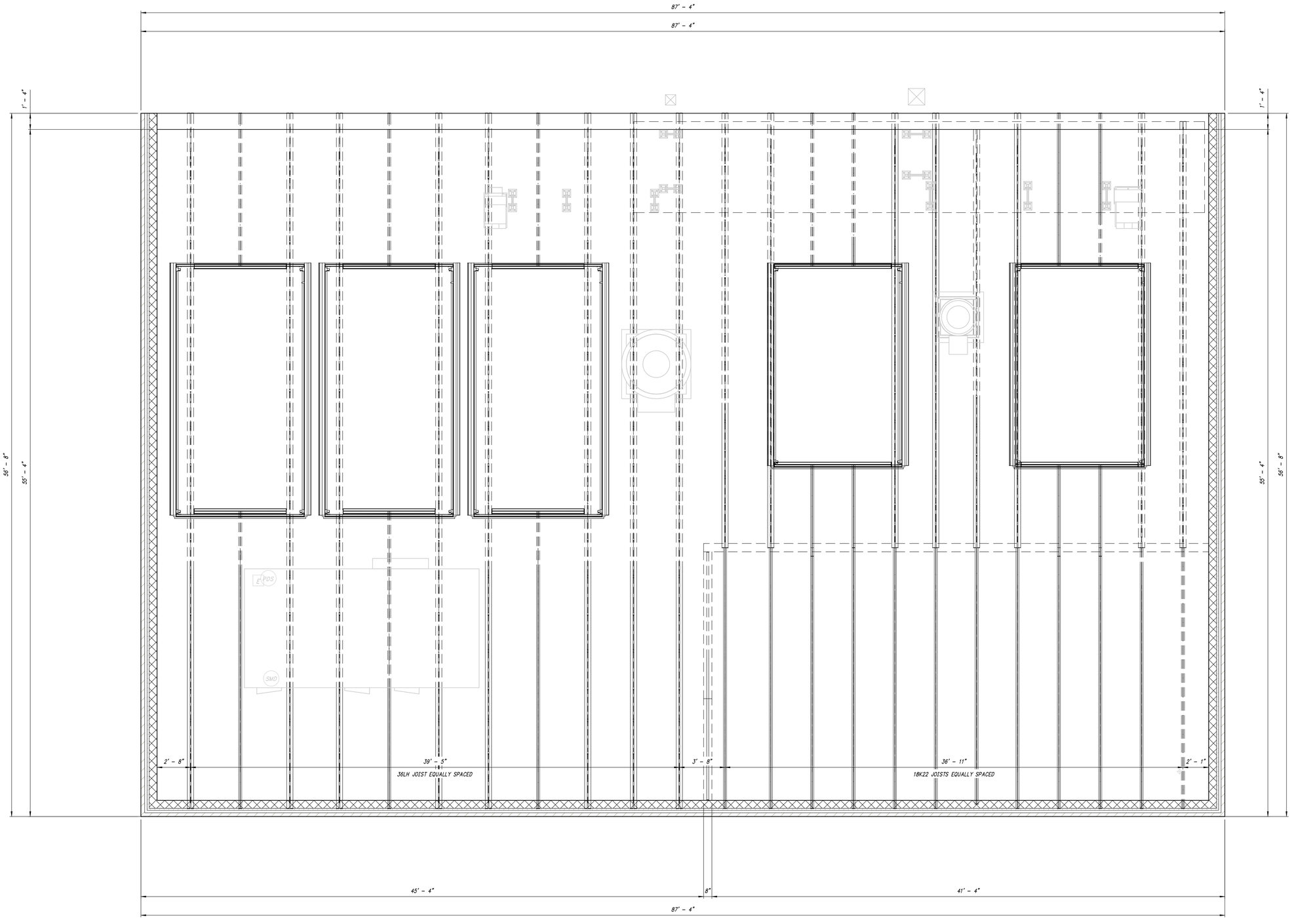

ROOF PLAN AT EL. 1168.50

DETAIL S / 1/4" = 1'-0" / –

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MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

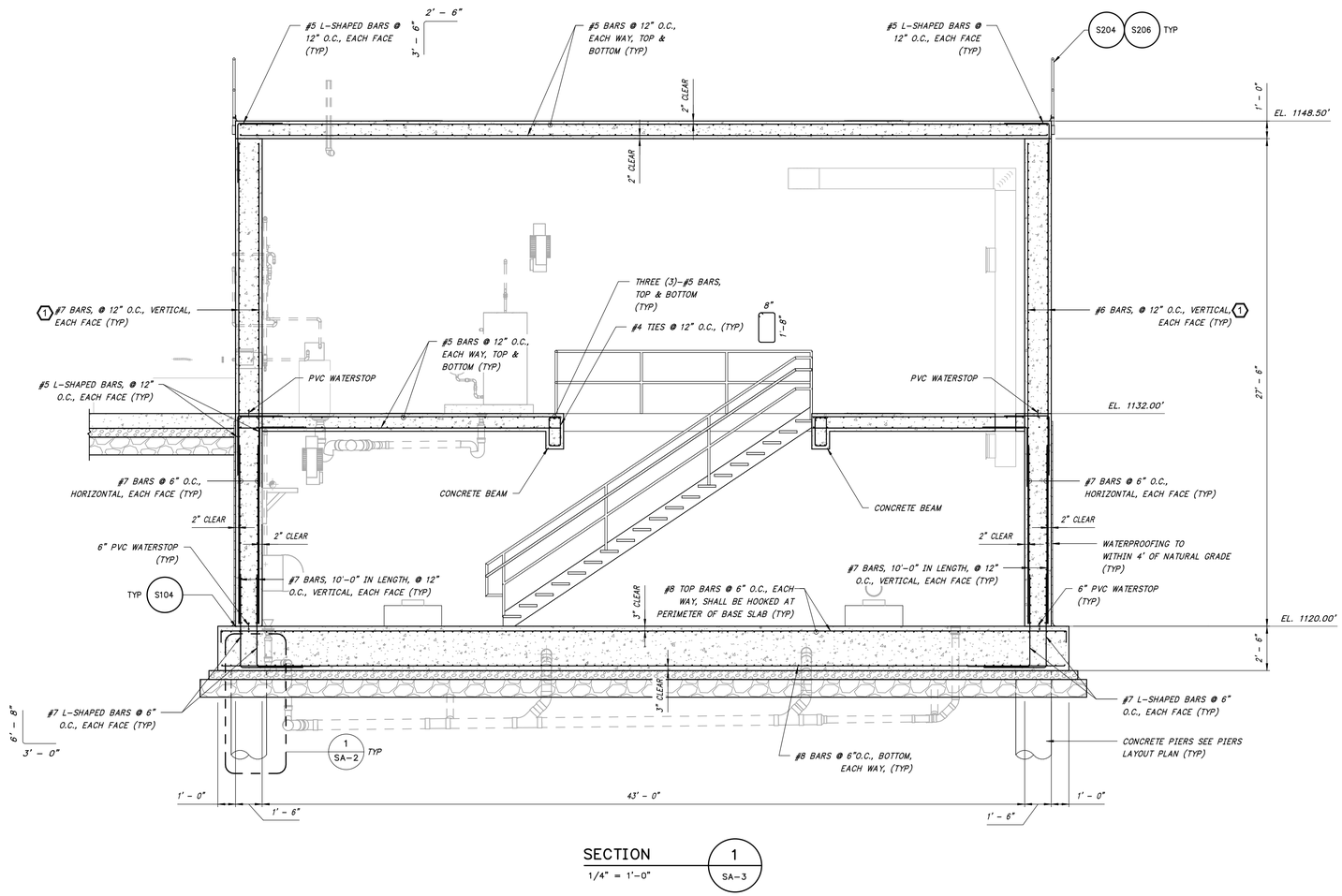
INFLUENT BUILDING ROOF PLAN AT EL 1168.50

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: JSD
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SA-15

Autodesk Docs://410144 – Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 1:06:49 PM / CES / INFLUENT BUILDING ROOF PLAN



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

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].
3. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

1 VERTICAL BARS, 10'-0" IN LENGTH, @ 12" O.C. SHALL ALTERNATE WITH FULL WALL HEIGHT VERTICAL BARS @ 12" O.C., TO ACHIEVE A 6" VERTICAL BAR SPACING

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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NO. 13205
03/21/25

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: Designer
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SA-16

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MARCH 21, 2025

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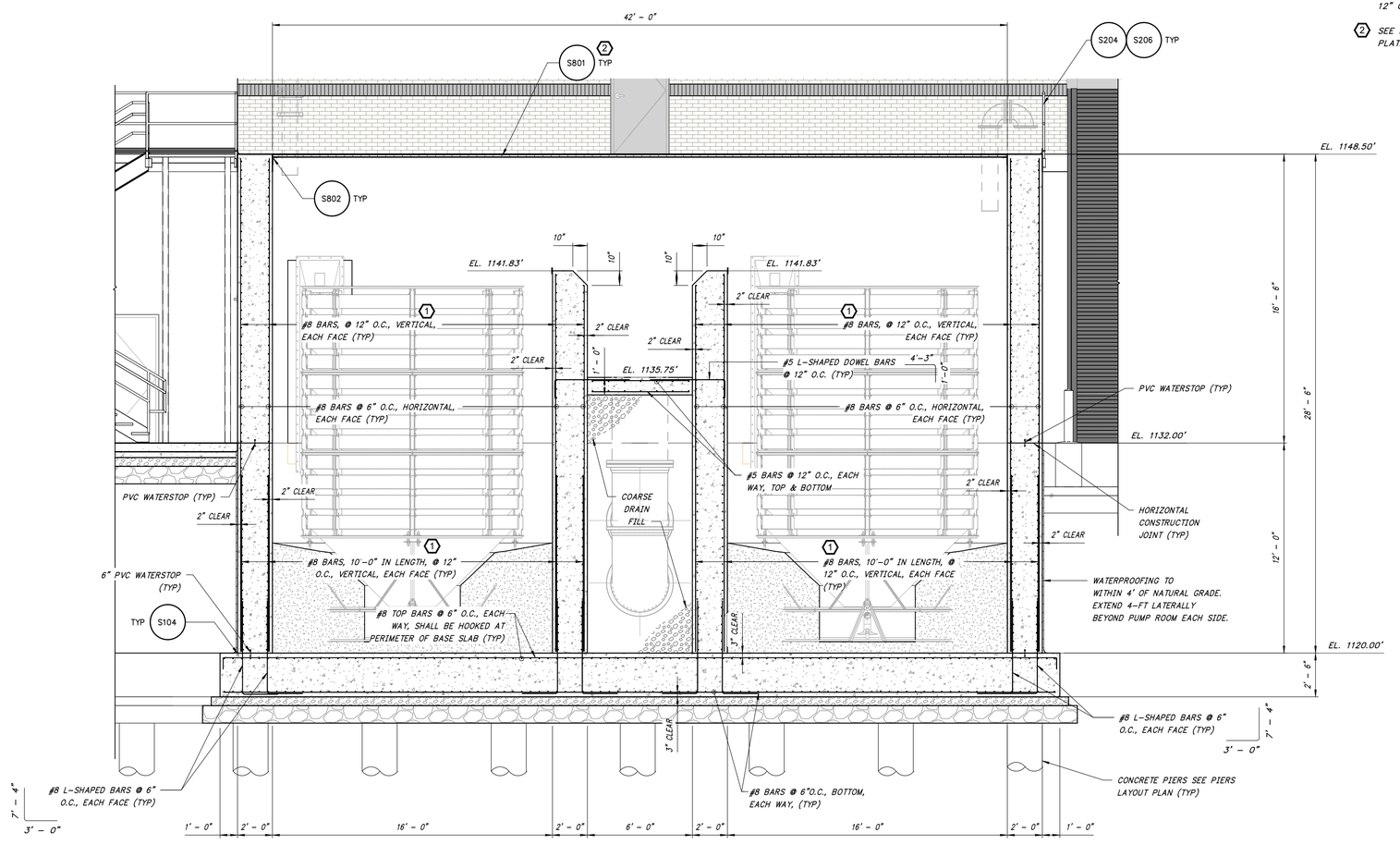

SECTION 2 / SA-3
1/4" = 1'-0"

NOTES:

1. *REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.*
2. *COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].*
3. *ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.*

KEYED NOTES:

1. *VERTICAL BARS, 10'-0" IN LENGTH, @ 12" O.C. SHALL ALTERNATE WITH FULL WALL HEIGHT VERTICAL BARS @ 12" O.C., TO ACHIEVE A 6" VERTICAL BAR SPACING*
2. *SEE DETAIL ON SHEET S2-8 FOR ODOR CONTROL CAVER PLATE.*

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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NO. 13205

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: Designer
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SA-17

BID DRAWINGS
MARCH 21, 2025

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Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 1:07:02 PM / CES / INFLUENT BUILDING SECTION

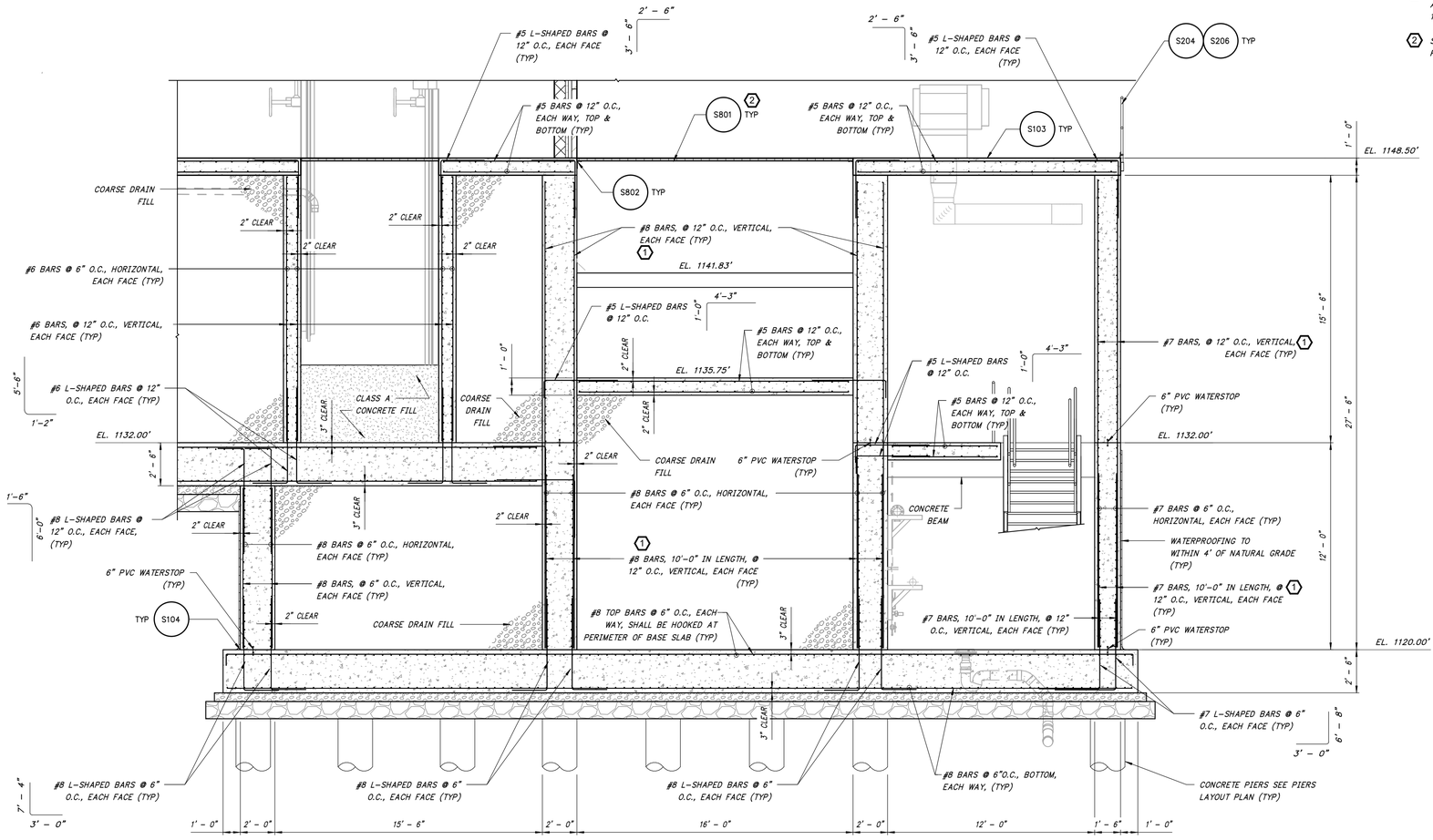
NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].
3. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

(1) VERTICAL BARS, 10'-0" IN LENGTH, @ 12" O.C. SHALL ALTERNATE WITH FULL WALL HEIGHT VERTICAL BARS @ 12" O.C., TO ACHIEVE A 6" VERTICAL BAR SPACING

(2) SEE DETAIL ON SHEET S2-8 FOR ODOR CONTROL CAVER PLATE.



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

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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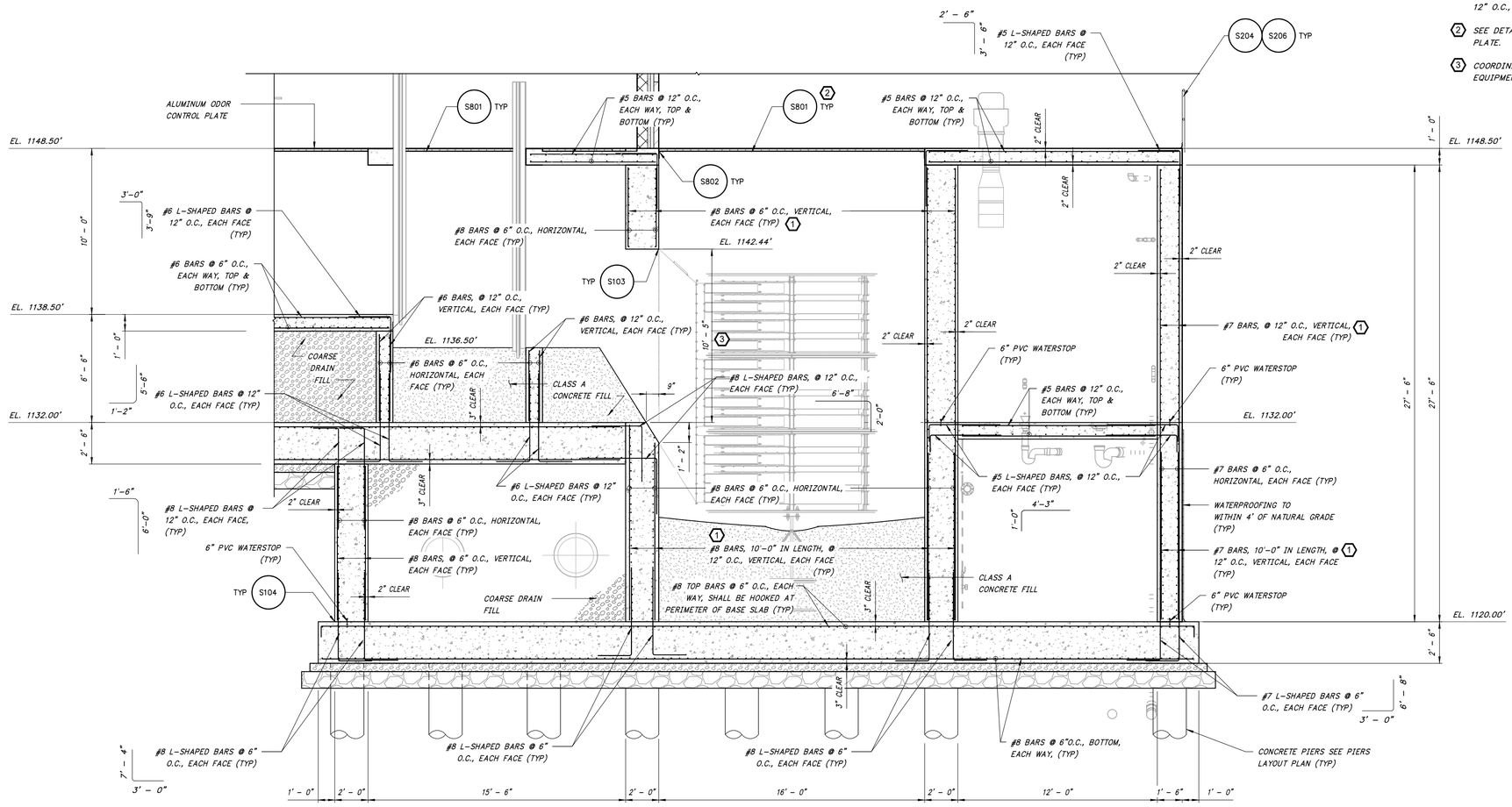
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: Designer
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SA-18



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

NOTES:

1. *REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.*
2. *COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].*
3. *ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.*

KEYED NOTES:

1. *VERTICAL BARS, 10'-0" IN LENGTH, @ 12" O.C. SHALL ALTERNATE WITH FULL WALL HEIGHT VERTICAL BARS @ 12" O.C., TO ACHIEVE A 6" VERTICAL BAR SPACING*
2. *SEE DETAIL ON SHEET S2-8 FOR ODOR CONTROL CAVER PLATE.*
3. *COORDINATE EXACT OPENING DIMENSIONS WITH EQUIPMENT TO BE PROVIDED.*

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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LARRY C. HARRIS
NO. 13205

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: Designer
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SA-19

BID DRAWINGS
MARCH 21, 2025

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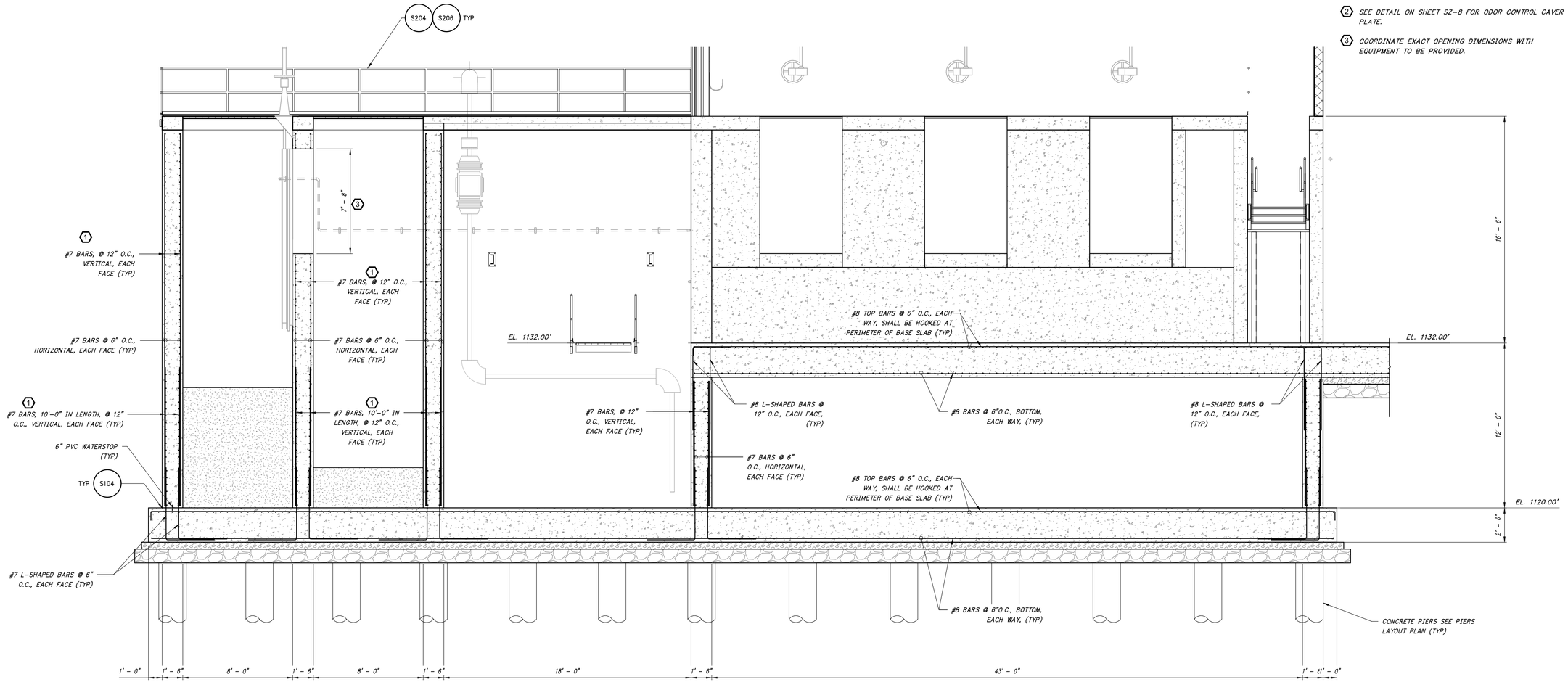
Autodesk Docs://410144 – Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 3:27:10 PM / CES / INFLUENT BUILDING SECTION

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10–INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].
3. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

1. VERTICAL BARS, 10'–0" IN LENGTH, @ 12" O.C. SHALL ALTERNATE WITH FULL WALL HEIGHT VERTICAL BARS @ 12" O.C., TO ACHIEVE A 6" VERTICAL BAR SPACING
2. SEE DETAIL ON SHEET S2–8 FOR ODOR CONTROL CAVER PLATE.
3. COORDINATE EXACT OPENING DIMENSIONS WITH EQUIPMENT TO BE PROVIDED.



SECTION 5 / SA–3
1/4" = 1'–0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

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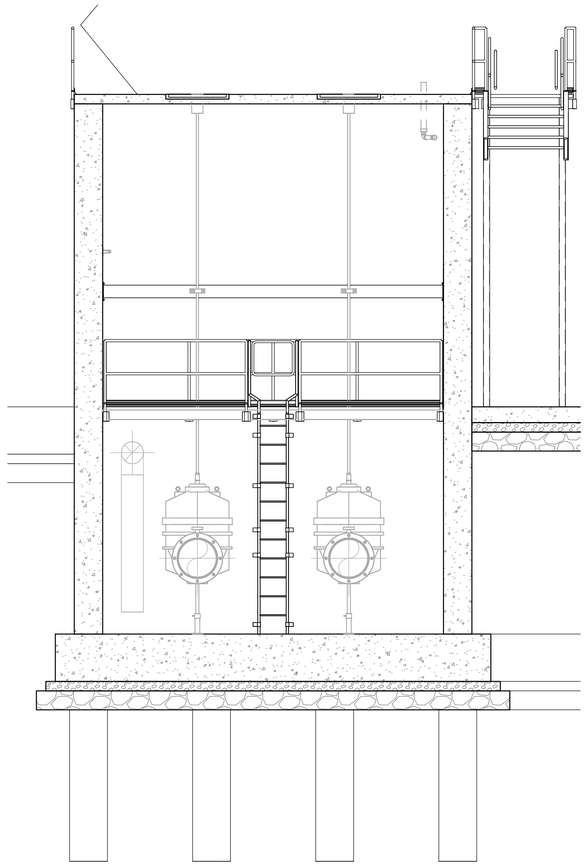
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'–0"
DESIGNED BY: Designer
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SA–20



SECTION 6
1/4" = 1'-0" SA-3

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: Designer
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SA-21

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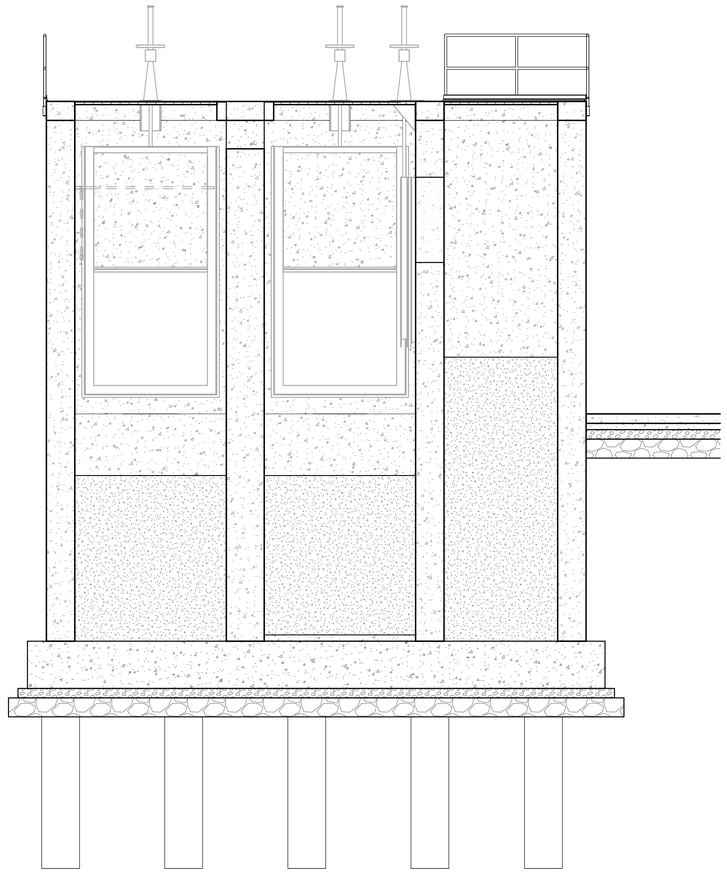

SECTION 7
1/4" = 1'-0"
SA-3

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: Designer
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SA-22

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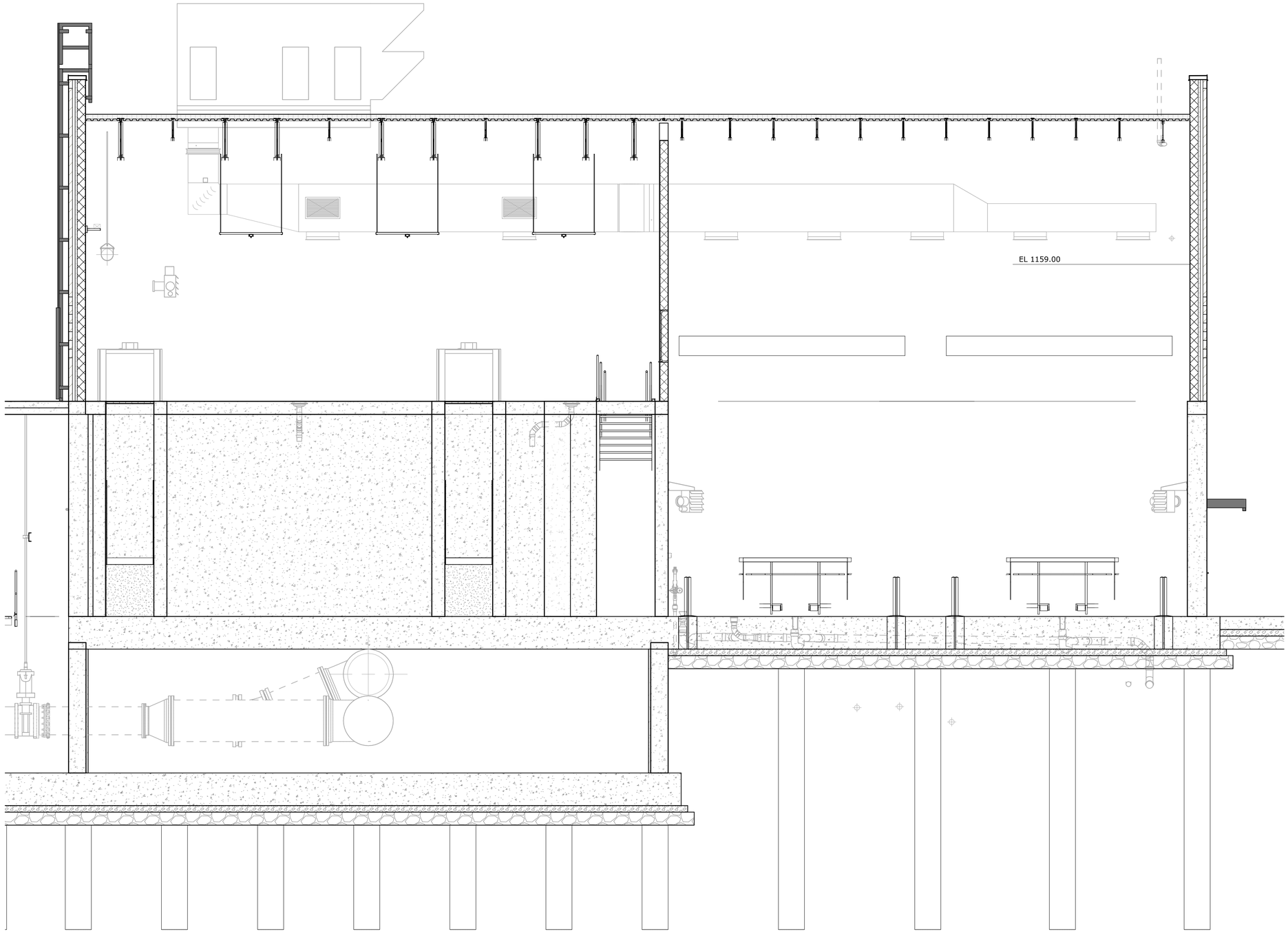

SECTION 8
1/4" = 1'-0" SA-4

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

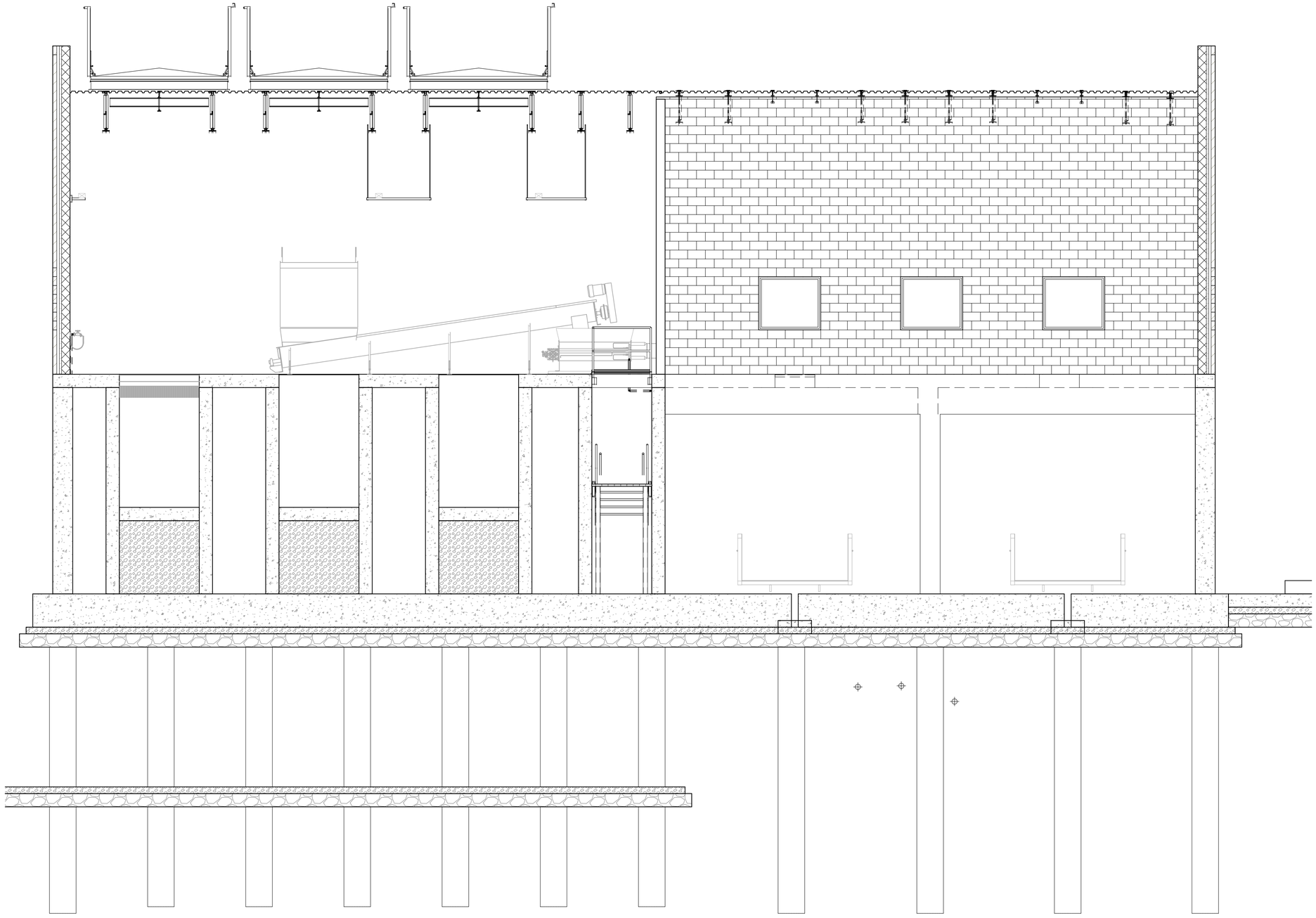
INFLUENT BUILDING SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: Designer
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SA-23

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/NWRF21037-ST.rvt 3/21/2025 1:07:13 PM / CES / CES / INFLUENT BUILDING SECTION



SECTION 9
1/4" = 1'-0" SA-4

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: Designer
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SA-24

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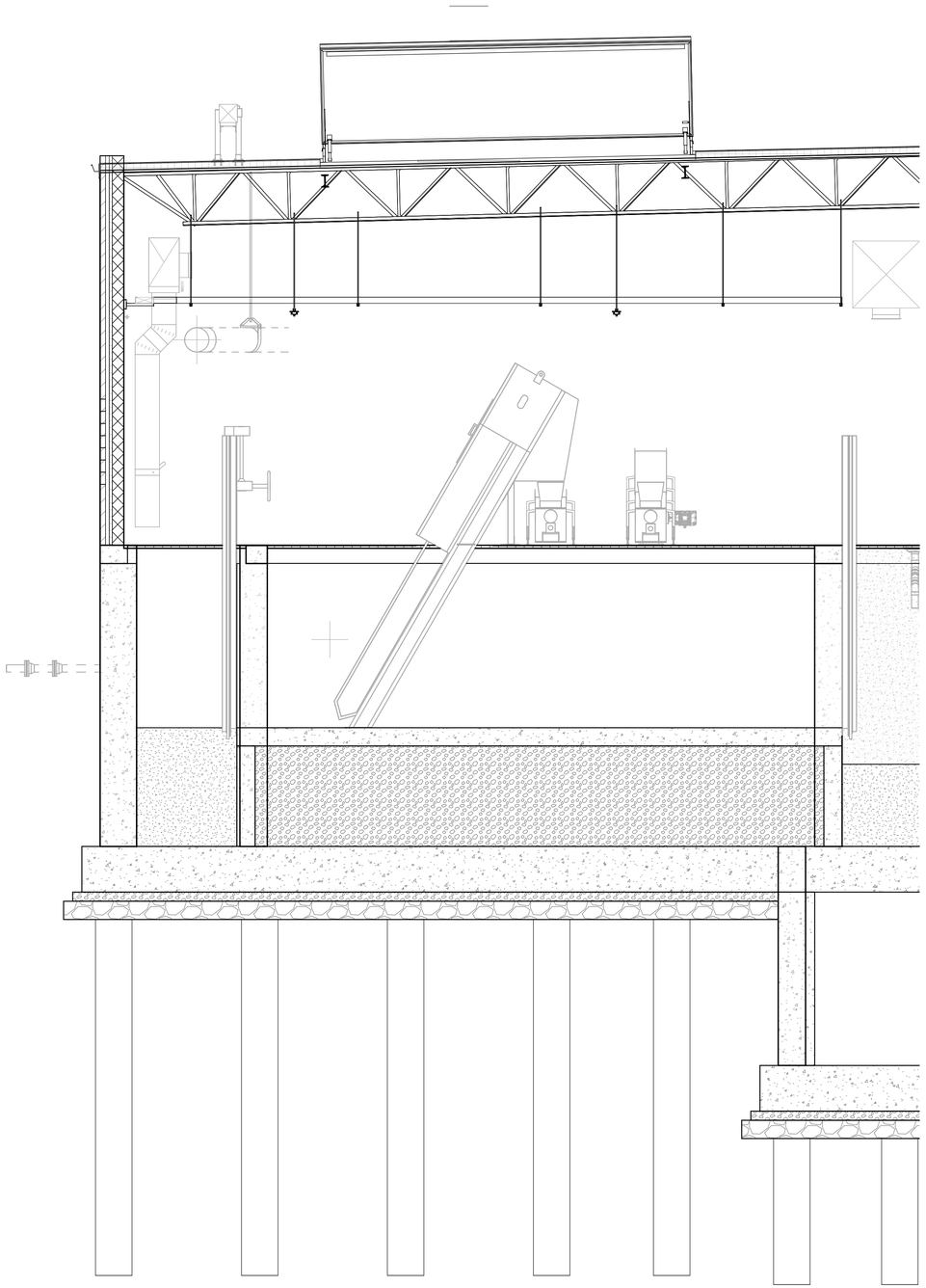

SECTION 10
1/4" = 1'-0" SA-4

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: Designer
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SA-25

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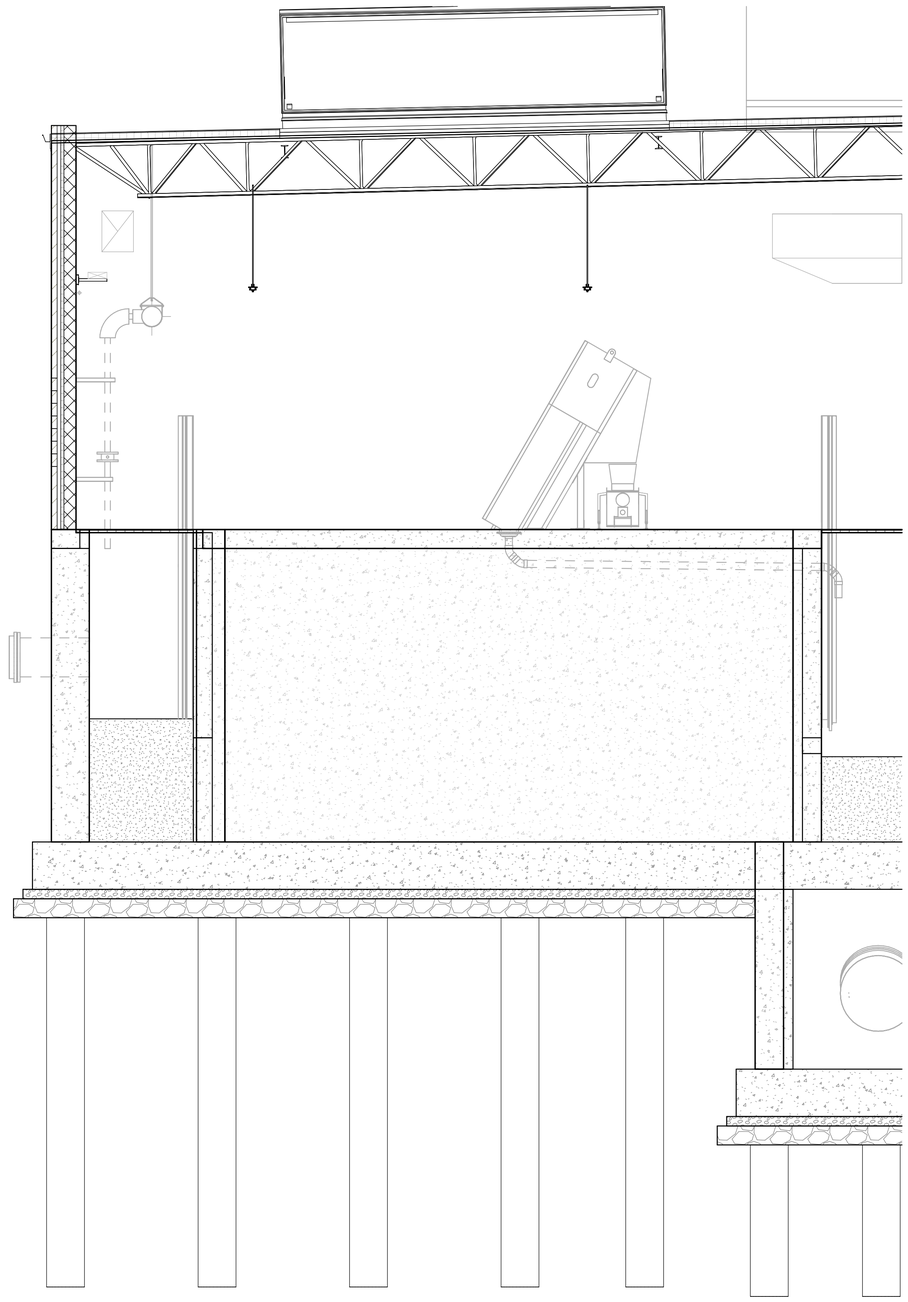

SECTION 11
1/4" = 1'-0" SA-4

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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REGISTERED PROFESSIONAL ENGINEER
LARRY C. HAWKINS
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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

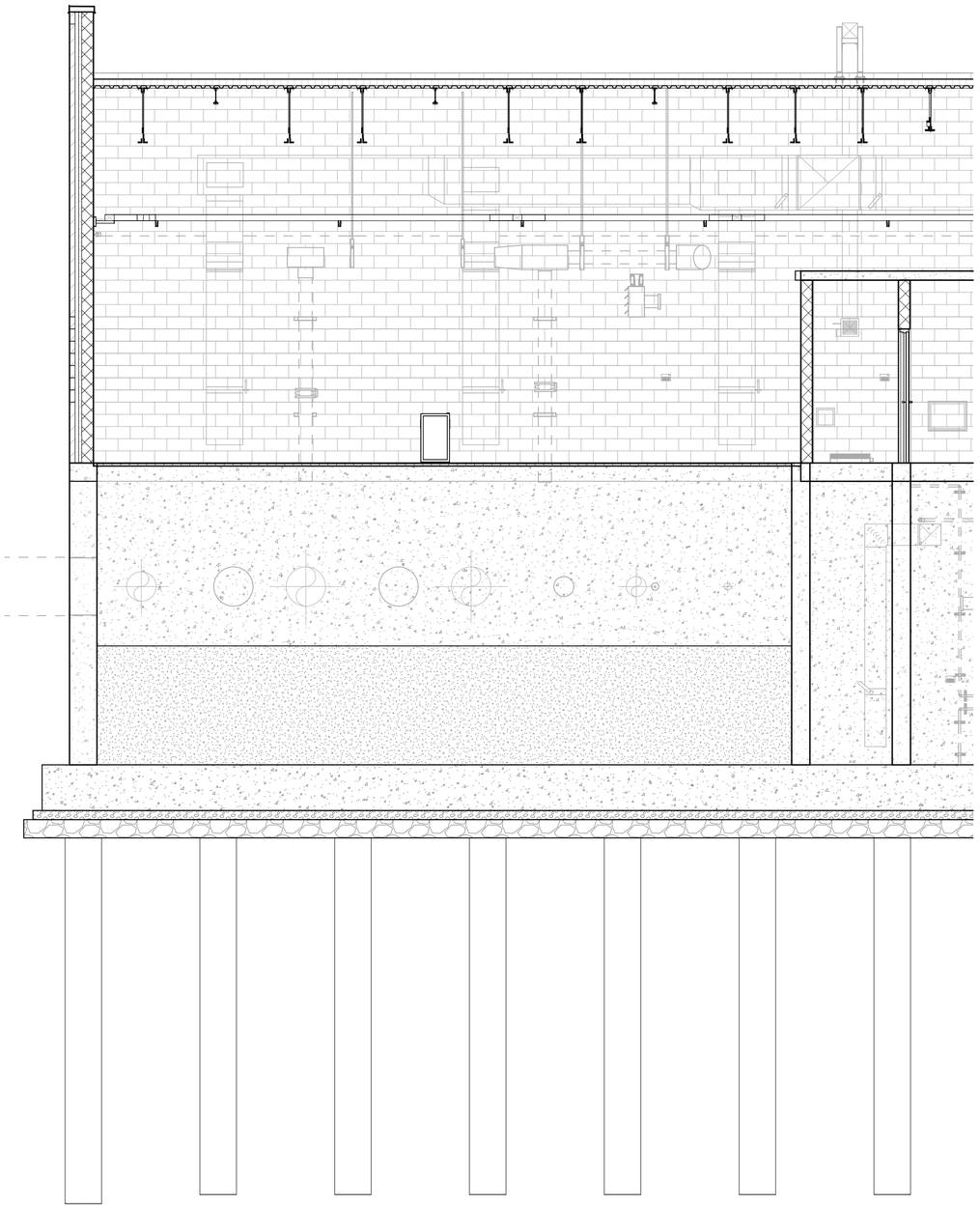
INFLUENT BUILDING SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: Designer
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SA-26

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 1:07:17 PM / CES / INFLUENT BUILDING SECTION



SECTION 12
1/4" = 1'-0" SA-4

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY D. HAWKINS
NO. 13205

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

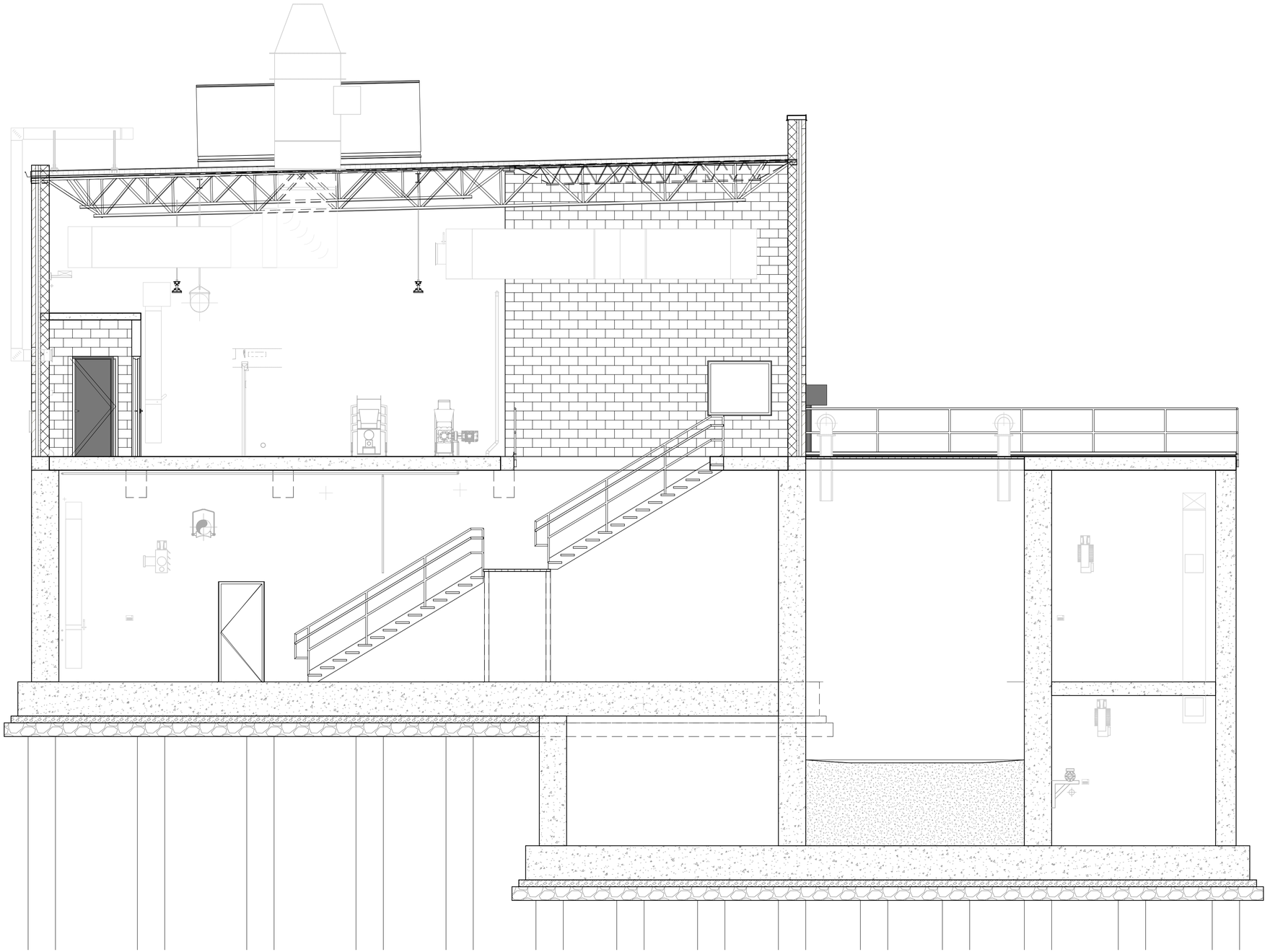
INFLUENT BUILDING SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: Designer
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SA-27

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 1:07:19 PM / CES / INFLUENT BUILDING SECTION



SECTION 13
1/4" = 1'-0" SA-4

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HAWKINS
NO. 13205

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: Designer
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SA-28

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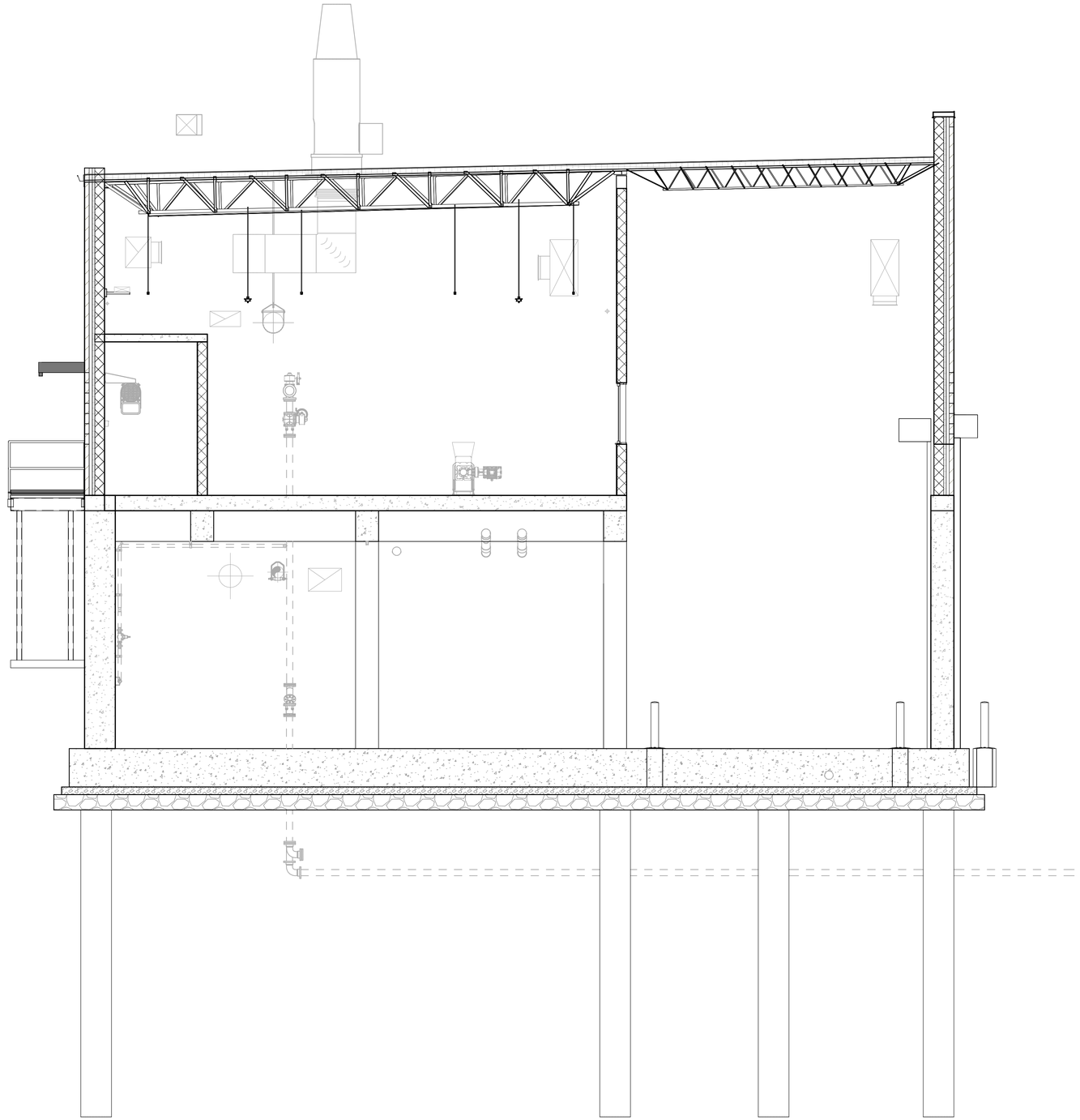

SECTION 14
1/4" = 1'-0" SA-4

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: Designer
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SA-29

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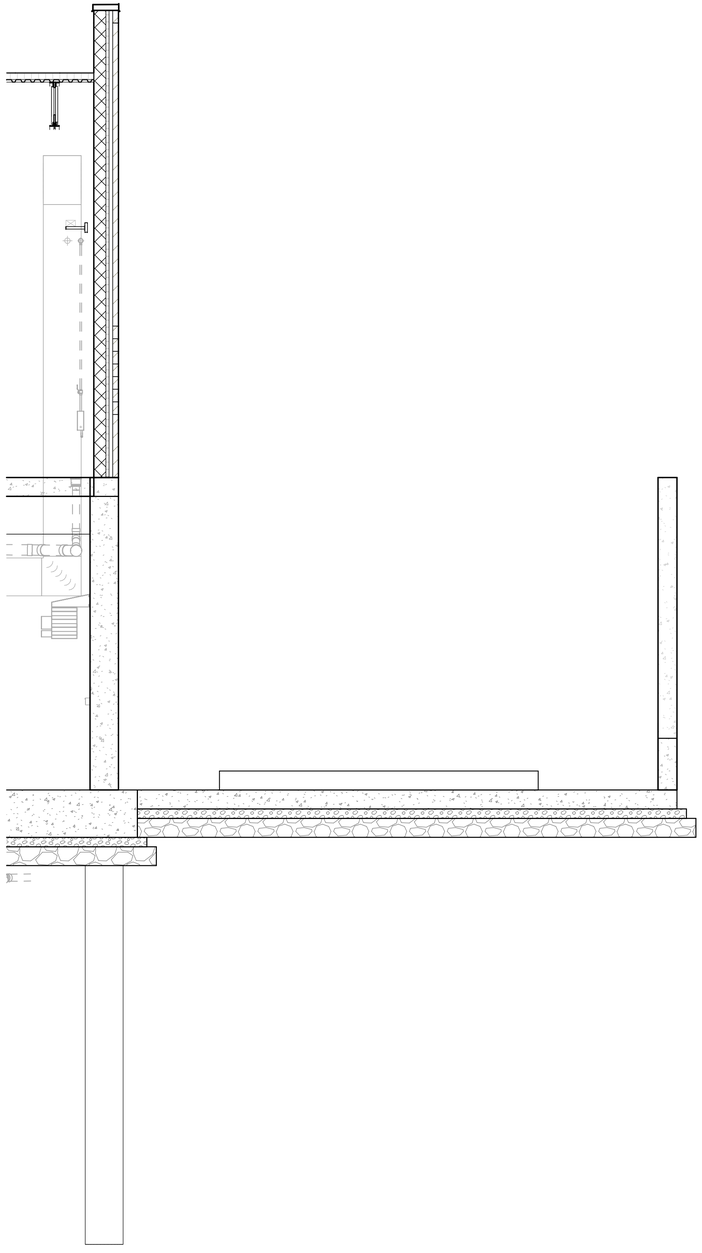

SECTION 15
1/4" = 1'-0" SA-5

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HAWKINS
NO. 13205

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT BUILDING SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: Designer
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SA-30

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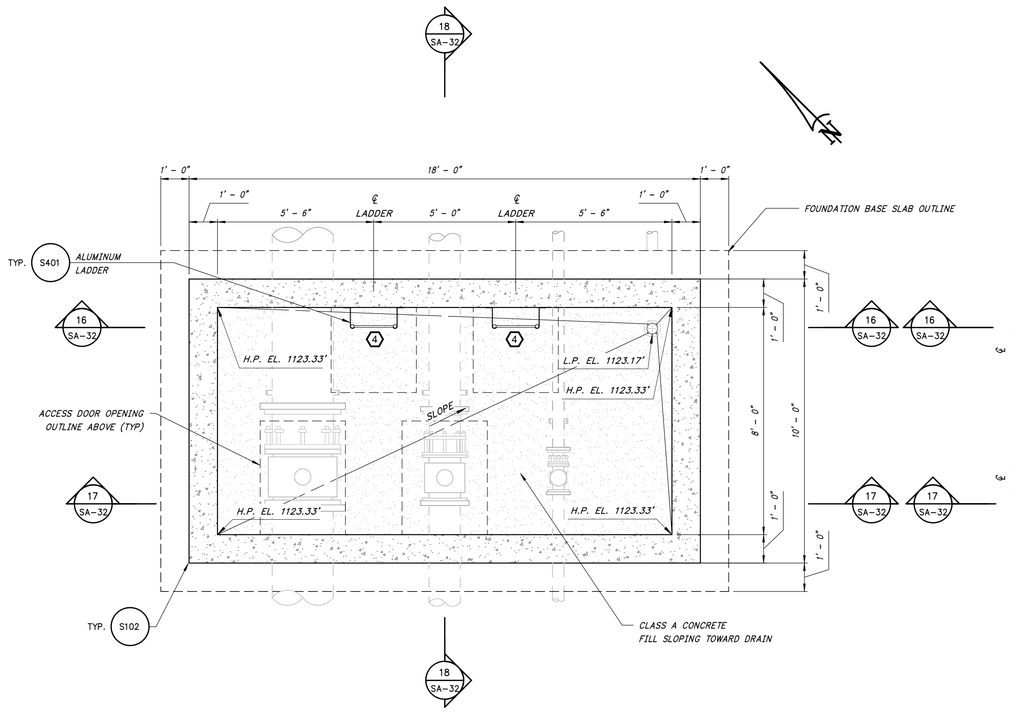
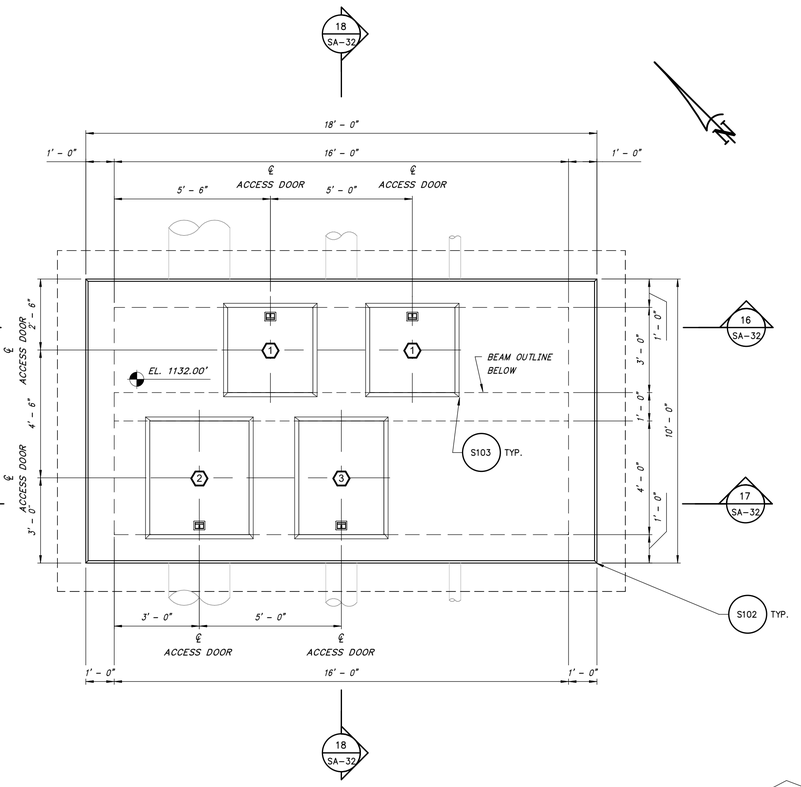


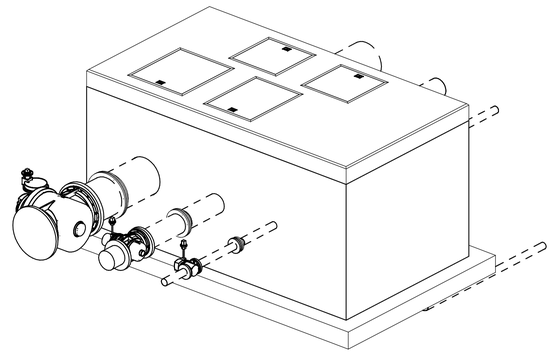
PUMPED INFLUENT METER VAULT
BOTTOM PLAN

DETAIL T / 3/8" = 1'-0"



PUMPED INFLUENT METER VAULT
TOP PLAN

DETAIL U / 3/8" = 1'-0"



ISOMETRIC/3D

N.T.S.

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. REFER TO SPECIFICATION SECITON 07110 FOR WATERPROOFING OF BELOW GRADE WALLS.
3. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

1. ACCEESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS3636, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECCTION GRATING.
2. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS4248, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
3. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS3648, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
4. ALUMINUM LADDER SHALL BE HALLIDAY PRODUCTS SERIES L1B AND SHALL INCLUDE SERIES L1E LADDER EXTENSION, OR EQUAL.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
WESLEY JAY LEWIS
No. 23358
3-21-25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

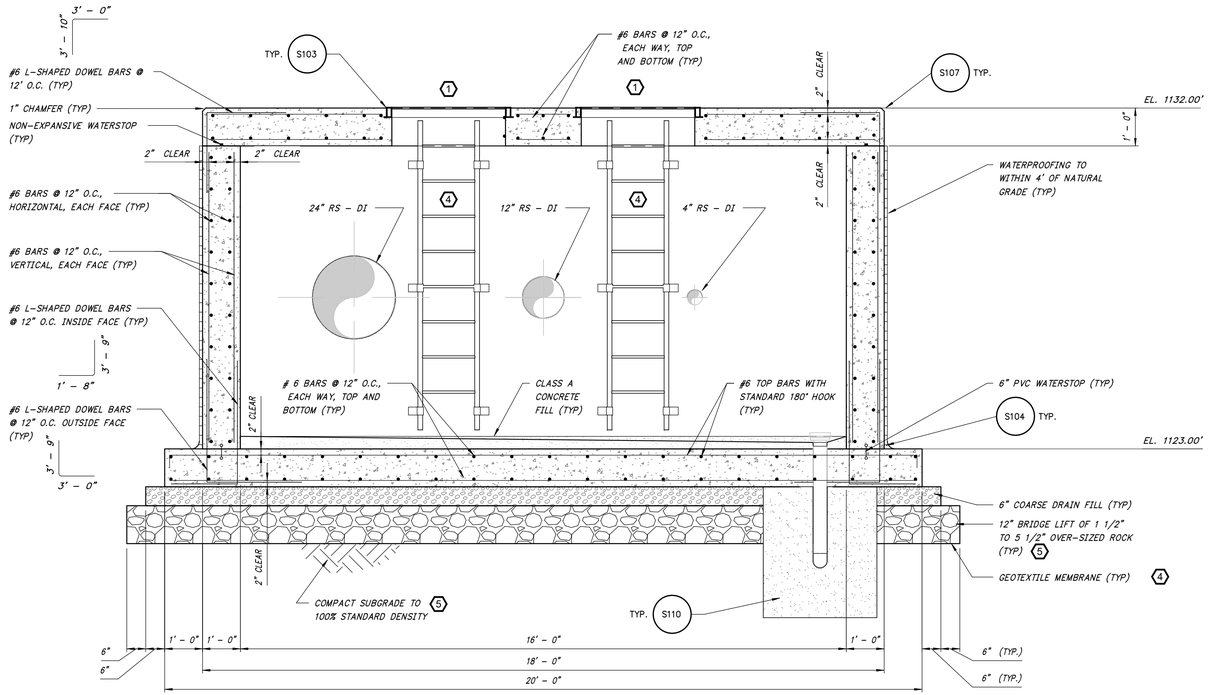
PUMPED INFLUENT METER VAULT
DETAILS AND ISOMETRIC

FOR: BENTONVILLE WASTEWATER UTILITIES

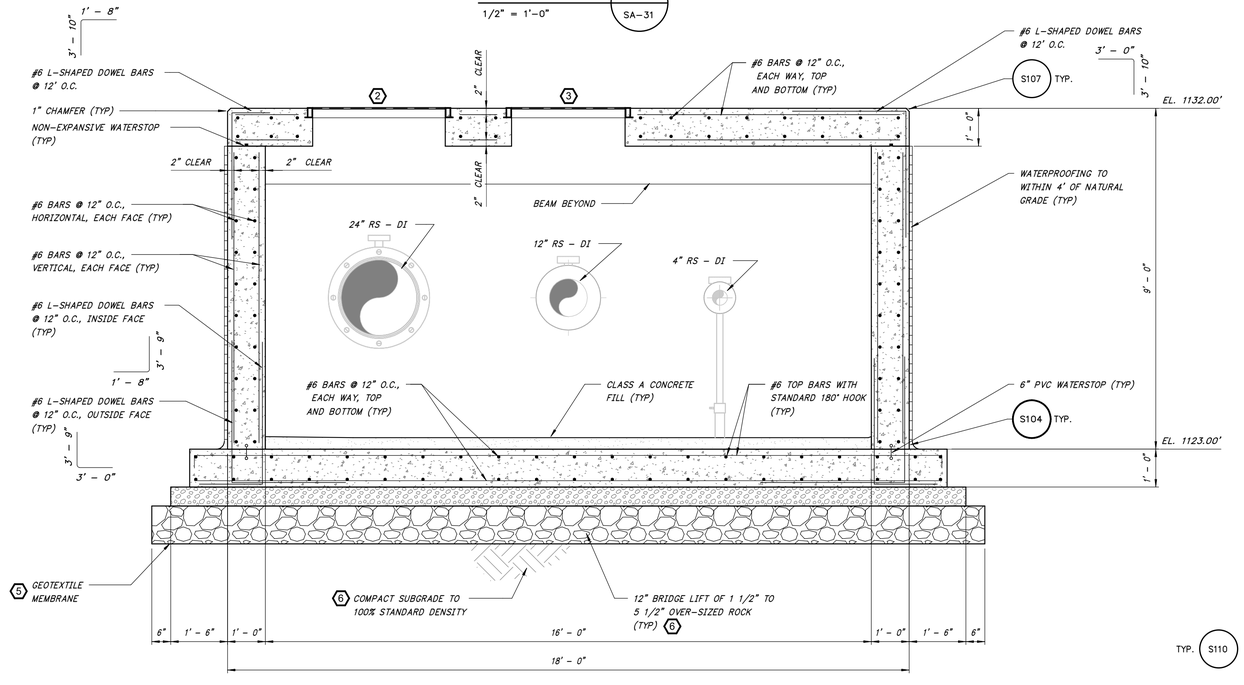
DATE: MARCH 2025
SCALE: 3/8" = 1'-0"
DESIGNED BY: WJL
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SA-31

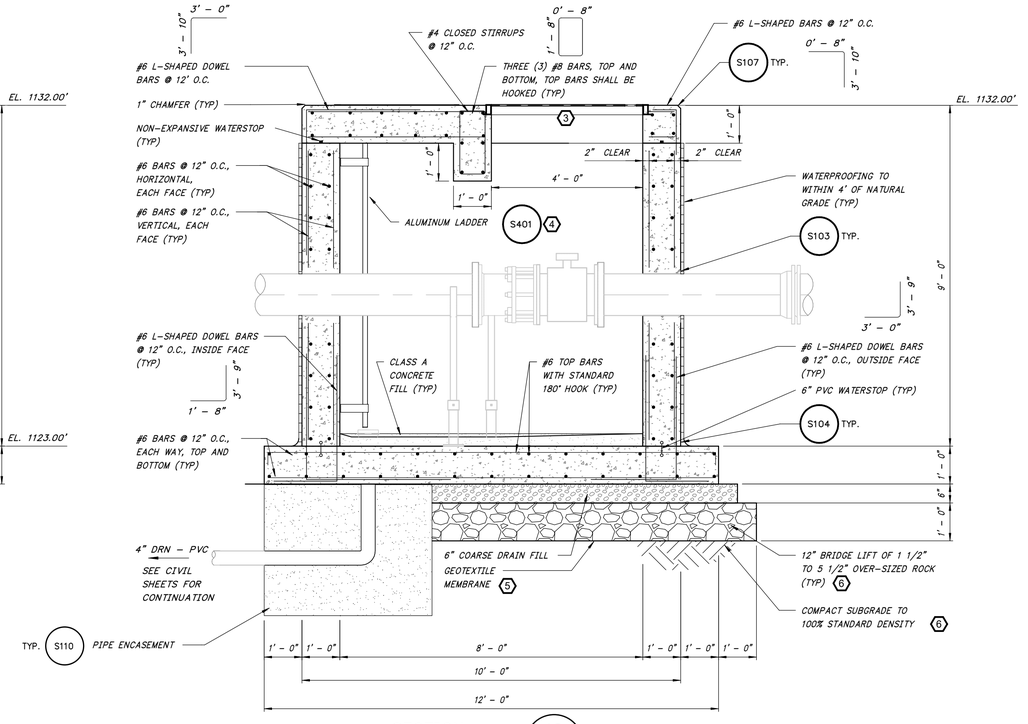
Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 1:07:27 PM / DKS / PUMPED INFLUENT METER VAULT



SECTION 16
1/2" = 1'-0" SA-31



SECTION 17
1/2" = 1'-0" SA-31



SECTION 18
1/2" = 1'-0" SA-31

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].
3. REFER TO SPECIFICATION SECTION 07110 FOR WATERPROOFING OF BELOW GRADE WALLS.
4. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

1. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS3636, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
2. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS4248, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
3. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS3648, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
4. ALUMINUM LADDER SHALL BE HALLIDAY PRODUCTS SERIES L1B AND SHALL INCLUDE SERIES L1E LADDER EXTENSION, OR EQUAL.
5. GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE BRIDGE LIFT.
6. 12" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
WESLEY JAY LEWIS
No. 23358
03-21-25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

PUMPED INFLUENT METER VAULT SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: JSD
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SA-32

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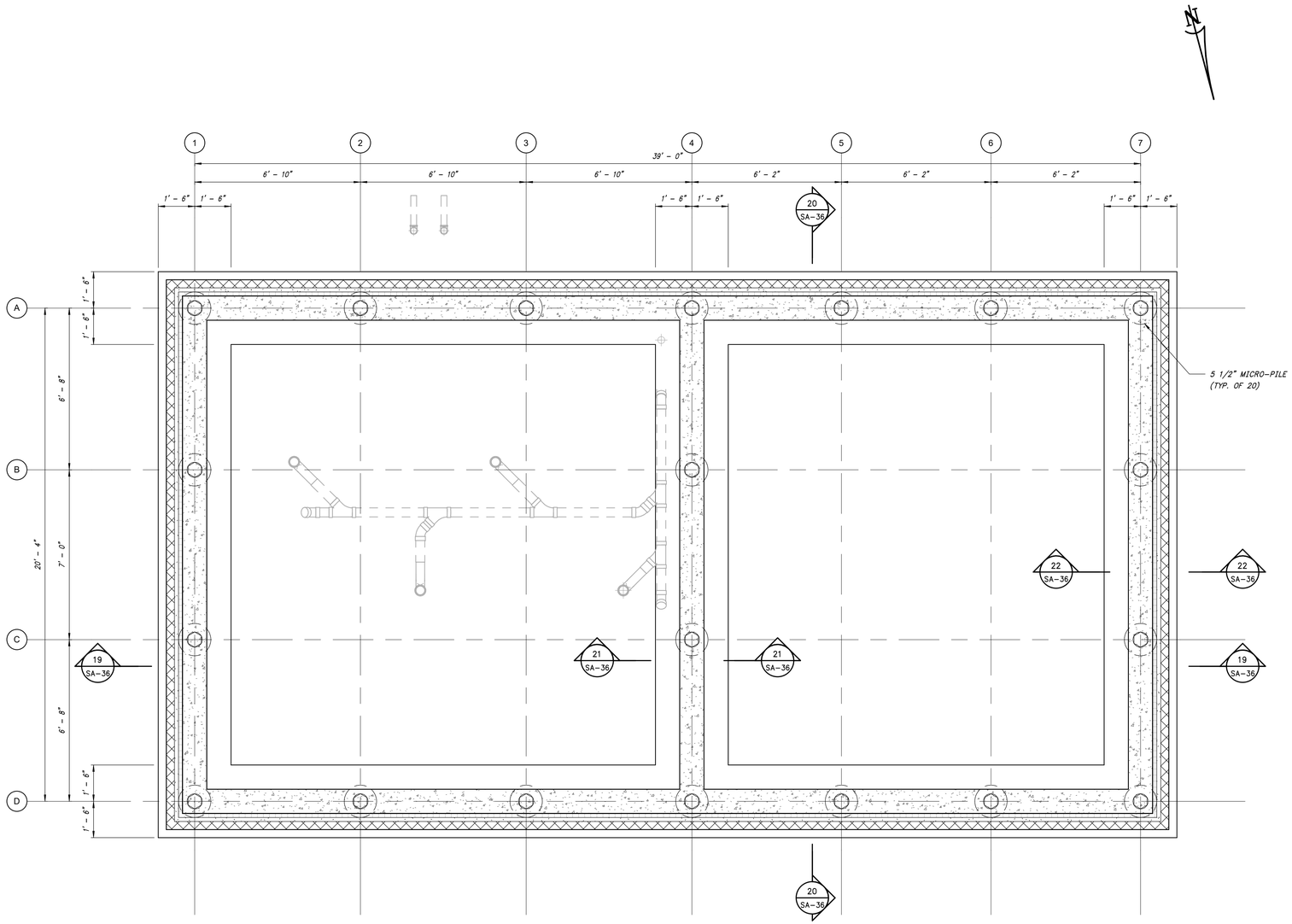

INFLUENT ELECTRICAL BUILDING
FOUNDATION PLAN

DETAIL V
3/8" = 1'-0" –

MICRO-PILE NOTES:

1. *THE CONTRACTOR AND/OR THEIR MICROPILE SPECIALTY SUBCONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND TESTING OF MICRO-PILES IN ACCORDANCE WITH SPECIFICATION SECTION 02469 DRILLED MICRO-PILES.*

2. *THE MICRO-PILE SPECIALTY SUBCONTRACTOR SHALL DESIGN THE MICRO-PILE TYPE, SIZE, INSTALLATION MEANS AND METHODS, ESTIMATE THE GROUND-GROUT BOND VALUE AND DETERMINE THE REQUIRED BOND LENGTH AND FINAL MICRO-PILE DIAMETER BASED ON THE REQUIRED LOAD CAPACITIES INDICATED ON THE PLANS. THE MICRO-PILE LOAD CAPACITIES SHALL BE VERIFIED BY PROOF LOAD TESTING AS SPECIFIED IN SECTION 02469.*

3. *THE MICRO-PILE SPECIALTY SUBCONTRACTOR SHALL BE EXPERIENCED IN THE CONSTRUCTION AND LOAD TESTING OF MICRO-PILES IN SOIL/ROCK SIMILAR TO PROJECT CONDITIONS IDENTIFIED IN GTS' GEOTECHNICAL REPORT DATED NOVEMBER 25, 2024.*

4. *THE MICRO-PILE SPECIALTY SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ASSIGNING A PROFESSIONAL ENGINEER, LICENSED IN ARKANSAS, WITH EXPERIENCE IN THE DESIGN OF MICRO-PILES AND BE RESPONSIBLE FOR ANY DESIGN RELATED EXPENSES.*

5. *THE MICRO-PILES SHALL BE DESIGNED TO MEET THE SPECIFIED LOADING CONDITIONS, AS IDENTIFIED IN THE PLANS, USING THE PROCEDURES OUTLINED IN THE FHWA "MICRO-PILE DESIGN AND CONSTRUCTION", REPORT NO. FHWA NHI-05-039. REFER TO SECTION 02469 FOR ANY ADDITIONAL DESIGN AND SUBMITTAL REQUIREMENTS.*

NOTES:

1. *REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF ANY MASONRY CONTROL JOINTS.*

2. *ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.*

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HAWKINS
NO. 13205

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

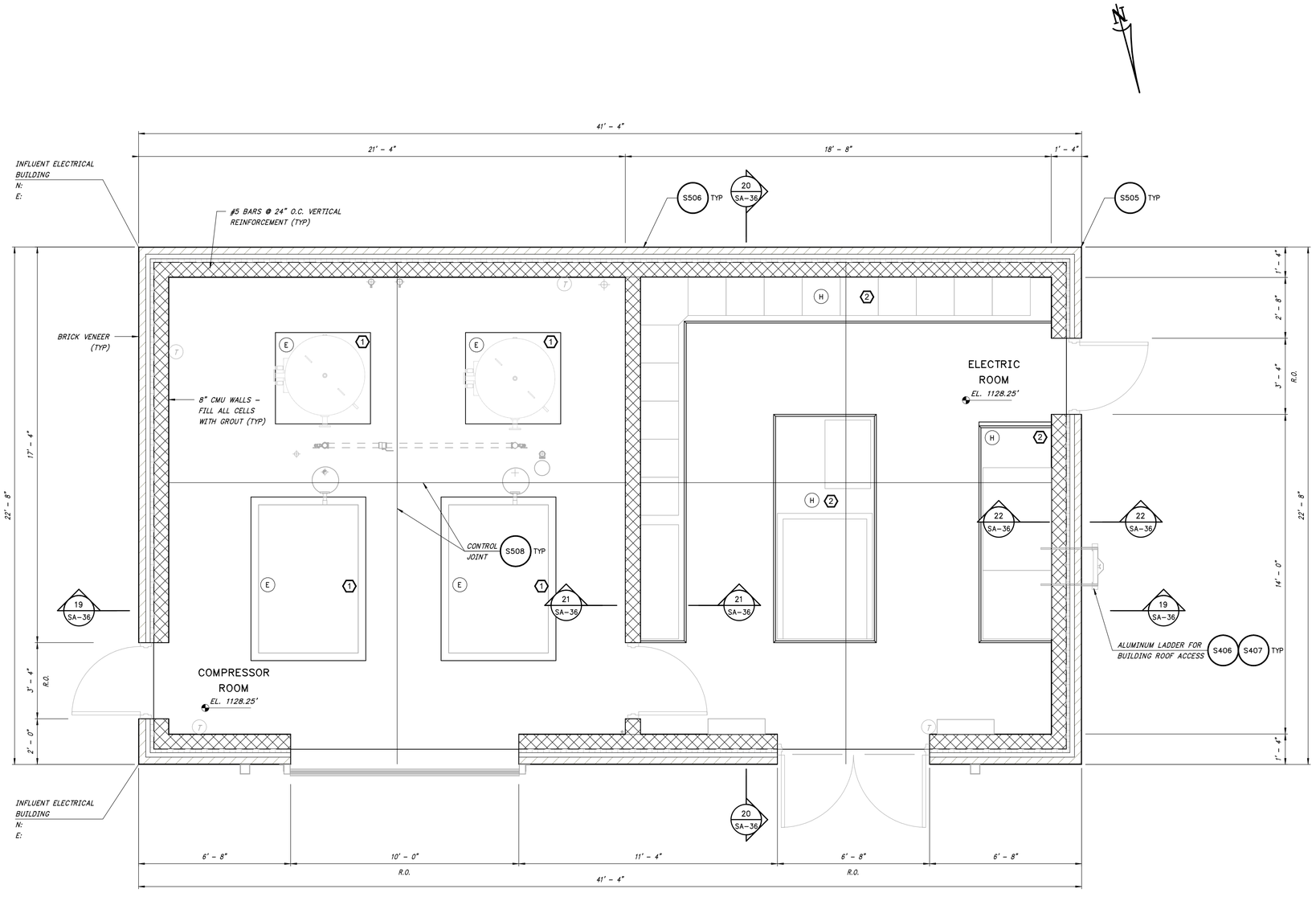
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE
RECOVERY FACILITY IMPROVEMENTS

INFLUENT ELECTRICAL BUILDING
FOUNDATION PLAN
DETAIL
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LCH
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SA-33

Autodesk Docs://410144 – Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 1:07:34 PM / ADF / INFLUENT ELECTRICAL BUILDING



INFLUENT ELECTRICAL BUILDING
FLOOR PLAN

DETAIL W
3/8" = 1'-0" –

NOTES:

1. *THE BUILDING IS DESIGNED FOR ARKANSAS FIRE PREVENTION CODE, 2021 EDITION (2021 IBC), SEISMIC REQUIREMENTS IN ACCORDANCE WITH ACT 1100 OF THE STATE OF ARKANSAS*

   _____
   L. CRAIG HARDIN, P.E., ARKANSAS REGISTRATION NO. 13205

2. *SNOW LOADS:*

GROUND SNOW LOAD, Pg	15 PSF
RISK CATEGORY	III
IMPORTANCE FACTOR, Is	1.10
EXPOSURE FACTOR, Ce	0.9
THERMAL FACTOR, Ct	1.0

3. *SEISMIC DESIGN CRITERIA FOR BUILDING:*
   - SEISMIC RISK CATEGORY: III
   - IMPORTANCE FACTOR, I_E: 1.25
   - SEISMIC RESPONSE COEFFICIENTS:
     - S_S = 0.153
     - S_1 = 0.089
   - SPECTRAL RESPONSE COEFFICIENTS
     - S_{DS} = 0.132
     - S_{D1} = 0.089
   - SITE CLASS: C
   - SEISMIC DESIGN CATEGORY: B
   - BASIC SEISMIC FORCE RESISTING SYSTEM: INTERMEDIATE REINFORCED SHEAR WALLS R=3.5
   - SEISMIC RESPONSE COEFFICIENTS: Cs=0.047
   - ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

4. *WIND DESIGN CRITERIA FOR BUILDING:*

WIND CATEGORY	III
WIND IMPORTANCE FACTOR, Iw	1.00
BASIC WIND SPEED (3-SECOND GUST)	115 MPH
GUST EFFECT FACTOR	0.85
WIND EXPOSURE	B

   - INTERNAL PRESSURE COEFFICIENT +/-0.18 ENCLOSED
   - ANALYSIS PROCEDURE: ENVELOPE PROCEDURE

5. *REFER TO DETAILS S501 THROUGH S506 ON PLAN SHEET SZ-5 FOR CMU REINFORCEMENT.*
6. *REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF ANY MASONRY CONTROL JOINTS.*
7. *REFER TO MECHANICAL DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GRATER THAN 10-INCHES, REFER TO DETAIL S103.*
8. *REFER TO SPECIFICATION SECTION 03740 FOR MODIFICATION OR REPAIR OF EXISTING CONCRETE.*
9. *ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.*
10. *COARSE DRAIN FILL PER ASTM SPECIFICATION C33 (3/4" MAX. AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES].*
11. *COORDINATE LOCATION OF ALL ELECTRICAL EQUIPMENT HOUSEKEEPING PADS WITH THE ELECTRICAL CONTRACTOR. THE INTENT IS NOT TO CONSTRUCT ANY MORE HOUSEKEEPING PAD THAN THAT ACTUALLY REQUIRED. SUGGEST 4" IN PLAN BEYOND LIMITS OF ELECTRICAL EQUIPMENT TO ARRIVE AT PLAN DIMENSIONS FOR HOUSEKEEPING PADS.*

KEYED NOTES:

1. *COMPRESSOR EQUIPMENT PAD – REFER TO DETAIL S108.*
2. *ELECTRICAL HOUSEKEEPING PAD – REFER TO DETAIL S109.*

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HARDIN
NO. 13205

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

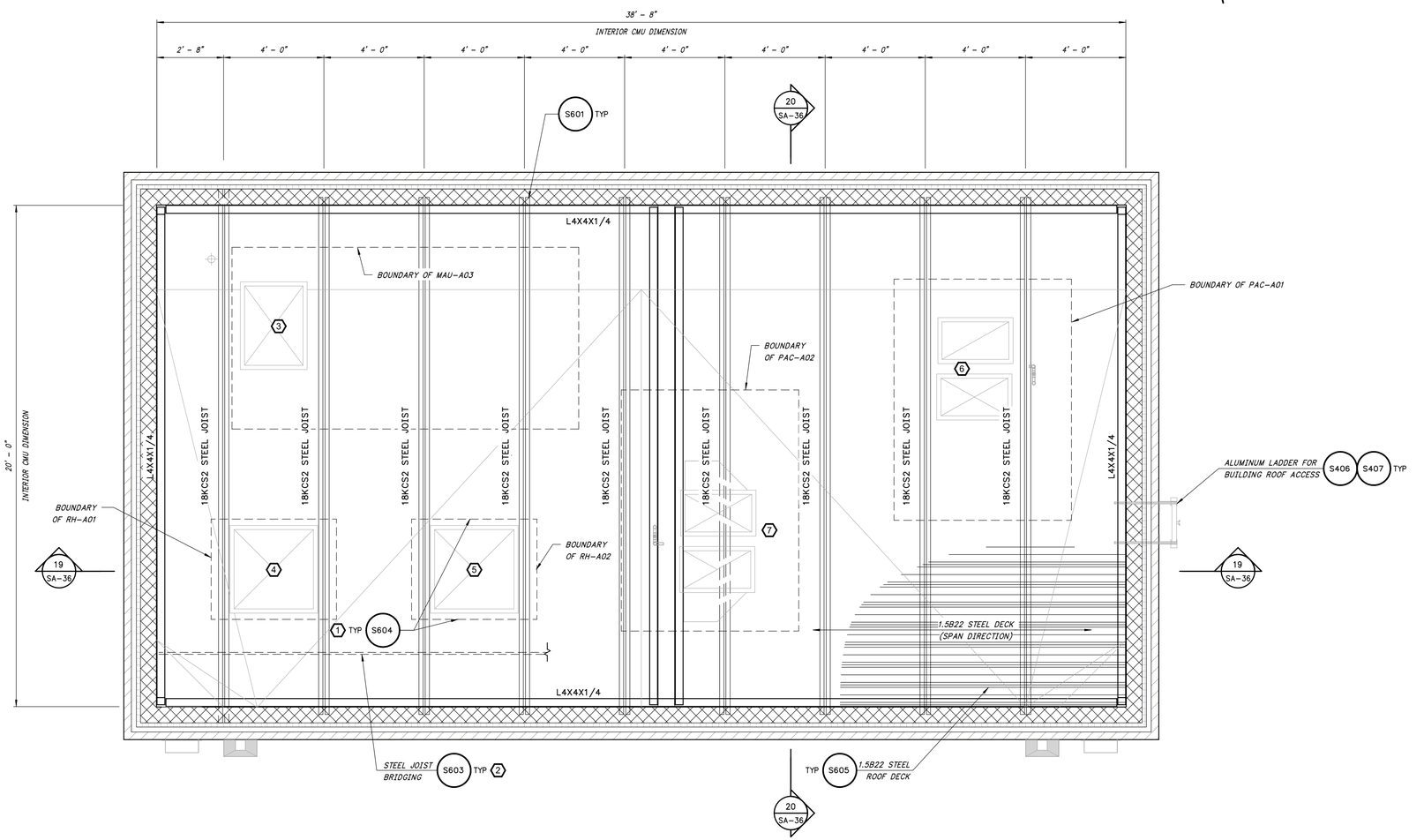
INFLUENT ELECTRICAL BUILDING
FLOOR PLAN
DETAIL

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 3/8" = 1'-0"
DESIGNED BY: LCH
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SA-34

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 1:07:34 PM / DKS / INFLUENT ELECTRICAL BUILDING



INFLUENT ELECTRICAL BUILDING
ROOF PLAN

DETAIL X
3/8" = 1'-0"

NOTES:

1. *REFER TO DETAILS S501 THROUGH S506 ON PLAN SHEET SZ-5 FOR CMU REINFORCEMENT.*
2. *REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF ANY MASONRY CONTROL JOINTS.*
3. *COORDINATE LOCATION OF VERTICAL CMU REINFORCEMENT TO AVOID CONFLICTS WITH STEEL JOISTS.*
4. *STEEL JOIST MANUFACTURER SHALL DESIGN JOISTS FOR THE FOLLOWING UNFACTORED LOADS:*
   DEAD LOAD OF JOISTS
   SUPERIMPOSED DEAD LOAD 22.5 PSF WITH 5.0 PSF COLLATERAL DEAD LOAD (HVAC EQUIPMENT LOADS SHALL BE IN ADDITION TO SUPERIMPOSED DEAD LOAD)
   UNIFORM ROOF LIVE LOAD 20 PSF (NON-REDUCIBLE)
   CONCENTRATED EQUIPMENT LOADS SHOWN ON ROOF PLAN AND KEYED NOTES. COORDINATE WITH HVAC DRAWINGS
   CONCENTRATED LOAD - 300 LBS. IN ANY LOCATION
   WIND LOADS: ASCE 7-16
   POSITIVE WIND PRESSURE 16.0 PSF
   WIND UPLIFT PRESSURE -27.0 PSF
   WIND LOADS ON ROOF TOP STRUCTURES ASCE 7-16 SECTION 29.4.1
   SNOW LOADS: ASCE 7-16
   FLAT ROOF SNOW LOAD, Pf 10.40 PSF
   BALANCED SNOW LOAD, Ps 10.40 PSF
   MINIMUM SNOW LOAD, Pm 16.00 PSF (NOT TO BE USED WITH DRIFT OR BALANCED NOW LOADS)
   DRIFT LOADING AT PARAPET IN ADDITION TO BALANCED SNOW LOADING
   EAST/WEST DIRECTION 20.90 PSF DRIFT WIDTH 5.2 FT
   NORTH/SOUTH DIRECTION 13.25 PSF DRIFT WIDTH 3.3 FT
5. *THREE (3) ROWS OF STEEL JOIST BRIDGING SHALL BE INSTALLED. IN ADDITION, A SINGLE LINE OF STEEL JOIST BOTTOM CHORD BRIDGING SHALL BE PROVIDED NEAR THE FIRST BOTTOM CHORD PANEL POINTS.*
6. *COORDINATE SIZES AND LOCATIONS OF ROOF EQUIPMENT AND ASSOCIATED OPENINGS WITH MECHANICAL DRAWINGS AND EQUIPMENT SHOP DRAWINGS. CONFIRM ROOF EQUIPMENT WEIGHTS BEFORE PROCEEDING WITH DESIGN OF STEEL JOISTS. REFER TO KEYED NOTES 3 THROUGH 7 FOR HVAC ROOFTOP EQUIPMENT WEIGHT.*
7. *REFER TO MECHANICAL DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.*

KEYED NOTES:

1. *ADDITIONAL ROOF FRAMING IS REQUIRED AT ALL HVAC ROOF PENETRATIONS PER DETAIL S604.*
2. *COORDINATE LOCATION OF ALL STEEL JOIST BRIDGING TO AVOID CONFLICTS WITH HVAC ROOF PENETRATIONS.*
3. *MAU - A03, 5,000-POUNDS*
4. *RH - A01, 150-POUNDS*
5. *RH - A02, 150-POUNDS*
6. *PAC - A01, 1,600-POUNDS*
7. *PAC - A02, 1,600-POUNDS*

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HARRIS
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BLACK & VEATCH

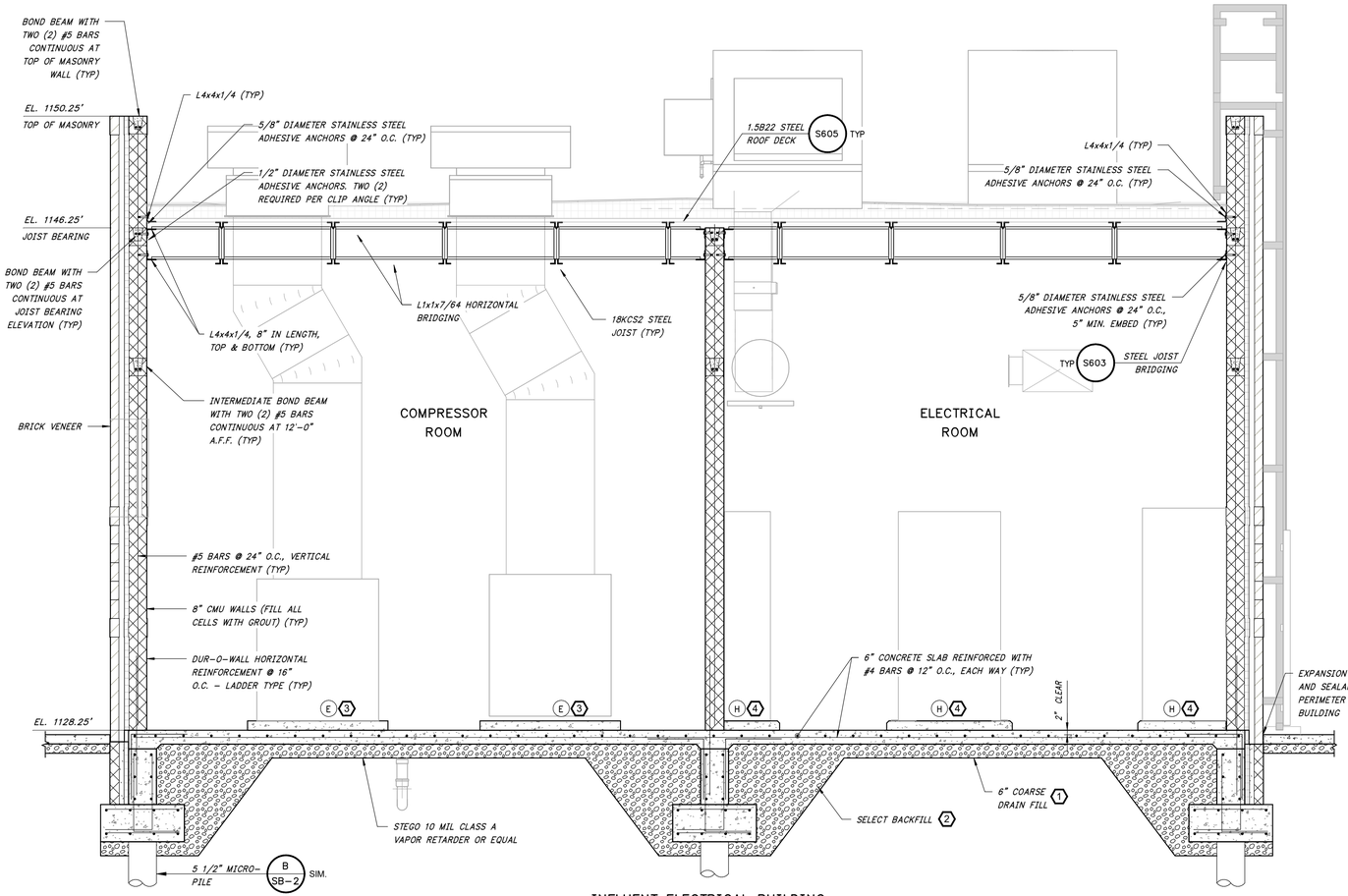
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT ELECTRICAL BUILDING
ROOF PLAN
DETAIL
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 3/8" = 1'-0"
DESIGNED BY: WJL
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SA-35

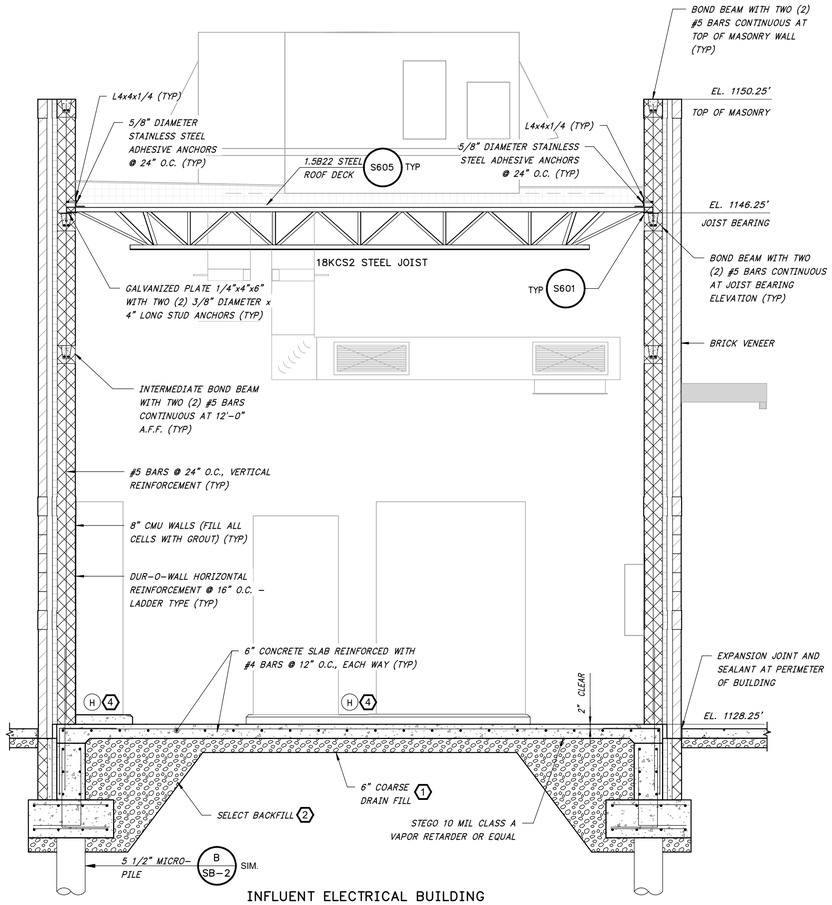
Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 1:07:35 PM / DKS / INFLUENT ELECTRICAL BUILDING



INFLUENT ELECTRICAL BUILDING

SECTION 19 — SA-33

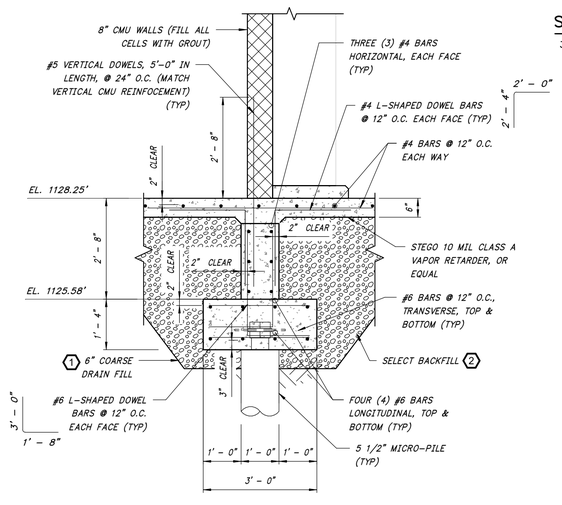
3/8" = 1'-0"



INFLUENT ELECTRICAL BUILDING

SECTION 20 — SA-33

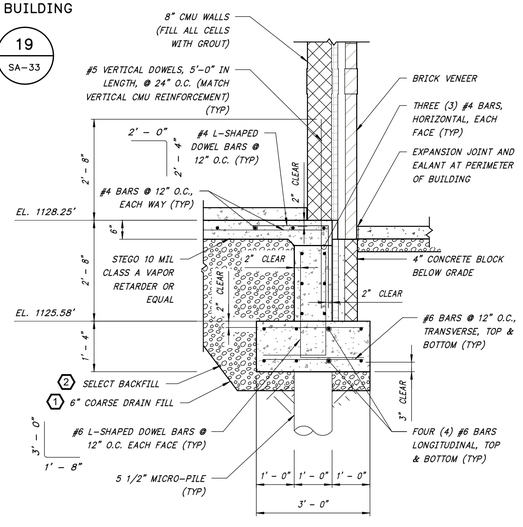
3/8" = 1'-0"



INTERIOR WALL FOUNDATION

SECTION 21 — SA-33

1/2" = 1'-0"



PERIMETER WALL FOUNDATION

SECTION 22 — SA-33

1/2" = 1'-0"

NOTES:

1. REFER TO DETAILS S501 THROUGH S506 ON PLAN SHEET SZ-5 FOR CMU REINFORCEMENT.
2. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF ANY MASONRY CONTROL JOINTS.
3. COORDINATE LOCATION OF VERTICAL CMU REINFORCEMENT TO AVOID CONFLICTS WITH STEEL JOISTS.
4. THREE (3) ROWS OF STEEL JOIST BRIDGING SHALL BE INSTALLED. IN ADDITION, A SINGLE LINE OF STEEL JOIST BOTTOM CHORD BRIDGING SHALL BE PROVIDED NEAR THE FIRST BOTTOM CHORD PANEL POINTS.
5. COORDINATE SIZES AND LOCATIONS OF ROOF EQUIPMENT AND ASSOCIATED OPENINGS WITH MECHANICAL DRAWINGS AND EQUIPMENT SHOP DRAWINGS. CONFIRM ROOF EQUIPMENT WEIGHTS BEFORE PROCEEDING WITH DESIGN OF STEEL JOISTS.
6. REFER TO MECHANICAL DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
7. REFER TO SPECIFICATION SECTION 03740 FOR MODIFICATION OR REPAIR OF EXISTING CONCRETE.
8. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.
9. COARSE DRAIN FILL PER ASTM SPECIFICATION C33 (3/4" MAX. AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES].
10. COORDINATE LOCATION OF ALL ELECTRICAL EQUIPMENT HOUSEKEEPING PADS WITH THE ELECTRICAL CONTRACTOR. THE INTENT IS NOT TO CONSTRUCT ANY MORE HOUSEKEEPING PADS THAN THAT ACTUALLY REQUIRED. SUGGEST 4" IN PLAN BEYOND LIMITS OF ELECTRICAL EQUIPMENT TO ARRIVE AT PLAN DIMENSIONS FOR HOUSEKEEPING PADS.
11. THE CONTRACTOR AND/OR THEIR MICROPILE SPECIALTY SUBCONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND TESTING OF MICRO-PILES IN ACCORDANCE WITH SPECIFICATION SECTION 02469 DRILLED MICRO-PILES.

KEYED NOTES:

1. REFER TO NOTE 10.
2. SELECT BACKFILL BELOW CMU BUILDING FOUNDATION AND SLAB-ON-GRADE SHALL BE COARSE DRAIN FILL PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH TWO (2) PASSES OF A VIBRATORY PLATE.
3. COMPRESSOR EQUIPMENT PAD - REFER TO DETAIL S108.
4. ELECTRICAL HOUSEKEEPING PAD - REFER TO DETAIL S109.

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE

REVISION

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STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — LARRY C. HARRIS — NO. 13205 — 3/21/25

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

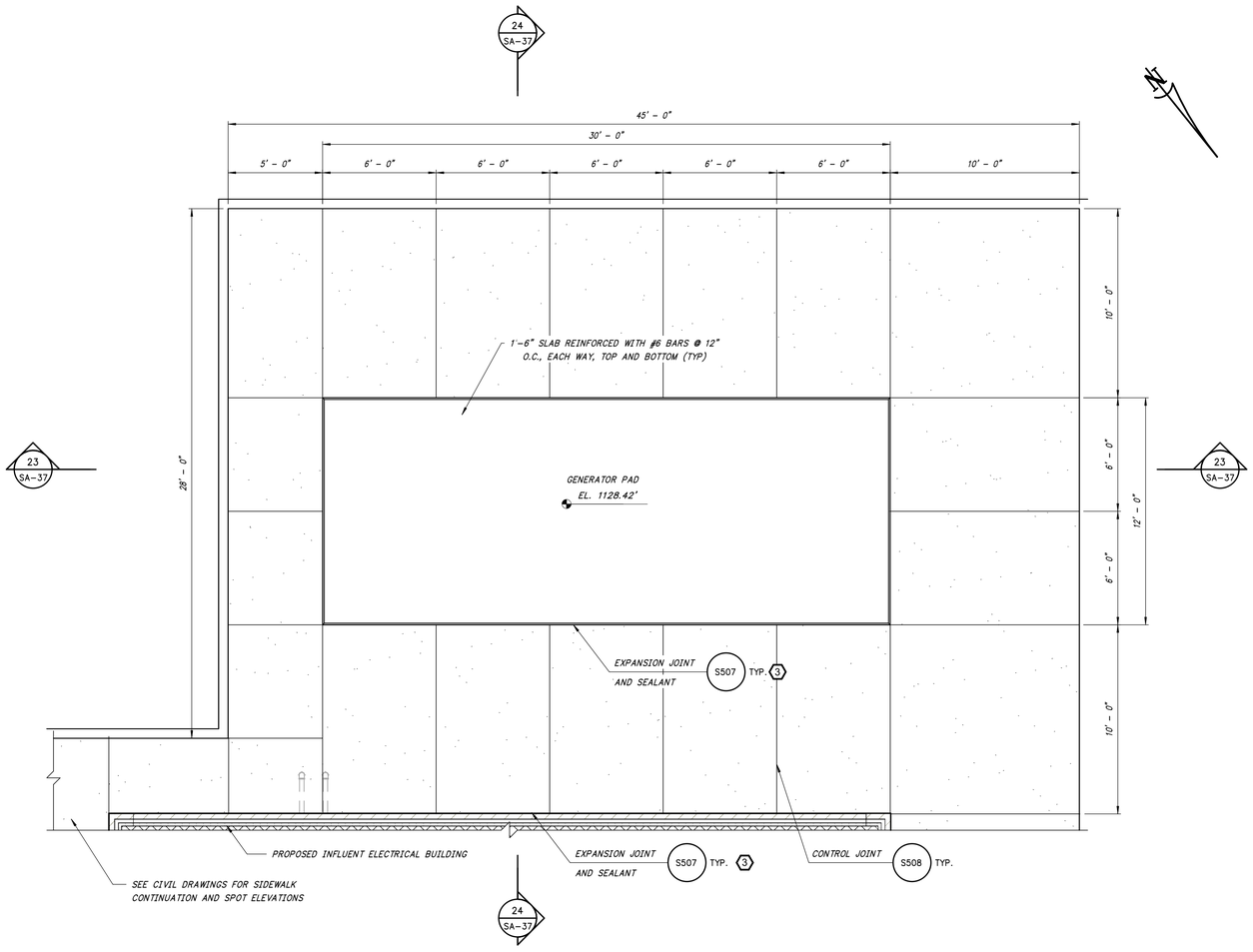
INFLUENT ELECTRICAL BUILDING SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: As indicated
DESIGNED BY: WJL
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

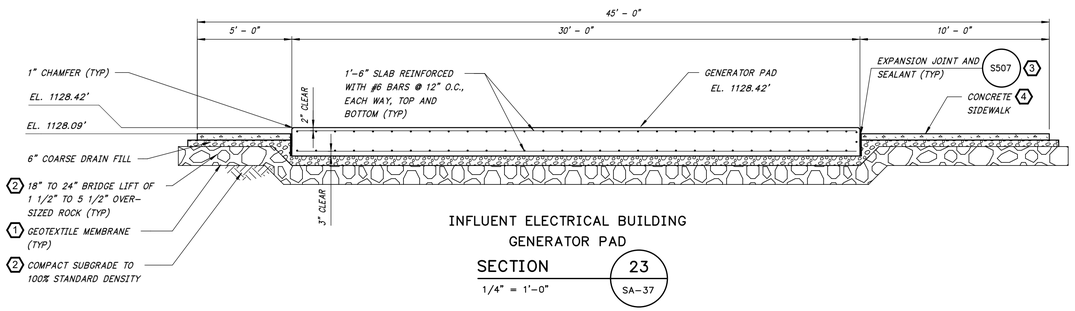
SHEET NO.
SA-36

Autodesk Docs://2410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 1:07:39 PM / DKS / INFLUENT ELECTRICAL BUILDING SECTIONS



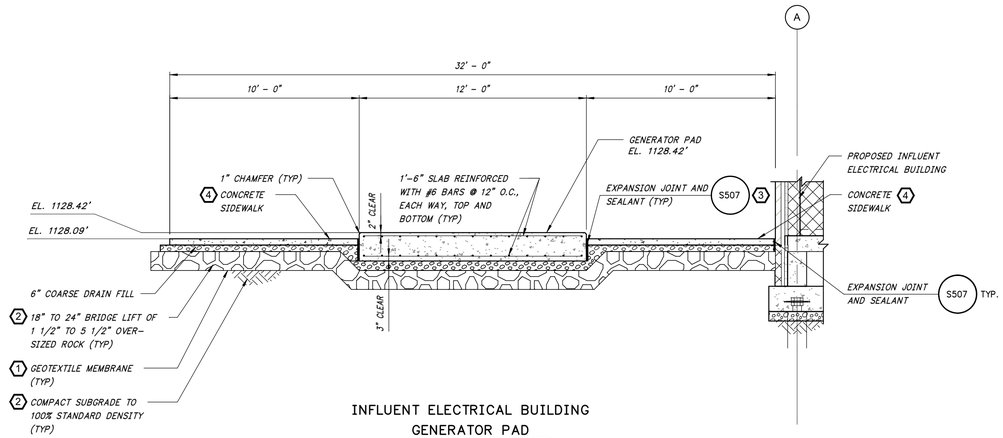
INFLUENT ELECTRICAL BUILDING
GENERATOR PAD

DETAIL Y / 1/4" = 1'-0" –



INFLUENT ELECTRICAL BUILDING
GENERATOR PAD

SECTION 23 / 1/4" = 1'-0" SA-37



INFLUENT ELECTRICAL BUILDING
GENERATOR PAD

SECTION 24 / 1/4" = 1'-0" SA-37

BID DRAWINGS
MARCH 21, 2025

NOTES:

1. *COORDINATE GENERATOR PAD DIMENSIONS WITH GENERATOR MANUFACTURER.*
2. *REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.*
3. *COARSE DRAIN FILL PER ASTM SPECIFICATIONS C33 (3/4" MAX. AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES].*
4. *COORDINATE SPOT GRADING ELEVATIONS WITH CIVIL DRAWING FOR PROPOSED SIDEWALKS SURROUNDING THE GENERATOR PAD.*

KEYED NOTES:

1. *GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE BRIDGE LIFT.*
2. *18" TO 24" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.*
3. *INSTALL EXPANSION JOINT AND SEALANT BETWEEN PROPOSED CONCRETE SIDEWALK AND PROPOSED GENERATOR PAD.*
4. *CONCRETE SIDEWALK SHALL BE APPROXIMATELY 3-INCHES BELOW TOP OF GENERATOR PAD AND BUILDINGS. SEE CIVIL DRAWINGS FOR SPOT GRADING ELEVATIONS SURROUNDING THE GENERATOR PAD.*

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

DATE
REVISION

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 23598
WESLEY JAY LOVE
03-21-25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

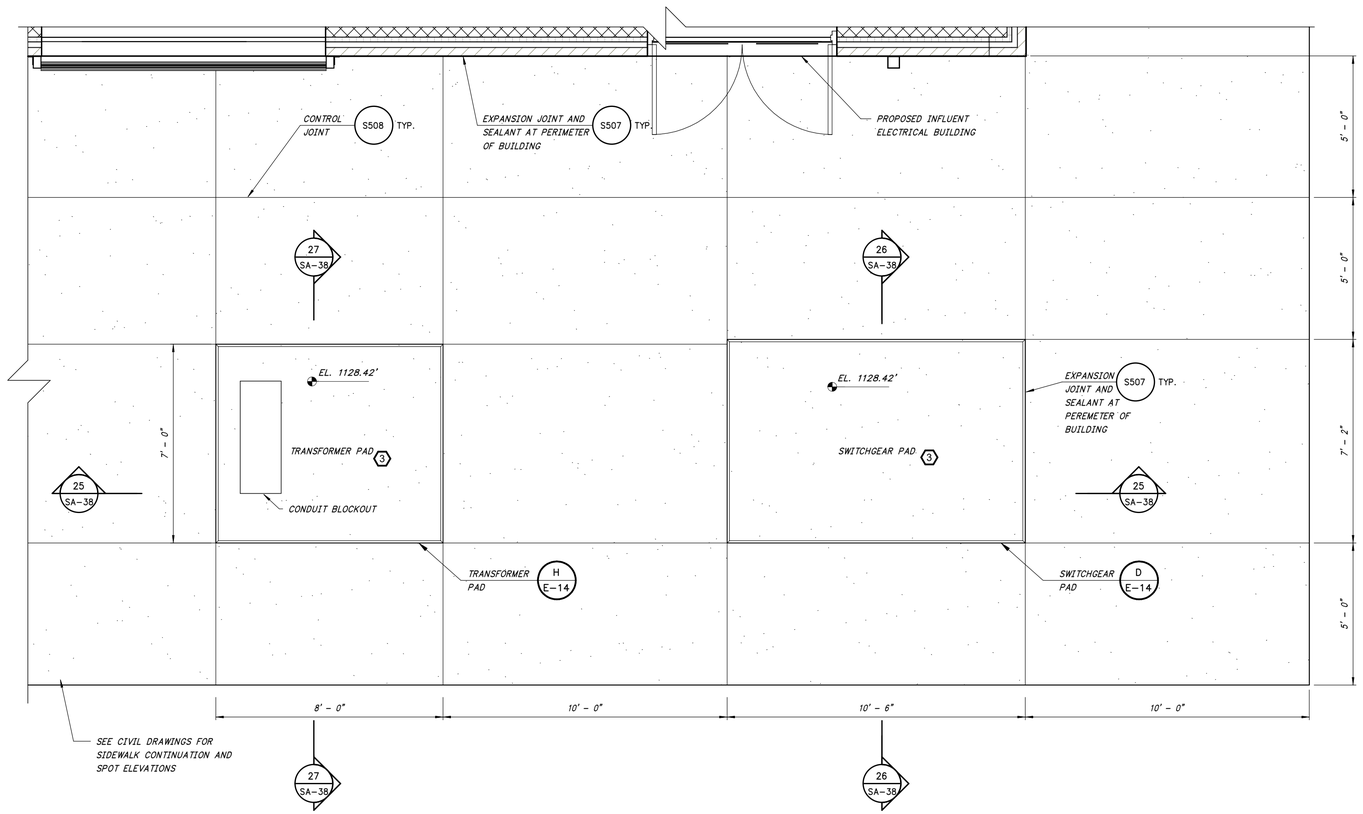
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT ELECTRICAL BUILDING GENERATOR PAD
DETAILS AND SECTIONS
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: WJL
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

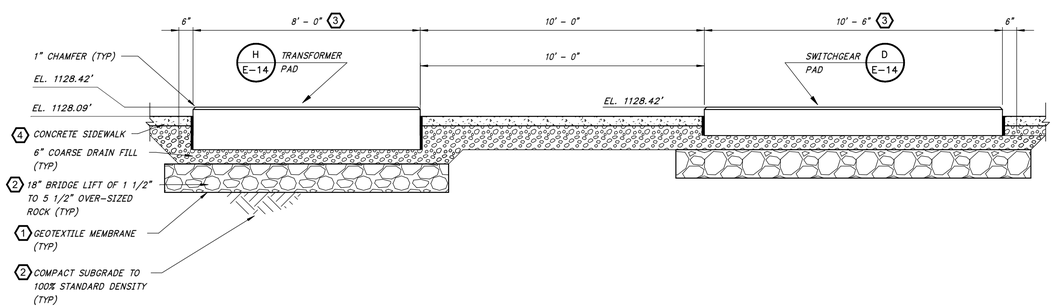
SHEET NO.
SA-37

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 1:07:43 PM / DKS / INFLUENT ELECTRICAL BUILDING GENERATOR PAD



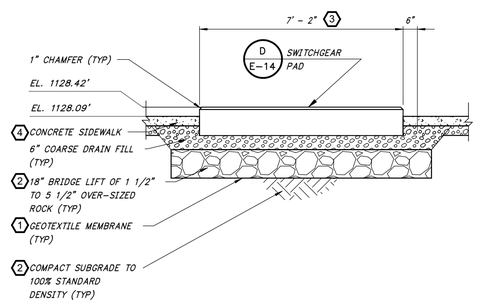
INFLUENT ELECTRICAL BUILDING
SWITCHGEAR AND TRANSFORMER PADS

DETAIL Z
3/8" = 1'-0" –



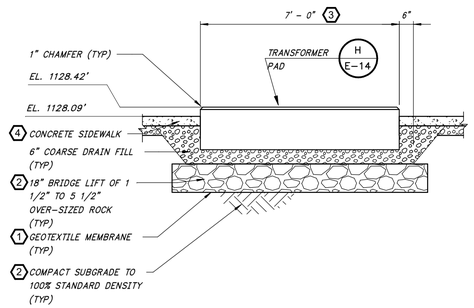
INFLUENT ELECTRICAL BUILDING
TRANSFORMER AND SWITCHGEAR PADS

SECTION 25
3/8" = 1'-0" SA-38



INFLUENT ELECTRICAL BUILDING
SWITCHGEAR PAD

SECTION 26
3/8" = 1'-0" SA-38



INFLUENT ELECTRICAL BUILDING
TRANSFORMER PAD

SECTION 27
3/8" = 1'-0" SA-38

NOTES:

1. *COORDINATE TRANSFORMER PAD AND SWITCHGEAR PAD DIMENSIONS WITH THE BENTONVILLE ELECTRIC UTILITY.*
2. *REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.*
3. *COARSE DRAIN FILL PER ASTM SPECIFICATIONS C33 (3/4" MAX. AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES].*
4. *SEE CIVIL DRAWINGS FOR SPOT GRADING ELEVATIONS AND SITE RESTORATION FOR NATIVE AREAS SURROUNDING THE TRANSFORMER PAD AND SWITCHGEAR PAD.*

KEYED NOTES:

1. *GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE BRIDGE LIFT.*
2. *18" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED, AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.*
3. *SWITCHGEAR PAD AND TRANSFORMER PAD DIMENSIONS AND THICKNESSES PER BENTONVILLE ELECTRIC UTILITY DETAILS ON DRAWING E-14.*
4. *CONCRETE SIDEWALK SHALL BE APPROXIMATELY 3-INCHES BELOW TOP OF TRANSFORMER AND SWITCHGEAR PADS AND BUILDING. SEE CIVIL DRAWINGS FOR SPOT GRADING ELEVATIONS SURROUNDING THE TRANSFORMER AND SWITCHGEAR PADS.*

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE
REVISION

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
WESLEY JAY LEWIS
No. 23358
03-21-25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

INFLUENT ELECTRICAL BUILDING
TRANSFORMER AND SWITCHGEAR PADS
DETAIL AND SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 3/8" = 1'-0"
DESIGNED BY: WJL
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SA-38

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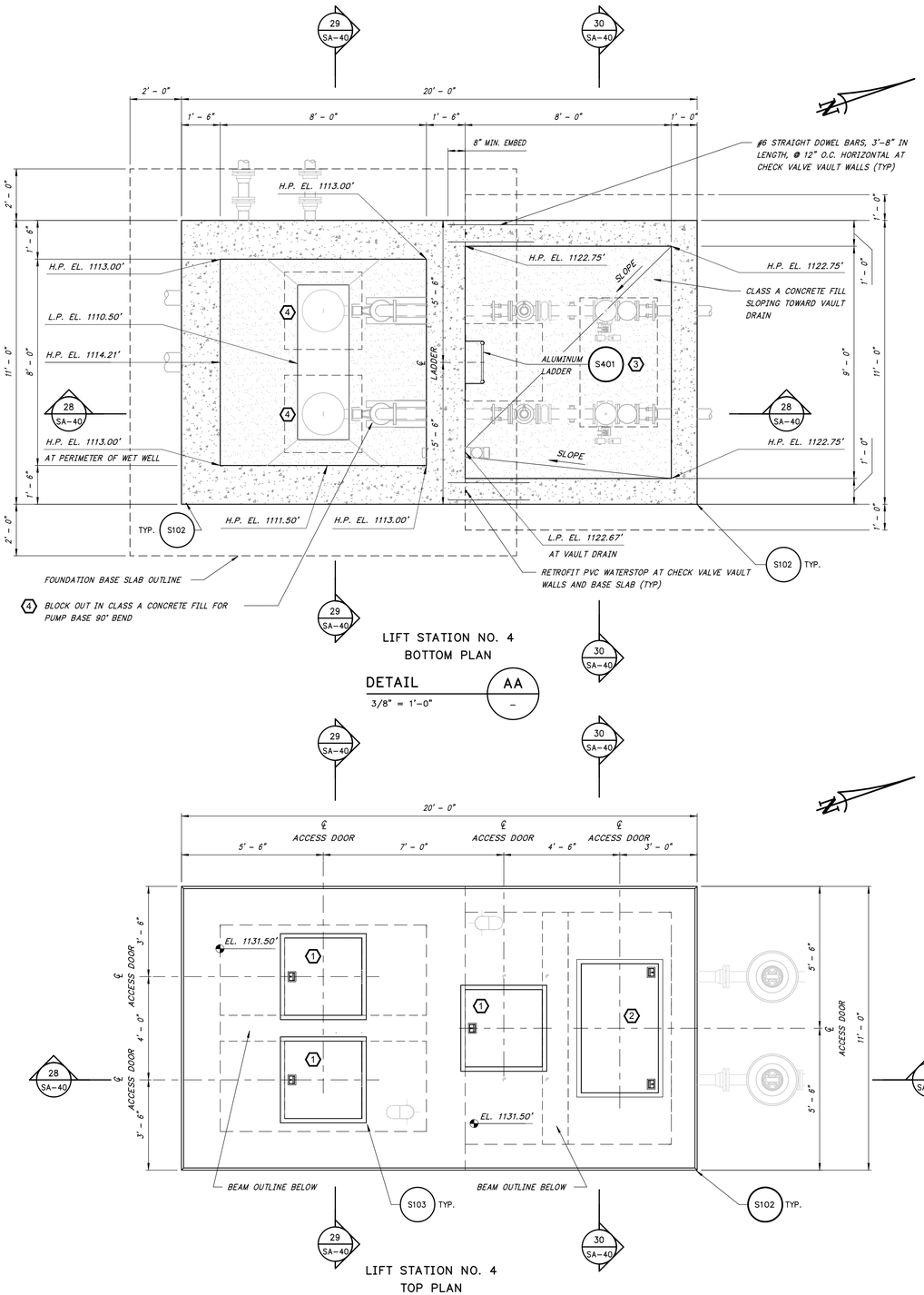


LIFT STATION NO. 4
BOTTOM PLAN

DETAIL AA
3/8" = 1'-0"

LIFT STATION NO. 4
TOP PLAN

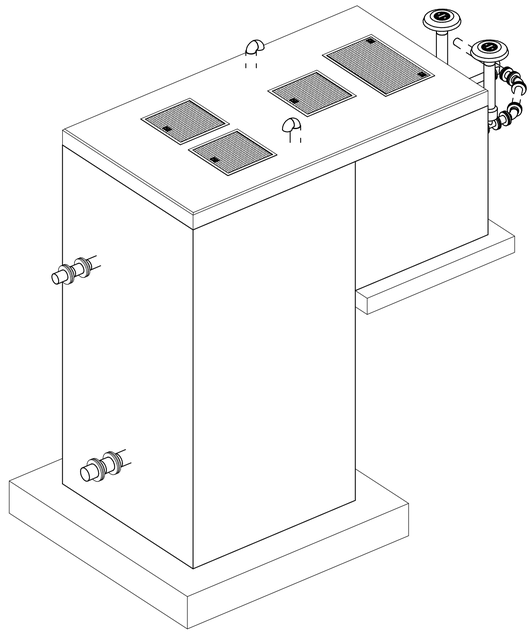
DETAIL AB
3/8" = 1'-0"

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S301.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE (MINIMIM OF TWO (2) PASSES PER LIFT).
3. REFER TO SPECIFICATION SECTION 07110 FOR WATERPROOFING OF BELOW GRADE WALLS.
4. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

1. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS3636, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING. CONTRACTOR SHALL COORDINATE WITH THE PUMP AND ACCESS DOOR MANUFACTURERS TO ENSURE THAT THE PUMP CAN BE INSTALLED AND REMOVED FOR FUTURE O&M PURPOSES.
2. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS3660 OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING
3. ALUMINUM LADDER SHALL BE HALLIDAY PRODUCTS SERIES L1B AND SHALL INCLUDE SERIES L1E LADDER EXTENSION, OR EQUAL.
4. CONTRACTOR SHALL COORDINATE PUMP SUMP DIMENSIONS AND PUMP BASE 90° BEND DIMENSIONS WITH THE PUMP MANUFACTURER.



ISOMETRIC/3D
N.T.S.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE
REVISION

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
WESLEY JAY LEWIS
No. 23358
03-21-25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

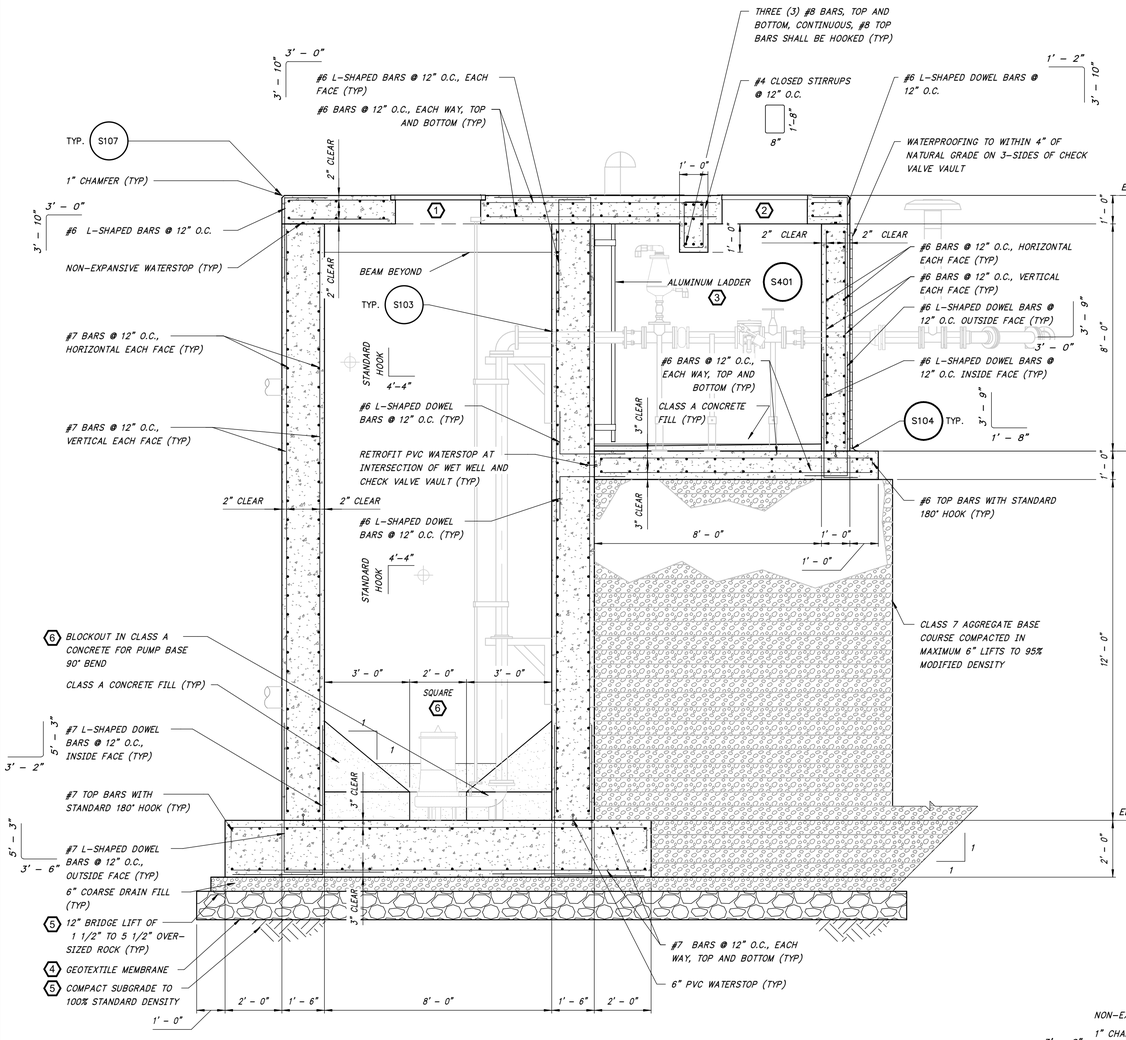
LIFT STATION NO. 4
DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

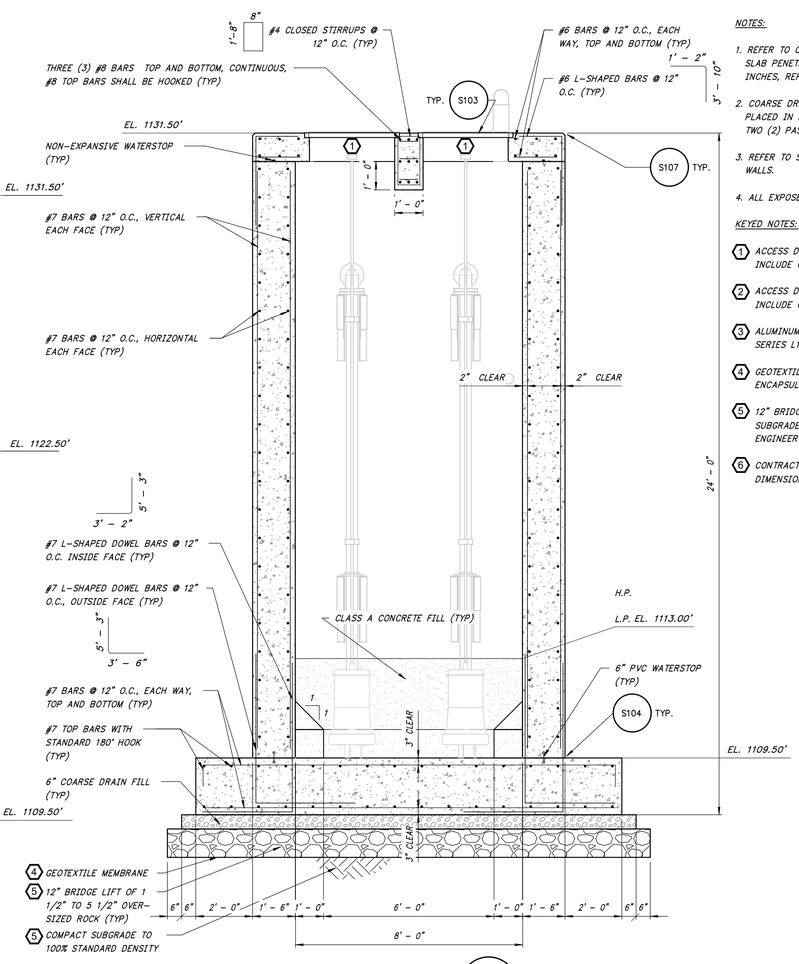
DATE: MARCH 2025
SCALE: 3/8" = 1'-0"
DESIGNED BY: WJL
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SA-39

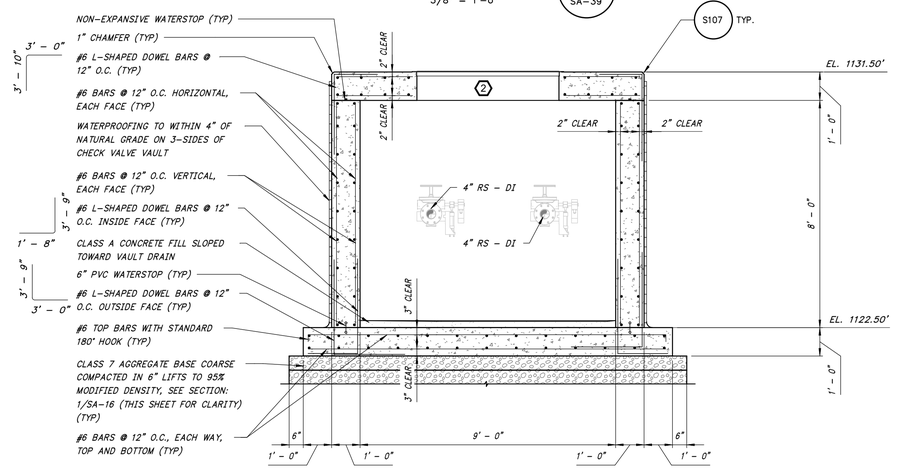
Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 1:07:52 PM / DKS / LIFT STATION NO. 4



SECTION 28
3/8" = 1'-0"
SA-39



SECTION 29
3/8" = 1'-0"
SA-39



SECTION 30
3/8" = 1'-0"
SA-39

BID DRAWINGS
MARCH 21, 2025

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].
3. REFER TO SPECIFICATION SECTION 07110 FOR WATERPROOFING OF BELOW GRADE WALLS.
4. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

1. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS3636, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
2. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS3660 OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
3. ALUMINUM LADDER SHALL BE HALLIDAY PRODUCTS SERIES L1B AND SHALL INCLUDE SERIES L1E LADDER EXTENSION, OR EQUAL.
4. GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE BRIDGE LIFT.
5. 12" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.
6. CONTRACTOR SHALL COORDINATE PUMP SUMP DIMENSIONS AND PUMP BASE 90° BEND DIMENSIONS WITH THE PUMP MANUFACTURER.

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE
REVISION

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
WESLEY JAY LEWIS
No. 20398
12-31-25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

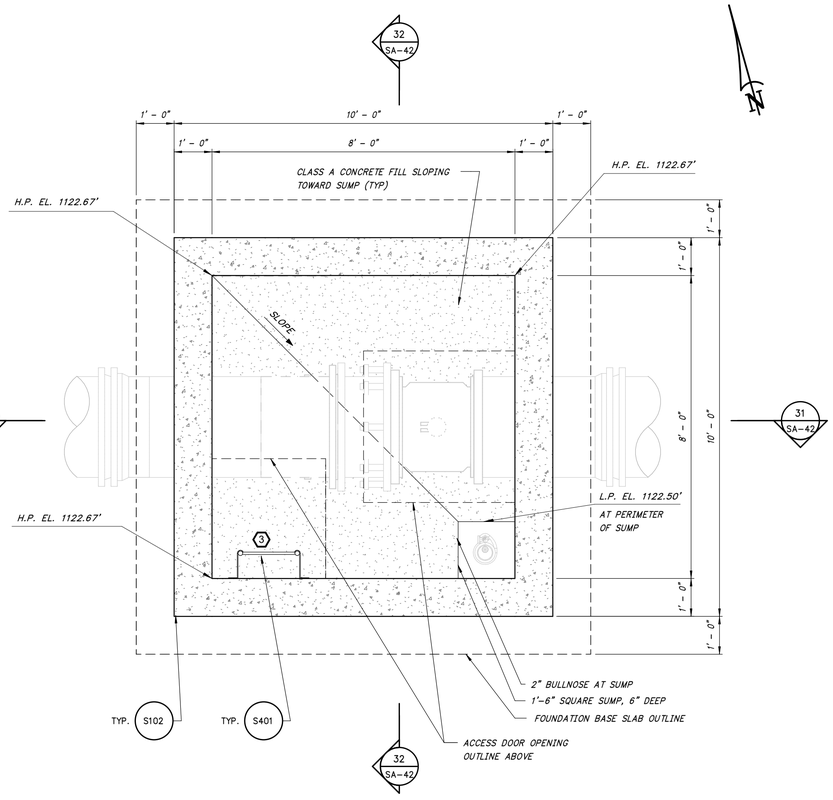
LIFT STATION NO. 4
SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 3/8" = 1'-0"
DESIGNED BY: WJL
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

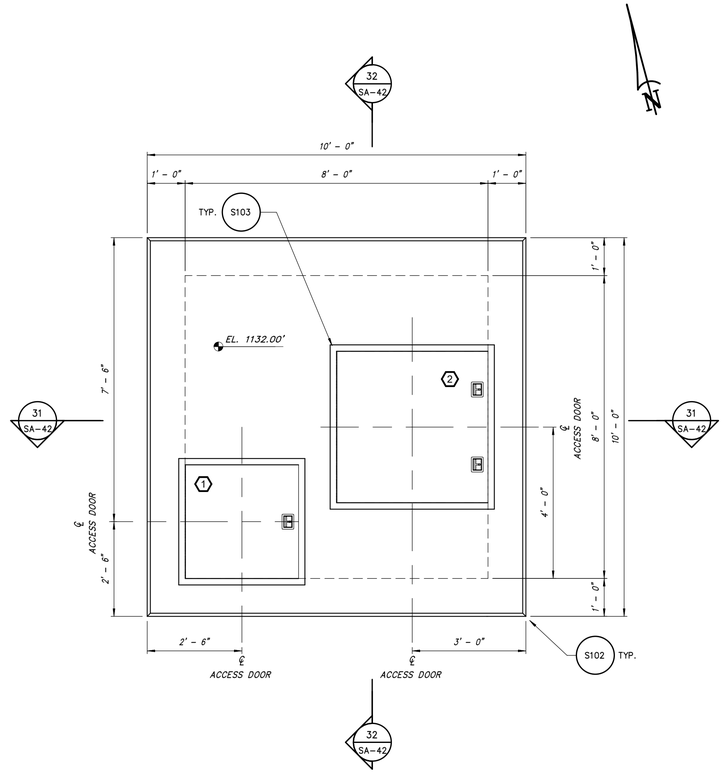
SHEET NO.
SA-40

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 1:07:58 PM / DKS / LIFT STATION NO. 4



WET WEATHER FLOW METER VAULT
BOTTOM PLAN

DETAIL AC
1/2" = 1'-0" –



WET WEATHER FLOW METER VAULT
TOP PLAN

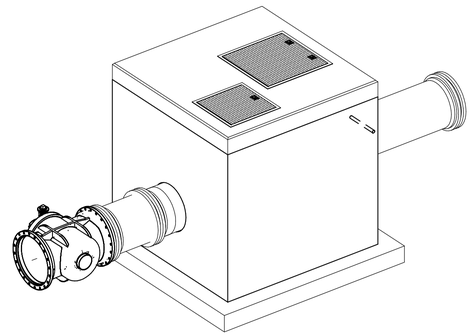
DETAIL AD
1/2" = 1'-0" –

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].
3. REFER TO SPECIFICATION SECTION 07110 FOR WATERPROOFING OF BELOW GRADE WALLS.
4. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

1. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS3636, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
2. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS4848, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
3. ALUMINUM LADDER SHALL BE HALLIDAY PRODUCTS SERIES L1B AND SHALL INCLUDE SERIES L1E LADDER EXTENSION, OR EQUAL.
4. BASED ON THE GEOTECHNICAL REPORT, IT IS ESTIMATED LIMESTONE WILL BE ENCOUNTEDED AT APPROXIMATE EL. 1115.7'±.



ISOMETRIC/3D
N.T.S.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20398
WESLEY JAY LISK
3-21-25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

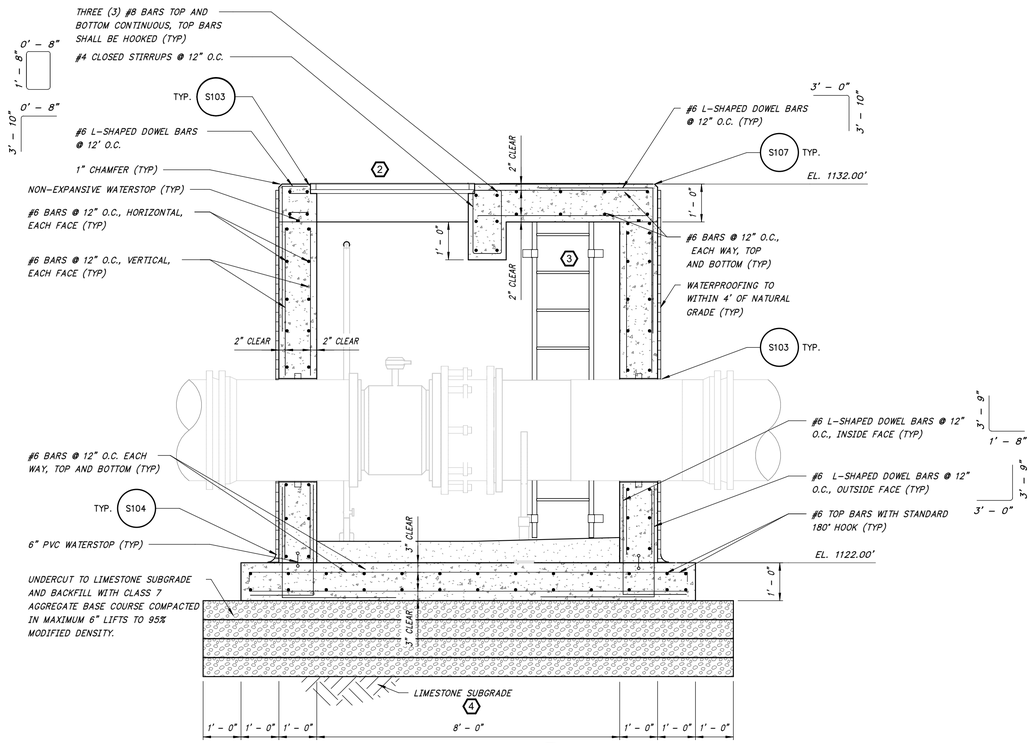
WET WEATHER FLOW METER VAULT
DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: WJL
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

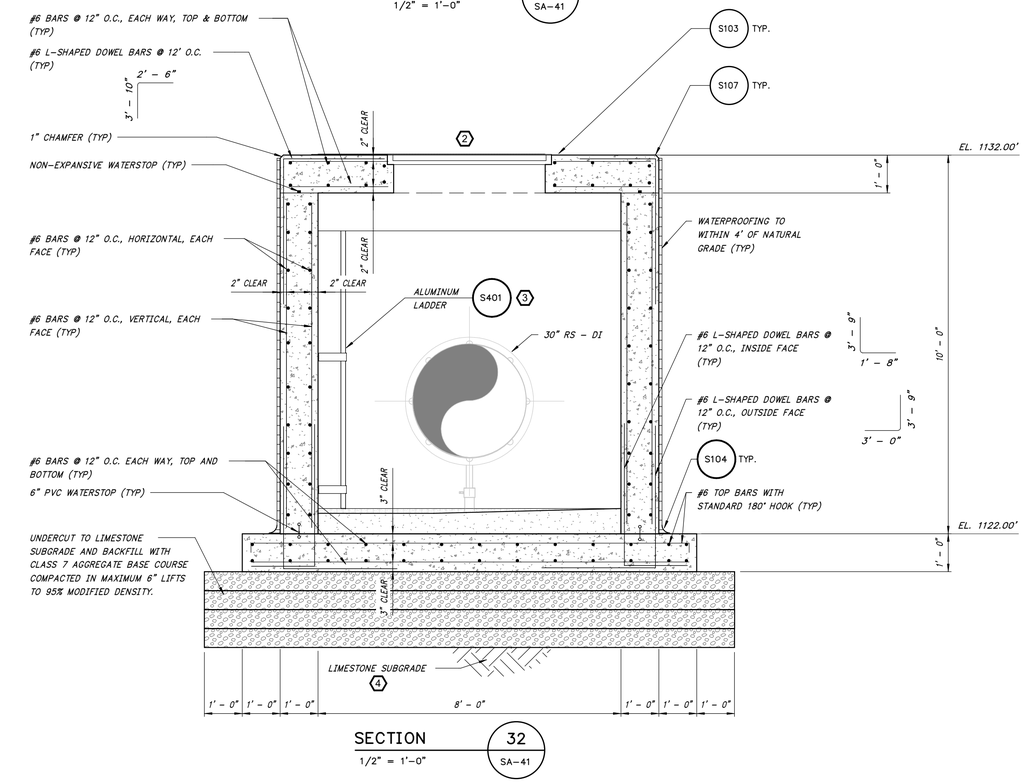
SHEET NO.
SA-41

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 1:08:01 PM / DKS / WET WEATHER FLOW METER VAULT



SECTION 31 / SA-41

1/2" = 1'-0"



SECTION 32 / SA-41

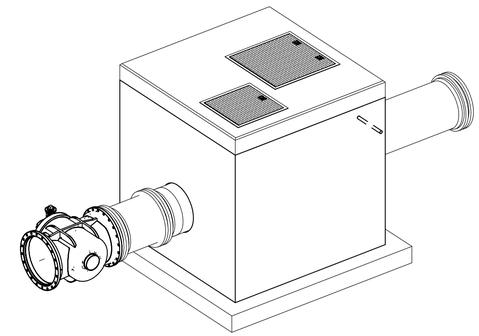
1/2" = 1'-0"

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].
3. REFER TO SPECIFICATION SECTION 07110 FOR WATERPROOFING OF BELOW GRADE WALLS.
4. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

1. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS3636, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
2. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS4848, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
3. ALUMINUM LADDER SHALL BE HALLIDAY PRODUCTS SERIES L1B AND SHALL INCLUDE SERIES L1E LADDER EXTENSION, OR EQUAL.
4. BASED ON THE GEOTECHNICAL REPORT, IT IS ESTIMATED LIMESTONE WILL BE ENCOUNTEDED AT APPROXIMATE EL. 1115.7'±.



ISOMETRIC/3D

N.T.S.

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 23398 — WESLEY JAY LEWIS — 03-21-25

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

WET WEATHER FLOW METER VAULT SECTIONS

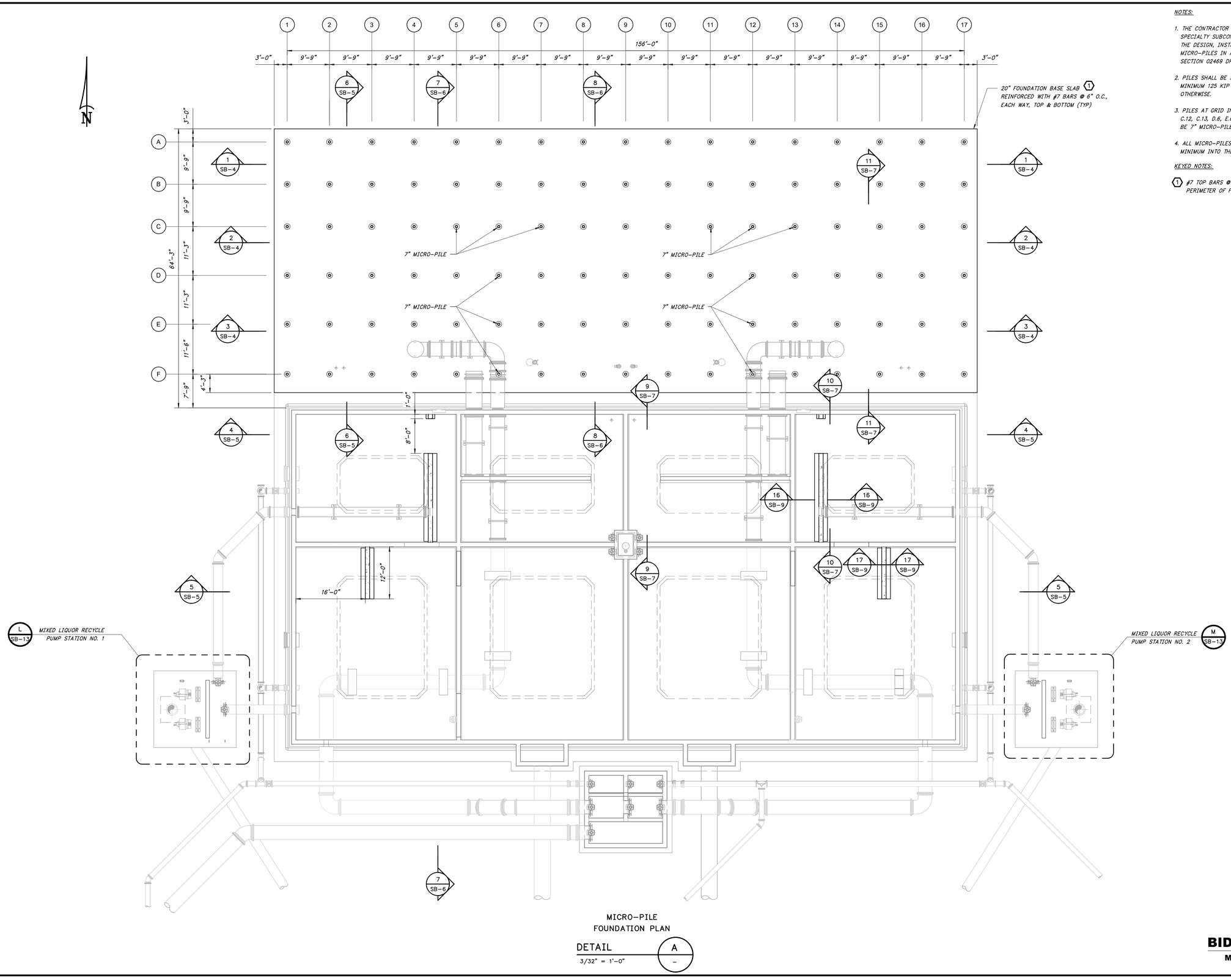
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: WJL
DRAWN BY: JEB
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SA-42

BID DRAWINGS
MARCH 21, 2025

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 1:08:07 PM / JEB / WET WEATHER FLOW METER VAULT SECTIONS



MICRO-PILE FOUNDATION PLAN

DETAIL A
3/32" = 1'-0"

NOTES:

1. THE CONTRACTOR AND/OR THEIR MICROPILE SPECIALTY SUBCONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND TESTING OF MICRO-PILES IN ACCORDANCE WITH SPECIFICATION SECTION 02469 DRILLED MICRO-PILES.
2. PILES SHALL BE 5 1/2" MICRO-PILES WITH MINIMUM 125 KIP CAPACITY UNLESS NOTED OTHERWISE.
3. PILES AT GRID INTERSECTIONS C.5, C.6, C.7, C.11, C.12, C.13, D.6, E.6, F.6, D.12, E.12, AND F.12 SHALL BE 7" MICRO-PILES.
4. ALL MICRO-PILES SHALL BE EMBEDDED 6" MINIMUM INTO THE FOUNDATION BASE SLAB.

KEYED NOTES:

1 #7 TOP BARS @ 6" O.C., SHALL BE HOOKED AT PERIMETER OF FOUNDATION BASE SLAB.

1"
ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8398 BRETT D. PEEL

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WWTP CAPACITY STUDY
ANOXIC BASIN STRUCTURAL PLAN

BNR BASINS
DETAIL

FOR: BENTONVILLE WATER UTILITIES

DATE: MARCH 2025
SCALE: 3/32" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: S-ANOXIC

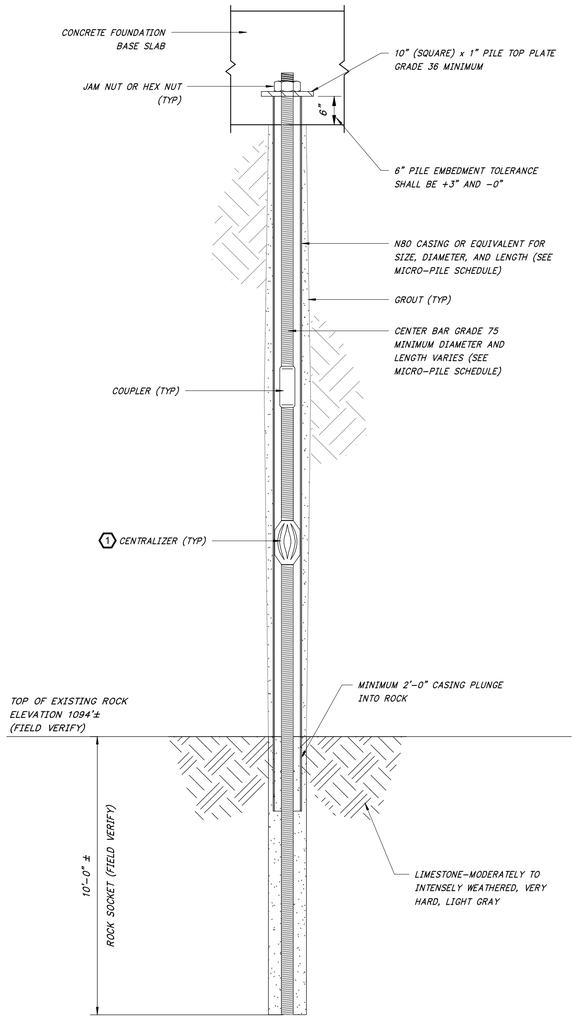
SHEET NO.
SB-1

BID DRAWINGS
MARCH 21, 2025

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/S-ANOXIC.rvt 3/20/2025 2:29:31 PM / DKS / BNR BASINS

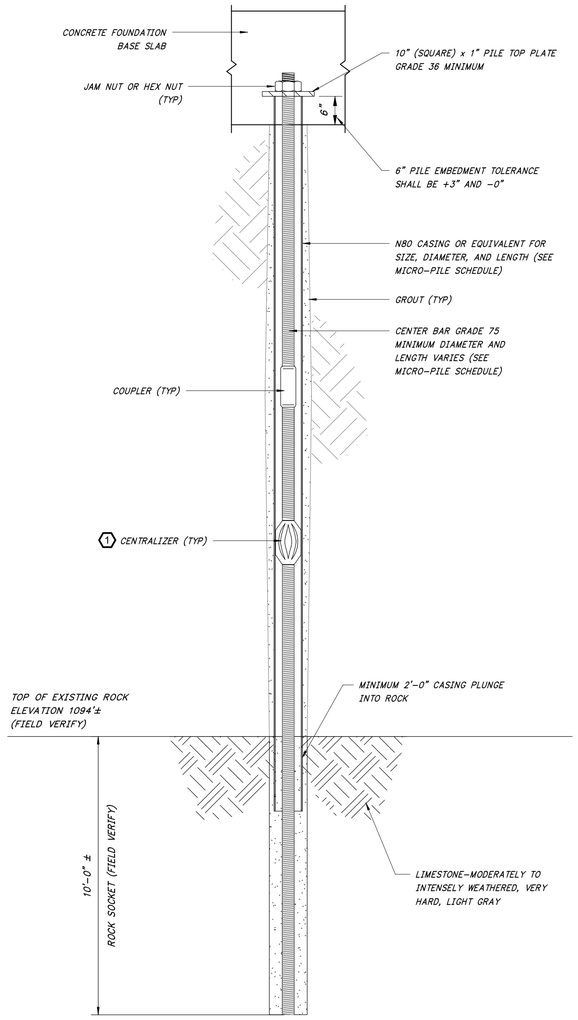
MICRO-PILE SCHEDULE (1)																		
		NORTH-SOUTH GRIDLINES																
EAST-WEST GRIDLINES		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	A	54 k	64 k	67.5 k	72.5 k	74 k	72.5 k	70 k	59.5 k	73 k	74 k	76 k	79 k	79 k	77 k	71.5 k	77 k	52.5 k
	B	79.5 k	108.5 k	93 k	68.5 k	88.5 k	92 k	96.5 k	102 k	97 k	109.5 k	88 k	87 k	83 k	83.5 k	88 k	83.5 k	71 k
	C	82 k	104 k	124.5 k	110 k	131.5 k	110 k	121 k	87 k	87 k	117 k	128 k	135 k	134 k	111.5 k	127 k	105.5 k	74 k
	D	87 k	127 k	121.5 k	108 k	109 k	149.5 k	121.5 k	97.5 k	115.5 k	125 k	103 k	150 k	109 k	108 k	121 k	128.5 k	80 k
	E	89 k	123 k	110 k	90 k	103.5 k	145 k	113.5 k	99 k	120.5 k	125 k	107 k	146 k	103.5 k	90 k	110 k	124.5 k	82 k
	F	99.5 k	121.5 k	100 k	111 k	105.5 k	128.5 k	106.5 k	103 k	104.5 k	118 k	111 k	132 k	105 k	111.5 k	99.5 k	123 k	86 k

FOOTNOTES:
(1) BASED ON THE GRIDLINES ESTABLISHED ON DRAWING SB-1, THESE ARE THE ANTICIPATED STRUCTURAL LOADS IN KIPS FOR EACH PROPOSED MICRO-PILE.



TYPICAL 5 1/2"
MICRO-PILE

DETAIL B
3/4" = 1'-0"



TYPICAL 7"
MICRO-PILE

DETAIL C
3/4" = 1'-0"

MICRO-PILE NOTES:

1. THE CONTRACTOR AND/OR THEIR MICROPILE SPECIALTY SUBCONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND TESTING OF MICRO-PILES IN ACCORDANCE WITH SPECIFICATION SECTION 02469 DRILLED MICRO-PILES.
2. THE MICRO-PILE SPECIALTY SUBCONTRACTOR SHALL DESIGN THE MICRO-PILE TYPE, SIZE, INSTALLATION MEANS AND METHODS, ESTIMATE THE GROUND-GROUT BOND VALUE AND DETERMINE THE REQUIRED BOND LENGTH AND FINAL MICRO-PILE DIAMETER BASED ON THE REQUIRED LOAD CAPACITIES INDICATED ON THE PLANS. THE MICRO-PILE LOAD CAPACITIES SHALL BE VERIFIED BY PROOF LOAD TESTING AS SPECIFIED IN SECTION 02469.
3. THE MICRO-PILE SPECIALTY SUBCONTRACTOR SHALL BE EXPERIENCED IN THE CONSTRUCTION AND LOAD TESTING OF MICRO-PILES IN SOIL/ROCK SIMILAR TO PROJECT CONDITIONS IDENTIFIED IN GTS' GEOTECHNICAL REPORT DATED NOVEMBER 25, 2024.
4. THE MICRO-PILE SPECIALTY SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ASSIGNING A PROFESSIONAL ENGINEER, LICENSED IN ARKANSAS, WITH EXPERIENCE IN THE DESIGN OF MICRO-PILES AND BE RESPONSIBLE FOR ANY DESIGN RELATED EXPENSES.
5. THE MICRO-PILES SHALL BE DESIGNED TO MEET THE SPECIFIED LOADING CONDITIONS, AS IDENTIFIED IN THE PLANS, USING THE PROCEDURES OUTLINED IN THE FHWA "MICRO-PILE DESIGN AND CONSTRUCTION", REPORT NO. FHWA NHI-05-039. REFER TO SECTION 02469 FOR ANY ADDITIONAL DESIGN AND SUBMITTAL REQUIREMENTS.

NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE DESIGN OF THE MICRO-PILES WITH A SPECIALTY GEOTECHNICAL SUB-CONTRACTOR EXPERIENCED IN BOTH THE DESIGN AND INSTALLATION OF MICRO-PILES. THE DESIGN SUBMITTAL SHALL INCLUDE A P.E. SEAL FROM AN ENGINEER LICENSED IN THE STATE OF ARKANSAS.

KEYED NOTES:

1 BAR CENTRALIZER AT 10-FOOT MAXIMUM INTERVALS ALONG VERTICAL LENGTH OF MICRO-PILE. LOWEST BAR CENTRALIZER IN ELEVATION SHALL BE WITHIN 5-FEET OF THE BOTTOM OF THE HOLE. HIGHEST BAR CENTRALIZER IN ELEVATION SHALL BE WITHIN 2-FOOT MAXIMUM FROM TOP OF MICRO-PILE.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8398
BRENT D. PEEPLES

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WWTP CAPACITY STUDY
ANOXIC BASIN STRUCTURAL PLAN

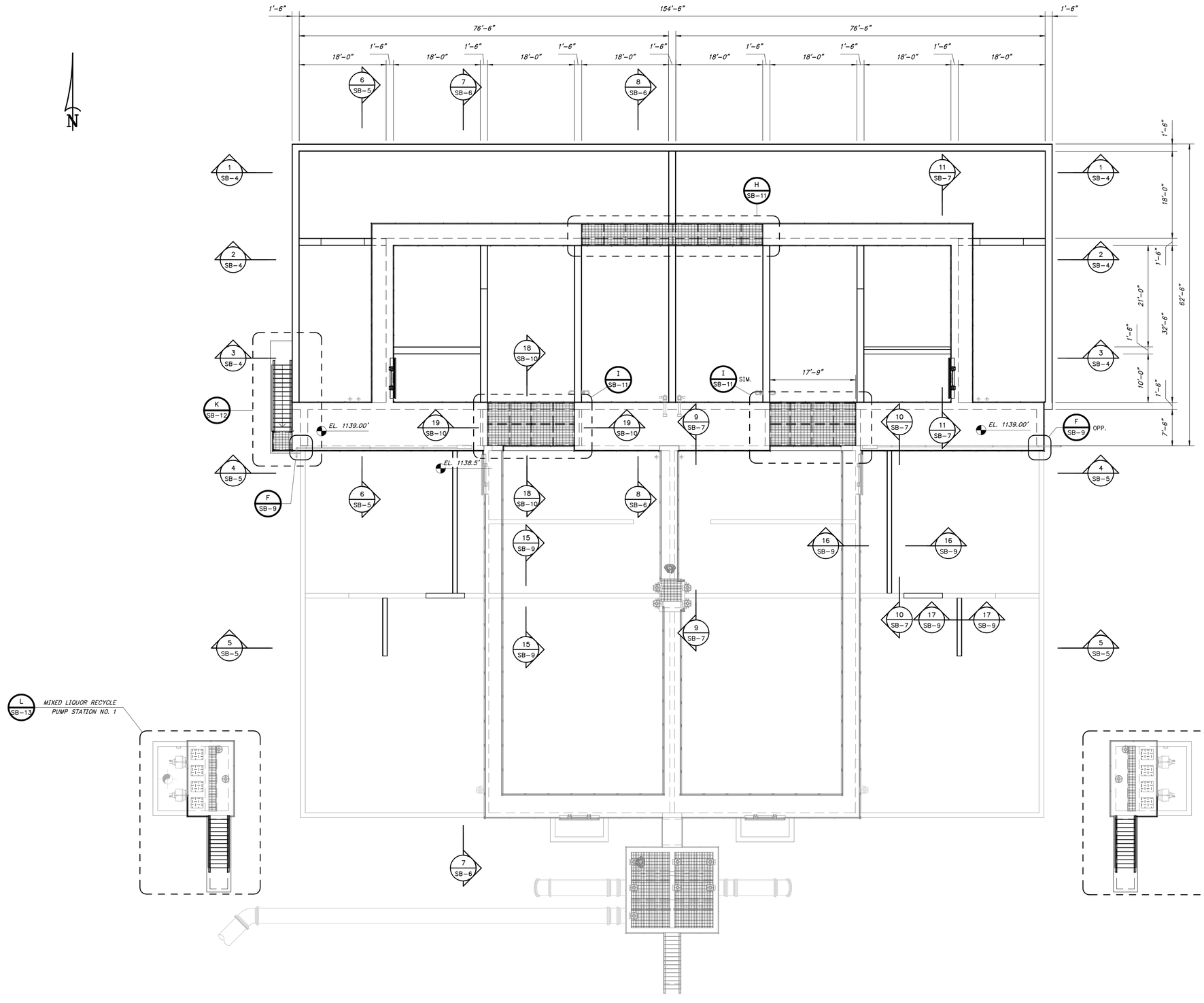
BNR BASINS DETAILS AND MICRO-PILE SCHEDULE

FOR: BENTONVILLE WATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: BDP
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: S-ANOXIC

SHEET NO.
SB-2

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/S-ANOXIC.rvt 3/20/2025 2:29:31 PM / ADF / BNR BASINS DETAILS AND



DETAIL D
3/32" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8398
BRETT D. PEEL
3/31/26

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WWTP CAPACITY STUDY
ANOXIC BASIN STRUCTURAL PLAN

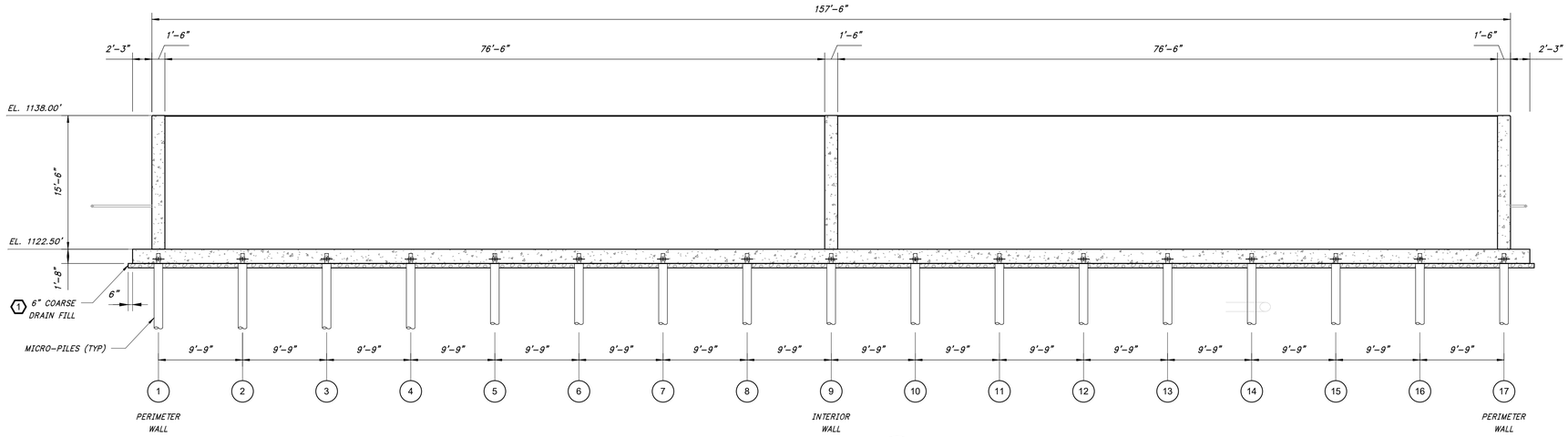
BNR BASINS
DETAIL

FOR: BENTONVILLE WATER UTILITIES

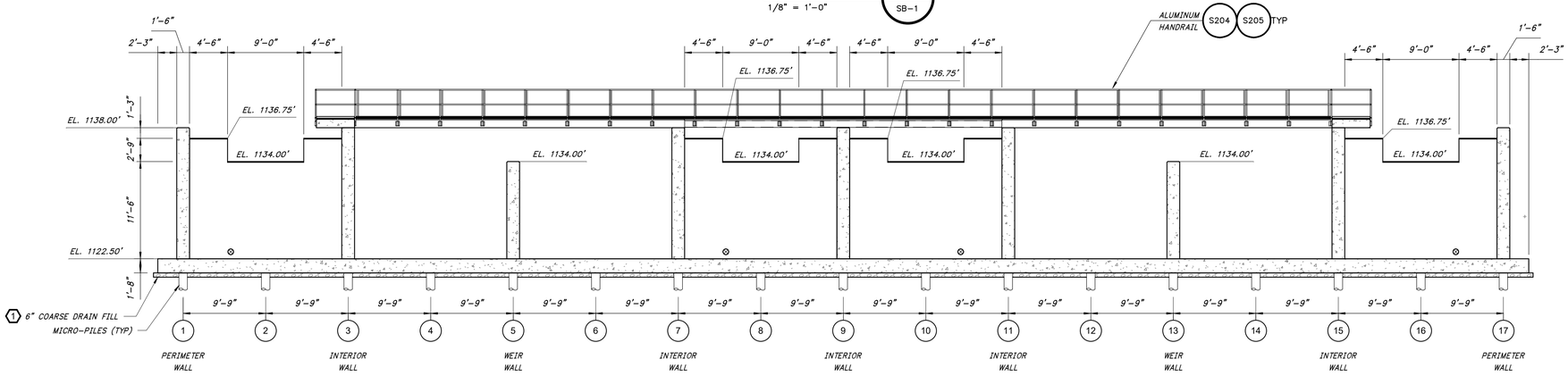
DATE: MARCH 2025
SCALE: 3/32" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: S-ANOXIC

SHEET NO.
SB-3

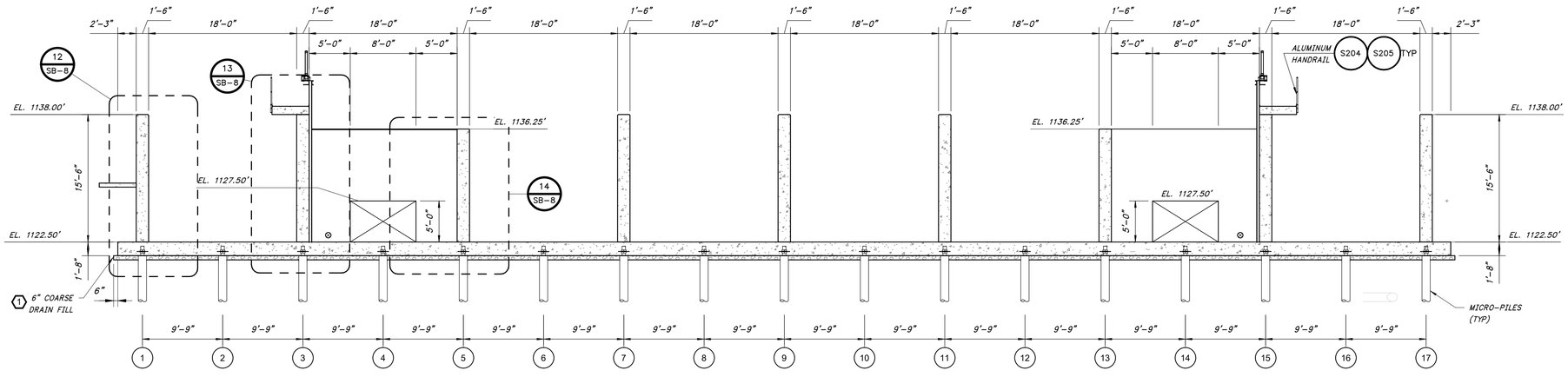
Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/S-ANOXIC.rvt 3/20/2025 2:29:32 PM / DKS / BNR BASINS



SECTION 1
1/8" = 1'-0"
SB-1



SECTION 2
1/8" = 1'-0"
SB-1



SECTION 3
1/8" = 1'-0"
SB-1

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES PER LIFT].
3. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.
4. THE CONTRACTOR AND/OR THEIR MICROPILE SPECIALTY SUBCONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND TESTING OF MICRO-PILES IN ACCORDANCE WITH SPECIFICATION SECTION 02469 DRILLED MICRO-PILES.

KEYED NOTES:

1 REFER TO NOTE NO. 2.

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8398
BRENT D. PEEK

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WWTP CAPACITY STUDY
ANOXIC BASIN STRUCTURAL PLAN

BNR BASINS
SECTIONS

FOR: BENTONVILLE WATER UTILITIES

DATE: MARCH 2025
SCALE: 1/8" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: S-ANOXIC

SHEET NO.
SB-4

BID DRAWINGS
MARCH 21, 2025

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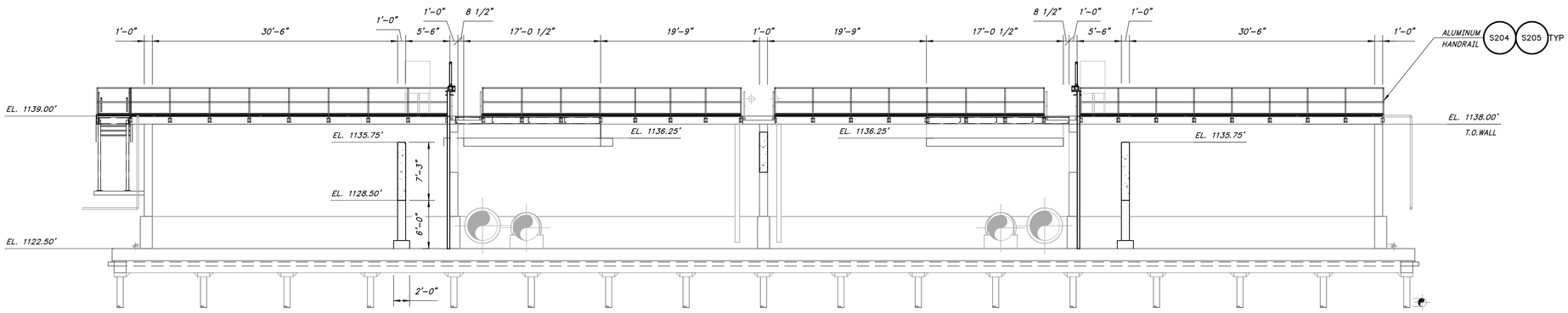
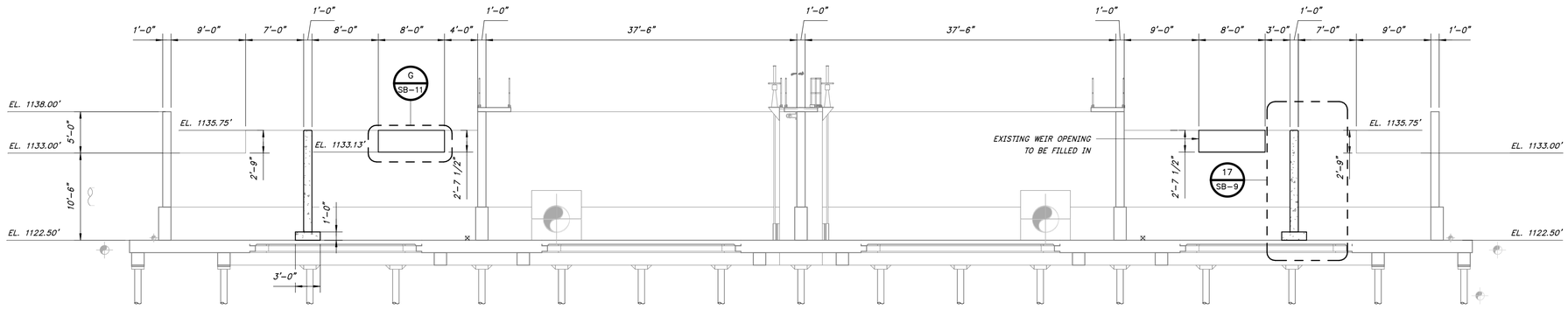
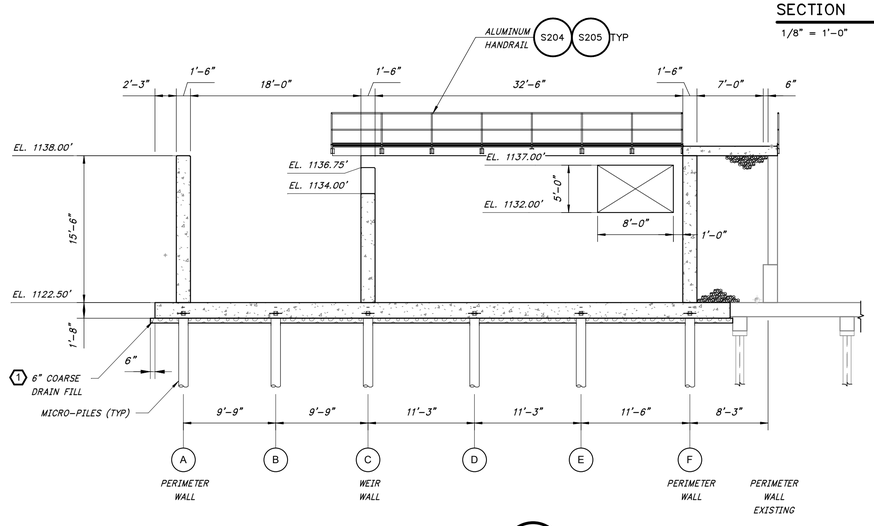


SECTION 4
1/8" = 1'-0"



SECTION 5
1/8" = 1'-0"



SECTION 6
1/8" = 1'-0"

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].
3. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.
4. THE CONTRACTOR AND/OR THEIR MICROPILE SPECIALTY SUBCONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND TESTING OF MICRO-PILES IN ACCORDANCE WITH SPECIFICATION SECTION 02469 DRILLED MICRO-PILES.

KEYED NOTES:

1 REFER TO NOTE NO. 2.

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE
REVISION

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8398
RUSTY D. PEEL
SURVEYED

HAWKINS-WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WWTP CAPACITY STUDY
ANOXIC BASIN STRUCTURAL PLAN

BNR BASINS
SECTIONS

FOR: BENTONVILLE WATER UTILITIES

DATE: MARCH 2025
SCALE: 1/8" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: S-ANOXIC

SHEET NO.
SB-5

BID DRAWINGS
MARCH 21, 2025

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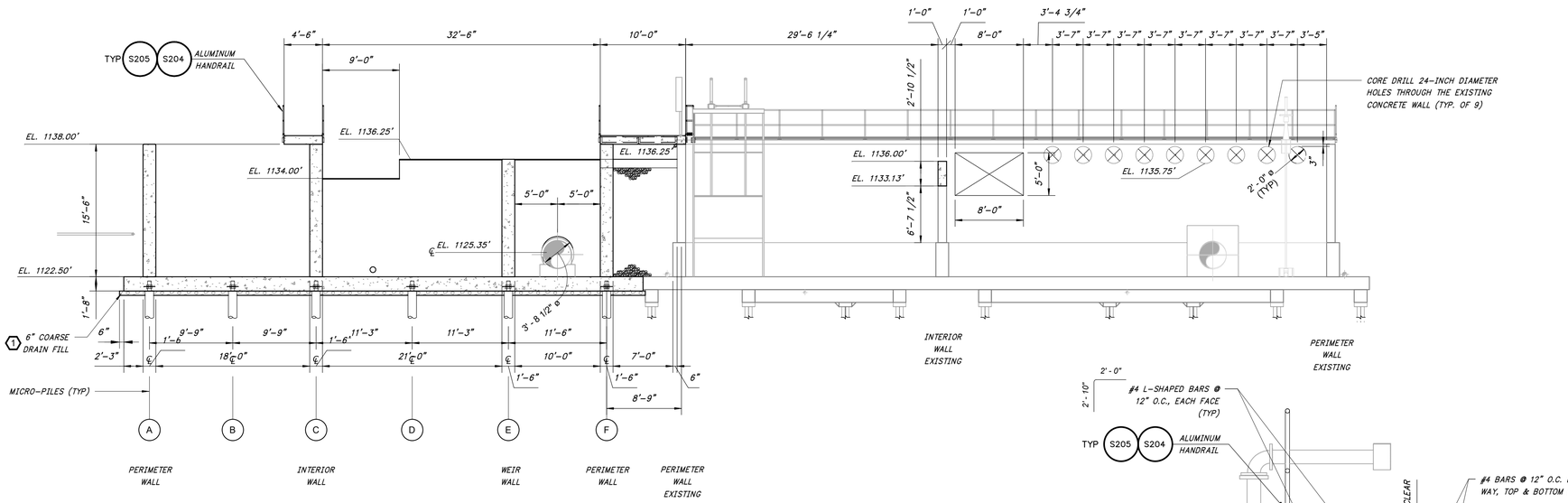
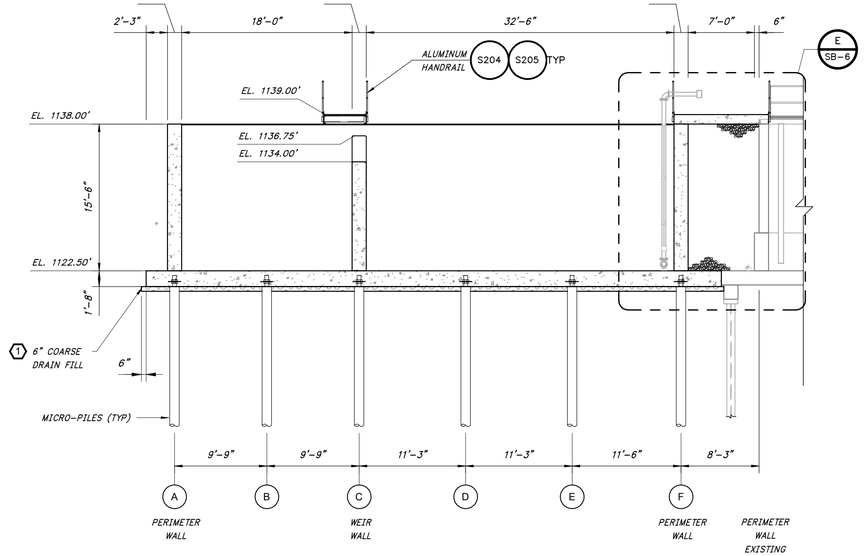
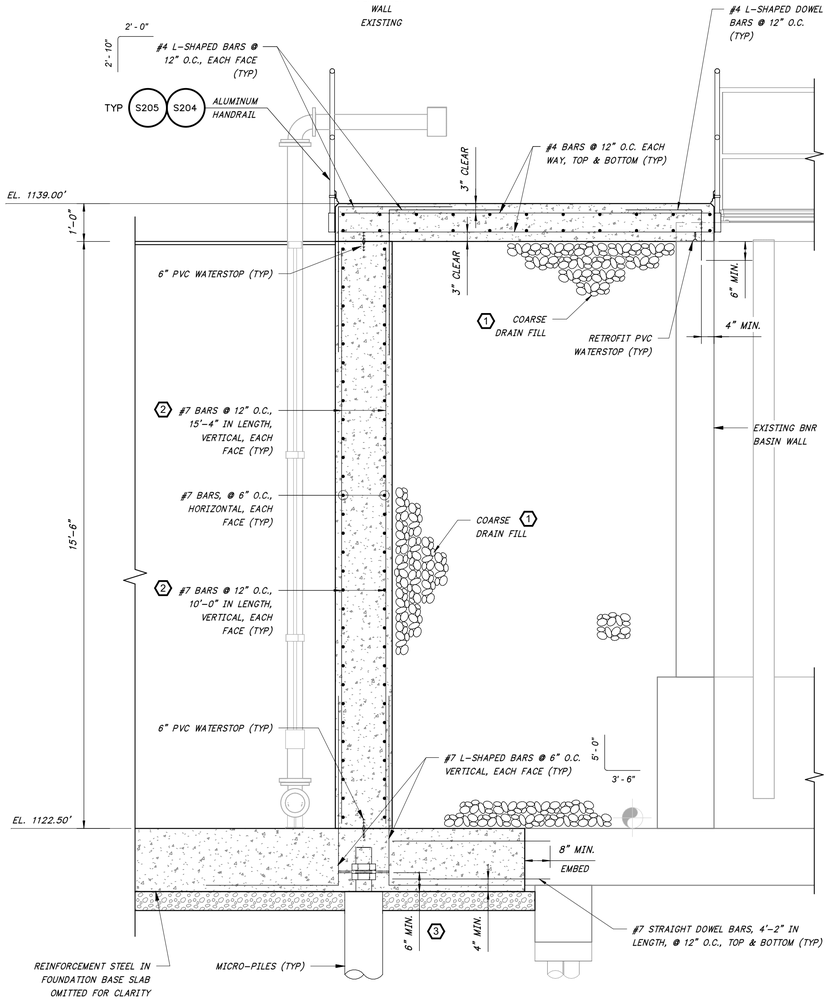


SECTION 7 — 1/8" = 1'-0" — SB-1



SECTION 8 — 1/8" = 1'-0" — SB-1



DETAIL E — 1/2" = 1'-0" — –

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMM OF TWO (2) PASSES PER LIFT].
3. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.
4. THE CONTRACTOR AND/OR THEIR MICROPILE SPECIALTY SUBCONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND TESTING OF MICRO-PILES IN ACCORDANCE WITH SPECIFICATION SECTION 02469 DRILLED MICRO-PILES.

KEYED NOTES:

1. REFER TO NOTE NO. 2.
2. #7 VERTICAL BARS, 10-FEET IN LENGTH, @ 12" O.C. SHALL ALTERNATE WITH FULL WALL HEIGHT #7 VERTICAL BARS @ 12" O.C. TO ACHIEVE A 6-INCH VERTICAL SPACING.
3. MICRO-PILES SHALL EXTEND VERTICALLY 6-INCHES MINIMUM INTO FOUNDATION BASE SLAB.

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — No. 8398 — BRENT D. PEEK

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WWTP CAPACITY STUDY
ANOXIC BASIN STRUCTURAL PLAN

BNR BASINS
SECTIONS

FOR: BENTONVILLE WATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: S-ANOXIC

SHEET NO. SB-6

BID DRAWINGS
MARCH 21, 2025

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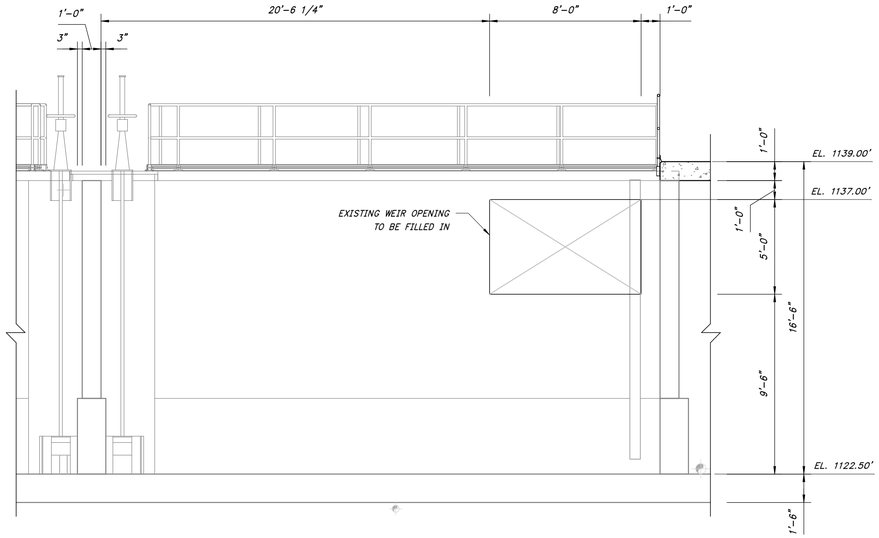
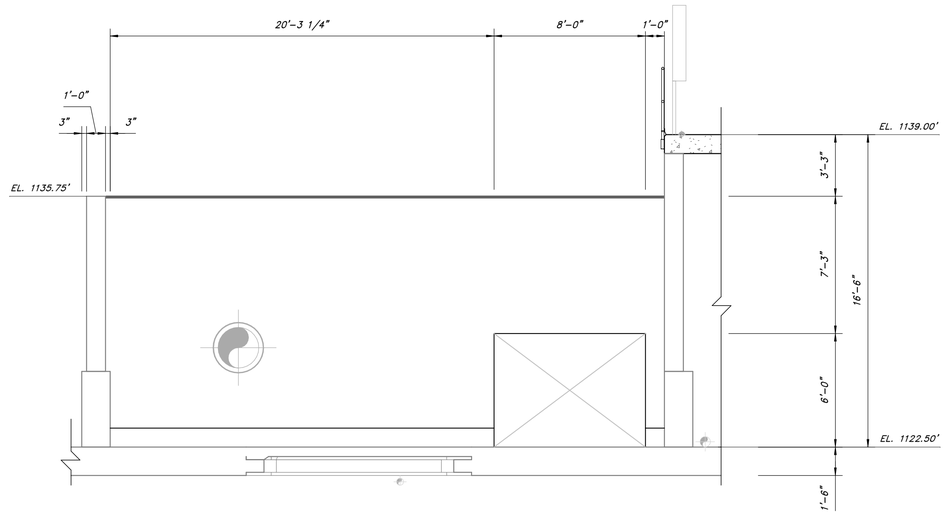
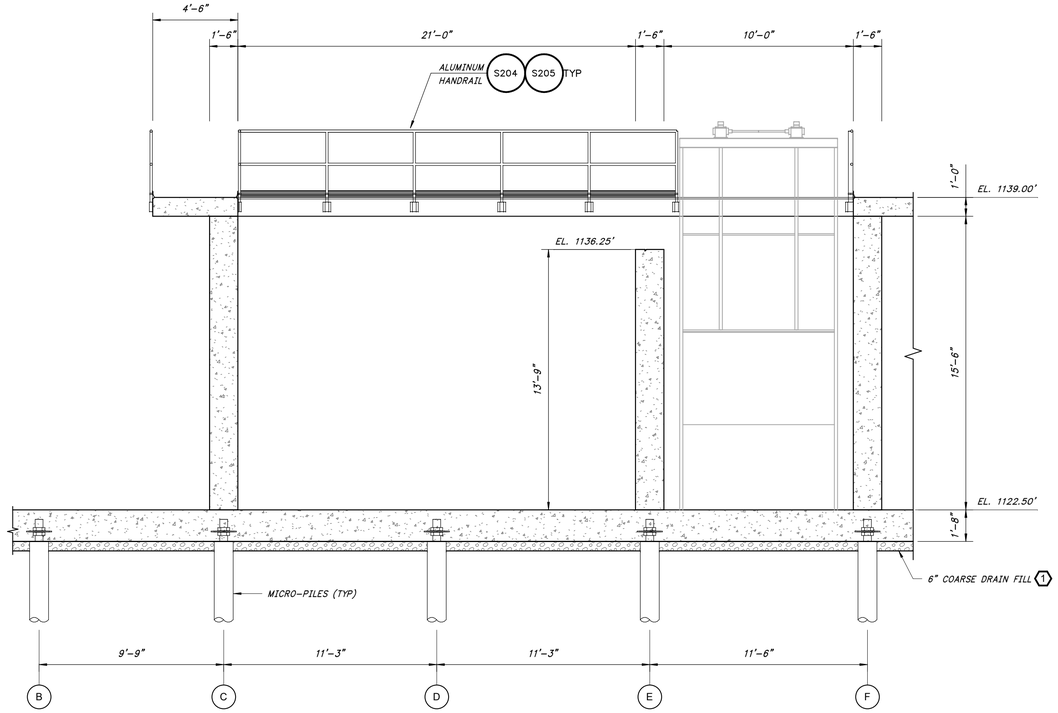


SECTION 9 — SB-1
1/4" = 1'-0"



SECTION 10 — SB-1
1/4" = 1'-0"



SECTION 11 — SB-1
1/4" = 1'-0"

NOTES:

1. *REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.*
2. *COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].*
3. *ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.*
4. *THE CONTRACTOR AND/OR THEIR MICROPILE SPECIALTY SUBCONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND TESTING OF MICRO-PILES IN ACCORDANCE WITH SPECIFICATION SECTION 02469 DRILLED MICRO-PILES.*

KEYED NOTES:

1 *REFER TO NOTE NO. 2.*

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8398
BRETT D. PEEL

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WWTP CAPACITY STUDY
ANOXIC BASIN STRUCTURAL PLAN

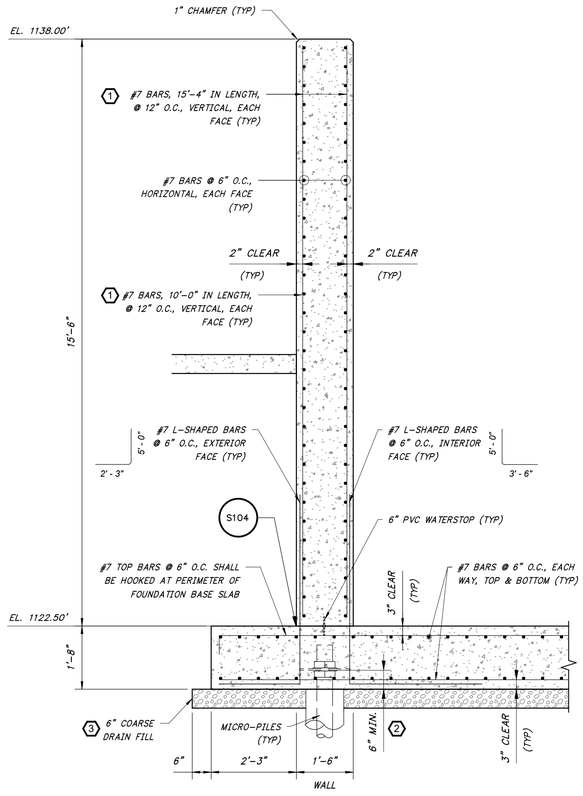
BNR BASINS
SECTIONS

FOR: BENTONVILLE WATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: S-ANOXIC

SHEET NO.
SB-7

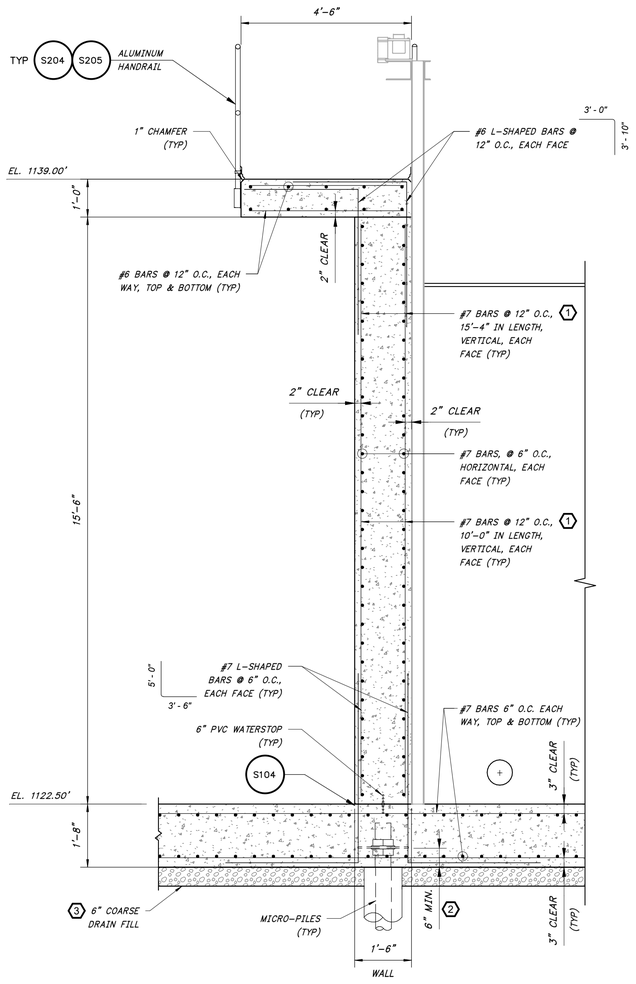
Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/S-ANOXIC.rvt 3/20/2025 2:29:34 PM / DKS / BNR BASINS



PERIMETER WALL OF BNR BASIN

SECTION 12 / SB-4

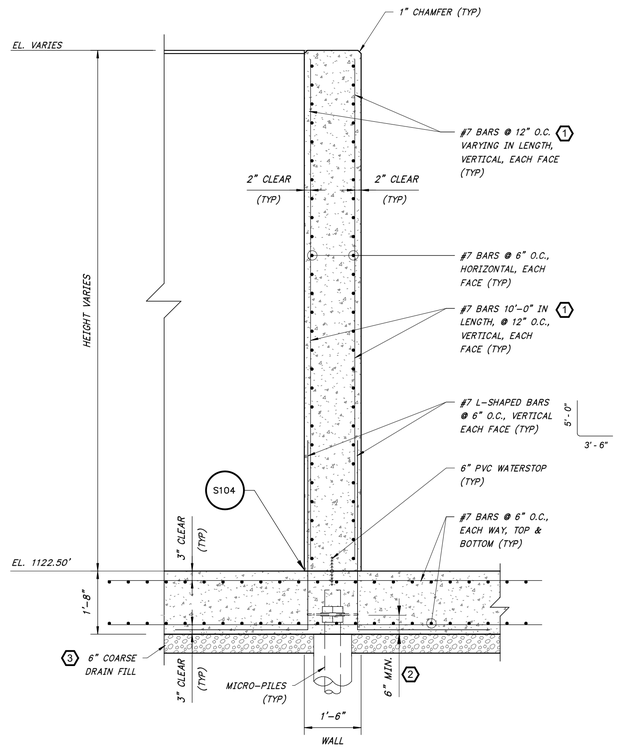
1/2" = 1'-0"



INTERIOR WALL OF BNR BASIN

SECTION 13 / SB-4

1/2" = 1'-0"



INTERIOR WEIR OF BNR BASIN

SECTION 14 / SB-4

1/2" = 1'-0"

NOTES:

1. *REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALLS AND/OR SLABS WITH PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.*
2. *COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].*
3. *ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.*
4. *THE CONTRACTOR AND/OR THEIR MICROPILE SPECIALTY SUBCONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND TESTING OF MICRO-PILES IN ACCORDANCE WITH SPECIFICATION SECTION 02469 DRILLED MICRO-PILES.*

KEYED NOTES:

1. *#7 VERTICAL BARS, 10-FEET IN LENGTH, @ 12" O.C. SHALL ALTERNATE WITH FULL WALL HEIGHT #7 VERTICAL BARS @ 12" O.C. TO ACHIEVE A 6-INCH VERTICAL SPACING.*
2. *MICRO-PILES SHALL EXTEND VERTICALLY 6-INCHES MINIMUM INTO FOUNDATION BASE SLAB.*
3. *REFER TO NOTE NO. 2*

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER BRENT D. PECK No. 8398

HAWKINS WEIR ENGINEERS, INC.

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WWTP CAPACITY STUDY
ANOXIC BASIN STRUCTURAL PLAN

BNR BASINS
SECTIONS

FOR: BENTONVILLE WATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: S-ANOXIC

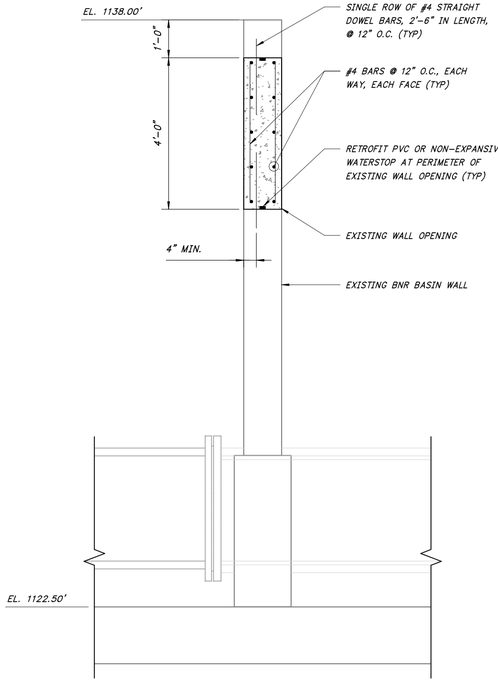
SHEET NO.
SB-8

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/S-ANOXIC.rvt 3/20/2025 2:29:35 PM / DKS / BNR BASINS

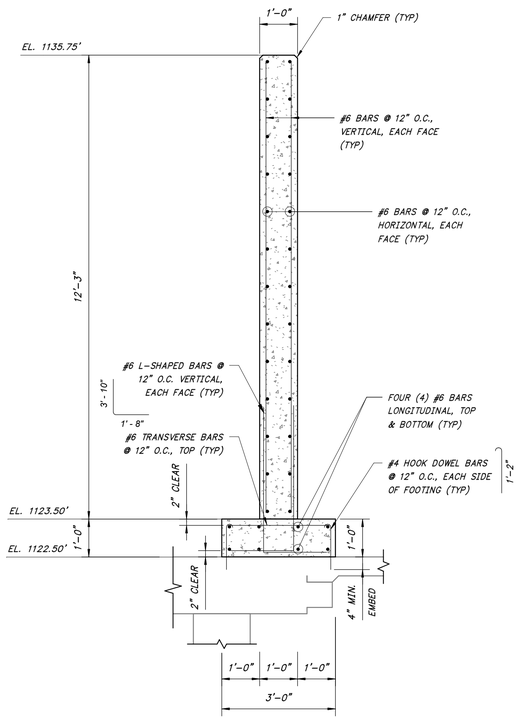
Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/S-ANOXIC.rvt 3/20/2025 2:29:35 PM / DKS / BNR BASINS

NOTES:

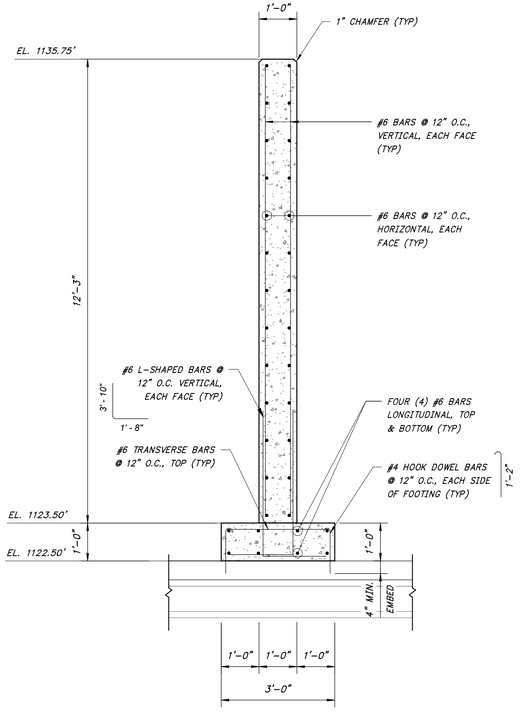
1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALLS AND/OR SLABS WITH PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].
3. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.



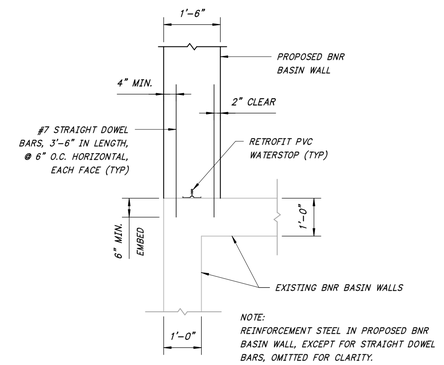
SECTION 15 (SB-3) 1/2" = 1'-0"



SECTION 16 (SB-1) 1/2" = 1'-0"



SECTION 17 (SB-1) 1/2" = 1'-0"



DETAIL F (SB-3) 1/2" = 1'-0"

1" ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER BRETT D. PEEVEY No. 8398

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WWTP CAPACITY STUDY
ANOXIC BASIN STRUCTURAL PLAN

BNR BASINS
DETAIL AND SECTIONS

FOR: BENTONVILLE WATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: S-ANOXIC

SHEET NO. SB-9

BID DRAWINGS
MARCH 21, 2025

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NOTES:

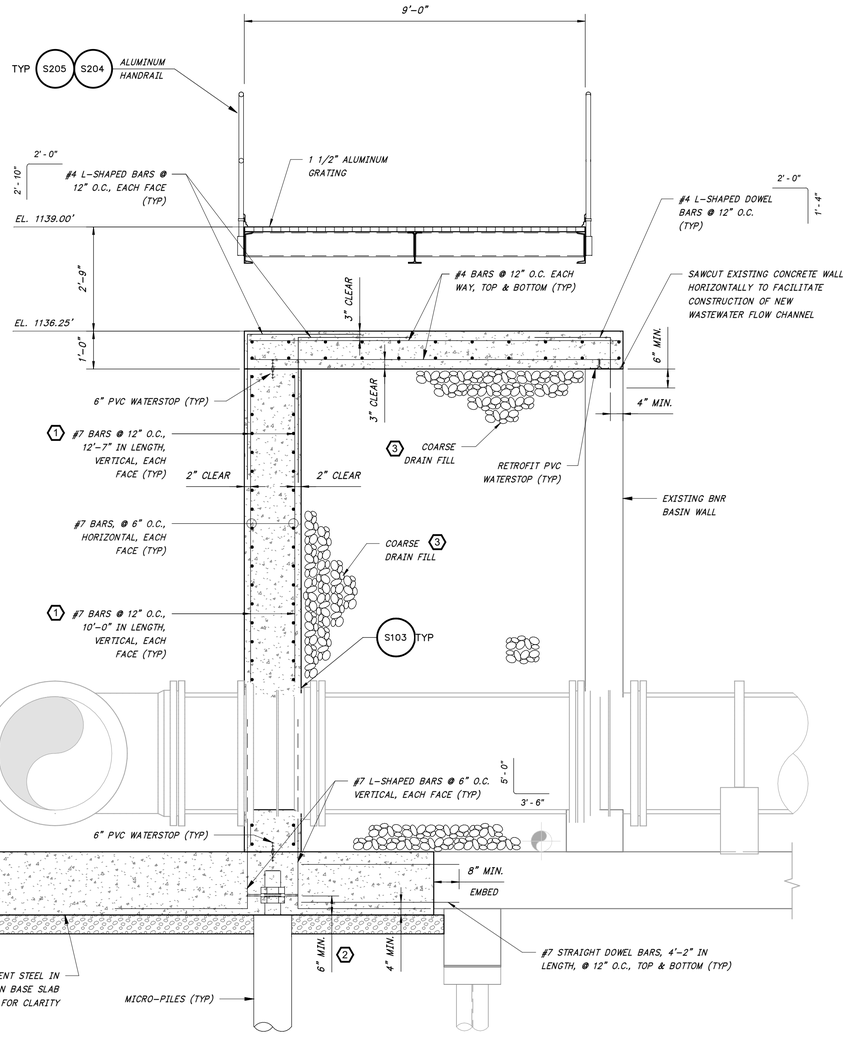
1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].
3. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.
4. THE CONTRACTOR AND/OR THEIR MICROPILE SPECIALTY SUBCONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND TESTING OF MICRO-PILES IN ACCORDANCE WITH SPECIFICATION SECTION 02469 DRILLED MICRO-PILES.

KEYED NOTES:

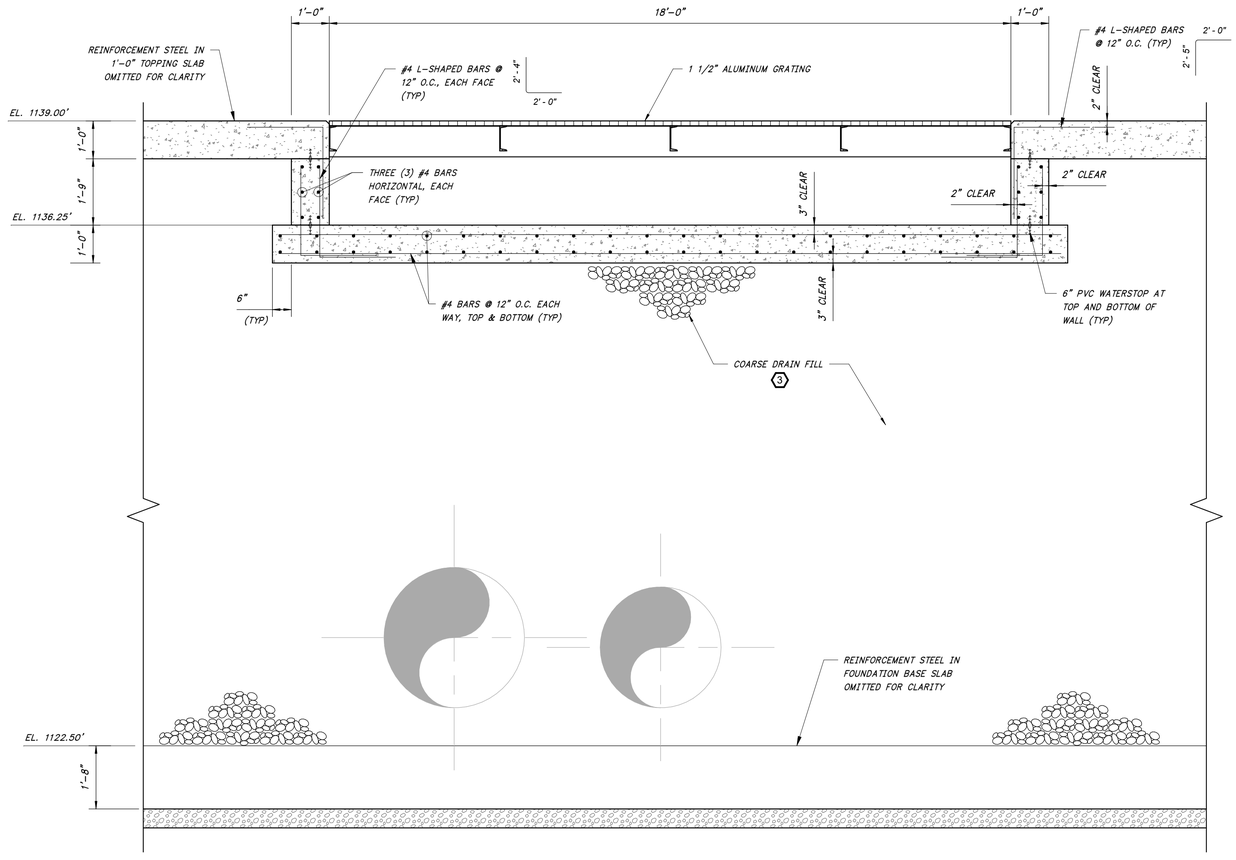
(1) #7 VERTICAL BARS, 10-FEET IN LENGTH, @ 12" O.C. SHALL ALTERNATE WITH FULL WALL HEIGHT #7 VERTICAL BARS @ 12" O.C. TO ACHIEVE A 6-INCH VERTICAL SPACING.

(2) MICRO-PILES SHALL EXTEND VERTICALLY 6-INCHES MINIMUM INTO FOUNDATION BASE SLAB.

(3) REFER TO NOTE NO. 2



SECTION 18 / SB-3
1/2" = 1'-0"



SECTION 19 / SB-3
1/2" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8398
BRETT D. PEEL
SURVEYED

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

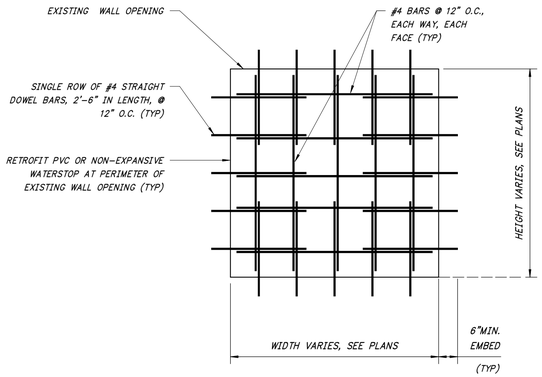
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WWTP CAPACITY STUDY
ANOXIC BASIN STRUCTURAL PLAN

BNR BASINS
SECTIONS

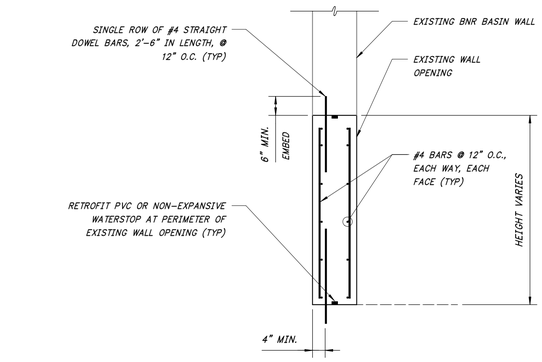
FOR: BENTONVILLE WATER UTILITIES

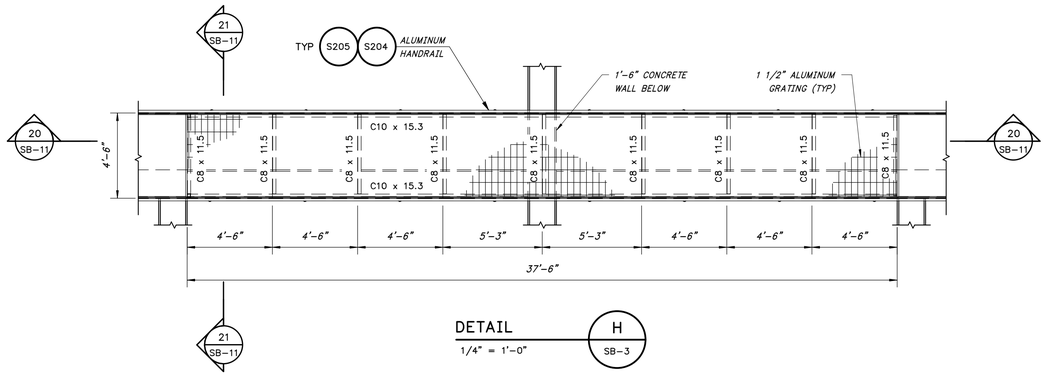
DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: BDP
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: S-ANOXIC

SHEET NO.
SB-10

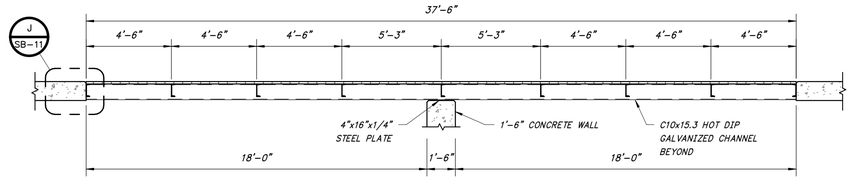


DETAIL G
1/2" = 1'-0"
SB-5

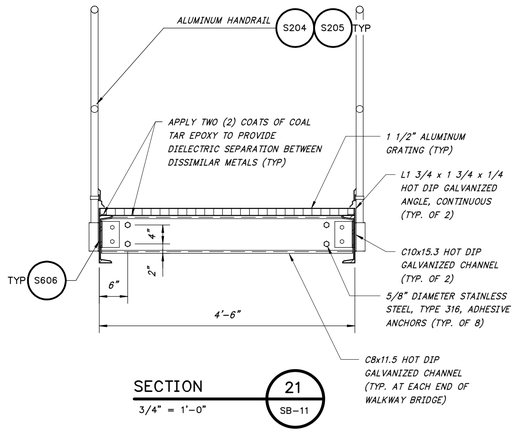




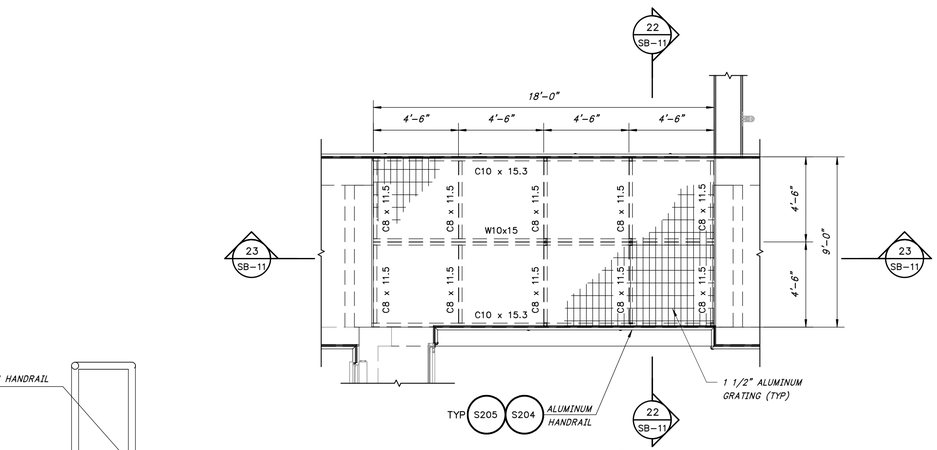
DETAIL H
1/4" = 1'-0"
SB-3



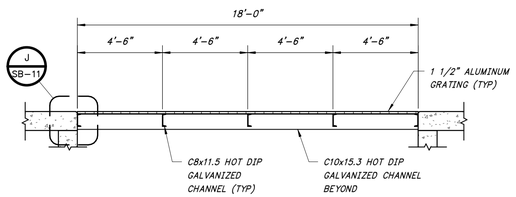
SECTION 20
1/4" = 1'-0"
SB-11



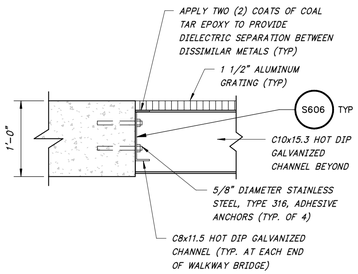
SECTION 21
3/4" = 1'-0"
SB-11



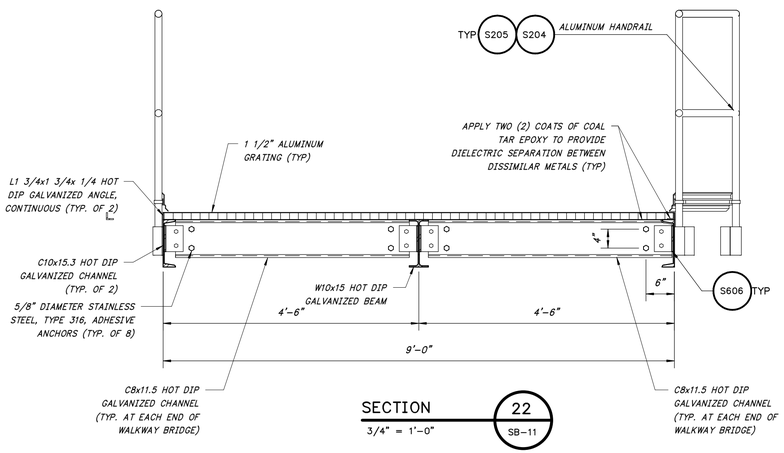
DETAIL I
1/4" = 1'-0"
SB-3



SECTION 23
1/4" = 1'-0"
SB-11



DETAIL J
1" = 1'-0"
SB-11



SECTION 22
3/4" = 1'-0"
SB-11

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8398 BRENT D. PEATCH

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WWTP CAPACITY STUDY
ANOXIC BASIN STRUCTURAL PLAN

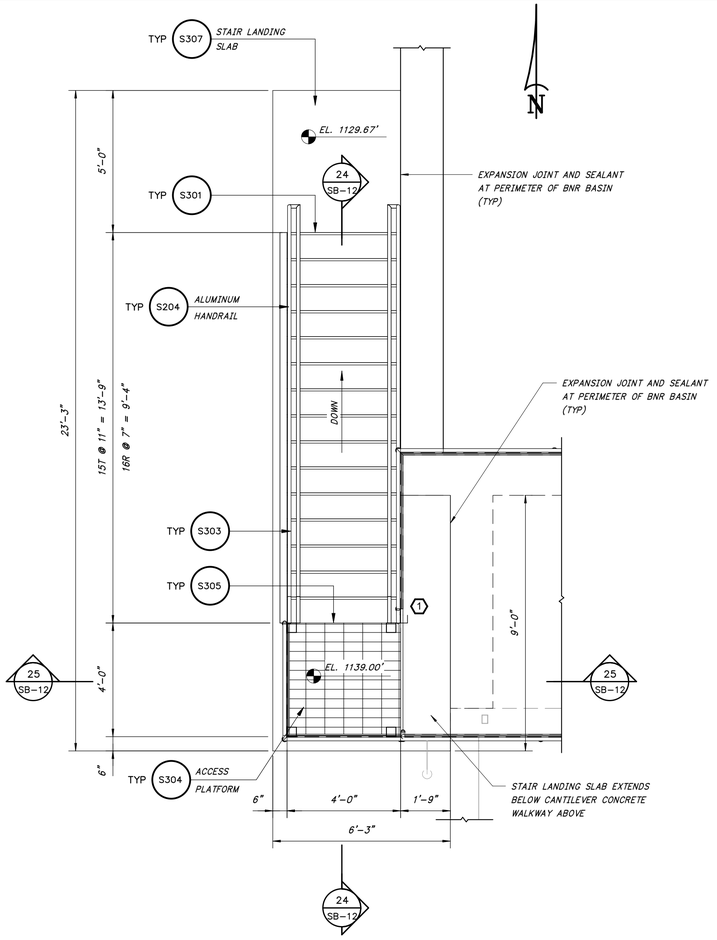
BNR BASINS
DETAILS AND SECTIONS

FOR: BENTONVILLE WATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: BDP
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: S-ANOXIC

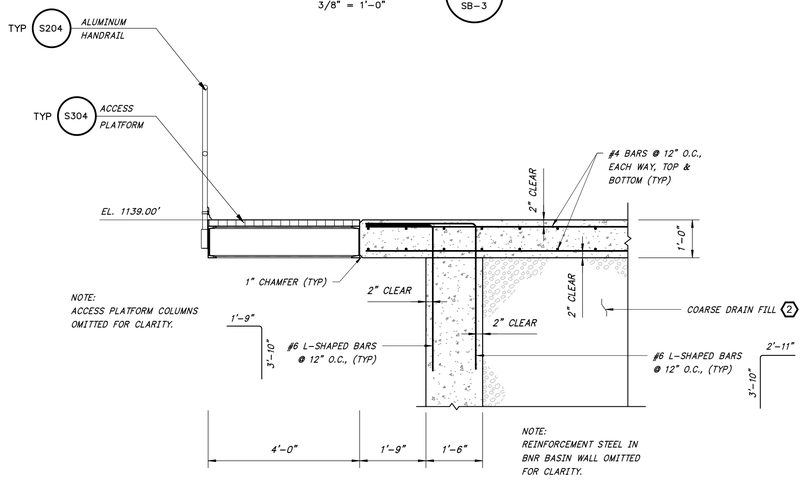
SHEET NO.
SB-11

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/S-ANOXIC.rvt 3/20/2025 2:29:36 PM / ADF / BNR BASINS

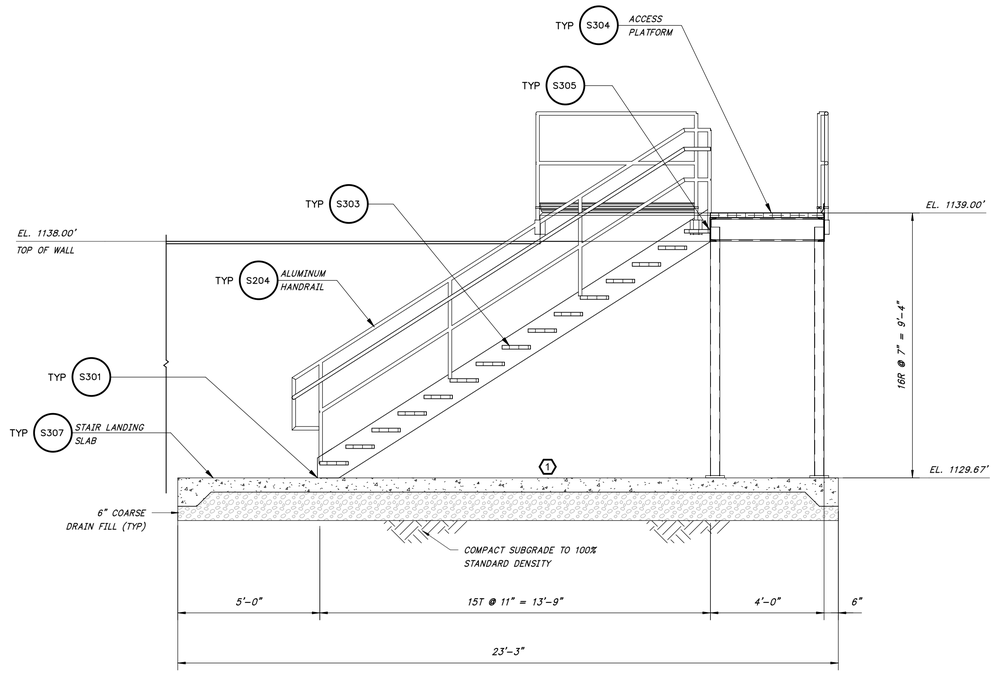


BNR BASINS ACCESS PLATFORM AND STAIRS

DETAIL K — 3/8" = 1'-0" — SB-3



SECTION 25 — 1/2" = 1'-0" — SB-12



SECTION 24 — 3/8" = 1'-0" — SB-12

NOTES:

1. REFER TO SPECIFICATION SECTION 03740 FOR MODIFICATION OR REPAIR OF EXISTING CONCRETE.
2. COARSE DRAIN FILL PER ASTM SPECIFICATION C33 (3/4" MAX. AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES].

KEYED NOTES:

1 STAIR LANDING SLAB SHALL SLOPE 0.5% MINIMUM AWAY FROM THE BNR BASIN.

2 REFER TO NOTE NO. 2.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — No. 8398 — BRETT D. PEEVEY

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

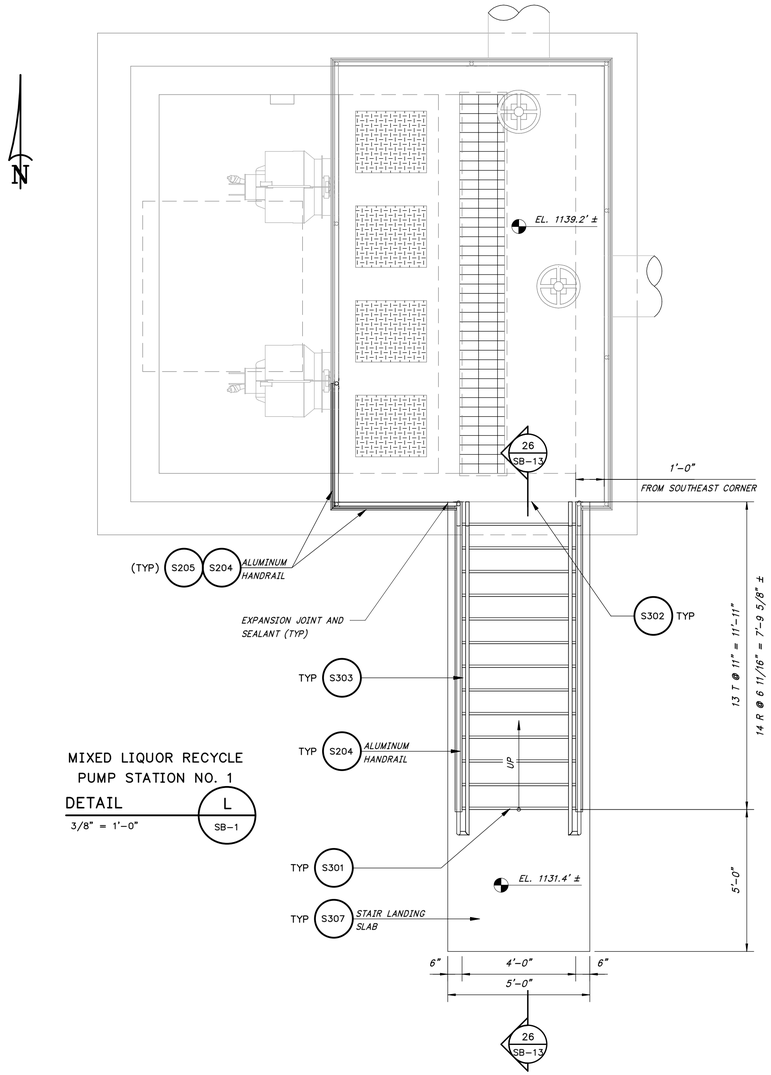
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WWTP CAPACITY STUDY
ANOXIC BASIN STRUCTURAL PLAN

BNR BASINS
ACCESS PLATFORM AND STAIRS
DETAILS AND SECTIONS
FOR: BENTONVILLE WATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: BDP
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME: S-ANOXIC

SHEET NO.
SB-12

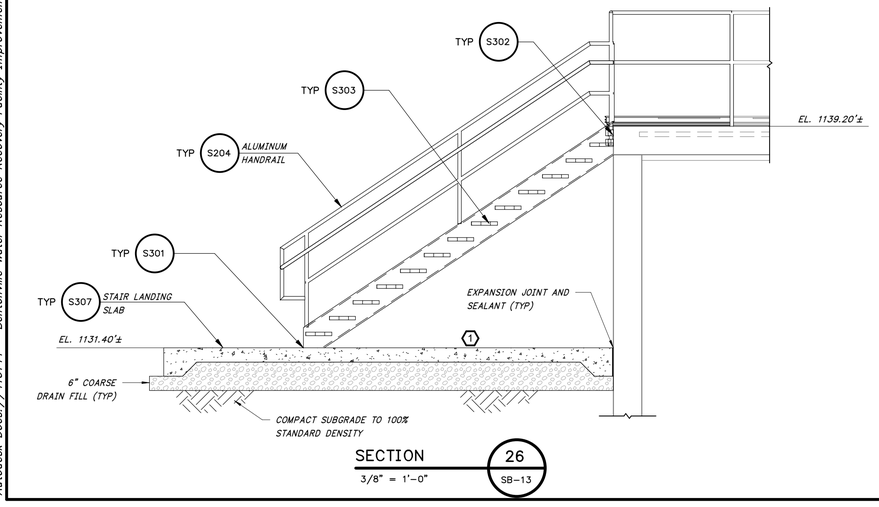
Autodesk Docs://4101144 - Bentonville Water Resource Recovery Facility Improvements/S-ANOXIC.rvt 3/20/2025 2:29:37 PM / CES / BNR BASINS



MIXED LIQUOR RECYCLE PUMP STATION NO. 1

DETAIL L / SB-1

3/8" = 1'-0"



SECTION 26 / SB-13

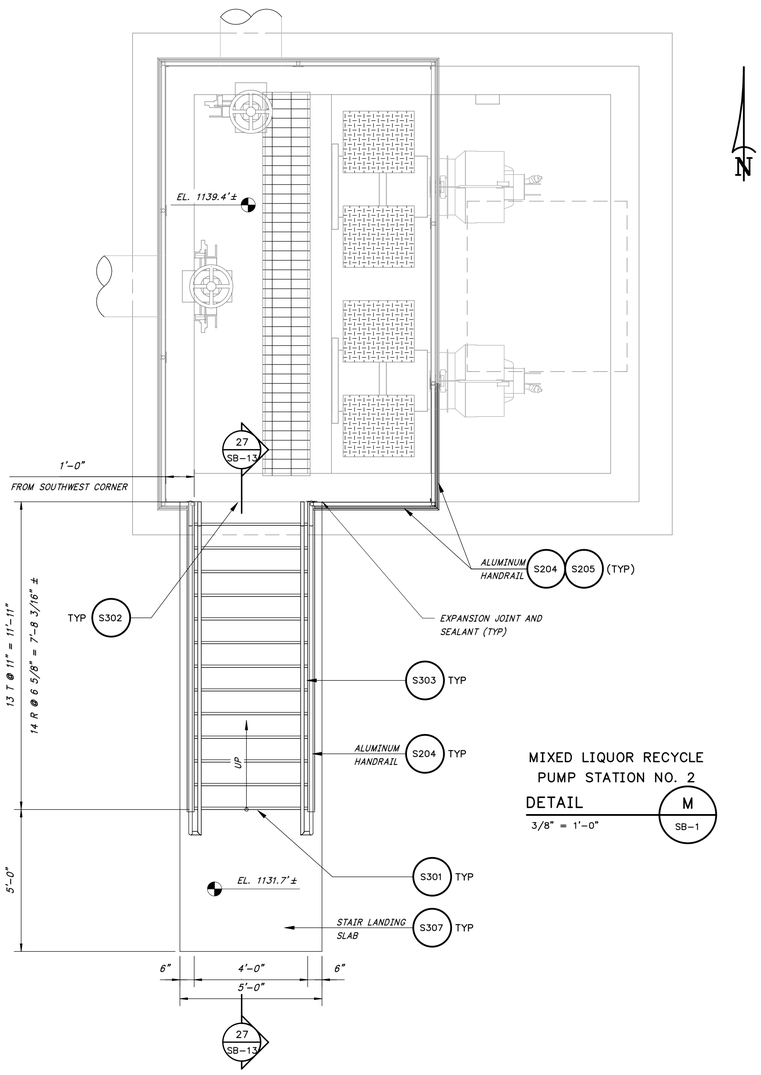
3/8" = 1'-0"

NOTES:

1. REFER TO SPECIFICATION SECTION 03740 FOR MODIFICATION OR REPAIR OF EXISTING CONCRETE.
2. COARSE DRAIN FILL PER ASTM SPECIFICATION C33 (3/4" MAX. AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES].

KEYED NOTES:

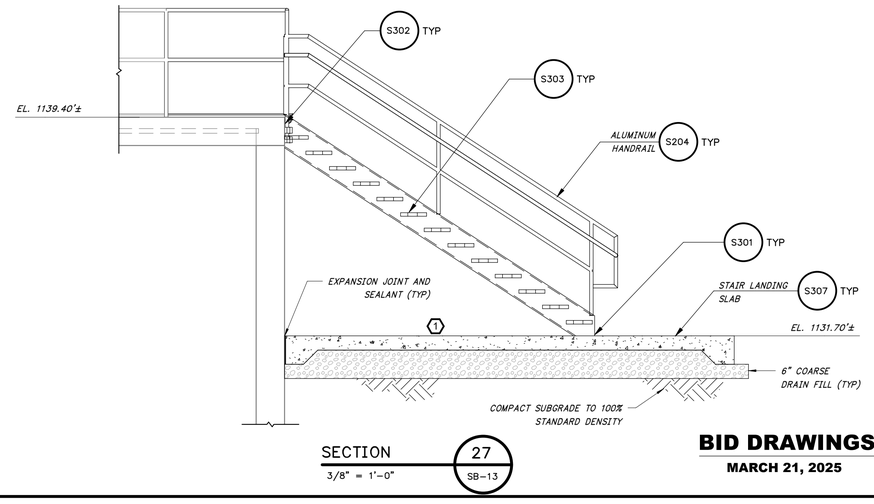
1. STAIR LANDING SLAB SHALL SLOPE 0.5% MINIMUM TO DRAIN.



MIXED LIQUOR RECYCLE PUMP STATION NO. 2

DETAIL M / SB-1

3/8" = 1'-0"



SECTION 27 / SB-13

3/8" = 1'-0"

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8398 BRETT D. PEEL

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WWTP CAPACITY STUDY
ANOXIC BASIN STRUCTURAL PLAN

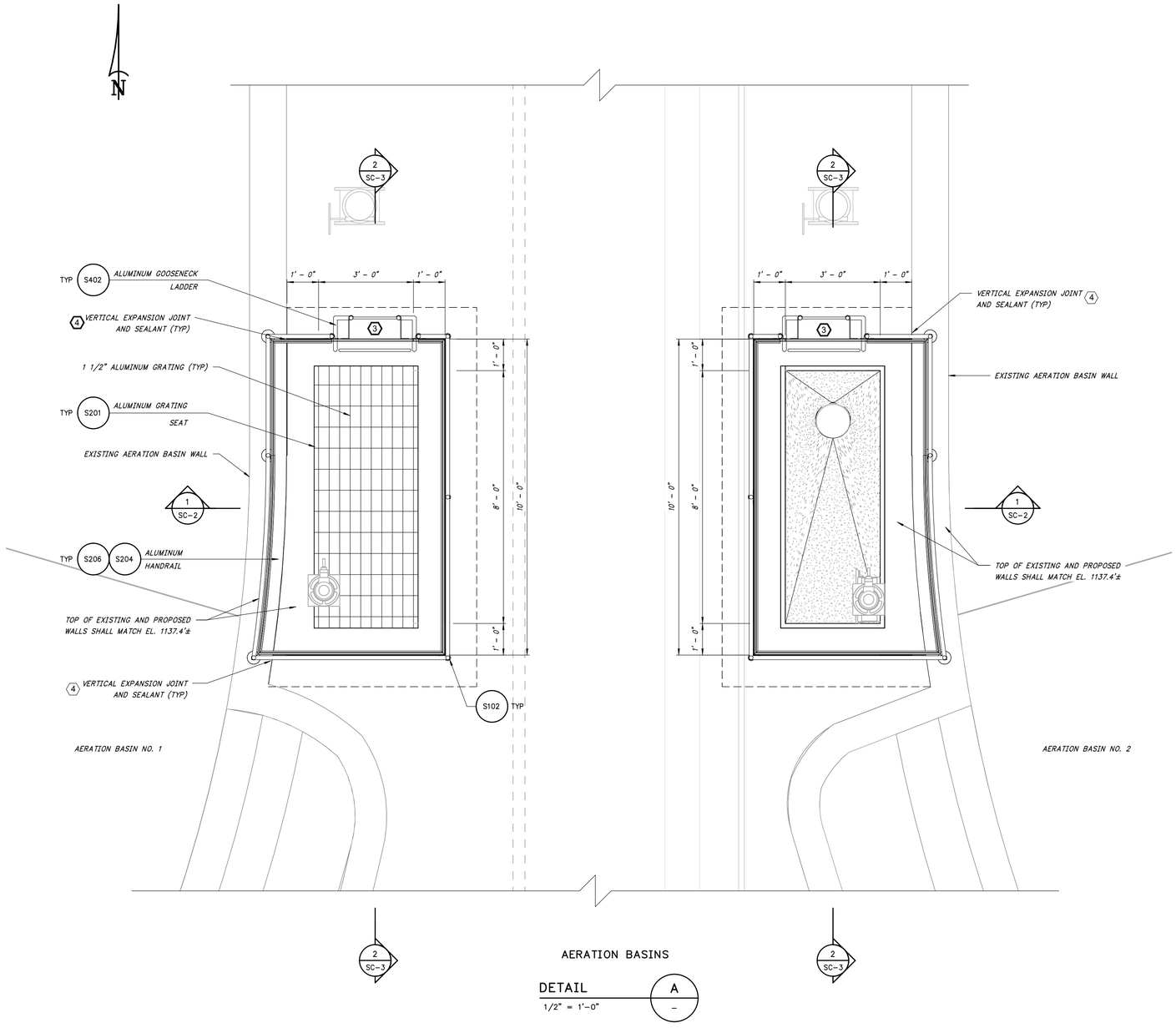
MIXED LIQUOR RECYCLE PUMP STATION DETAILS AND SECTIONS

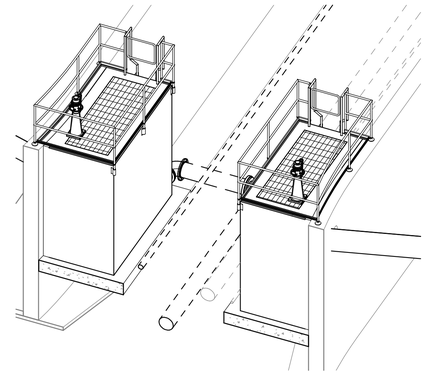
FOR: BENTONVILLE WATER UTILITIES

DATE:	MARCH 2025
SCALE:	AS SHOWN
DESIGNED BY:	BDP
DRAWN BY:	CES
HWEI NO.:	2021037
FILENAME:	S-ANOXIC

SHEET NO.
SB-13

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/S-ANOXIC.rvt 3/20/2025 2:29:37 PM / CES / MIXED LIQUOR RECYCLE PUMP STATION





ISOMETRIC/3D

N.T.S.

NOTES:

1. *REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR ALL WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.*
2. *COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].*
3. *ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.*

KEYED NOTES:

1. *GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE SELECT BACKFILL MATERIAL.*
2. *18" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED, AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.*
3. *ALUMINUM GOOSENECK LADDER*
4. *INSTALL VERTICAL EXPANSION JOINT AND SEALANT AT INTERSECTION OF ALL EXISTING AND PROPOSED AERATION BASIN WALLS.*

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8398 BRENT D. PEEK

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

AERATION BASIN DETAIL

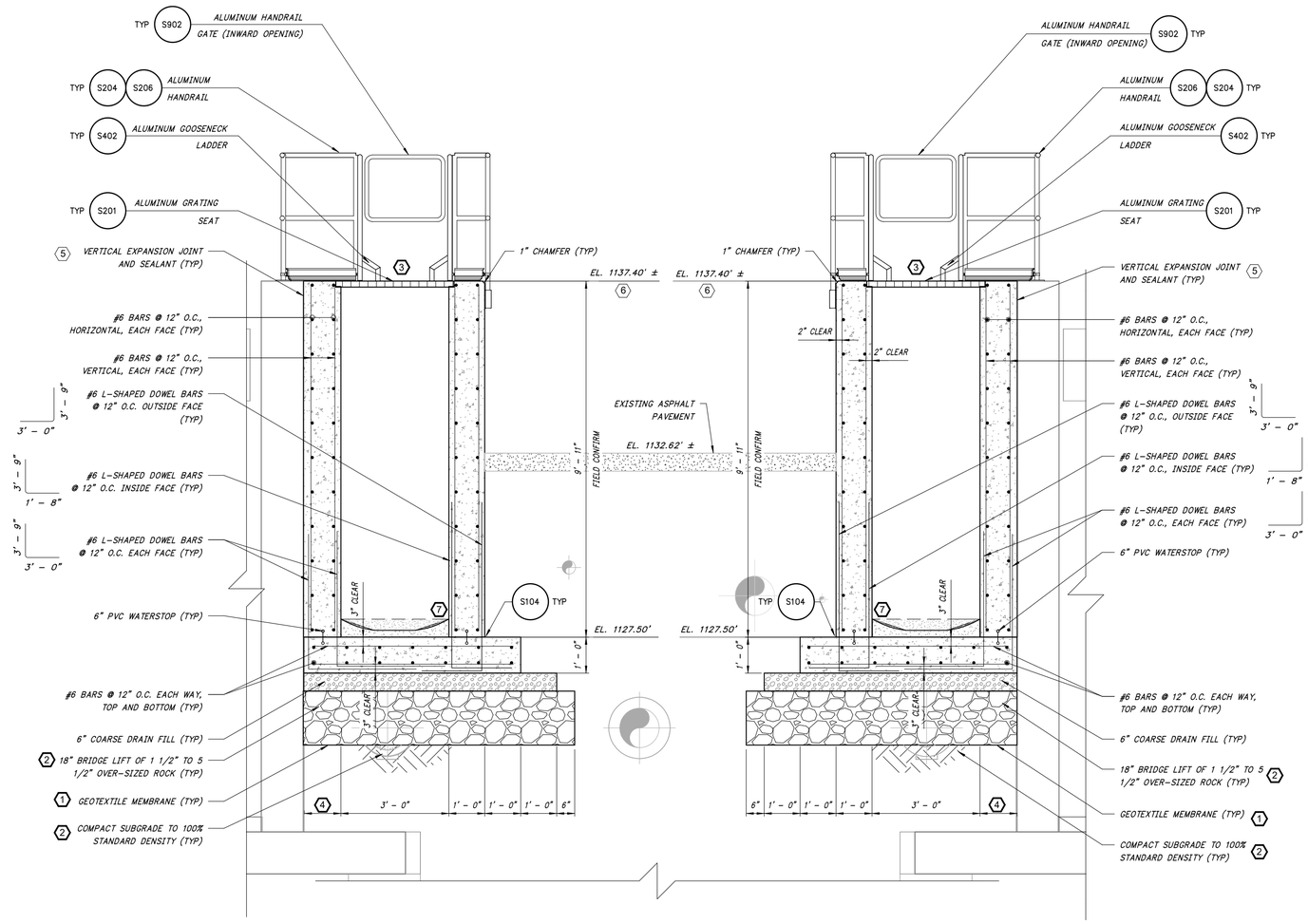
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: JEB
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SC-1

BID DRAWINGS
MARCH 21, 2025

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 2:42:18 PM JEB / AERATION BASIN



AERATION BASINS

SECTION 1 / SC-1

1/2" = 1'-0"

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE (MINIMIM OF TWO (2) PASSES PER LIFT).
3. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

1. GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE SELECT BACKFILL MATERIAL.
2. 18" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED, AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.
3. ALUMINUM GOOSENECK LADDER
4. PROPOSED CONCRETE WALL THICKNESS SHALL BE 1-FOOT MINIMUM ON ITS NORTH END AND VARIES IN THICKNESS (INCREASES) AS IT EXTENDS SOUTH TO MAINTIAN INTERIOR 3-FOOT BASIN WIDTH IN THE EAST-WEST DIRECTION.
5. INSTALL VERTICAL EXPANSION JOINT AND SEALANT AT INTERSECTION OF ALL EXISTING AND PROPOSED AERATION BASIN WALLS.
6. TOP OF EXISTING AND PROPOSED AERATION BASIN WALLS SHALL MATCH IN ELEVATION.
7. CLASS A CONCRETE FILL. REFER TO PROCESS MECHANICAL DRAWINGS FOR THICKNESSES AND/OR ELEVATIONS.

1"

ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER BRENT D. PEEK No. 8398

HAWKINS-WEIR ENGINEERS, INC.

BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

AERATION BASIN SECTION

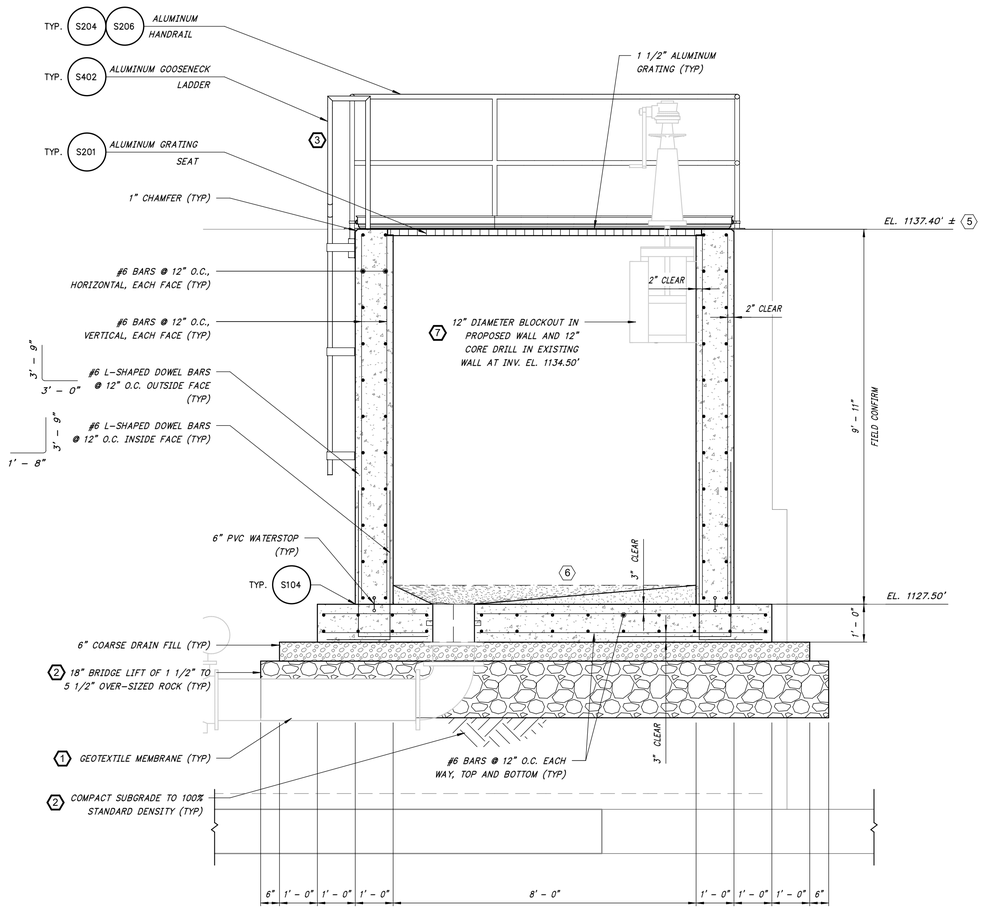
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO. SC-2

BID DRAWINGS
MARCH 21, 2025

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 2:42:18 PM / DKS / AERATION BASIN



AERATION BASINS

SECTION 2 / SC-1

1/2" = 1'-0"

NOTES:

1. *REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.*
2. *COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].*
3. *ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.*

KEYED NOTES:

1. *GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE SELECT BACKFILL MATERIAL.*
2. *18" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED, AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.*
3. *ALUMINUM GOOSENECK LADDER*
4. *PROPOSED CONCRETE WALL THICKNESS SHALL BE 1-FOOT MINIMUM ON ITS NORTH END AND VARIES IN THICKNESS (INCREASES) AS IT EXTENDS SOUTH TO MAINTIAN INTERIOR 3-FOOT BASIN WIDTH IN THE EAST-WEST DIRECTION.*
5. *TOP OF EXISTING AND PROPOSED AERATION BASIN WALLS SHALL MATCH IN ELEVATION.*
6. *CLASS A CONCRETE FILL. REFER TO PROCESS MECHANICAL DRAWINGS FOR THICKNESSES AND/OR ELEVATIONS.*
7. *COORDINATE 12-INCH DIAMETER WALL PENETRATION WITH PROCESS MECHANICAL DRAWINGS.*

1"

ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8398
BRENT D. PEEK
03/31/26

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

AERATION BASIN
SECTION

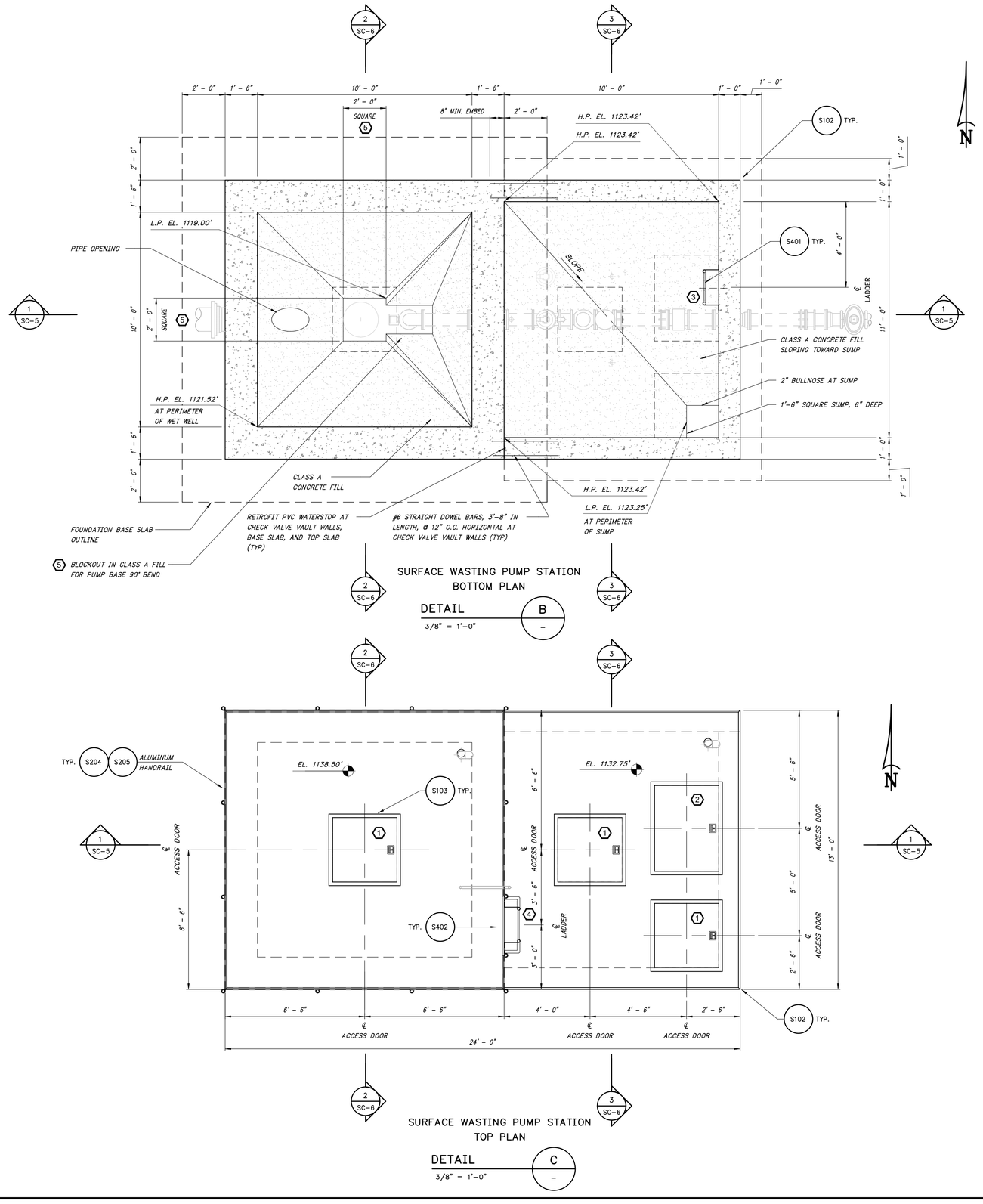
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SC-3

BID DRAWINGS
MARCH 21, 2025

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 2:42:19 PM / DKS / AERATION BASIN

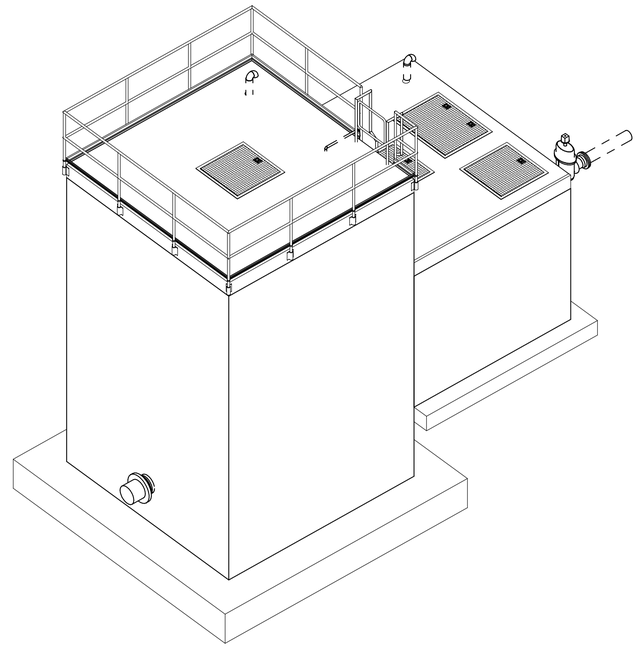


SURFACE WASTING PUMP STATION
BOTTOM PLAN

DETAIL B
3/8" = 1'-0"

SURFACE WASTING PUMP STATION
TOP PLAN

DETAIL C
3/8" = 1'-0"



ISOMETRIC/3D
N.T.S.

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].
3. REFER TO SPECIFICATION SECTION 07110 FOR WATERPROOFING OF BELOW GRADE WALLS.
4. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

1. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS3636, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING. CONTRACTOR SHALL COORDINATE WITH THE PUMP AND ACCESS DOOR MANUFACTURERS TO ENSURE THAT THE PUMP CAN BE INSTALLED AND REMOVED FOR FUTURE O&M PURPOSES.
2. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS3648, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
3. ALUMINUM LADDER SHALL BE HALLIDAY PRODUCTS SERIES L1B AND SHALL INCLUDE SERIES L1E LADDER EXTENSION, OR EQUAL.
4. ALUMINUM GOOSENECK LADDER
5. CONTRACTOR SHALL COORDINATE PUMP SUMP DIMENSIONS AND PUMP BASE 90° BEND DIMENSIONS WITH THE PUMP MANUFACTURER.

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
WESLEY JAY LEWIS
No. 20398
03-21-25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

SURFACE WASTING PUMP STATION DETAILS

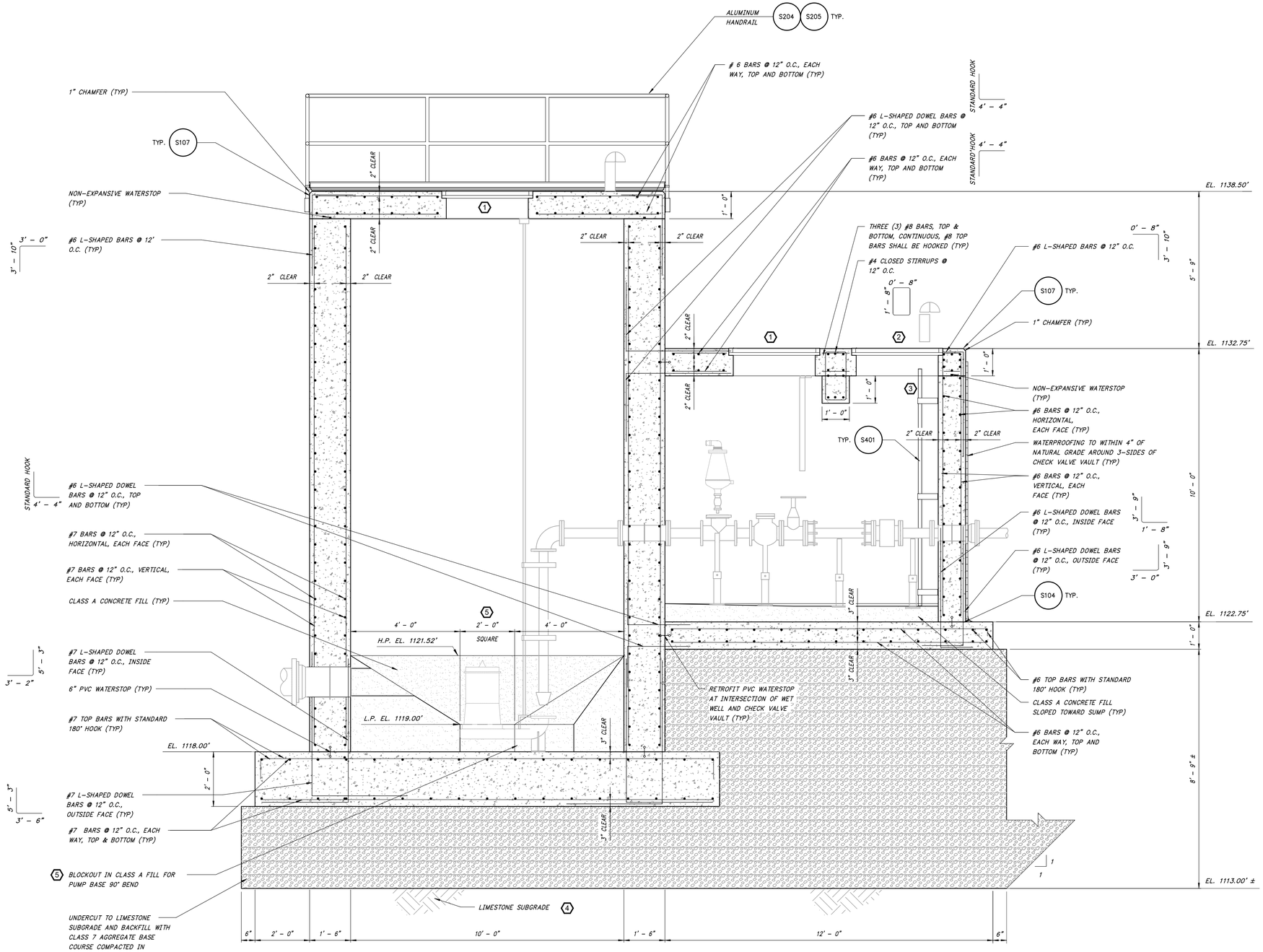
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 3/8" = 1'-0"
DESIGNED BY: JSD
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SC-4

BID DRAWINGS
MARCH 21, 2025

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 2:42:20 PM / DKS / SURFACE WASTING PUMP STATION



SURFACE WASTING PUMP STATION

SECTION 1 / SC-4

1/2" = 1'-0"

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].
3. REFER TO SPECIFICATION SECTION 07110 FOR WATERPROOFING OF BELOW GRADE WALLS.
4. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

1. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS3636, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING. CONTRACTOR SHALL COORDINATE WITH THE PUMP AND ACCESS DOOR MANUFACTURERS TO ENSURE THAT THE PUMP CAN BE INSTALLED AND REMOVED FOR FUTURE O&M PURPOSES.
2. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS3648, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
3. ALUMINUM LADDER SHALL BE HALLIDAY PRODUCTS SERIES L1B AND SHALL INCLUDE SERIES L1E LADDER EXTENSION, OR EQUAL.
4. BASED ON THE GEOTECHNICAL REPORT, IT IS ANTICIPATED THAT LIMESTONE WILL BE ENCOUNTERED AT AN APPROXIMATE ELEVATION OF 1113.00'±.
5. CONTRACTOR SHALL COORDINATE PUMP SUMP DIMENSIONS AND PUMP BASE 90° BEND DIMENSIONS WITH THE PUMP MANUFACTURER.

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER WESLEY JAY LEATH No. 23258

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

SURFACE WASTING PUMP STATION SECTION

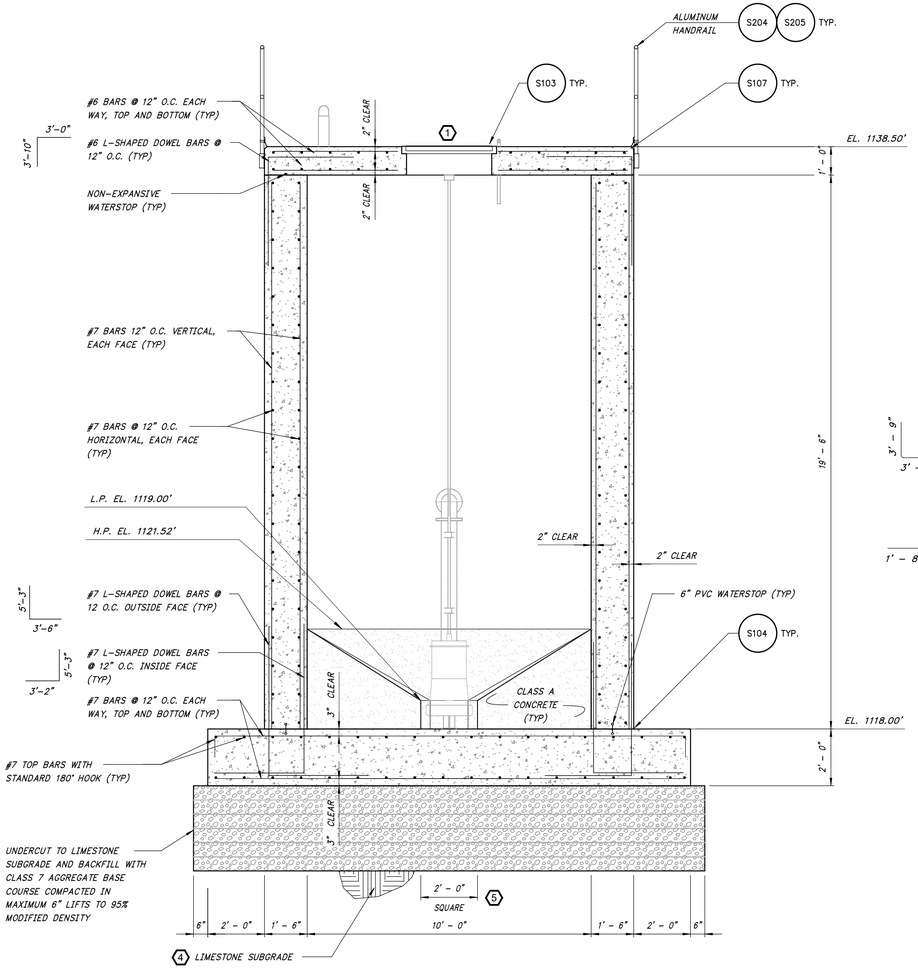
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: WJL
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO. SC-5

BID DRAWINGS
MARCH 21, 2025

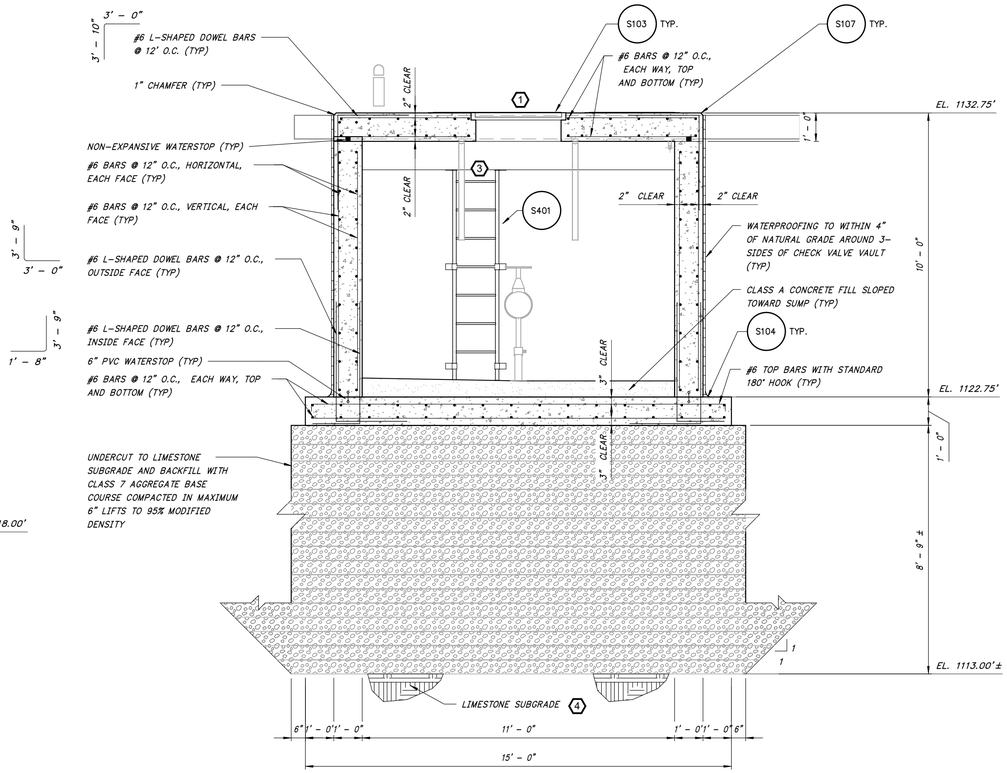
Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 2:42:20 PM / DKS / SURFACE WASTING PUMP STATION



SURFACE WASTING PUMP STATION

SECTION 2 / SC-4

3/8" = 1'-0"



SURFACE WASTING PUMP STATION

SECTION 3 / SC-4

3/8" = 1'-0"

NOTES:

1. *REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.*
2. *COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].*
3. *REFER TO SPECIFICATION SECTION 07110 FOR WATERPROOFING OF BELOW GRADE WALLS.*
4. *ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.*

KEYED NOTES:

1. *ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS3636, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING. CONTRACTOR SHALL COORDINATE WITH THE PUMP AND ACCESS DOOR MANUFACTURERS TO ENSURE THAT THE PUMP CAN BE INSTALLED AND REMOVED FOR FUTURE O&M PURPOSES.*
2. *ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS3648, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.*
3. *ALUMINUM LADDER SHALL BE HALLIDAY PRODUCTS SERIES L1B AND SHALL INCLUDE SERIES L1E LADDER EXTENSION, OR EQUAL.*
4. *BASED ON THE GEOTECHNICAL REPORT, IT IS ANTICIPATED THAT LIMESTONE WILL BE ENCOUNTERED AT AN APPROXIMATE ELEVATION OF 1113.00'±.*
5. *CONTRACTOR SHALL COORDINATE PUMP SUMP DIMENSIONS AND PUMP BASE 90° BEND DIMENSIONS WITH THE PUMP MANUFACTURER.*

1"

ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
WESLEY JAY LEWIS
No. 23358
03-21-25

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

SURFACE WASTING PUMP STATION SECTIONS

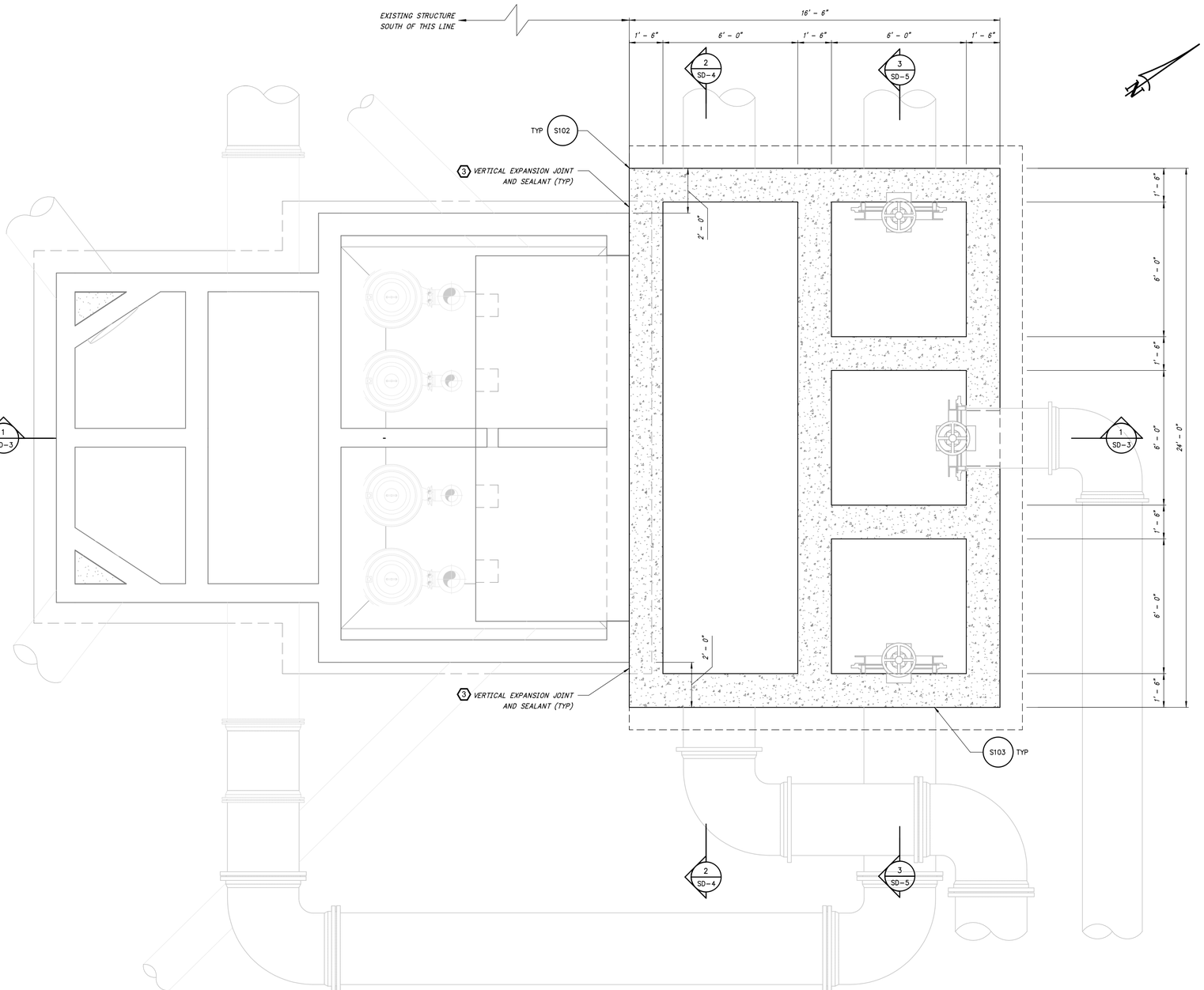
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 3/8" = 1'-0"
DESIGNED BY: WJL
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SC-6

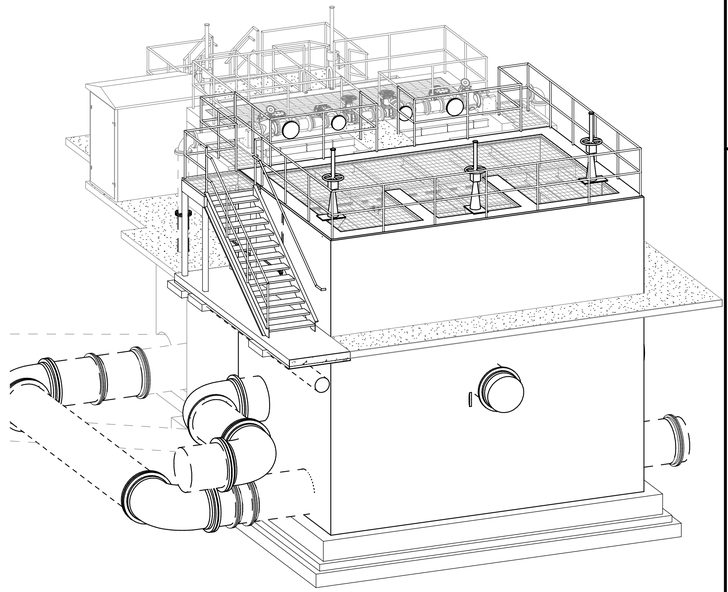
BID DRAWINGS
MARCH 21, 2025

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 2:42:21 PM / DKS / SURFACE WASTING PUMP STATION



SECONDARY CLARIFIER DISTRIBUTION BOX
BOTTOM PLAN

DETAIL A
3/8" = 1'-0"



ISOMETRIC/3D
N.T.S.

NOTES:

1. *REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.*
2. *COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].*
3. *ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.*

KEYED NOTES:

1. *GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE SELECT BACKFILL MATERIAL.*
2. *12" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED, AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.*
3. *INSTALL VERTICAL EXPANSION JOINT AND SEALANT AT INTERSECTION OF ALL EXISTING AND PROPOSED SECONDARY CLARIFIER DISTRIBUTION BOX WALLS.*

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8398
BRETT D. PEEL

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

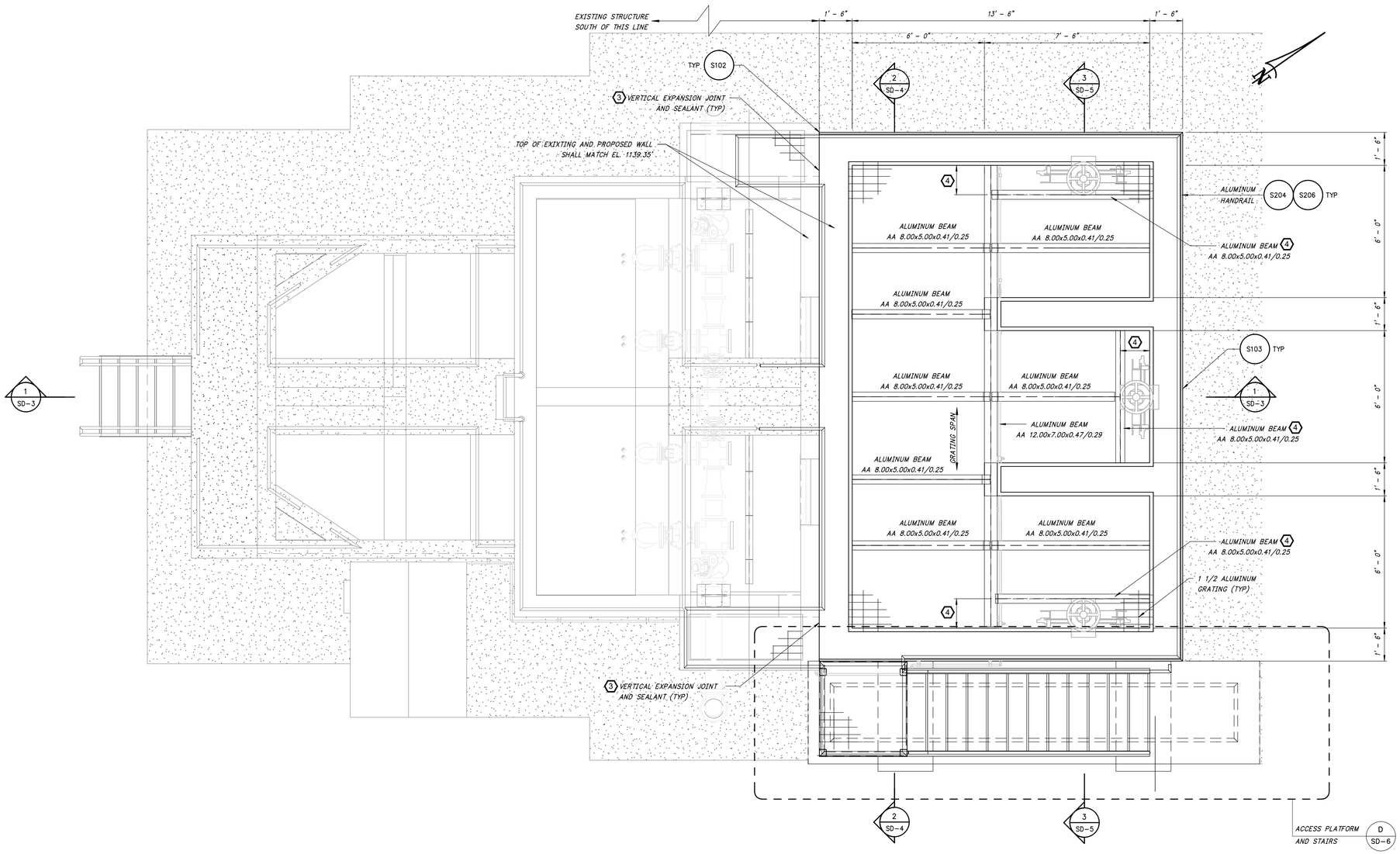
SECONDARDY CLARIFIER DISTRIBUTION BOX DETAIL

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE:	MARCH 2025
SCALE:	3/8" = 1'-0"
DESIGNED BY:	BDP
DRAWN BY:	CES
HWEI NO.:	2021037
FILENAME:	WWRF21037-ST

SHEET NO.
SD–1

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 2:55:04 PM / CES / SECONDARDY CLARIFIER DISTRIBUTION BOX



SECONDARY CLARIFIER DISTRIBUTION BOX
TOP PLAN

DETAIL B
3/8" = 1'-0"

NOTES:

1. *REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.*
2. *COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].*
3. *ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.*

KEYED NOTES:

1. *GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE SELECT BACKFILL MATERIAL.*
2. *12" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED, AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.*
3. *INSTALL VERTICAL EXPANSION JOINT AND SEALANT AT INTERSECTION OF ALL EXISTING AND PROPOSED SECONDARY CLARIFIER DISTRIBUTION BOX WALLS.*
4. *CONTRACTOR SHALL COORDINATE THIS DIMENSION WITH THE SLIDE GATE MANUFACTURER. THE GRATING OPENING SHALL FACILITATE INSTALLATION, OPERATION, AND REMOVAL OF THE SLIDE GATE.*

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8398
BRENT D. PEEK
3/20/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

SECONDARY CLARIFIER DISTRIBUTION BOX DETAIL

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 3/8" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME: WRRF21037-ST

SHEET NO.
SD-2

BID DRAWINGS
MARCH 21, 2025

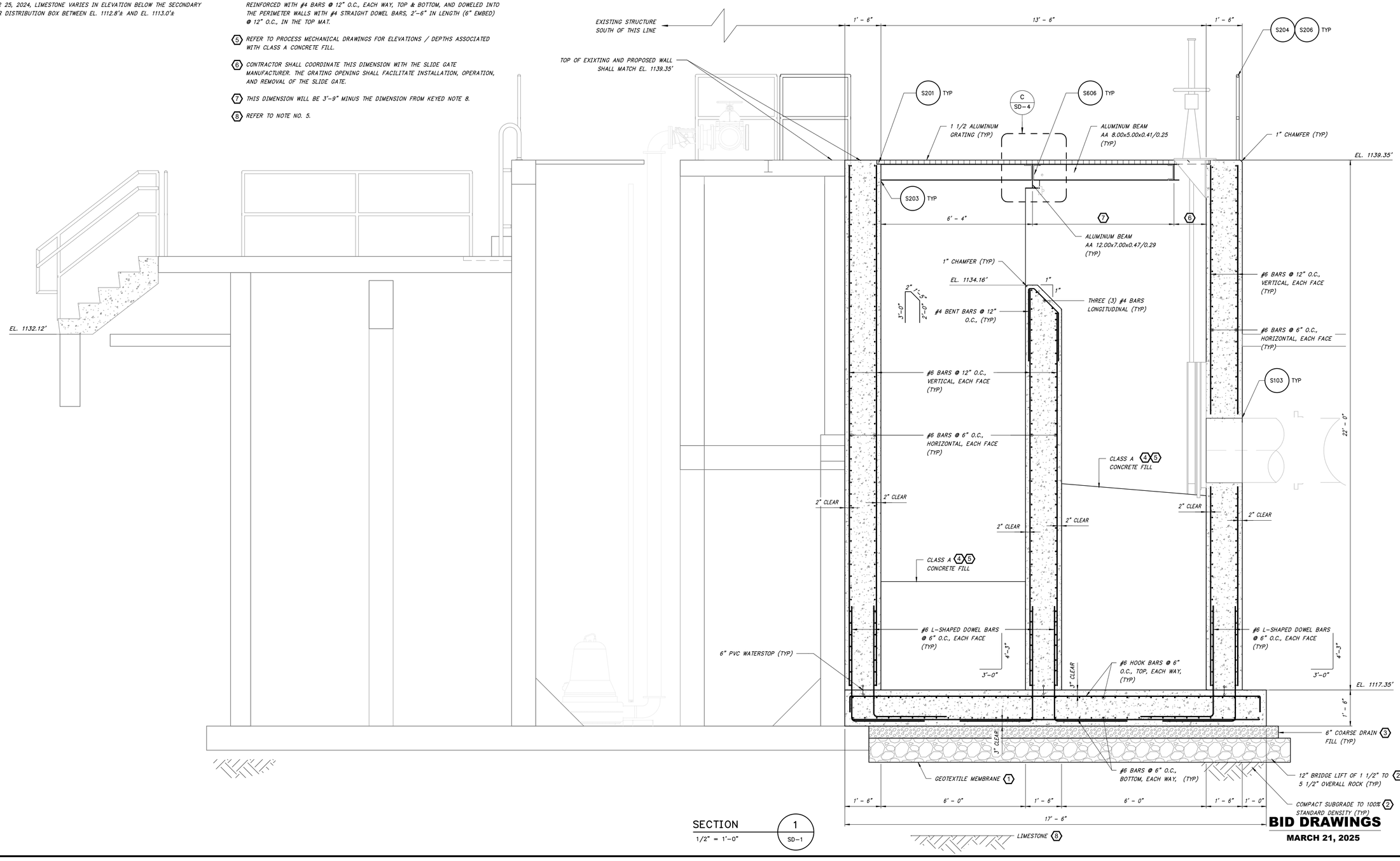
Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WRRF21037-ST.rvt 3/20/2025 2:55:05 PM / CES / SECONDARDY CLARITIER DISTRIBUTION BOX

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES PER LIFT].
3. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.
4. REFER TO DRAWING SZ-3 FOR TYPICAL ACCESS STAIR PLATFORM AND STAIR DETAILS.
5. ACCORDING TO THE GEOTECHNICAL REPORT PREPARED BY GTS, INC., REVISED NOVEMBER 25, 2024, LIMESTONE VARIES IN ELEVATION BELOW THE SECONDARY CLARIFIER DISTRIBUTION BOX BETWEEN EL. 1112.8'± AND EL. 1113.0'±

KEYED NOTES:

1. GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE SELECT BACKFILL MATERIAL.
2. 12" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED, AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.
3. REFER TO NOTE NO. 2.
4. ALTERNATIVELY TO CLASS A CONCRETE FILL, THE CONTRACTOR MAY ELECT TO SUBSTITUTE COARSE DRAIN FILL PLACED IN MAXIMUN 6" LIFTS AND COMPACTED WITH TWO (2) PASSES OF A VIBRATORY PLATE PER LIFT PLUS A 12" CONCRETE SLAB REINFORCED WITH #4 BARS @ 12" O.C., EACH WAY, TOP & BOTTOM, AND DOWELED INTO THE PERIMETER WALLS WITH #4 STRAIGHT DOWEL BARS, 2'-6" IN LENGTH (6" EMBED) @ 12" O.C., IN THE TOP MAT.
5. REFER TO PROCESS MECHANICAL DRAWINGS FOR ELEVATIONS / DEPTHS ASSOCIATED WITH CLASS A CONCRETE FILL.
6. CONTRACTOR SHALL COORDINATE THIS DIMENSION WITH THE SLIDE GATE MANUFACTURER. THE GRATING OPENING SHALL FACILITATE INSTALLATION, OPERATION, AND REMOVAL OF THE SLIDE GATE.
7. THIS DIMENSION WILL BE 3'-9" MINUS THE DIMENSION FROM KEYED NOTE 8.
8. REFER TO NOTE NO. 5.



SECTION 1/SD-1
1/2" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8398
BRETT D. PEEL
SURVEYED

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS
SECONDARY CLARIFIER DISTRIBUTION BOX SECTION
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE:	MARCH 2025
SCALE:	1/2" = 1'-0"
DESIGNED BY:	BDP
DRAWN BY:	CES
HWEI NO.:	2021037
FILENAME:	WWRF21037-ST

SHEET NO.
SD-3

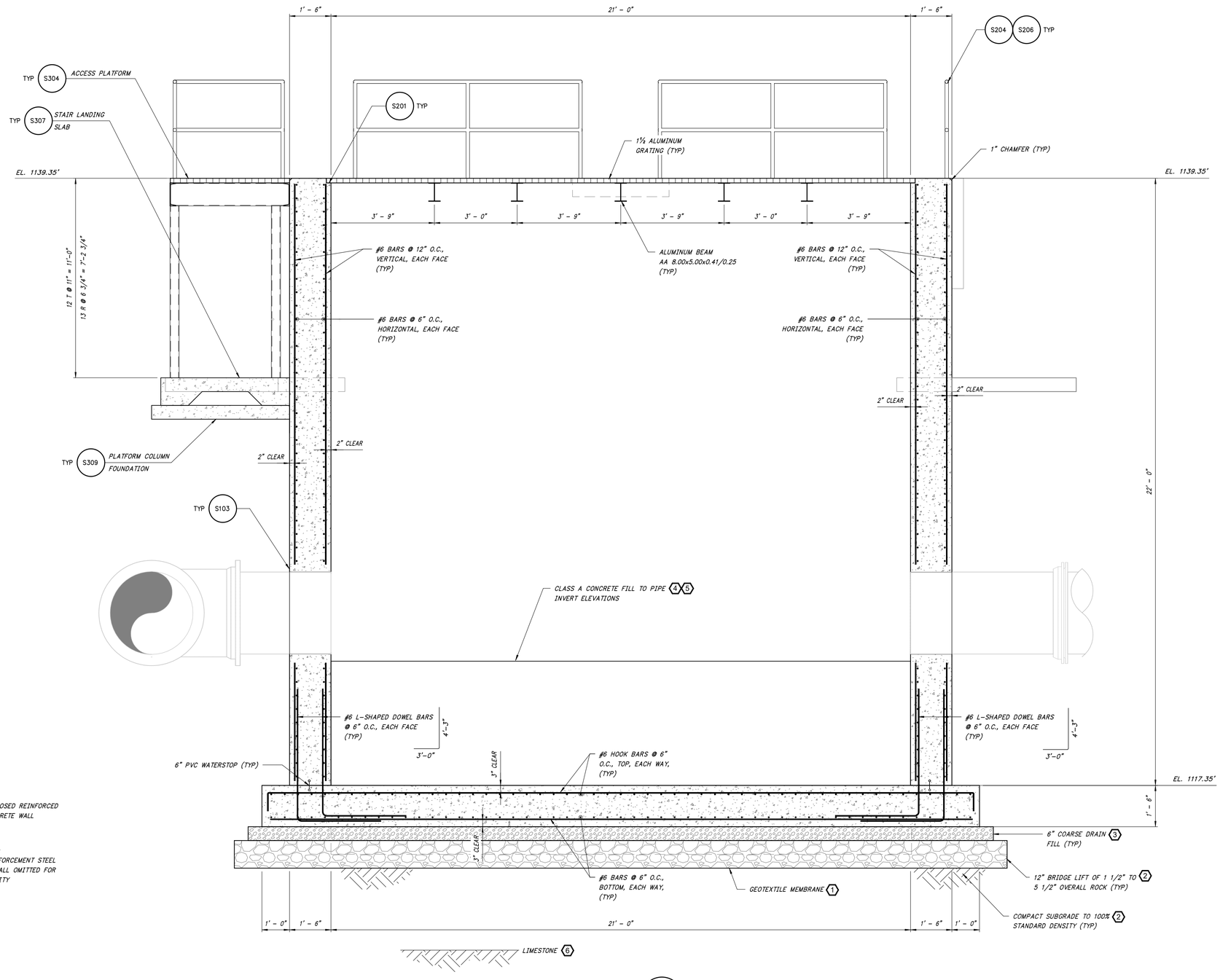
Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 2:55:05 PM / CES / SECONDARDY CLARIFIER DISTRIBUTION BOX

NOTES:

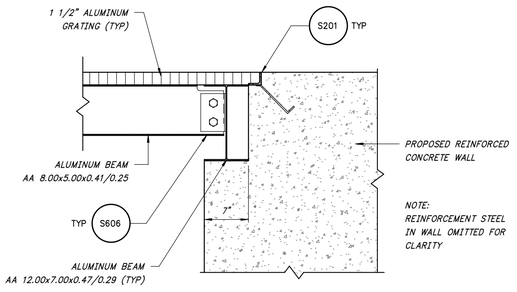
1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].
3. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.
4. REFER TO DRAWING SZ-3 FOR TYPICAL ACCESS STAIR PLATFORM AND STAIR DETAILS.
5. ACCORDING TO THE GEOTECHNICAL REPORT PREPARED BY GTS, INC., REVISED NOVEMBER 25, 2024, LIMESTONE VARIES IN ELEVATION BELOW THE SECONDARY CLARIFIER DISTRIBUTION BOX BETWEEN EL. 1112.8'± AND EL. 1113.0'±

KEYED NOTES:

1. GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE SELECT BACKFILL MATERIAL.
2. 12" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED, AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.
3. REFER TO NOTE NO. 2
4. ALTERNATIVELY TO CLASS A CONCRETE FILL, THE CONTRACTOR MAY ELECT TO SUBSTITUTE COARSE DRAIN FILL PLACED IN MAXIMUN 6" LIFTS AND COMPACTED WITH TWO (2) PASSES OF A VIBRATORY PLATE PER LIFT PLUS A 12" CONCRETE SLAB REINFORCED WITH #4 BARS @ 12" O.C., EACH WAY, TOP & BOTTOM, AND DOWELED INTO THE PERIMETER WALLS WITH #4 STRAIGHT DOWEL BARS, 2'-6" IN LENGTH (6" EMBED) @ 12" O.C., IN THE TOP MAT.
5. REFER TO PROCESS MECHANICAL DRAWINGS FOR ELEVATIONS / DEPTHS ASSOCIATED WITH CLASS A CONCRETE FILL.
6. REFER TO NOTE NO. 5



SECTION 2 / 1/2" = 1'-0" (SD-1)



DETAIL C / 1" = 1'-0" (SD-3)

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE
REVISION

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8398 BRENT D. PEEK

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS
SECONDARDY CLARIFIER DISTRIBUTION BOX SECTION
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: As indicated
DESIGNED BY: BDP
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO. SD-4

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 2:55:06 PM / CES / SECONDARDY CLARIFIER DISTRIBUTION BOX

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.

2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].

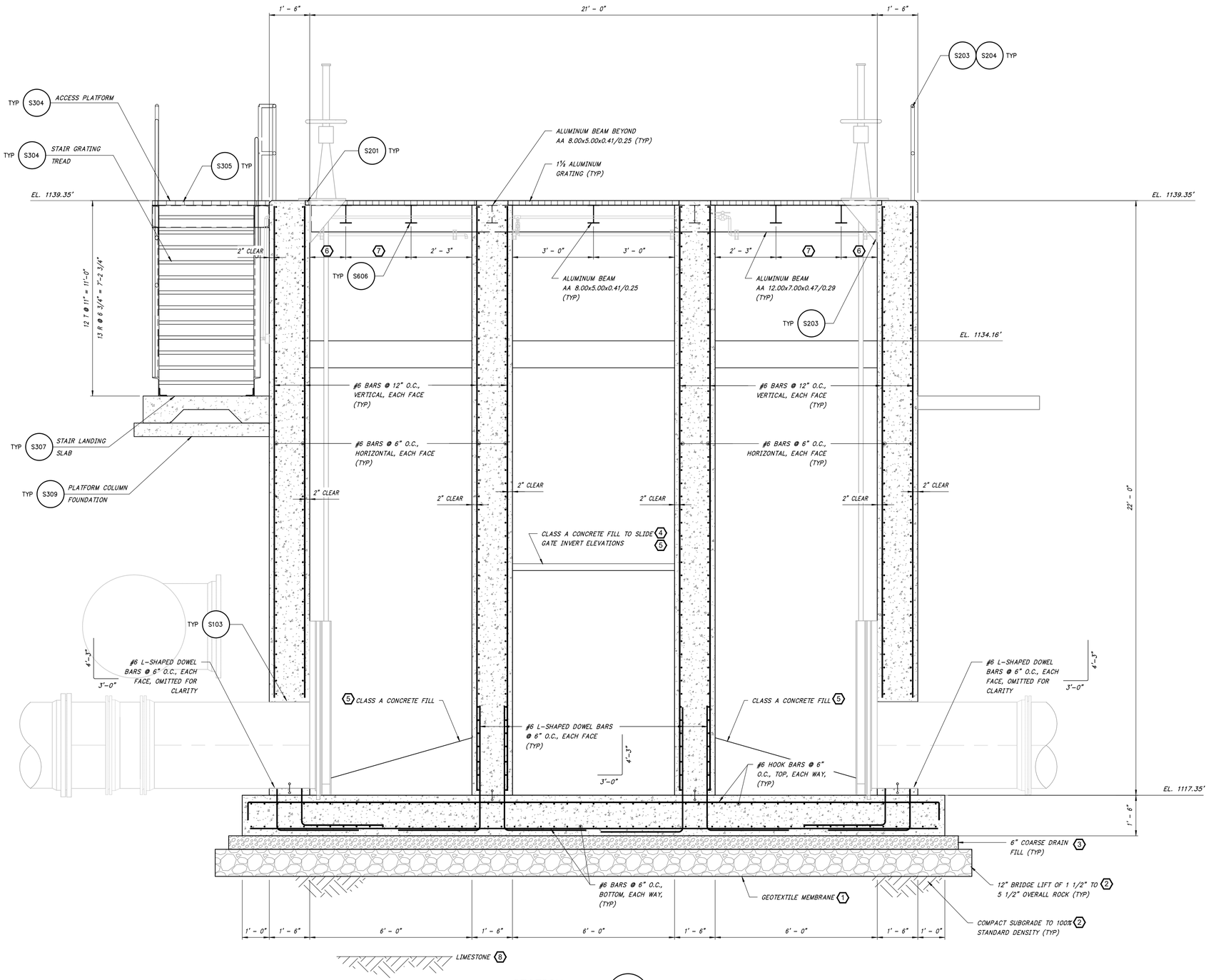
3. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

4. REFER TO DRAWING S2-3 FOR TYPICAL ACCESS STAIR PLATFORM AND STAIR DETAILS.

5. ACCORDING TO THE GEOTECHNICAL REPORT PREPARED BY GTS, INC., REVISED NOVEMBER 25, 2024, LIMESTONE VARIES IN ELEVATION BELOW THE SECONDARY CLARIFIER DISTRIBUTION BOX BETWEEN EL. 1112.8'± AND EL. 1113.0'±

KEYED NOTES:

1. GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE SELECT BACKFILL MATERIAL.
2. 12" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED, AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.
3. REFER TO NOTE NO. 2.
4. ALTERNATIVELY TO CLASS A CONCRETE FILL, THE CONTRACTOR MAY ELECT TO SUBSTITUTE COARSE DRAIN FILL PLACED IN MAXIMUN 6" LIFTS AND COMPACTED WITH TWO (2) PASSES OF A VIBRATORY PLATE PER LIFT PLUS A 12" CONCRETE SLAB REINFORCED WITH #4 BARS @ 12" O.C., EACH WAY, TOP & BOTTOM, AND DOWELED INTO THE PERIMETER WALLS WITH #4 STRAIGHT DOWEL BARS, 2'-6" IN LENGTH (6" EMBED) @ 12" O.C., IN THE TOP MAT.
5. REFER TO PROCESS MECHANICAL DRAWINGS FOR ELEVATIONS / DEPTHS ASSOCIATED WITH CLASS A CONCRETE FILL.
6. CONTRACTOR SHALL COORDINATE THIS DIMENSION WITH THE SLIDE GATE MANUFACTURER. THE GRATING OPENING SHALL FACILITATE INSTALLATION, OPERATION, AND REMOVAL OF THE SLIDE GATE.
7. THIS DIMENSION WILL BE 3'-9" MINUS THE DIMENSION FROM KEYED NOTE 8.
8. REFER TO NOTE NO. 5.



SECTION 3
1/2" = 1'-0" SD-1

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8398 BRENT D. PEEK 10-31-2025

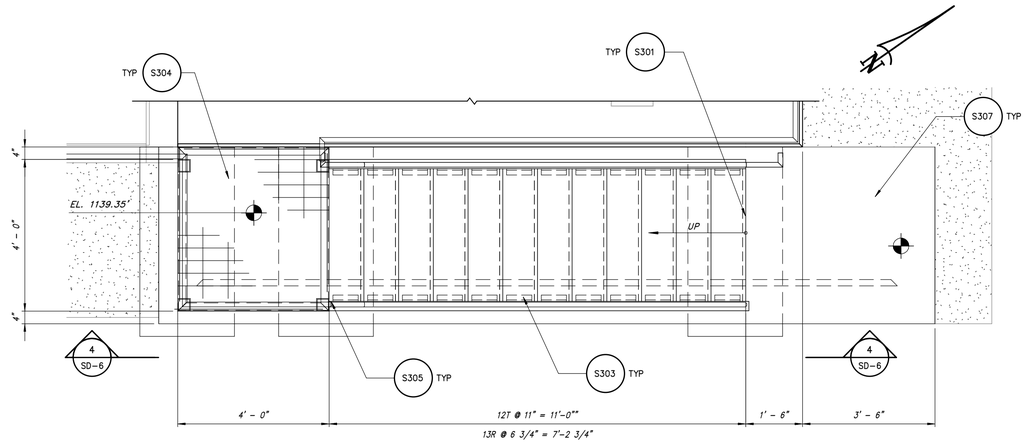
HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS
SECONDARY CLARIFIER DISTRIBUTION BOX SECTION
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SD-5

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 2:55:07 PM / CES / SECONDARY CLARIFIER DISTRIBUTION BOX



SECONDARY CLARIFIER DISTRIBUTION BOX
ACCESS STAIR PLAN

DETAIL D / 1/2" = 1'-0" / SD-2

KEYED NOTES:

1. REFER TO STANDARD DETAIL DRAWINGS FOR STANDARD STRUCTURAL DETAILS ASSOCIATED WITH COLUMN SUPPORTS AND FOUNDATIONS FOR ELEVATED ACCESS PLATFORMS.

SECTION 4 / 1/2" = 1'-0" / SD-6

BID DRAWINGS
MARCH 21, 2025

1" ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8398 BRENT D. PEEVEY

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

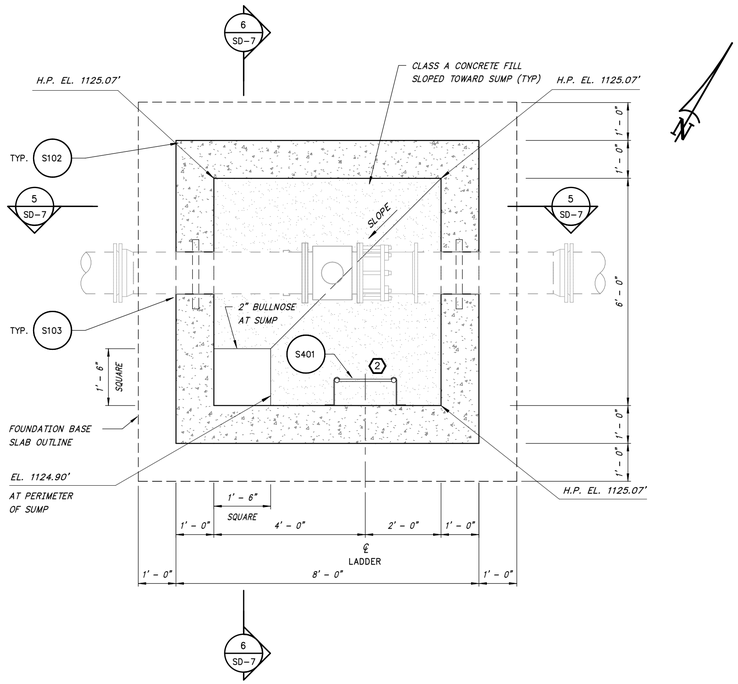
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

SECONDARY CLARIFIER DISTRIBUTION BOX ACCESS STAIR
DETAIL AND SECTION
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

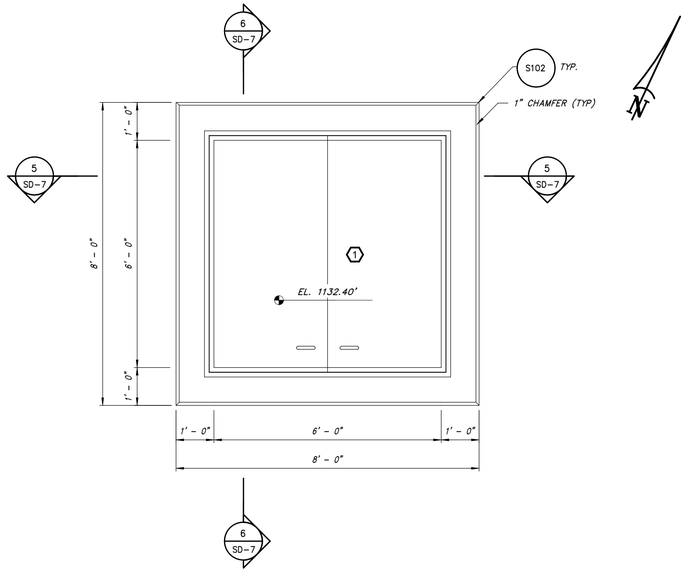
SHEET NO. SD-6

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 2:55:08 PM / CES / SECONDARY CLARIFIER DISTRIBUTION



EXISTING RAS PUMP STATION FLOW METER VAULT NO. 1
BOTTOM PLAN

DETAIL C
1/2" = 1'-0"



EXISTING RAS PUMP STATION FLOW METER VAULT NO. 1
TOP PLAN

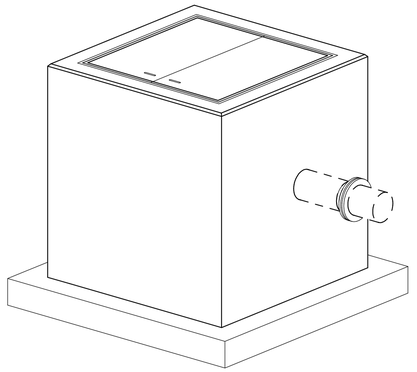
DETAIL D
1/2" = 1'-0"

NOTES:

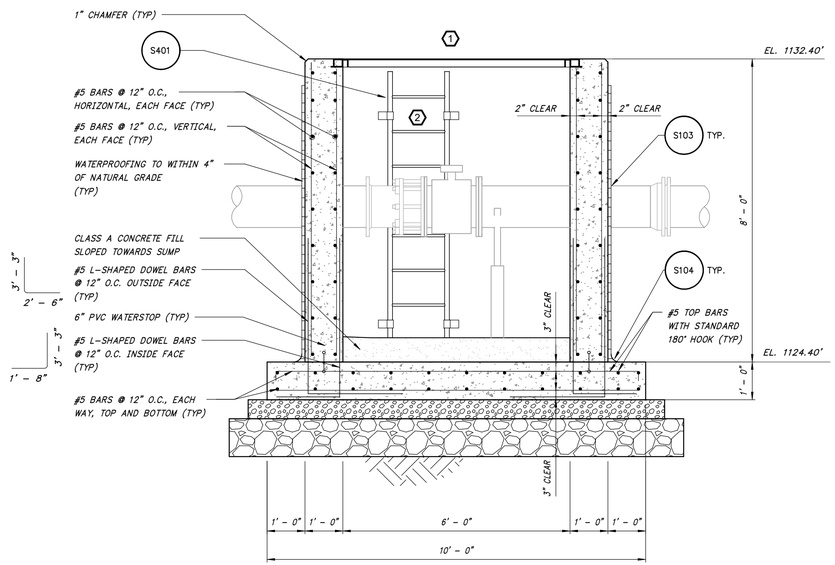
1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE (MINIMIM OF TWO (2) PASSES PER LIFT).
3. REFER TO SPECIFICATION SECTION 07110 FOR WATERPROOFING OF BELOW GRADE WALLS.
4. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

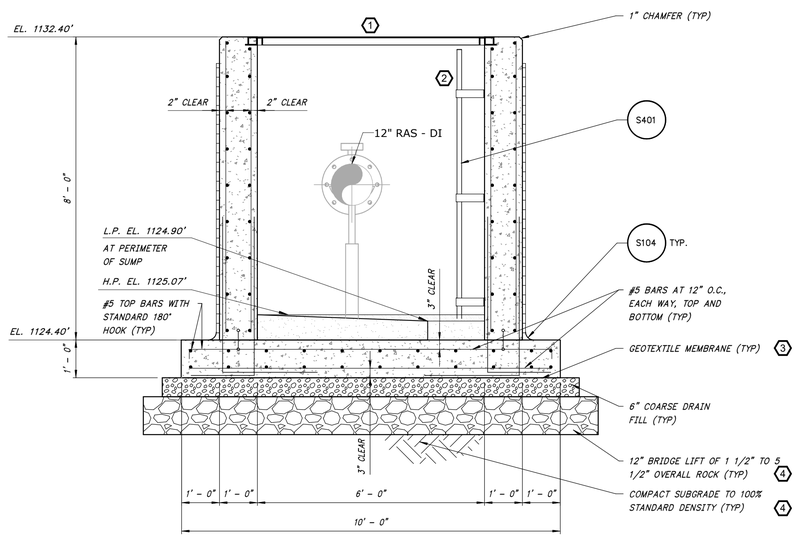
1. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. H2W7272, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
2. ALUMINUM LADDER SHALL BE HALLIDAY PRODUCTS SERIES L1B AND SHALL INCLUDE SERIES L1E LADDER EXTENSION, OR EQUAL.
3. GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE BRIDGE LIFT.
4. 12" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.



ISOMETRIC/3D
N.T.S.



SECTION 5
1/2" = 1'-0"
SD-7



SECTION 6
1/2" = 1'-0"
SD-7

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
WESLEY JAY LEWIS
No. 23358

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

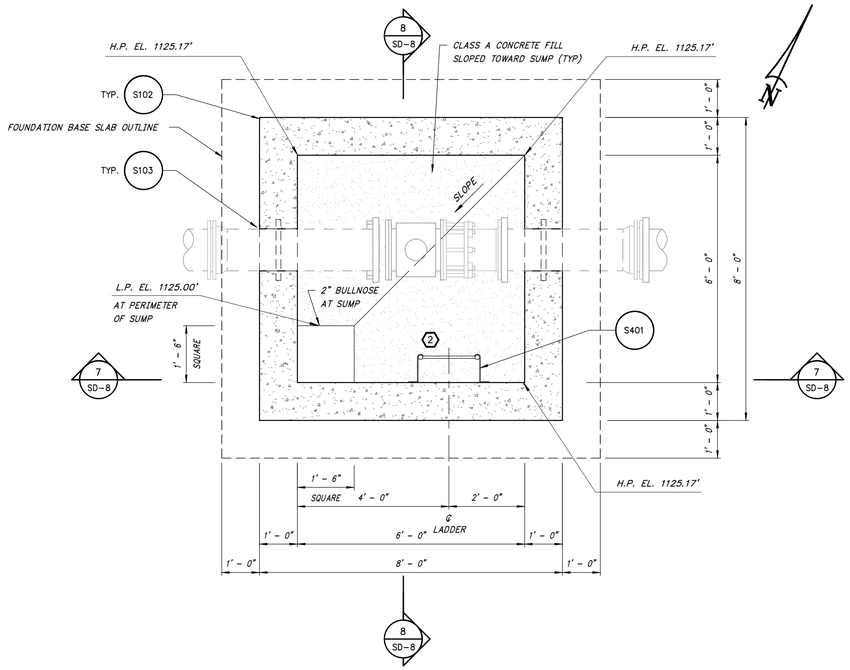
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE
RECOVERY FACILITY IMPROVEMENTS

EXISTING RAS PUMP STATION
FLOW METER VAULT NO. 1
DETAILS AND SECTIONS
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: JSD
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

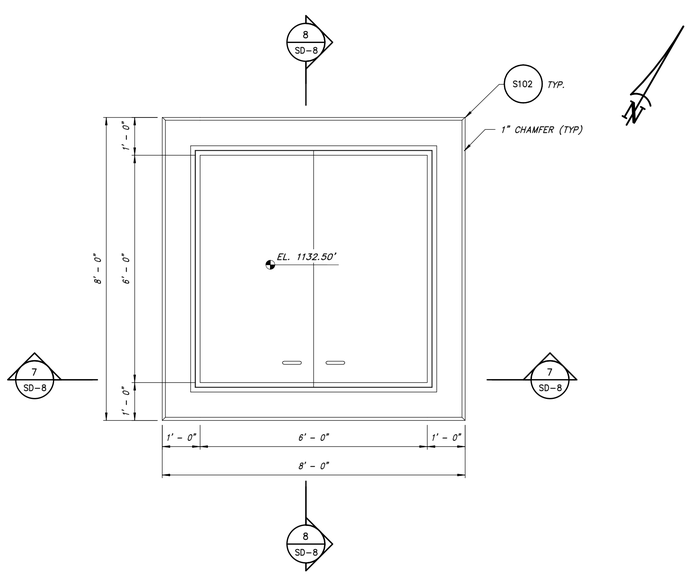
SHEET NO.
SD-7

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 2:55:09 PM / DKS / EXISTING RAS PUMP STATION



EXISTING RAS PUMP STATION FLOW METER VAULT NO. 2
BOTTOM PLAN

DETAIL E
1/2" = 1'-0"



EXISTING RAS PUMP STATION FLOW METER VAULT NO. 2
TOP PLAN

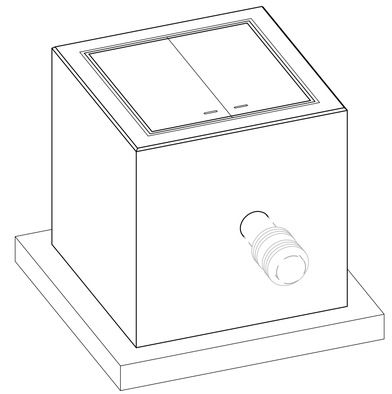
DETAIL F
1/2" = 1'-0"

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE (MINIMIM OF TWO (2) PASSES PER LIFT).
3. REFER TO SPECIFICATION SECTION 07110 FOR WATERPROOFING OF BELOW GRADE WALLS.
4. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

1. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. H2W7272, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
2. ALUMINUM LADDER SHALL BE HALLIDAY PRODUCTS SERIES L1B AND SHALL INCLUDE SERIES L1E LADDER EXTENSION, OR EQUAL.
3. GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE BRIDGE LIFT.
4. 12" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.



ISOMETRIC/3D
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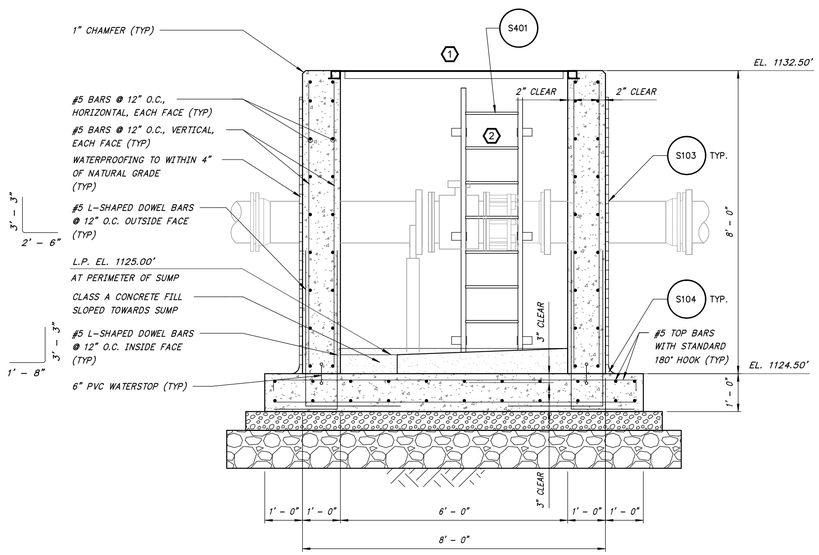
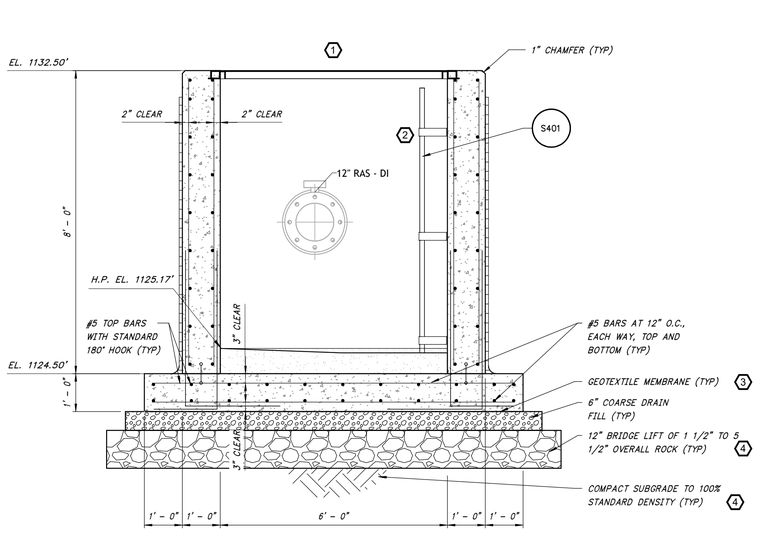


SECTION 7
1/2" = 1'-0"



SECTION 8
1/2" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
WESLEY JAY LEWIS
No. 23358
03-21-25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

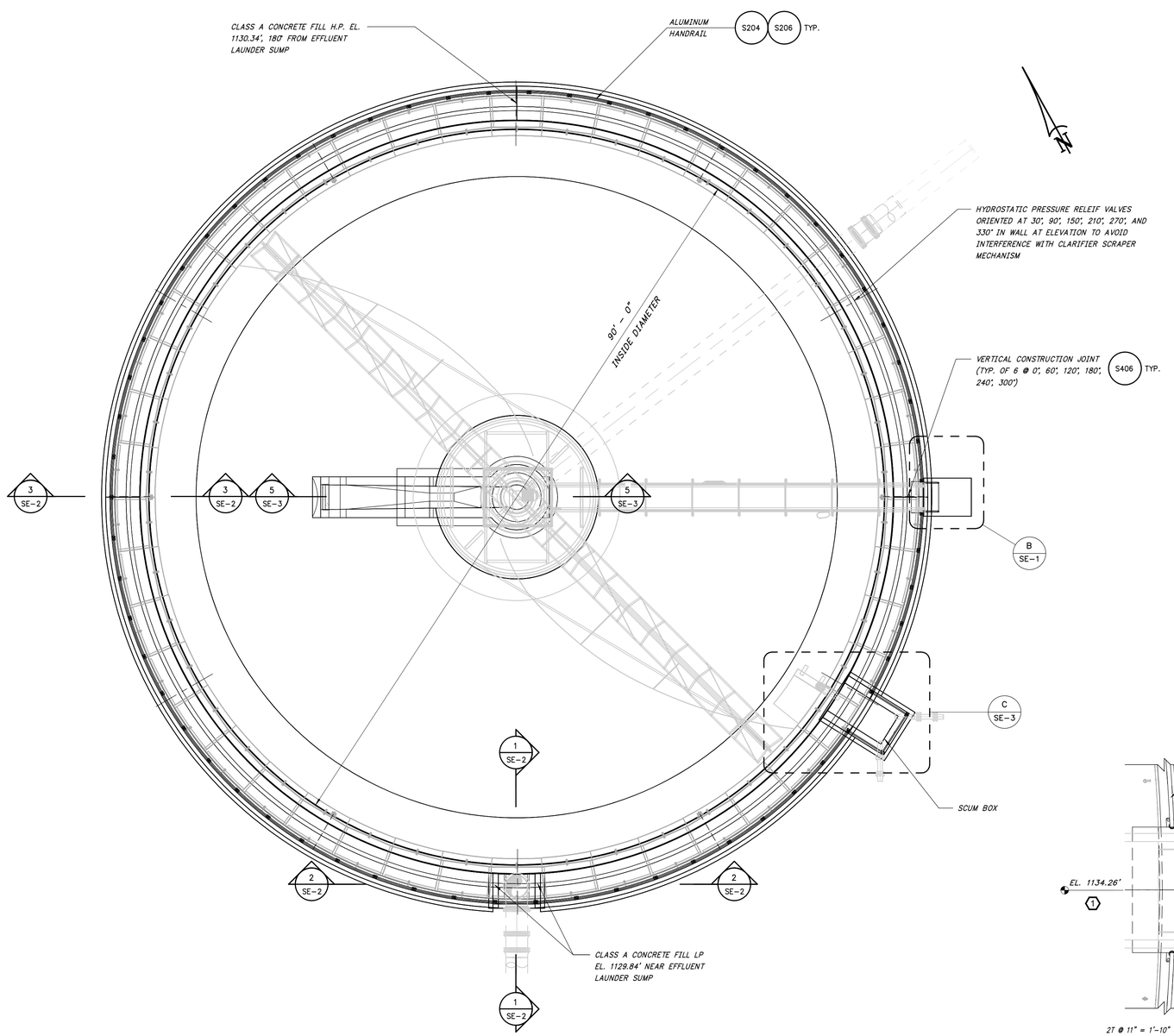
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE
RECOVERY FACILITY IMPROVEMENTS

EXISTING RAS PUMP STATION
FLOW METER VAULT NO. 2
DETAILS AND SECTIONS
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: JSD
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

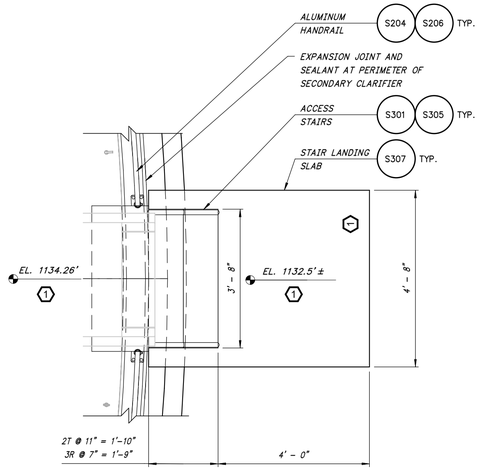
SHEET NO.
SD-8

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 2:55:10 PM / DKS / EXISTING RAS PUMP STATION



SECONDARY CLARIFIER NO. 1

DETAIL A
1/8" = 1'-0"



SECONDARY CLARIFIER NO. 1 ACCESS STAIRS

DETAIL B
1/2" = 1'-0"

NOTES:

1. REFER TO MECHANICAL DRAWINGS FOR CORRECT ORIENTATION OF CLARIFIER EQUIPMENT.
2. CONTRACTOR SHALL COORDINATE INSTALLATION OF CLARIFIER EQUIPMENT WITH THE MANUFACTURER.
3. CONTRACTOR SHALL SWEEP 2" GROUT IN CLARIFIER FLOOR SLAB WITH CLARIFIER MECHANISM.
4. REFER TO DETAIL S702 ON PLAN SHEET S2-7 FOR STAGGERING OF HORIZONTAL BAR SPLICES.
5. REFER TO MECHANICAL DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.
6. REFER TO SPECIFICATION SECTION 03740 FOR MODIFICATION OR REPAIR OF EXISTING CONCRETE.
7. ACCESS STAIRS AND PLATFORMS SHALL BE CONSTRUCTED OF GALVANIZED STEEL SUPPORTS AND ALUMINUM HANDRAIL AND GRATING. APPLY ONE (1) COAT OF COAL TAR EPOXY TO PROVIDE DIELECTRIC SEPARATION BETWEEN ALUMINUM AND GALVANIZED STEEL.
8. CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF ACCESS STAIRS AND PLATFORMS IN ACCORDANCE WITH THE DESIGN CRITERIA IN SPECIFICATION SECTION 05120. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATION OF STRUCTURAL OR MISCELLANIOUS STEEL.
9. REFER TO DETAILS S301 THROUGH S307 ON PLAN SHEET S2-3 FOR ACCESS STAIR AND PLATFORM DETAILS.
10. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.
11. COARSE DRAIN FILL PER ASTM SPECIFICATION C33 (3/4" MAX. AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 12" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES].
12. BASED ON GEOTECHNICAL INVESTIGATION, IT IS ANTICIPATED THAT LIMESTONE SUBGRADE WILL BE ENCOUNTERED AT APPROXIMATE EL. 1113.00'.

KEYED NOTES:

1. CONTRACTOR SHALL COORDINATE WITH SECONDARY CLARIFIER MANUFACTURER AND THE MISCELLANEOUS METALS FABRICATOR TO CONFIRM ALL DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATING THE ACCESS STAIRS.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8398
BRETT D. PEEL
SURVEYED

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

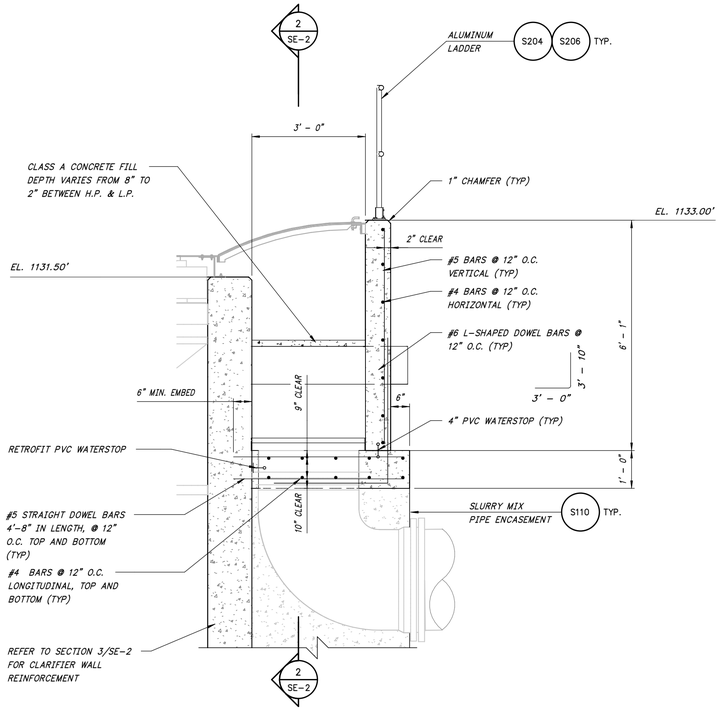
SECONDARY CLARIFIER NO. 1
DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE:	MARCH 2025
SCALE:	As indicated
DESIGNED BY:	BDP
DRAWN BY:	DKS
HWEI NO.:	2021037
FILENAME:	WWRF21037-ST

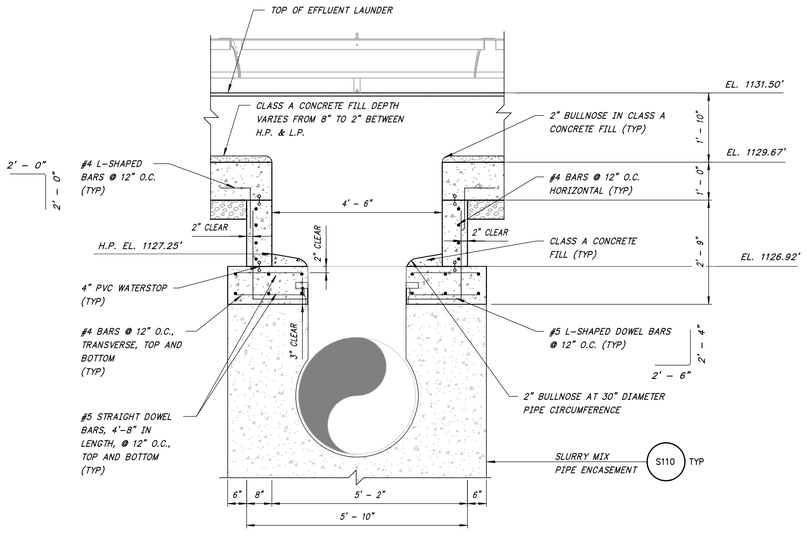
SHEET NO.
SE-1

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 3:27:20 PM / DKS / SECONDARY CLARIFIER NO. 1



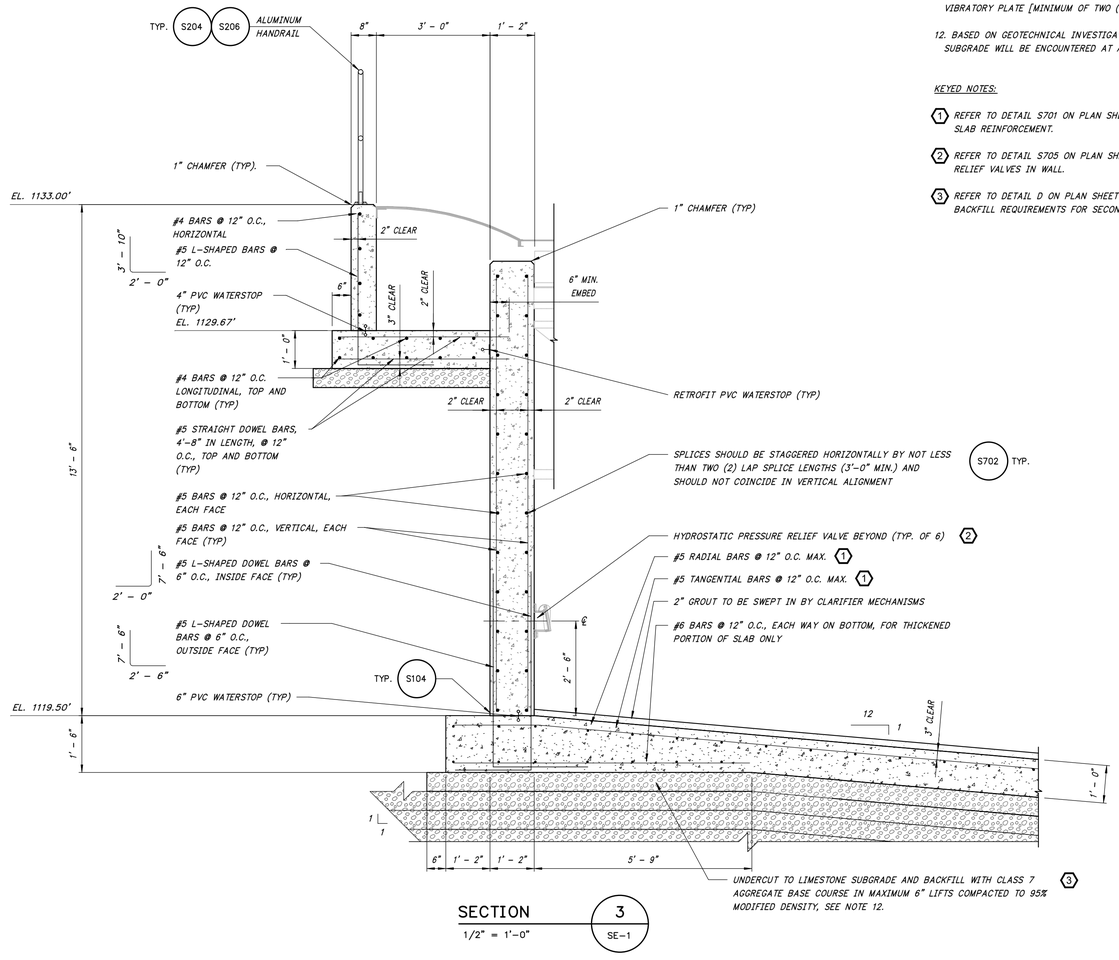
EFFLUENT LAUNDER SUMP

SECTION 1 — 1/2" = 1'-0" — SE-1



EFFLUENT LAUNDER SUMP

SECTION 2 — 1/2" = 1'-0" — SE-1



SECTION 3 — 1/2" = 1'-0" — SE-1

NOTES:

1. REFER TO MECHANICAL DRAWINGS FOR CORRECT ORIENTATION OF CLARIFIER EQUIPMENT.
2. CONTRACTOR SHALL COORDINATE INSTALLATION OF CLARIFIER EQUIPMENT WITH THE MANUFACTURER.
3. CONTRACTOR SHALL SWEEP 2" GROUT IN CLARIFIER FLOOR SLAB WITH CLARIFIER MECHANISM.
4. REFER TO DETAIL S702 ON PLAN SHEET SZ-7 FOR STAGGERING OF HORIZONTAL BAR SPLICES.
5. REFER TO MECHANICAL DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.
6. REFER TO SPECIFICATION SECTION 03740 FOR MODIFICATION OR REPAIR OF EXISTING CONCRETE.
7. ACCESS STAIRS AND PLATFORMS SHALL BE CONSTRUCTED OF GALVANIZED STEEL SUPPORTS AND ALUMINUM HANDRAIL AND GRATING. APPLY ONE (1) COAT OF COAL TAR EPOXY TO PROVIDE DIELECTRIC SEPARATION BETWEEN ALUMINUM AND GALVANIZED STEEL.
8. CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF ACCESS STAIRS AND PLATFORMS IN ACCORDANCE WITH THE DESIGN CRITERIA IN SPECIFICATION SECTION 05120. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATION OF STRUCTURAL OR MISCELLANIOUS STEEL.
9. REFER TO DETAILS S301 THROUGH S307 ON PLAN SHEET SZ-3 FOR ACCESS STAIR AND PLATFORM DETAILS.
10. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.
11. COARSE DRAIN FILL PER ASTM SPECIFICATION C33 (3/4" MAX. AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 12" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES].
12. BASED ON GEOTECHNICAL INVESTIGATION, IT IS ANTICIPATED THAT LIMESTONE SUBGRADE WILL BE ENCOUNTERED AT APPROXIMATE EL. 1113.00'.

KEYED NOTES:

1. REFER TO DETAIL S701 ON PLAN SHEET SZ-7 FOR SECONDARY CLARIFIER BASE SLAB REINFORCEMENT.
2. REFER TO DETAIL S705 ON PLAN SHEET SZ-7 FOR HYDROSTATIC PRESSURE RELIEF VALVES IN WALL.
3. REFER TO DETAIL D ON PLAN SHEET SE-4 FOR OVER-EXCAVATION AND BACKFILL REQUIREMENTS FOR SECONDARY CLARIFIER NO. 1.

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

© HAWKINS-WEIR ENGINEERS, INC. 2025

STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — No. 8398 — BRENT D. PEEK — 10-31-25

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

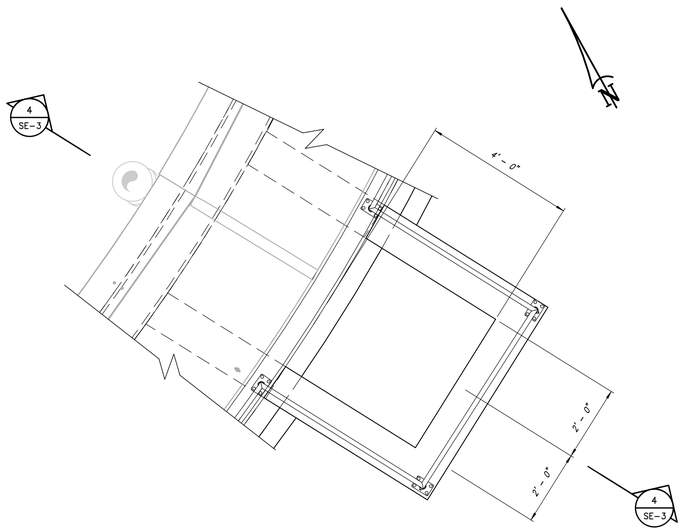
SECONDARY CLARIFIER NO. 1
SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME:

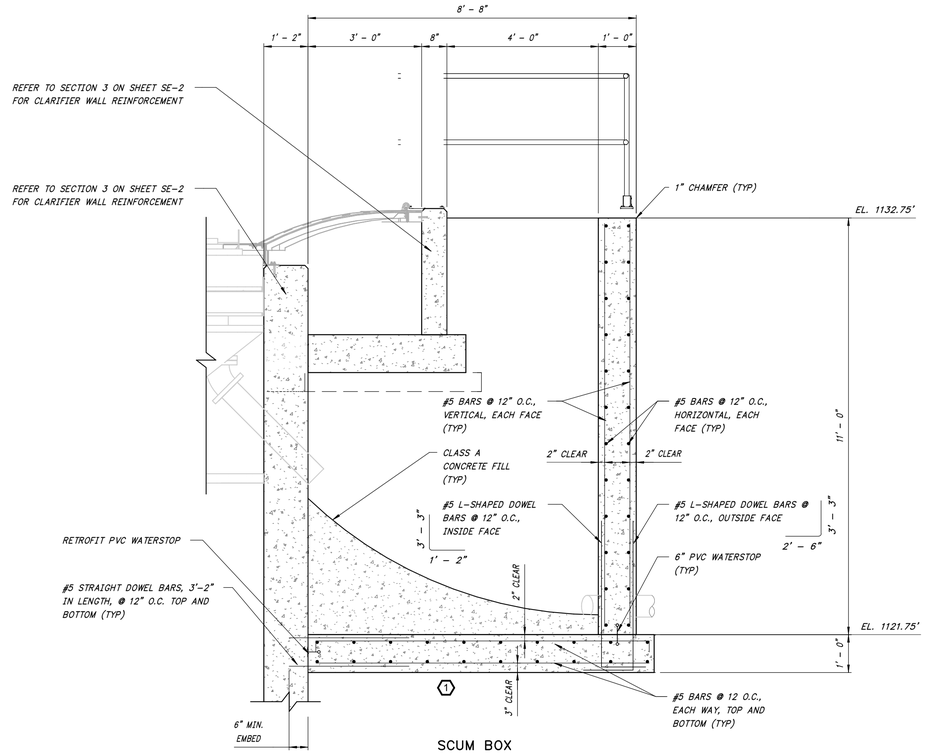
SHEET NO.
SE-2

Autodesk Docs://4101144 - Bentonville Water Resource Recovery Facility Improvements/NWRF21037-ST.rvt 3/20/2025 3:27:24 PM / DKS / SECONDARY CLARIFIER NO. 1



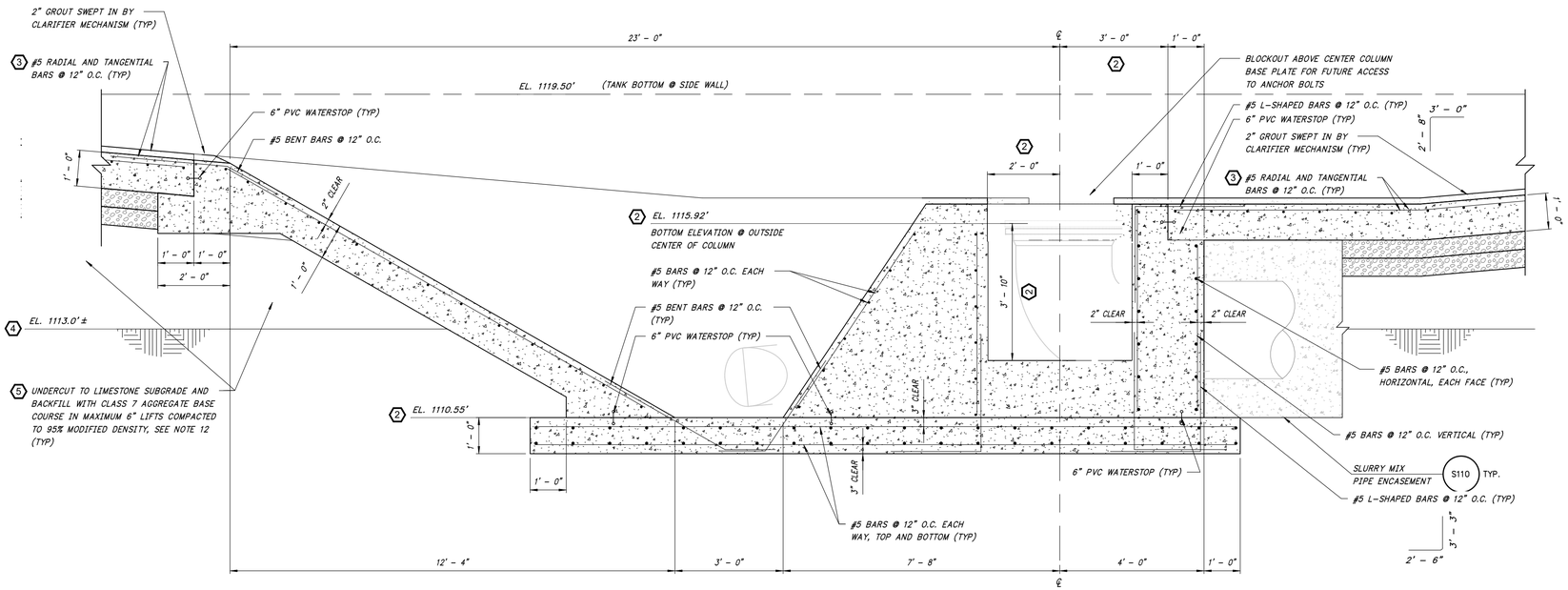
SCUM BOX

DETAIL C
1/2" = 1'-0" SE-1



SCUM BOX

SECTION 4
1/2" = 1'-0" SE-3



SECTION 5
1/2" = 1'-0" SE-1

NOTES:

1. *REFER TO MECHANICAL DRAWINGS FOR CORRECT ORIENTATION OF CLARIFIER EQUIPMENT.*
2. *CONTRACTOR SHALL COORDINATE INSTALLATION OF CLARIFIER EQUIPMENT WITH THE MANUFACTURER.*
3. *CONTRACTOR SHALL SWEEP 2" GROUT IN CLARIFIER FLOOR SLAB WITH CLARIFIER MECHANISM.*
4. *REFER TO DETAIL S702 ON PLAN SHEET SZ-7 FOR STAGGERING OF HORIZONTAL BAR SPLICES.*
5. *REFER TO MECHANICAL DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.*
6. *REFER TO SPECIFICATION SECTION 03740 FOR MODIFICATION OR REPAIR OF EXISTING CONCRETE.*
7. *ACCESS STAIRS AND PLATFORMS SHALL BE CONSTRUCTED OF GALVANIZED STEEL SUPPORTS AND ALUMINUM HANDRAIL AND GRATING. APPLY ONE (1) COAT OF COAL TAR EPOXY TO PROVIDE DIELECTRIC SEPARATION BETWEEN ALUMINUM AND GALVANIZED STEEL.*
8. *CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF ACCESS STAIRS AND PLATFORMS IN ACCORDANCE WITH THE DESIGN CRITERIA IN SPECIFICATION SECTION 05120. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATION OF STRUCTURAL OR MISCELLANIOUS STEEL.*
9. *REFER TO DETAILS S301 THROUGH S307 ON PLAN SHEET SZ-3 FOR ACCESS STAIR AND PLATFORM DETAILS.*
10. *ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.*
11. *COARSE DRAIN FILL PER ASTM SPECIFICATION C33 (3/4" MAX. AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 12" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES].*
12. *BASED ON GEOTECHNICAL INVESTIGATION, IT IS ANTICIPATED THAT LIMESTONE SUBGRADE WILL BE ENCOUNTERED AT APPROXIMATE EL. 1113.00'.*

KEYED NOTES

1. *BACKFILL SCUM BOX WITH SLURRY MIX PIPE ENCASEMENT*
2. *CONTRACTOR SHALL COORDINATE THESE DIMENSIONS AND ELEVATIONS WITH THE SECONDARY CLARIFIER MANUFACTURER.*
3. *REFER TO DETAIL S701 ON PLAN SHEET SZ-7 FOR SECONDARY CLARIFIER BASE SLAB REINFORCEMENT.*
4. *REFER TO NOTE NO. 12.*
5. *REFER TO DETAIL D ON PLAN SHEET SE-4 FOR OVER-EXCAVATION AND BACKFILL REQUIREMENTS FOR SECONDARY CLARIFIER NO. 1.*

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8398 BRETT D. PEEL 10-31-25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

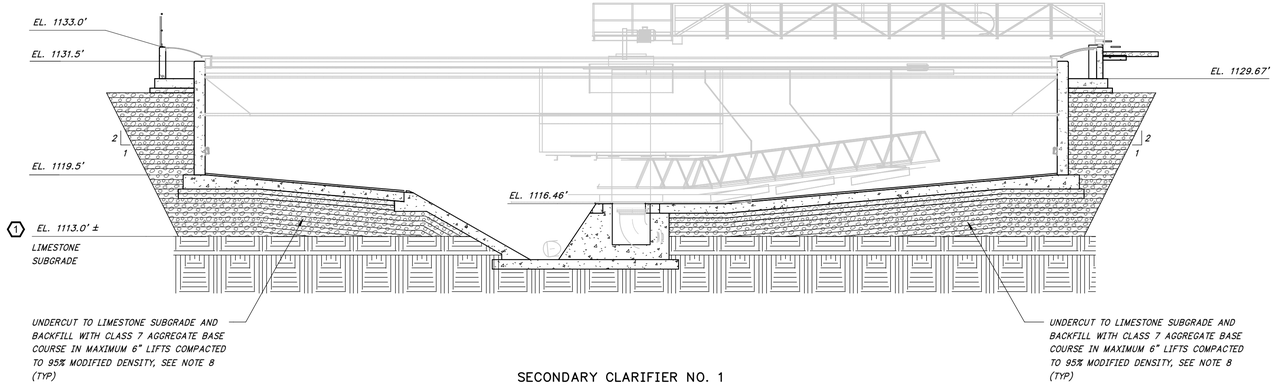
SECONDARY CLARIFIER NO. 1
DETAIL AND SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

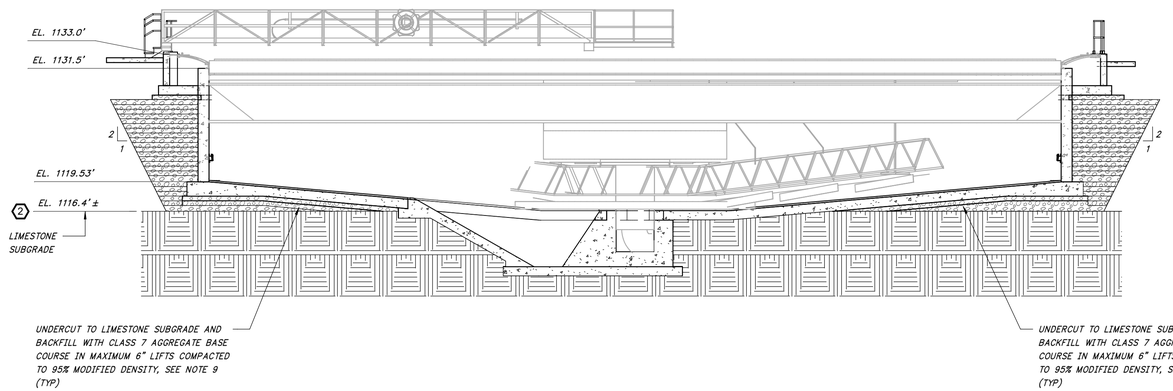
SHEET NO.
SE-3

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 3:27:27 PM / DKS / SECONDARY CLARIFIER NO. 1



SECONDARY CLARIFIER NO. 1

DETAIL D
1/8" = 1'-0"



SECONDARY CLARIFIER NO. 3

DETAIL E
1/8" = 1'-0"

NOTES:

1. *REFER TO MECHANICAL DRAWINGS FOR CORRECT ORIENTATION OF CLARIFIER EQUIPMENT.*
2. *CONTRACTOR SHALL COORDINATE INSTALLATION OF CLARIFIER EQUIPMENT WITH THE MANUFACTURER.*
3. *CONTRACTOR SHALL SWEEP 2" GROUT IN CLARIFIER FLOOR SLAB WITH CLARIFIER MECHANISM.*
4. *REFER TO MECHANICAL DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.*
5. *REFER TO SPECIFICATION SECTION 03740 FOR MODIFICATION OR REPAIR OF EXISTING CONCRETE.*
6. *ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.*
7. *COARSE DRAIN FILL PER ASTM SPECIFICATION C33 (3/4" MAX. AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 12" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES].*
8. *BASED ON GEOTECHNICAL INVESTIGATION, IT IS ANTICIPATED THAT LIMESTONE SUBGRADE WILL BE ENCOUNTERED AT APPROXIMATE EL. 1113.0'± ON SECONDARY CLARIFIER NO. 1.*
9. *BASED ON GEOTECHNICAL INVESTIGATION, IT IS ANTICIPATED THAT LIMESTONE SUBGRADE WILL BE ENCOUNTERED AT APPROXIMATE EL. 1116.4'± ON SECONDARY CLARIFIER NO. 3.*

KEYED NOTES:

1 *REFER TO NOTE NO. 8.*

2 *REFER TO NOTE NO. 9.*

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8398
BRENT D. PEEK
03/21/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

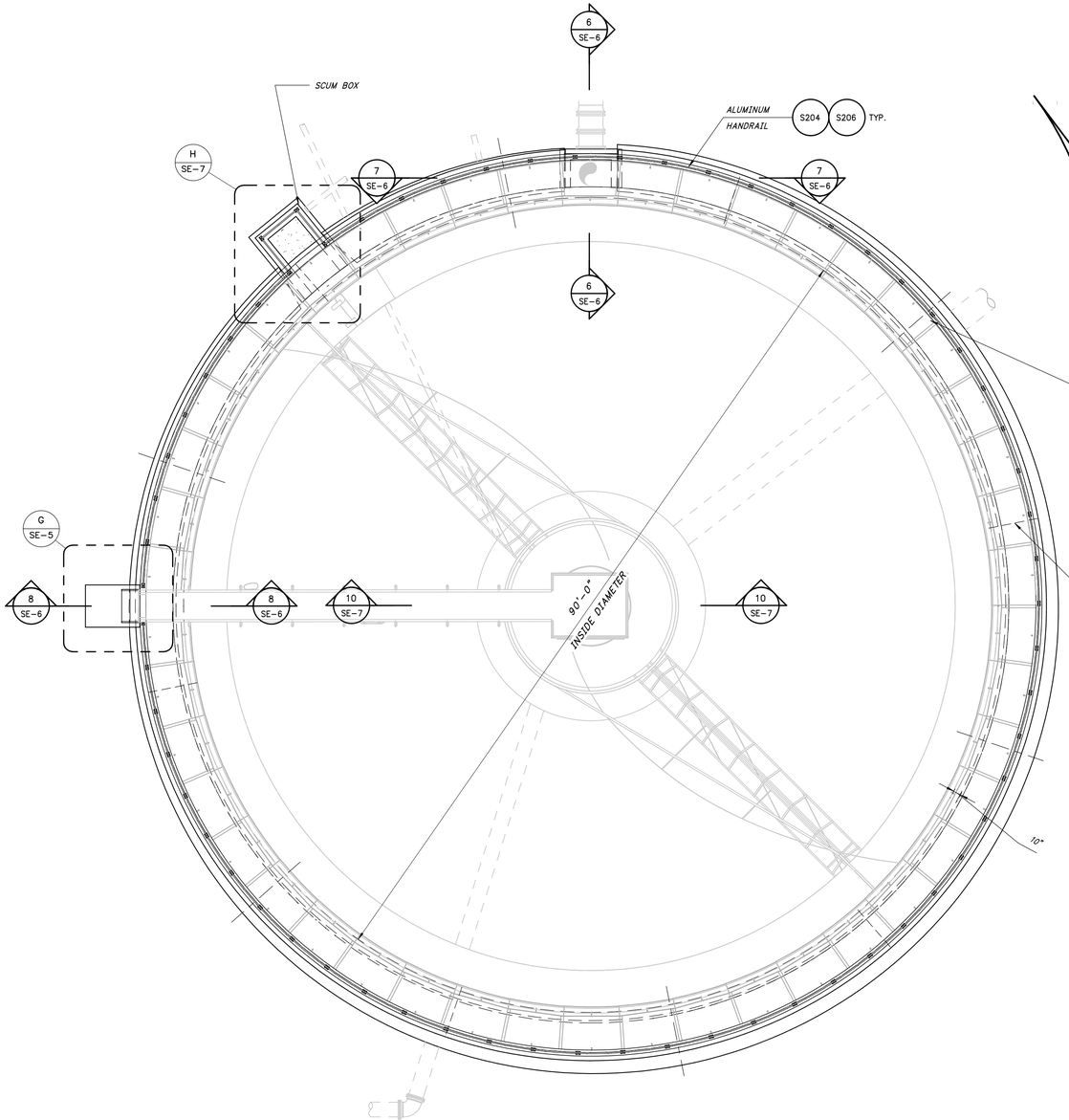
SECONDARY CLARIFIER NO. 1 AND NO. 3
DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/8" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

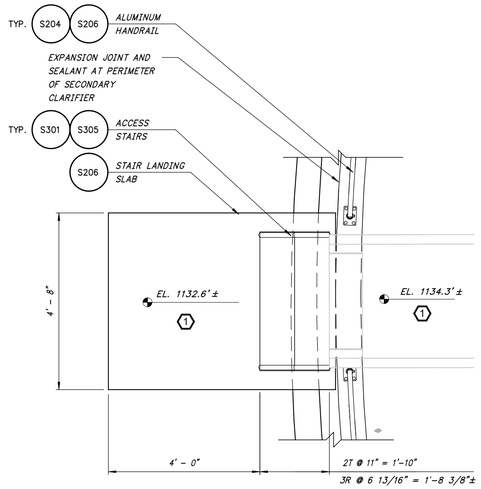
SHEET NO.
SE-4

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 3:27:29 PM / DKS / SECONDARY CLARIFIER NO. 1 AND NO. 3



SECONDARY CLARIFIER NO. 3

DETAIL F
1/8" = 1'-0"



SECONDARY CLARIFIER NO. 3

DETAIL G
1/2" = 1'-0"

NOTES:

1. REFER TO MECHANICAL DRAWINGS FOR CORRECT ORIENTATION OF CLARIFIER EQUIPMENT.
2. CONTRACTOR SHALL COORDINATE INSTALLATION OF CLARIFIER EQUIPMENT WITH THE MANUFACTURER.
3. CONTRACTOR SHALL SWEEP 2" GROUT IN CLARIFIER FLOOR SLAB WITH CLARIFIER MECHANISM.
4. REFER TO DETAIL S702 ON PLAN SHEET S2-7 FOR STAGGERING OF HORIZONTAL BAR SPLICES.
5. REFER TO MECHANICAL DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.
6. REFER TO SPECIFICATION SECTION 03740 FOR MODIFICATION OR REPAIR OF EXISTING CONCRETE.
7. ACCESS STAIRS AND PLATFORMS SHALL BE CONSTRUCTED OF GALVANIZED STEEL SUPPORTS AND ALUMINUM HANDRAIL AND GRATING. APPLY ONE (1) COAT OF COAL TAR EPOXY TO PROVIDE DIELECTRIC SEPARATION BETWEEN ALUMINUM AND GALVANIZED STEEL.
8. CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF ACCESS STAIRS AND PLATFORMS IN ACCORDANCE WITH THE DESIGN CRITERIA IN SPECIFICATION SECTION 05120. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATION OF STRUCTURAL OR MISCELLANIOUS STEEL.
9. REFER TO DETAILS S301 THROUGH S307 ON PLAN SHEET S2-3 FOR ACCESS STAIR AND PLATFORM DETAILS.
10. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.
11. COARSE DRAIN FILL PER ASTM SPECIFICATION C33 (3/4" MAX. AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 12" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES].
12. BASED ON GEOTECHNICAL INVESTIGATION, IT IS ANTICIPATED THAT LIMESTONE SUBGRADE WILL BE ENCOUNTERED AT APPROXIMATE EL. 1116.4'±.

KEYED NOTES:

1. CONTRACTOR SHALL COORDINATE WITH SECONDARY CLARIFIER MANUFACTURER AND THE MISCELLANEOUS METALS FABRICATOR TO CONFIRM ALL DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATING THE ACCESS STAIRS.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8398
BRENT D. PEEK

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

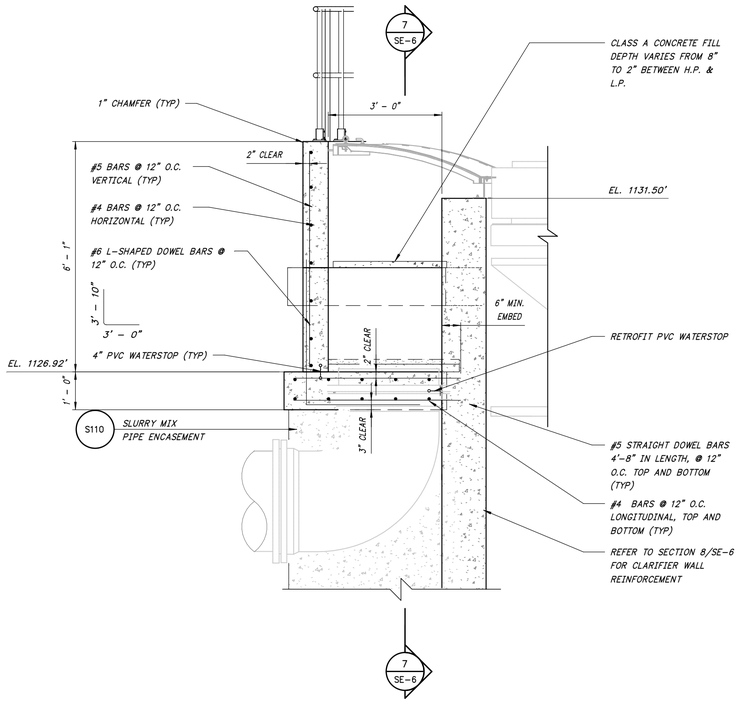
SECONDARY CLARIFIER NO. 3
DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

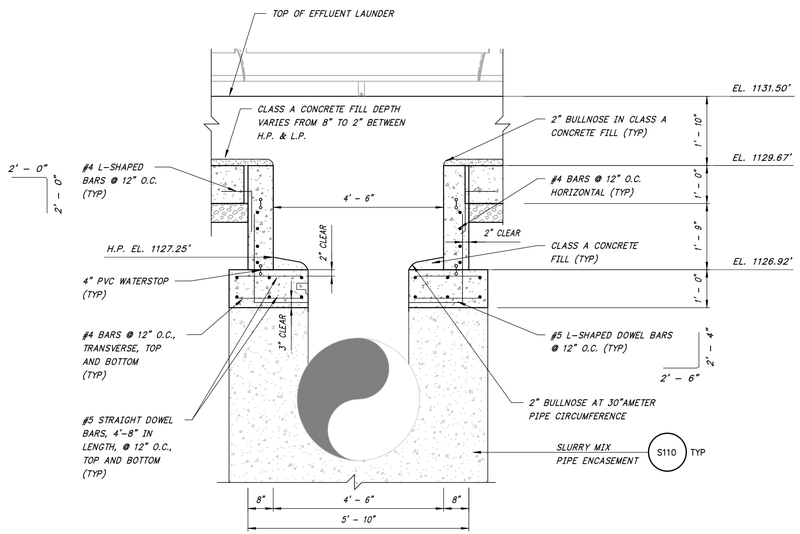
DATE: MARCH 2025
SCALE: As indicated
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SE-5

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 3:27:30 PM / DKS / SECONDARY CLARIFIER NO. 3

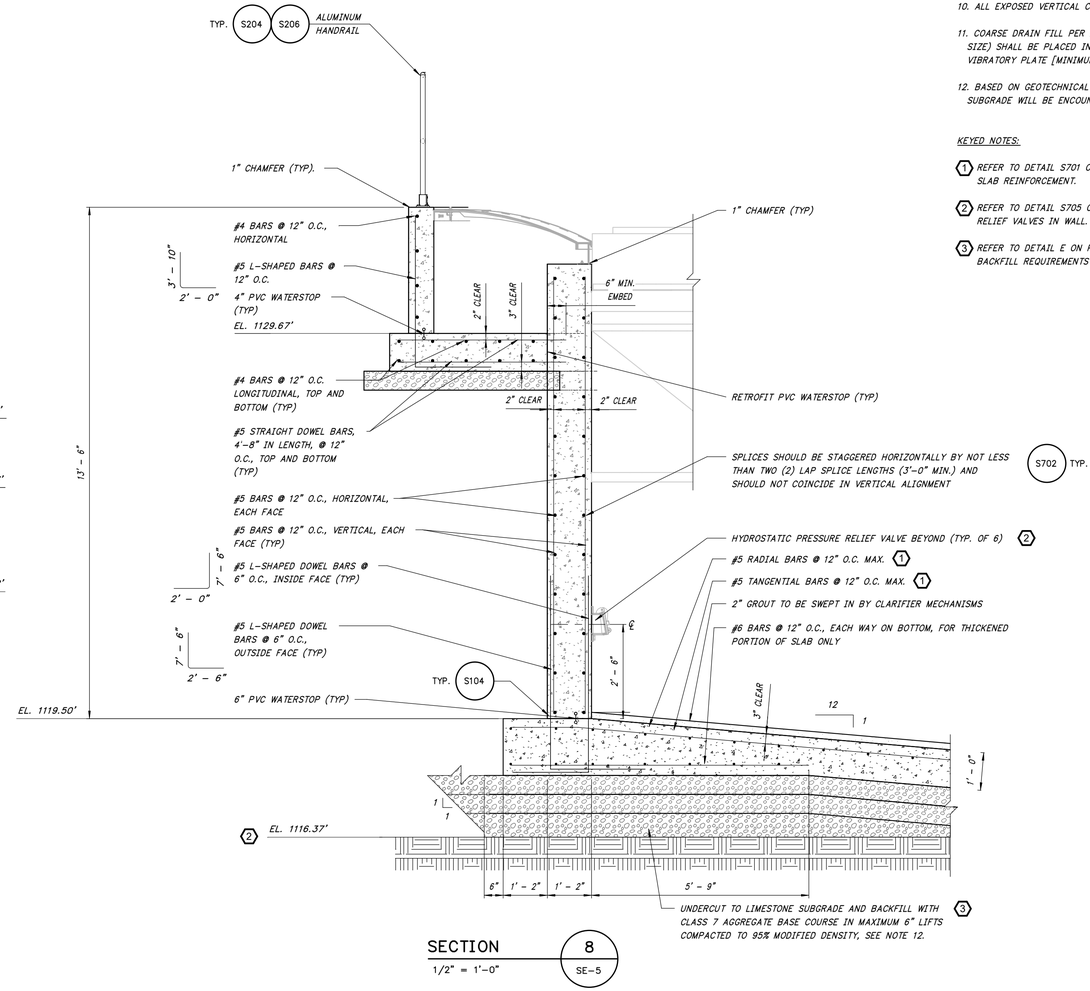


SECTION 6 / 1/2" = 1'-0" / SE-5



EFFLUENT LAUNDER SUMP

SECTION 7 / 1/2" = 1'-0" / SE-5



SECTION 8 / 1/2" = 1'-0" / SE-5

NOTES:

1. REFER TO MECHANICAL DRAWINGS FOR CORRECT ORIENTATION OF CLARIFIER EQUIPMENT.
2. CONTRACTOR SHALL COORDINATE INSTALLATION OF CLARIFIER EQUIPMENT WITH THE MANUFACTURER.
3. CONTRACTOR SHALL SWEEP 2" GROUT IN CLARIFIER FLOOR SLAB WITH CLARIFIER MECHANISM.
4. REFER TO DETAIL S702 ON PLAN SHEET SZ-7 FOR STAGGERING OF HORIZONTAL BAR SPLICES.
5. REFER TO MECHANICAL DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.
6. REFER TO SPECIFICATION SECTION 03740 FOR MODIFICATION OR REPAIR OF EXISTING CONCRETE.
7. ACCESS STAIRS AND PLATFORMS SHALL BE CONSTRUCTED OF GALVANIZED STEEL SUPPORTS AND ALUMINUM HANDRAIL AND GRATING. APPLY ONE (1) COAT OF COAL TAR EPOXY TO PROVIDE DIELECTRIC SEPARATION BETWEEN ALUMINUM AND GALVANIZED STEEL.
8. CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF ACCESS STAIRS AND PLATFORMS IN ACCORDANCE WITH THE DESIGN CRITERIA IN SPECIFICATION SECTION 05120. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATION OF STRUCTURAL OR MISCELLANIOUS STEEL.
9. REFER TO DETAILS S301 THROUGH S307 ON PLAN SHEET SZ-3 FOR ACCESS STAIR AND PLATFORM DETAILS.
10. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.
11. COARSE DRAIN FILL PER ASTM SPECIFICATION C33 (3/4" MAX. AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 12" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES].
12. BASED ON GEOTECHNICAL INVESTIGATION, IT IS ANTICIPATED THAT LIMESTONE SUBGRADE WILL BE ENCOUNTERED AT APPROXIMATE EL. 1116.37'.

KEYED NOTES:

1. REFER TO DETAIL S701 ON PLAN SHEET SZ-7 FOR SECONDARY CLARIFIER BASE SLAB REINFORCEMENT.
2. REFER TO DETAIL S705 ON PLAN SHEET SZ-7 FOR HYDROSTATIC PRESSURE RELIEF VALVES IN WALL.
3. REFER TO DETAIL E ON PLAN SHEET SE-4 FOR OVER-EXCAVATION AND BACKFILL REQUIREMENTS FOR SECONDARY CLARIFIER NO. 3.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE | REVISION

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8398 BRENT D. PEEVEY

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

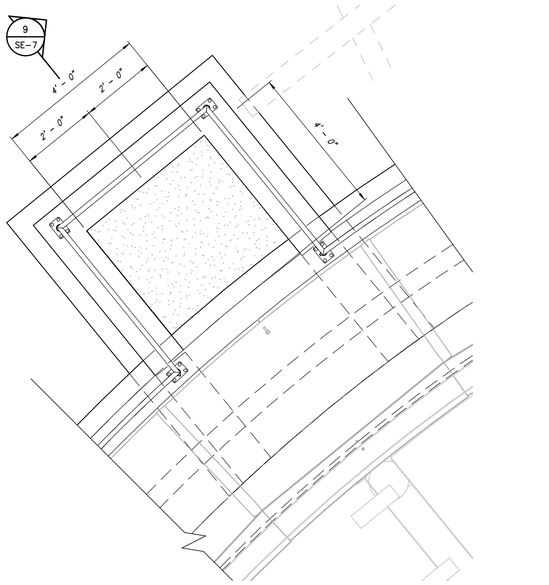
SECONDARY CLARIFIER NO. 3
SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME:

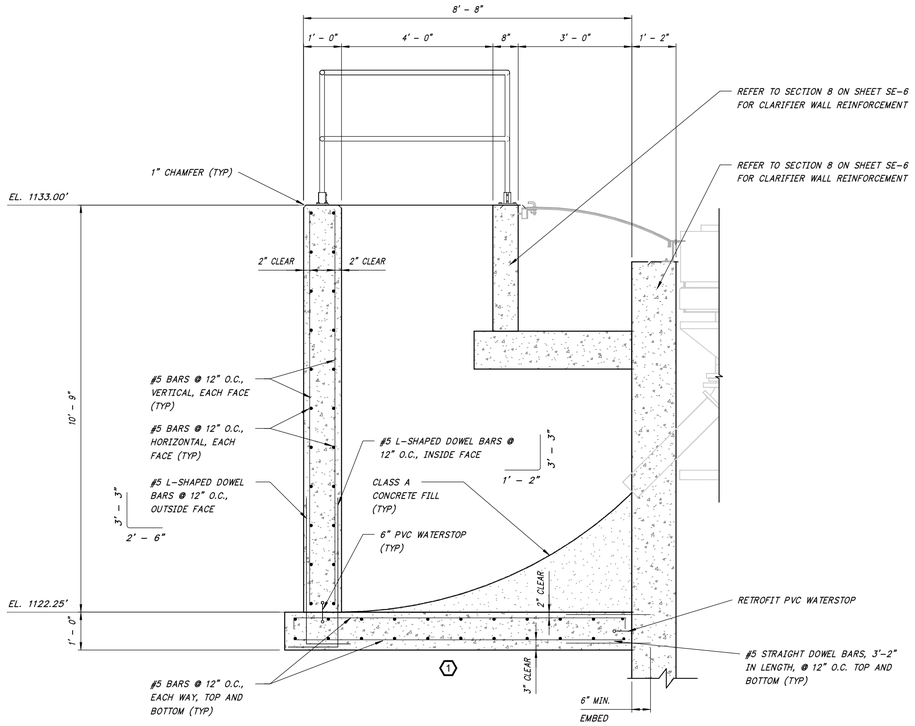
SHEET NO.
SE-6

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/NWRF21037-ST.rvt 3/20/2025 3:27:34 PM / DKS / SECONDARY CLARIFIER NO. 3



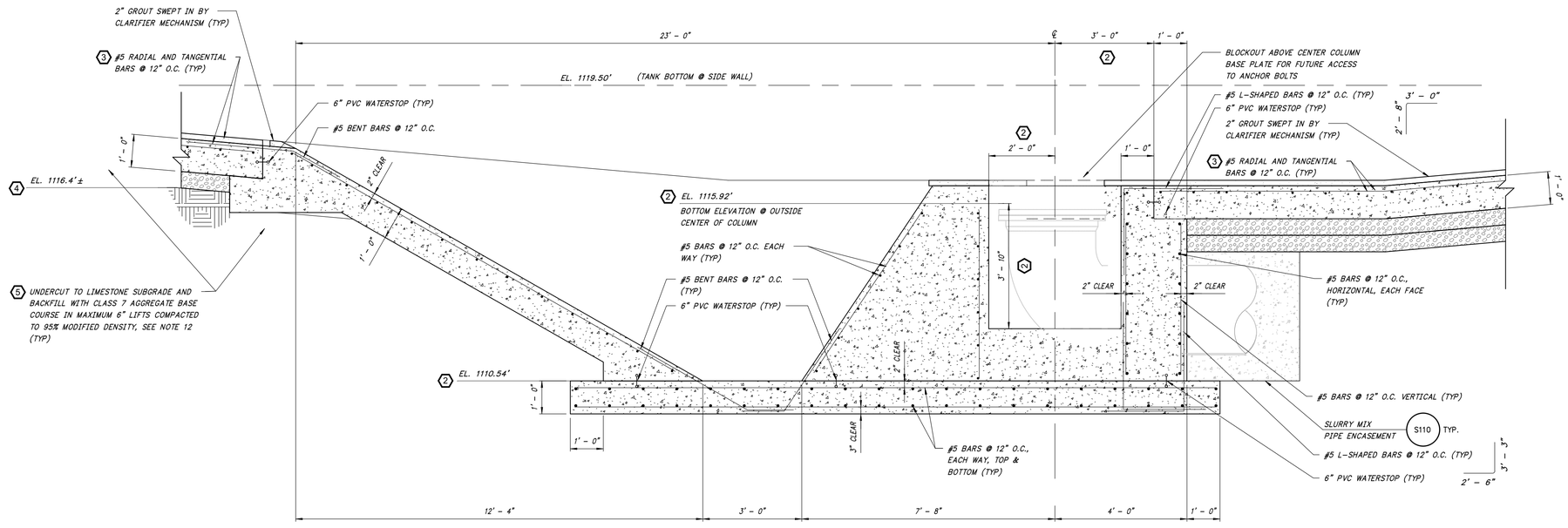
SCUM BOX

DETAIL H
1/2" = 1'-0" SE-5



SCUM BOX

SECTION 9
1/2" = 1'-0" SE-7



SECTION 10
1/2" = 1'-0" SE-5

NOTES:

1. *REFER TO MECHANICAL DRAWINGS FOR CORRECT ORIENTATION OF CLARIFIER EQUIPMENT.*
2. *CONTRACTOR SHALL COORDINATE INSTALLATION OF CLARIFIER EQUIPMENT WITH THE MANUFACTURER.*
3. *CONTRACTOR SHALL SWEEP 2" GROUT IN CLARIFIER FLOOR SLAB WITH CLARIFIER MECHANISM.*
4. *REFER TO DETAIL S702 ON PLAN SHEET SZ-7 FOR STAGGERING OF HORIZONTAL BAR SPLICES.*
5. *REFER TO MECHANICAL DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.*
6. *REFER TO SPECIFICATION SECTION 03740 FOR MODIFICATION OR REPAIR OF EXISTING CONCRETE.*
7. *ACCESS STAIRS AND PLATFORMS SHALL BE CONSTRUCTED OF GALVANIZED STEEL SUPPORTS AND ALUMINUM HANDRAIL AND GRATING. APPLY ONE (1) COAT OF COAL TAR EPOXY TO PROVIDE DIELECTRIC SEPARATION BETWEEN ALUMINUM AND GALVANIZED STEEL.*
8. *CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF ACCESS STAIRS AND PLATFORMS IN ACCORDANCE WITH THE DESIGN CRITERIA IN SPECIFICATION SECTION 05120. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATION OF STRUCTURAL OR MISCELLANIOUS STEEL.*
9. *REFER TO DETAILS S301 THROUGH S307 ON PLAN SHEET SZ-3 FOR ACCESS STAIR AND PLATFORM DETAILS.*
10. *ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.*
11. *COARSE DRAIN FILL PER ASTM SPECIFICATION C33 (3/4" MAX. AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 12" LIFTS AND COMPACTED WITH A VIBRATORY PLATE (MINIMUM OF TWO (2) PASSES).*
12. *BASED ON GEOTECHNICAL INVESTIGATION, IT IS ANTICIPATED THAT LIMESTONE SUBGRADE WILL BE ENCOUNTERED AT APPROXIMATE EL. 1116.4'±.*

KEYED NOTES

1. *BACKFILL SCUM BOX WITH SLURRY MIX PIPE ENCASEMENT*
2. *CONTRACTOR SHALL COORDINATE THESE DIMENSIONS AND ELEVATIONS WITH THE SECONDARY CLARIFIER MANUFACTURER.*
3. *REFER TO DETAIL S701 ON PLAN SHEET SZ-7 FOR SECONDARY CLARIFIER BASE SLAB REINFORCEMENT.*
4. *REFER TO NOTE NO. 12.*
5. *REFER TO DETAIL E ON PLAN SHEET SE-4 FOR OVER-EXCAVATION AND BACKFILL REQUIREMENTS FOR SECONDARY CLARIFIER NO. 3.*

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8398
BRETT D. PEEL
SURVEYOR

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

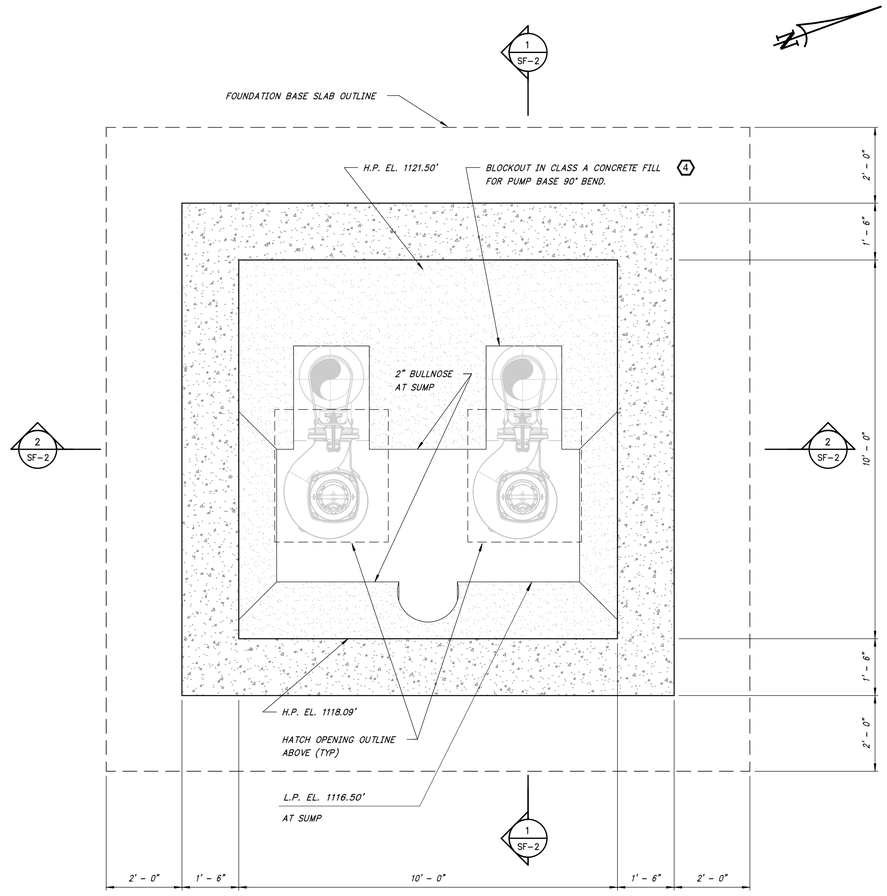
SECONDARY CLARIFIER NO. 3
DETAIL AND SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

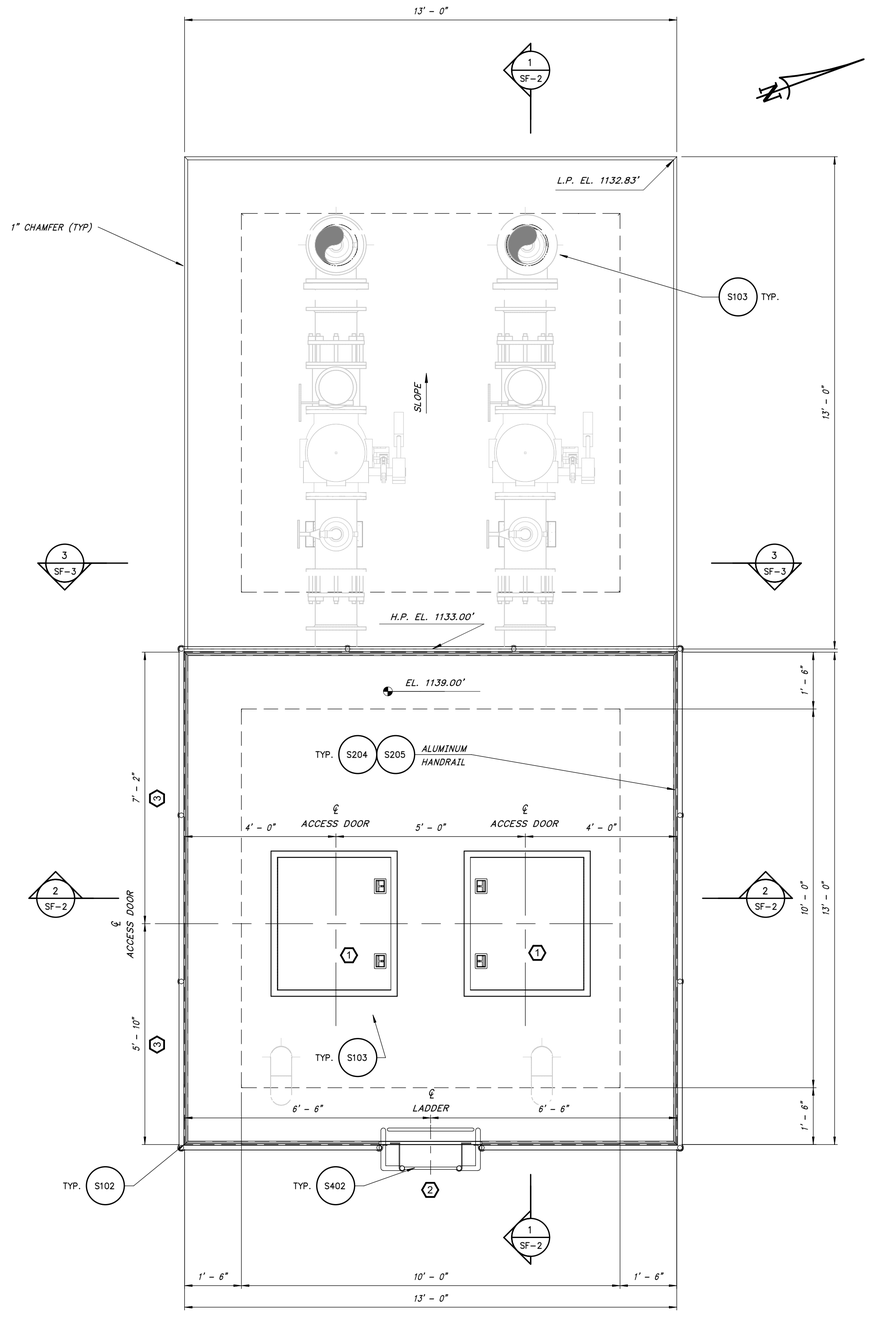
SHEET NO.
SE-7

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 1:27:37 PM / DKS / SECONDARY CLARIFIER NO. 3



RAS PUMP STATION NO. 2
BOTTOM PLAN

DETAIL A
1/2" = 1'-0"



RAS PUMP STATION NO. 2
TOP PLAN

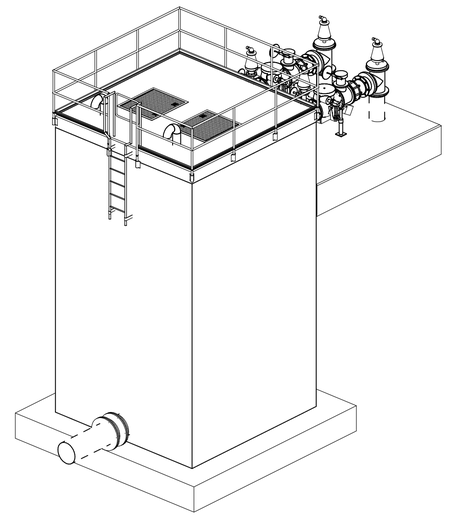
DETAIL B
1/2" = 1'-0"

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].
3. REFER TO SPECIFICATION SECTION 07110 FOR WATERPROOFING OF BELOW GRADE WALLS.
4. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

1. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. W1S3642, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING. CONTRACTOR SHALL COORDINATE WITH THE PUMP AND ACCESS DOOR MANUFACTURERS TO ENSURE THAT THE PUMP CAN BE INSTALLED AND REMOVED FOR FUTURE O & M PURPOSES.
2. ALUMINUM GOOSENECK LADDER
3. CONTRACTOR SHALL COORDINATE THESE DIMENSIONS WITH THE PUMP MANUFACTURER TO FACILITATE INSTALLATION AND REMOVAL OF PUMP FOR FUTURE O & M PURPOSES.
4. CONTRACTOR SHALL COORDINATE PUMP SUMP DIMENSIONS AND PUMP BASE 90° BEND DIMENSIONS WITH THE PUMP MANUFACTURER.



ISOMETRIC/3D
N.T.S.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
WESLEY JAY LEWIS
No. 20398
03-21-25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

RAS PUMP STATION NO. 2
DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE:	MARCH 2025
SCALE:	1/2" = 1'-0"
DESIGNED BY:	WJL
DRAWN BY:	DKS
HWEI NO.:	2021037
FILENAME:	WWRF21037-ST

SHEET NO.
SF-1

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 3:37:26 PM / DKS / RAS PUMP STATION NO. 2

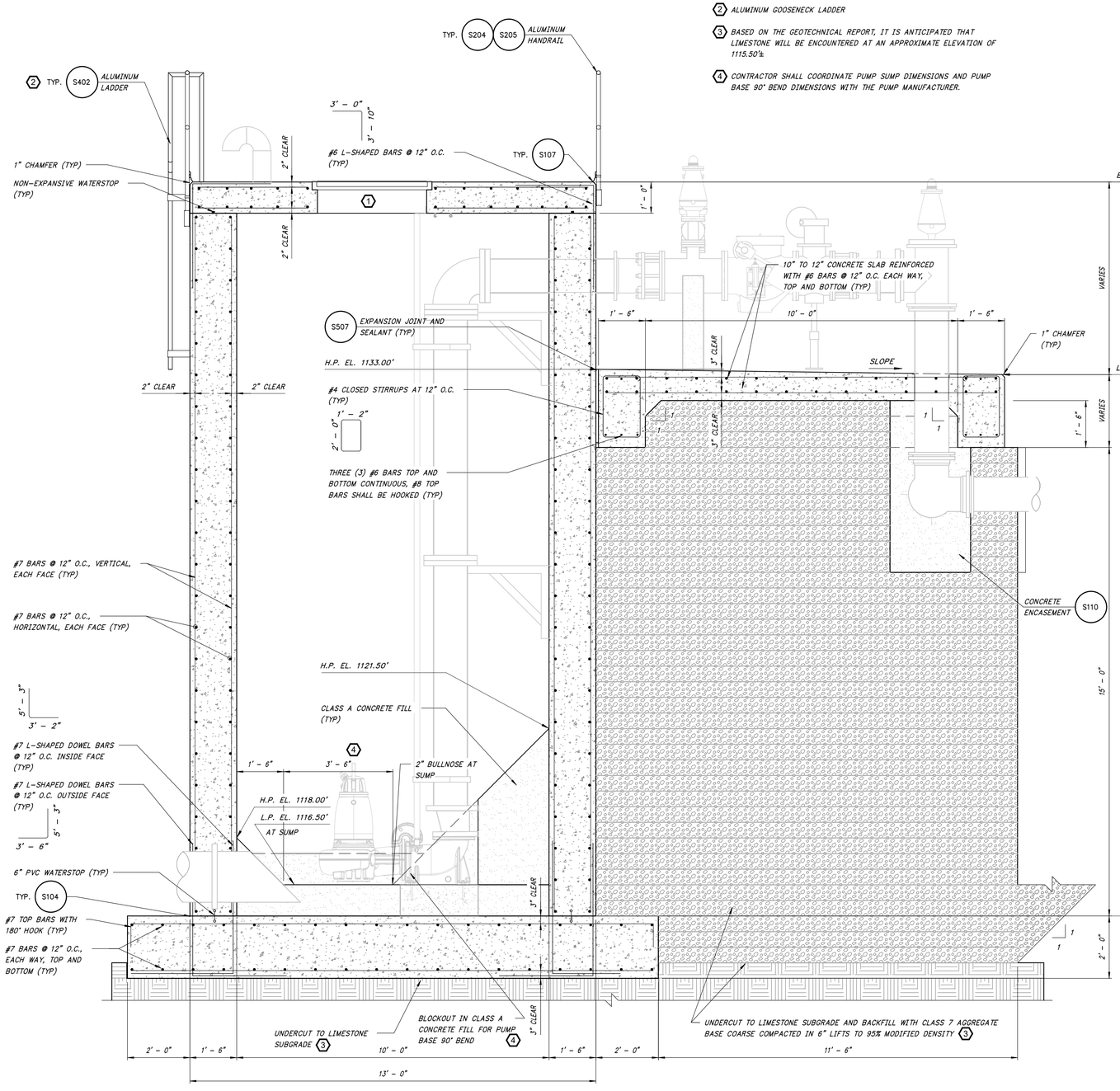
Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 3:37:30 PM / DKS / RAS PUMP STATION NO. 2

KEYED NOTES:

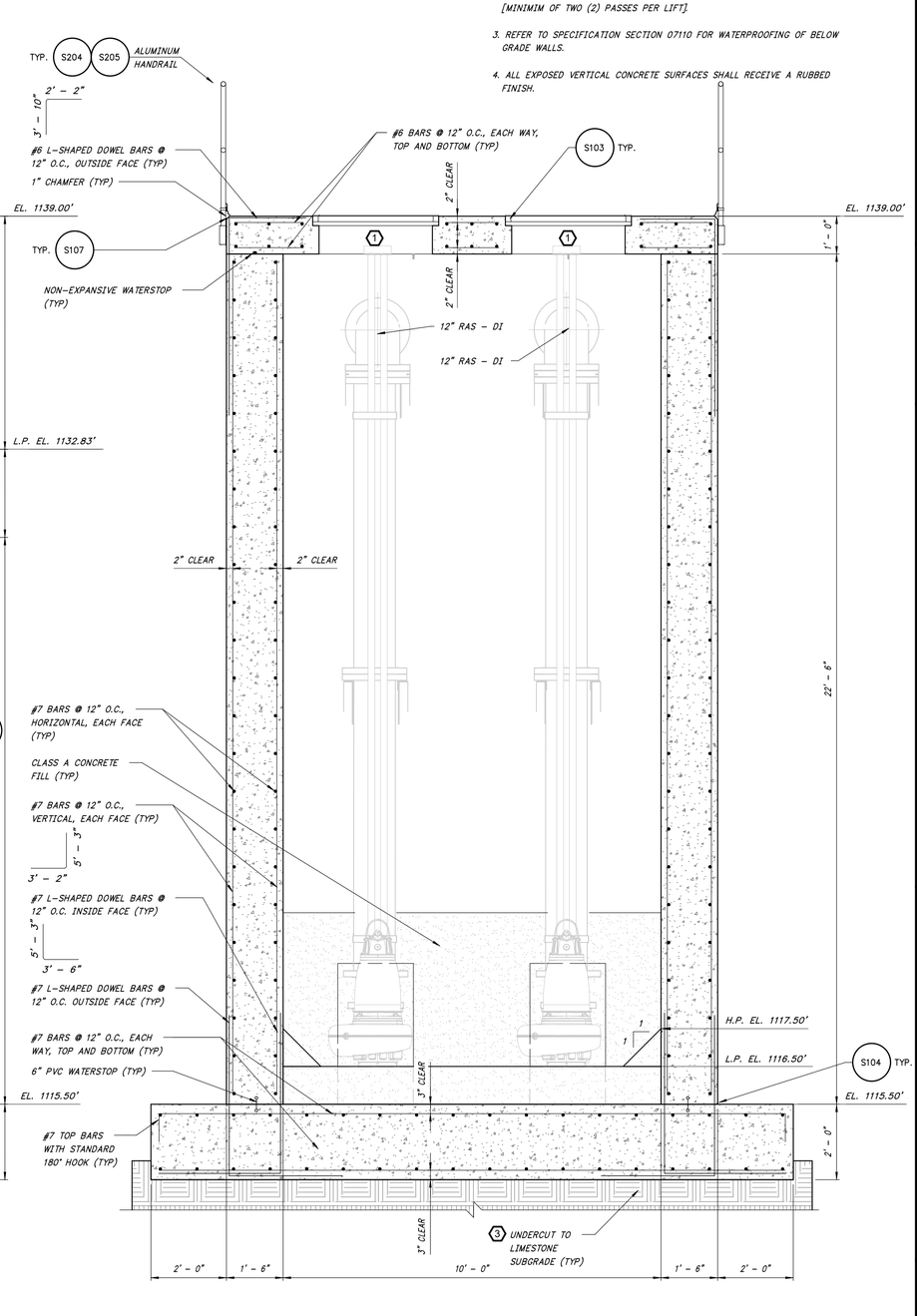
1. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS3642, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING. CONTRACTOR SHALL COORDINATE WITH THE PUMP AND ACCESS DOOR MANUFACTURERS TO ENSURE THAT THE PUMP CAN BE INSTALLED AND REMOVED FOR FUTURE O & M PURPOSES.
2. ALUMINUM GOOSENECK LADDER
3. BASED ON THE GEOTECHNICAL REPORT, IT IS ANTICIPATED THAT LIMESTONE WILL BE ENCOUNTERED AT AN APPROXIMATE ELEVATION OF 1115.50'±
4. CONTRACTOR SHALL COORDINATE PUMP SUMP DIMENSIONS AND PUMP BASE 90° BEND DIMENSIONS WITH THE PUMP MANUFACTURER.

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].
3. REFER TO SPECIFICATION SECTION 07110 FOR WATERPROOFING OF BELOW GRADE WALLS.
4. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.



SECTION 1 / 1/2" = 1'-0" / SF-1



SECTION 2 / 1/2" = 1'-0" / SF-1

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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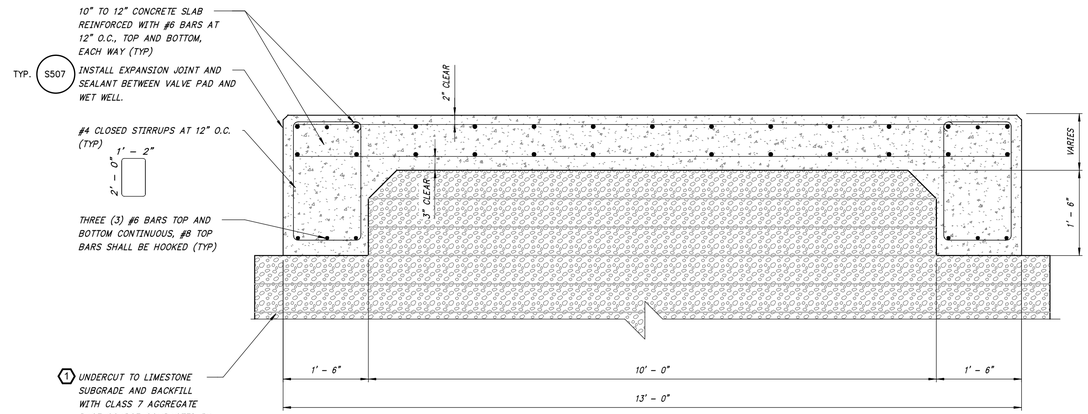
STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER WESLEY JAY LEWIS No. 20398

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS
RAS PUMP STATION NO. 2
SECTIONS
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: WJL
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SF-2



SECTION 3
3/4" = 1'–0" SF–1

NOTES:

1. *REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10–INCHES, REFER TO DETAIL S103.*
2. *ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.*

KEYED NOTES:

1 *BASED ON GEOTECHNICAL REPORT, IT IS ANTICIPATED THAT LIMESTONE WILL BE ENCOUNTERED AT AN APPROXIMATE ELEVATION OF 1115.50'±.*

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
WESLEY JAY LOVE
No. 23398
03-21-25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

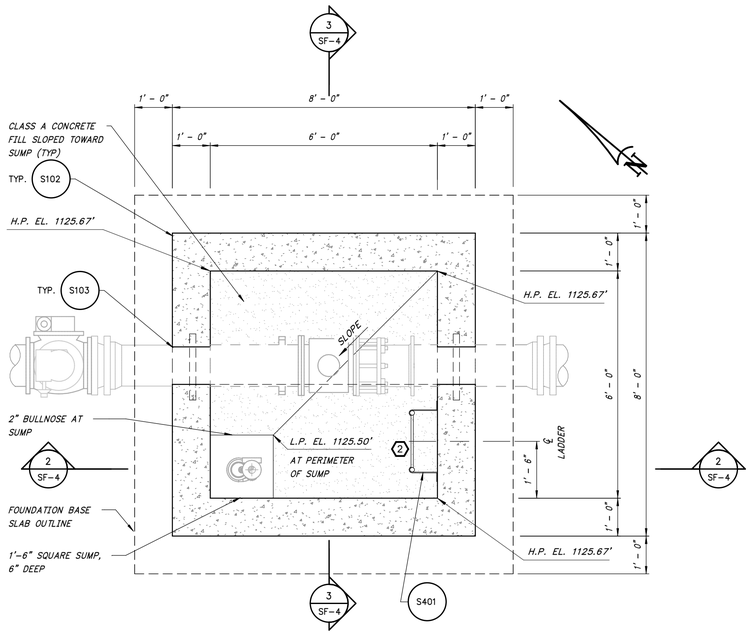
RAS PUMP STATION NO. 2 VALVE PAD
SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 3/4" = 1'–0"
DESIGNED BY: WJL
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037–ST

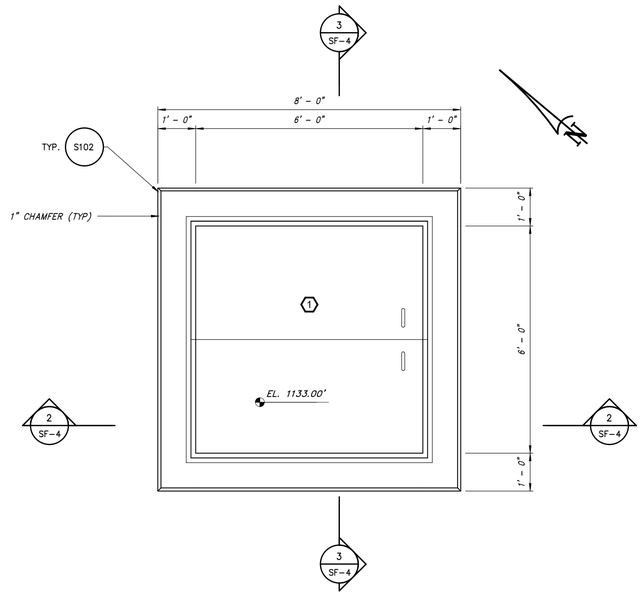
SHEET NO.
SF–3

Autodesk Docs://410144 – Bentonville Water Resource Recovery Facility Improvements/WWRF21037–ST.rvt 3/20/2025 3:37:31 PM / DKS / RAS PUMP STATION NO. 2 VALVE PAD



RAS PUMP STATION NO. 2 FLOW METER VAULT
BOTTOM PLAN

DETAIL C
1/2" = 1'-0"



RAS PUMP STATION NO. 2 FLOW METER VAULT
TOP PLAN

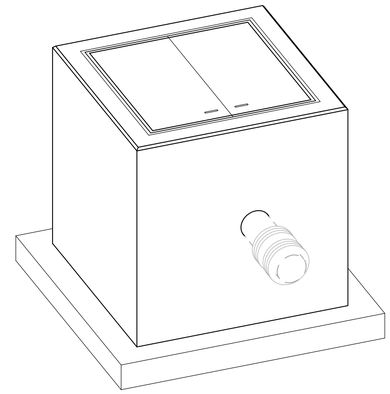
DETAIL D
1/2" = 1'-0"

NOTES:

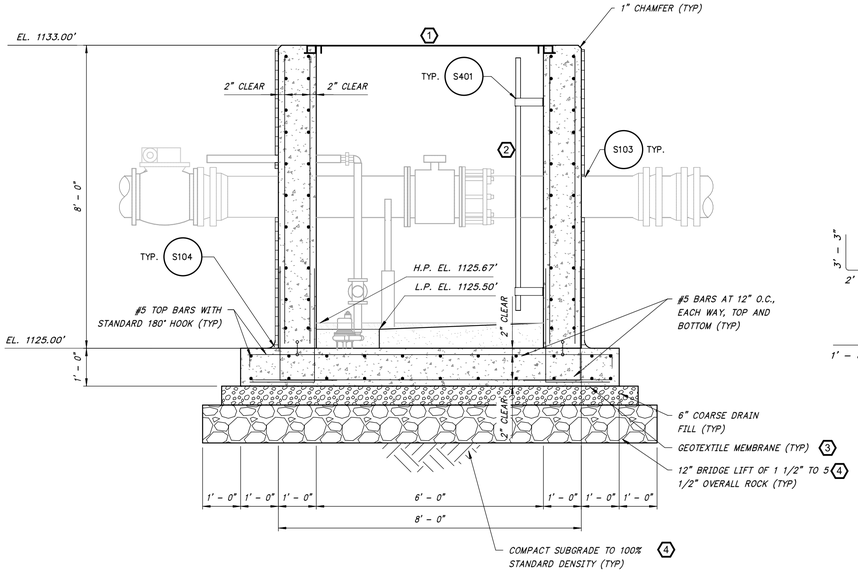
1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE (MINIMIM OF TWO (2) PASSES PER LIFT).
3. REFER TO SPECIFICATION SECTION 07110 FOR WATERPROOFING OF BELOW GRADE WALLS.
4. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

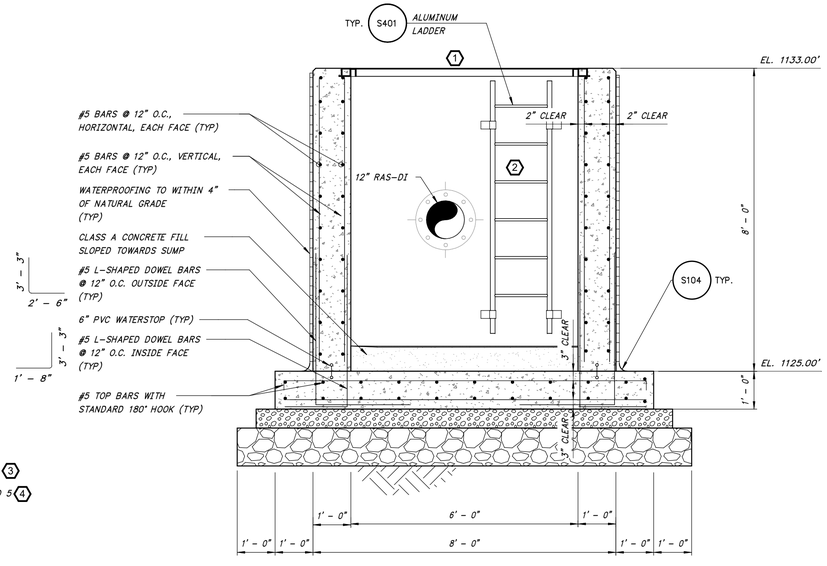
1. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. W2S7272, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
2. ALUMINUM LADDER SHALL BE HALLIDAY PRODUCTS SERIES L1B AND SHALL INCLUDE SERIES L1E LADDER EXTENSION, OR EQUAL.
3. GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE BRIDGE LIFT.
4. 12" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.



ISOMETRIC/3D
N.T.S.



SECTION 2
1/2" = 1'-0"
SF-4



SECTION 3
1/2" = 1'-0"
SF-4

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
WESLEY JAY LEWIS
No. 23358
25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

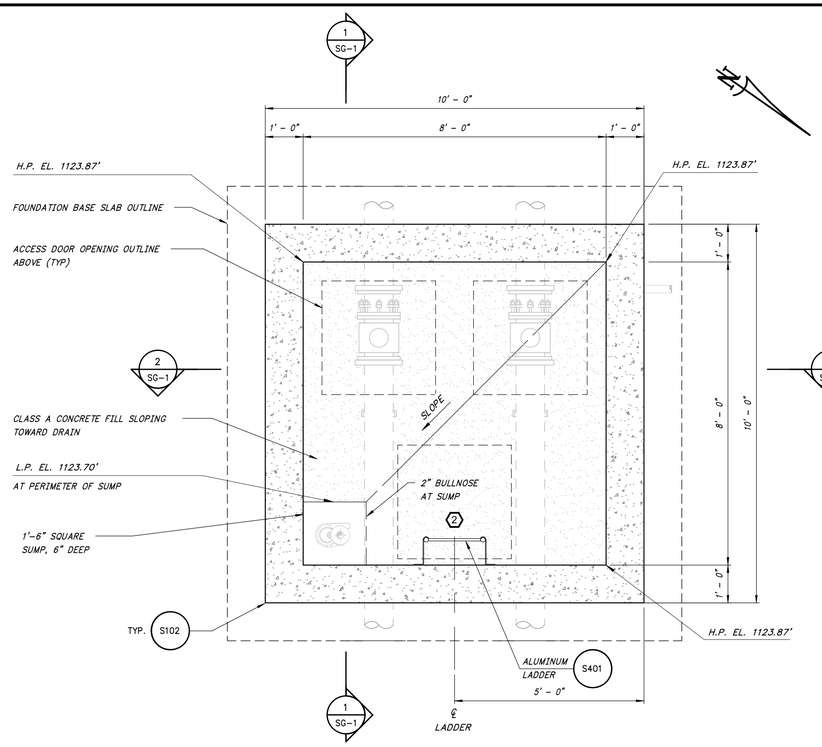
RAS PUMP STATION NO. 2
FLOW METER VAULT
DETAILS AND SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

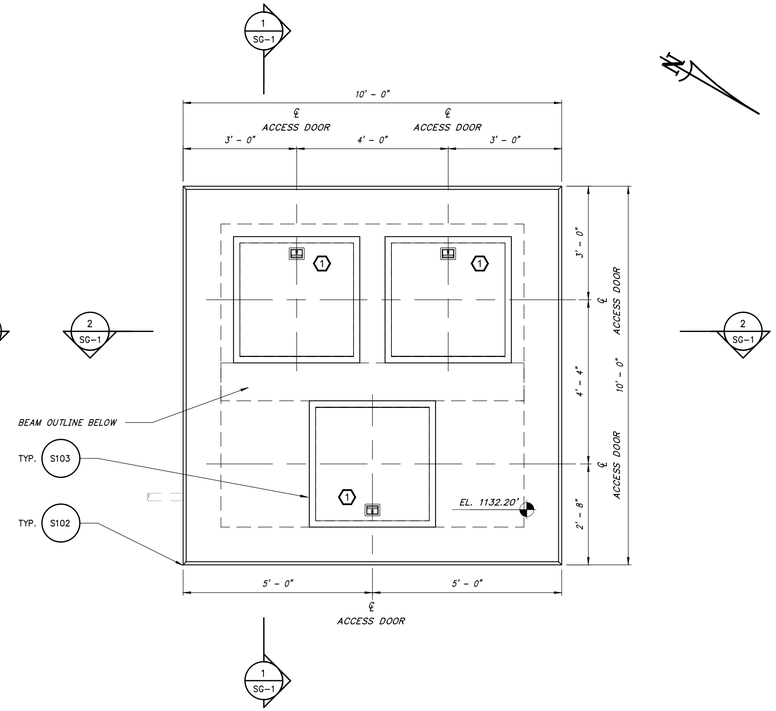
DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: WJL
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SF-4

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 3:37:35 PM / DKS / RAS PUMP STATION NO. 2



WASTING METER VAULT
BOTTOM PLAN



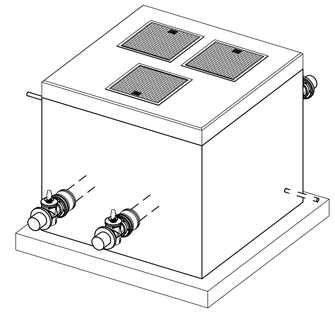
WASTING METER VAULT
TOP PLAN

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10–INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].
3. REFER TO SPECIFICATION SECTION 07110 FOR WATERPROOFING OF BELOW GRADE WALLS.
4. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

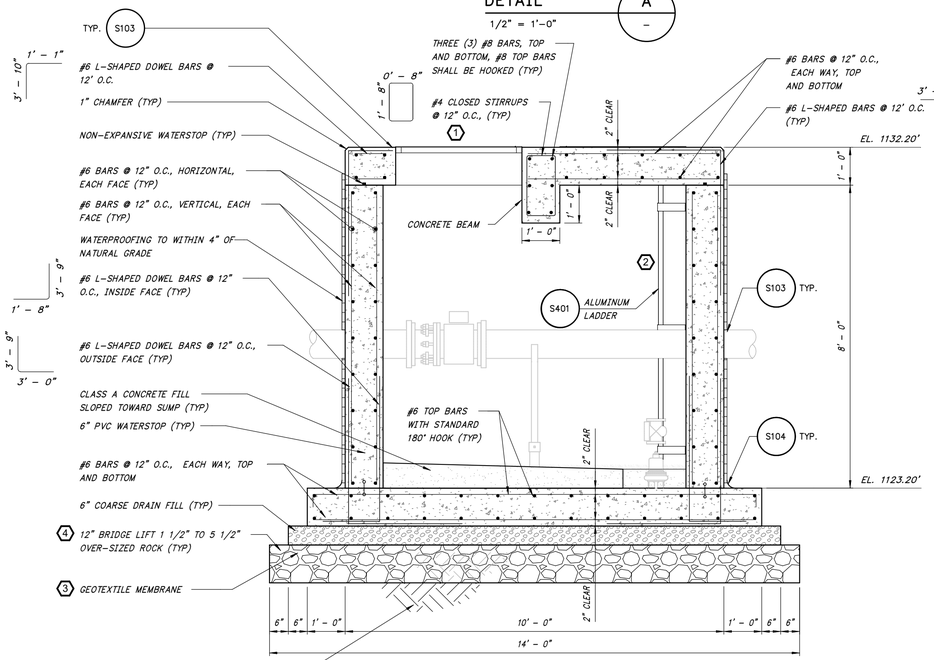
KEYED NOTES:

1. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. H1W3636, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
2. ALUMINUM LADDER SHALL BE HALLIDAY PRODUCTS SERIES L1B AND SHALL INCLUDE SERIES L1E LADDER EXTENSION, OR EQUAL.
3. GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE BRIDGE LIFT.
4. 12" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.



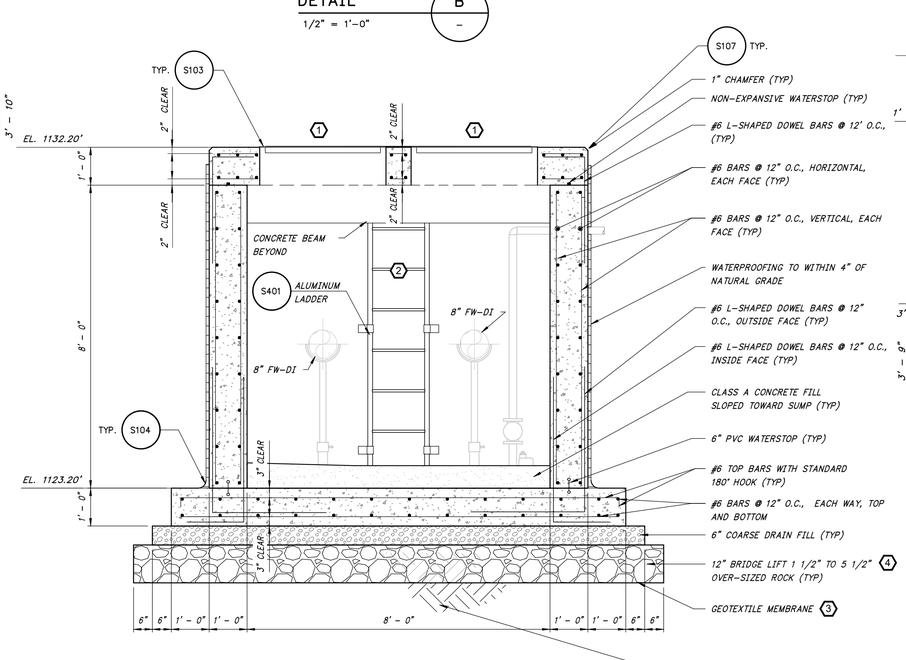
ISOMETRIC/3D
N.T.S.

DETAIL A
1/2" = 1'–0"



SECTION 1
1/2" = 1'–0"

DETAIL B
1/2" = 1'–0"



SECTION 2
1/2" = 1'–0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
WESLEY JAY LEWIS
No. 20398
03-21-25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

WASTING METER VAULT
DETAILS AND SECTIONS

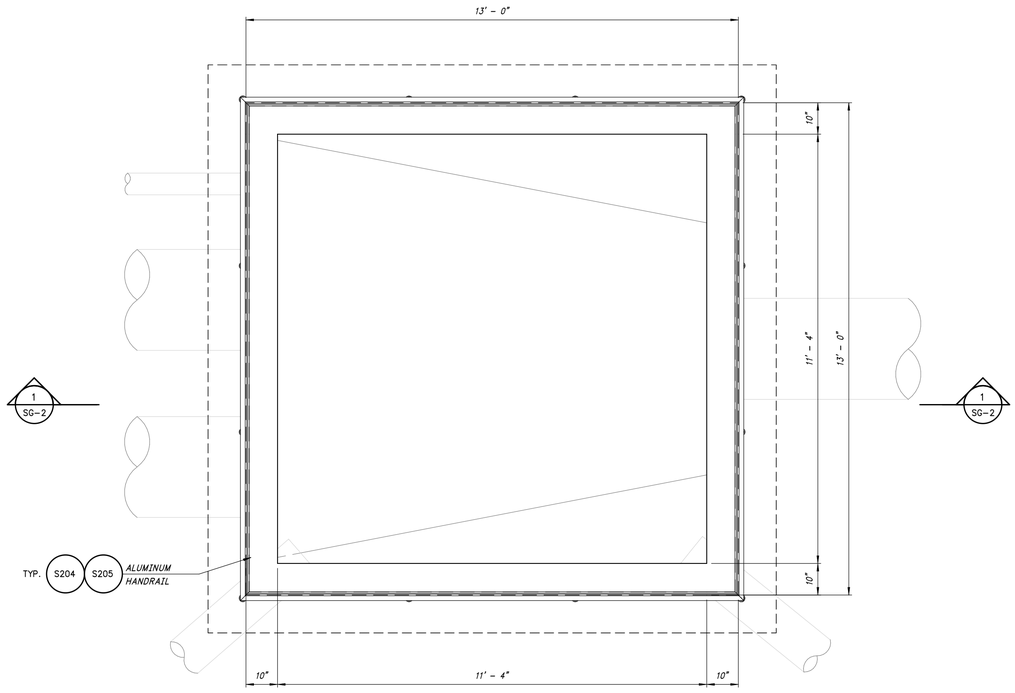
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'–0"
DESIGNED BY: WJL
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037–ST

SHEET NO.
SG–1

Autodesk Docs://410144 – Bentonville Water Resource Recovery Facility Improvements/WWRF21037–ST.rvt 3/20/2025 3:42:54 PM / DKS / WASTING METER VAULT

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 3:42:55 PM / DKS / SLUDGE THICKENER JUNCTION BOX DETAIL AND SECTION



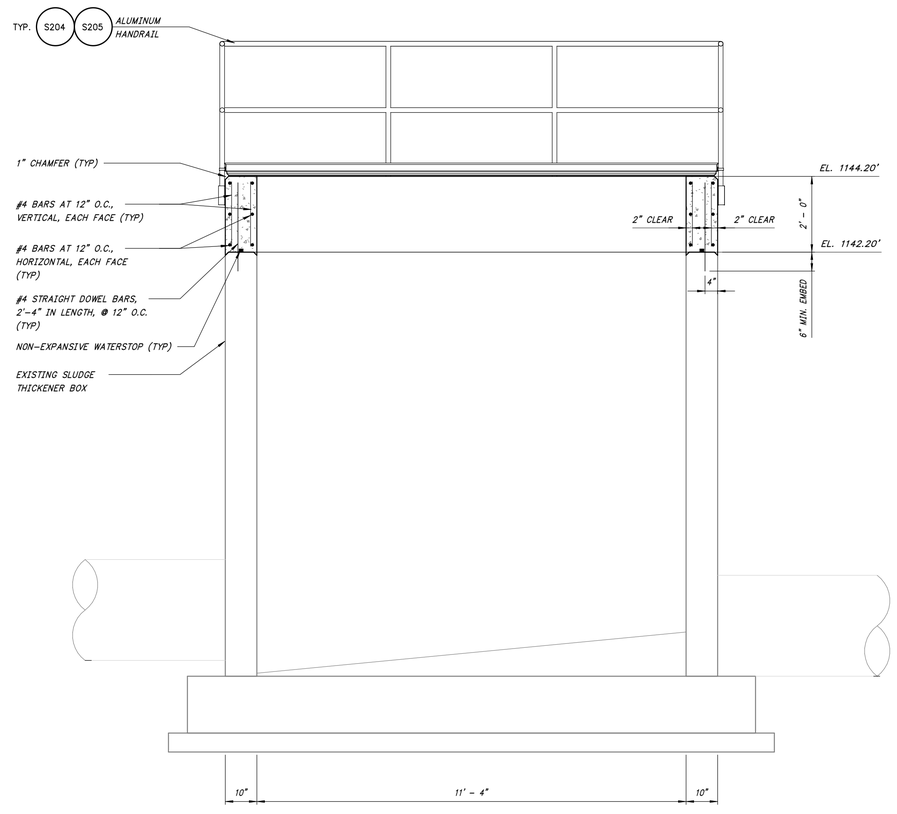
SLUDGE THICKENER JUNCTION BOX

DETAIL A
1/2" = 1'-0"

NOTES:

1. DUE TO HYDRAULIC REASONS, THE EXISTING CONCRETE WALLS OF THE SLUDGE THICKENER BOX NEEDS TO BE RAISED VERTICALLY 2-FEET.

2. ALL EXPOSED VERTICAL SURFACES SHALL RECEIVE A RUBBED FINISH.



SLUDGE THICKENER JUNCTION BOX

SECTION 1
1/2" = 1'-0"
SG-2

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
WESLEY JAY LEWIS
No. 20398
03-12-25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

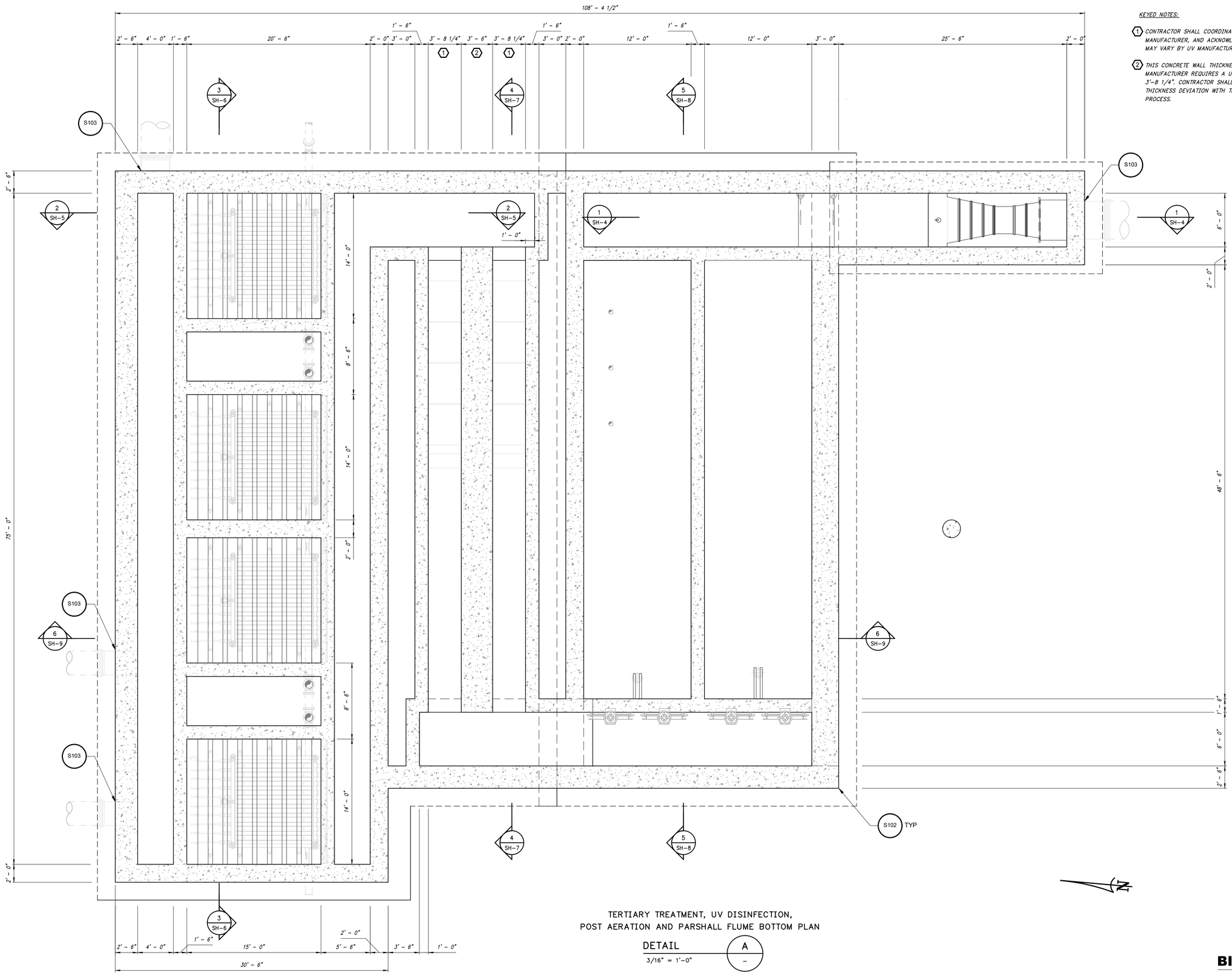
SLUDGE THICKENER JUNCTION BOX DETAIL AND SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SG-2

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 12:44:00 PM / DKS / TERTIARY TREATMENT, UV DISINFECTION, POST AERATION, AND PARSHALL FLUME BOTTOM PLAN



TERTIARY TREATMENT, UV DISINFECTION,
POST AERATION AND PARSHALL FLUME BOTTOM PLAN

DETAIL A
3/16" = 1'-0"

KEYED NOTES:

1. CONTRACTOR SHALL COORDINATE UV CHANNEL WIDTH WITH THE UV MANUFACTURER, AND ACKNOWLEDGE THAT THE UV CHANNEL WIDTH MAY VARY BY UV MANUFACTURER.
2. THIS CONCRETE WALL THICKNESS MAY DECREASE IF THE UV MANUFACTURER REQUIRES A UV CHANNEL WIDTH WIDER THAN 3'-8 1/4". CONTRACTOR SHALL COORDINATE ANY SUCH WALL THICKNESS DEVIATION WITH THE ENGINEER THROUGH THE RFI PROCESS.

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8398
BRETT D. PEEPLES

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

TERTIARY TREATMENT, UV DISINFECTION, POST AERATION, AND PARSHALL FLUME BOTTOM PLAN

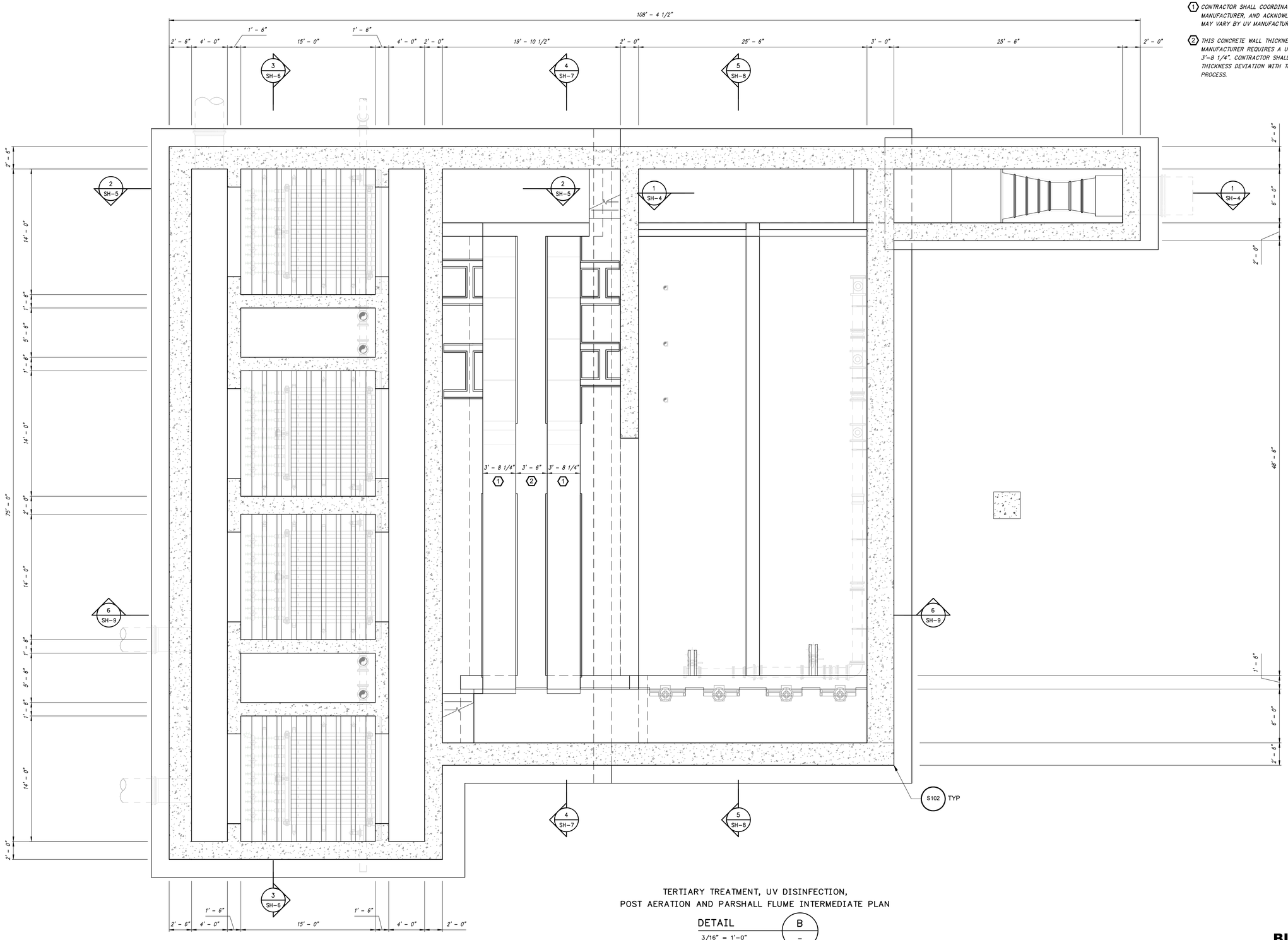
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 3/16" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SH-1

BID DRAWINGS
MARCH 21, 2025

Autodesk Docs://4410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 12:44:02 PM / ADF / TERTIARY TREATMENT, UV DISINFECTION, POST AERATION, AND PARSHALL FLUME BOTTOM PLAN Copy 1



TERTIARY TREATMENT, UV DISINFECTION,
POST AERATION AND PARSHALL FLUME INTERMEDIATE PLAN

DETAIL B
3/16" = 1'-0"

KEYED NOTES:

1. CONTRACTOR SHALL COORDINATE UV CHANNEL WIDTH WITH THE UV MANUFACTURER, AND ACKNOWLEDGE THAT THE UV CHANNEL WIDTH MAY VARY BY UV MANUFACTURER.
2. THIS CONCRETE WALL THICKNESS MAY DECREASE IF THE UV MANUFACTURER REQUIRES A UV CHANNEL WIDTH WIDER THAN 3'-8 1/4". CONTRACTOR SHALL COORDINATE ANY SUCH WALL THICKNESS DEVIATION WITH THE ENGINEER THROUGH THE RFI PROCESS.

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8398
BRETT D. PEEPLES

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

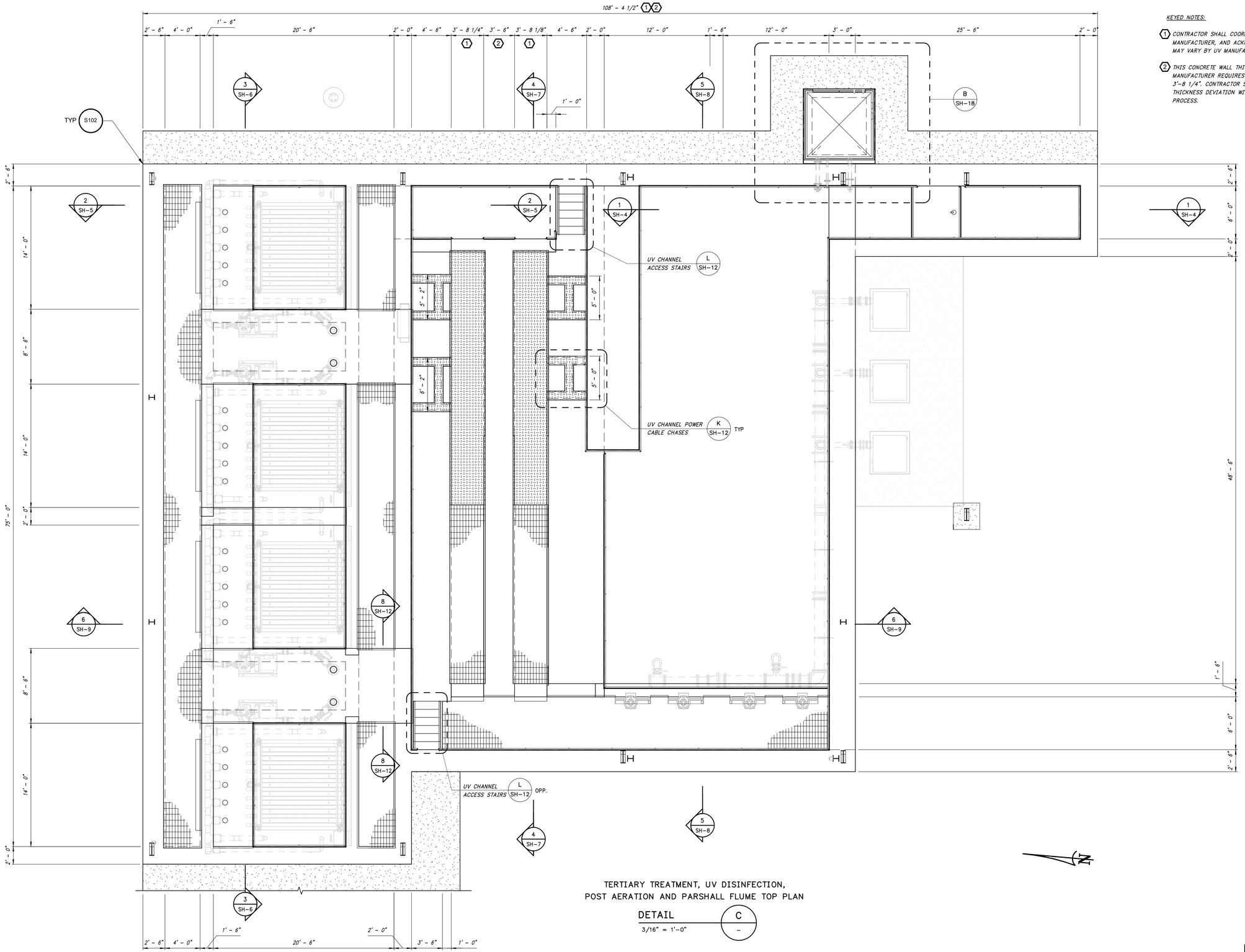
TERTIARY TREATMENT, UV DISINFECTION, POST AERATION, AND PARSHALL FLUME BOTTOM PLAN
Copy 1
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 3/16" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SH-2

BID DRAWINGS
MARCH 21, 2025

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 12:44:05 PM / Author / TERTIARY TREATMENT, UV DISINFECTION, POST AERATION, AND PARSHALL FLUME TOP PLAN



KEYED NOTES:

1. CONTRACTOR SHALL COORDINATE UV CHANNEL WIDTH WITH THE UV MANUFACTURER, AND ACKNOWLEDGE THAT THE UV CHANNEL WIDTH MAY VARY BY UV MANUFACTURER.
2. THIS CONCRETE WALL THICKNESS MAY DECREASE IF THE UV MANUFACTURER REQUIRES A UV CHANNEL WIDTH WIDER THAN 3'-8 1/4". CONTRACTOR SHALL COORDINATE ANY SUCH WALL THICKNESS DEVIATION WITH THE ENGINEER THROUGH THE RFI PROCESS.

TERTIARY TREATMENT, UV DISINFECTION,
POST AERATION AND PARSHALL FLUME TOP PLAN

DETAIL C
3/16" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8398
BRETT D. PEEVEY

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

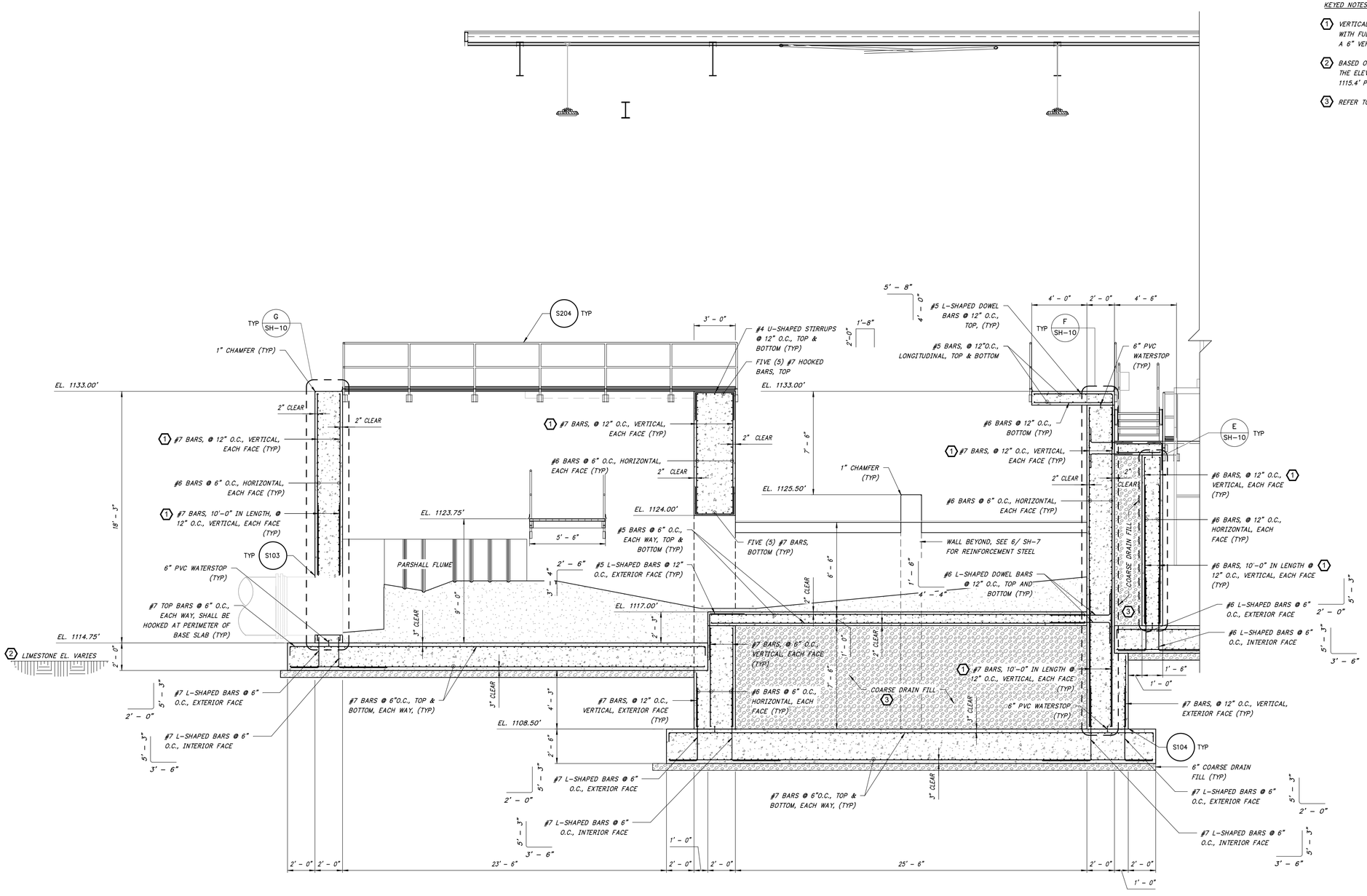
TERTIARY TREATMENT, UV DISINFECTION, POST AERATION, AND PARSHALL FLUME TOP PLAN

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 3/16" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: Author
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SH-3

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 12:44:07 PM / DKS / TERTIARY TREATMENT, UV DISINFECTION, POST AERATION, AND PARSHALL FLUME



SECTION 1
1/4" = 1'-0" SH-1

NOTES:

1. VERTICAL AND HORIZONTAL WALL REINFORCEMENT STEEL FOR 18" WALLS SHALL BE IDENTICAL FOR ALL 18" WALLS IN THE TERTIARY STRUCTURE. L-SHAPED BAR DIMENSIONS VARY, SEE SECTIONS FOR L-SHAPED BAR DIMENSIONS.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZES) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES PER LIFT].

KEYED NOTES:

1. VERTICAL BARS, 10'-0" IN LENGTH, @ 12" O.C. SHALL ALTERNATE WITH FULL WALL HEIGHT VERTICAL BARS @ 12" O.C., TO ACHIEVE A 6" VERTICAL BAR SPACING.
2. BASED ON GTS' GEOTECHNICAL REPORT, DATED NOVEMBER 25, 2024, THE ELEVATION OF LIMESTONE VARIES FROM EL. 1113.8' TO EL. 1115.4' PER SOIL BORING NOS. B-13 THROUGH B-15.
3. REFER TO NOTE NO. 2.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8398 BRETT D. PEEL

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

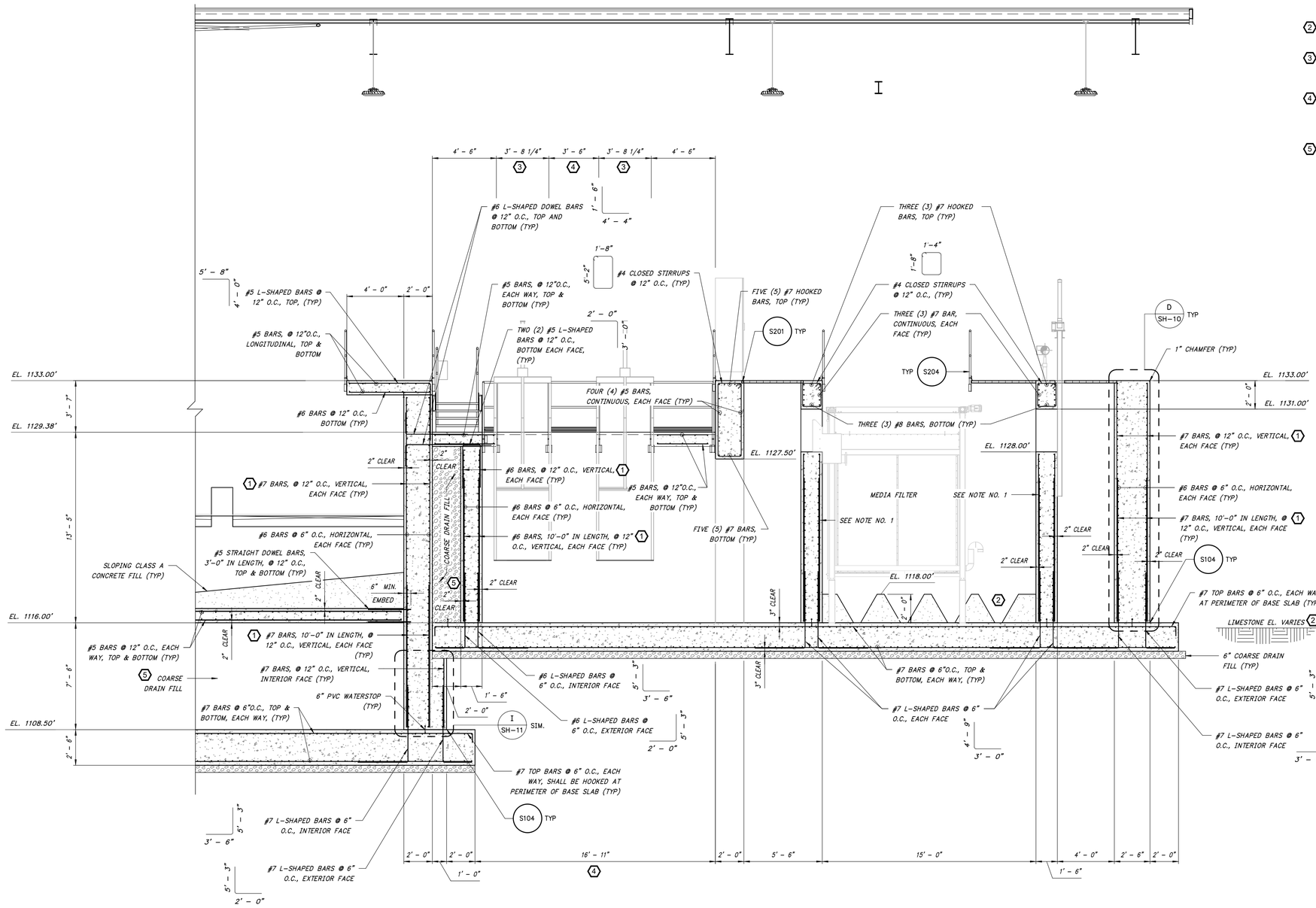
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

TERTIARY TREATMENT, UV DISINFECTION, POST AERATION, AND PARSHALL FLUME SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SH-4



SECTION 2
1/4" = 1'–0" SH–1

NOTES:

1. VERTICAL AND HORIZONTAL WALL REINFORCEMENT STEEL FOR 18" WALLS SHALL BE IDENTICAL FOR ALL 18" WALLS IN THE TERTIARY STRUCTURE. L–SHAPED BAR DIMENSIONS VARY, SEE SECTIONS FOR L–SHAPED BAR DIMENSIONS.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZES) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES PER LIFT].

KEYED NOTES:

1. VERTICAL BARS, 10'–0" IN LENGTH, @ 12" O.C. SHALL ALTERNATE WITH FULL WALL HEIGHT VERTICAL BARS @ 12" O.C., TO ACHIEVE A 6" VERTICAL BAR SPACING.
2. REFER TO PROCESS MECHANICAL DRAWINGS FOR CLASS A CONCRETE FILL AT THE BOTTOM OF THE FILTERS.
3. CONTRACTOR SHALL COORDINATE UV CHANNEL WIDTH WITH THE UV MANUFACTURER, AND ACKNOWLEDGE THAT THE UV CHANNEL WIDTH MAY VARY BY UV MANUFACTURER.
4. THIS CONCRETE WALL THICKNESS MAY DECREASE IF THE UV MANUFACTURER REQUIRES A UV CHANNEL WIDTH WIDER THAN 3'–8 1/4". CONTRACTOR SHALL COORDINATE ANY SUCH WALL THICKNESS DEVIATION WITH THE ENGINEER THROUGH THE RFI PROCESS.
5. REFER TO NOTE NO. 2.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8398 BRENT D. PEEK 3/21/25

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CITY OF BENTONVILLE ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

TERTIARY TREATMENT, UV DISINFECTION, POST AERATION, AND PARSHALL FLUME
SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'–0"
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037–ST

SHEET NO.
SH–5

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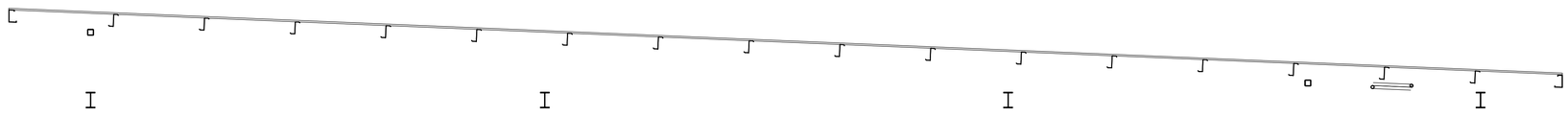
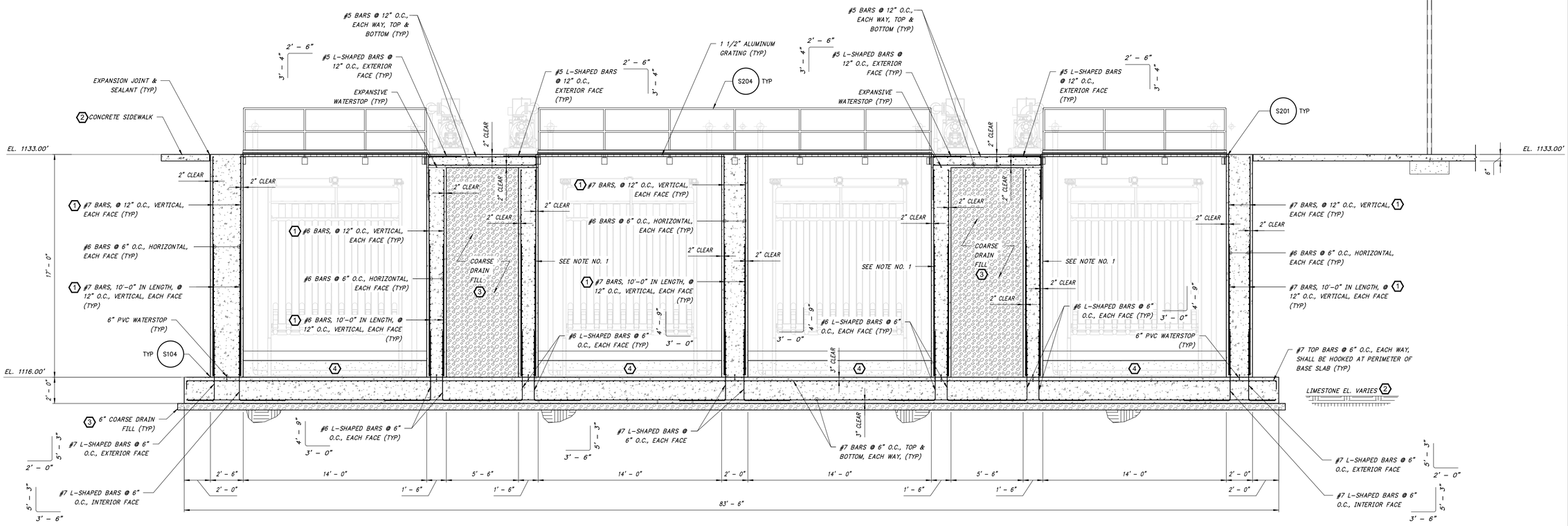


NOTES:

1. VERTICAL AND HORIZONTAL WALL REINFORCEMENT STEEL FOR 18" WALLS SHALL BE IDENTICAL FOR ALL 18" WALLS IN THE TERTIARY STRUCTURE. L-SHAPED BAR DIMENSIONS VARY, SEE SECTIONS FOR L-SHAPED BAR DIMENSIONS.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZES) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES PER LIFT].

KEYED NOTES:

1. VERTICAL BARS, 10'-0" IN LENGTH, @ 12" O.C. SHALL ALTERNATE WITH FULL WALL HEIGHT VERTICAL BARS @ 12" O.C., TO ACHIEVE A 6" VERTICAL BAR SPACING
2. REFER TO CIVIL DRAWINGS FOR CONCRETE SIDEWALK.
3. REFER TO NOTE NO. 2.
4. REFER TO PROCESS MECHANICAL DRAWINGS FOR CLASS A CONCRETE FILL AT THE BOTTOM OF THE FILTERS.



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

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8398 BRENT D. PEEL

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

TERTIARY TREATMENT, UV DISINFECTION, POST AERATION, AND PARSHALL FLUME
SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SH-6

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 12:44:19 PM / DKS / TERTIARY TREATMENT, UV DISINFECTION, POST AERATION, AND PARSHALL FLUME SECTIONS

NOTES:

1. VERTICAL AND HORIZONTAL WALL REINFORCEMENT STEEL FOR 18" WALLS SHALL BE IDENTICAL FOR ALL 18" WALLS IN THE TERTIARY STRUCTURE. L-SHAPED BAR DIMENSIONS VARY, SEE SECTIONS FOR L-SHAPED BAR DIMENSIONS.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZES) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES PER LIFT].

KEYED NOTES:

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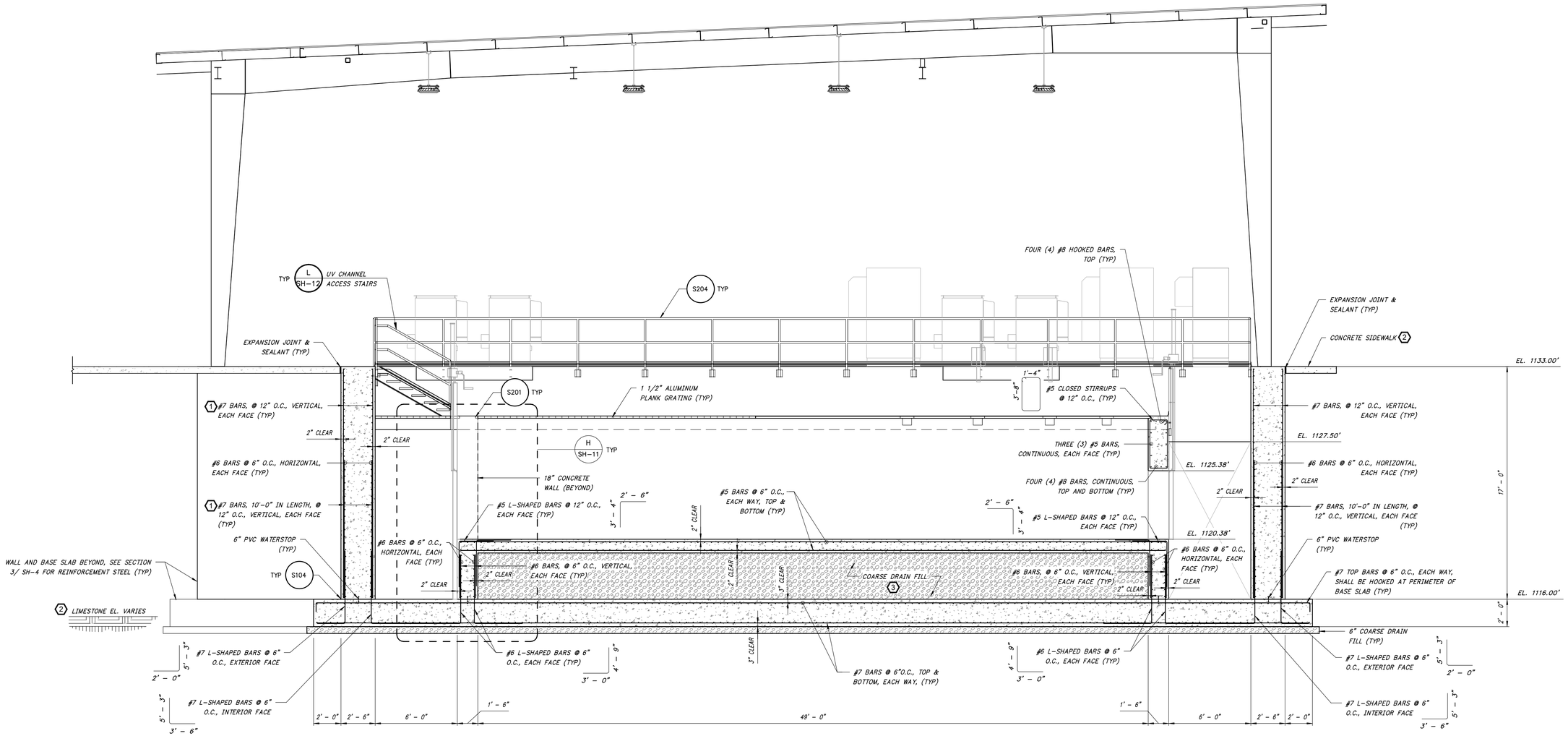
2. REFER TO CIVIL DRAWINGS FOR CONCRETE SIDEWALK.
3. REFER TO NOTE NO. 2.



SECTION 4 / SH-1
1/4" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8398
BRETT D. PEEL
SURVEYED

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

TERTIARY TREATMENT, UV DISINFECTION, POST AERATION, AND PARSHALL FLUME SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SH-7

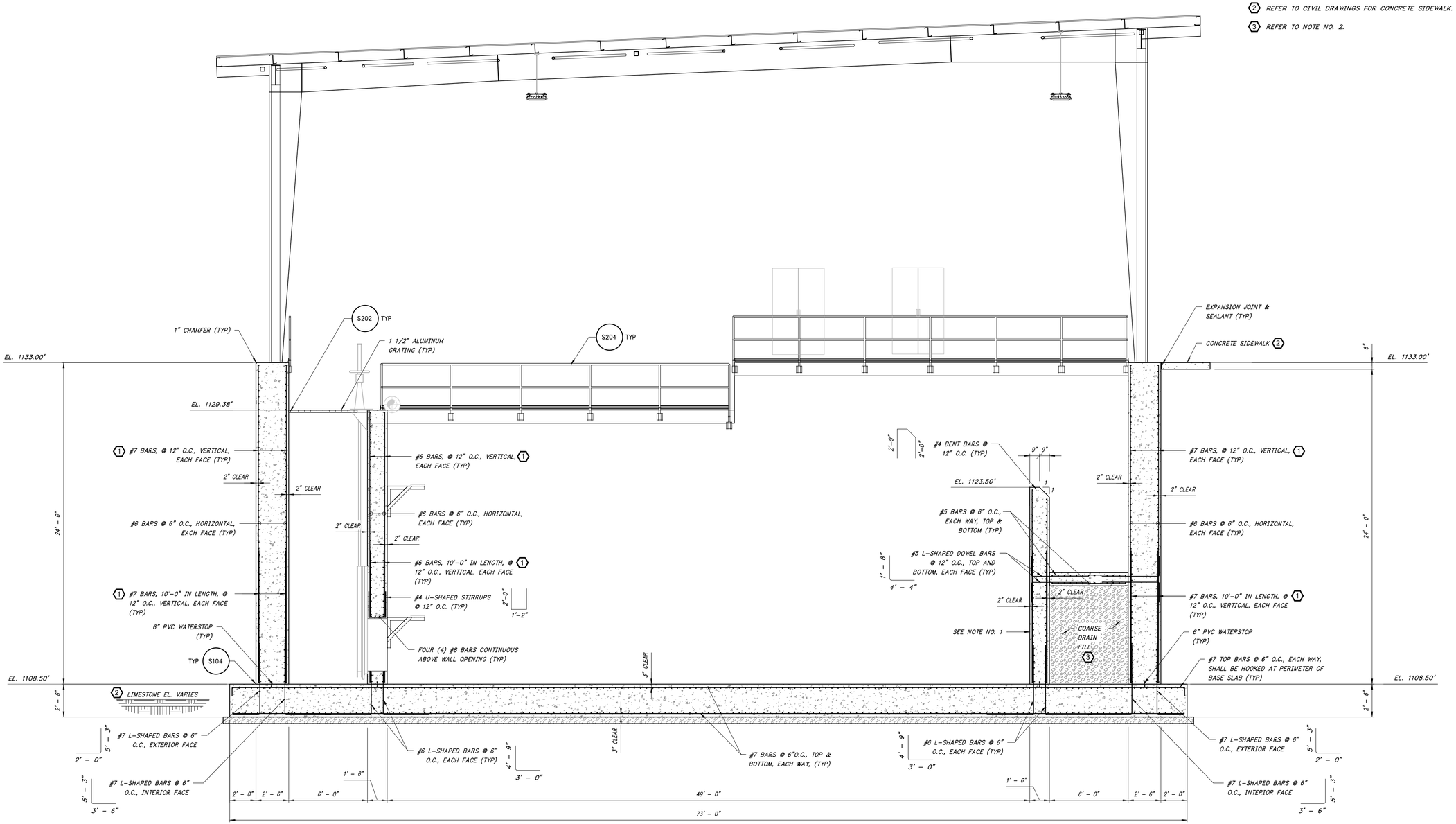
Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 12:44:21 PM / DKS / TERTIARY TREATMENT, UV DISINFECTION, POST AERATION, AND PARSHALL FLUME

NOTES:

1. VERTICAL AND HORIZONTAL WALL REINFORCEMENT STEEL FOR 18" WALLS SHALL BE IDENTICAL FOR ALL 18" WALLS IN THE TERTIARY STRUCTURE. L-SHAPED BAR DIMENSIONS VARY, SEE SECTIONS FOR L-SHAPED BAR DIMENSIONS.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZES) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES PER LIFT].

KEYED NOTES:

1. VERTICAL BARS, 10'-0" IN LENGTH, @ 12" O.C. SHALL ALTERNATE WITH FULL WALL HEIGHT VERTICAL BARS @ 12" O.C., TO ACHIEVE A 6" VERTICAL BAR SPACING
2. REFER TO CIVIL DRAWINGS FOR CONCRETE SIDEWALK.
3. REFER TO NOTE NO. 2.



SECTION 5 / SH-1
1/4" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8398
BRETT D. PEEL

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

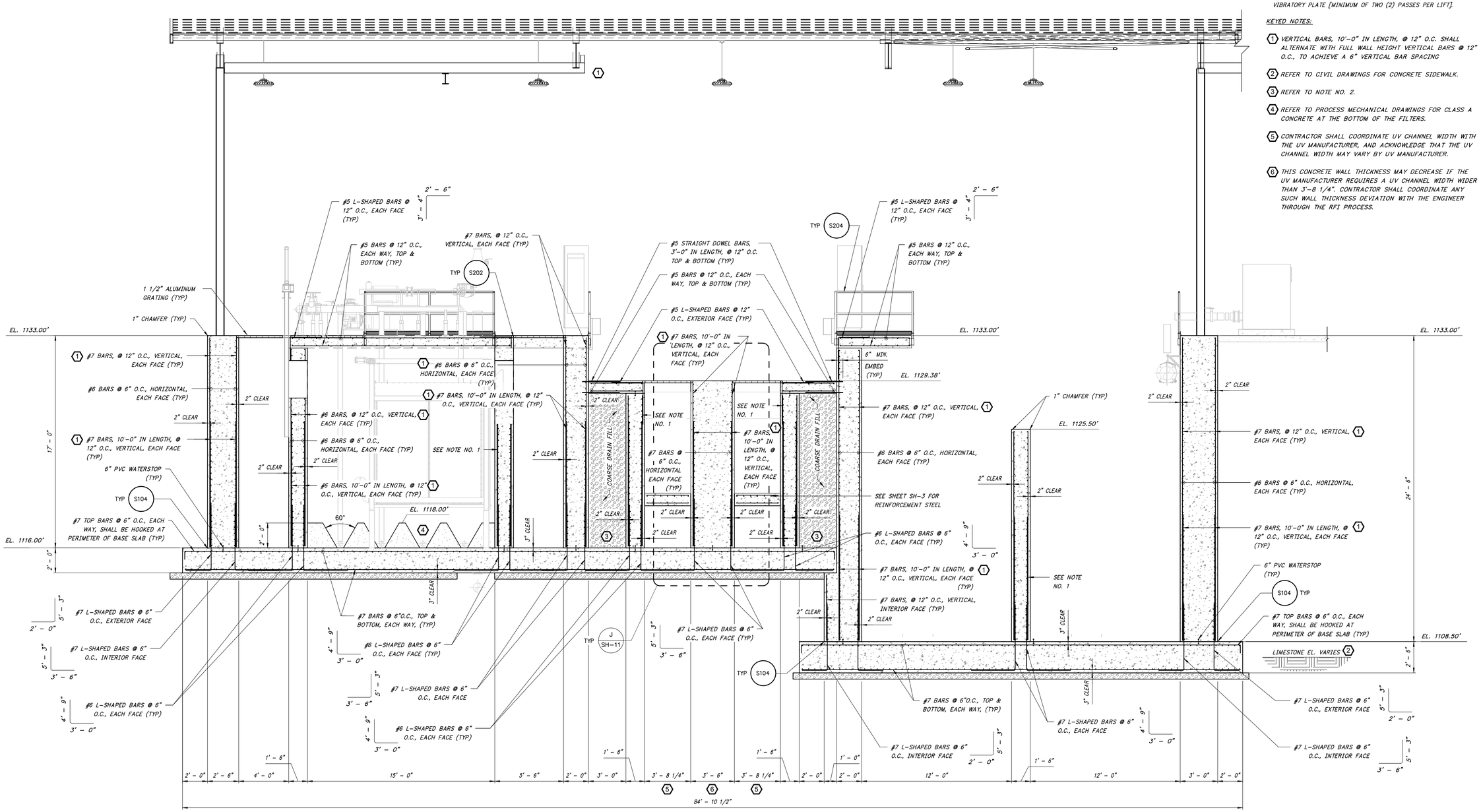
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

TERTIARY TREATMENT, UV DISINFECTION, POST AERATION, AND PARSHALL FLUME
SECTION
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SH-8

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 12:44:35 PM / DKS / TERTIARY TREATMENT, UV DISINFECTION, POST AERATION, AND PARSHALL FLUME



SECTION 6 / SH-1
1/4" = 1'-0"

NOTES:

1. VERTICAL AND HORIZONTAL WALL REINFORCEMENT STEEL FOR 18" WALLS SHALL BE IDENTICAL FOR ALL 18" WALLS IN THE TERTIARY STRUCTURE. L-SHAPED BAR DIMENSIONS VARY, SEE SECTIONS FOR L-SHAPED BAR DIMENSIONS.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZES) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES PER LIFT].

KEYED NOTES:

1. VERTICAL BARS, 10'-0" IN LENGTH, @ 12" O.C. SHALL ALTERNATE WITH FULL WALL HEIGHT VERTICAL BARS @ 12" O.C., TO ACHIEVE A 6" VERTICAL BAR SPACING
2. REFER TO CIVIL DRAWINGS FOR CONCRETE SIDEWALK.
3. REFER TO NOTE NO. 2.
4. REFER TO PROCESS MECHANICAL DRAWINGS FOR CLASS A CONCRETE AT THE BOTTOM OF THE FILTERS.
5. CONTRACTOR SHALL COORDINATE UV CHANNEL WIDTH WITH THE UV MANUFACTURER, AND ACKNOWLEDGE THAT THE UV CHANNEL WIDTH MAY VARY BY UV MANUFACTURER.
6. THIS CONCRETE WALL THICKNESS MAY DECREASE IF THE UV MANUFACTURER REQUIRES A UV CHANNEL WIDTH WIDER THAN 3'-8 1/4". CONTRACTOR SHALL COORDINATE ANY SUCH WALL THICKNESS DEVIATION WITH THE ENGINEER THROUGH THE RFI PROCESS.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER BRENT D. PEEK No. 8398

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

TERTIARY TREATMENT, UV DISINFECTION, POST AERATION, AND PARSHALL FLUME
SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SH-9

NOTES:

1. VERTICAL AND HORIZONTAL WALL REINFORCEMENT STEEL FOR 18" WALLS SHALL BE IDENTICAL FOR ALL 18" WALLS IN THE TERTIARY STRUCTURE. L-SHAPED BAR DIMENSIONS VARY, SEE SECTIONS FOR L-SHAPED BAR DIMENSIONS.

2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZES) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES PER LIFT].

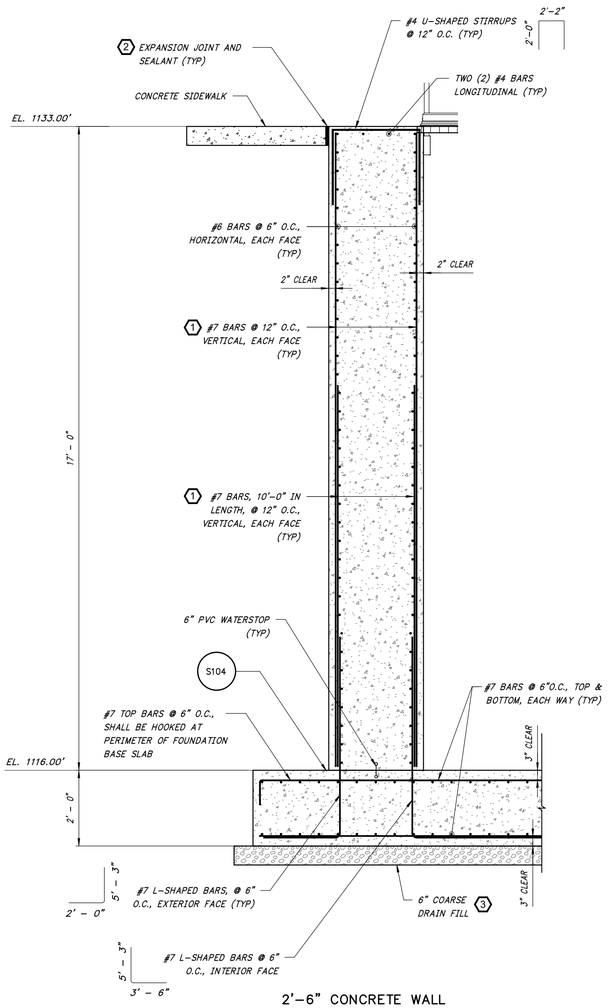
KEYED NOTES:

(1) VERTICAL BARS, 10'-0" IN LENGTH, @ 12" O.C. SHALL ALTERNATE WITH FULL WALL HEIGHT VERTICAL BARS @ 12" O.C., TO ACHIEVE A 6" VERTICAL BAR SPACING.

(2) REFER TO CIVIL DRAWINGS FOR CONCRETE SIDEWALK.

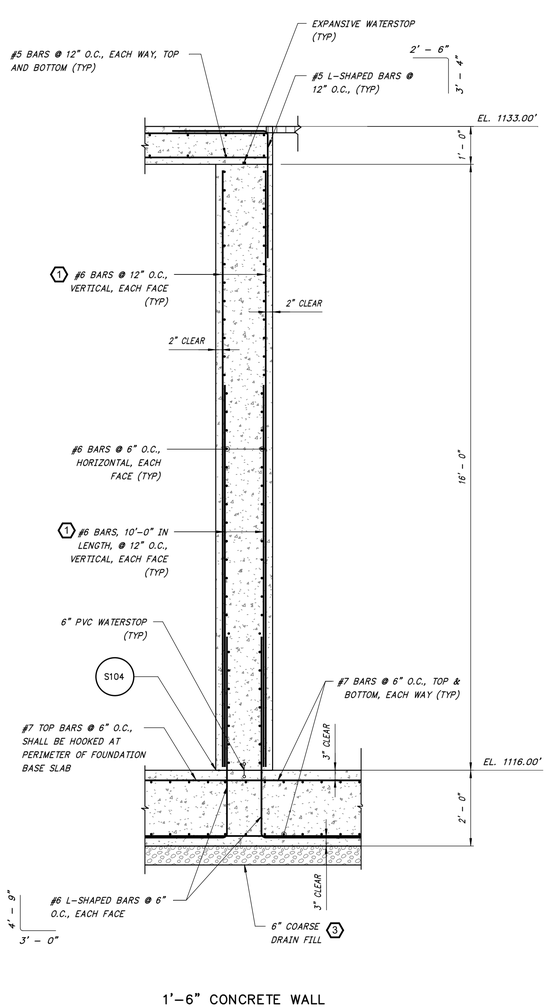
(3) REFER TO NOTE NO. 2.

(4) BASED ON GTS' GEOTECHNICAL REPORT, DATED NOVEMBER 25, 2024, THE ELEVATION OF LIMESTONE VARIES FROM EL. 1113.8' TO EL. 1115.4' PER SOIL BORING NOS. B-13 THROUGH B-15.



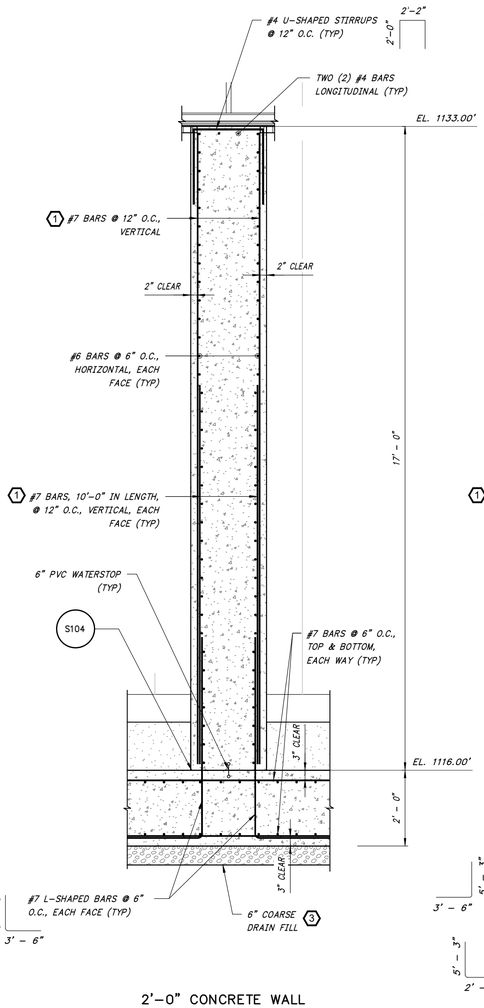
2'-6" CONCRETE WALL

DETAIL D — 1/2" = 1'-0" — SH-5



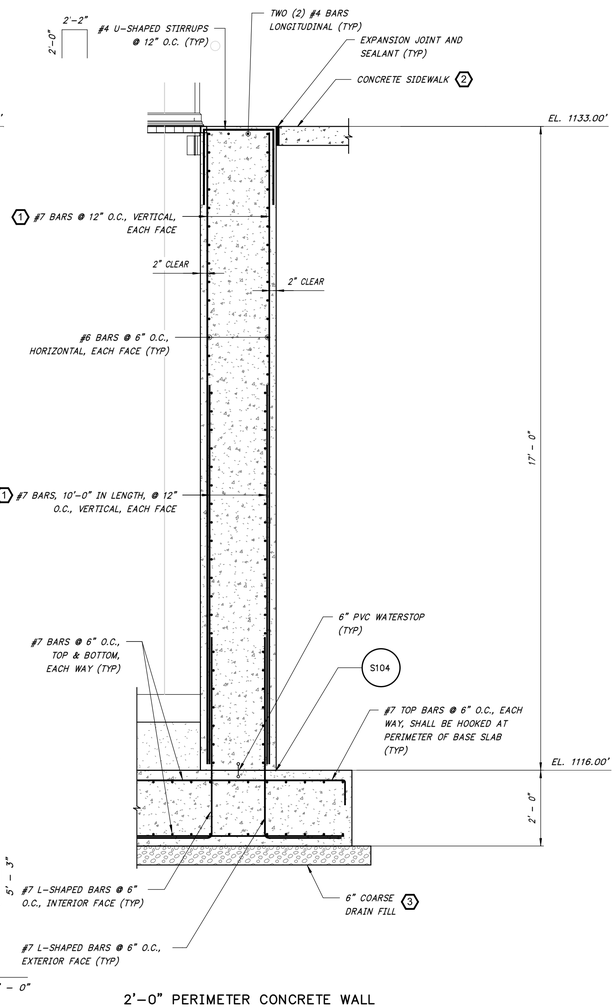
1'-6" CONCRETE WALL

DETAIL E — 1/2" = 1'-0" — SH-4



2'-0" CONCRETE WALL

DETAIL F — 1/2" = 1'-0" — SH-4



2'-0" PERIMETER CONCRETE WALL

DETAIL G — 1/2" = 1'-0" — SH-4

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — BRENT D. PEEK — No. 8398 — 10-31-25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

TERTIARY TREATMENT, UV DISINFECTION, POST AERATION, AND PARSHALL FLUME WALL REINFORCMENT SECTIONS

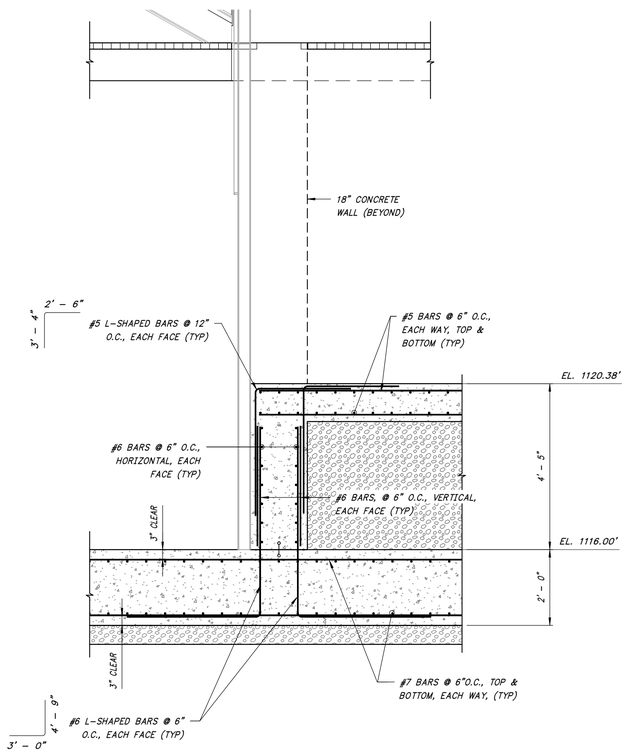
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: JEB
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SH-10

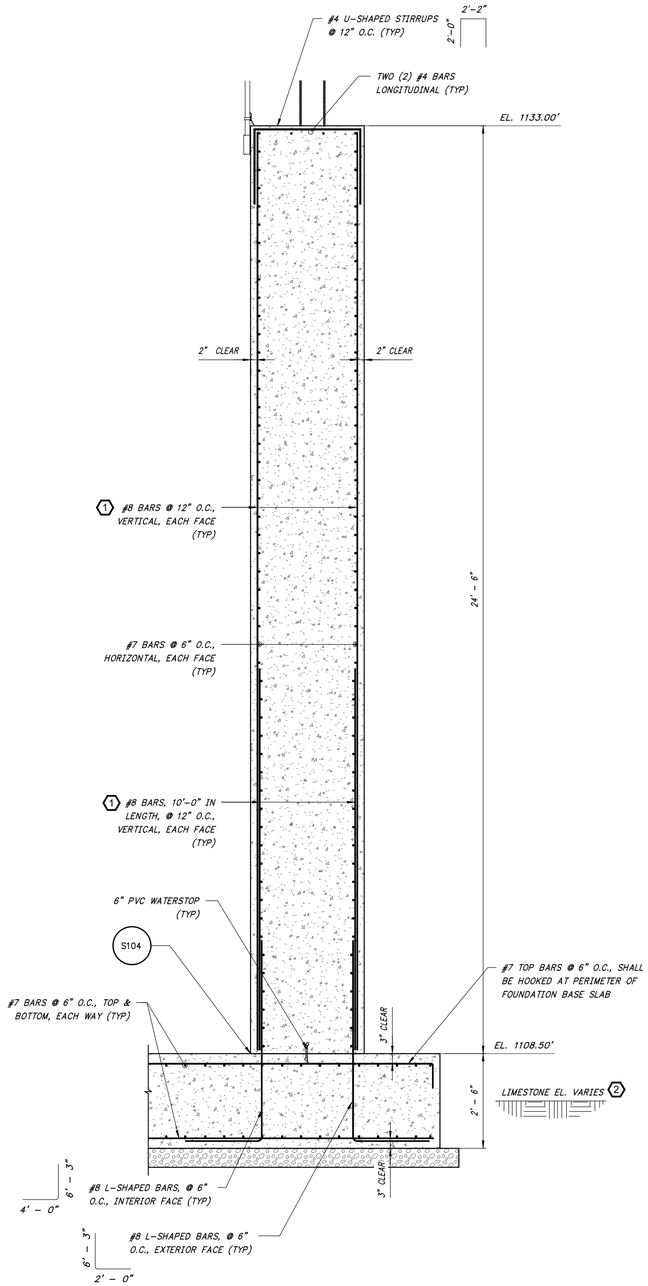
Autodesk Docs://4101144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 12:44:39 PM / JEB / TERTIARY TREATMENT, UV DISINFECTION,

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 12:44:40 PM / DKS / TERTIARY TREATMENT REINFORCEMENT WALL



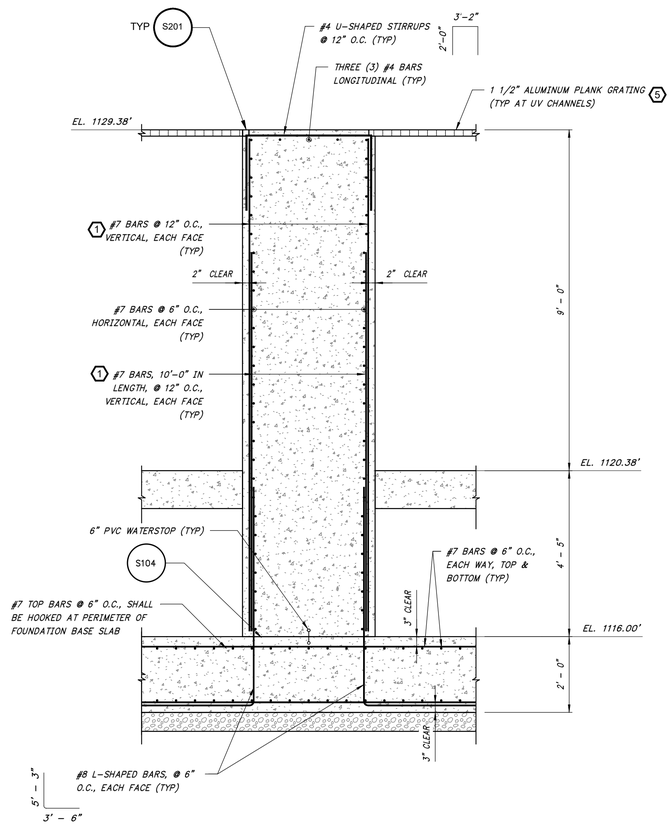
1'-6" CONCRETE WALL AT UV CHANNEL

DETAIL H / 1/2" = 1'-0" / SH-7



3'-0" CONCRETE WALL

DETAIL I / 1/2" = 1'-0" / SH-5



3'-6" CONCRETE WALL

DETAIL J / 1/2" = 1'-0" / SH-9

NOTES:

1. VERTICAL AND HORIZONTAL WALL REINFORCEMENT STEEL FOR 18" WALLS SHALL BE IDENTICAL FOR ALL 18" WALLS IN THE TERTIARY STRUCTURE. L-SHAPED BAR DIMENSIONS VARY, SEE SECTIONS FOR L-SHAPED BAR DIMENSIONS.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZES) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES PER LIFT].

KEYED NOTES:

1. VERTICAL BARS, 10'-0" IN LENGTH, @ 12" O.C. SHALL ALTERNATE WITH FULL WALL HEIGHT VERTICAL BARS @ 12" O.C., TO ACHIEVE A 6" VERTICAL BAR SPACING
2. REFER TO CIVIL DRAWINGS FOR CONCRETE SIDEWALK.
3. REFER TO NOTE NO. 2.
4. BASED ON GTS' GEOTECHNICAL REPORT, DATED NOVEMBER 25, 2024, THE ELEVATION OF LIMESTONE VARIES FROM EL. 1113.8' TO EL. 1115.4' PER SOIL BORING NOS. B-13 THROUGH B-15.
5. 1 1/2" ALUMINUM PLANK GRATING SHALL BE SIMILAR AND EQUAL TO THAT MANUFACTURED BY MCNICHOLS, OR EQUAL ALUMINUM PLANK GRATING SHALL BE EXTRUDED INTERLOCKING PLANK, DIAMONDBACK ®, ADA, ALLOY 6061-T6 EXTRUSION, SOLID (12" WIDTH), 1 1/2" CHANNEL DEPTH, DIAMOND-SERRATED SURFACE, 0% OPEN AREA EXCEPT AT REQUIRED SLIDE GATE OPENINGS. ALL ALUMINUM PLANK GRATING OPENINGS SHALL BE BANDED.
6. APPLY TWO (2) COATS OF COAL TAR EPOXY ON ALUMINUM SURFACES IN CONTACT WITH CONCRETE.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8398 BRETT D. PEEK

HAWKINS-WEIR ENGINEERS, INC.
BLACK & VEATCH

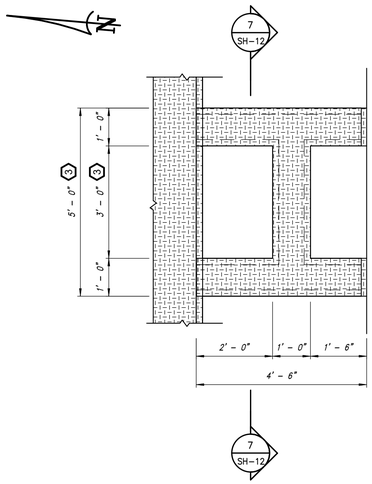
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

TERTIARY TREATMENT REINFORCEMENT WALL SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

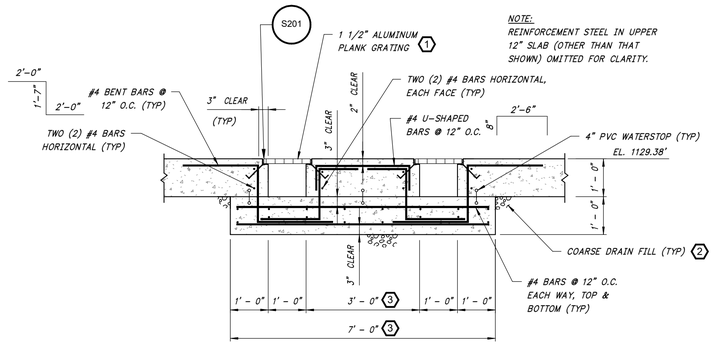
DATE:	MARCH 2025
SCALE:	1/2" = 1'-0"
DESIGNED BY:	BDP
DRAWN BY:	DKS
HWEI NO.:	2021037
FILENAME:	WWRF21037-ST

SHEET NO.
SH-11



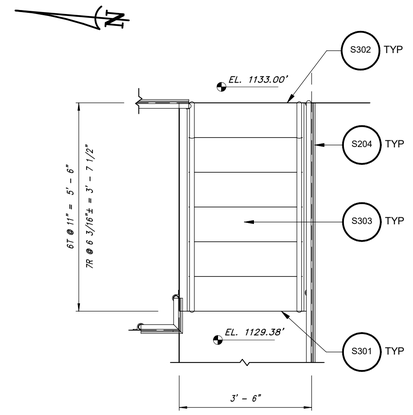
UV CHANNEL POWER CABLE CHASES

DETAIL K / 1/2" = 1'-0" / SH-3



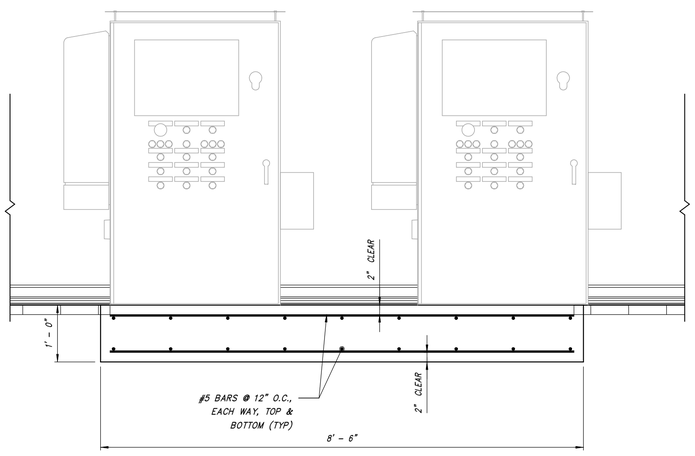
UV CHANNEL POWER CABLE CHASES

SECTION 7 / 1/2" = 1'-0" / SH-12



UV CHANNEL ACCESS STAIRS

DETAIL L / 1/2" = 1'-0" / SH-3



SECTION 8 / 3/4" = 1'-0" / SH-3

NOTES:

1. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZES) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES PER LIFT].

KEYED NOTES:

1. 1 1/2" ALUMINUM PLANK GRATING SHALL BE SIMILAR AND EQUAL TO THAT MANUFACTURED BY MCNICHOLS, OR EQUAL ALUMINUM PLANK GRATING SHALL BE EXTRUDED INTERLOCKING PLANK, DIAMONDBACK ®, ADA, ALLOY 6061-T6 EXTRUSION, SOLID (12" WIDTH), 1 1/2" CHANNEL DEPTH, DIAMOND-SERRATED SURFACE, 0% OPEN AREA EXCEPT AT REQUIRED SLIDE GATE OPENINGS. ALL ALUMINUM PLANK GRATING OPENINGS SHALL BE BANDED.
2. REFER TO NOTE NO. 1.
3. DIMENSIONS SHOWN ARE FOR THE SOUTH UV CHANNEL POWER CABLE CHASES. OVERALL DIMENSION FOR THE NORTHEAST UV CHANNEL POWER CABLE CHASES SHALL BE 7'-2", AND THE OVERALL DIMENSION FOR THE NORTHWEST UV CHANNEL POWER CABLE CHASES SHALL BE 8'-2".
4. APPLY TWO (2) COATS OF COAL TAR EPOXY ON ALUMINUM SURFACES IN CONTACT WITH CONCRETE.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE
REVISION

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8398
BRENT D. PEEK
3/21/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

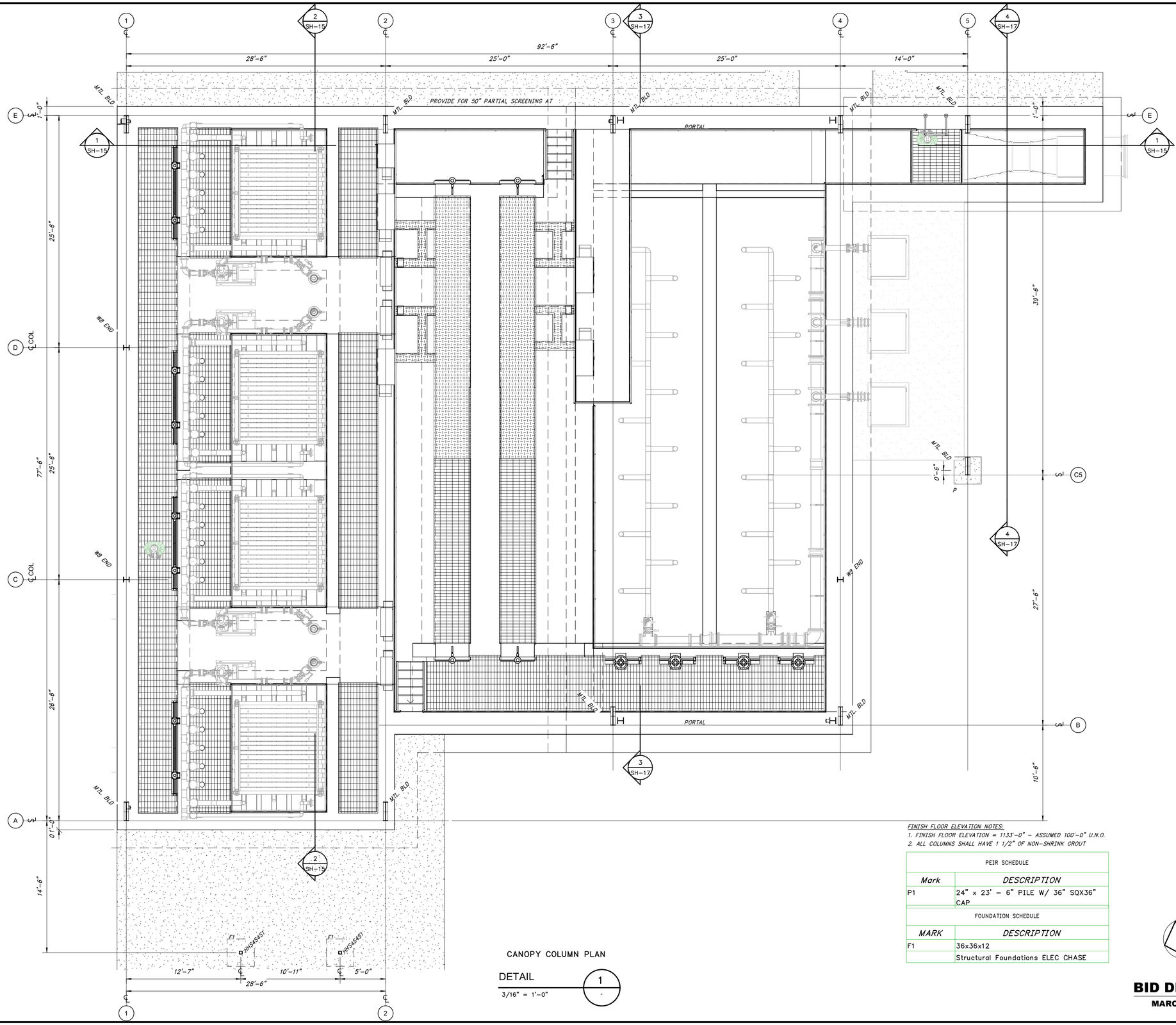
TERTIARY TREATMENT
DETAIL AND SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: BDP
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SH-12

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 12:44:41 PM / ADF / TERTIARY TREATMENT



CANOPY COLUMN PLAN

DETAIL 1 — 3/16" = 1'-0"

FINISH FLOOR ELEVATION NOTES:

1. FINISH FLOOR ELEVATION = 1133'-0" – ASSUMED 100'-0" U.N.O.
2. ALL COLUMNS SHALL HAVE 1 1/2" OF NON-SHRINK GROUT

PEIR SCHEDULE	
Mark	*DESCRIPTION*
P1	24" x 23' – 6" PILE W/ 36" SQX36" CAP

FOUNDATION SCHEDULE	
MARK	*DESCRIPTION*
F1	36x36x12
	Structural Foundations ELEC CHASE

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
JASON M. RUDOLPH
No. 14516
REGISTERED PROFESSIONAL ENGINEER
03/21/25

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BLACK & VEATCH

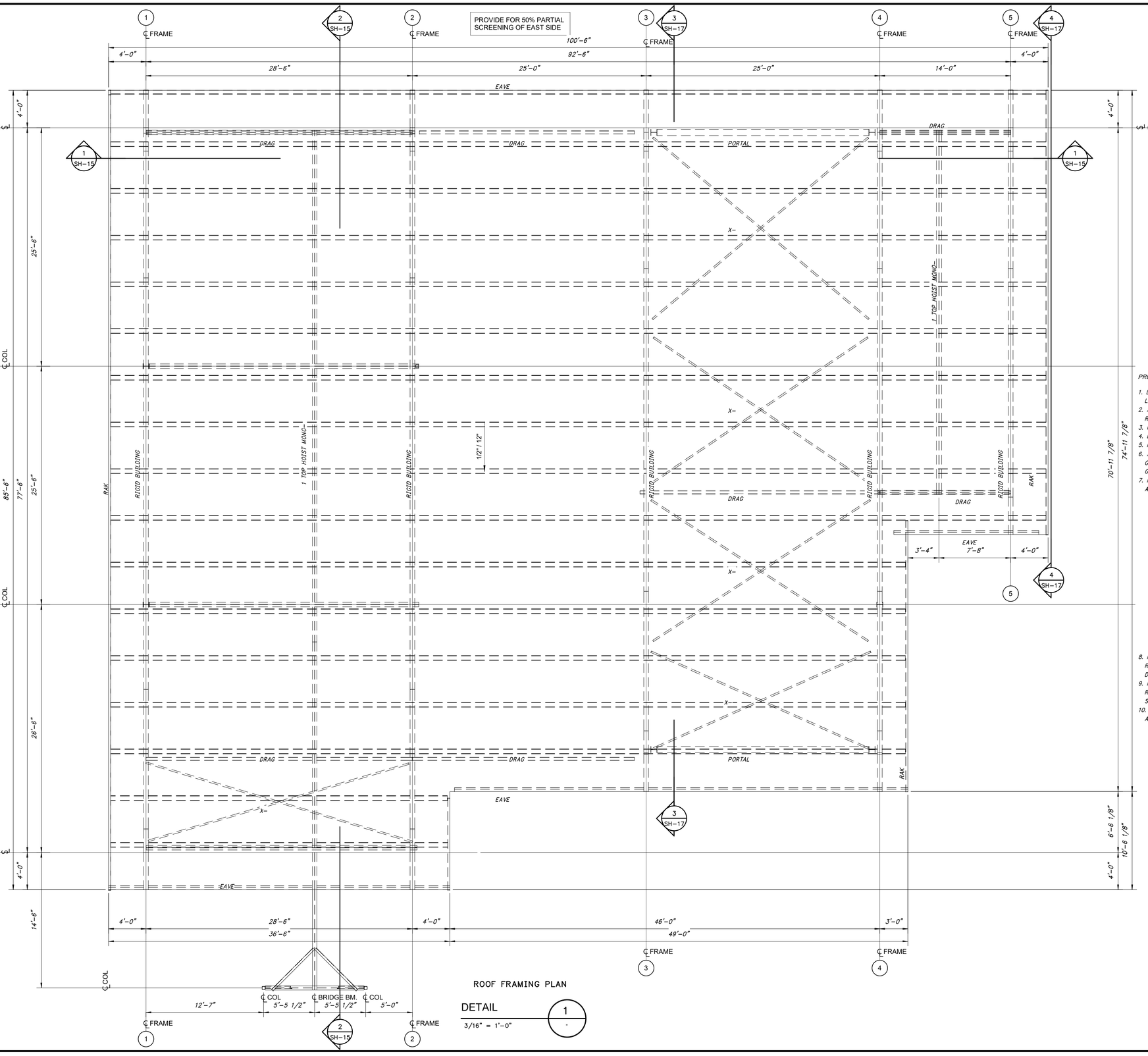
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

TERTIARY TREATMENT, UV DISINFECTION, POST AERATION, AND PARCHALL FLUME
CANOPY COLUMN PLAN
FOR: BENTONVILLE WATER UTILITIES

DATE: MARCH 2025
SCALE: 3/16" = 1'-0"
DESIGNED BY: JR
DRAWN BY: TL
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SH–13

Autodesk Docs://4101144 – Bentonville Water Resource Recovery Facility Improvements/S–TERTIARY–PR.rvt 3/21/2025 12:54:04 PM / TL / TERTIARY TREATMENT, UV DISINFECTION, POST AERATION, AND PARCHALL FLUME



ROOF FRAMING PLAN

DETAIL 1 — 3/16" = 1'-0"

℄ - DENOTES STRUCTURAL LINE
℄ - DENOTES FACE OF COLUMN
℄ - DENOTES BLOCK LINE
℄ - DENOTES CENTER LINE

METAL BUILDING LEGEND
3/4" = 1'-0"

PRE-ENGINEERED METAL BUILDING NOTES

1. DETAILING, FABRICATION, AND ERECTION, SHALL CONFORM TO THE AISC STEEL CONSTRUCTION MANUAL, LATEST EDITION.
2. ALL WELDS TO BE MADE BY CERTIFIED WELDERS TO AWS STANDARDS WITH E70 ELECTRODES AND MEET THE REQUIREMENTS OF THE IBC 2021 SECTION 2204.1.
3. UNLESS NOTED OTHERWISE, ANCHOR BOLTS SHALL CONFORM TO ASTM F1554 GRADE 55 SUPPLEMENT 1.
4. DO NOT USE CABLES FOR X-BRACING. PROVIDE RODS OR HEAVIER MEMBER FOR ALL PROVIDED X-BRACES.
5. ROOF AND WALL OPENING FRAMES TO BE PROVIDED BY THE METAL BUILDING SYSTEM PROVIDER.
6. ALL STEEL SHALL BE HOT DIPPED GALVANIZED WITH FINISH OF 3.9 MILL MINIMUM THICKNESS. GALVANIZING SHALL BE DONE IN ACCORDANCE WITH ASTM A123/A. ALL BOLTS SHALL BE HOT DIPPED GALVANDEAD LOAD:4 STAINLESS STEEL WHERE OWEIGHT OF STRUCTURE AND EQUIPMENT.
7. PRE-EIROOF LIVE LOAD:ING SHALL BE DESIGN20 PCFRESIST THE DESIGN LOADS AS REQUIRED BY THE 2021 ARKANSUNIFORM SNOW LOAD: CODE (IBC, 2021) :16.5 PSISHOWN BELOW.

WIND
- RISK CATEGORY: III
- EXPOSURE CATEGORY: C
- SEISMIC DESIGN CRITERIA:
- SITE CLASS: C
- SIESMIC RISK CATEGORY: III
- OCCUPANCY IMPORTANCE FACTOR: 1.25
- SEISMIC DESIGN CATEGORY: B

Ss = 0.153 Fa = 1.3 SMS = 0.199 SDS = 0.133
S1 = 0.089 Fv = 1.5 SM1 = 0.134 SD1 = 0.089

8. PRE-ENGINEERED METAL BUILDING MANUFACTURER SHALL PROVIDED REQUIRED THERMAL EXPANSION JOINTS REQUIRED IN THE BUILDING AND CRANE RUNWAY STRUCTURE TO ACCOMMODATE A TEMPERATURE DIFFERENTIAL OF 100?.
9. PRE-ENGINEERED METAL BUILDING MANUFACTURER SHALL SUBMIT CALCULATIONS, INCLUDING COLUMN REACTIONS AND DEFLECTIONS TO THE FOUNDATION ENGINEER FOR APPROVAL. CALCULATIONS SHALL BE STAMPED BY AN PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF ARKANSAS.
10. DESIGN HOIST LOADS (TO BE VERIFIED WITH FINAL SELECTION OF HOIST)
    A. LIFTING LOAD = 1 TON

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS — JUSTIN M. RUDOLPH — No. 14516 — PROFESSIONAL ENGINEER — 03/21/25

HAWKINS-WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

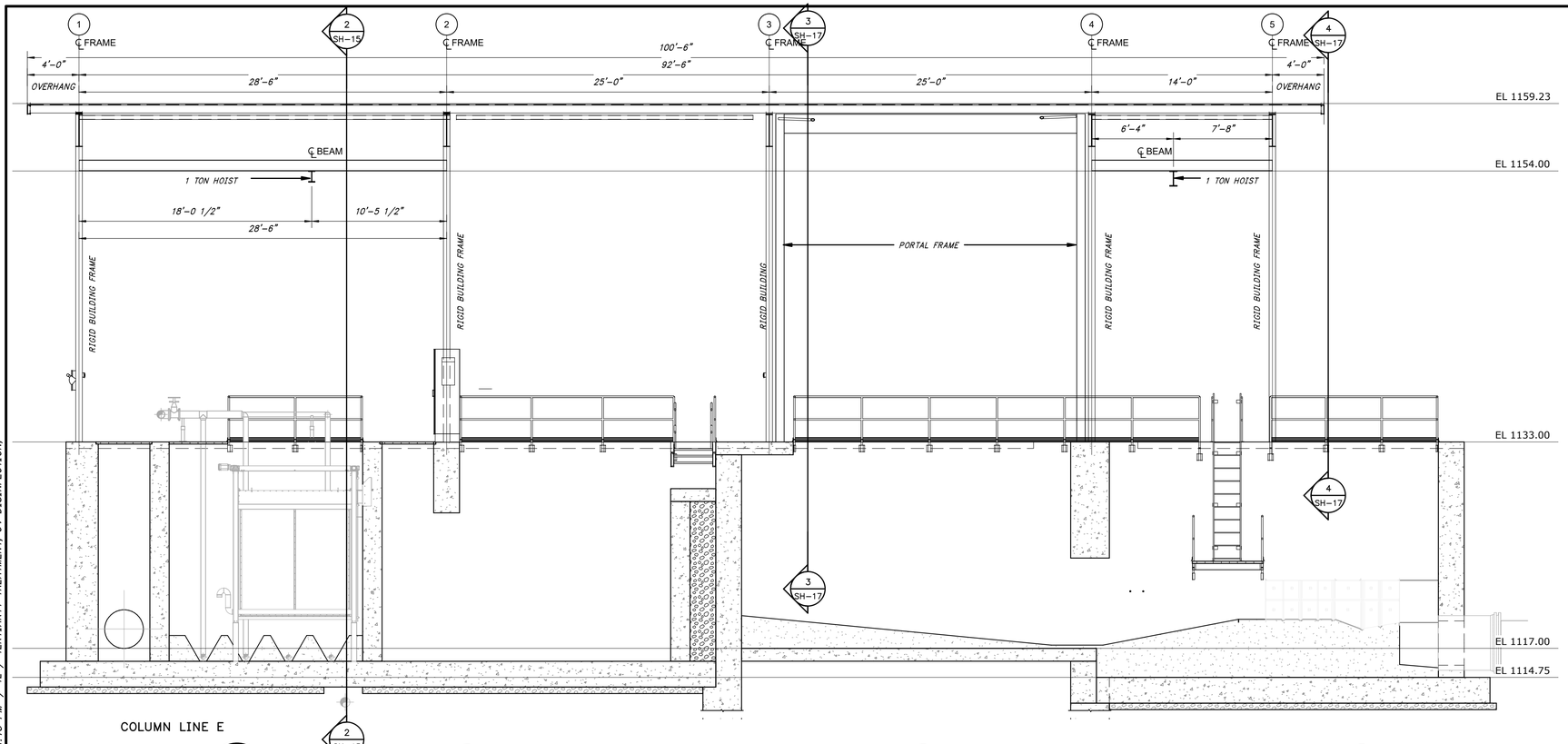
TERTIARTY TREATMENT, UV DISINFECTION, POST AERATION, AND PARSHALL FLUME CANOPY ROOF FRAMING PLAN

FOR: BENTONVILLE WATER UTILITIES

DATE: MARCH 2025
SCALE: As indicated
DESIGNED BY: JR
DRAWN BY: TL
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SH-14

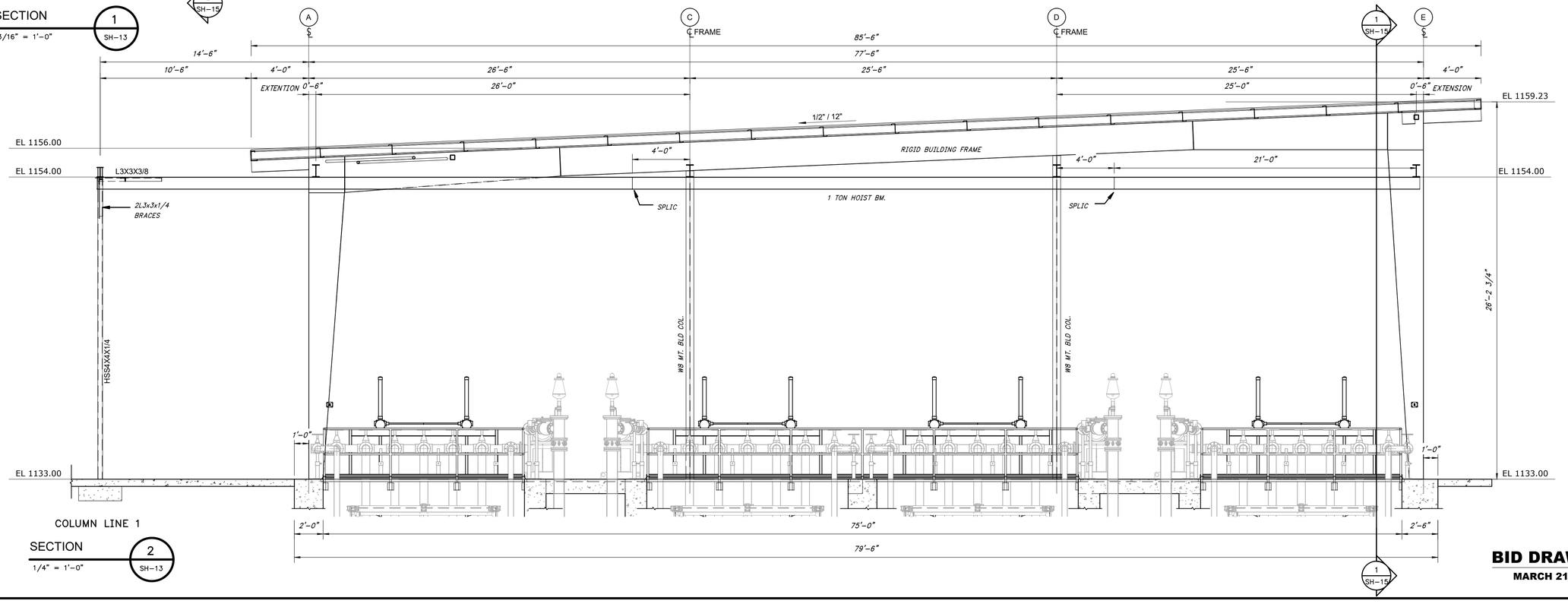
Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/S-TERTIARY-PR.rvt 3/21/2025 12:54:05 PM / TL / TERTIARY TREATMENT, UV DISINFECTION,



COLUMN LINE E

SECTION 1 / SH-13

3/16" = 1'-0"



COLUMN LINE 1

SECTION 2 / SH-13

1/4" = 1'-0"

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
JASON M. RUDOLPH
No. 14516
PROFESSIONAL ENGINEER
03/21/25

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CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

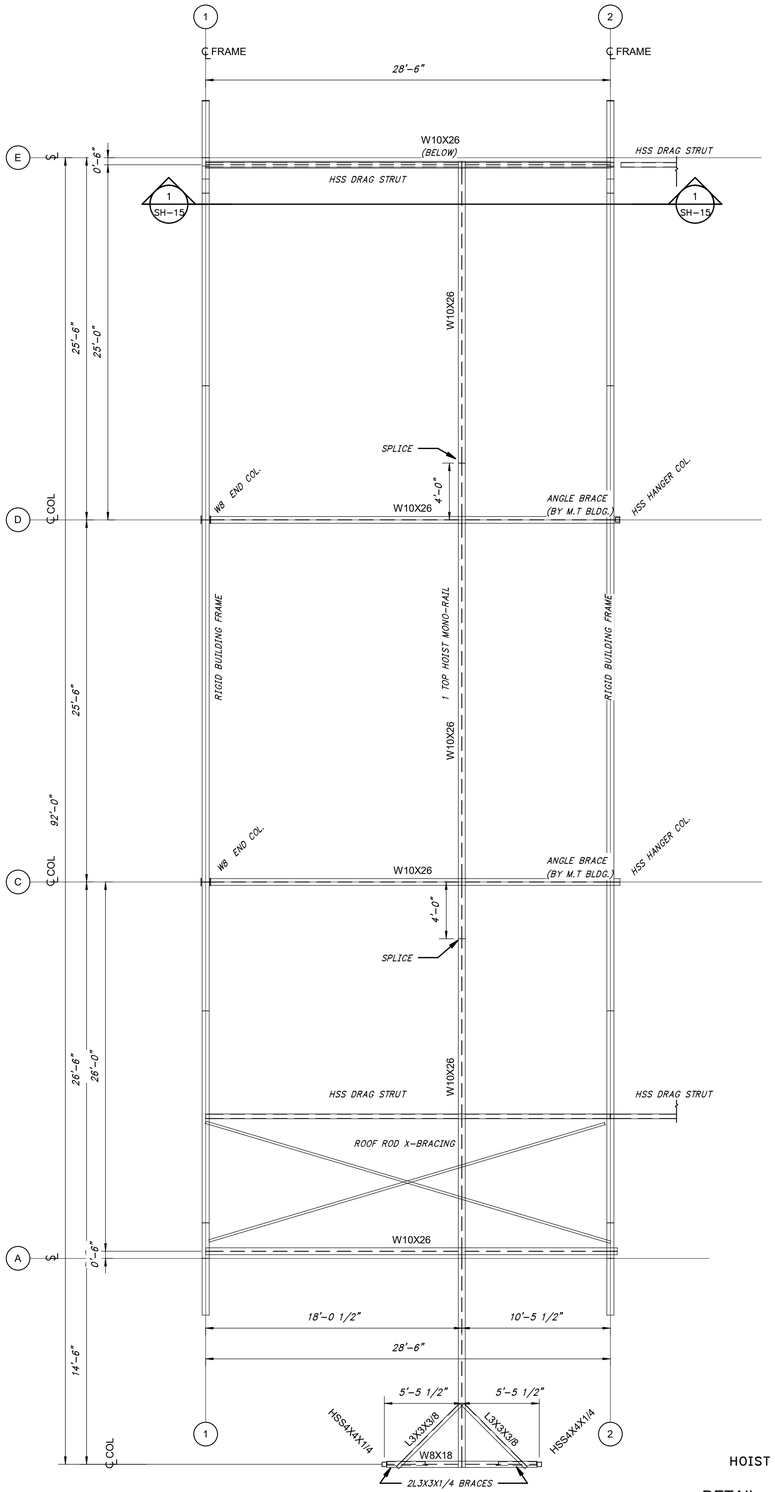
TERTIARTY TREATMENT, UV DISINFECTION, POST AERATION, AND PARSHALL FLUME FRAMING SECTIONS

FOR: BENTONVILLE WATER UTILITIES

DATE:	MARCH 2025
SCALE:	As indicated
DESIGNED BY:	JR
DRAWN BY:	TL
HWEI NO.:	2021037
FILENAME:	WWRF21037-ST

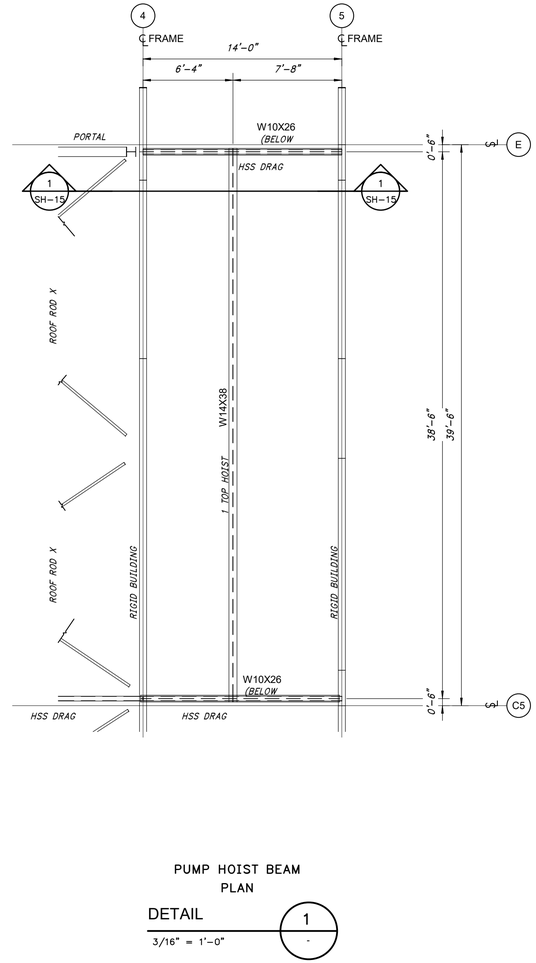
SHEET NO.
SH-15

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/S-TERTIARY-PR.rvt 3/21/2025 12:54:10 PM / TL / TERTIARTY TREATMENT, UV DISINFECTION,



HOIST BEAM PLAN

DETAIL 2 / 3/16" = 1'-0"



PUMP HOIST BEAM PLAN

DETAIL 1 / 3/16" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
JASON M. RUDOLPH
No. 14516
REGISTERED PROFESSIONAL ENGINEER
03/21/2025

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BLACK & VEATCH

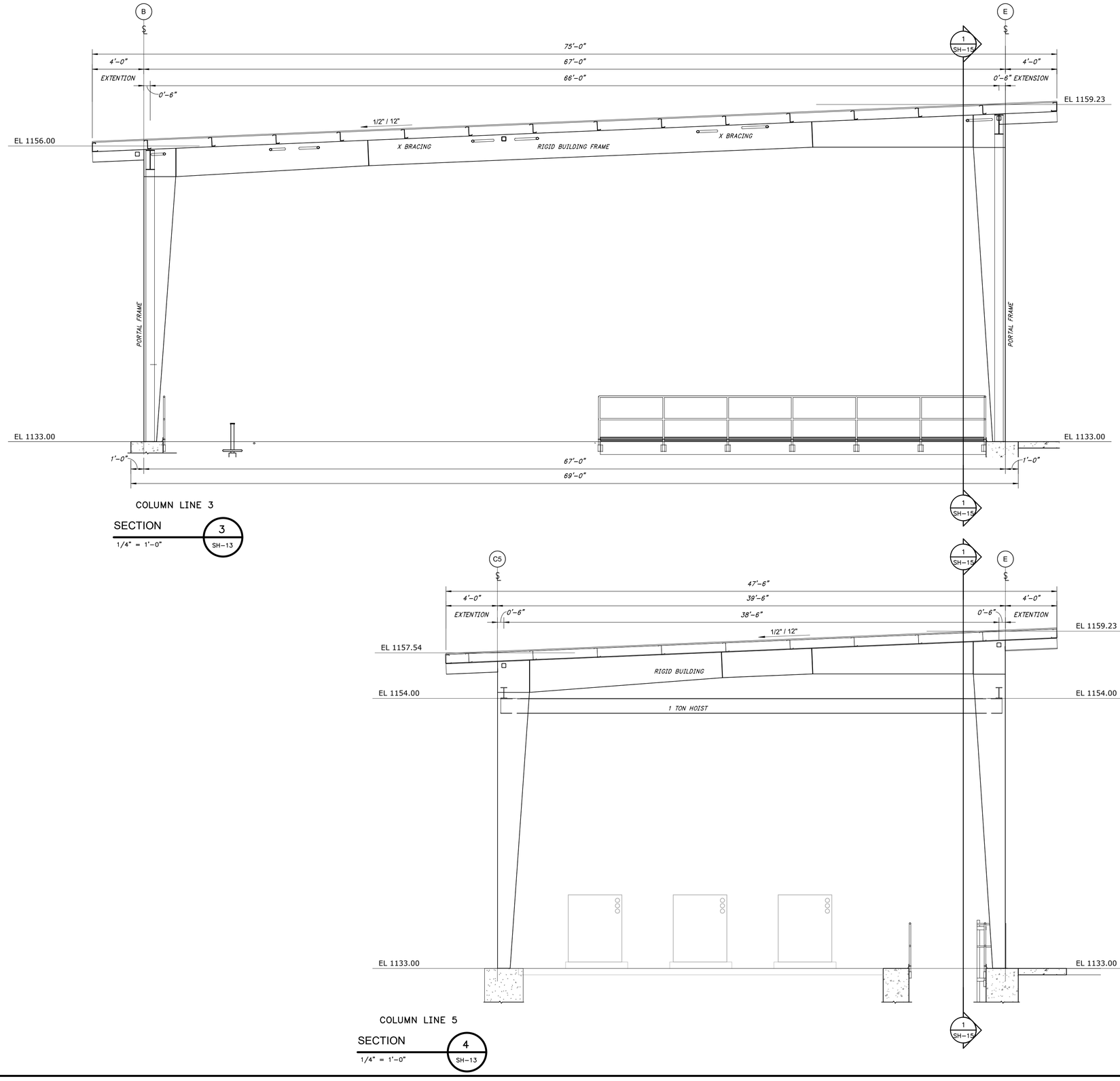
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

TERTIARY TREATMENT, UV DISINFECTION, POST AERATION, AND PARSHALL FLUME CANOPY HOIST BEAM PLANS
FOR: BENTONVILLE WATER UTILITIES

DATE: MARCH 2025
SCALE: 3/16" = 1'-0"
DESIGNED BY: JR
DRAWN BY: TL
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SH-16

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/S-TERTIARY-PR.rvt 3/21/2025 12:54:05 PM / TL / TERTIARY TREATMENT, UV DISINFECTION,



COLUMN LINE 3

SECTION 3 SH–13

1/4" = 1'–0"

COLUMN LINE 5

SECTION 4 SH–13

1/4" = 1'–0"

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
JOHN M. RUDOLPH
No. 14516
PROFESSIONAL ENGINEER
03/21/25

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BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

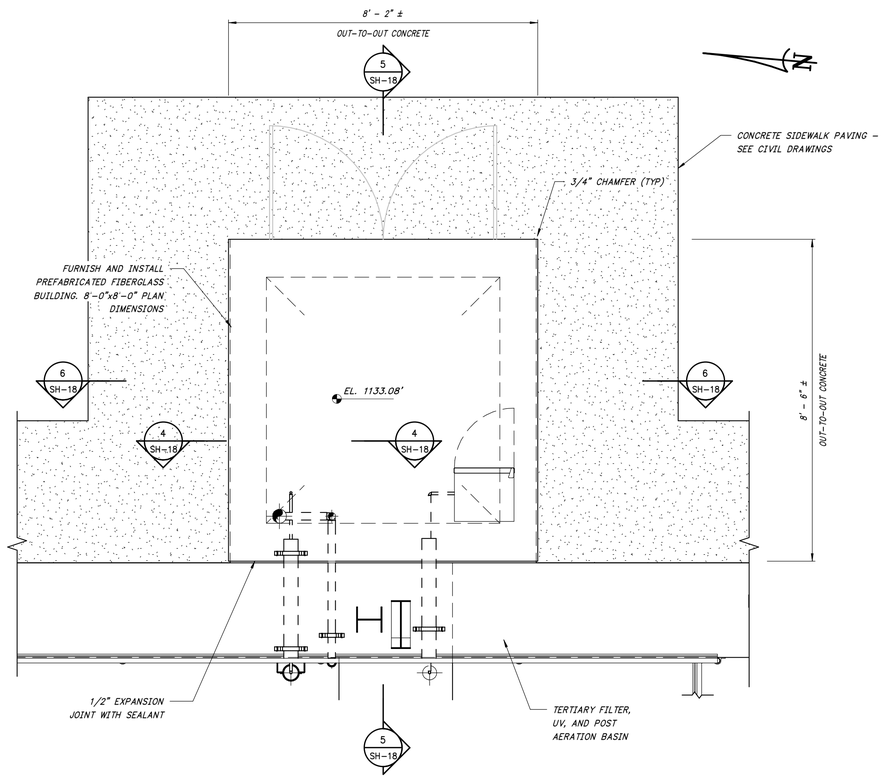
TERTIARY TREATMENT, UV DISINFECTION, POST AERATION, AND PARSHALL FLUME FRAMING SECTION

FOR: BENTONVILLE WATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'–0"
DESIGNED BY: JR
DRAWN BY: TL
HWEI NO.: 2021037
FILENAME: WWRF21037–ST

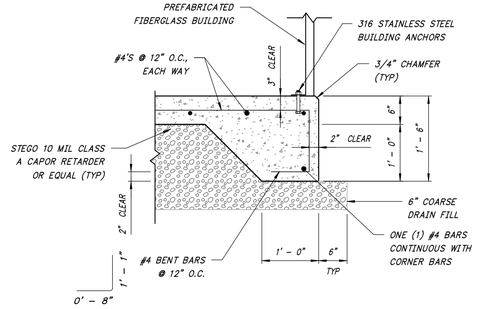
SHEET NO.
SH–17

Autodesk Docs://410144 – Bentonville Water Resource Recovery Facility Improvements/S–TERTIARY–PR.rvt 3/21/2025 12:54:10 PM / TL / TERTIARY TREATMENT, UV DISINFECTION,



SAMPLER BUILDING
FOUNDATION PLAN

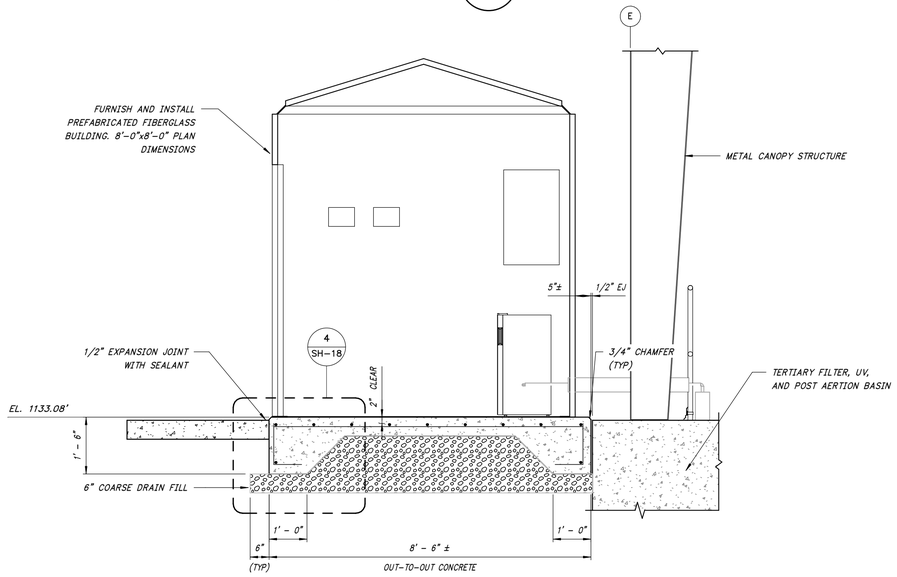
DETAIL B
1/2" = 1'-0"



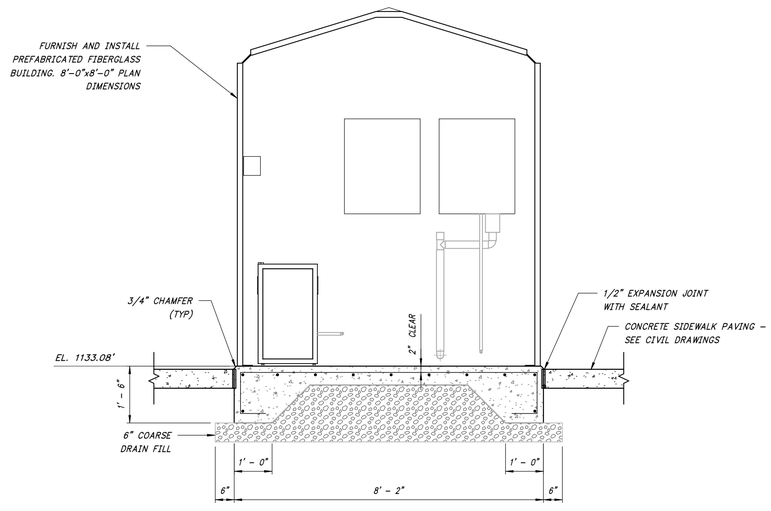
SECTION 4
3/4" = 1'-0"
SH-18

NOTES:

1. CONTRACTOR SHALL COORDINATE AND VERIFY PREFABRICATED BUILDING FOUNDATION PLAN DIMENSIONS WITH THE PROPOSED PREFABRICATED BUILDING TO BE PROVIDED PRIOR TO CONSTRUCTION OF FOUNDATION.
2. REFER TO SPECIFICATION SECTION 13121 FOR PREFABRICATED FIBERGLASS BUILDING.
3. PREFABRICATED BUILDING ANCHORS FOR ATTACHING BUILDING TO CONCRETE FOUNDATION SHALL BE 316 STAINLESS STEEL UNLESS INDICATED OTHERWISE. ANCHOR TYPE, SIZE, AND EMBEDMENT DEPTH SHALL BE SUBMITTED WITH PREFABRICATED BUILDING SUBMITTAL.
4. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.
5. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES PER LIFT].



SECTION 5
1/2" = 1'-0"
SH-18



SECTION 6
1/2" = 1'-0"
SH-18

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HARRIS
NO. 13205

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

SAMPLER BUILDING
DETAIL AND SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: As indicated
DESIGNED BY: LCH
DRAWN BY: JEB
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

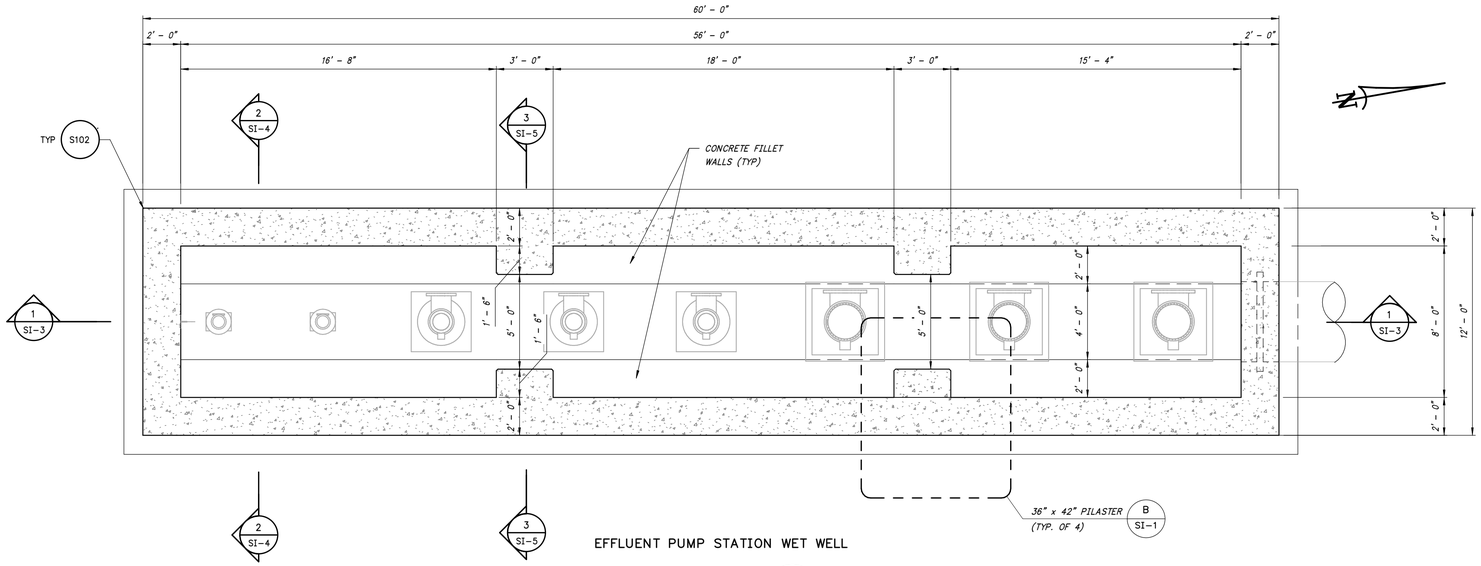
SHEET NO.
SH-18

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 12:44:46 PM / JEB / SAMPLER BUILDING

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 4:03:34 PM / CES / EFFLUENT PUMP STATION

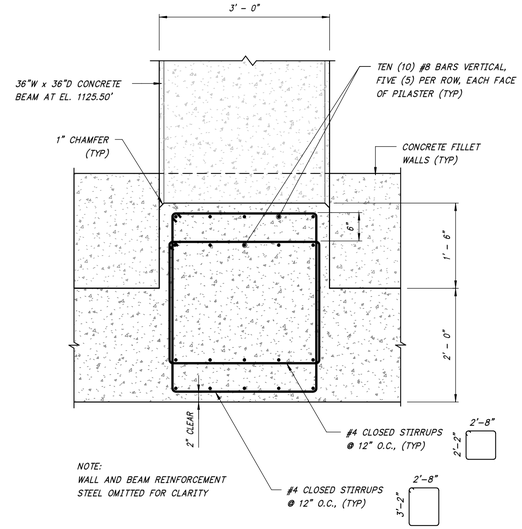
NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR ALL WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO STANDARD DETAIL S103.
2. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.
3. REFER TO SPECIFICATION SECTION 02140 FOR DEWATERING AND DRAINAGE. ALSO, REFER TO THE GEOTECHNICAL REPORT PREPARED BY GTS, INC., REVISED NOVEMBER 25, 2024.
4. REFER TO SPECIFICATION SECTION 02250 FOR EXCAVATION SUPPORT AND PROTECTION.



EFFLUENT PUMP STATION WET WELL

DETAIL A — 1/4" = 1'-0"



PILASTER

DETAIL B — 3/4" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — No. 8398 — BRETT D. PEEL

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

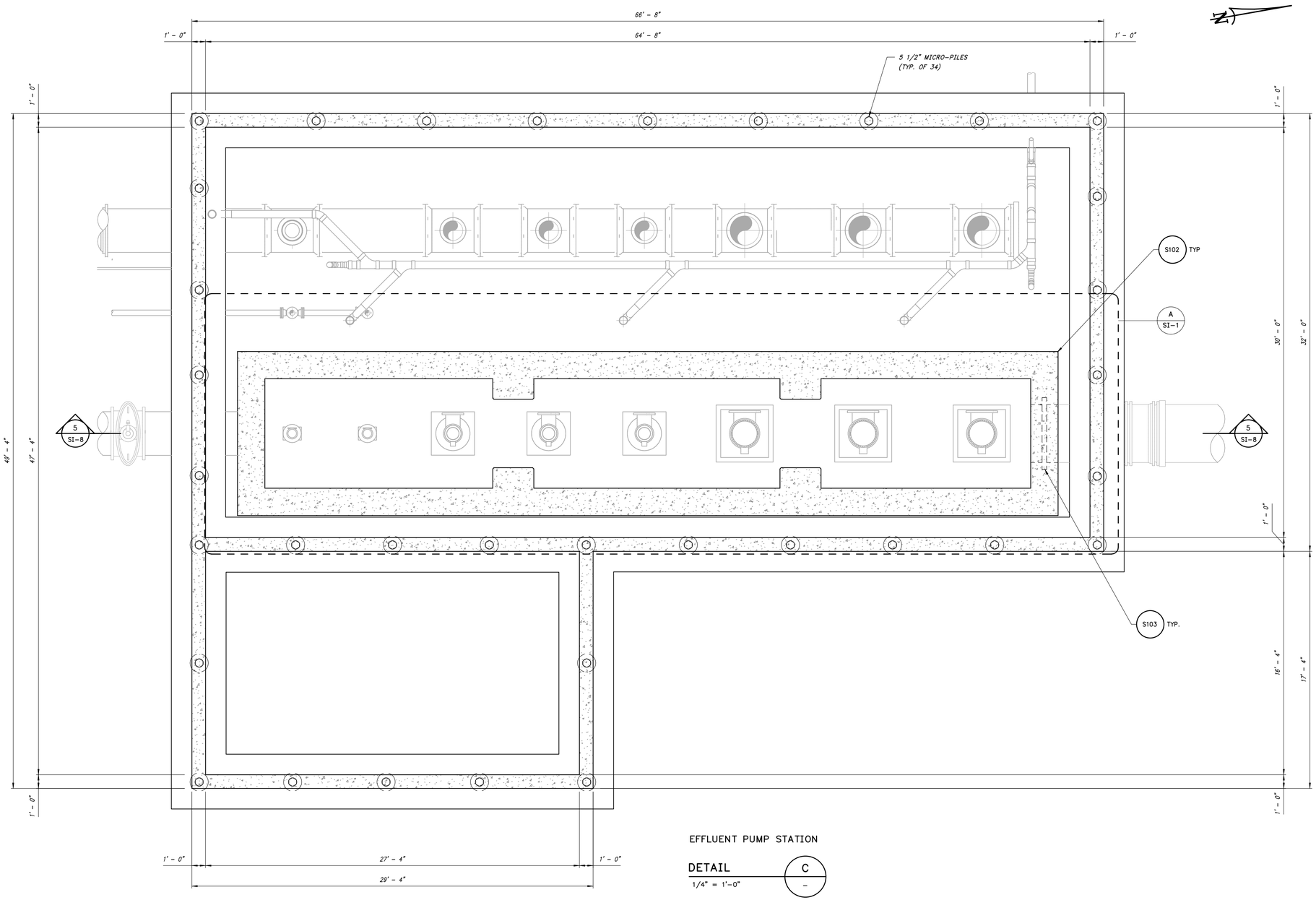
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

EFFLUENT PUMP STATION WET WELL DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE:	MARCH 2025
SCALE:	As indicated
DESIGNED BY:	BDP
DRAWN BY:	CES
HWEI NO.:	2021037
FILENAME:	WWRF21037-ST

SHEET NO.
SI-1



EFFLUENT PUMP STATION

DETAIL C

1/4" = 1'-0"

MICRO-PILE NOTES:

1. *THE CONTRACTOR AND/OR THEIR MICROPILE SPECIALTY SUBCONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND TESTING OF MICRO-PILES IN ACCORDANCE WITH SPECIFICATION SECTION 02469 DRILLED MICRO-PILES.*

2. *THE MICRO-PILE SPECIALTY SUBCONTRACTOR SHALL DESIGN THE MICRO-PILE TYPE, SIZE, INSTALLATION MEANS AND METHODS, ESTIMATE THE GROUND-GROUT BOND VALUE AND DETERMINE THE REQUIRED BOND LENGTH AND FINAL MICRO-PILE DIAMETER BASED ON THE REQUIRED LOAD CAPACITIES INDICATED ON THE PLANS. THE MICRO-PILE LOAD CAPACITIES SHALL BE VERIFIED BY PROOF LOAD TESTING AS SPECIFIED IN SECTION 02469.*

3. *THE MICRO-PILE SPECIALTY SUBCONTRACTOR SHALL BE EXPERIENCED IN THE CONSTRUCTION AND LOAD TESTING OF MICRO-PILES IN SOIL/ROCK SIMILAR TO PROJECT CONDITIONS IDENTIFIED IN GTS' GEOTECHNICAL REPORT DATED NOVEMBER 25, 2024.*

4. *THE MICRO-PILE SPECIALTY SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ASSIGNING A PROFESSIONAL ENGINEER, LICENSED IN ARKANSAS, WITH EXPERIENCE IN THE DESIGN OF MICRO-PILES AND BE RESPONSIBLE FOR ANY DESIGN RELATED EXPENSES.*

5. *THE MICRO-PILES SHALL BE DESIGNED TO MEET THE SPECIFIED LOADING CONDITIONS, AS IDENTIFIED IN THE PLANS, USING THE PROCEDURES OUTLINED IN THE FHWA "MICRO-PILE DESIGN AND CONSTRUCTION", REPORT NO. FHWA NHI-05-039. REFER TO SECTION 02469 FOR ANY ADDITIONAL DESIGN AND SUBMITTAL REQUIREMENTS.*

NOTES:

1. *REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR ALL WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO STANDARD DETAIL S103.*

2. *ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.*

3. *REFER TO SPECIFICATION SECTION 02140 FOR DEWATERING AND DRAINAGE. ALSO, REFER TO THE GEOTECHNICAL REPORT PREPARED BY GTS, INC., REVISED NOVEMBER 25, 2024.*

4. *REFER TO SPECIFICATION SECTION 02250 FOR EXCAVATION SUPPORT AND PROTECTION.*

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8398
BRETT D. PEEL

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

EFFLUENT PUMP STATION FOUNDATION PLAN

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SI-2

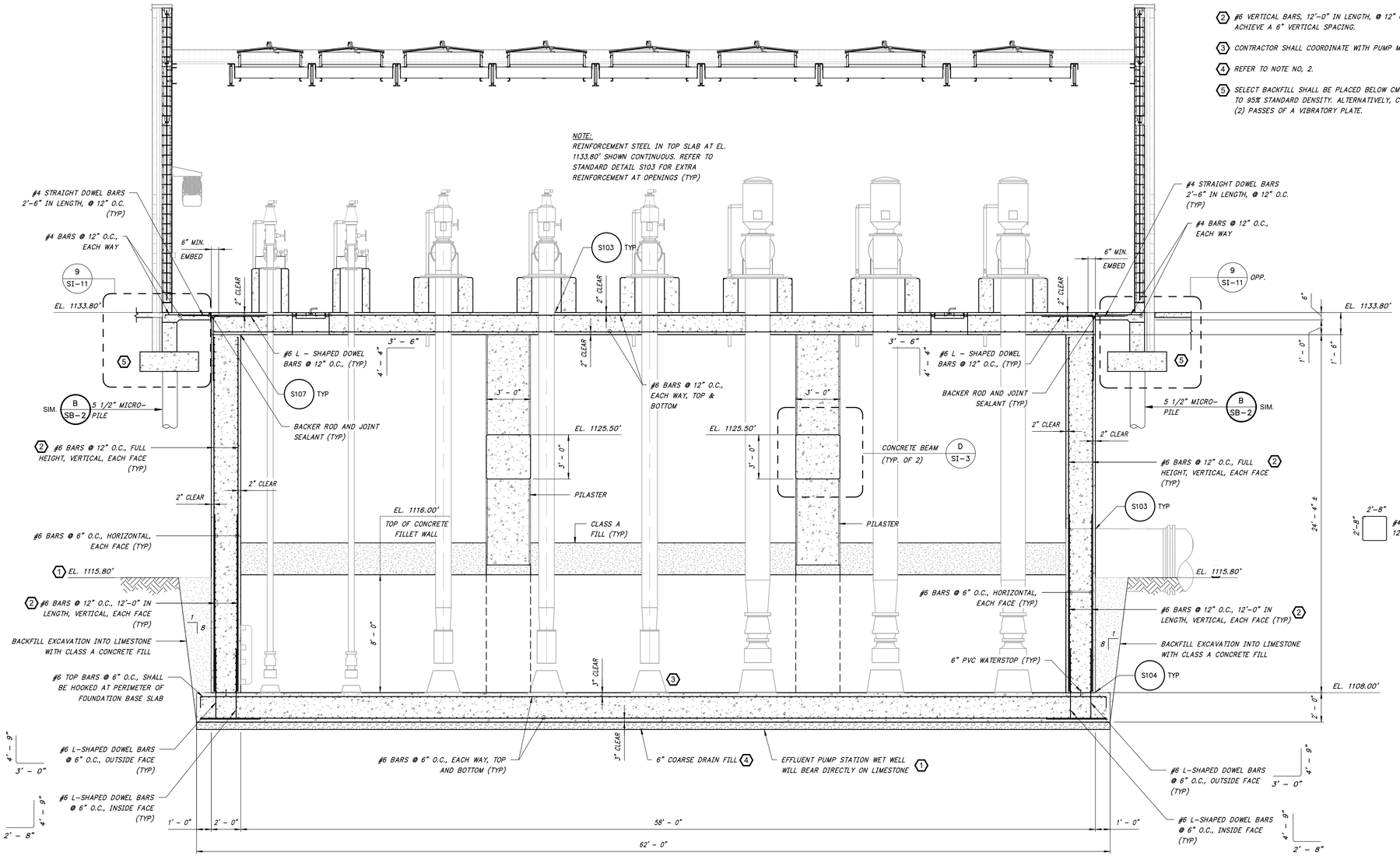
Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 4:03:35 PM / CES / EFFLUENT PUMP STATION

NOTES:

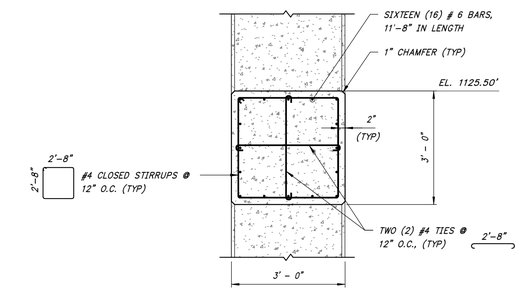
1. *REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR ALL WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO STANDARD DETAIL S103.*
2. *COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES PER LIFT].*
3. *ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.*
4. *THE CONTRACTOR AND/OR THEIR MICROPILE SPECIALTY SUBCONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND TESTING OF MICRO-PILES IN ACCORDANCE WITH SPECIFICATION SECTION 02469 DRILLED MICRO-PILES.*

KEYED NOTES:

1. *BASED ON THE GEOTECHNICAL REPORT PREPARED BY GTS, INC., REVISED NOVEMBER 25, 2024, THE APPROXIMATE ELEVATION OF LIMESTONE IS 1115.8' ±.*
2. *#6 VERTICAL BARS, 12'-0" IN LENGTH, @ 12" O.C., WILL ALTERNATE WITH FULL WALL HEIGHT #6 VERTICAL BARS @ 12" O.C., TO ACHIEVE A 6" VERTICAL SPACING.*
3. *CONTRACTOR SHALL COORDINATE WITH PUMP MANUFACTURER TO FORM BLOCKOUTS FOR PUMPS AND PUMP BASE 90-DEGREE FITTINGS.*
4. *REFER TO NOTE NO, 2.*
5. *SELECT BACKFILL SHALL BE PLACED BELOW CMU BUILDING FOUNDATION AND SLAB ON GRADE IN MAXIMUM 6" LIFTS AND COMPACTED TO 95% STANDARD DENSITY. ALTERNATIVELY, COARSE DRAIN FILL MAY BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH TWO (2) PASSES OF A VIBRATORY PLATE.*



SECTION 1 / SI-1
1/4" = 1'-0"



CONCRETE BEAM

DETAIL D / -
1/2" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8398 BRETT D. PEEL

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

EFFLUENT PUMP STATION
WET WELL SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: BDP
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SI-3

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 4:03:38 PM / CES / EFFLUENT PUMP STATION

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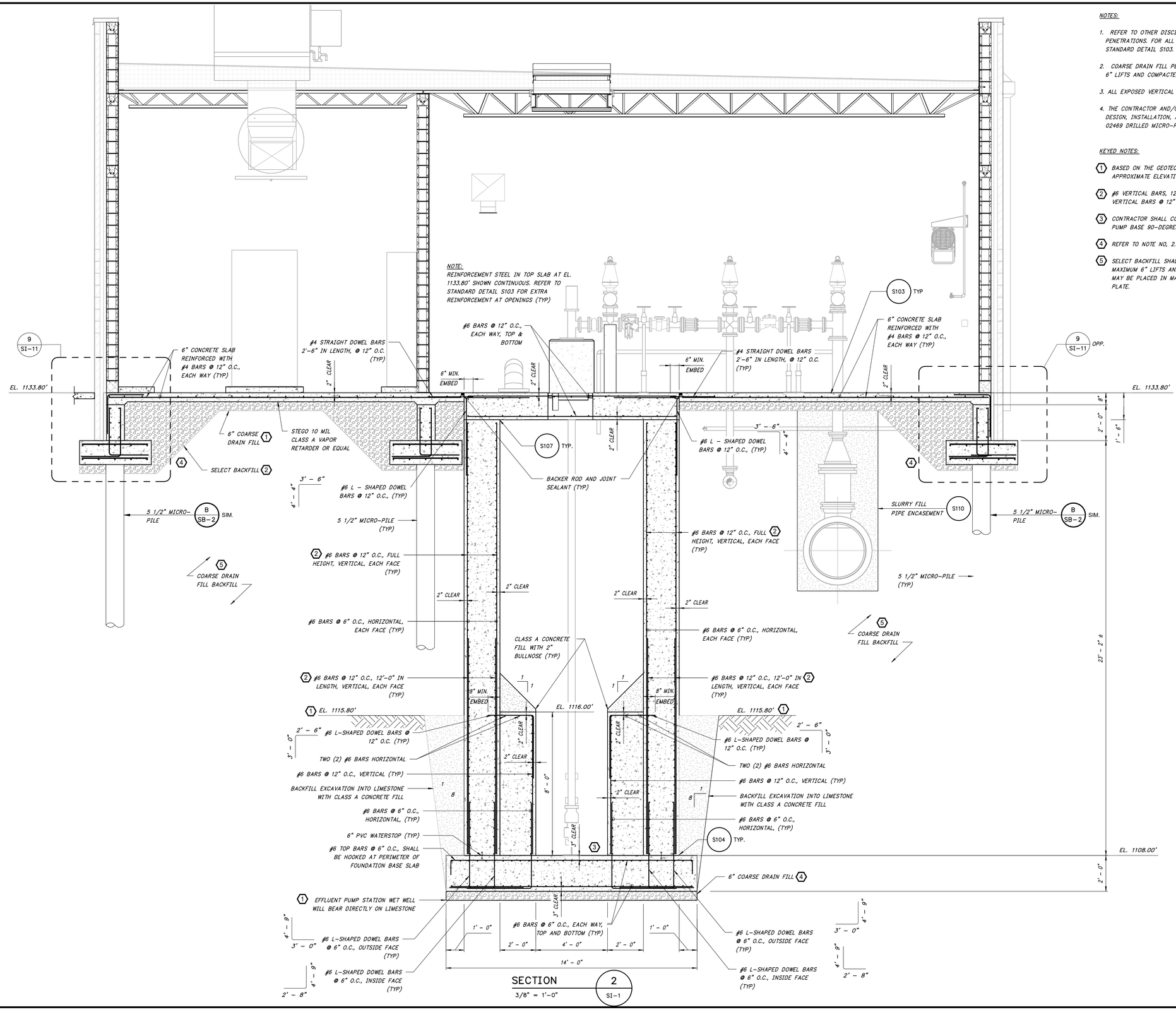

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR ALL WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO STANDARD DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES PER LIFT].
3. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.
4. THE CONTRACTOR AND/OR THEIR MICROPILE SPECIALTY SUBCONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND TESTING OF MICRO-PILES IN ACCORDANCE WITH SPECIFICATION SECTION 02469 DRILLED MICRO-PILES.

KEYED NOTES:

1. BASED ON THE GEOTECHNICAL REPORT PREPARED BY GTS, INC., REVISED NOVEMBER 25, 2024, THE APPROXIMATE ELEVATION OF LIMESTONE IS 1115.8' ±.
2. #6 VERTICAL BARS, 12'-0" IN LENGTH, @ 12" O.C., WILL ALTERNATE WITH FULL WALL HEIGHT #6 VERTICAL BARS @ 12" O.C., TO ACHIEVE A 6" VERTICAL SPACING.
3. CONTRACTOR SHALL COORDINATE WITH PUMP MANUFACTURER TO FORM BLOCKOUTS FOR PUMPS AND PUMP BASE 90-DEGREE FITTINGS.
4. REFER TO NOTE NO, 2.
5. SELECT BACKFILL SHALL BE PLACED BELOW CMU BUILDING FOUNDATION AND SLAB ON GRADE IN MAXIMUM 6" LIFTS AND COMPACTED TO 95% STANDARD DENSITY. ALTERNATIVELY, COARSE DRAIN FILL MAY BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH TWO (2) PASSES OF A VIBRATORY PLATE.

1"
ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8398 BRETT D. PEEL

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

EFFLUENT PUMP STATION
WET WELL SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 3/8" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SI-4

BID DRAWINGS
MARCH 21, 2025

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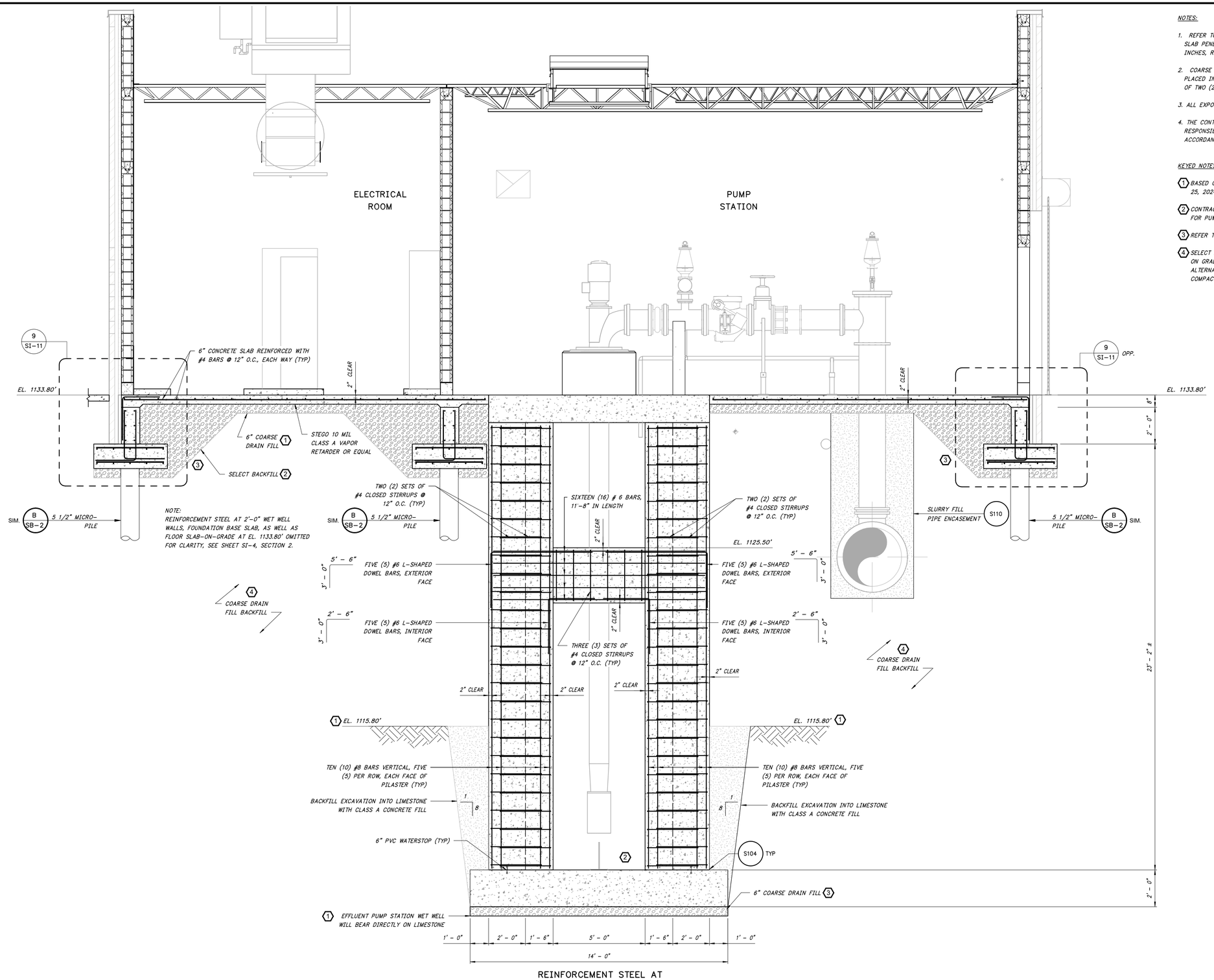

REINFORCEMENT STEEL AT WET WELL PILASTERS

SECTION 3 / SI-1

3/8" = 1'-0"

NOTES:

1. *REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR ALL WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO STANDARD DETAIL S103.*
2. *COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 8" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES PER LIFT].*
3. *ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.*
4. *THE CONTRACTOR AND/OR THEIR MICROPILE SPECIALTY SUBCONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND TESTING OF MICRO-PILES IN ACCORDANCE WITH SPECIFICATION SECTION 02469 DRILLED MICRO-PILES.*

KEYED NOTES:

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2. *CONTRACTOR SHALL COORDINATE WITH PUMP MANUFACTURER TO FORM BLOCKOUTS FOR PUMPS AND PUMP BASE 90-DEGREE FITTINGS.*
3. *REFER TO NOTE NO. 2.*
4. *SELECT BACKFILL SHALL BE PLACED BELOW CMU BUILDING FOUNDATION AND SLAB ON GRADE IN MAXIMUM 6" LIFTS AND COMPACTED TO 95% STANDARD DENSITY. ALTERNATIVELY, COARSE DRAIN FILL MAY BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH TWO (2) PASSES OF A VIBRATORY PLATE.*

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 8398 BRETT D. PEEL

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

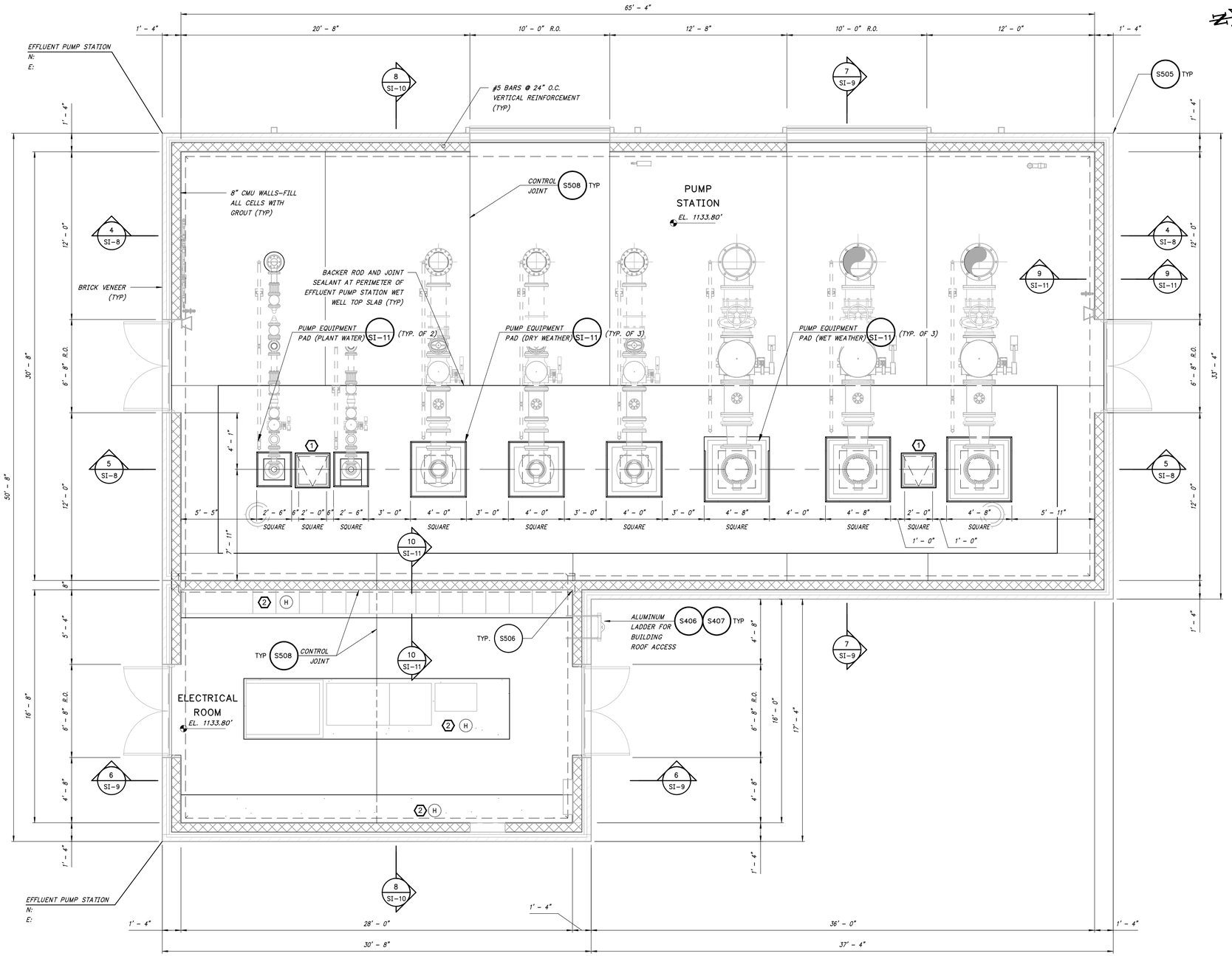
EFFLUENT PUMP STATION
WET WELL SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 3/8" = 1'-0"
DESIGNED BY: BDP
DRAWN BY: CES
HWEI NO.: 2021037
FILENAME: WRRF21037-ST

SHEET NO. SI-5

BID DRAWINGS
MARCH 21, 2025



EFFLUENT PUMP STATION
FLOOR PLAN

DETAIL E
1/4" = 1'-0"

NOTES:

1. THE BUILDING IS DESIGNED FOR ARKANSAS FIRE PREVENTION CODE, 2021 EDITION (2021 IBC), SEISMIC REQUIREMENTS IN ACCORDANCE WITH ACT 1100 OF THE STATE OF ARKANSAS

   L. CRAIG HARDIN, P.E., ARKANSAS REGISTRATION NO. 13205

2. SNOW LOADS:
   - GROUND SNOW LOAD, Pg: 15 PSF
   - RISK CATEGORY: III
   - IMPORTANCE FACTOR, Is: 1.10
   - EXPOSURE FACTOR, Ce: 0.9
   - THERMAL FACTOR, Ct: 1.0

3. SEISMIC DESIGN CRITERIA FOR BUILDING:
   - SEISMIC RISK CATEGORY: III
   - IMPORTANCE FACTOR, I_E: 1.25
   - SEISMIC RESPONSE COEFFICIENTS:
     - S_S = 0.153
     - S_1 = 0.089
   - SPECTRAL RESPONSE COEFFICIENTS
     - S_{DS} = 0.132
     - S_{D1} = 0.089
   - SITE CLASS: C
   - SEISMIC DESIGN CATEGORY: B
   - BASIC SEISMIC FORCE RESISTING SYSTEM: INTERMEDIATE REINFORCED SHEAR WALLS R=3.5
   - SEISMIC RESPONSE COEFFICIENTS: Cs=0.047
   - ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

4. WIND DESIGN CRITERIA FOR BUILDING:
   - WIND CATEGORY: III
   - WIND IMPORTANCE FACTOR, Iw: 1.00
   - BASIC WIND SPEED (3-SECOND GUST): 115 MPH
   - GUST EFFECT FACTOR: 0.85
   - WIND EXPOSURE: B
   - INTERNAL PRESSURE COEFFICIENT +/-0.18 ENCLOSED
   - ANALYSIS PROCEDURE: ENVELOPE PROCEDURE

5. REFER TO DETAILS S501 THROUGH S506 ON PLAN SHEET SZ-5 FOR CMU REINFORCEMENT.

6. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF ANY MASONRY CONTROL JOINTS.

7. REFER TO MECHANICAL DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.

8. REFER TO SPECIFICATION SECTION 03740 FOR MODIFICATION OR REPAIR OF EXISTING CONCRETE.

9. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

10. COARSE DRAIN FILL PER ASTM SPECIFICATION C33 (3/4" MAX. AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES].

11. COORDINATE LOCATION OF ALL ELECTRICAL EQUIPMENT HOUSEKEEPING PADS WITH THE ELECTRICAL CONTRACTOR. THE INTENT IS NOT TO CONSTRUCT ANY MORE HOUSEKEEPING PAD THAN THAT ACTUALLY REQUIRED. SUGGEST 4" IN PLAN BEYOND LIMITS OF ELECTRICAL EQUIPMENT TO ARRIVE AT PLAN DIMENSIONS FOR HOUSEKEEPING PADS.

KEYED NOTES:

1. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. WIS2424 OR EQUAL AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
2. ELECTRICAL HOUSEKEEPING PAD - REFER TO DETAIL S109.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE
REVISION

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
L. CRAIG HARDIN
NO. 13205

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

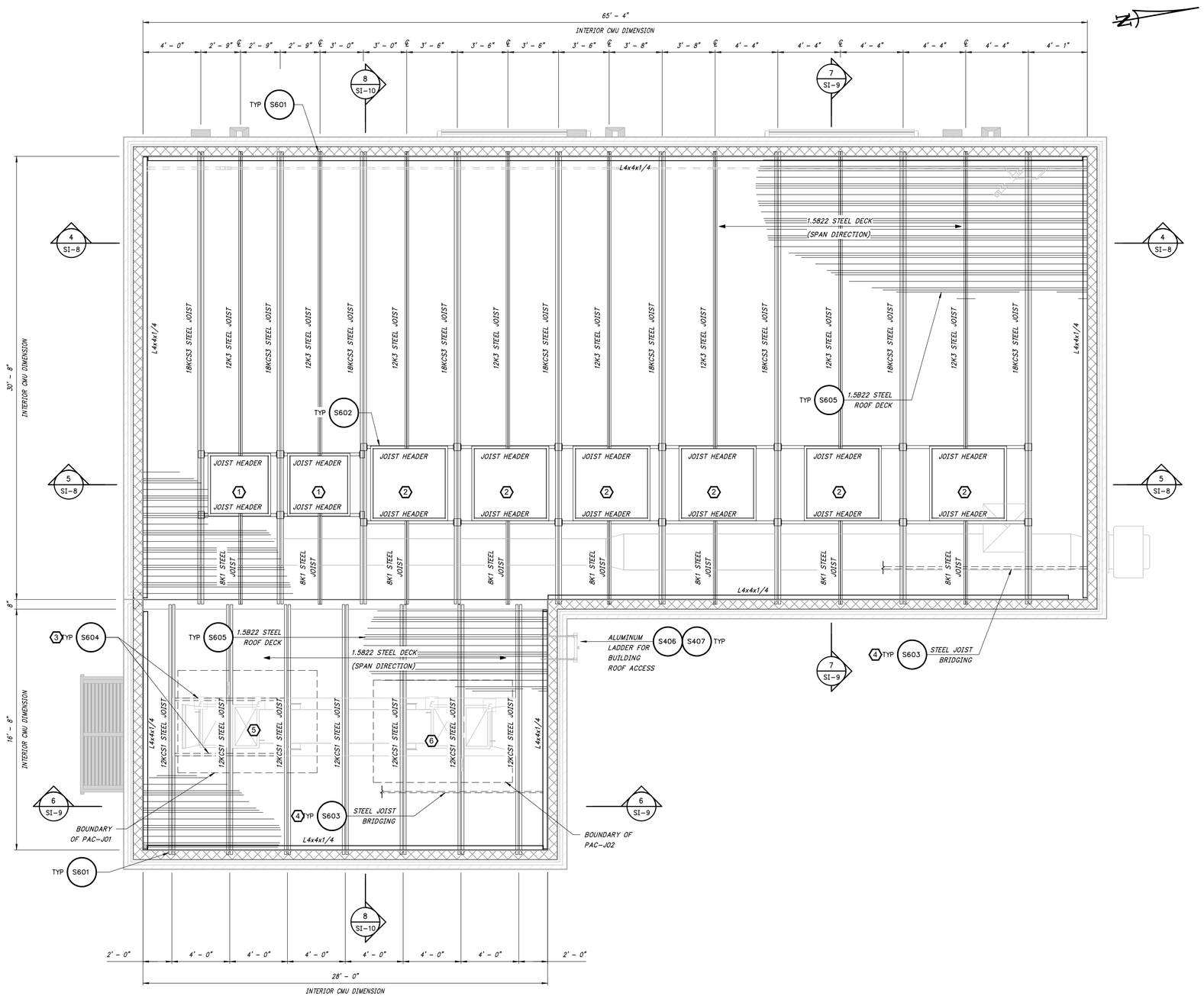
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

EFFLUENT PUMP STATION
FLOOR PLAN
DETAIL
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE:	MARCH 2025
SCALE:	1/4" = 1'-0"
DESIGNED BY:	LCH
DRAWN BY:	ADF
HWEI NO.:	2021037
FILENAME:	WWRF21037-ST

SHEET NO.
SI-6

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 4:03:41 PM / ADF / EFFLUENT PUMP STATION



EFFLUENT PUMP STATION
ROOF PLAN

DETAIL F
1/4" = 1'-0" –

NOTES:

1. REFER TO DETAILS S501 THROUGH S506 ON PLAN SHEET SZ-5 FOR CMU REINFORCEMENT.
2. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF ANY MASONRY CONTROL JOINTS.
3. COORDINATE LOCATION OF VERTICAL CMU REINFORCEMENT TO AVOID CONFLICTS WITH STEEL JOISTS.
4. STEEL JOIST MANUFACTURER SHALL DESIGN JOISTS FOR THE FOLLOWING UNFACTORED LOADS:
   DEAD LOAD OF JOISTS
   SUPERIMPOSED DEAD LOAD 22.5 PSF WITH 5.0 PSF COLLATERAL DEAD LOAD
   (HVAC EQUIPMENT LOADS SHALL BE IN ADDITION TO SUPERIMPOSED DEAD LOAD)
   UNIFORM ROOF LIVE LOAD 20 PSF (NON-REDUCIBLE)
   CONCENTRATED EQUIPMENT LOADS SHOWN ON ROOF PLAN AND KEYED NOTES. COORDINATE WITH HVAC DRAWINGS
   CONCENTRATED LOAD – 300 LBS. IN ANY LOCATION
   WIND LOADS: ASCE 7-16
   POSITIVE WIND PRESSURE 16.0 PSF
   WIND UPLIFT PRESSURE -29.6 PSF
   WIND LOADS ON ROOF TOP STRUCTURES ASCE 7-16 SECTION 29.4.1
   SNOW LOADS: ASCE 7-16
   FLAT ROOF SNOW LOAD, Pf 10.40 PSF
   BALANCED SNOW LOAD, Ps 10.40 PSF
   MINIMUM SNOW LOAD, Pm 16.00 PSF (NOT TO BE USED WITH DRIFT OR BALANCED NOW LOADS)
   DRIFT LOADING AT PARAPET IN ADDITION TO BALANCED SNOW LOADING
   EAST/WEST DIRECTION 24.60 PSF DRIFT WIDTH 6.2 FT
   NORTH/SOUTH DIRECTION 29.80 PSF DRIFT WIDTH 7.5 FT
5. THREE (3) ROWS OF STEEL JOIST BRIDGING SHALL BE INSTALLED. IN ADDITION, A SINGLE LINE OF STEEL JOIST BOTTOM CHORD BRIDGING SHALL BE PROVIDED NEAR THE FIRST BOTTOM CHORD PANEL POINTS.
6. COODINATE SIZES AND LOCATIIONS OF ROOF EQUIPMENT AND ASSOCIATED OPENINGS WITH MECHANICAL DRAWINGS AND EQUIPMENT SHOP DRAWINGS. CONFIRM ROOF EQUIPMENT WEIGHTS BEFORE PROCEEDING WITH DESIGN OF STEEL JOISTS. REFER TO KEYED NOTES 5 AND 6 FOR HVAC ROOFTOP EQUIPMENT WEIGHTS.
7. REFER TO MECHANICAL DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.

KEYED NOTES:

1. PUMP EQUIPMENT ACCESS HATCH SHALL BE 48-INCHES SQUARE, STAINLESS STEEL, SIMILAR AND EQUAL TO BILCO TYPE D ROOF HATCH. ACCESS HATCHES SHALL INCLUDE REMOVABLE ALUMINUM HANDRAIL OPTIONAL FEATURE.
2. PUMP EQUIPMENT ACCESS HATCH SHALL BE 60-INCHES SQUARE, STAINLESS STEEL, SIMILAR AND EQUAL TO BILCO TYPE D ROOF HATCH. ACCESS HATCHES SHALL INCLUDE REMOVABLE ALUMINUM HANDRAIL OPTIONAL FEATURE.
3. ADDITIONAL ROOF FRAMING IS REQUIRED AT ALL HVAC ROOF PENETRATIONS PER DETAIL S604.
4. COORDINATE LOCATION OF ALL STEEL JOIST BRIDGING TO AVOID CONFLICTS WITH HVAC ROOF PENETRATIONS.
5. PAC-J01, 1,600-POUNDS
6. PAC-J02, 1,600-POUNDS

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HAWKINS
NO. 13205

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

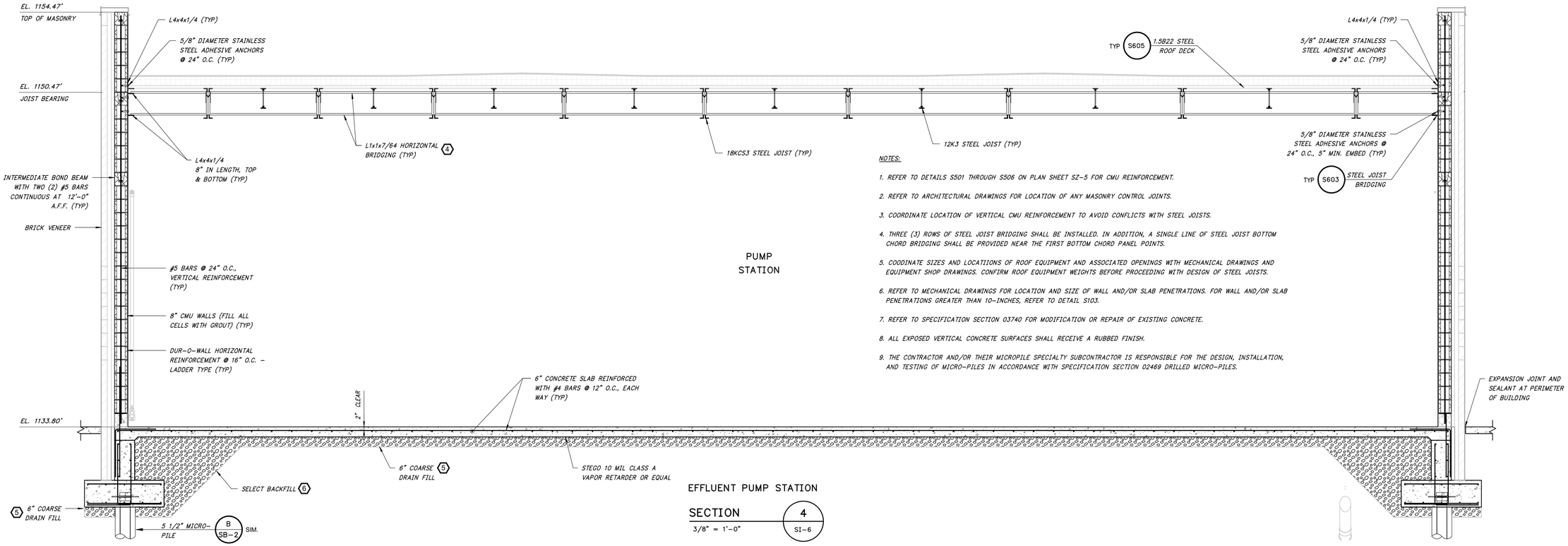
EFFLUENT PUMP STATION
ROOF PLAN

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: LCH
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SI-7

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 4:03:42 PM / DKS / EFFLUENT PUMP STATION



1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HAWKINS
NO. 13205

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

EFFLUENT PUMP STATION SECTIONS

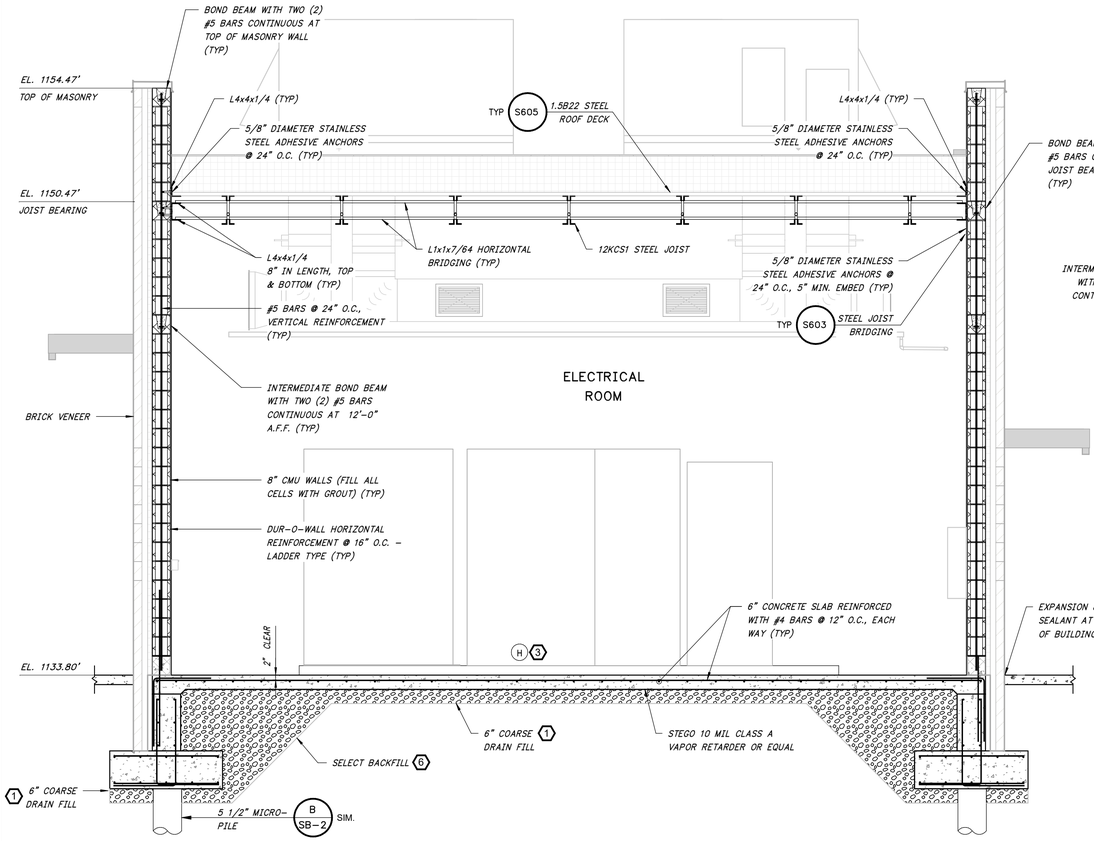
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LCH
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

BID DRAWINGS
MARCH 21, 2025

SHEET NO.
SI-8

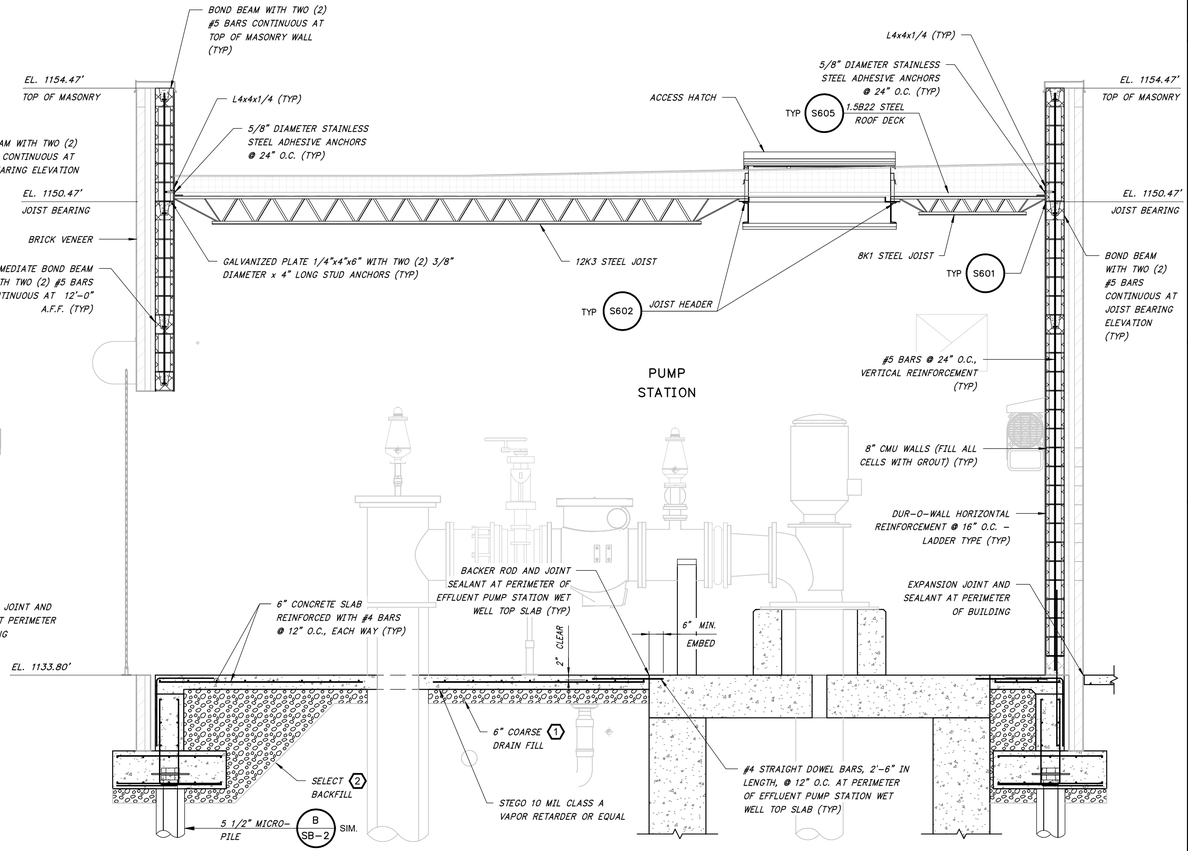
Autodesk Docs://210144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 4:03:45 PM / ADF / EFFLUENT PUMP STATION



EFFLUENT PUMP STATION

SECTION 6 SI-6

3/8" = 1'-0"



EFFLUENT PUMP STATION

SECTION 7 SI-6

3/8" = 1'-0"

NOTE:
REINFORCEMENT STEEL IN EFFLUENT PUMP STATION WET WELL TOP SLAB OMITTED FOR CLARITY.

NOTES:

1. REFER TO DETAILS S501 THROUGH S506 ON PLAN SHEET SZ-5 FOR CMU REINFORCEMENT.
2. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF ANY MASONRY CONTROL JOINTS.
3. COORDINATE LOCATION OF VERTICAL CMU REINFORCEMENT TO AVOID CONFLICTS WITH STEEL JOISTS.
4. THREE (3) ROWS OF STEEL JOIST BRIDGING SHALL BE INSTALLED. IN ADDITION, A SINGLE LINE OF STEEL JOIST BOTTOM CHORD BRIDGING SHALL BE PROVIDED NEAR THE FIRST BOTTOM CHORD PANEL POINTS.
5. COODINATE SIZES AND LOCATIIONS OF ROOF EQUIPMENT AND ASSOCIATED OPENINGS WITH MECHANICAL DRAWINGS AND EQUIPMENT SHOP DRAWINGS. CONFIRM ROOF EQUIPMENT WEIGHTS BEFORE PROCEEDING WITH DESIGN OF STEEL JOISTS.
6. REFER TO MECHANICAL DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
7. REFER TO SPECIFICATION SECTION 03740 FOR MODIFICATION OR REPAIR OF EXISTING CONCRETE.
8. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.
9. COARSE DRAIN FILL PER ASTM SPECIFICATION C33 (3/4" MAX. AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES].
10. COORDINATE LOCATION OF ALL ELECTRICAL EQUIPMENT HOUSEKEEPING PADS WITH THE ELECTRICAL CONTRACTOR. THE INTENT IS NOT TO CONSTRUCT ANY MORE HOUSEKEEPING PADS THAN THAT ACTUALLY REQUIRED. SUFFEST 4" IN PLAN BEYOND LIMITS OF ELECTRICAL EQUIPMENT TO ARRIVE AT PLAN DIMENSIONS FOR HOUSEKEEPING PADS.
11. THE CONTRACTOR AND/OR THEIR MICROPILE SPECIALTY SUBCONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND TESTING OF MICRO-PILES IN ACCORDANCE WITH SPECIFICATION SECTION 02469 DRILLED MICRO-PILES.

KEYED NOTES:

1. REFER TO NOTE 10.
2. SELECT BACKILL BELOW CMU BUILDING FOUNDATION AND SLAB-ON-GRADE SHALL BE COARSE DRAIN FILL PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH TWO (2) PASSES OF A VIBRATORY PLATE.
3. ELECTRICAL HOUSEKEEPING PAD - REFER TO DETAIL S109.

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE

REVISION

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER LARRY C. HARRIS NO. 13205

HAWKINS-WEIR ENGINEERS, INC.

BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

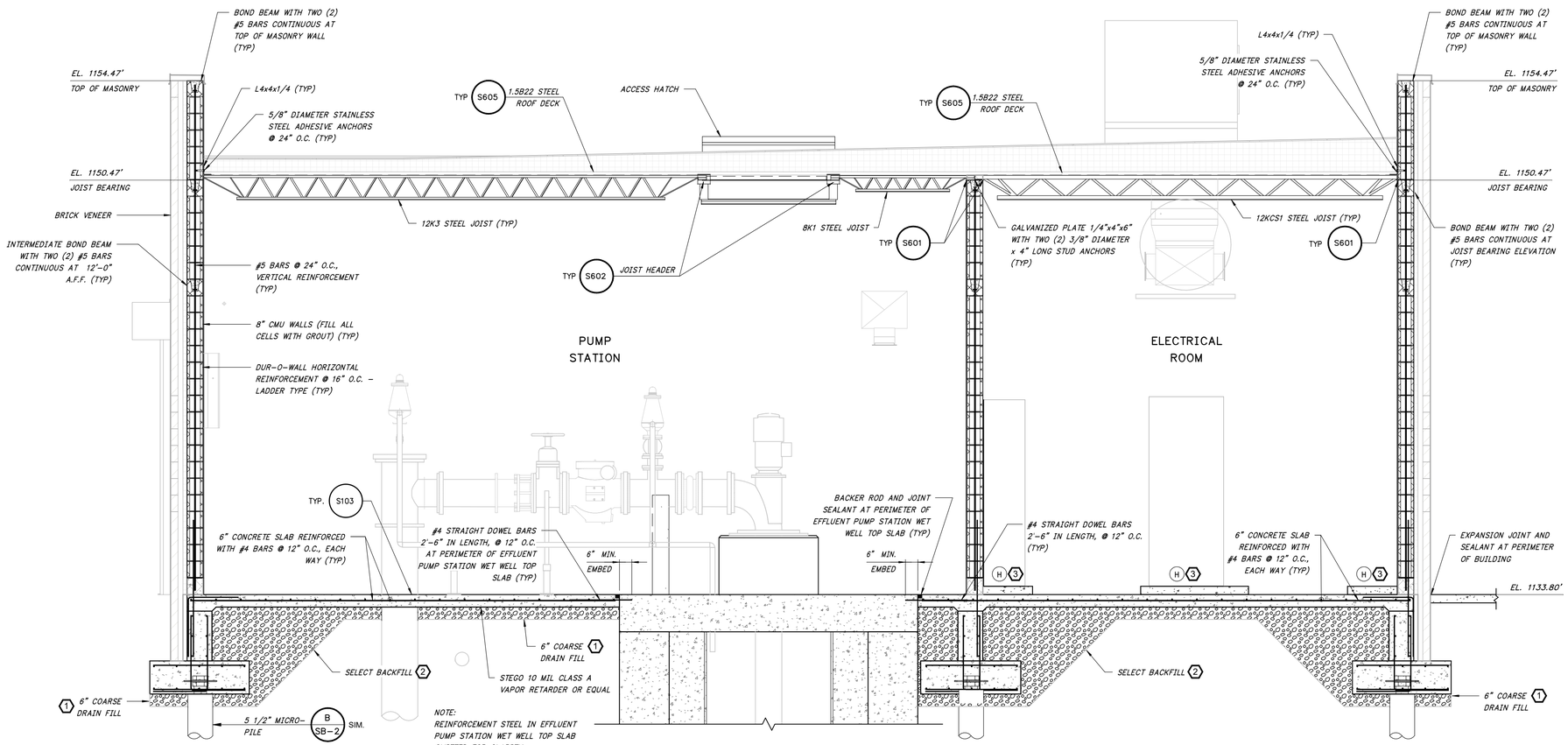
EFFLUENT PUMP STATION SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LCH
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SI-9

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/20/2025 4:03:46 PM / ADF / EFFLUENT PUMP STATION



EFFLUENT PUMP STATION

SECTION 8 / SI-6

3/8" = 1'-0"

NOTES:

1. REFER TO DETAILS S501 THROUGH S506 ON PLAN SHEET SZ-5 FOR CMU REINFORCEMENT.
2. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF ANY MASONRY CONTROL JOINTS.
3. COORDINATE LOCATION OF VERTICAL CMU REINFORCEMENT TO AVOID CONFLICTS WITH STEEL JOISTS.
4. THREE (3) ROWS OF STEEL JOIST BRIDGING SHALL BE INSTALLED. IN ADDITION, A SINGLE LINE OF STEEL JOIST BOTTOM CHORD BRIDGING SHALL BE PROVIDED NEAR THE FIRST BOTTOM CHORD PANEL POINTS.
5. COODINATE SIZES AND LOCATIIONS OF ROOF EQUIPMENT AND ASSOCIATED OPENINGS WITH MECHANICAL DRAWINGS AND EQUIPMENT SHOP DRAWINGS. CONFIRM ROOF EQUIPMENT WEIGHTS BEFORE PROCEEDING WITH DESIGN OF STEEL JOISTS.
6. REFER TO MECHANICAL DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
7. REFER TO SPECIFICATION SECTION 03740 FOR MODIFICATION OR REPAIR OF EXISTING CONCRETE.
8. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.
9. COARSE DRAIN FILL PER ASTM SPECIFICATION C33 (3/4" MAX. AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES].
10. COORDINATE LOCATION OF ALL ELECTRICAL EQUIPMENT HOUSEKEEPING PADS WITH THE ELECTRICAL CONTRACTOR. THE INTENT IS NOT TO CONSTRUCT ANY MORE HOUSEKEEPING PADS THAN THAT ACTUALLY REQUIRED. SUFFEST 4" IN PLAN BEYOND LIMITS OF ELECTRICAL EQUIPMENT TO ARRIVE AT PLAN DIMENSIONS FOR HOUSEKEEPING PADS.
11. THE CONTRACTOR AND/OR THEIR MICROPILE SPECIALTY SUBCONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND TESTING OF MICRO-PILES IN ACCORDANCE WITH SPECIFICATION SECTION 02469 DRILLED MICRO-PILES.

KEYED NOTES:

1. REFER TO NOTE 10.
2. SELECT BACKILL BELOW CMU BUILDING FOUNDATION AND SLAB-ON-GRADE SHALL BE COARSE DRAIN FILL PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH TWO (2) PASSES OF A VIBRATORY PLATE.
3. ELECTRICAL HOUSEKEEPING PAD - REFER TO DETAIL S109

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE | REVISION

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER LARRY C. HARRIS NO. 13205

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

EFFLUENT PUMP STATION SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LCH
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SI-10

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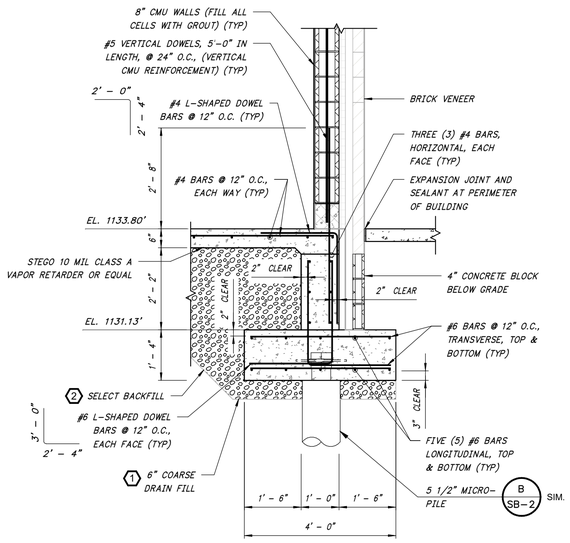
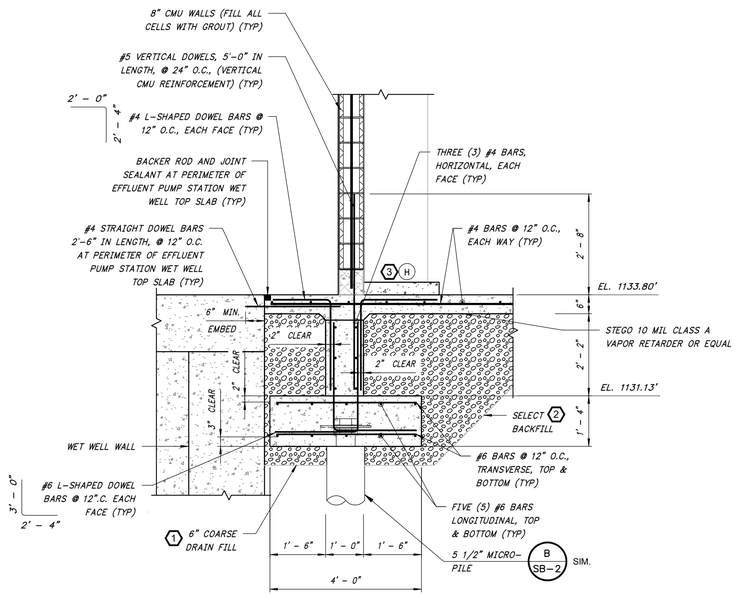


BUILDING PERIMETER FOOTING

SECTION 9 / SI-3
1/2" = 1'-0"



SECTION 10 / SI-6
1/2" = 1'-0"

NOTES:

1. REFER TO DETAILS S501 THROUGH S506 ON PLAN SHEET SZ-5 FOR CMU REINFORCEMENT.
2. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF ANY MASONRY CONTROL JOINTS.
3. COORDINATE LOCATION OF VERTICAL CMU REINFORCEMENT TO AVOID CONFLICTS WITH STEEL JOISTS.
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6. REFER TO MECHANICAL DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
7. REFER TO SPECIFICATION SECTION 03740 FOR MODIFICATION OR REPAIR OF EXISTING CONCRETE.
8. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.
9. COARSE DRAIN FILL PER ASTM SPECIFICATION C33 (3/4" MAX. AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMUM OF TWO (2) PASSES].
10. COORDINATE LOCATION OF ALL ELECTRICAL EQUIPMENT HOUSEKEEPING PADS WITH THE ELECTRICAL CONTRACTOR. THE INTENT IS NOT TO CONSTRUCT ANY MORE HOUSEKEEPING PADS THAN THAT ACTUALLY REQUIRED. SUFFEST 4" IN PLAN BEYOND LIMITS OF ELECTRICAL EQUIPMENT TO ARRIVE AT PLAN DIMENSIONS FOR HOUSEKEEPING PADS.
11. THE CONTRACTOR AND/OR THEIR MICROPILE SPECIALTY SUBCONTRACTOR IS RESPONSIBLE FOR THE DESIGN, INSTALLATION, AND TESTING OF MICRO-PILES IN ACCORDANCE WITH SPECIFICATION SECTION 02469 DRILLED MICRO-PILES.

KEYED NOTES:

1 REFER TO NOTE 10.

2 SELECT BACKILL BELOW CMU BUILDING FOUNDATION AND SLAB-ON-GRADE SHALL BE COARSE DRAIN FILL PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH TWO (2) PASSES OF A VIBRATORY PLATE.

3 ELECTRICAL HOUSEKEEPING PAD - REFER TO DETAIL S109.

1"
ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE
REVISION

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HAWKINS
NO. 13205

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

EFFLUENT PUMP STATION SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LCH
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SI-11

BID DRAWINGS
MARCH 21, 2025

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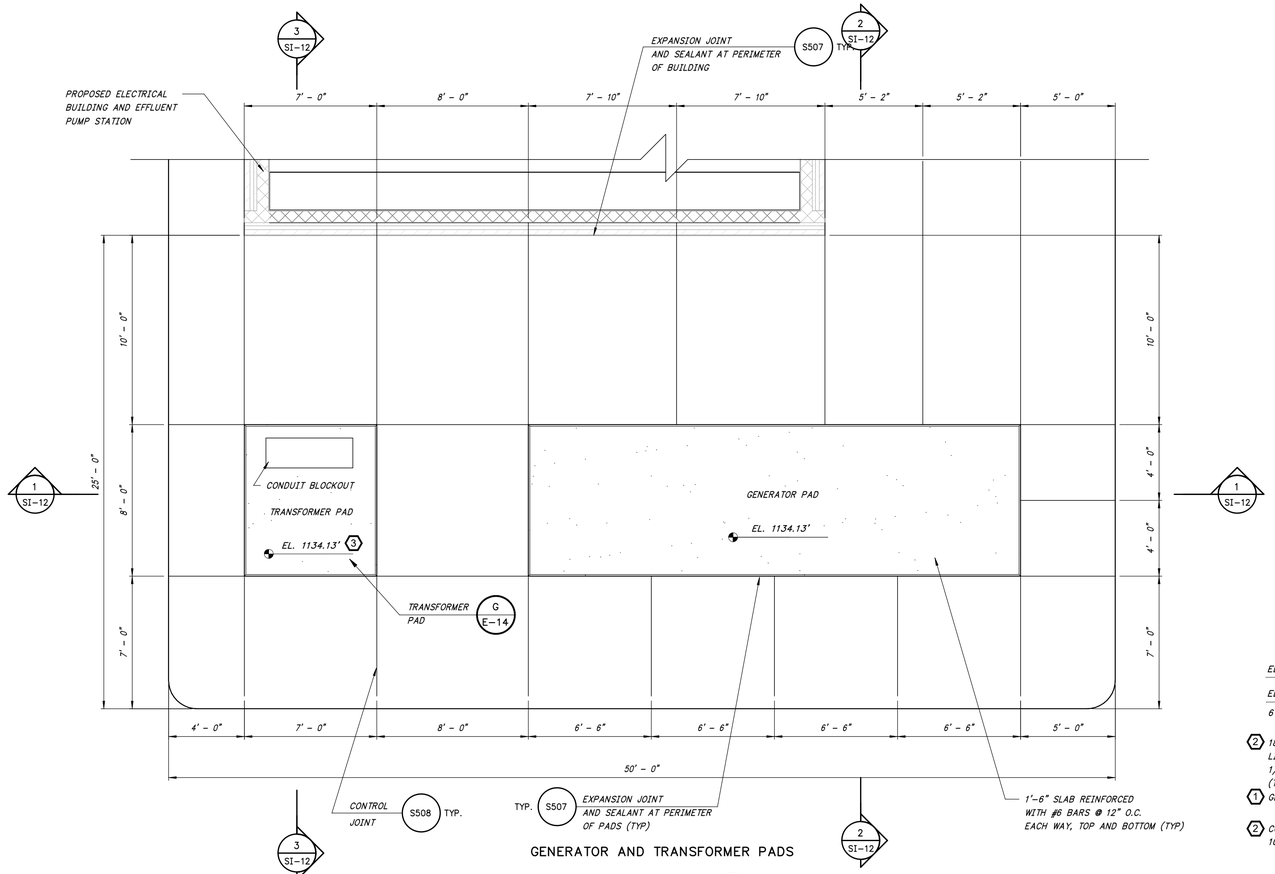


GENERATOR AND TRANSFORMER PADS

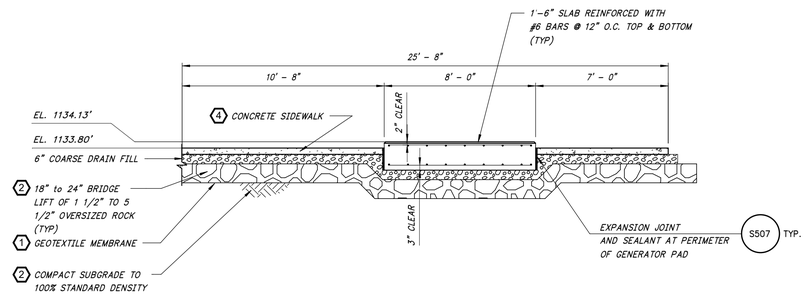
DETAIL A
1/4" = 1'-0"

NOTES:

1. COORDINATE GENERATOR PAD DIMENSIONS WITH GENERATOR MANUFACTURER.
2. COORDINATE TRANSFORMER PAD DIMENSIONS WITH THE BENTONVILLE ELECTRIC UTILITY.
3. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
4. COARSE DRAIN FILL PER ASTM SPECIFICATIONS C33 (3/4" MAX. AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 6" LIFTS AND COMPACTED WITH A VIBRATORY PLATE (MINIMUM OF TWO (2) PASSES).
5. COORDINATE SPOT GRADING ELEVATIONS WITH CIVIL DRAWING FOR PROPOSED SIDEWALKS SURROUNDING THE GENERATOR AND TRANSFORMER PAD.

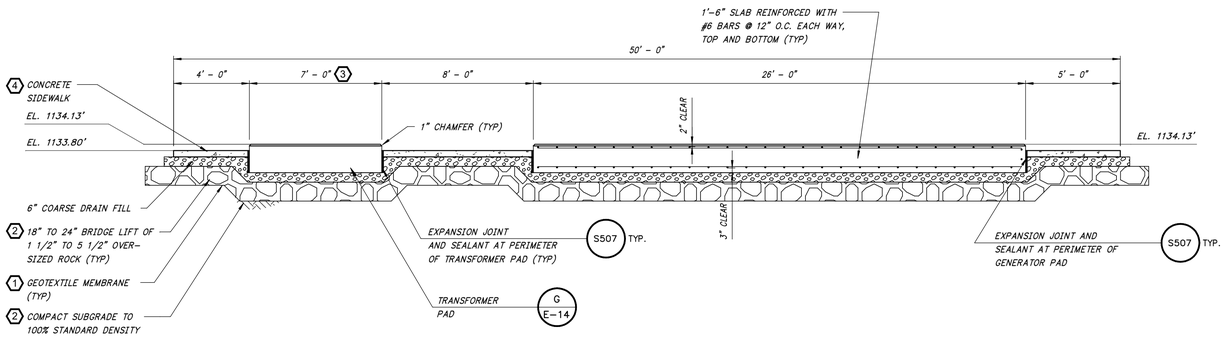
KEYED NOTES:

1. GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE BRIDGE LIFT.
2. 18" TO 24" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.
3. TRANSFORMER PAD DIMENSIONS AND THICKNESS PER BENTONVILLE ELECTRIC UTILITY DETAILS ON DRAWING E-14.
4. CONCRETE SIDEWALK SHALL BE APPROXIMATELY 3" BELOW TOP OF GENERATOR PAD AND BUILDING. SEE CIVIL DRAWINGS FOR SPOT GRADING ELEVATIONS SURROUNDING THE GENERATOR PAD.



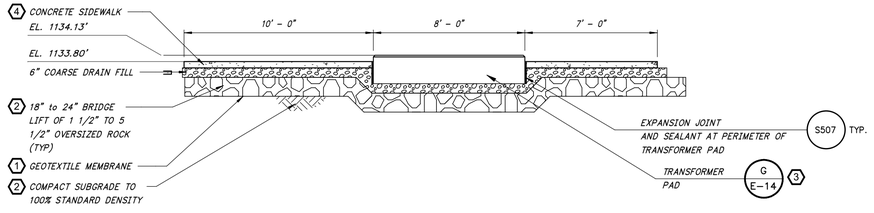
GENERATOR PAD

SECTION 2
1/4" = 1'-0"



GENERATOR AND TRANSFORMER PADS

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



TRANSFORMER PAD

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

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
WESLEY JAY LEWIS
No. 23358
3-21-25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE
RECOVERY FACILITY IMPROVEMENTS

GENERATOR PAD AND TRANSFORMER PAD DETAIL
AND SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: WJL
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SI-12

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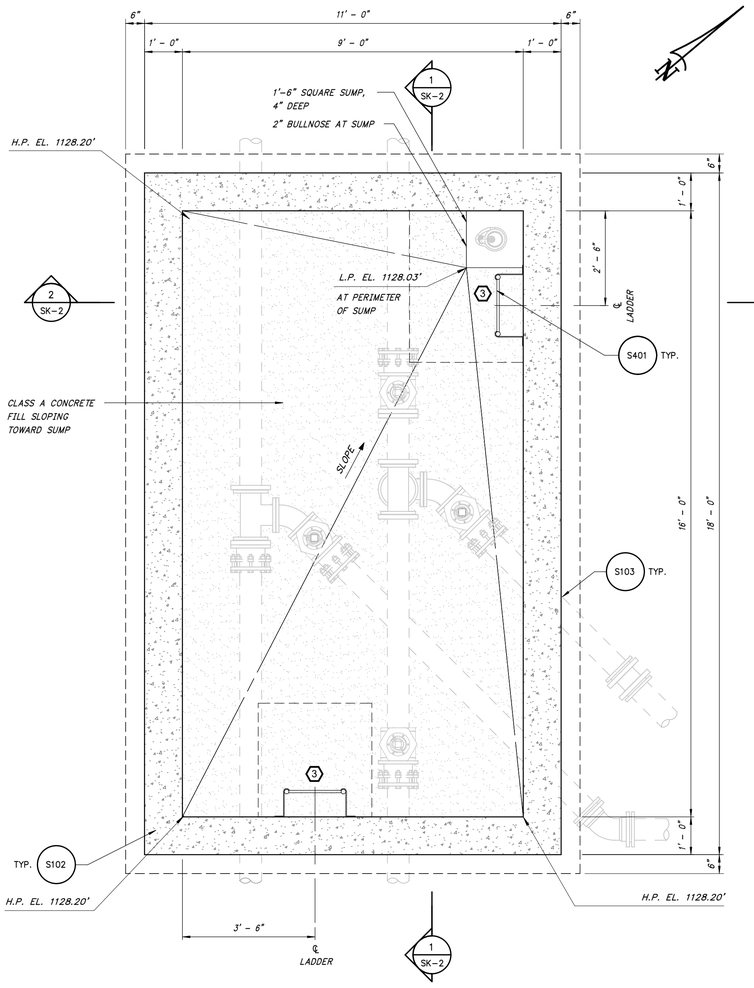
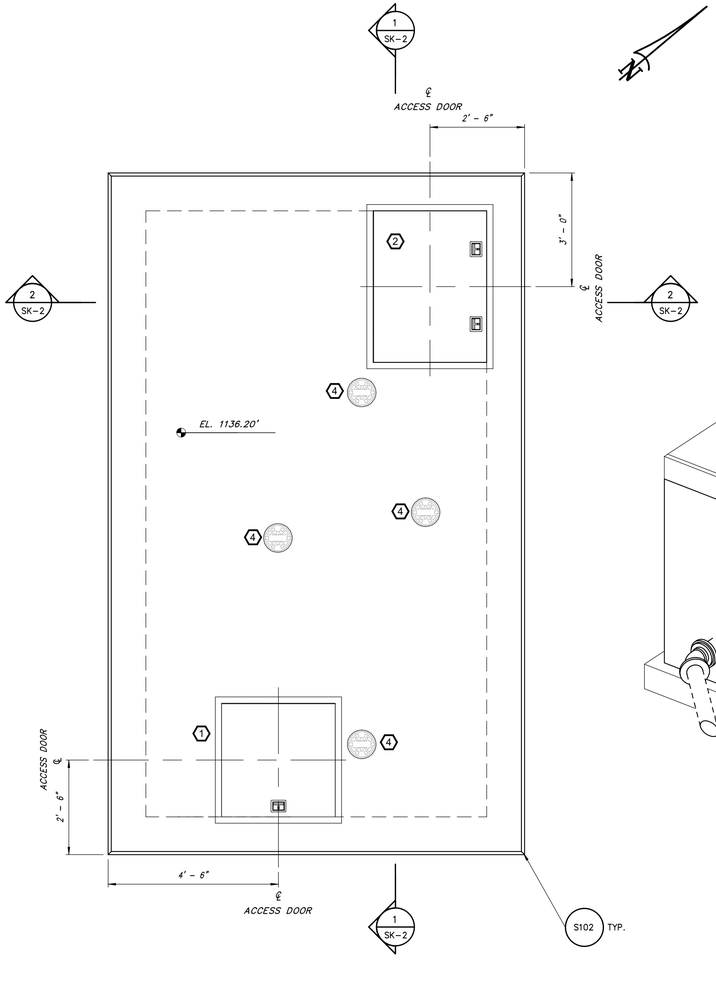


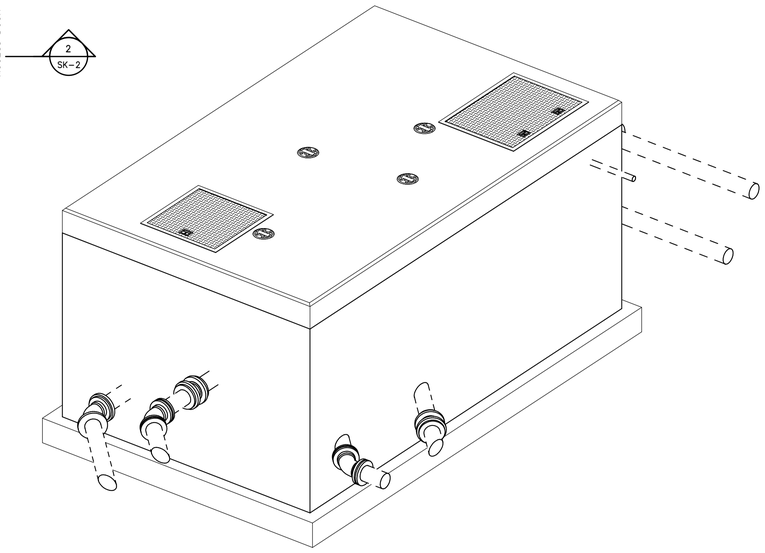
BLOWER BUILDING VALVE VAULT
BOTTOM PLAN

DETAIL A
1/2" = 1'-0"



BLOWER BUILDING VALVE VAULT
TOP PLAN

DETAIL B
1/2" = 1'-0"



ISOMETRIC/3D
N.T.S.

NOTES:

1. *REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.*
2. *COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].*
3. *REFER TO SPECIFICATION SECTION 07110 FOR WATERPROOFING OF BELOW GRADE WALLS.*
4. *ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.*

KEYED NOTES:

1. *ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. H1W3636, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.*
2. *ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. H1W3648, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.*
3. *ALUMINUM LADDER SHALL BE HALLIDAY PRODUCTS SERIES L1B AND SHALL INCLUDE SERIES L1E LADDER EXTENSION, OR EQUAL.*
4. *COORDINATE LOCATION OF VALVE BOXES WITH PROCESS MECHANICAL DRAWINGS.*

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20398
WESLEY JAY LEWIS
03-21-25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

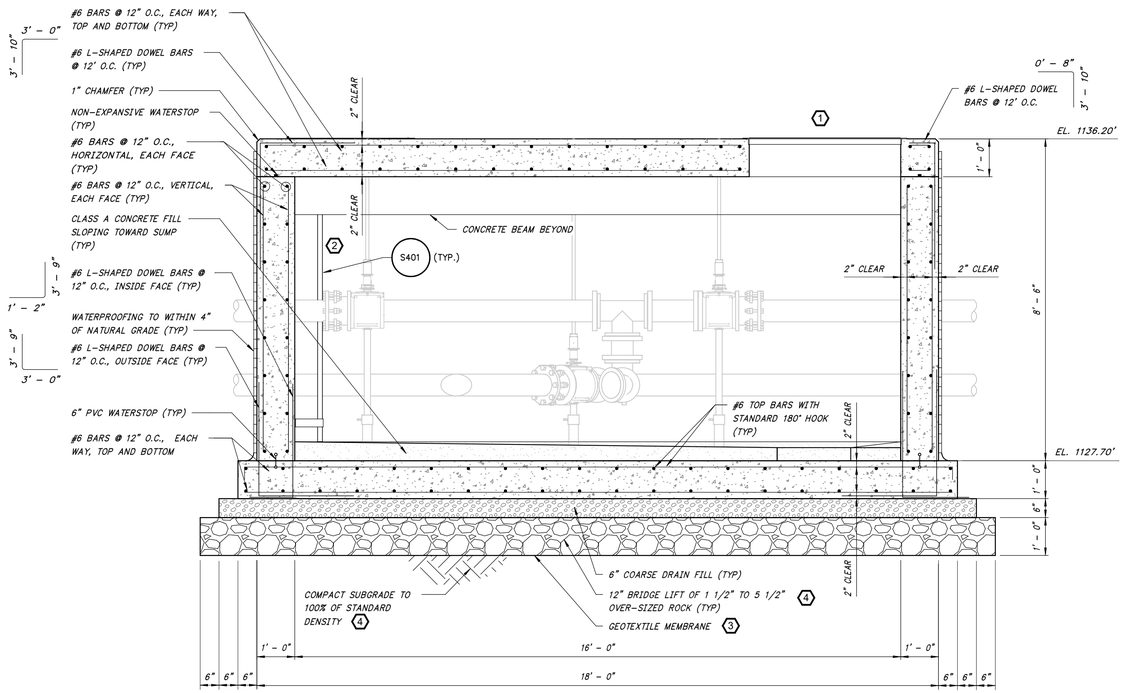
BLOWER BUILDING VALVE VAULT DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

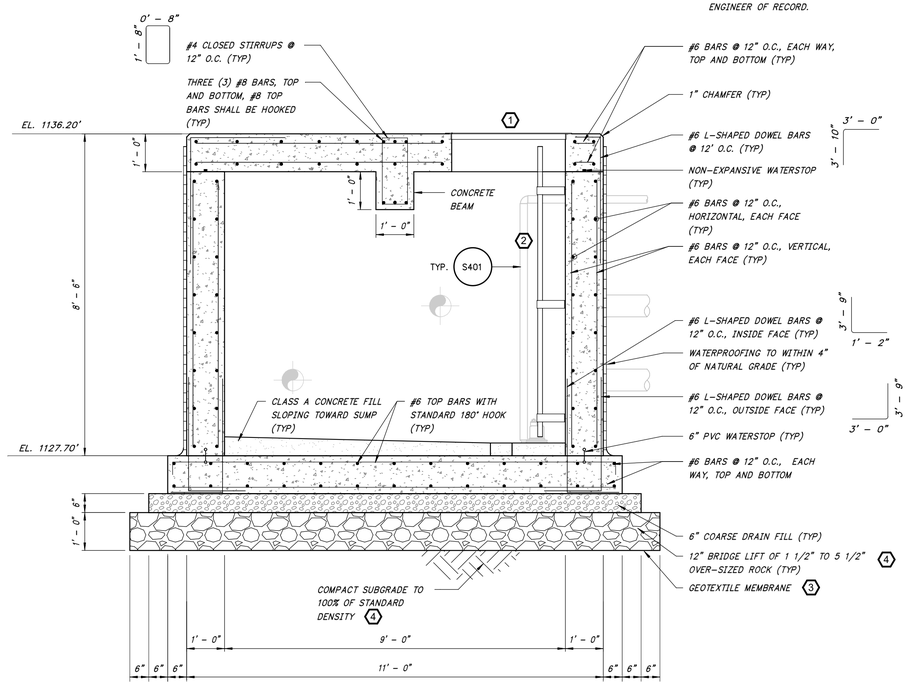
DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: WJL
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SK-1

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 6:58:41 AM / DKS / BLOWER BUILDING VALVE VAULT



SECTION 1
1/2" = 1'-0"
SK-1



SECTION 2
1/2" = 1'-0"
SK-1

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].
3. REFER TO SPECIFICATION SECTION 07110 FOR WATERPROOFING OF BELOW GRADE WALLS.
4. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

1. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. H1W3636, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
2. ALUMINUM LADDER SHALL BE HALLIDAY PRODUCTS SERIES L1B AND SHALL INCLUDE SERIES L1E LADDER EXTENSION, OR EQUAL.
3. GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE BRIDGE LIFT.
4. 12" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
WESLEY JAY LEWIS
No. 20398
3/21/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

BLOWER BUILDING VALVE VAULT SECTIONS

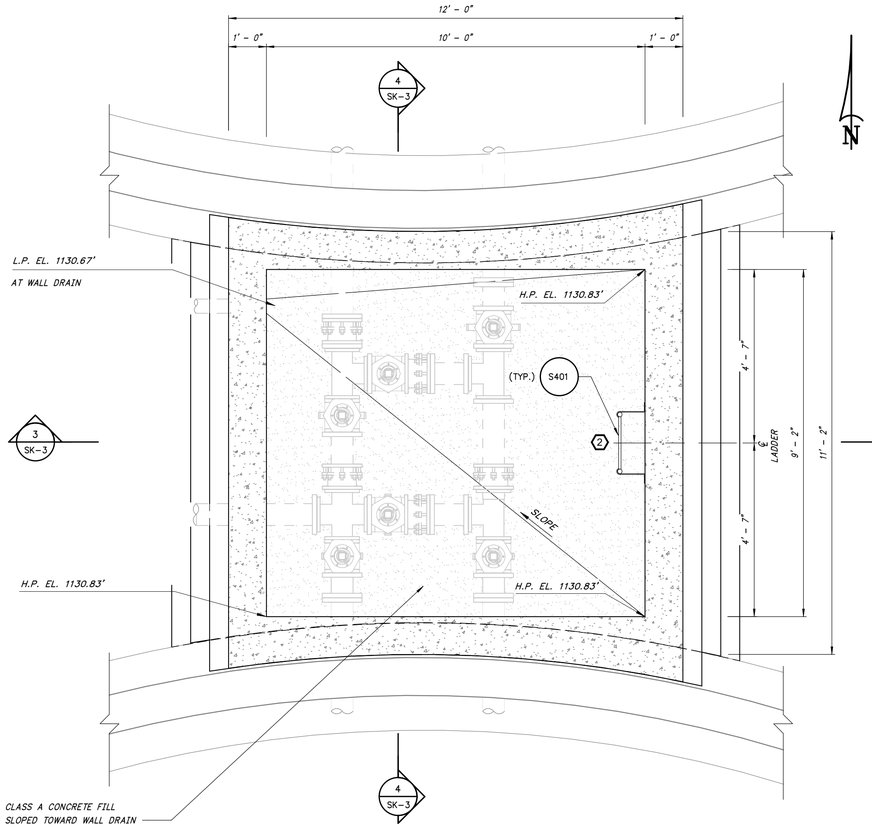
FOR: BENTONVILLE WASTEWATER UTILITIES

BID DRAWINGS
MARCH 21, 2025

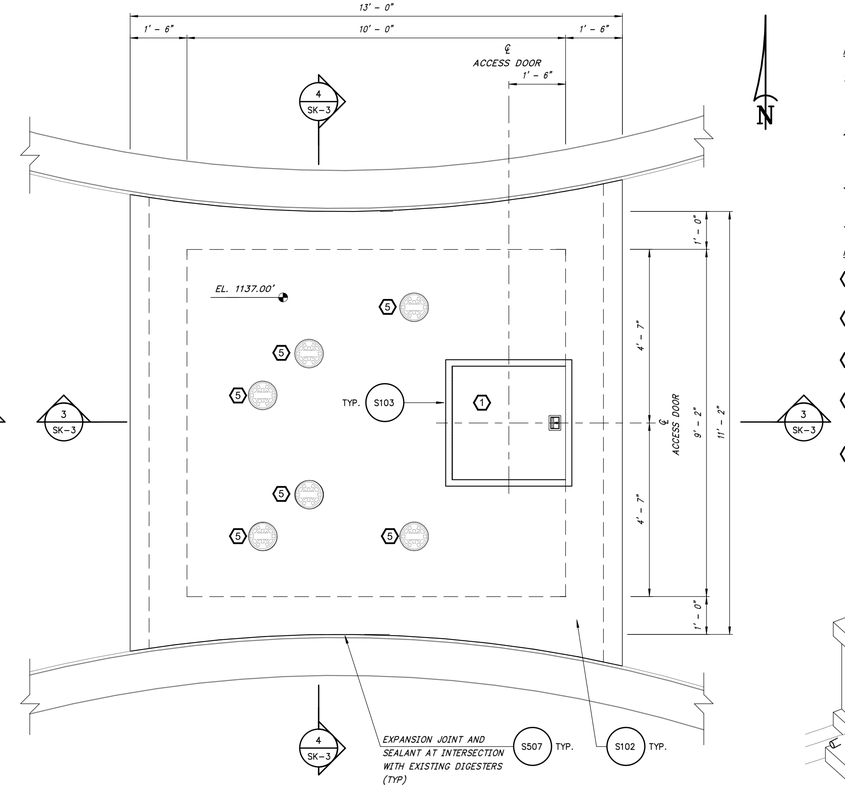
DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: JSD
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SK-2

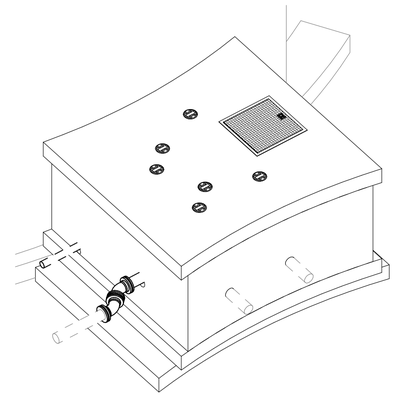
Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 6:58:44 AM / DKS / BLOWER BUILDING VALVE VAULT



DIGESTER NO. 4 AND NO. 5 VALVE VAULT
BOTTOM PLAN



DIGESTER NO. 4 AND NO. 5 VALVE VAULT
TOP PLAN



ISOMETRIC/3D
N.T.S.

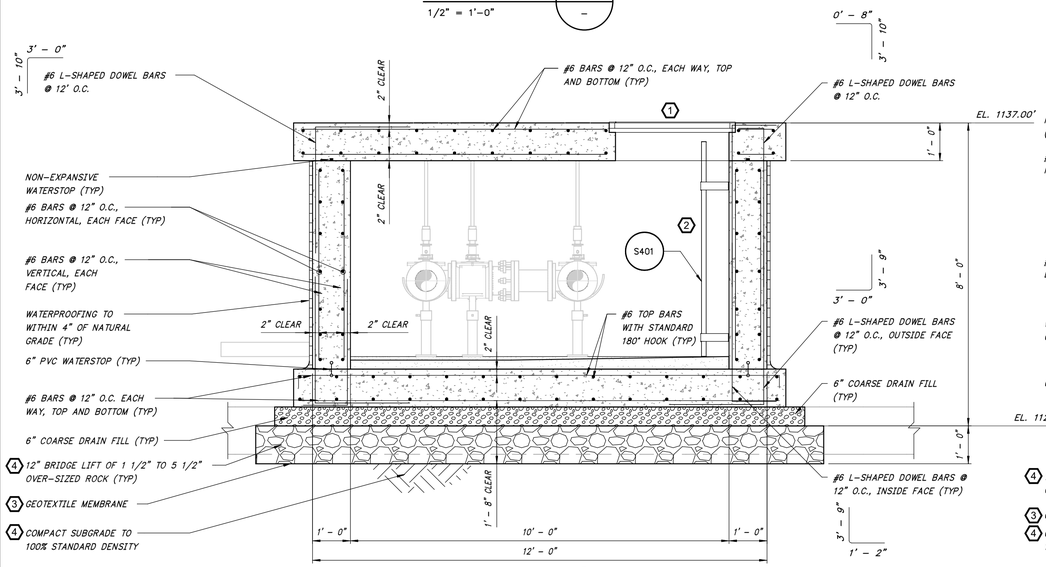
NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].
3. REFER TO SPECIFICATION SECTION 07110 FOR WATERPROOFING OF BELOW GRADE WALLS.
4. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

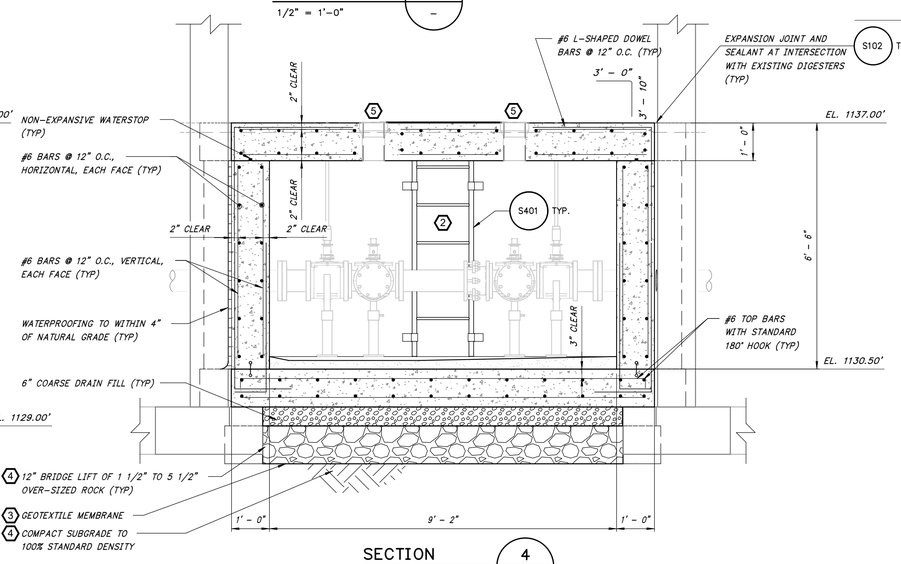
1. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. H1W3636, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
2. ALUMINUM LADDER SHALL BE HALLIDAY PRODUCTS SERIES L1B AND SHALL INCLUDE SERIES L1E LADDER EXTENSION, OR EQUAL.
3. GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE BRIDGE LIFT.
4. 12" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.
5. COORDINATE LOCATION OF VALVE BOXES WITH PROCESS MECHANICAL DRAWINGS.

DETAIL C
1/2" = 1'-0"



SECTION 3
1/2" = 1'-0"

DETAIL D
1/2" = 1'-0"



SECTION 4
1/2" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
WESLEY JAY LEWIS
No. 20398

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

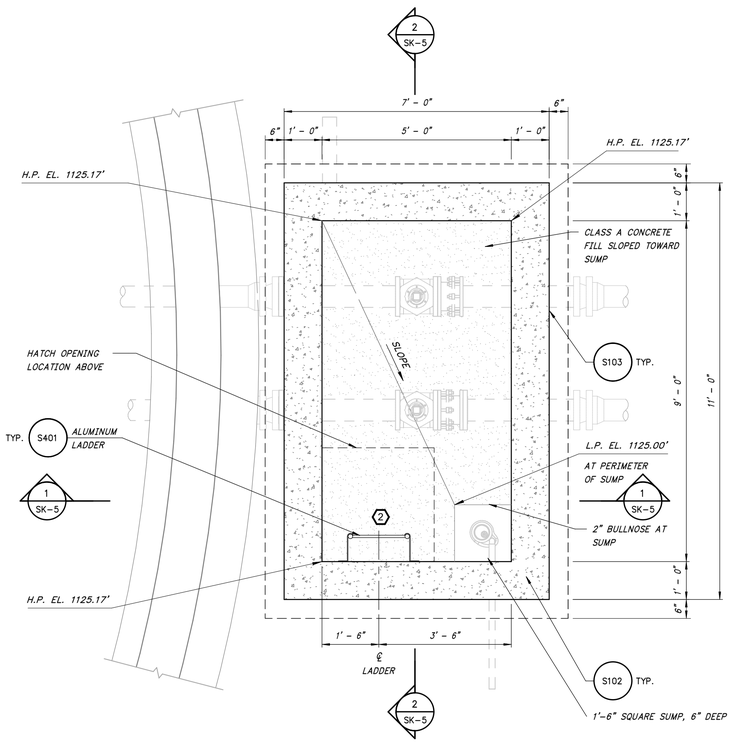
DIGESTER NO. 4 AND NO. 5 VALVE VAULTS
DETAILS AND SECTIONS
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE:	MARCH 2025
SCALE:	1/2" = 1'-0"
DESIGNED BY:	WJL
DRAWN BY:	DKS
HWEI NO.:	2021037
FILENAME:	WWRF21037-ST

SHEET NO.
SK-3

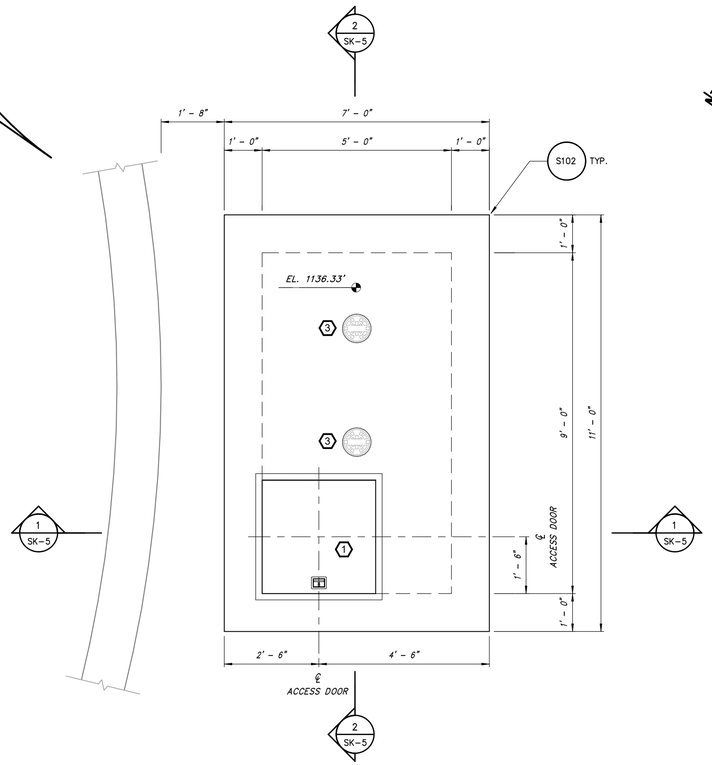
Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 6:58:49 AM / DKS / DIGESTER NO. 4 AND NO. 5

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 6:58:51 AM / DKS / DIGESTER NO. 4 VALVE VAULT



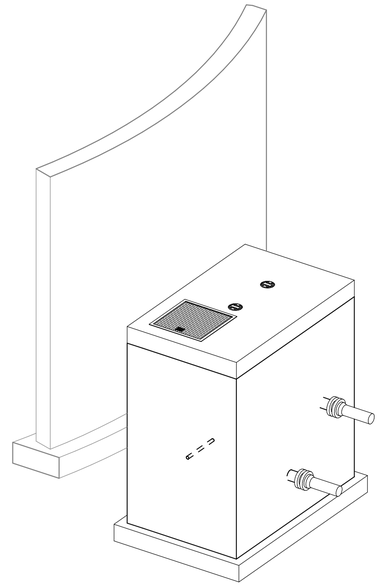
DIGESTER NO. 4 VALVE VAULT
BOTTOM PLAN

DETAIL E
1/2" = 1'-0"



DIGESTER NO. 4 VALVE VAULT
TOP PLAN

DETAIL F
1/2" = 1'-0"



ISOMETRIC/3D
N.T.S.

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMIM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].
3. REFER TO SPECIFICATION SECTION 07110 FOR WATERPROOFING OF BELOW GRADE WALLS.
4. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

1. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. H1W3636, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
2. ALUMINUM LADDER SHALL BE HALLIDAY PRODUCTS SERIES L1B AND SHALL INCLUDE SERIES L1E LADDER EXTENSION, OR EQUAL.
3. COORDINATE LOCATION OF VALVE BOXES WITH PROCESS MECHANICAL DRAWINGS.

1"
ONE INCH
AT FULL SIZE
IF NOT ONE INCH
SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
WESLEY JAY LEWIS
No. 23358
3-21-25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

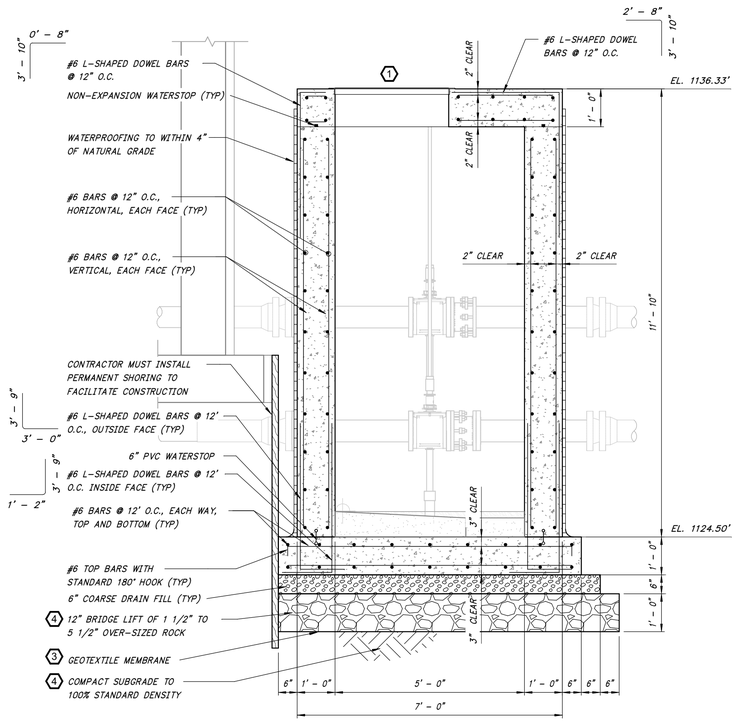
DIGESTER NO. 4 VALVE VAULT DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: WJL
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

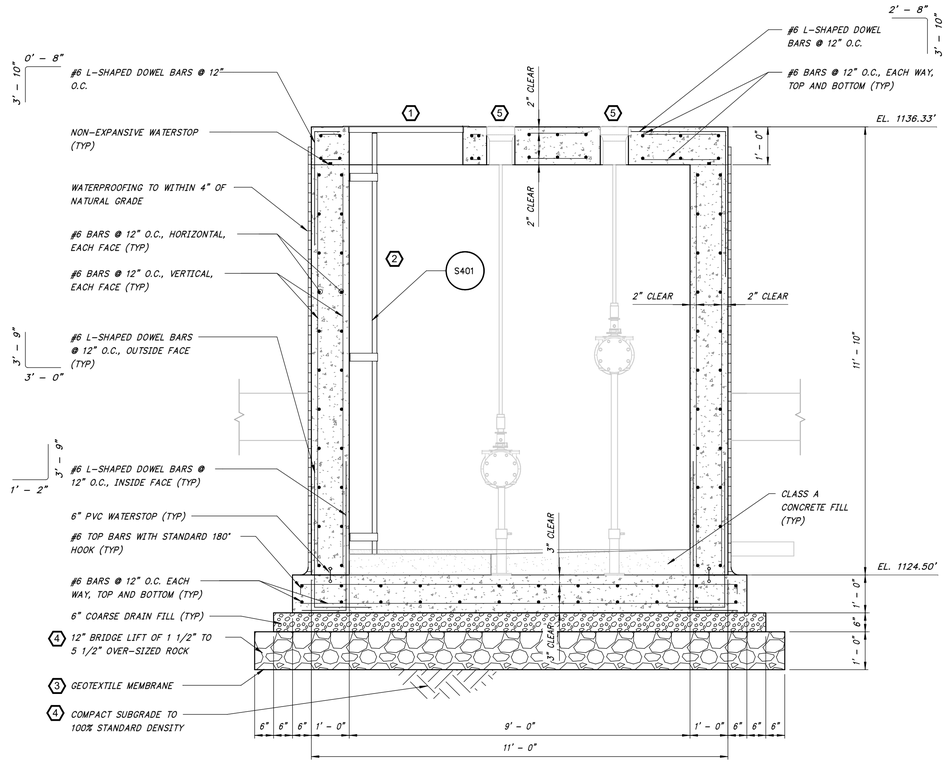
SHEET NO.
SK-4

BID DRAWINGS
MARCH 21, 2025



DIGESTER NO. 4 VALVE VAULT

SECTION 1 — 1/2" = 1'–0" — SK–4



DIGESTER NO. 4 VALVE VAULT

SECTION 2 — 1/2" = 1'–0" — SK–4

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10–INCHES, REFER TO DETAIL S103.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMM 6' LIFTS AND COMPACTED WITH A VIBRATORY PLATE [MINIMIM OF TWO (2) PASSES PER LIFT].
3. REFER TO SPECIFICATION SECTION 07110 FOR WATERPROOFING OF BELOW GRADE WALLS.
4. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

1. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. H1W3636, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
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3. GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE BRIDGE LIFT.
4. 12" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED AND WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OF RECORD.
5. COORDINATE LOCATION OF VALVE BOXES WITH PROCESS MECHANICAL DRAWINGS.

1"

ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — No. 20398 — WESLEY JAY LOVELL — 25

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

CITY OF BENTONVILLE ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

DIGESTER NO. 4 VALVE VAULT SECTIONS

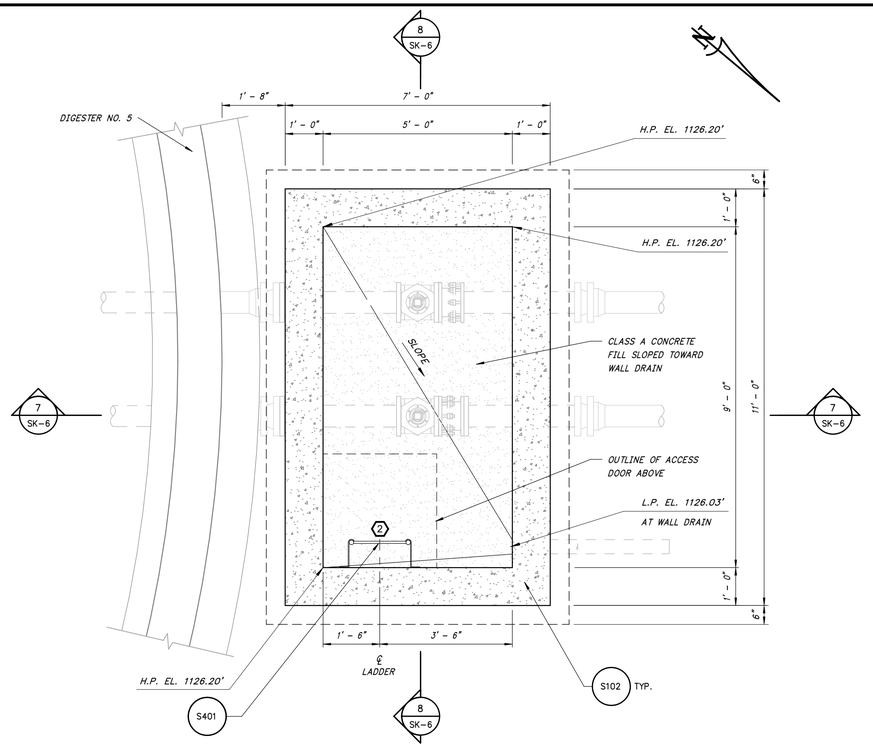
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'–0"
DESIGNED BY: WJL
DRAWN BY: DKS
HWEI NO.: 2021037
FILENAME: WWRF21037–ST

SHEET NO.
SK–5

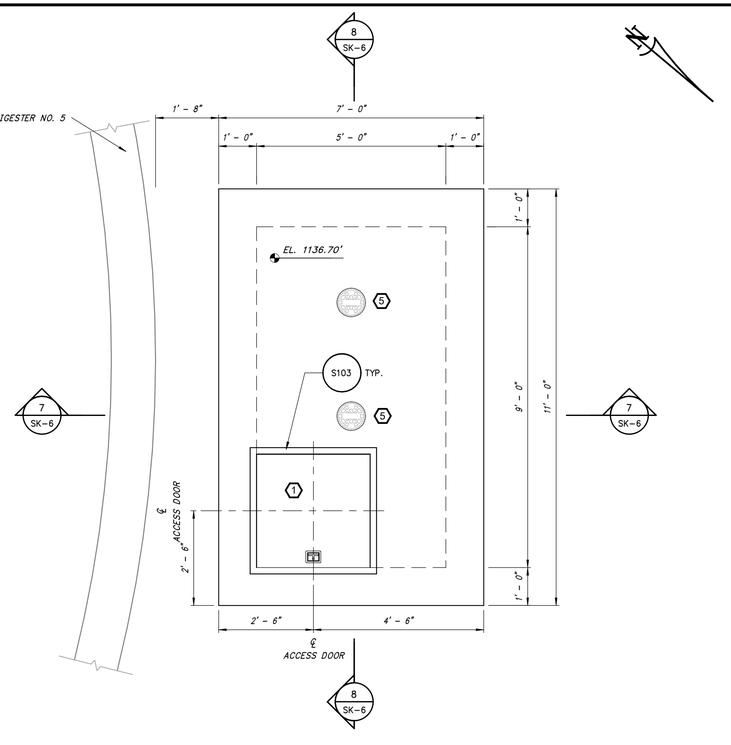
BID DRAWINGS
MARCH 21, 2025

Autodesk Docs://410144 – Bentonville Water Resource Recovery Facility Improvements/WWRF21037–ST.rvt 3/21/2025 6:58:53 AM / DKS / DIGESTER NO. 4 VALVE VAULT



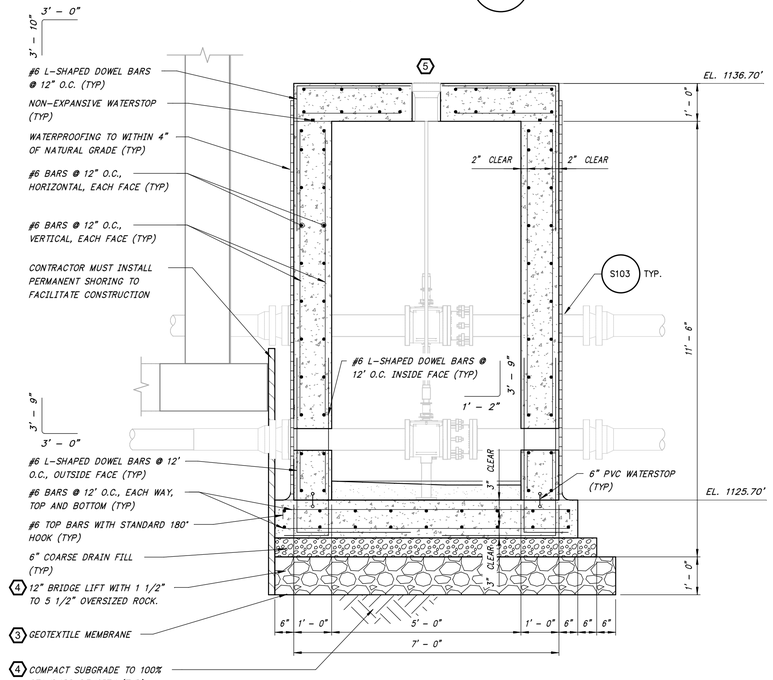
DIGESTER NO. 5 VALVE VAULT
BOTTOM PLAN

DETAIL G
1/2" = 1'-0"

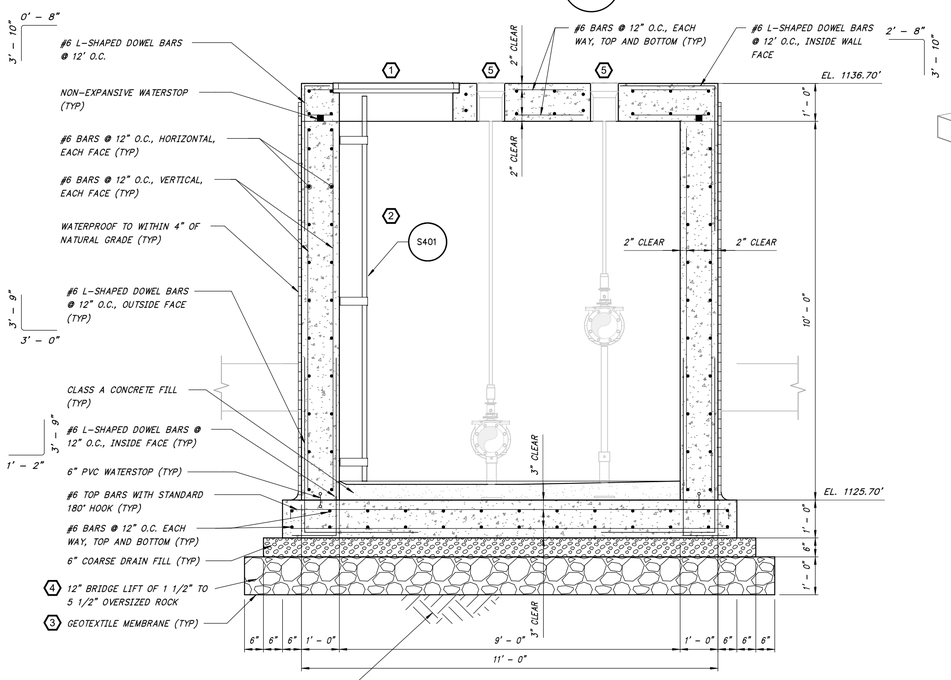


DIGESTER NO. 5 VALVE VAULT
TOP PLAN

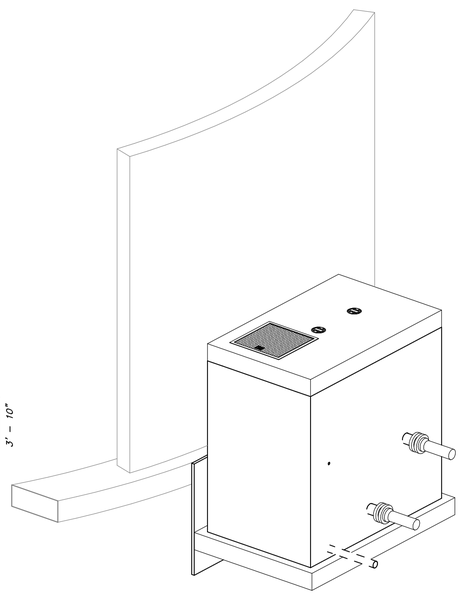
DETAIL H
1/2" = 1'-0"



SECTION 7
1/2" = 1'-0" SK-6



SECTION 8
1/2" = 1'-0" SK-6



ISOMETRIC/3D
N.T.S.

NOTES:

1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS. FOR WALL AND/OR SLAB PENETRATIONS GREATER THAN 10-INCHES, REFER TO DETAIL S103.
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3. REFER TO SPECIFICATION SECTION 07110 FOR WATERPROOFING OF BELOW GRADE WALLS.
4. ALL EXPOSED VERTICAL CONCRETE SURFACES SHALL RECEIVE A RUBBED FINISH.

KEYED NOTES:

1. ACCESS DOOR SHALL BE HALLIDAY PRODUCTS NO. H1W3636, OR EQUAL, AND SHALL INCLUDE OPTIONAL FALL PROTECTION GRATING.
2. ALUMINUM LADDER SHALL BE HALLIDAY PRODUCTS SERIES L1B AND SHALL INCLUDE SERIES L1E LADDER EXTENSION, OR EQUAL.
3. GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE BRIDGE LIFT.
4. 12" BRIDGE LIFT MAY BE OMITTED IF THE SPECIFIED COMPACTION OF THE SUBGRADE CAN BE ACHIEVED, AND WITH THE APPROVAL OF THE GEOTECHINCAL ENGINEER OF RECORD.
5. COORDINATE LOCATION OF VALVE BOXES WITH PROCESS MECHANICAL DRAWINGS.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
WESLEY JAY LEWIS
No. 20398
05-22-25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

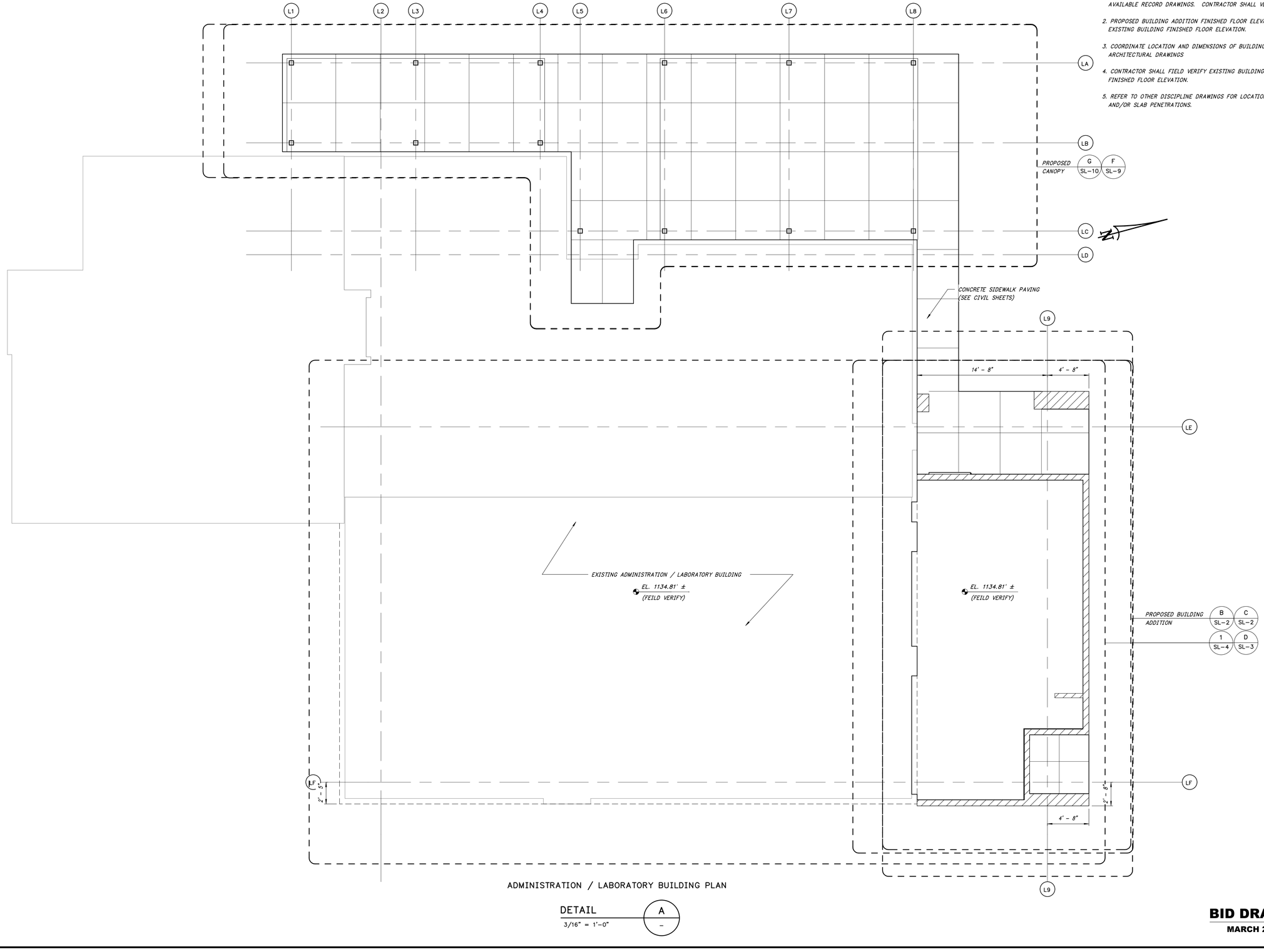
DIGESTER NO. 5 VALVE VAULT DETAILS AND SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE:	MARCH 2025
SCALE:	1/2" = 1'-0"
DESIGNED BY:	WJL
DRAWN BY:	DKS
HWEI NO.:	2021037
FILENAME:	WWRF21037-ST

SHEET NO.
SK-6

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 6:58:58 AM / DKS / DIGESTER NO. 5 VALVE VAULT



ADMINISTRATION / LABORATORY BUILDING PLAN

DETAIL A
3/16" = 1'-0"

NOTES:

1. DIMENSIONS AND ELEVATIONS SHOWN FOR EXISTING STRUCTURE ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
2. PROPOSED BUILDING ADDITION FINISHED FLOOR ELEVATION, SHALL MATCH EXISTING BUILDING FINISHED FLOOR ELEVATION.
3. COORDINATE LOCATION AND DIMENSIONS OF BUILDING GRIDLINES WITH ARCHITECTURAL DRAWINGS
4. CONTRACTOR SHALL FIELD VERIFY EXISTING BUILDING DIMENSIONS AND FINISHED FLOOR ELEVATION.
5. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

© HAWKINS-WEIR ENGINEERS, INC. 2025

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HAWKINS
NO. 13205

HAWKINS-WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

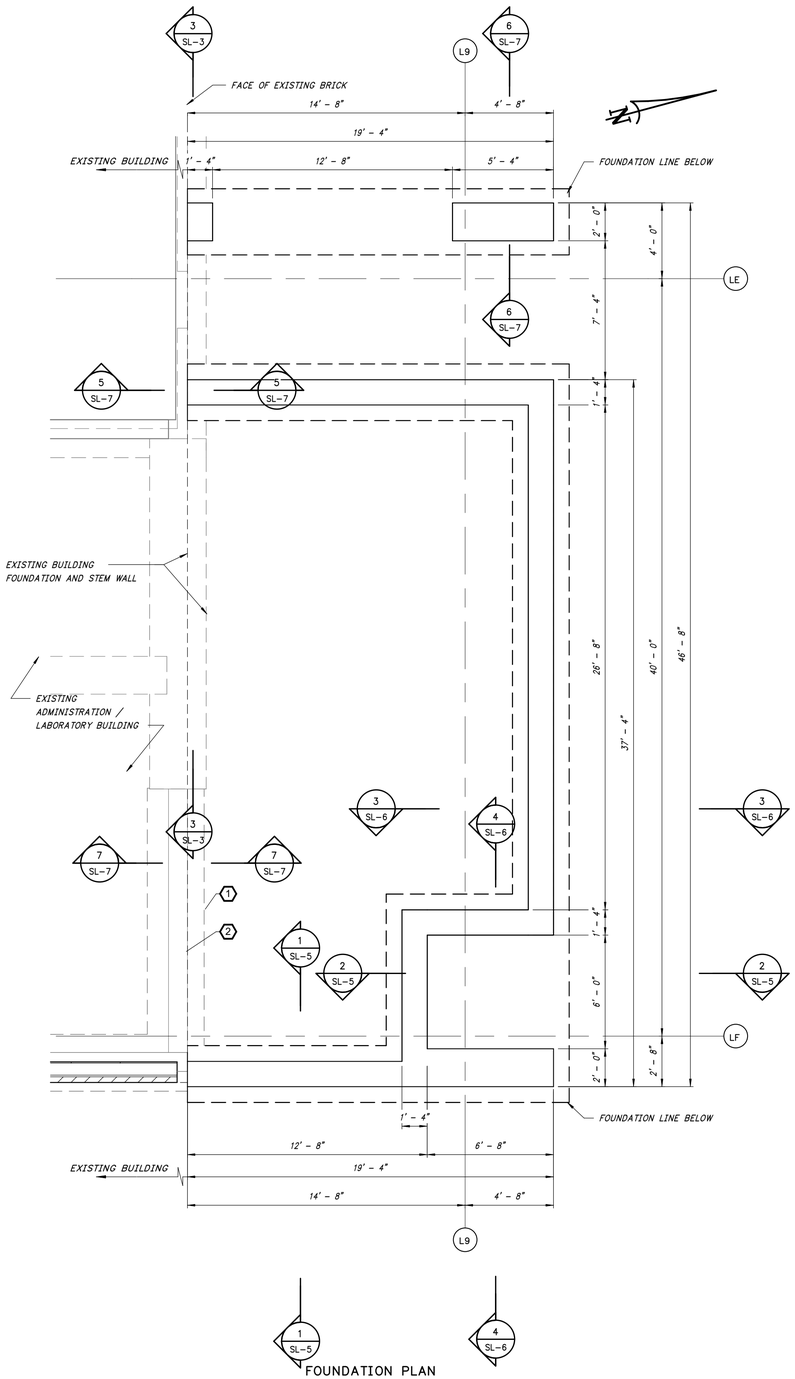
ADMINISTRATION / LABORATORY BUILDING FLOOR PLAN

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 3/16" = 1'-0"
DESIGNED BY: LCH
DRAWN BY: JEB
HWEI NO.: 2021037
FILENAME:

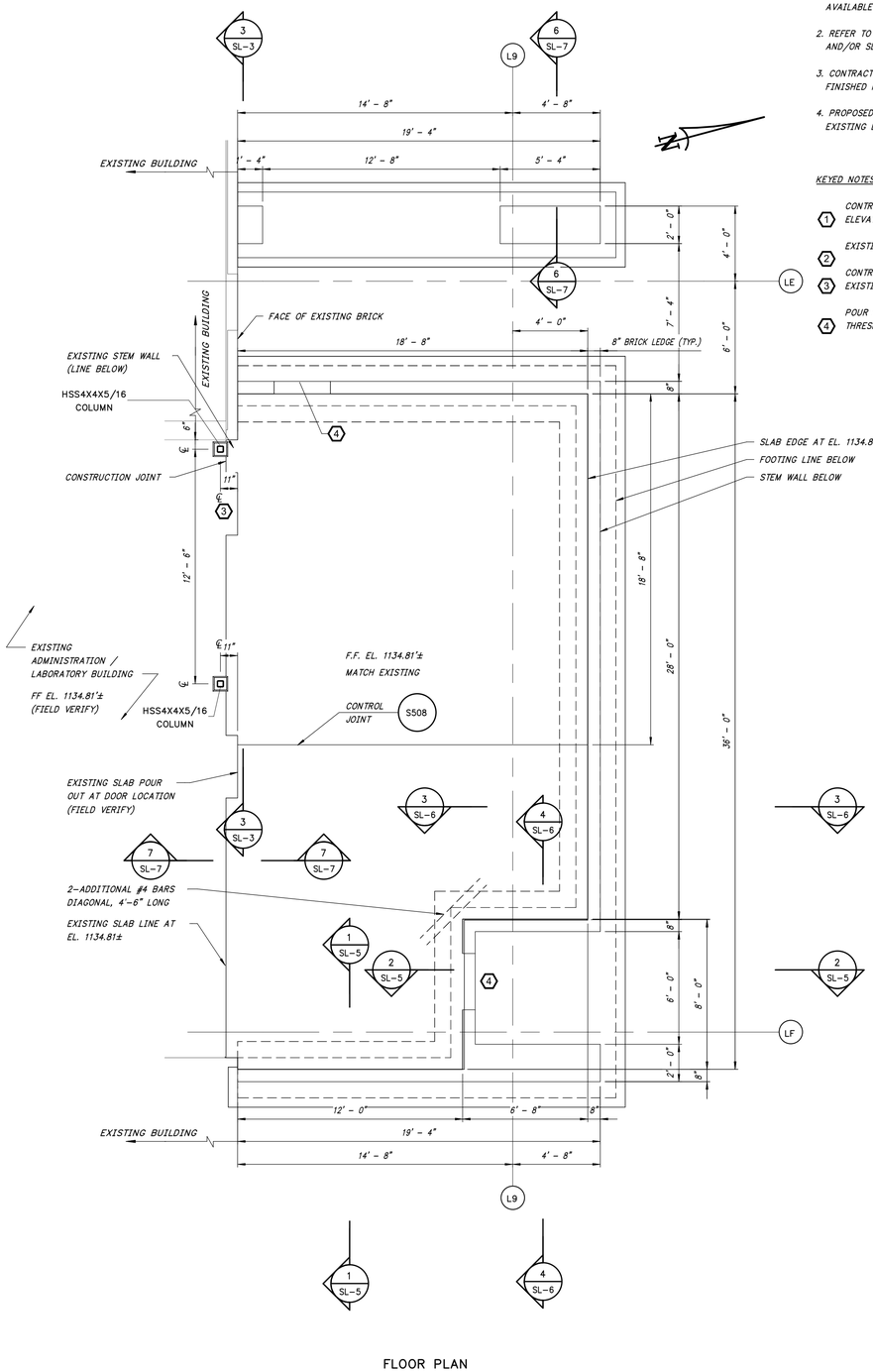
SHEET NO.
SL-1

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 11:28:00 AM / JEB / ADMINISTRATION / LABORATORY BUILDING



FOUNDATION PLAN

DETAIL B
1/4" = 1'-0"



FLOOR PLAN

DETAIL C
1/4" = 1'-0"

NOTES:

1. DIMENSIONS AND ELEVATIONS SHOWN FOR EXISTING STRUCTURE ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
2. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.
3. CONTRACTOR SHALL FIELD VERIFY EXISTING BUILDING DIMENSIONS AND FINISHED FLOOR ELEVATION.
4. PROPOSED BUILDING ADDITION FINISHED FLOOR ELEVATION, SHALL MATCH EXISTING BUILDING FINISHED FLOOR ELEVATION.

KEYED NOTES:

1. CONTRACTOR SHALL FIELD VERIFY EXISTING FOUNDATION DIMENSIONS AND ELEVATIONS
2. EXISTING BRICK LEDGE FIELD VERIFY DIMENSIONS.
3. CONTRACTOR TO FIELD VERIFY CONCRETE SLAB POUR OUT DIMENSIONS AT EXISTING DOORS.
4. POUR SLAB EDGE FLUSH WITH EXTERIOR FACE OF STEM WALL AT DOOR THRESHOLD LOCATIONS.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HARRIS
NO. 13205

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

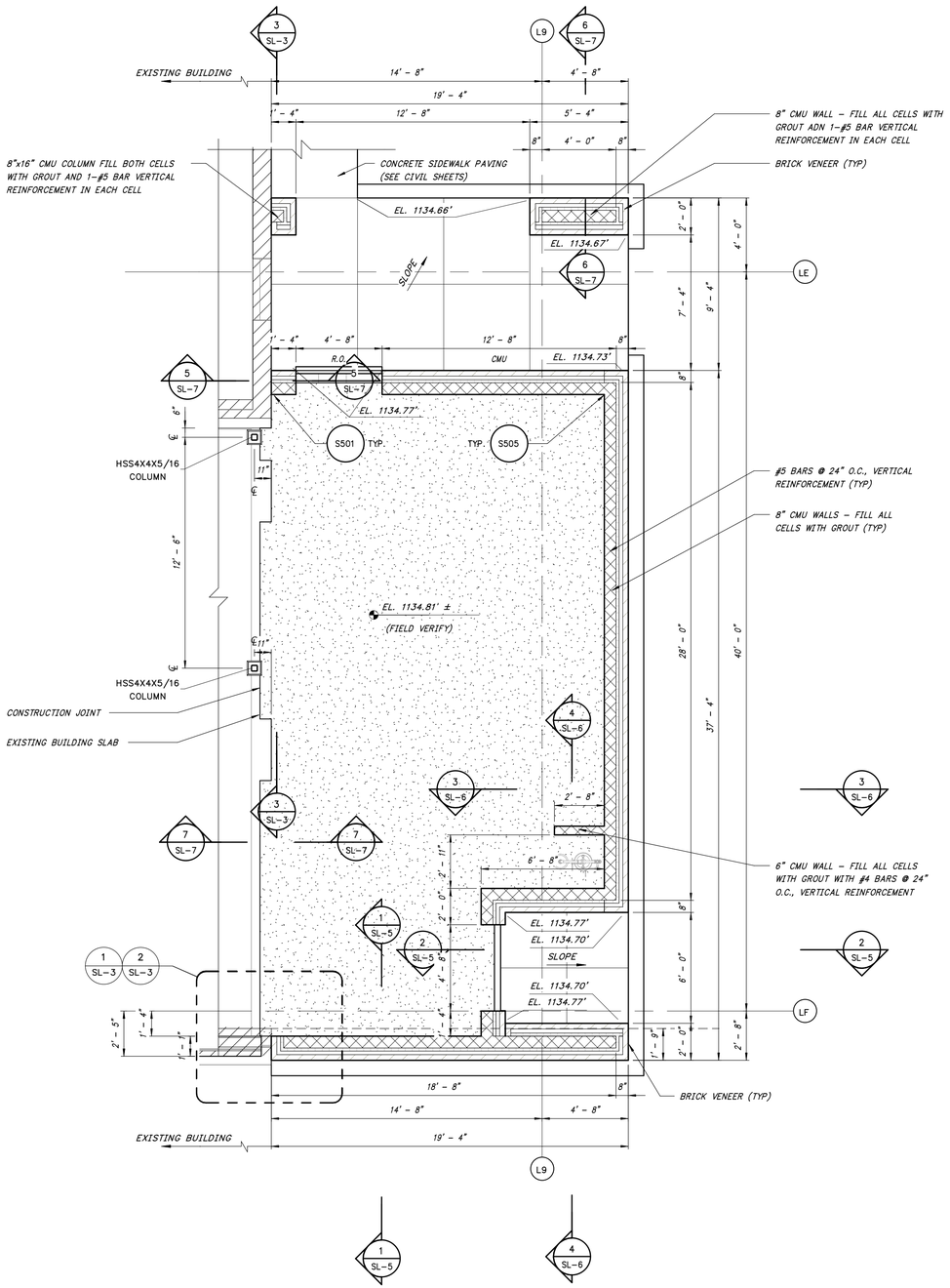
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

ADMINISTRATION / LABORATORY BUILDING
PROPOSED BUILDING ADDITION
PLAN
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: LCH
DRAWN BY: JEB
HWEI NO.: 2021037
FILENAME:

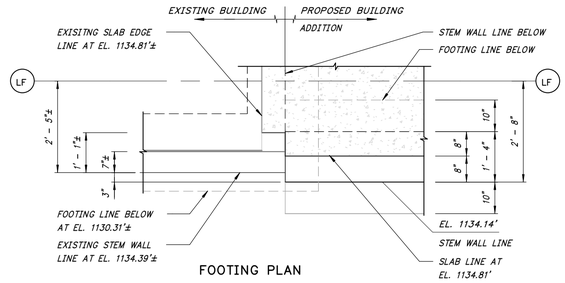
SHEET NO.
SL–2

Autodesk Docs://4101144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 11:28:02 AM / JEB / ADMINISTRATION / LABORATORY BUILDING



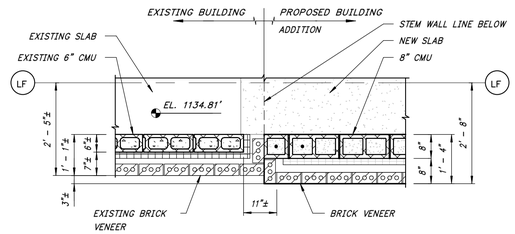
WALL PLAN

DETAIL D
1/4" = 1'-0"



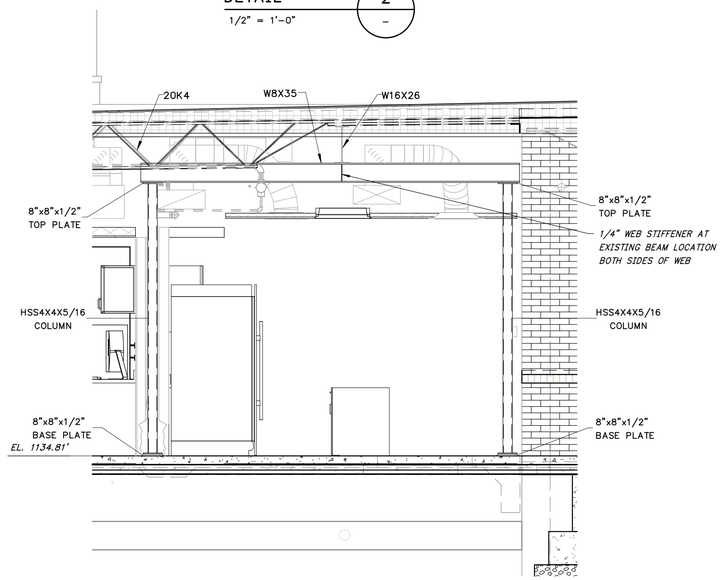
FOOTING PLAN

DETAIL 1
1/2" = 1'-0"



WALL PLAN

DETAIL 2
1/2" = 1'-0"



SECTION 3
3/8" = 1'-0"

NOTES:

1. DIMENSIONS AND ELEVATIONS SHOWN FOR EXISTING STRUCTURE ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
2. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.
3. CONTRACTOR SHALL FIELD VERIFY EXISTING BUILDING DIMENSIONS AND FINISHED FLOOR ELEVATION.
4. PROPOSED BUILDING ADDITION FINISHED FLOOR ELEVATION, SHALL MATCH EXISTING BUILDING FINISHED FLOOR ELEVATION.
5. REFER TO DETAILS S501 THROUGH S506 ON PLAN SHEET SZ-5 FOR CMU REINFORCEMENT.
6. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF ANY MASONRY CONTROL JOINTS.
7. COORDINATE LOCATION OF VERTICAL CMU REINFORCEMENT TO AVOID CONFLICTS WITH STEEL JOINTS.
8. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.

1"
ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HARRIS
NO. 13205

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

ADMINISTRATION / LABORATORY BUILDING
PROPOSED BUILDING ADDITION
PLAN

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: As indicated
DESIGNED BY: LCH
DRAWN BY: JEB
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SL-3

BID DRAWINGS
MARCH 21, 2025

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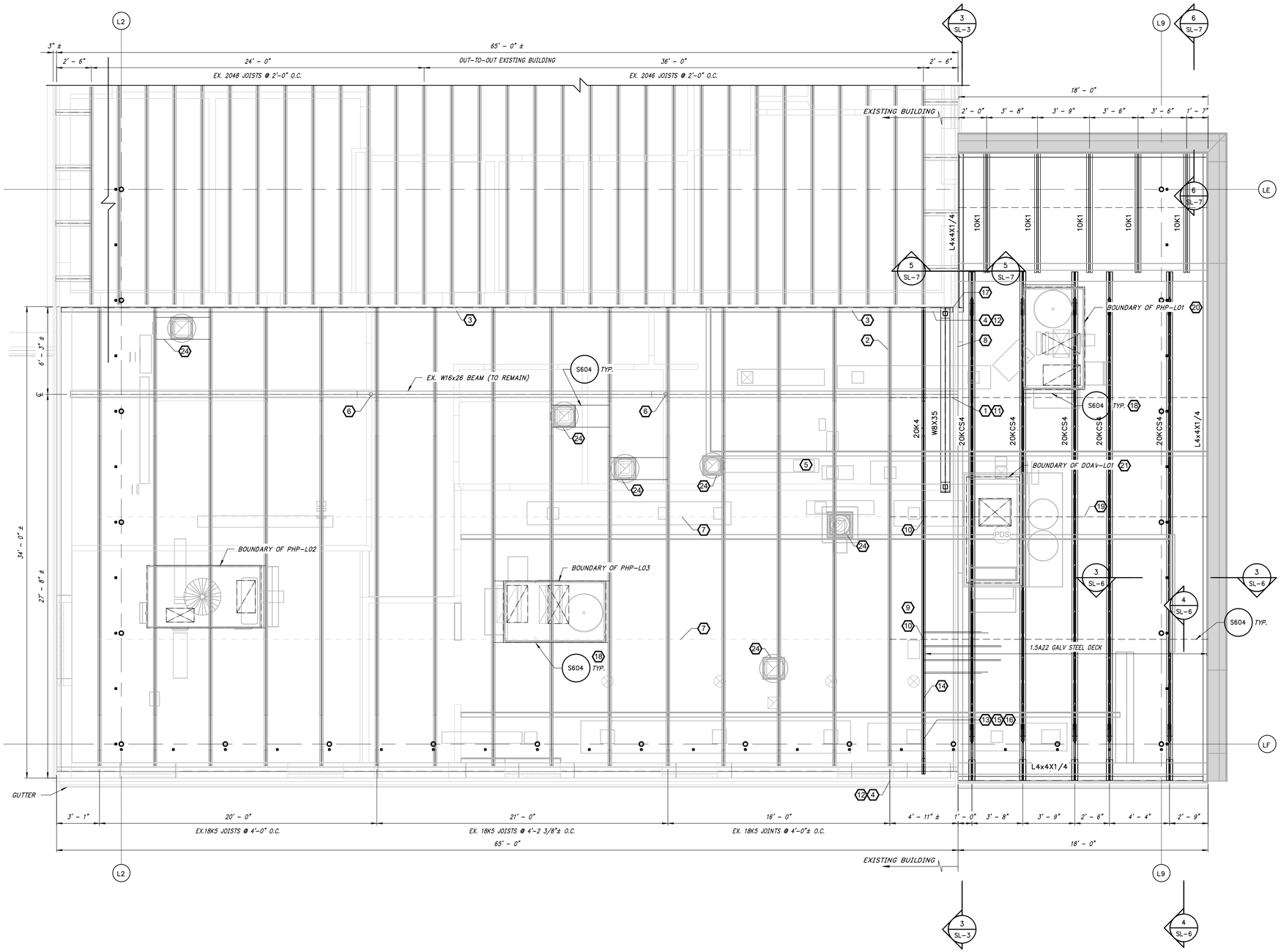

PROPOSED ADDITION ROOF FRAME PLAN

DETAIL 1 / 1/4" = 1'-0"

NOTES:

1. DIMENSIONS AND ELEVATIONS SHOWN FOR EXISTING STRUCTURE ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
2. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.
3. SHOP PAINTING AND FIELD PAINTING, AS NEEDED, SHALL BE DONE IN ACCORDANCE WITH DIVISION 9 OF THE SPECIFICATIONS. PAINT COLOR TO BE SELECTED BY OWNER.
4. THREE (3) ROWS OF JOIST BRIDGING SHALL BE INSTALLED. IN ADDITION A SINGLE LINE OF STEEL JOIST BOTTOM CHORD BRIDGING SHALL BE PROVIDED NEAR THE FIRST BOTTOM CHORD PANEL POINTS.

KEYED NOTES:

1. EXISTING W16X26 BEAM SUPPORTS EXISTING ROOF JOISTS AND BEARS ON EXISTING CMU WALL TO BE DEMOLISHED. CONTRACTOR SHALL PROVIDE SHORING TO SUPPORT EXISTING W16X26 BEAM TO REMAIN PRIOR TO PERFORMING DEMOLITION OF EXISITNG STRUCTURAL WALL SUPPORTING BEAM.
2. EXTENDED END OF EXISITNG BAR JOISTS. FIELD VERIFY DIMENSIONS AND TOP CHORD ELEVATION AT LEDGER ANGLE.
3. EXISTING 4" X 4" X 1/4" LEDGER ANGLE WELDED TO ENDS OF 20H JOISTS. FIELD VERIFY ANGLE ELEVATION. VERIFY LEDGER ANGLE IS WELDED TO BAR JOIST END NEAREST LOCATION OF NEW 18K5 JOIST TO BE INSTALLED.
4. EXISTING 4" X 4" X 1/4" CONTINUOUS PERIMETER ANGLE ABOVE ROOF DECK.
5. EXISTING 1-1/2" TYPE "A" GALVANIZED ROOF DECK TO REMAIN UNLESS INDICATED OTHERWISE. CONTRACTOR TO FIELD VERIFY GAUGE.
6. EXISTING 4" X 4" SQUARE COLUMN TO REMAIN.
7. EXISITNG STEEL JOIST BRIDGING TO REMAIN. CONTRACTOR TO FIELD VERIFY LOCATION AND COORDINATE WITH OTHER DISCIPLINE DRAWINGS.
8. REMOVE AND DISPOSE OF EXISTING 4" X 4" X 1/4" CONTINUOUS PERIMETER ANGLE ABOVE ROOF DECK.
9. REMOVE EXISTING 1-1/2" TYPE "A" GALVANIZED ROOF DECK TO THE FIRST EXISITNG JOIST FOR INSTALLATION OF NEW BAR JOIST.
10. REMOVE STEEL BRIDGING AS REQUIRED TO INSTALL NEW BAR JOIST.
11. REMOVE EXISTING STEEL BEAM BEARING PLATE AND PREPARE BOTTOM FLANGE OF EXISTING BEAM FOR CONNECTION TO NEW SUPPORT BEAM.
12. REMOVE EXISITNG 4" X 4" X 1/4" CONTINUOUS PERIMETER ANGLE ABOVE ROOF DECK AS NECESSARY FOR INSTALLATION OF NEW JOIST. REPLACE PERIMETER ANGLE REMOVED UNLESS INDICATED OTHERWISE. REPLACEMENT ANGLE SHALL BE BUTT WELDED TO EXISITNG ANGLE.
13. FURNISH AND INSTALL NEW JOIST BEARING PLATE AT THE TOP OF THE EXISITNG MASONRY WALL.
14. FURNISH AND INSTALL NEW 18K5 BAR JOIST WITH EXTENDED END TO MATCH EXISTING BAR JOISTS. FIELD VERIFY EXISTING 18K5 BAR JOIST DIMENSIONS, ELEVATIONS, AND SLOPE. NEW JOIST TOP CHORD ELEVATION TO MATCH EXISITNG.
15. FIELD VERIFY JOIST SEAT HEIGHT REQUIRED TO MATCH EXISTING. COORDINATE WITH NEW BASE PLATE THICKNESS AND PROVIDE REDUCED JOIST SEAT HEIGHT AS REQUIRED.
16. FURNISH AND INSTALL 6" X 9" X 3/8" BEARING PLATE WITH 5/8" DIAMETER HILTI HIT HY 270 ANCHORS EMBEDDED INTO EXISITNG BOND BEAM.
17. WELD 4"x4"x1/4" TO EXISITNG
18. ADDITIONAL ROOF FRAMING IN REQUIRED AT ALL HVAC ROOF PENETRATIONS PER DETAIL
19. COORDINATE LOCATION OF ALL STEEL JOIST BRIDGING TO AVOID CONFLICTS WITH HVAC ROOF PENETRATIONS
20. PHP-L01, 1300 LBS
21. PDOAV-L01, 3150 LBS
22. PHP-L02, 1500 LBS
23. PHP-L03, 1300 LBS
24. EXHAUST FAN TO BE INSTALLED. COORDINATE EXACT SIZE, WEIGHT, AND LOCATION WITH HVAC DRAWINGS.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE | REVISION

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STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — LARRY C. HARRIS — NO. 13205

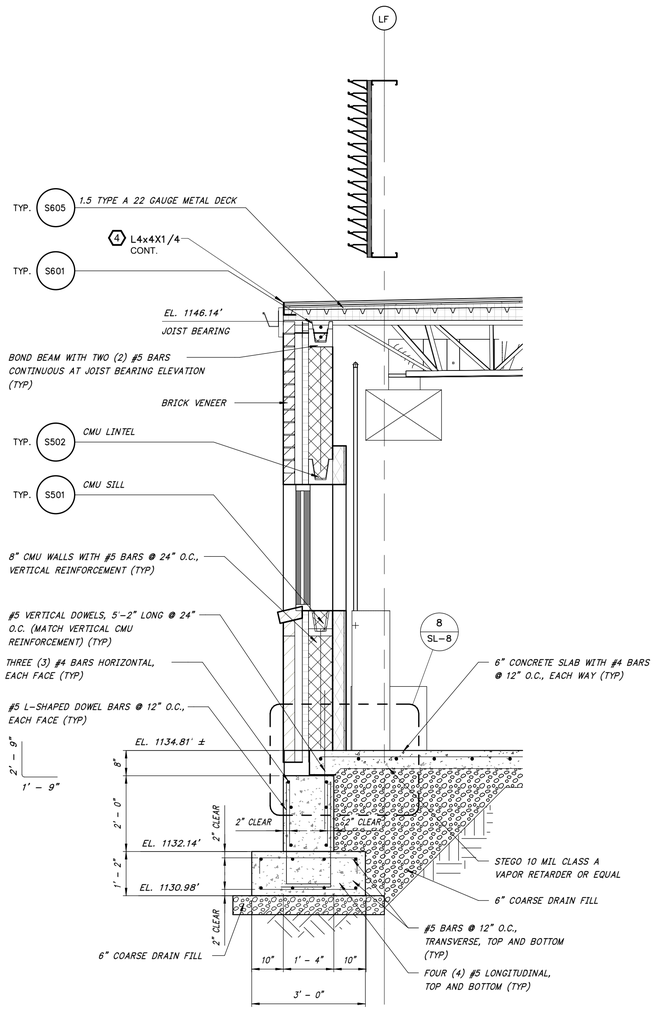
HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS
ADMINISTRATION / LABORATORY BUILDING
ROOF BUILDING PLAN
FOR: BENTONVILLE WASTEWATER UTILITIES

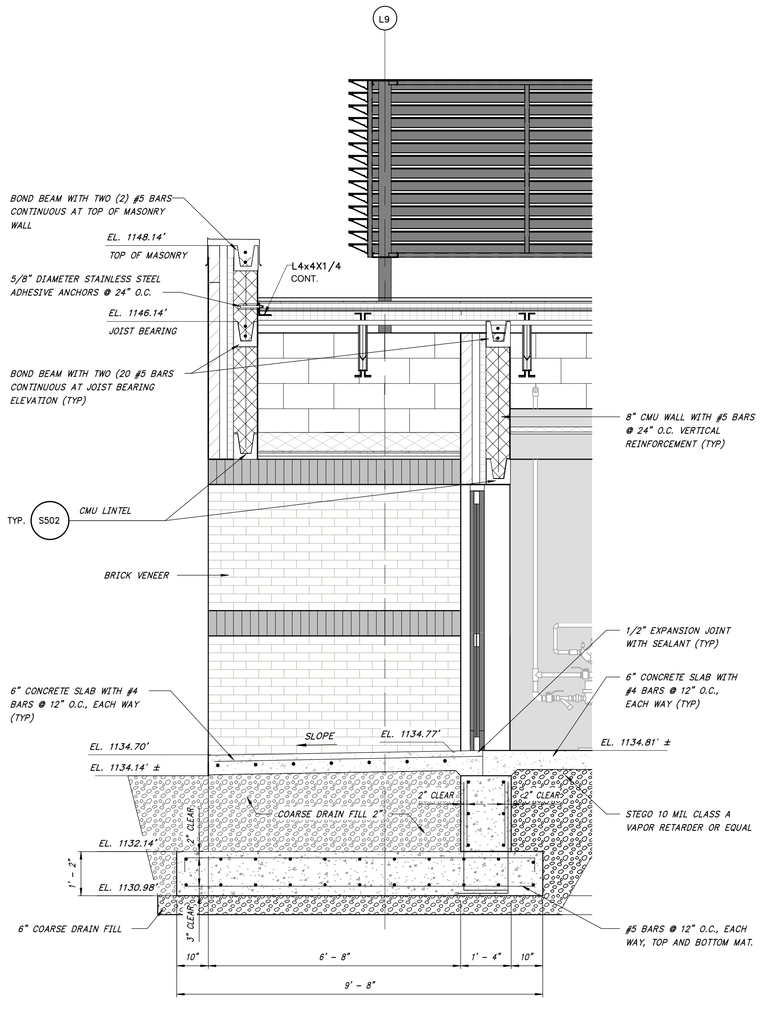
DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: LCH
DRAWN BY: JEB
HWEI NO.: 2021037
FILENAME:

SHEET NO. SL-4

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 11:28:13 AM / JEB / ADMINISTRATION / LABORATORY BUILDING



SECTION 1
1/2" = 1'-0"
SL-2



SECTION 2
1/2" = 1'-0"
SL-2

NOTES:

1. *DIMENSIONS AND ELEVATIONS SHOWN FOR EXISTING STRUCTURE ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.*
2. *REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.*
3. *CONTRACTOR SHALL FIELD VERIFY EXISTING BUILDING DIMENSIONS AND FINISHED FLOOR ELEVATION.*
4. *PROPOSED BUILDING ADDITION FINISHED FLOOR ELEVATION, SHALL MATCH EXISTING BUILDING FINISHED FLOOR ELEVATION.*

KEYED NOTES:

1. *CLASS 7 AGGREGATE BASE COURSE SHALL BE INSTALLED IN 6-INCH LIFTS AND COMPACTED TO 95% MODIFIED DENSITY.*
2. *GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE AGGREGATE BASE COURSE.*
3. *CONTRACTOR SHALL COORDINATE WITH THE GEOTECHNICAL ENGINEER OF RECORD TO CONFIRM THE SUBGRADE BEARING PRIOR TO PLACING AND COMPACTING THE CLASS 7 AGGREGATE BASE.*
4. *WELD ANGLE AT JOIST ENDS AT SIDES AND TOP OF JOIST EXTENSION. BUTT WELD ENDS OF ANGLES CONTINUOUS.*

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HAWKINS
NO. 13205

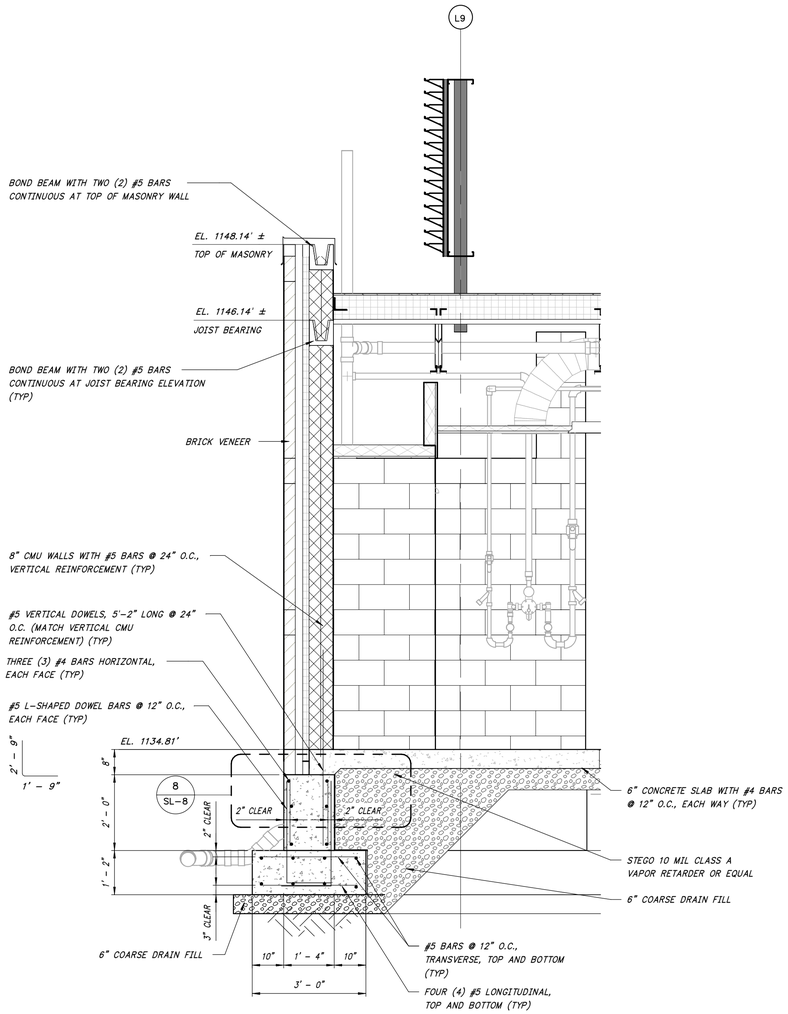
HAWKINS-WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS
ADMINISTRATION / LABORATORY BUILDING
SECTIONS
FOR: BENTONVILLE WASTEWATER UTILITIES

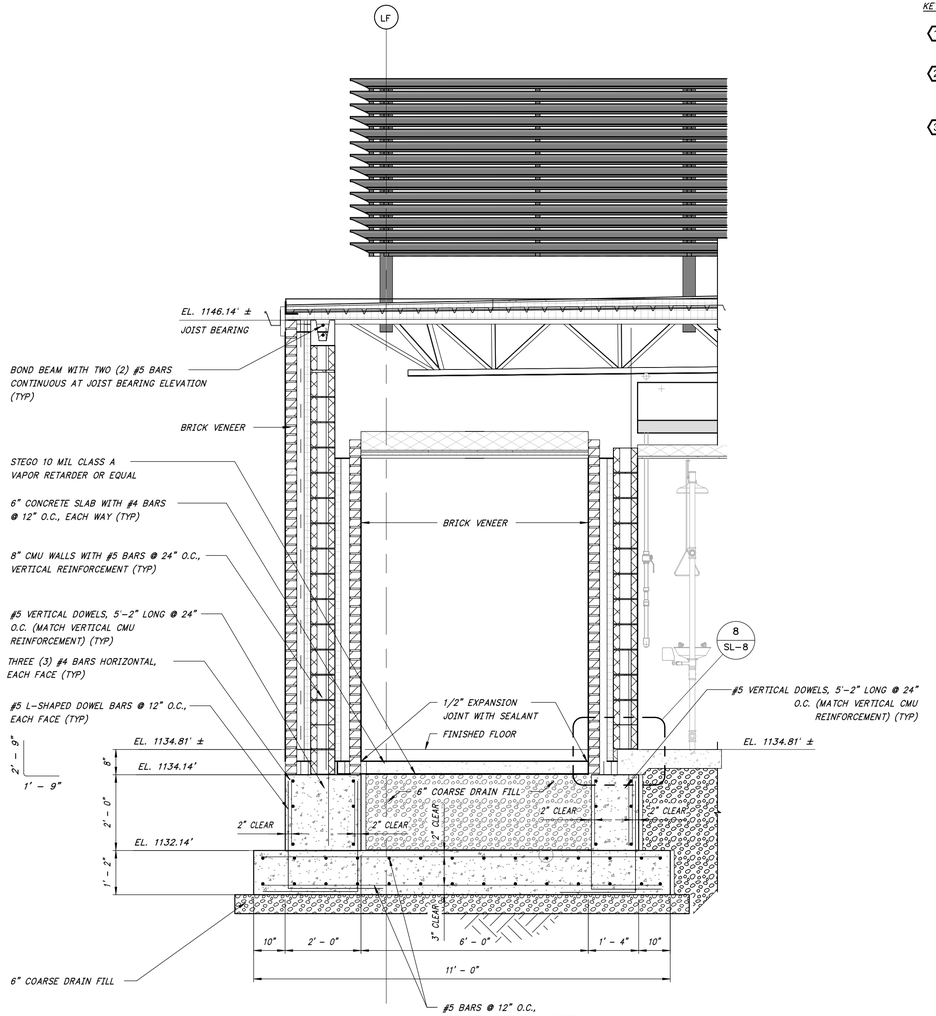
DATE:	MARCH 2025
SCALE:	1/2" = 1'-0"
DESIGNED BY:	LCH
DRAWN BY:	JEB
HWEI NO.:	2021037
FILENAME:	

SHEET NO.
SL-5

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/NWRF21037-ST.rvt 3/21/2025 11:28:19 AM / JEB / ADMINISTRATION / LABORATORY BUILDING



SECTION 3
1/2" = 1'-0"
SL-2



SECTION 4
1/2" = 1'-0"
SL-2

NOTES:

1. *DIMENSIONS AND ELEVATIONS SHOWN FOR EXISTING STRUCTURE ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.*
2. *REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.*
3. *CONTRACTOR SHALL FIELD VERIFY EXISTING BUILDING DIMENSIONS AND FINISHED FLOOR ELEVATION.*
4. *PROPOSED BUILDING ADDITION FINISHED FLOOR ELEVATION, SHALL MATCH EXISTING BUILDING FINISHED FLOOR ELEVATION.*

KEYED NOTES:

1. *CLASS 7 AGGREGATE BASE COURSE SHALL BE INSTALLED IN 6-INCH LIFTS AND COMPACTED TO 95% MODIFIED DENSITY.*
2. *GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE AGGREGATE BASE COURSE.*
3. *CONTRACTOR SHALL COORDINATE WITH THE GEOTECHNICAL ENGINEER OF RECORD TO CONFIRM THE SUBGRADE BEARING PRIOR TO PLACING AND COMPACTING THE CLASS 7 AGGREGATE BASE.*

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 13205
LARRY C. HARRIS
3/21/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS
ADMINISTRATION / LABORATORY BUILDING
SECTIONS
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: LCH
DRAWN BY: JEB
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SL-6

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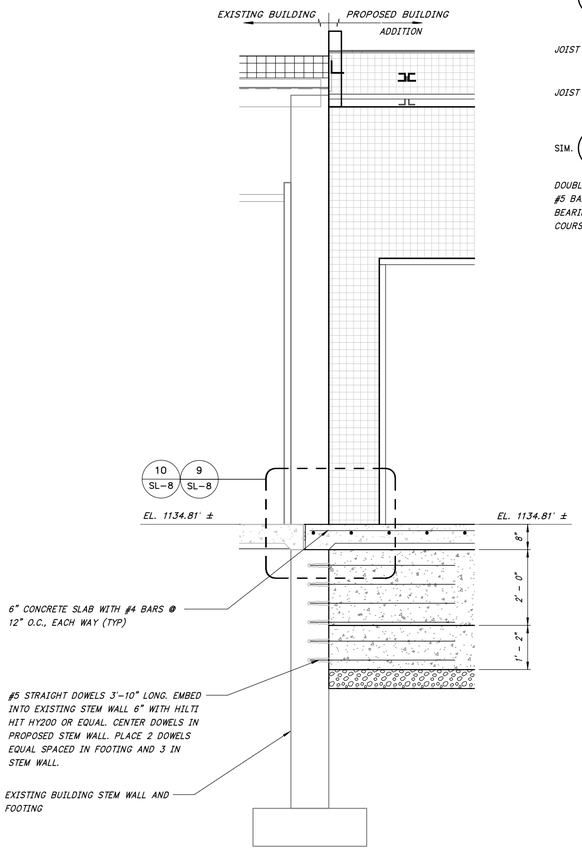
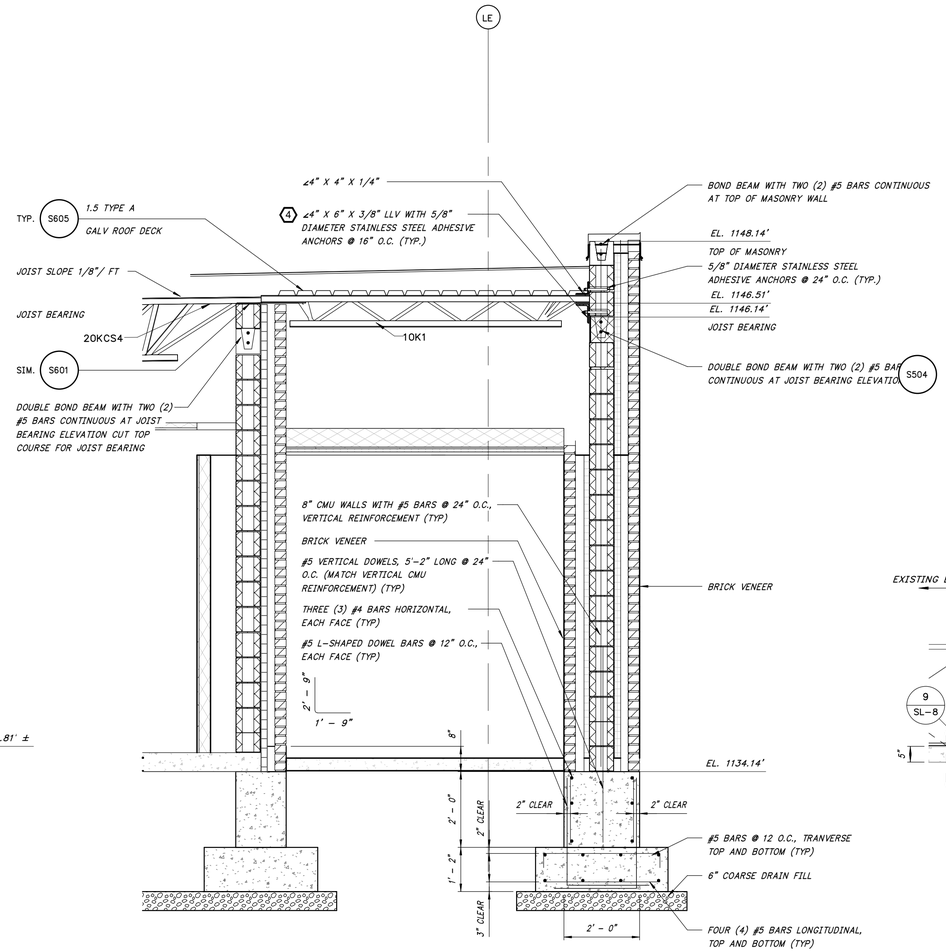
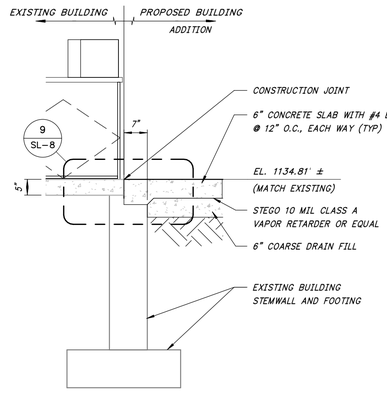


SECTION 5
1/2" = 1'-0"
SL-2



SECTION 6
1/2" = 1'-0"
SL-2



SECTION 7
1/2" = 1'-0"
SL-2

NOTES:

1. DIMENSIONS AND ELEVATIONS SHOWN FOR EXISTING STRUCTURE ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
2. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.
3. SHOP PAINTING AND FIELD PAINTING, AS NEEDED, SHALL BE DONE IN ACCORDANCE WITH DIVISION 9 OF THE SPECIFICATIONS. PAINT COLOR TO BE SELECTED BY OWNER.

KEYED NOTES:

1. CLASS 7 AGGREGATE BASE COURSE SHALL BE INSTALLED IN 6-INCH LIFTS AND COMPACTED TO 95% MODIFIED DENSITY.
2. GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE AGGREGATE BASE COURSE.
3. CONTRACTOR SHALL COORDINATE WITH THE GEOTECHNICAL ENGINEER OF RECORD TO CONFIRM THE SUBGRADE BEARING PRIOR TO PLACING AND COMPACTING THE CLASS 7 AGGREGATE BASE.
4. ANCHORS SHALL START 4" FROM EACH END OF ANGLE. SPACING SHALL BE 16" O.C. MAXIMUM.

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE
REVISION

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HAWKINS
NO. 13205

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

ADMINISTRATION / LABORATORY BUILDING
FOUNDATION/FLOOR AND ROOF DETAILS
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: LCH
DRAWN BY: JEB
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SL-7

BID DRAWINGS
MARCH 21, 2025

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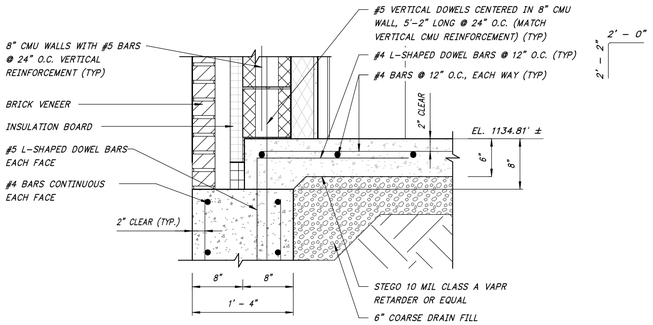
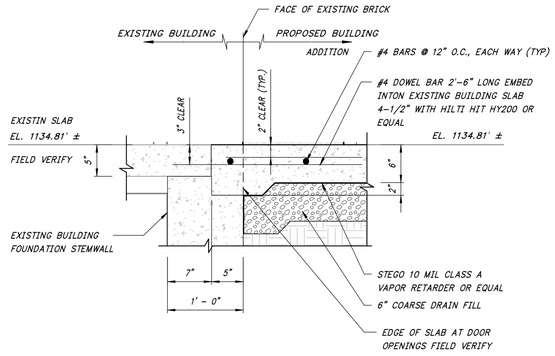
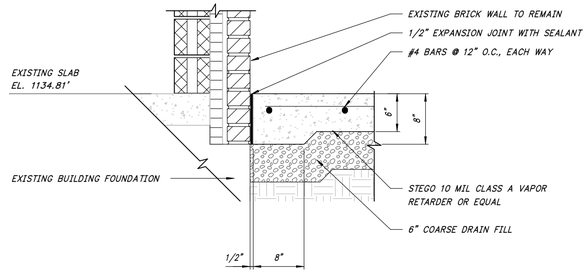


DETAIL 8
1" = 1'-0"



DETAIL 9
1" = 1'-0"



DETAIL 10
1" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HAWKINS
NO. 13205

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BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

ADMINISTRATION / LABORATORY BUILDING
FOUNDATION / FLOOR
DETAILS
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1" = 1'-0"
DESIGNED BY: LCH
DRAWN BY: JEB
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SL-8

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NOTES:

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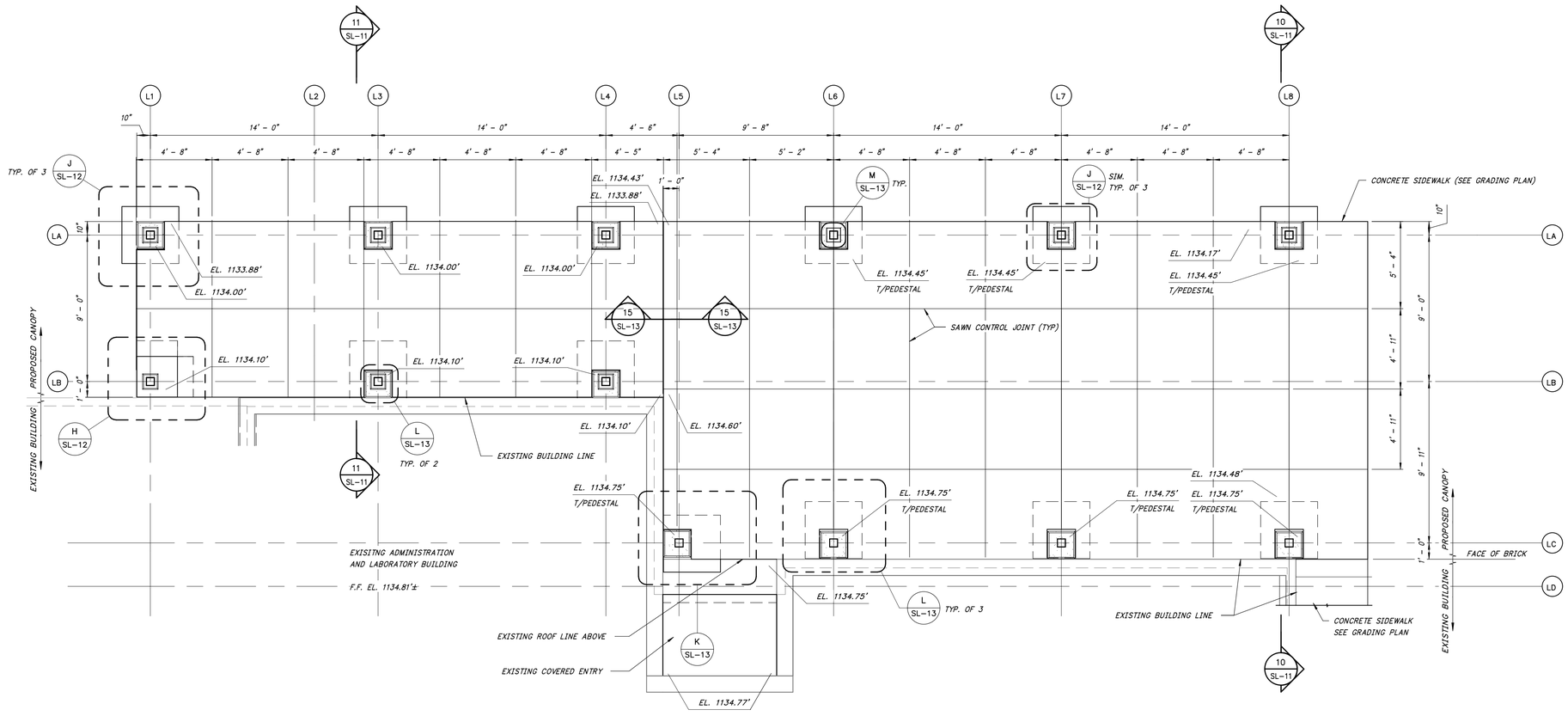
2. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.
3. SHOP PAINTING AND FIELD PAINTING, AS NEEDED, SHALL BE DONE IN ACCORDANCE WITH DIVISION 9 OF THE SPECIFICATIONS. PAINT COLOR TO BE SELECTED BY OWNER.

KEYED NOTES:

1. SEE ARCHITECTURAL DETAILS FOR ROOF FLASHING CONNECTION TO EXISTING BRICK VENEER.
2. SEE ARCHITECTURAL DETAILS FOR FASCIA CONNECTION.
3. B.1 TO BE POURED MONOLITHICALLY WITH SLAB.



FOUNDATION PLAN

DETAIL F
1/4" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HAWKINS
NO. 13205

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

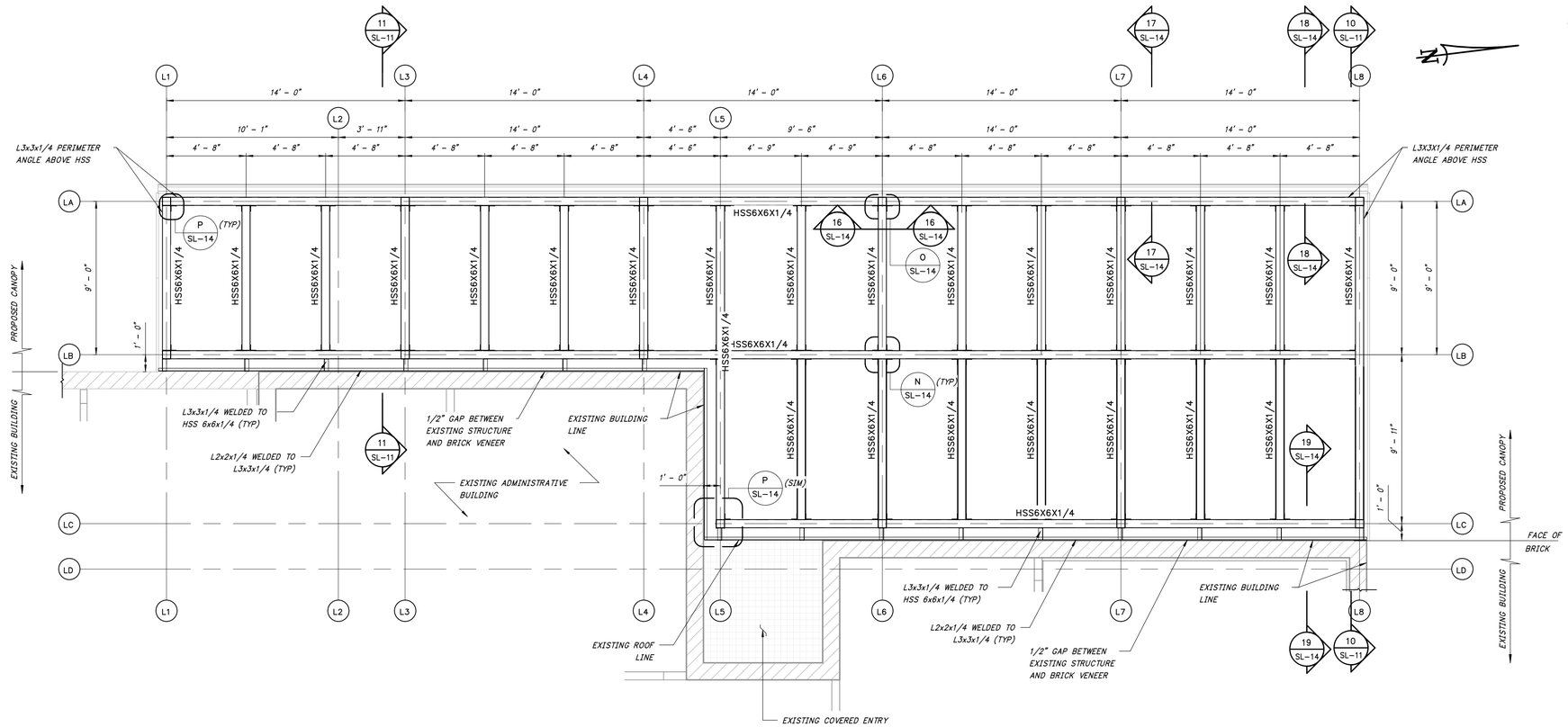
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

ADMINISTRATION / LABORATORY BUILDING
ENLARGED FOUNDATION PLAN

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: LCH
DRAWN BY: JEB
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SL-9



ROOF PLAN

DETAIL G
1/4" = 1'-0" –

NOTES:

1. *DIMENSIONS AND ELEVATIONS SHOWN FOR EXISTING STRUCTURE ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.*
2. *REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.*
3. *SHOP PAINTING AND FIELD PAINTING, AS NEEDED, SHALL BE DONE IN ACCORDANCE WITH DIVISION 9 OF THE SPECIFICATIONS. PAINT COLOR TO BE SELECTED BY OWNER.*

KEYED NOTES:

1. *SEE ARCHITECTURAL DETAILS FOR ROOF FLASHING CONNECTION TO EXISTING BRICK VENEER.*
2. *SEE ARCHITECTURAL DETAILS FOR FASCIA CONNECTION.*
3. *B.1 TO BE POURED MONOLITHICALLY WITH SLAB.*

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HARRIS
NO. 13205
Scanned

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

ADMINISTRATION / LABORATORY BUILDING ENLARGED CANOPY ROOF PLAN

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/4" = 1'-0"
DESIGNED BY: LCH
DRAWN BY: JEB
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SL–10

BID DRAWINGS
MARCH 21, 2025

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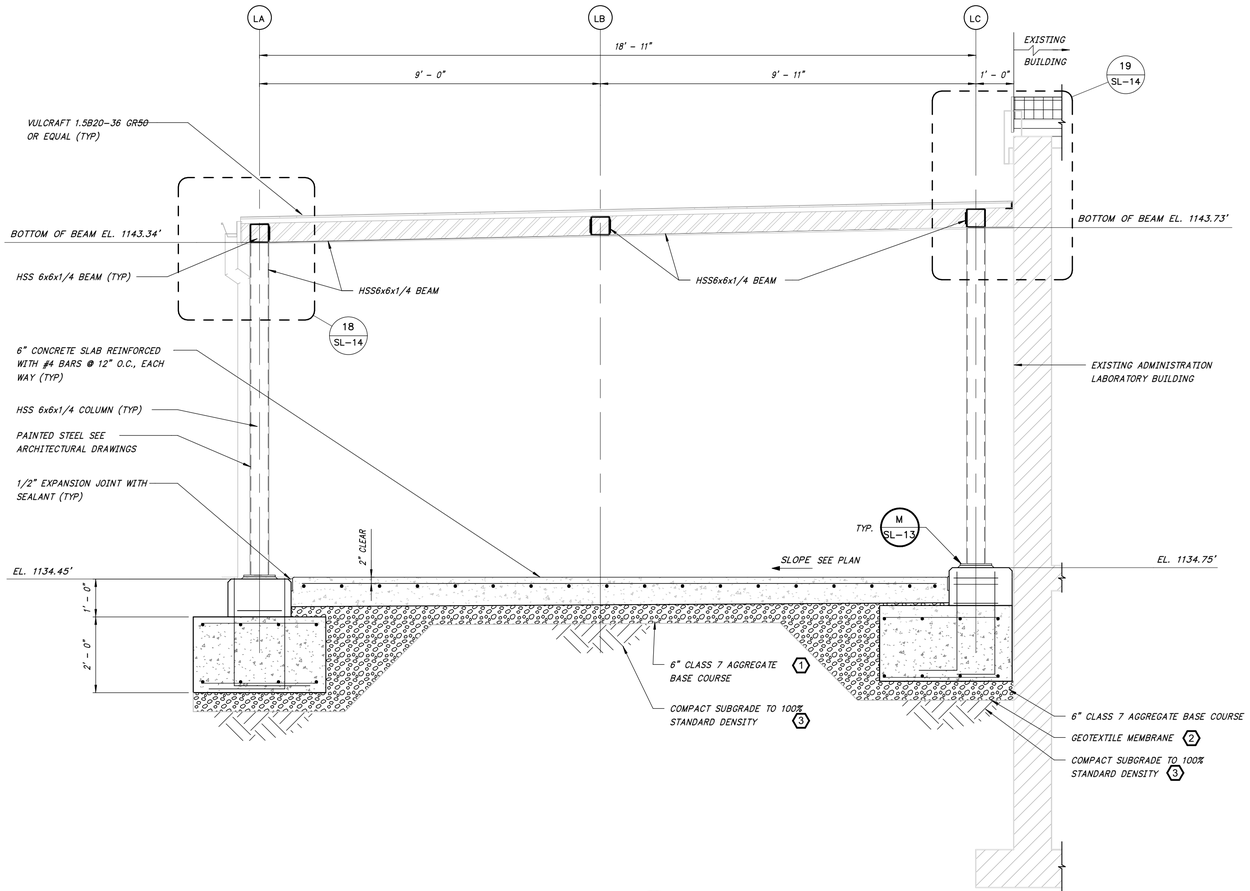
Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 11:28:43 AM / JEB / ADMINISTRATION / LABORATORY BUILDING

NOTES:

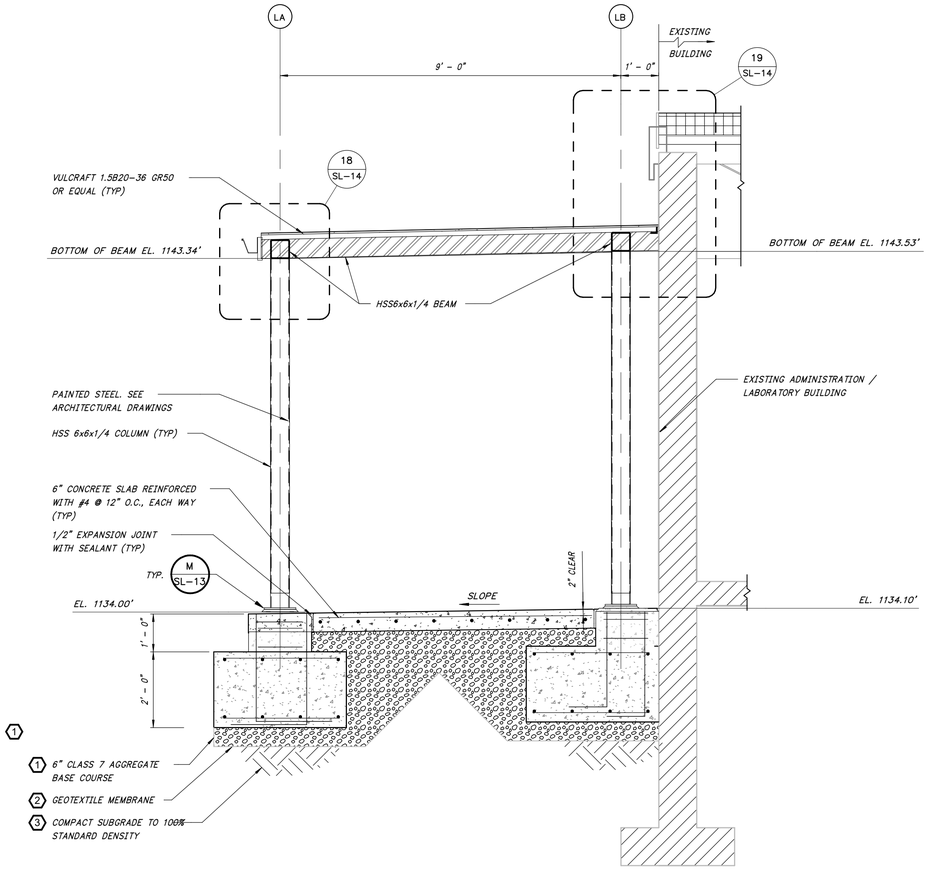
1. DIMENSIONS AND ELEVATIONS SHOWN FOR EXISTING STRUCTURE ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
2. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.
3. SHOP PAINTING AND FIELD PAINTING, AS NEEDED, SHALL BE DONE IN ACCORDANCE WITH DIVISION 9 OF THE SPECIFICATIONS. PAINT COLOR TO BE SELECTED BY OWNER.

KEYED NOTES:

1. CLASS 7 AGGREGATE BASE COURSE SHALL BE INSTALLED IN 6-INCH LIFTS AND COMPACTED TO 95% MODIFIED DENSITY.
2. GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE AGGREGATE BASE COURSE.
3. CONTRACTOR SHALL COORDINATE WITH THE GEOTECHNICAL ENGINEER OF RECORD TO CONFIRM THE SUBGRADE BEARING PRIOR TO PLACING AND COMPACTING THE CLASS 7 AGGREGATE BASE.



SECTION 10 — 1/2" = 1'-0" — SL-9



SECTION 11 — 1/2" = 1'-0" — SL-9

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HAWKINS
NO. 13205
3/21/25

HAWKINS-WEIR ENGINEERS, INC.
BLACK & VEATCH

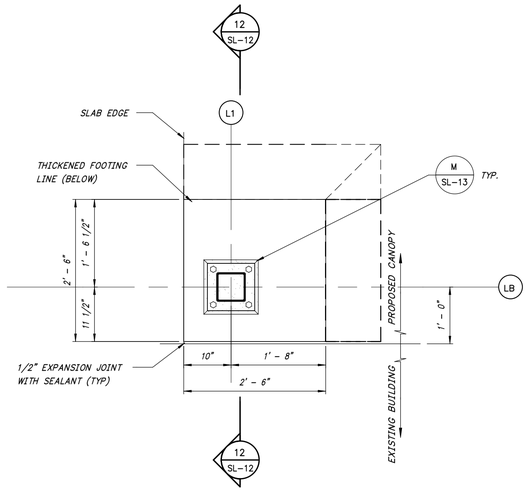
CITY OF BENTONVILLE ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

ADMINISTRATION / LABORATORY BUILDING CANOPY FOUNDATION/FLOOR AND ROOF SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

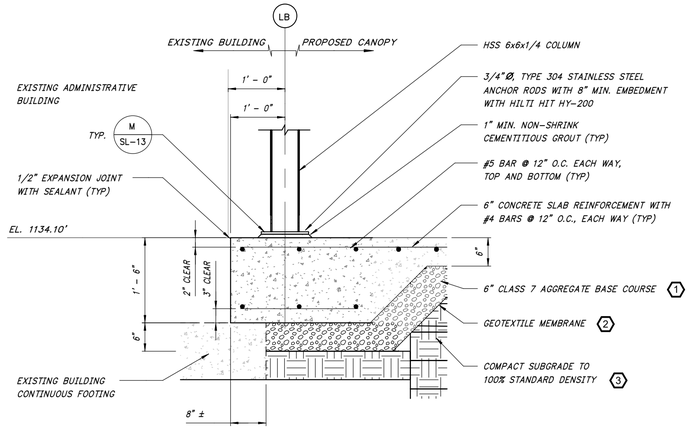
DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: LCH
DRAWN BY: JEB
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SL-11

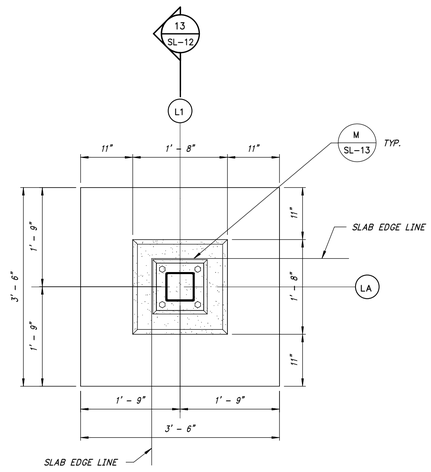


FOUNDATION PLAN

DETAIL H – 3/4" = 1'-0"

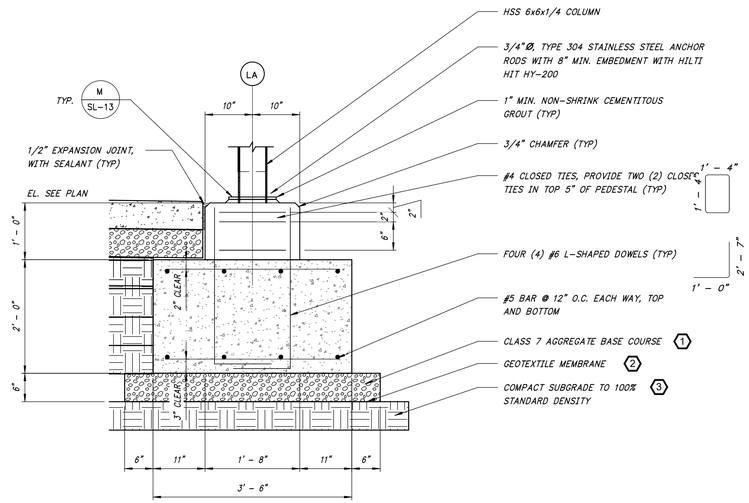


SECTION 12 / SL-12 — 3/4" = 1'-0"



FOUNDATION PLAN

DETAIL J – 3/4" = 1'-0"



SECTION 13 / SL-12 — 3/4" = 1'-0"

NOTES:

1. DIMENSIONS AND ELEVATIONS SHOWN FOR EXISTING STRUCTURE ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
2. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.
3. SHOP PAINTING AND FIELD PAINTING, AS NEEDED, SHALL BE DONE IN ACCORDANCE WITH DIVISION 9 OF THE SPECIFICATIONS. PAINT COLOR TO BE SELECTED BY OWNER.

KEYED NOTES:

1. CLASS 7 AGGREGATE BASE COURSE SHALL BE INSTALLED IN 6-INCH LIFTS AND COMPACTED TO 95% MODIFIED DENSITY.
2. GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE AGGREGATE BASE COURSE.
3. CONTRACTOR SHALL COORDINATE WITH THE GEOTECHNICAL ENGINEER OF RECORD TO CONFIRM THE SUBGRADE BEARING PRIOR TO PLACING AND COMPACTING THE CLASS 7 AGGREGATE BASE.

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HAWKINS
NO. 13205

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

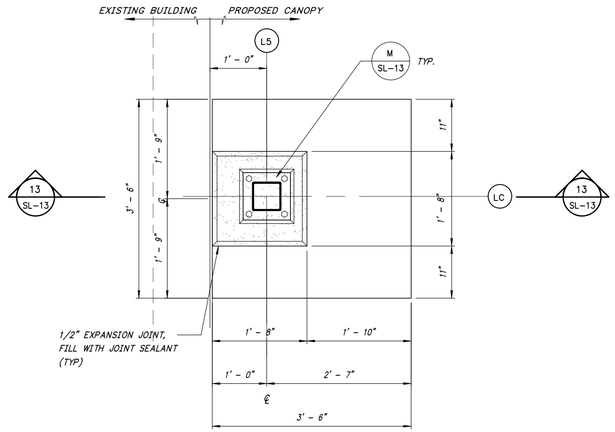
ADMINISTRATION / LABORATORY BUILDING
FOUNDATION / FLOOR DETAILS
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 3/4" = 1'-0"
DESIGNED BY: LCH
DRAWN BY: JEB
HWEI NO.: 2021037
FILENAME:

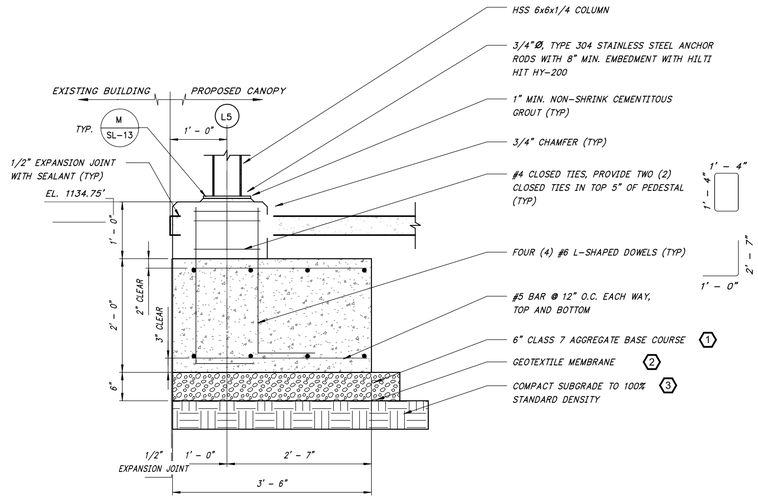
SHEET NO.
SL-12

BID DRAWINGS
MARCH 21, 2025

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 11:28:50 AM / JEB / ADMINISTRATION / LABORATORY BUILDING



DETAIL K / – (3/4" = 1'–0")



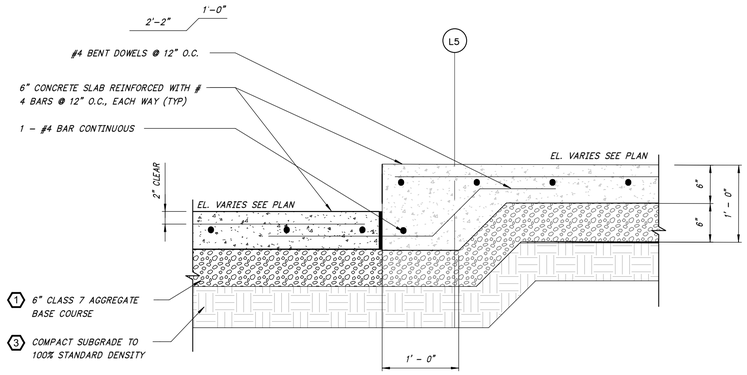
SECTION 13 / SL–13 (3/4" = 1'–0")

NOTES:

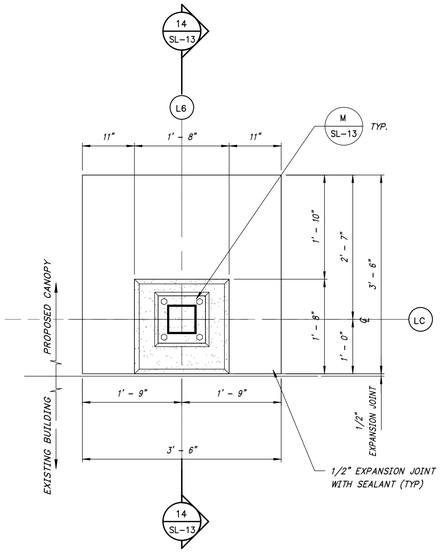
1. DIMENSIONS AND ELEVATIONS SHOWN FOR EXISTING STRUCTURE ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.
2. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.
3. SHOP PAINTING AND FIELD PAINTING, AS NEEDED, SHALL BE DONE IN ACCORDANCE WITH DIVISION 9 OF THE SPECIFICATIONS. PAINT COLOR TO BE SELECTED BY OWNER.

KEYED NOTES:

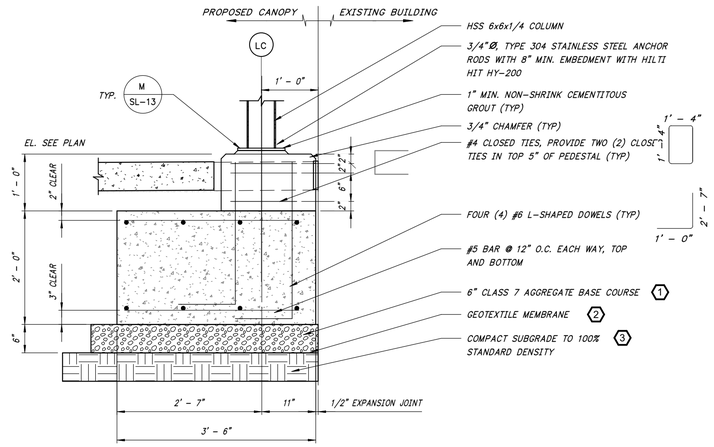
1. CLASS 7 AGGREGATE BASE COURSE SHALL BE INSTALLED IN 6–INCH LIFTS AND COMPACTED TO 95% MODIFIED DENSITY.
2. GEOTEXTILE MEMBRANE SHALL BE MIRAFI HP270, OR APPROVED EQUAL, AND SHALL ENCAPSULATE THE BOTTOM AND SIDES OF THE AGGREGATE BASE COURSE.
3. CONTRACTOR SHALL COORDINATE WITH THE GEOTECHNICAL ENGINEER OF RECORD TO CONFIRM THE SUBGRADE BEARING PRIOR TO PLACING AND COMPACTING THE CLASS 7 AGGREGATE BASE.



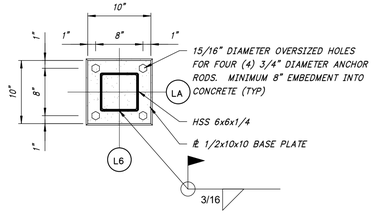
DETAIL 15 / – (1" = 1'–0")



DETAIL L / – (3/4" = 1'–0")



SECTION 14 / SL–13 (3/4" = 1'–0")



BASE PLATE

DETAIL M / – (1" = 1'–0")

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HARRIS
NO. 13205

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

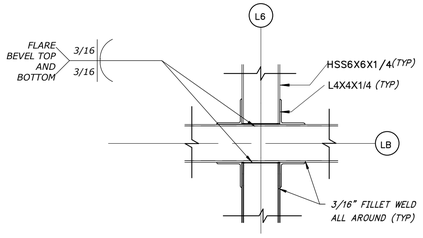
ADMINISTRATION / LABORATORY BUILDING
FOUNDATION / FLOOR DETAILS

FOR: BENTONVILLE WASTEWATER UTILITIES

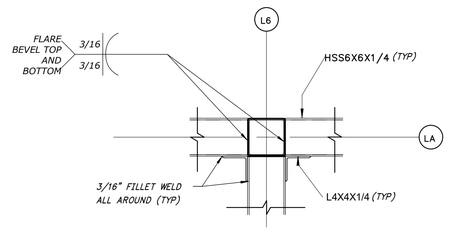
DATE: MARCH 2025
SCALE: As indicated
DESIGNED BY: LCH
DRAWN BY: JEB
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SL–13

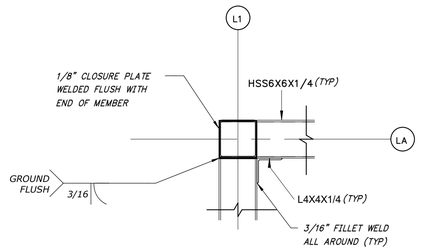
Autodesk Docs://410144 – Bentonville Water Resource Recovery Facility Improvements/WWRF21037–ST.rvt 3/21/2025 11:28:56 AM / JEB / ADMINISTRATION / LABORATORY BUILDING



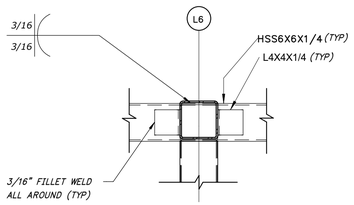
DETAIL N
1" = 1'-0"



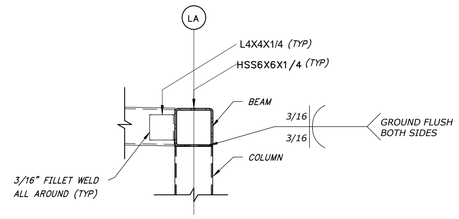
DETAIL O
1" = 1'-0"



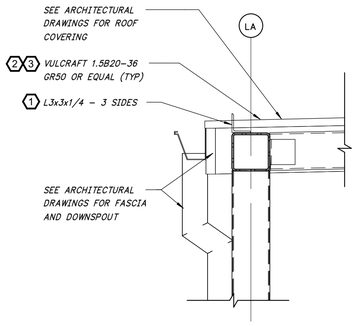
DETAIL P
1" = 1'-0"



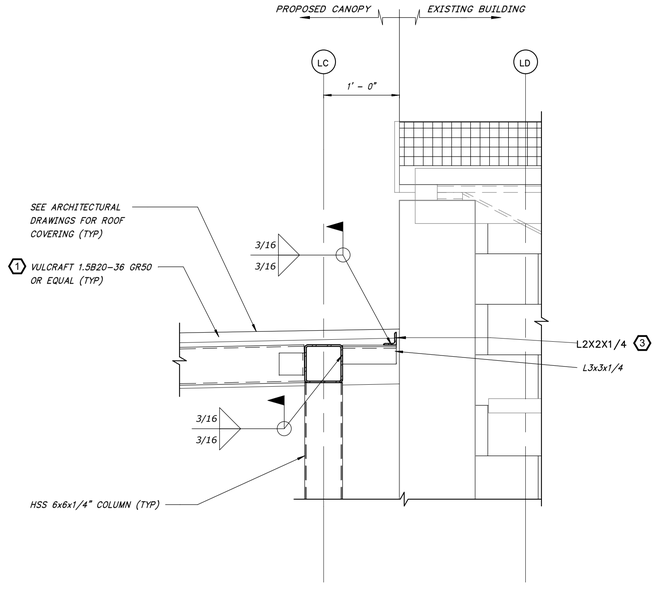
SECTION 16
1" = 1'-0"
SL-10



SECTION 17
1" = 1'-0"
SL-10



SECTION 18
1" = 1'-0"
SL-10



SECTION 19
1" = 1'-0"
SL-10

NOTES:

1. *DIMENSIONS AND ELEVATIONS SHOWN FOR EXISTING STRUCTURE ARE BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL VERIFY ALL DIMENSIONS.*
2. *REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.*
3. *SHOP PAINTING AND FIELD PAINTING, AS NEEDED, SHALL BE DONE IN ACCORDANCE WITH DIVISION 9 OF THE SPECIFICATIONS. PAINT COLOR TO BE SELECTED BY OWNER.*

KEYED NOTES

1. *ATTACH METAL DECK TO STRUCTURAL FRAME WITH 5/8" PUDDLE WELDS ON A 36/4 PATTERN. PROVIDE 2 - #10 SIDE LAP FASTENERS, EQUALLY SPACED, AT SIDE LAPS.*

   PROVIDE 1/8" FILLET WELD, 2" LONG, ALTERNATING SIDES 24" O.C.
2. *MITER ANGLES 45 DEGREES AT CORNERS PRIOR TO WELDING.*
3.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HAWKINS
NO. 13205
3/21/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

ADMINISTRATION / LABORATORY BUILDING
FOUNDATION / FLOOR
DETAILS
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1" = 1'-0"
DESIGNED BY: LCH
DRAWN BY: JEB
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SL-14

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/NWRF21037-ST.rvt 3/21/2025 11:29:01 AM / JEB / ADMINISTRATION / LABORATORY BUILDING

NOTES:

1. THE BUILDING IS DESIGNED FOR ARKANSAS FIRE PREVENTION CODE, 2021 EDITION, SEISMIC REQUIREMENTS IN ACCORDANCE WITH ACT 1100 OF 1991 OF THE STATE OF ARKANSAS. THE FOLLOWING DESIGN DATA APPLY TO THIS STRUCTURE.

LARRY C. HARDIN, P.E., ARKANSAS REGISTRATION NO. 13205

2. DEAD LOADS:

PRE-ENGINEERED METAL BLDG.	SELF WEIGHT OF STRUCTURE AND MATERIALS PLUS ANY ATTACHED EQUIPMENT LOADS
BUILDING MATERIALS	REFER TO DRAWINGS
CEILING LOADS	2 PSF
MECH/ELECT/PLUMBING	5 PSF
COLLATERAL ROOF LOADS	3 PSF
LIVE LOADS:	
FLOOR/GRATING/STAIRS	125 PSF UNIFORM/300 LBS CONCENTRATED
ROOF LIVE LOADS:	20 PSF (NON-REDUCIBLE)
RAIN LOADS	ASCE 7-16

SNOW LOADS:

GROUND SNOW LOAD, Pg	15 PSF
RISK CATEGORY	III
IMPORTANCE FACTOR, Is	1.10
EXPOSURE FACTOR, Ce	0.9
THERMAL FACTOR, Ct	1.0
FLAT ROOF SNOW LOAD, Pf	10.4 PSF
BALANCED SNOW LOAD, Ps	10.4 PSF
MINIMUM SNOW LOAD, Pm	16.5 PSF

3. SEISMIC DESIGN CRITERIA FOR BUILDING:

SEISMIC RISK CATEGORY	III
IMPORTANCE FACTOR, I_E	1.25
SEISMIC RESPONSE COEFFICIENTS:	
S_S = 0.153g	
S_1 = 0.089g	
SPECTRAL RESPONSE COEFFICIENTS:	
S_{DS} = 0.132g	
S_{D1} = 0.089g	
SITE CLASS	C
SEISMIC DESIGN CATEGORY	B
BASIC SEISMIC FORCE RESISTING SYSTEM:	
ORDINARY STEEL MOMENT FRAMES - TRANSVERSE	R = 3.5
ORDINARY STEEL MOMENT FRAMES - LONGITUDINAL	R = 3.5
SEISMIC RESPONSE COEFFICIENTS:	
C_S = 0.047	
ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE	

4. WIND DESIGN CRITERIA FOR BUILDING:

WIND CATEGORY	III
WIND IMPORTANCE FACTOR, I_W	1.00
BASIC WIND SPEED (3-SECOND GUST)	115 MPH
GUST EFFECT FACTOR	0.85
WIND EXPOSURE	C
INTERNAL PRESSURE COEFFICIENT +/-0.55 (PARTIALLY ENCLOSED BUILDING)	
ANALYSIS PROCEDURE: ENVELOPE PROCEDURE	

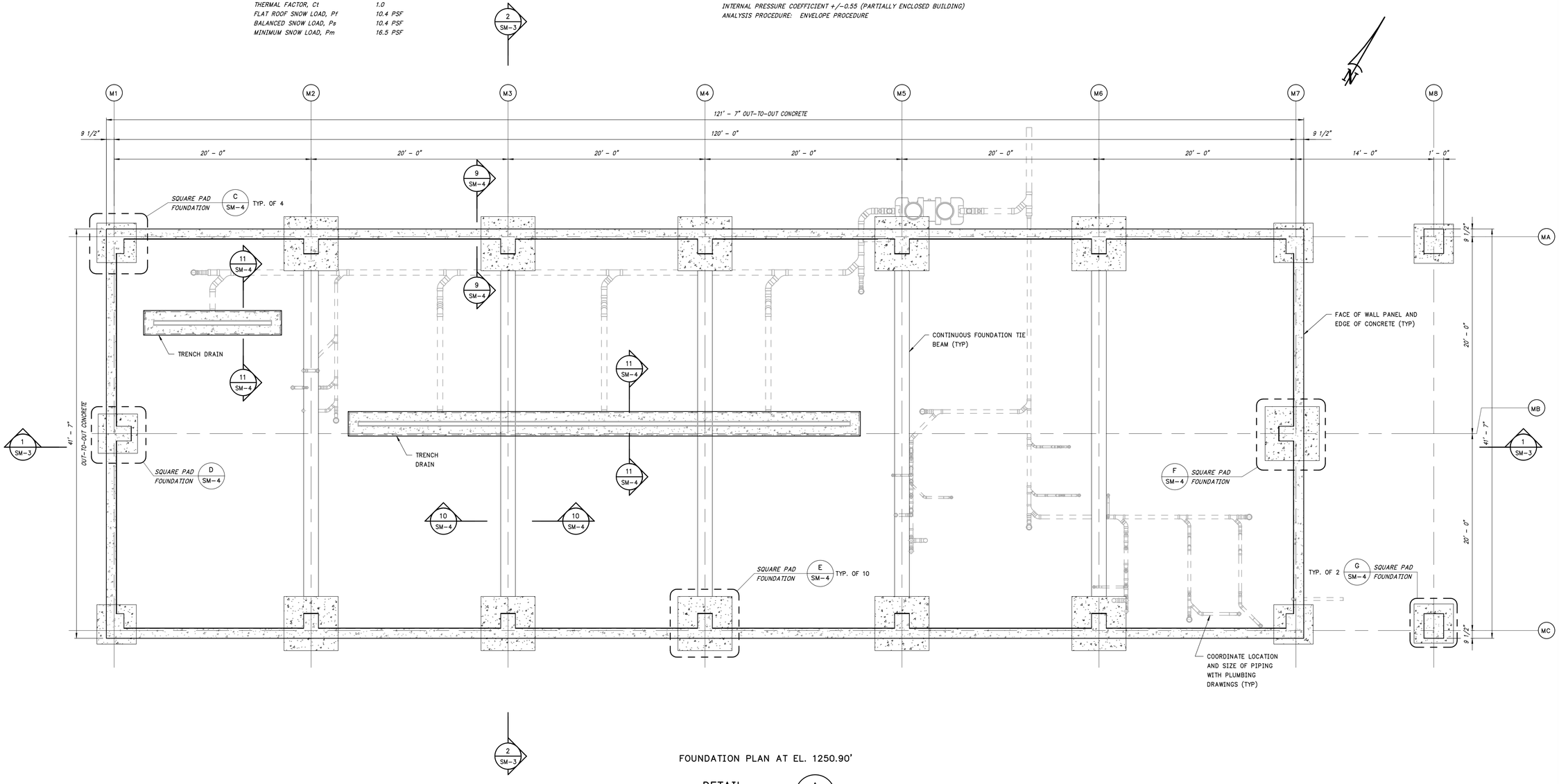
5. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATION AND SIZE OF WALL AND/OR SLAB PENETRATIONS.

6. COORDINATE LOCATION OF ALL ELECTRICAL EQUIPMENT HOUSEKEEPING PADS WITH THE ELECTRICAL DRAWINGS. THE INTENT IS NOT TO CONSTRUCT ANY MORE HOUSEKEEPING PADS THAN THAT ACTUALLY REQUIRED. SUGGEST 4" IN PLAN BEYOND LIMITS OF ELECTRICAL EQUIPMENT TO ARRIVE AT PLAN DIMENSIONS FOR HOUSEKEEPING PADS.

7. COORDINATE LOCATION OF ALL MECHANICAL AND PLUMBING EQUIPMENT HOUSEKEEPING PADS WITH THE MECHNICAL AND PLUMBING DRAWINGS. COORDINATE EXACT PAD LOCATION, PLAN SIZE, AND THICKNESS REQUIRED WITH EQUIPMENT PROVIDE FOR THE PROJECT.

8. THE BUILDING FOUNDATION DESIGN HAS BEEN BASED UPON ESTIMATED COLUMN REACTIONS. THE PRE-ENGINEERED METAL BUILDING MANUFACTURER SHALL SUBMIT SHOP DRAWINGS WITH COLUMN REACTIONS FOR THE ENGINEER TO VERIFY THE FOUNDATION DESIGN PRIOR TO CONSTRUCTION OF THE BUILDING FOUNDATION. FOOTING SIZES AND REINFORCEMENT ARE SUBJECT TO CHANGE.

9. ANCHOR BOLT DIAMETER(S) TO BE DETERMINED BY PRE-ENGINEERED METAL BUILDING MANUFACTURER. PRE-ENGINEERED METAL BUILDING ANCHOR BOLTS SHALL BE CAST-IN-PLACE. ANCHOR BOLT EMBEDMENT DEPTH TO BE DETERMINED BY THE ENGINEER UPON REVIEW OF THE METAL BUILDING FOUNDATION REACTIONS SUBMITTED WITH METAL BUILDING CALCULATIONS PACKAGE.



FOUNDATION PLAN AT EL. 1250.90'

DETAIL A
3/16" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE
1 ISSUED FOR BID	03/21/25

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HARDIN
NO. 13205

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS
MAINTENANCE BUILDING FOUNDATION DETAIL
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 3/16" = 1'-0"
DESIGNED BY: LCH
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

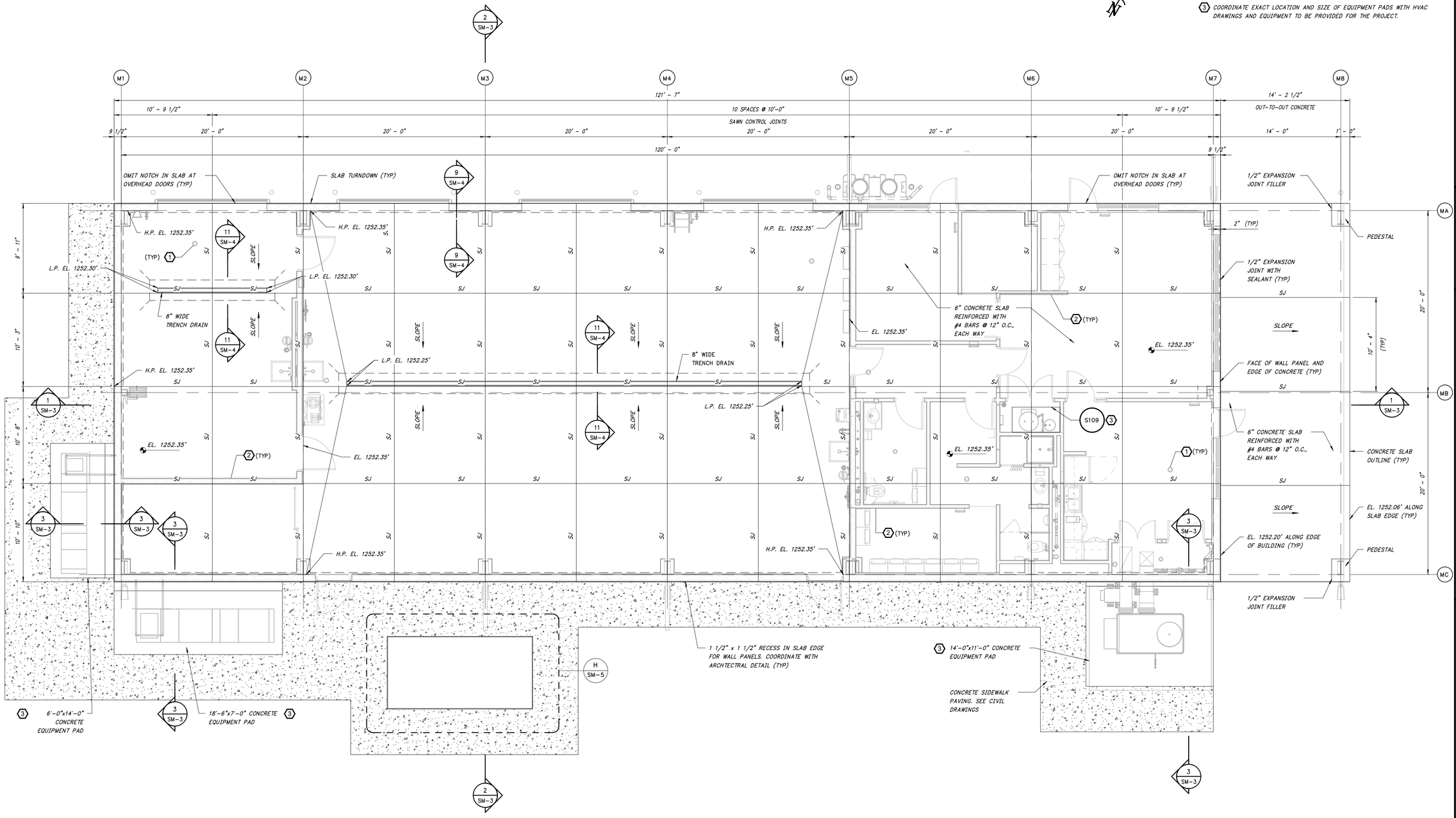
SHEET NO.
SM-1 1

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 8:41:38 AM / ADF / MAINTENANCE BUILDING FOUNDATION DETAIL

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 8:41:39 AM / ADF / MAINTENANCE BUILDING

KEYED NOTES:

1. COORDINATE EXACT LOCATION, SIZE, TYPE, AND ELEVATION OF PLUMBING, DRAINS, CLEANOUTS, AND PIPING WITH PLUMBING DRAWINGS.
2. REFERENCE ARCHITECTURAL DRAWINGS FOR LOCATION, SIZE, AND MATERIALS OF CONSTRUCTION.
3. COORDINATE EXACT LOCATION AND SIZE OF EQUIPMENT PADS WITH HVAC DRAWINGS AND EQUIPMENT TO BE PROVIDED FOR THE PROJECT.



SLAB PLAN AT EL. 1252.50'

DETAIL B
3/16" = 1'-0"

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE
1 ISSUED FOR BID	03/21/25

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HARRIS
NO. 13205

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

MAINTENANCE BUILDING
DETAIL

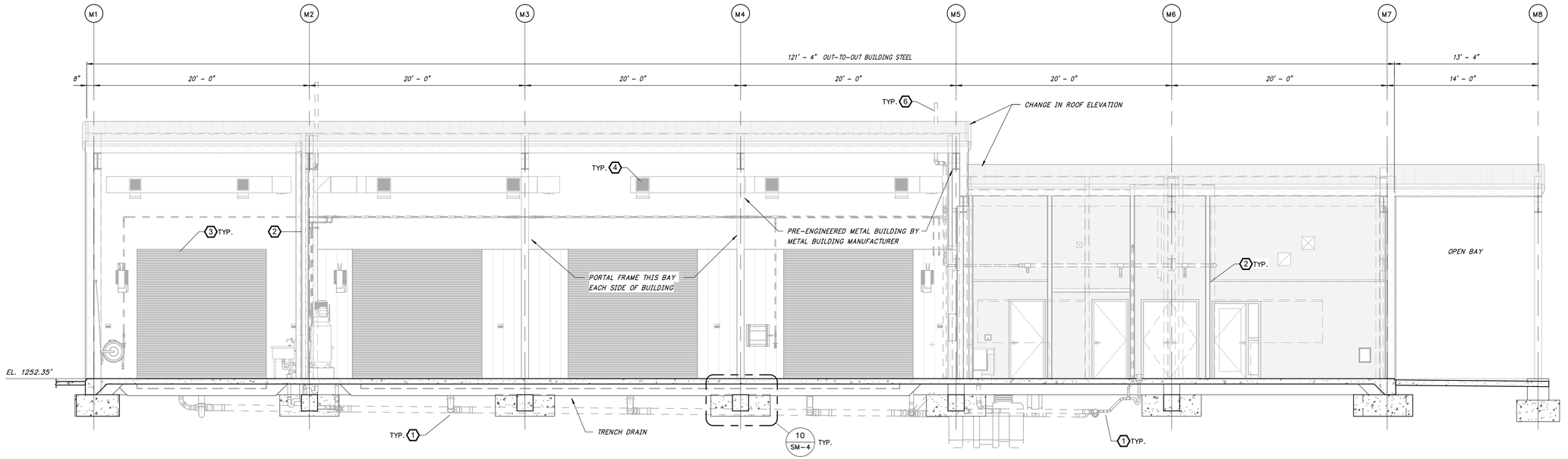
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 3/16" = 1'-0"
DESIGNED BY: LCH
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

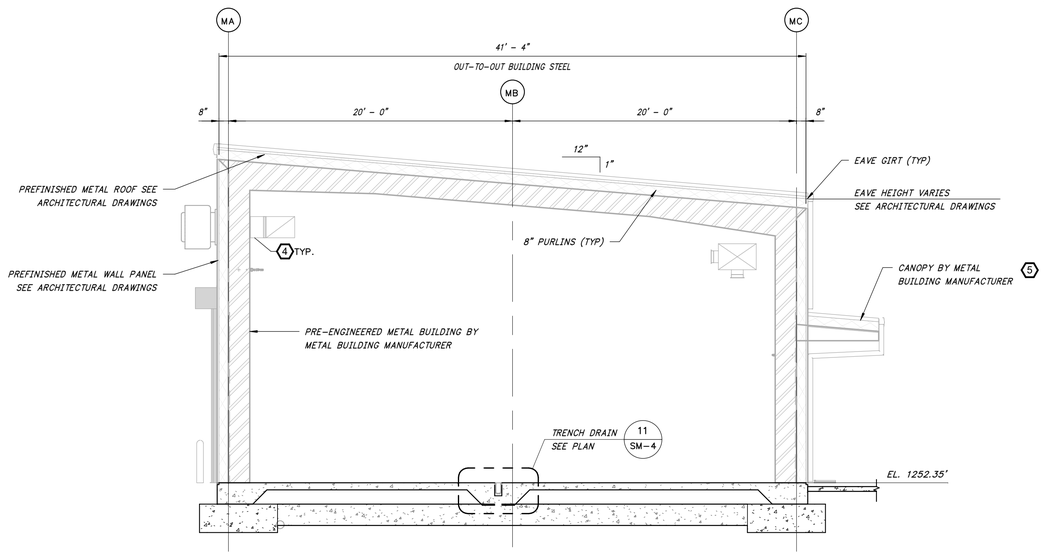
SHEET NO.
SM-2 1

KEYED NOTES:

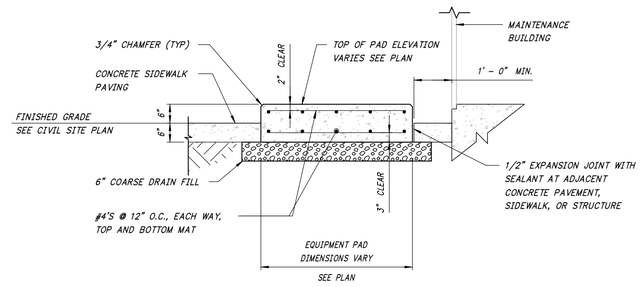
1. COORDINATE EXACT LOCATION, SIZE, TYPE, AND ELEVATION OF PLUMBING, DRAINS, CLEANOUTS, AND PIPING WITH PLUMBING DRAWINGS.
2. REFERENCE ARCHITECTURAL DRAWINGS FOR LOCATION, SIZE, AND MATERIALS OF CONSTRUCTION.
3. COORDINATE LOCATION AND SIZE OF DOOR AND WINDOW OPENINGS WITH ARCHITECTURAL DRAWINGS.
4. COORDINATE LOCATION, SIZE, AND TYPE OF OPENINGS IN WALLS FOR HVAC EQUIPMENT WITH HVAC DRAWINGS. REFER TO HVAC.
5. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION, DIMENSIONS, AND HEIGHT OF CANOPIES.
6. COORDINATE LOCATION AND SIZE OF ROOF PENETRATIONS WITH PLUMBING DRAWINGS.



SECTION 1 / 3/16" = 1'-0" / SM-1



SECTION 2 / 3/16" = 1'-0" / SM-1



EQUIPMENT PAD

SECTION 3 / 1/2" = 1'-0" / SM-2

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE
1 ISSUED FOR BID	03/21/25

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STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — LARRY C. HAWKINS — NO. 13205 — 03/21/25

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

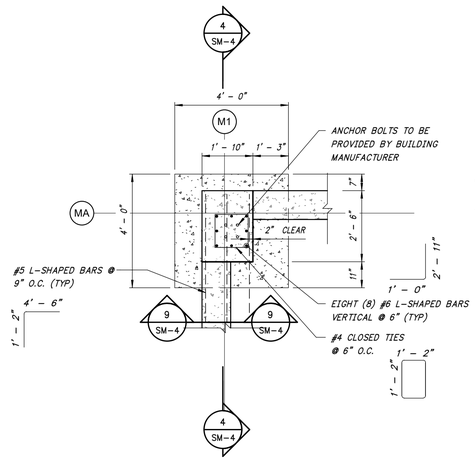
MAINTENANCE BUILDING SECTIONS

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: As indicated
DESIGNED BY: LCH
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

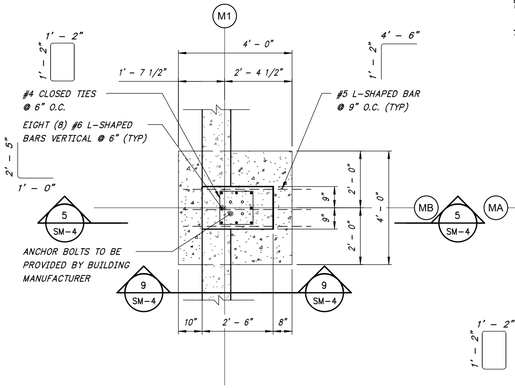
SHEET NO. SM-3 1

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 8:41:41 AM / ADF / MAINTENANCE BUILDING



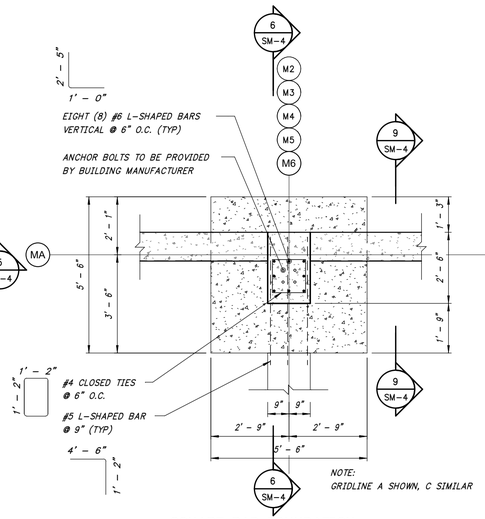
SQUARE PAD FOUNDATION
A.1, A.7, C.1, AND C.7

DETAIL C — 3/8" = 1'-0"



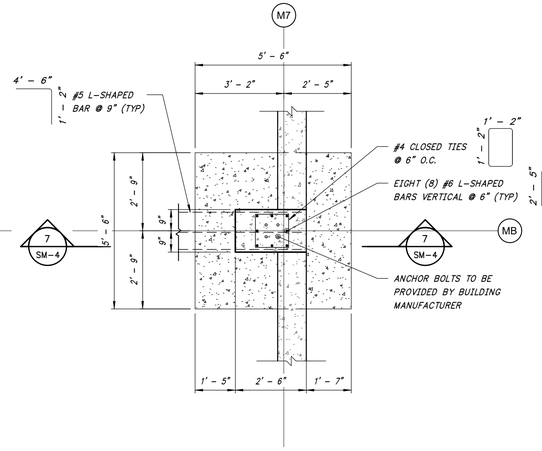
SQUARE PAD FOUNDATION B.1

DETAIL D — 3/8" = 1'-0"



SQUARE PAD FOUNDATION
A.2, A.3, A.4, A.5, AND A.6
C.2, C.3, C.4, C.5, AND C.6

DETAIL E — 3/8" = 1'-0"

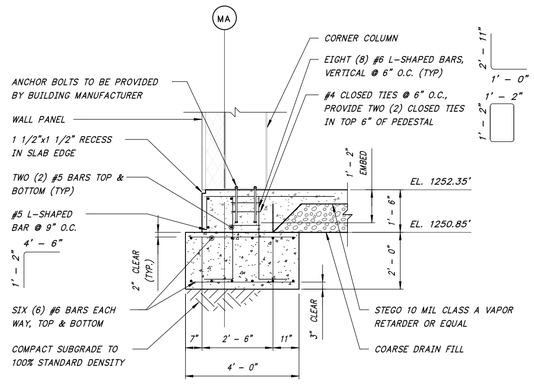


SQUARE PAD FOUNDATION B.7

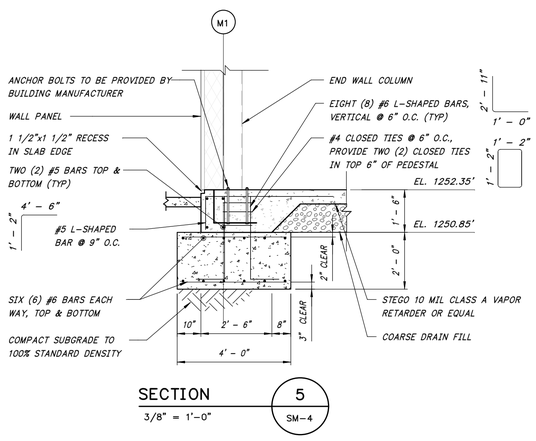
DETAIL F — 3/8" = 1'-0"

NOTES:

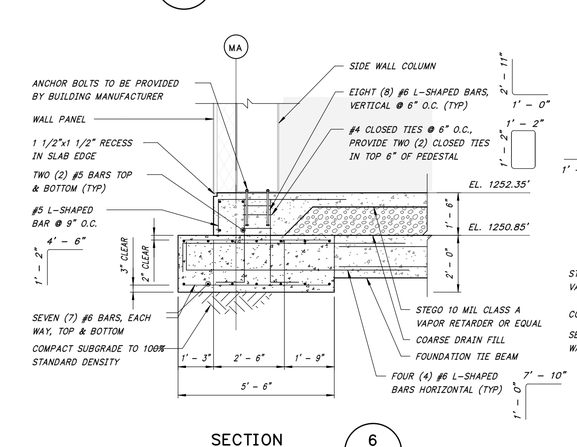
1. REFER TO OTHER DISCIPLINE DRAWINGS FOR LOCATIONS AND SIZE OF WALL AND/OR SLAB PENETRATIONS.
2. COARSE DRAIN FILL PER ASTM C33 (3/4" MAXIMUM AGGREGATE SIZE) SHALL BE PLACED IN MAXIMUM 12" LIFTS AND COMPACTED WITH A VIBRATORY PLATE (MINIMUM OF TWO (2) PASSES)
3. REFER TO ARCHITECTURAL DRAWINGS FOR 1 1/2" x 1 1/2" SLAB EDGE RECESS FOR METAL WALL PANEL. OMIT RECESS AT DOOR OPENINGS.



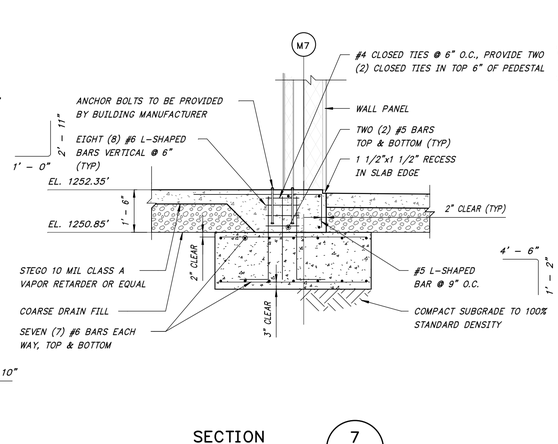
SECTION 4 — 3/8" = 1'-0" — SM-4



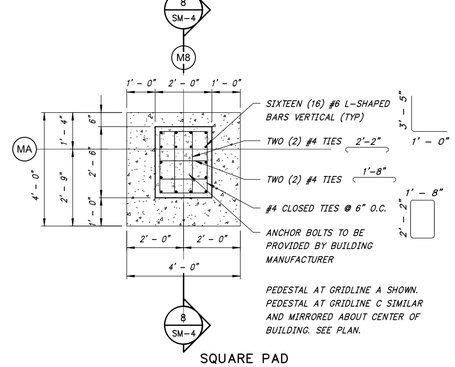
SECTION 5 — 3/8" = 1'-0" — SM-4



SECTION 6 — 3/8" = 1'-0" — SM-4

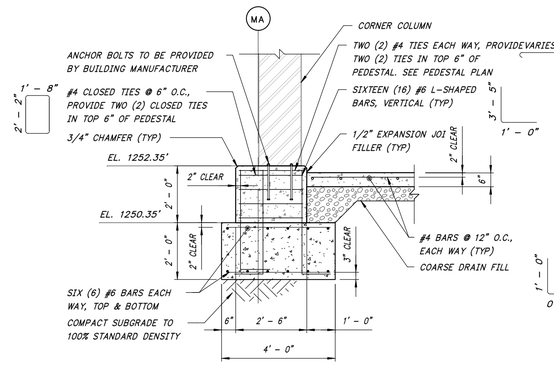


SECTION 7 — 3/8" = 1'-0" — SM-4

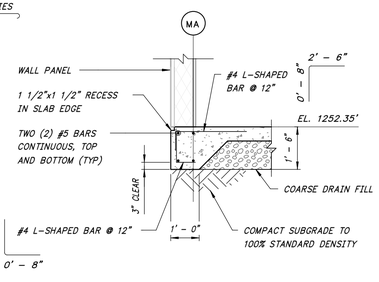


SQUARE PAD
FOUNDATION A.8 AND C.8

DETAIL G — 3/8" = 1'-0"

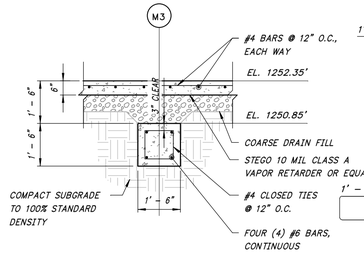


SECTION 8 — 3/8" = 1'-0" — SM-4



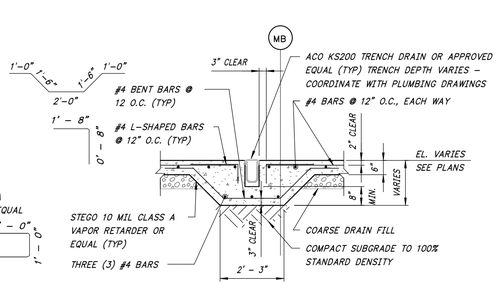
SLAB TURNDOWN

SECTION 9 — 3/8" = 1'-0" — SM-1



CONTINUOUS FOUNDATION TIE BEAM
GRIDLINES 2, 3, 4, 5, AND 6

SECTION 10 — 3/8" = 1'-0" — SM-1



CONTINUOUS TRENCH DRAIN

SECTION 11 — 3/8" = 1'-0" — SM-1

BID DRAWINGS
MARCH 21, 2025

1" — ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE
ISSUED FOR BID	03/21/25

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STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — LARRY C. HARRIS — NO. 13205 — SCIENCE AND ENGINEERING

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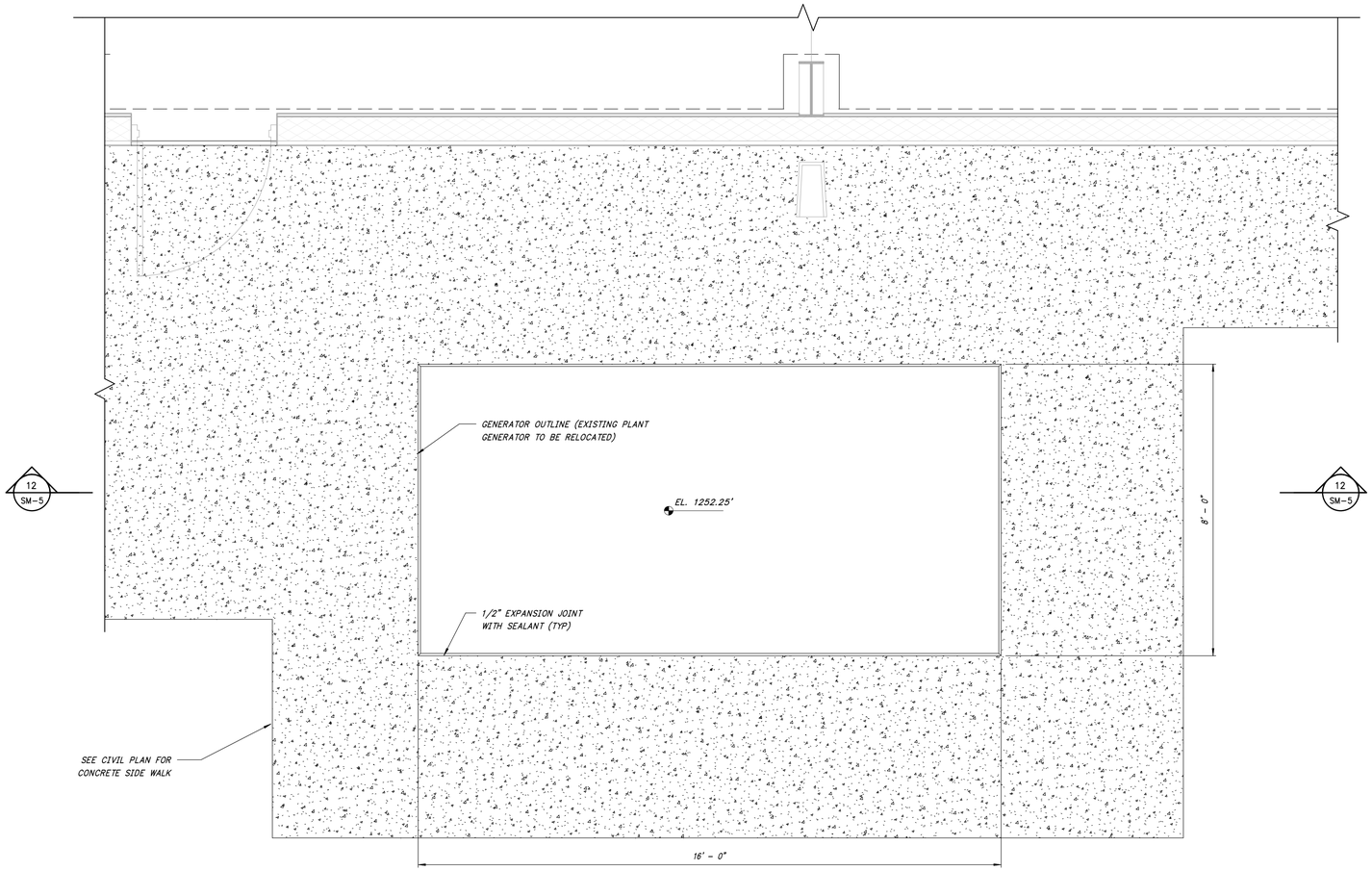
CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS
MAINTENANCE BUILDING SECTIONS
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LCH
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

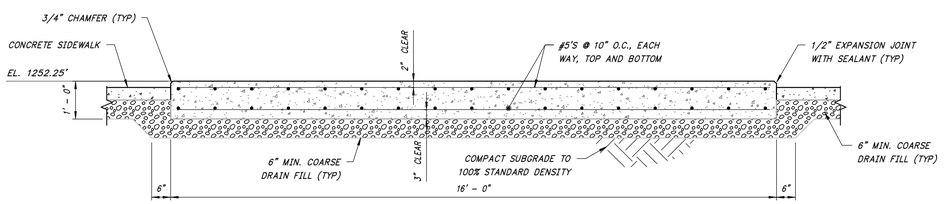
SHEET NO. SM-4 1

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 8:41:42 AM / ADF / MAINTENANCE BUILDING



GENERATOR PAD

DETAIL H
1/2" = 1'-0"



GENERATOR PAD

SECTION 12
1/2" = 1'-0" SM-5

NOTES:

1. COORDINATE ELECTRICAL CONDUIT PENETRATIONS IN GENERATOR PAD WITH ELECTRICAL DRAWINGS AND EXISTING PLANT GENERATOR.
2. COORDINATE SPOT GRADING ELEVATIONS WITH CIVIL DRAWINGS FOR THE PROPOSED SIDEWALK SURROUNDING THE GENERATOR PAD.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE
1 ISSUED FOR BID	03/21/25

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HAWKINS
NO. 13205

HAWKINS-WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

MAINTENANCE BUILDING GENERATOR PAD
DETAIL AND SECTION

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: 1/2" = 1'-0"
DESIGNED BY: LCH
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME:

SHEET NO.
SM-5 1

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 8:41:44 AM / ADF / MAINTENANCE BUILDING GENERATOR PAD

GENERAL NOTES

ALL STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE OTHER PROJECT DRAWINGS AND SPECIFICATIONS.

SEE OTHER DISCIPLINE DRAWINGS FOR ANCHORS, PIPE SLEEVES, SLEEVES, CONDUITS OR OTHER ITEMS TO BE EMBEDDED IN OR PASS THROUGH THE CONCRETE. IN GENERAL, EMBEDMENTS AND PENETRATIONS LESS THAN 12 INCHES IN DIAMETER MAY NOT BE SHOWN ON STRUCTURAL DRAWINGS.

WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED SIZES.

DESIGN CRITERIA 2021 ARKANSAS FIRE PREVENTION CODE (2021 IBC)
BUILDING CODES: ASCE 7-22

CAST-IN-PLACE CONCRETE NOTES

REINFORCED CONCRETE SHALL CONFORM TO ACI 318, LATEST REVISION.

MINIMUM CONCRETE STRENGTH AT 28 DAYS:

CLASS A: CONCRETE FILL & PIPE ENCASEMENT	f'c = 2500 psi
CLASS B: CONCRETE SIDEWALKS & PAVEMENTS	f'c = 3500 psi
CLASS C: STRUCTURAL CONCRETE	f'c = 4000 psi

REINFORCING STEEL SHALL BE BILLET STEEL CONFORMING TO THE LATEST EDITION OF ASTM A615, GRADE 60.

REINFORCING STEEL FABRICATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE CRSI MANUAL OF STANDARD PRACTICE.

REINFORCING STEEL SHALL HAVE THE FOLLOWING MINIMUM CLEAR CONCRETE COVER

1. CONCRETE CAST AGAINST EARTH (i.e. BOTTOM OF SLABS, FOOTINGS, DRILLED PIERS, ETC.) – 3 INCHES
2. ALL OTHER CONCRETE SURFACES – 2 INCHES

MINIMUM TENSION LAP SPLICE LENGTHS FOR GRADE 60 REINFORCING BARS IN WALLS AND SLABS SHALL BE IN ACCORDANCE WITH DETAIL S101 THIS SHEET. UNLESS OTHERWISE NOTED ON THE DRAWINGS. LAP SPLICES NOT COVERED BY DETAIL S101 SHALL BE AS SHOWN ON THE DRAWINGS OR SHALL BE REFERRED TO THE ENGINEER FOR DETERMINATION OF REQUIRED LENGTH.

CONSTRUCTION JOINTS SHALL NOT BE PLACED AT LOCATIONS OTHER THAN THOSE SHOWN ON THE DRAWINGS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.

ALL EXPOSED CORNERS OF CONCRETE SHALL HAVE 1" CHAMFER, UNLESS OTHERWISE NOTED.

BLOCKOUTS IN THE CONCRETE FORMWORK SHALL NOT BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.

MODIFICATION AND REPAIR TO CONCRETE NOTES

SEE SPECIFICATION SECTION 03740 FOR EXPLANATION OF CONCRETE REMOVAL METHODS, CONNECTION METHODS AND MATERIALS USED.

CONNECTION METHODS ARE SPECIFIED IN DETAIL IN SPECIFICATION SECTION 03740.
METHOD A – CEMENT SLURRY BONDING
METHOD B – BONDING USING BONDING ADHESIVE
METHOD C – DRILLED DOWELS OR BOLTS USING DOWELING ADHESIVE
METHOD D – COMBINATION OF METHODS B AND C

CONCRETE JOINT NOTES

UNLESS OTHERWISE NOTED, PROVIDE SEALANT IN JOINTS AS SHOWN ON THE DRAWINGS AND AS FOLLOWS:

1. EXPANSION JOINTS SHALL HAVE SEALANT APPLIED TO BOTH SIDES OF THE JOINT, EXCEPT FOR THE SOIL SIDE OF A BASE SLAB JOINT.
2. CONTROL JOINTS AND CONSTRUCTION JOINTS WILL NOT REQUIRE SEALANT, UNLESS OTHERWISE SHOWN ON THE DRAWINGS.

UNLESS OTHERWISE NOTED, PROVIDE WATERSTOPS IN JOINTS AS SHOWN ON THE DRAWINGS AND AS FOLLOWS:

1. IN ALL EXTERIOR BELOW GRADE WALLS AND SLABS.

WATERSTOPS AT BOTH HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS SHALL BE CONTINUOUS. WATERSTOPS AT THE INTERSECTION OF HORIZONTAL AND VERTICAL CONSTRUCTION JOINTS SHALL BE FABRICATED BY THE MANUFACTURER. ALTERNATIVELY, WATERSTOPS MAY BE FIELD WELDED TO ACHIEVE SUCH CONTINUITY.

PROCEDURES FOR ROUGHENED JOINTS ARE DESCRIBED IN SPECIFICATION SECTION 03250.

STEEL NOTES

STRUCTURAL SHAPES SHALL CONFORM TO ASTM A992.

PLATES AND BARS SHALL CONFORM TO ASTM A36, UNLESS OTHERWISE NOTED.

ALL STRUCTURAL STEEL SHALL BE FABRICATED, ERECTED, AND CONNECTED IN COMPLIANCE WITH THE LATEST AISC SPECIFICATIONS. MINIMUM THICKNESS OF CLIP ANGLES OR CONNECTOR PLATES SHALL BE 1/4".

STRUCTURAL STEEL FOR BUILDING CONSTRUCTION (I.E. COLUMNS, BEAMS, JOISTS, DECK, ETC.) SHALL BE SHOP PRIMED AND FIELD PAINTED AS SPECIFIED (UNLESS NOTED OTHERWISE). STRUCTURAL STEEL FOR ACCESS PLATFORMS, EQUIPMENT PLATFORMS, AND STAIRS SHALL BE HOT-DIP GALVANIZED.

BOLTED CONNECTIONS SHALL BE MADE USING TYPE 316 STAINLESS STEEL HIGH-STRENGTH BOLTS AS SHOWN ON THE DRAWINGS OR AS SPECIFIED. ALL BOLTS SHALL BE 3/4" DIAMETER IN 13/16" DIAMETER HOLES UNLESS OTHERWISE SPECIFIED. PROVIDE A MINIMUM OF TWO (2) BOLTS PER CONNECTION.

ALL HARDWARE FOR ACCESS PLATFORMS AND STAIRS THAT ARE COMPOSED OF HOT-DIP GALVANIZED STRUCTURAL MEMBERS, ALUMINUM GRATING, AND ALUMINUM HANDRAIL SHALL BE TYPE 316 STAINLESS STEEL.

ALL WELDING SHALL BE DONE IN ACCORDANCE WITH LATEST EDITION OF THE STRUCTURAL WELDING CODE AWS D1.1. WELD FILLER METAL SHALL BE E70XX ELECTRODES, UNLESS OTHERWISE SPECIFIED. MINIMUM WELD SIZE SHALL BE 3/16 INCH FILLET WELD, UNLESS OTHERWISE NOTED. ALL WELDS SHALL BE FIELD PAINTED AS SPECIFIED, OR COATED WITH A MINIMUM OF TWO (2) COATS OF COLD GALVANIZING FOR GALVANIZED STEEL MEMBERS.

HOT-DIP GALVANIZING, SHOP PAINTING, AND FIELD PAINTING, AS REQUIRED, SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS.

FOUNDATION NOTES

IN PREPARATION OF DRAWINGS AND SPECIFICATIONS, THE ENGINEER HAS RELIED UPON THE GEOTECHNICAL DESIGN REPORT PREPARED BY GEOTECHNICAL REPORT PREPARED BY GTS, INC., DATED REVISED NOVEMBER 25, 2024. THIS REPORT IS PART OF THE CONTRACT DOCUMENTS.

ALL FOUNDATION BEARING SHALL BE INSPECTED AND APPROVED BY THE GEOTECHNICAL ENGINEER.

STRUCTURAL EXCAVATION, BACKFILLING, AND GRADING

SEE SPECIFICATION SECTION 02316 FOR EXPLANATION OF STRUCTURAL EXCAVATION, BACKFILLING, AND GRADING PROCEDURES AND ACCEPTABLE MATERIALS.

CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING TEMPORARY EXCAVATION SUPPORT SYSTEMS, INCLUDING SHEETING, SHORING AND BRACING, TO INSURE THE SAFETY OF PERSONNEL AND PROTECT ADJACENT STRUCTURES, PIPING, ETC. (NEW OR EXISTING) IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS, REGULATIONS AND REQUIREMENTS.

ALUMINUM GRATING AND COVER PLATE NOTES

GRATING SHALL BE ALUMINUM OR FIBERGLASS AS SHOWN ON THE DRAWINGS AND AS SPECIFIED. ALUMINUM GRATING SHALL BE ALUMINUM ALLOY 6063-T6. GRATING SUPPORTS SHALL BE GALVANIZED STEEL WITH ONE (1) COAT OF COAL TAR EPOXY BETWEEN GRATING AND SUPPORTS TO PROVIDE DIELECTRIC SEPARATION.

COVER PLATES AND SUPPORTS SHALL BE ALL ALUMINUM CONSTRUCTION UNLESS OTHERWISE NOTED. COVER PLATES SHALL BE ALUMINUM ALLOY 6061-T6.

FASTENERS, ANCHORS, BOLTS, NUTS, AND WASHERS FOR ALUMINUM GRATING, COVER PLATES, AND SUPPORTS SHALL BE TYPE 316 STAINLESS STEEL.

BAND ALL GRATING ALONG EDGES AND AROUND OPENINGS WITH CONTINUOUS BAR EQUAL TO BEARING BARS.

ALL ANGLE FRAMES FOR GRATING ARE TO BE MITERED AND WELDED AT CORNERS.

ALL GRATING SHALL BE SECURELY FASTENED TO SUPPORTS WITH STAINLESS STEEL GRATING CLIPS AND ANCHORS, UNLESS OTHERWISE NOTED.

GRATING PANEL LAYOUT SHALL PROVIDE FOR THE REMOVAL OF GRATING AROUND PIPE AND OTHER GRATING PENETRATIONS. MAXIMUM GRATING PANEL WEIGHT SHALL BE 40-POUNDS.

ALL COVER PLATES SHALL BE SECURELY FASTENED TO SUPPORTS WITH 1/4" STAINLESS STEEL FLAT-HEAD MACHINE SCREWS AT 2'-0" ON CENTER, UNLESS OTHERWISE NOTED.

GRATING SIZE SHALL MEET THE FOLLOWING CRITERIA UNLESS SPECIFICALLY NOTED OTHERWISE ON DRAWING:

STEEL GRATING SPAN	RECTANGULAR BEARING BAR SIZE
TO 4'-6"	USE 1 1/2" x 3/16" MIN

FIELD VERIFY GRATING SUPPORT LOCATIONS BEFORE FABRICATING GRATING. PLACE SUPPORTS WITH EXTREME CARE TO PROVIDE TOLERANCES SHOWN OR SPECIFIED.

MASONRY NOTES

HOLLOW, LOAD-BEARING CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90, GRADE N, TYPE I, LIGHTWEIGHT UNITS, AND INSTALLED IN RUNNING BOND PATTERN, UNLESS OTHERWISE NOTED.

MORTAR FOR REINFORCED MASONRY SHALL CONFORM TO ASTM C270, TYPE S, UNLESS OTHERWISE NOTED. GROUT SHALL CONFORM TO ASTM C476.

REFER TO PLANS AND SPECIFICATIONS FOR MASONRY REINFORCEMENT REQUIREMENTS, INCLUDING HORIZONTAL JOINT REINFORCEMENT. DEFORMED REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60.

MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF MASONRY AT 28 DAYS, f'm = 1500 psi.

ALUMINUM HANDRAIL NOTES

ALUMINUM HANDRAIL SHALL BE MODULAR CONSTRUCTION AND SHALL BE SIMILAR AND EQUAL TO PEAK TO PEAK RAILINGS, WHEAT RIDGE, COLORADO; GOLDEN RAILING, BROOMFIELD, COLORADO; OR APPROVED EQUAL. FABRICATED HANDRAIL WILL NOT BE PERMITTED.

SYMBOLS

(E) INDICATES EQUIPMENT PAD. PER DETAIL S-03-107 THIS SHEET. COORDINATE SIZE WITH EQUIPMENT REQUIREMENTS.

(H) INDICATES HOUSEKEEPING PAD. PER DETAIL S-03-108 THIS SHEET. COORDINATE SIZE WITH EQUIPMENT REQUIREMENTS.

STANDARD DETAILS SHOWN ON THESE DRAWINGS SHALL BE USED AT ALL APLICABLE LOCATIONS, UNLESS NOTED OTHERWISE ON DRAWINGS.

LAP SPLICE LENGTHS IN WALLS AND SLABS (INCHES)

BAR SIZE	2" COVER
3	20
4	24
5	30
6	36
7	42
8	48

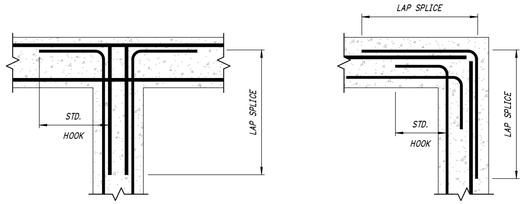
NOTES:

1. TABLE IS BASED ON ACI 318R-19 & f'c = 4000 PSI. BARS ARE UNCOATED.
2. MINIMUM BAR SPACING = 6" O.C.
3. LENGTHS FOR BEAMS AND COLUMNS SHALL BE AS SHOWN ON THE DRAWINGS.
4. LAP SPLICE LENGTHS SHALL BE INCREASED FOR LOWER CONCRETE COMPRESSIVE STRENGTH AS FOLLOWS:

f'c	MULTIPLIER
3000 PSI	1.16
3500 PSI	1.07

LAP SPLICE LENGTHS

DETAIL S101 — N.T.S



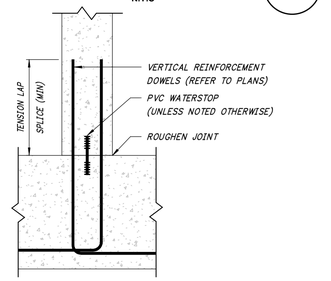
NOTES:

DENOTES TYPICAL WALL REINFORCEMENT

1. SPLICE BARS TO BE SAME SIZE AND SPACING AS LARGER OF BARS BEING SPLICED. SPLICE BARS SHALL BE LAPPED WITH TYPICAL WALL REINFORCEMENT.
2. EXTEND BAR HOOKED ENDS TO FAR FACE OF WALL.
3. REINFORCING STEEL LAYOUT FOR WALLS WITH SINGLE MAT OF REINFORCEMENT SIMILAR TO ABOVE PATTERN FOR EXTERIOR MAT OF REINFORCEMENT.

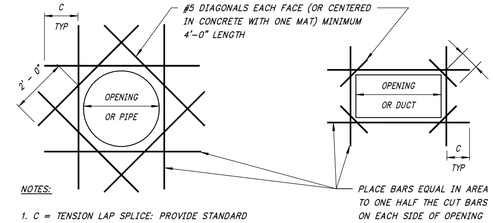
CORNER REINFORCEMENT PLANS

DETAIL S102 — N.T.S



WALL CONSTRUCTION JOINT AT SLAB

DETAIL S104 — N.T.S



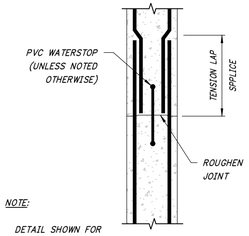
NOTES:

1. C = TENSION LAP SPLICE: PROVIDE STANDARD HOOK IF FULL DEVELOPMENT LENGTH IS NOT POSSIBLE.
2. REINFORCING STEEL IS TO BE CARRIED ACROSS ALL CONSTRUCTION JOINTS.
3. DETAIL IS TYPICAL FOR ALL OPENINGS GREATER THAN 10 INCHES IN CONCRETE WALLS AND SLABS UNLESS OTHERWISE NOTED.
4. EXTRA BARS ARE NOT REQUIRED AT AN OPENING EDGE PARALLEL TO AND WITHIN 6 INCHES OF A WALL OR BEAM.

PLACE BARS EQUAL IN AREA TO ONE HALF THE CUT BARS ON EACH SIDE OF OPENING UNLESS OTHERWISE DETAILED ON THE DRAWINGS

EXTRA REINFORCEMENT AT OPENINGS

DETAIL S103 — N.T.S

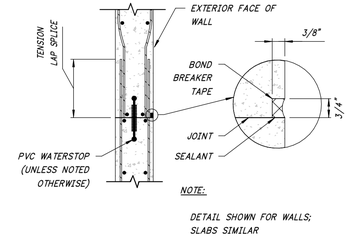


NOTE:

DETAIL SHOWN FOR WALLS; SLABS SIMILAR

CONSTRUCTION JOINT

DETAIL S105 — N.T.S

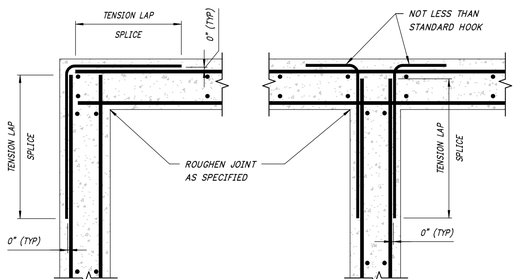


NOTE:

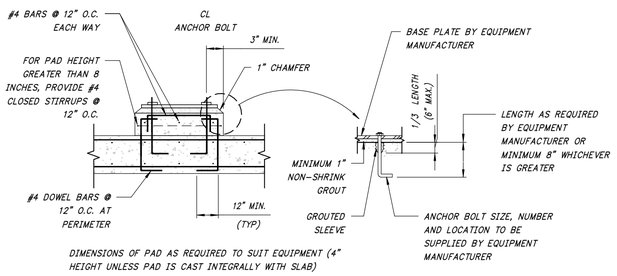
DETAIL SHOWN FOR WALLS; SLABS SIMILAR

CONSTRUCTION JOINT AND SEALANT

DETAIL S106 — N.T.S



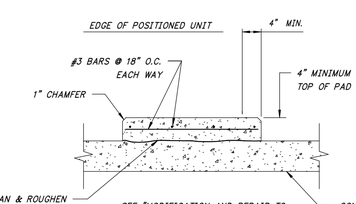
DETAIL S107 — N.T.S



DIMENSIONS OF PAD AS REQUIRED TO SUIT EQUIPMENT (4" HEIGHT UNLESS PAD IS CAST INTEGRALLY WITH SLAB)

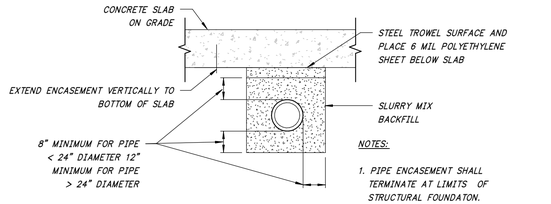
EQUIPMENT PAD

DETAIL S108 — N.T.S



HOUSEKEEPING PAD

DETAIL S109 — N.T.S



NOTES:

1. PIPE ENCASEMENT SHALL TERMINATE AT LIMITS OF STRUCTURAL FOUNDATON.

SLURRY MIX PIPE ENCASEMENT

DETAIL S110 — N.T.S

BID DRAWINGS
MARCH 21, 2025

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE
REVISION

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STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — LARRY C. HARRIS — NO. 13205

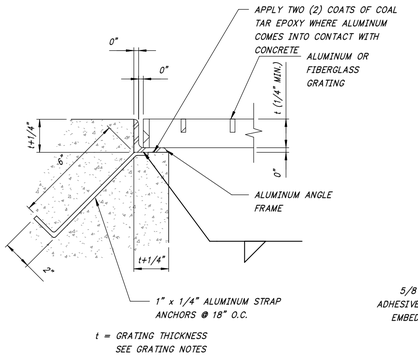
HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS
STRUCTURAL DETAILS I
FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: As indicated
DESIGNED BY: LCH
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

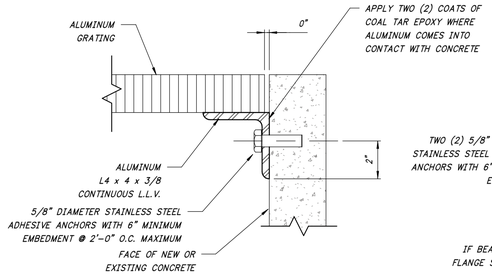
SHEET NO.
SZ-1

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 7:05:40 AM / ADF / STRUCTURAL DETAILS I



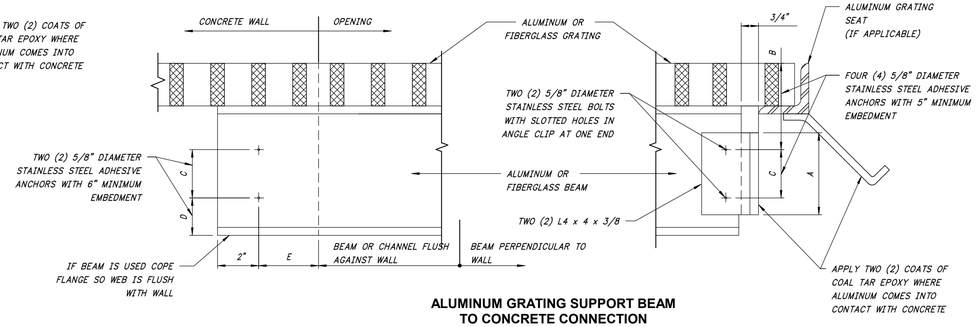
ALUMINUM GRATING SEAT

DETAIL S201
N.T.S



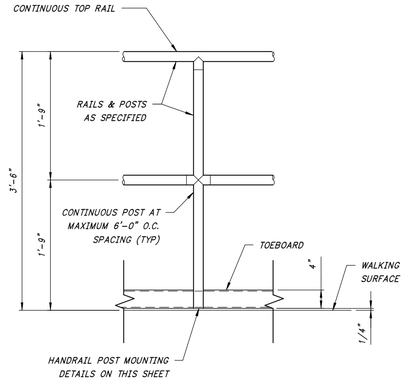
ALUMINUM GRATING WALL SUPPORT

DETAIL S202
N.T.S



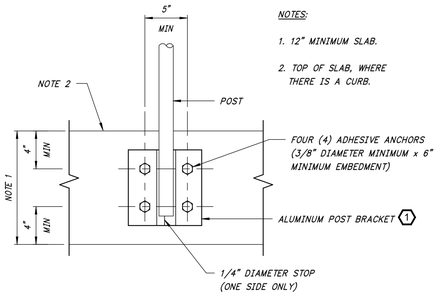
ALUMINUM GRATING SUPPORT BEAM TO CONCRETE CONNECTION

DETAIL S203
N.T.S



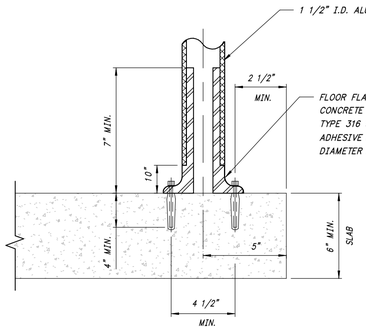
ALUMINUM HANDRAIL

DETAIL S204
N.T.S



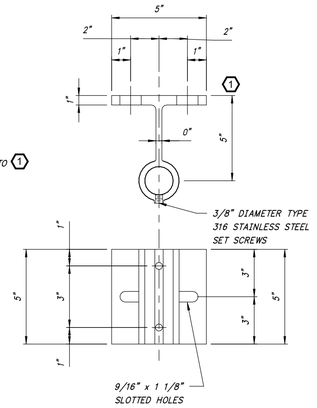
SIDE-MOUNTED ALUMINUM HANDRAIL POST

DETAIL S205
N.T.S



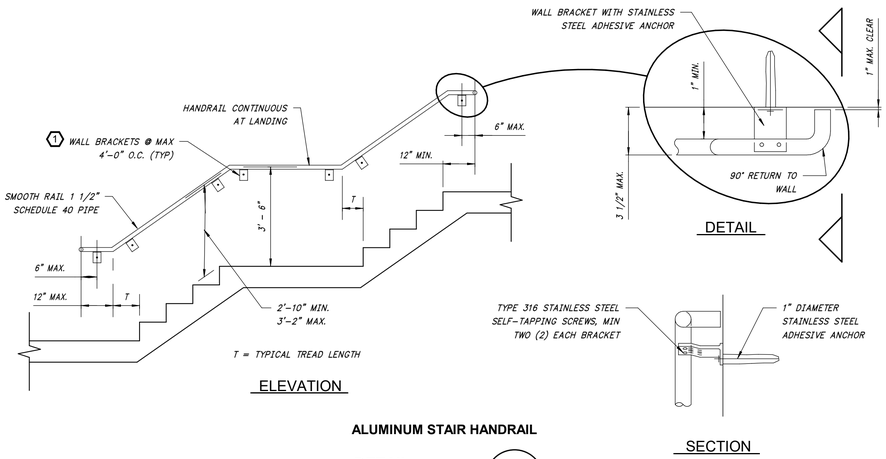
TOP-MOUNTED ALUMINUM HANDRAIL POST

DETAIL S206
N.T.S



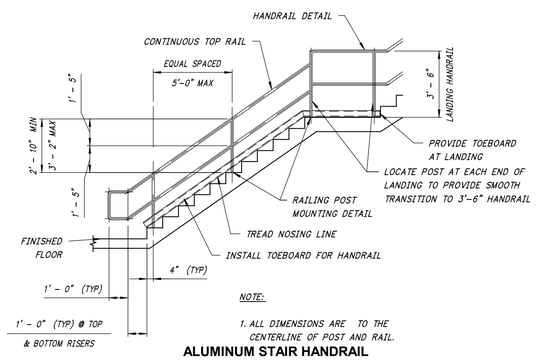
ALUMINUM HANDRAIL STANDOFF CONNECTION

DETAIL S207
N.T.S



ALUMINUM STAIR HANDRAIL

DETAIL S208
N.T.S



NOTE:

1. ALL DIMENSIONS ARE TO THE CENTERLINE OF POST AND RAIL.

ALUMINUM STAIR HANDRAIL

DETAIL S209
N.T.S

NOTES:

1. 12" MINIMUM SLAB.
2. TOP OF SLAB, WHERE THERE IS A CURB.

KEYED NOTES:

1 APPLY TWO (2) COATS OF COAL TAR EPOXY WHERE ALUMINUM COMES INTO CONTACT WITH CONCRETE.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HARRIS
NO. 13205

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

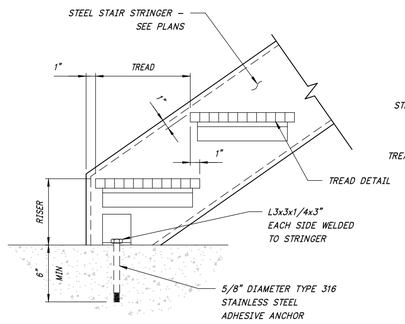
STRUCTURAL DETAILS II

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: As indicated
DESIGNED BY: LCH
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SZ-2

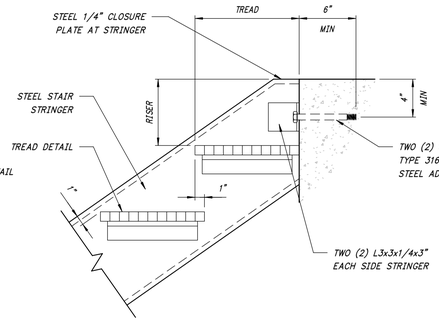
Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 7:05:40 AM / ADF / STRUCTURAL DETAILS II



STRINGER CONNECTON AT CONCRETE SLAB (BOTTOM)

DETAIL S301

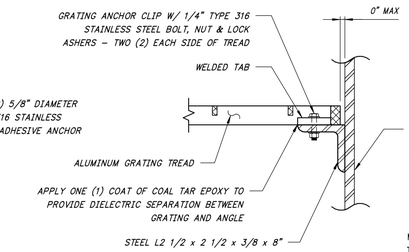
N.T.S



STRINGER CONNECTION AT CONCRETE WALL (TOP)

DETAIL S302

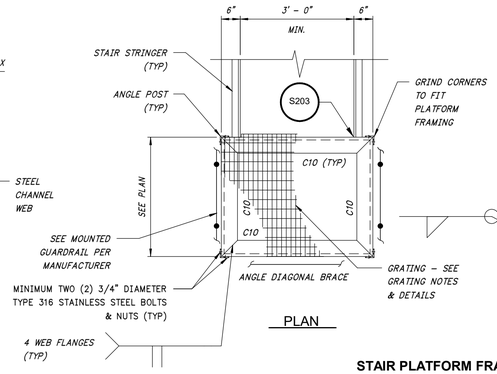
N.T.S



GRATING STAIR TREAD

DETAIL S303

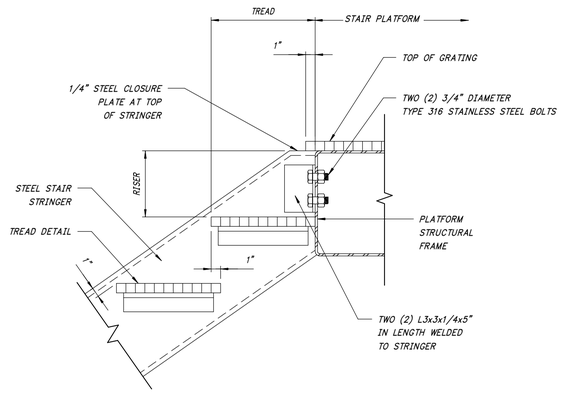
N.T.S



STAIR PLATFORM FRAMING

DETAIL S304

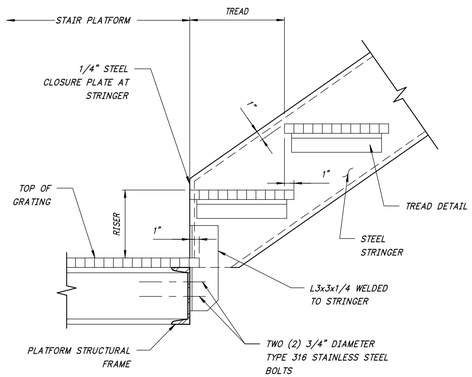
N.T.S



STRINGER CONNECTION AT PLATFORM (TOP)

DETAIL S305

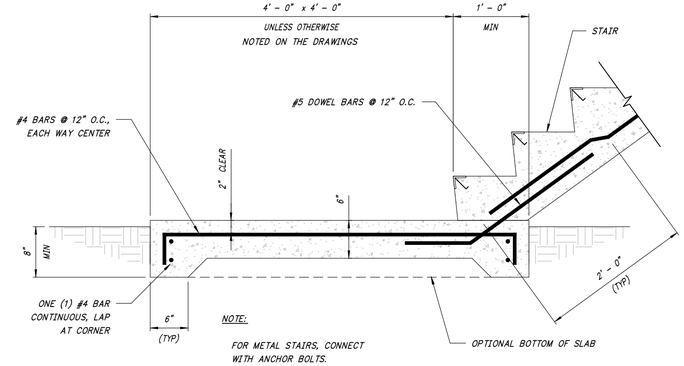
N.T.S



STRINGER CONNECTION AT PLATFORM (BOTTOM)

DETAIL S306

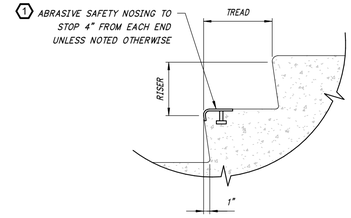
N.T.S



STAIR LANDING SLAB

DETAIL S307

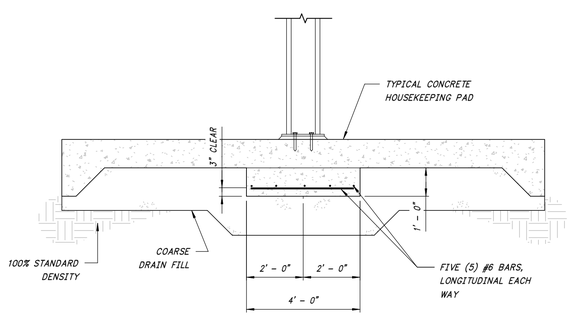
N.T.S



CONCRETE STAIR NOSING

DETAIL S308

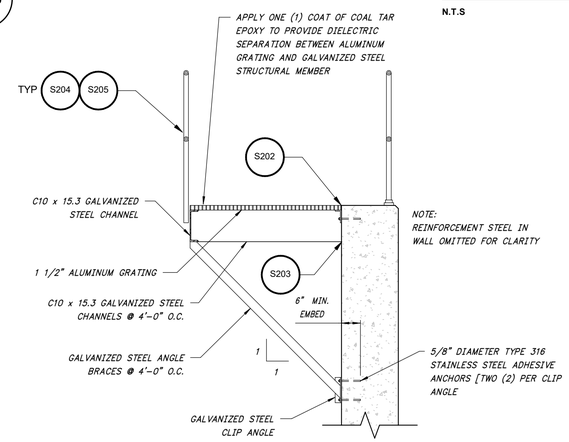
N.T.S



PLATFORM COLUMN FOUNDATION

DETAIL S309

N.T.S



CANTILEVERED ACCESS PLATFORM

DETAIL S310

N.T.S

NOTES:

1. ALL STRUCTURAL STEEL MEMBERS IDENTIFIED IN DETAILS S301 THROUGH S306 AND DETAIL S310 FOR CONSTRUCTION OF ACCESS PLATFORMS, EQUIPMENT PLATFORMS, AND ACCESS STAIRS SHALL BE HOT-DIPPED GALVANIZED.
2. DETAILS IDENTIFIED ON THIS PLAN SHEET ARE FOR GUIDANCE AND TO ESTABLISH CERTAIN MINIMUM REQUIREMENTS. THE MISCELLANEOUS STEEL FABRICATOR MAY SUBMIT ALTERNATE DETAILS DURING THE SHOP DRAWING SUBMITAL PROCESS FOR REVIEW AND APPROVAL BY THE ENGINEER.

KEYED NOTES:

1 APPLY TWO (2) COATS OF COAL TAR EPOXY WHERE ALUMINUM COMES INTO CONTACT WITH CONCRETE.

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE

REVISION

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HARRIS
NO. 13205

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

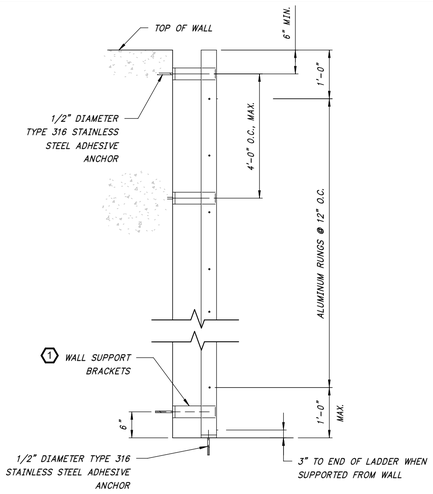
STRUCTURAL DETAILS III

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: As indicated
DESIGNED BY: LCH
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SZ-3

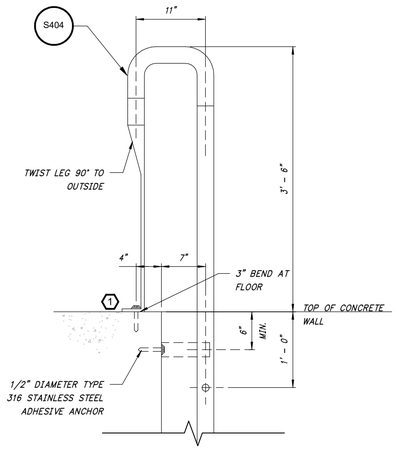
Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 7:05:41 AM / ADF / STRUCTURAL DETAILS III



ALUMINUM LADDER

DETAIL S401

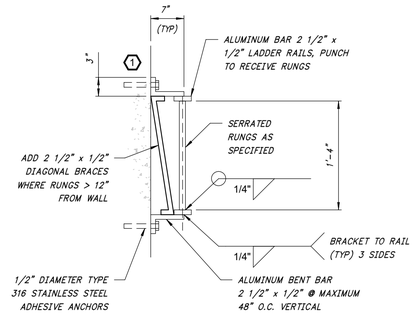
N.T.S



LADDER TO T.O. WALL CONNECTION

DETAIL S402

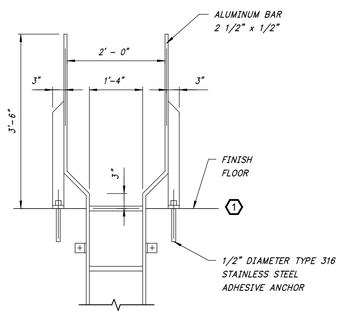
N.T.S



ALUMINUM LADDER PLAN

DETAIL S403

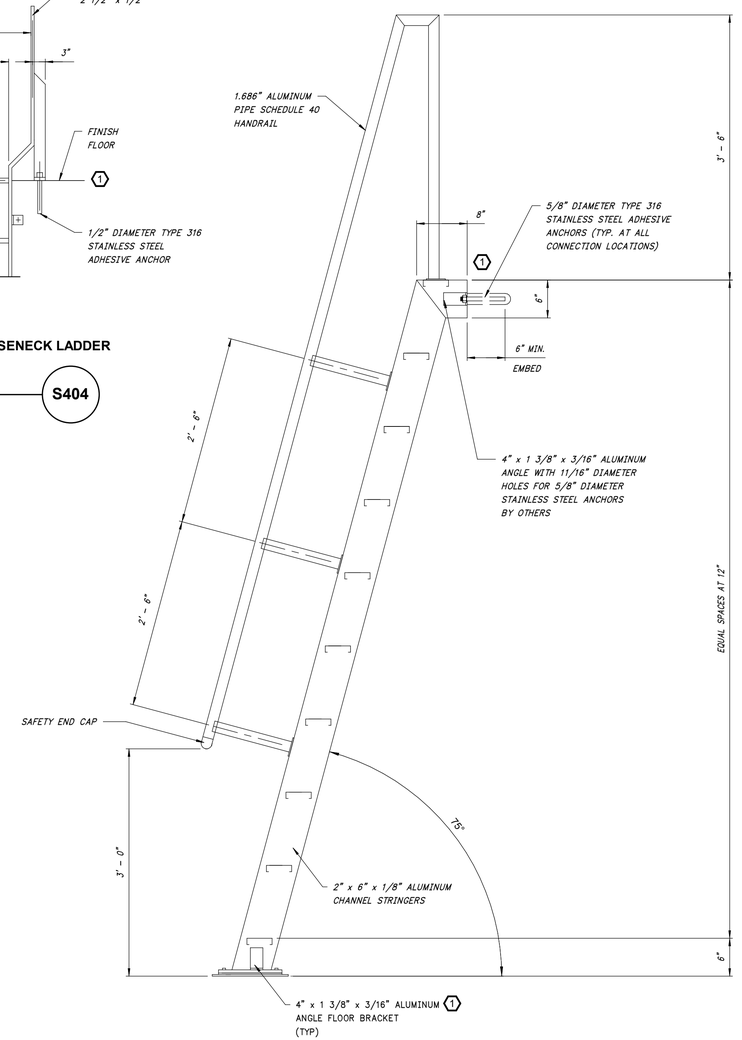
N.T.S



ALUMINUM GOOSENECK LADDER

DETAIL S404

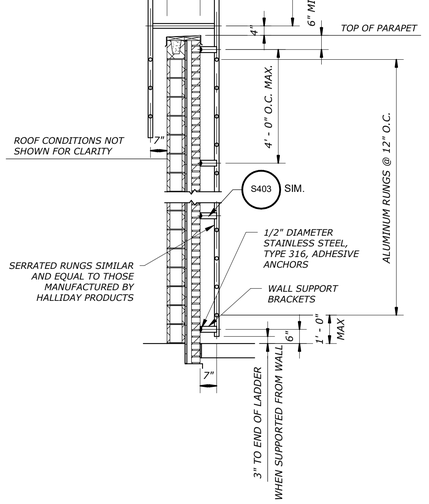
N.T.S



SHIP LADDER

DETAIL S405

N.T.S



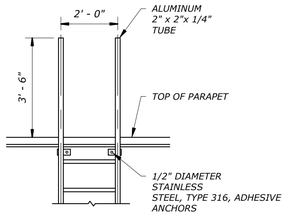
ALUMINUM LADDER FOR BUILDING ACCESS

DETAIL S406

N.T.S

NOTE:

INSTALL ALUMINUM SAFETY CAGE, IF NECESSARY, 2 TO MEET OSHA REQUIREMENTS.



ALUMINUM BUILDING LADDER

DETAIL S407

N.T.S

KEYED NOTES:

1 APPLY TWO (2) COATS OF COAL TAR EPOXY WHERE ALUMINUM COMES INTO CONTACT WITH CONCRETE.

2 INSTALL NEW SAF-T-CLIMB STAINLESS STEEL FALL PROTECTION CABLES AND HARDWARE ON THE ALUMINUM LADDER. PROVIDE THE OWNER WITH TWO (2) COMPLETE SETS OF HARNESSES FOR THE PROJECT.

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

REVISION	DATE

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
LARRY C. HARRIS
NO. 13205

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

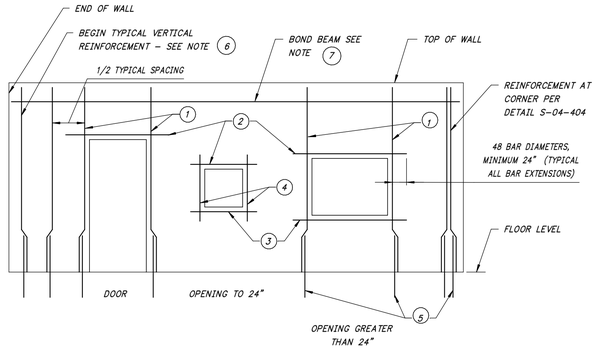
STRUCTURAL DETAILS IV

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: As indicated
DESIGNED BY: LCH
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SZ-4

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 7:05:41 AM / ADF / STRUCTURAL DETAILS IV



NOTES:

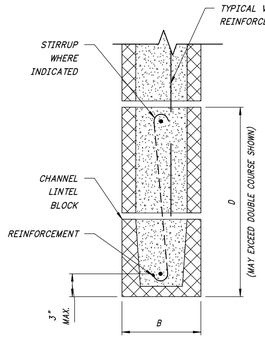
1.

OPENING \ CMU	4"	8"
TO 4'-3"	SEE NOTE 4	ONE (1) #4 BAR
4'-4" TO 8'-3"	N/A	ONE (1) #5 BAR

2. FOR LINTEL BARS SEE DETAIL S502.
3. SILL BARS, 8" CMU: TWO (2) #4 BARS IN BOND BEAM, 4" CMU: ONE (1) #4 BAR IN BOND BEAM.
4. ONE (1) #4 BAR EACH SIDE.
5. DOWEL SIZE & QUANTITY TO MATCH BARS BESIDE OPENING.
6. BETWEEN BARS SHOWN, PROVIDE TYPICAL WALL REINFORCEMENT.
7. COURSE BELOW SOLID TOP COURSE, PROVIDE TWO (2) #5 BARS IN BOND BEAM.

WALL REINFORCING IN CMU WALLS

DETAIL S501
N.T.S



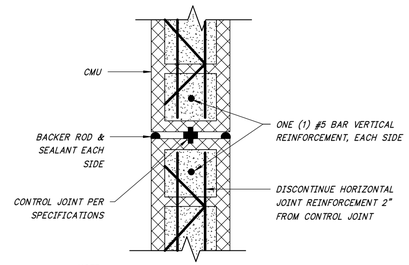
SPAN \ MARK				
TO 4' – 3"	4"	8"	ONE (1) #5 BAR	N/A
	8"	8"	TWO (2) #5 BAR	N/A
4' – 4" TO 8' – 3"	8"	16"	ONE (1) #6 BAR	#3 BARS @ 12 O.C.

NOTES:

1. PROVIDE REINFORCEMENT AS INDICATED AT ALL OPENINGS ON THE DRAWINGS.
2. REINFORCEMENT INDICATED IS FOR THE TOP & BOTTOM OF LINTEL BEAM.
3. NOTE 2 DOES NOT APPLY FOR SINGLE COURSE LINTELS.

CMU LINTEL REINFORCING SCHEDULE

DETAIL S502
N.T.S



NOTE:

EXTEND VERTICAL REINFORCEMENT FULL HEIGHT OF MASONRY, CONTINUE BOND BEAM, LINTEL AND SILL REINFORCEMENT THROUGH CONTROL JOINT.

CMU CONTROL JOINT

DETAIL S503
N.T.S

CMU BOND BEAM

DETAIL S504
N.T.S

CMU WALL CORNER

DETAIL S505
N.T.S

STRUCTURAL TO STRUCTURAL

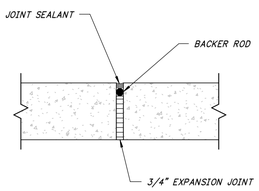
PARTITION TO STRUCTURAL

NOTES

1. STRUCTURAL WALLS ARE LOAD BEARING WALLS OR SHEAR WALLS. SEE FLOOR PLAN FOR LOCATION.
2. DO NOT EXTEND BOND BEAM REINFORCEMENT FROM PARTITION INTO SHEARWALL.

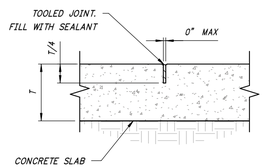
CMU WALL INTERSECTIONS

DETAIL S506
N.T.S



EXPANSION JOINT AND SEALANT

DETAIL S507
N.T.S



TOOLED CONTROL JOINT

DETAIL S508
N.T.S

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 13205
LARRY C. HARRIS

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

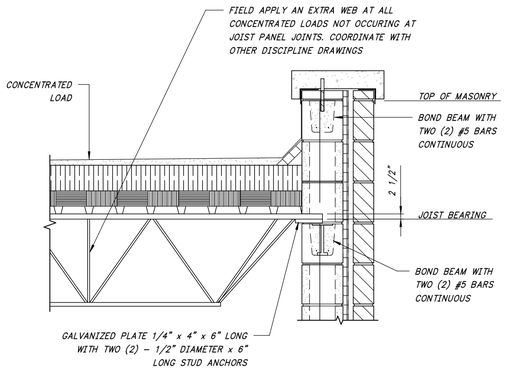
STRUCTURAL DETAILS V

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: As indicated
DESIGNED BY: LCH
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

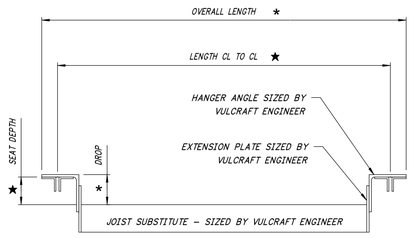
SHEET NO.
SZ-5

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 7:05:42 AM / ADF / STRUCTURAL DETAILS V



STEEL JOIST BEARING

DETAIL S601
N.T.S



NOTES:

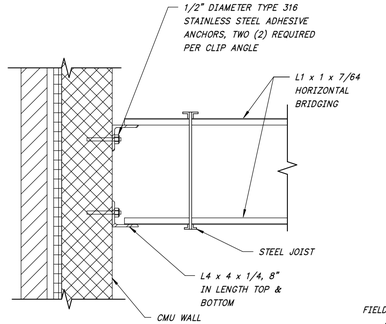
★ LENGTH CL TO CL IS EQUAL TO JOIST SPACING. SEAT DEPTH IS DEPENDENT ON JOIST SERIES, TYPICALLY IT'S 2 1/2" FOR K-SERIES AND 5" FOR LH-SERIES.

* OVERALL LENGTH DEPENDS ON JOIST SPACING AND SIZE OF THE HANGER ANGLE. DROP EQUALS SEAT DEPTH PLUS THE THICKNESS OF THE HANGER ANGLE.

1. STEEL JOIST MANUFACTURER IS RESPONSIBLE FOR THESE DIMENSIONS.

STEEL JOIST DROP-DOWN HEADER

DETAIL S602
N.T.S



NOTES:

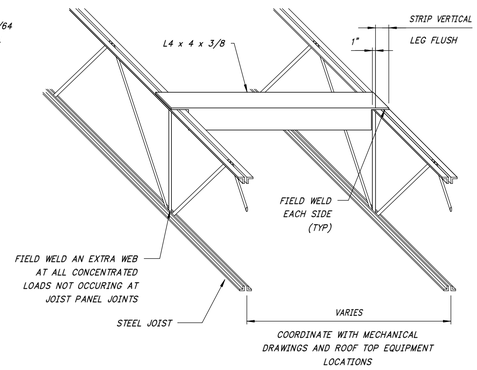
1. TWO (2) ROWS OF BRIDGING FOR 12" STEEL JOISTS.

2. THREE (3) ROWS OF BRIDGING FOR 18" AND LARGER STEEL JOISTS.

3. TWO (2) ADDITIONAL LINES OF THE BOTTOM CHORD BRIDGING MUST BE INSTALLED NEAR THE FIRST CHORD PANEL POINT TO ACCOUNT FOR UPLIFT DUE TO WIND FORCES.

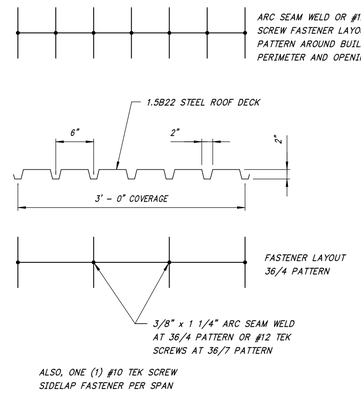
STEEL JOIST BRIDGING

DETAIL S603
N.T.S



STEEL JOIST MECH. EQUP. REINFORCEMENT

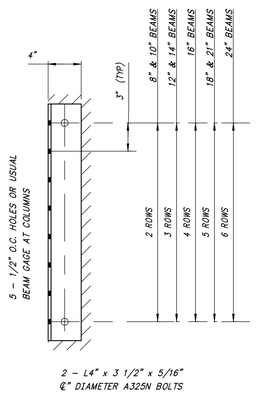
DETAIL S604
N.T.S

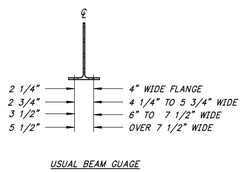


ALSO, ONE (1) #10 TEK SCREW SIDELAP FASTENER PER SPAN

STEEL ROOF DECK

DETAIL S605
N.T.S

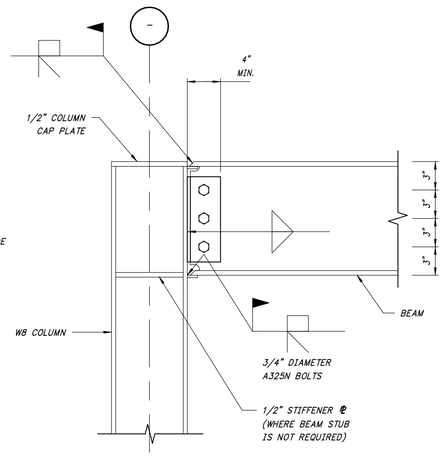




USUAL BEAM GUAGE

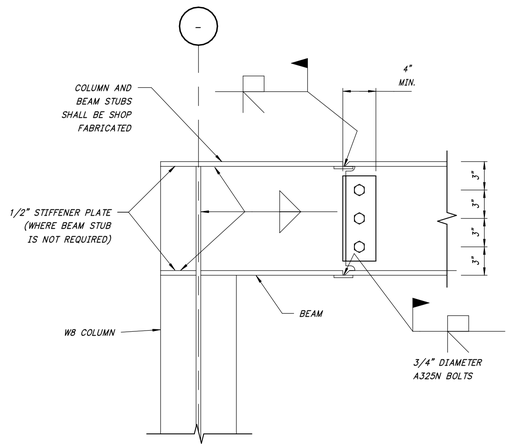
SIMPLE BEAM CONNECTION

DETAIL S606
N.T.S



TYPICAL BEAM TO COLUMN MOMENT CONNECTION COLUMN STRONG AXIS

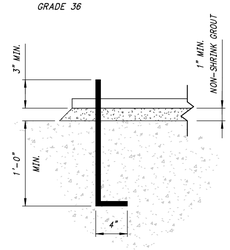
DETAIL S607
N.T.S



TYPICAL BEAM TO COLUMN MOMENT CONNECTION COLUMN WEAK AXIS

DETAIL S608
N.T.S

NOTE:
3/4" OR 1" DIAMETER L-SHAPED ANCHOR BOLT, ASTM F1554, GRADE 36



TYPICAL ANCHOR BOLT

DETAIL S609
N.T.S

NOTES:

1. DETAILS IDENTIFIED ON THIS PLAN SHEET ARE FOR GUIDANCE AND TO ESTABLISH CERTAIN MINIMUM REQUIREMENTS. THE MISCELLANEOUS STEEL FABRICATOR MAY SUBMIT ALTERNATE DETAILS DURING THE SHOP DRAWING SUBMITAL PROCESS FOR REVIEW AND APPROVAL BY THE ENGINEER.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE
REVISION

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER NO. 13205 LARRY C. HAWKINS

HAWKINS WEIR ENGINEERS, INC.
BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

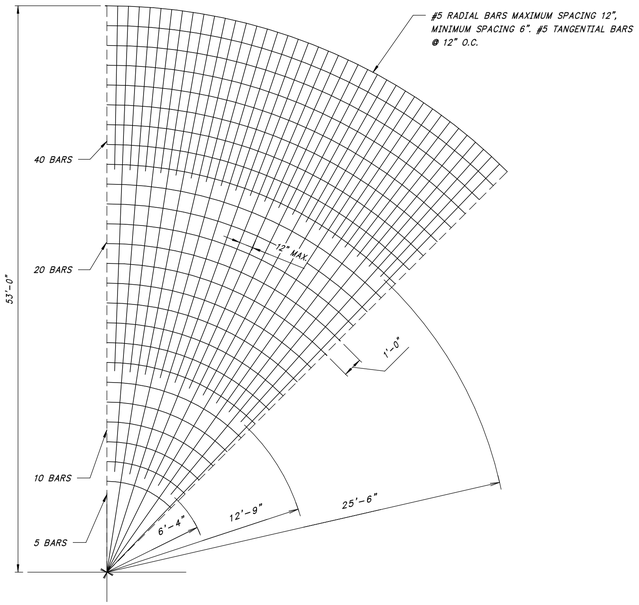
STRUCTURAL DETAILS VI

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: As indicated
DESIGNED BY: LCH
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SZ-6

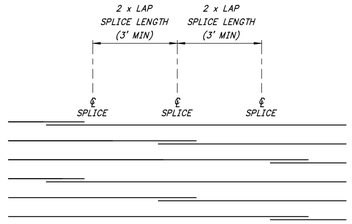
Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 7:05:42 AM / ADF / STRUCTURAL DETAILS VI



SECONDARY CLARIFIER BASE SLAB REINFORCEMENT

DETAIL S701

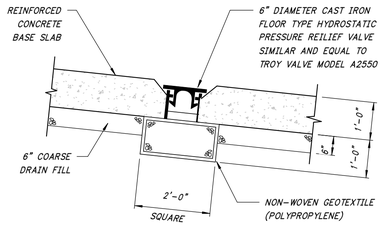
N.T.S



STAGGERING OF HORIZONTAL BAR SPLICES

DETAIL S702

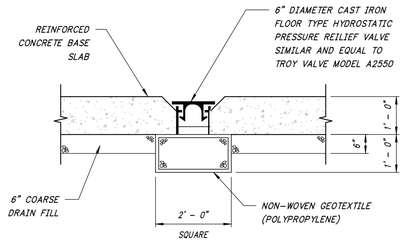
N.T.S



HYDROSTATIC P.R.VALVE ON SLOPE FLOOR

DETAIL S703

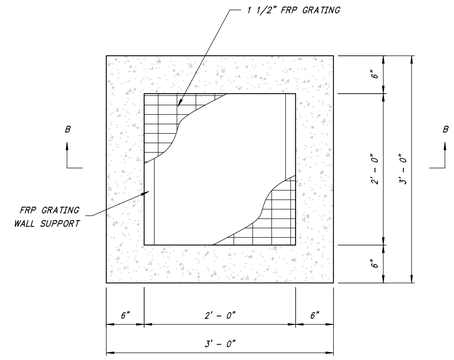
N.T.S

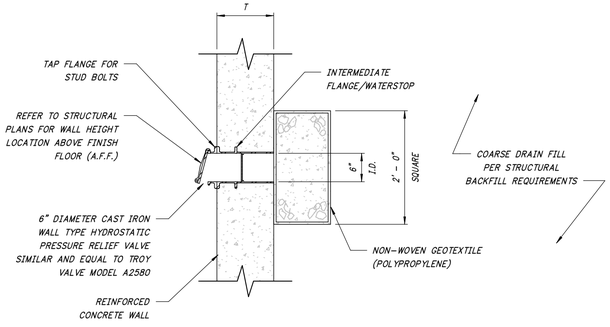


HYDROSTATIC P.R.VALVE-FLOOR

DETAIL S704

N.T.S

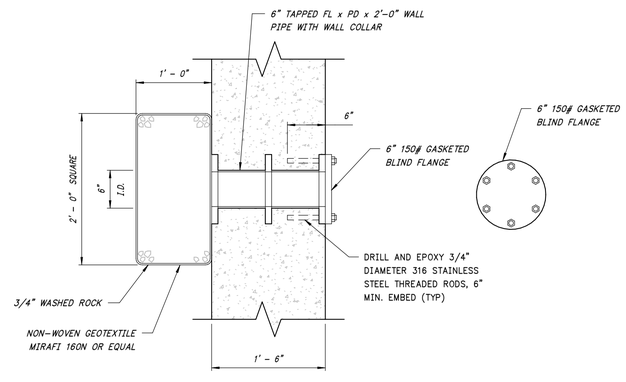




HYDROSTATIC P.R.VALVE IN WALL

DETAIL S705

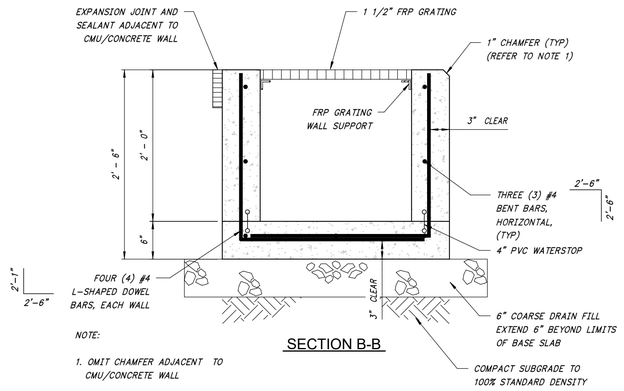
N.T.S



TEMPORARY HYDROSTATIC PRESSURE RELIEF VALVE (DURING CONSTRUCTION ONLY)

DETAIL S706

N.T.S



DETAIL S707

N.T.S

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

STRUCTURAL DETAILS VII

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: As indicated
DESIGNED BY: LCH
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SZ-7

Autodesk Docs://2410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 7:05:43 AM / ADF / STRUCTURAL DETAILS VII

NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND FABRICATION OF ALL ODOR CONTROL COVER PLATE FOR THE FOLLOWING UNFACTORED LOADS:

   DEAD LOAD
   SUPERIMPOSED DEAD LOAD = 10 PSF
   UNIFORM LIVE LOAD = 40 PSF
   CONCENTRATED LOAD OF 400 LBS IN ANY LOCATION
   MAXIMUM DEFLECTION = L/240

2. SUBMIT STRUCTURAL CALCULATIONS STAMPED BY A STRUCTURAL ENGINEER REFISTERED IN THE STATE OF ARKANSAS. CALCUALTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO, A DESCRIPTION OF THE STRUCTURAL DESIGN METHOD AND CODES USED IN ESTABLISHING THE ALLOWABLE STRESSES AND SAFETY FACTORS APPLIED IN DESIGN. REVIEW OF THE STRUCTURAL CALCULATIONS BY THE ENGINEER SHALL BE CONFORMANCE WITH THE DESIGN CRITERIA ONLY AND SHALL IN NO WAY RELIEVE THE ALUMINUM ODOR CONTROL COVER & FABRICATOR OF DESIGN RESPONSIBILITY.

3. SUBMIT DETAILED SHOP DRAWINGS FOR ALL ALUMINUM ODOR CONTROL COVER & AND STRUCTURAL MEMBERS IN ACCORDANCE WITH SPECIFICATION SECTION 01300.

4. ALL CONSTRUCTION OF ALUMINUM ODOR CONTROL COVER TO RESULT IN AN AIR-TIGHT ENCLOSURE FOR ODOR CONTROL PURPOSES. PROVIDE CONTINUOUS CONTINUOUS WELDS AND SEATS FOR COVER PLATES. CONTRACTOR TO PROVIDE ALL INCIDENTAL LABOR AND MATERIAL TO MEET THIS REQUIREMENT.

5. ODOR CONTROL COVER SHALL BE MANUFACTURED OUT OF ALUMINUM STRUCTURAL MEMBERS AND COVER PLATES. ALUMINUM SHALL BE ALLOY 6061-T6.

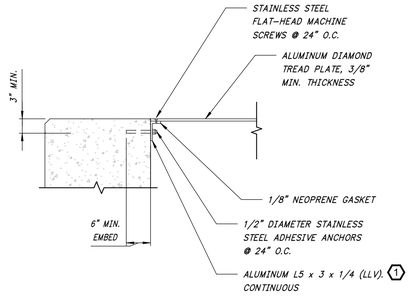
6. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS PRIOR TO FABRICATION OF ALUMINUM ODOR CONTROL COVER.

7. REFER TO DETAILS S802 THROUGH S805 FOR STRUCTURAL STANDARD DETAILS FOR ODOR CONTROL COVER & AND ITS STRUCTURAL MEMBERS.

8. DETAILS IDENTIFIED ON THIS PLAN SHEET ARE FOR GUIDANCE AND TO ESTABLISH CERTAIN MINIMUM REQUIREMENTS. THE ALUMINUM ODOR CONTROL COVER & FABRICATOR MAY SUBMIT ALTERNATE DETAILS DURING THE SHOP DRAWING SUBMITTAL PROCESS FOR REVIEW AND APPROVAL BY THE ENGINEER.

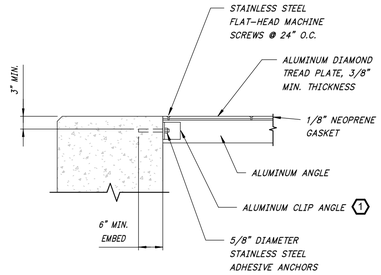
ODOR CONTROL COVER PLATE

DETAIL S801
N.T.S



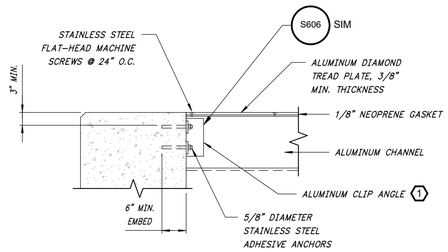
ODOR CONTROL COVER PLATE

DETAIL S802
N.T.S



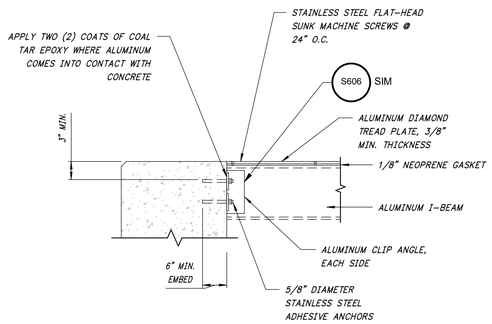
ODOR CONTROL COVER PLATE

DETAIL S803
N.T.S



ODOR CONTROL COVER PLATE

DETAIL S804
N.T.S



ODOR CONTROL COVER PLATE

DETAIL S805
N.T.S

KEYED NOTES:

1 APPLY TWO (2) COATS OF COAL TAR EPOXY WHERE ALUMINUM COMES INTO CONTACT WITH CONCRETE.

BID DRAWINGS
MARCH 21, 2025

1"
ONE INCH AT FULL SIZE
IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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ARKANSAS REGISTERED PROFESSIONAL ENGINEER NO. 13205 LARRY C. HAWKINS

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

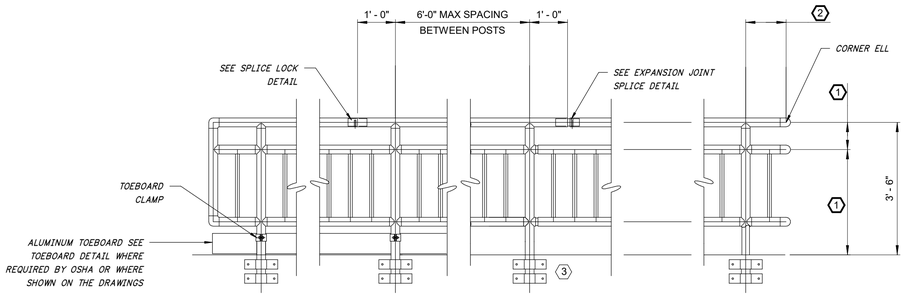
STRUCTURAL DETAILS VIII

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: As indicated
DESIGNED BY: LCH
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SZ-8

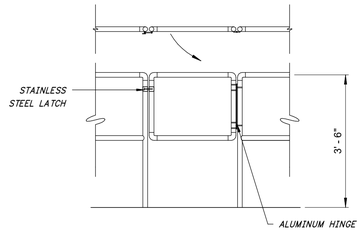
Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 7:05:43 AM / ADF / STRUCTURAL DETAILS VIII



TYPICAL TYPE 1 IBC SIDE MOUNT PUBLIC ACCESS GUARDRAIL

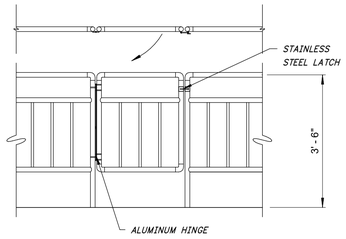
DETAIL S901

N.T.S.



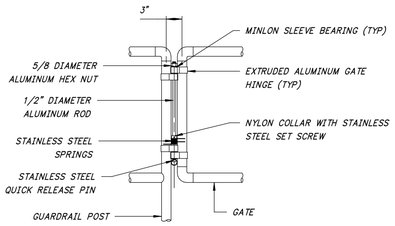
FACTORY / INDUSTRIAL GATE

(LEFT HAND SHOWN)

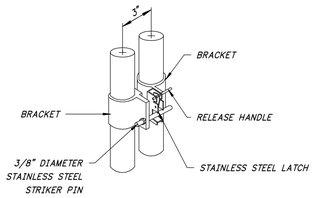


PUBLIC ACCESS GATE

(RIGHT HAND SHOWN)



ALUMINUM GATE HINGE



STAINLESS STEEL GATE LATCH

TYPICAL IBC GATE DETAILS

DETAIL S902

N.T.S.

NOTES:

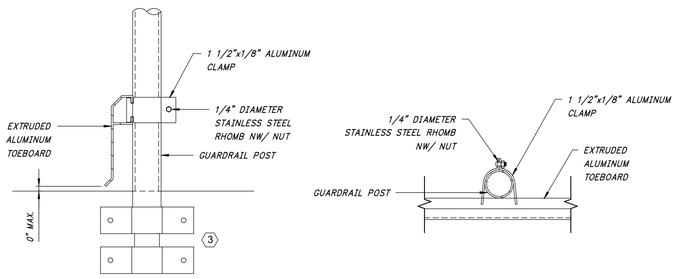
1. GUARDRAILS AND HANDRAILS SHALL BE THE PRODUCT OF A COMPANY NORMALLY ENGAGED IN THE MANUFACTURE OF PIPE RAILING. RAILING SHALL BE SHOP ASSEMBLED IN LENGTHS NOT TO EXCEED 24 FEET FOR FIELD ERECTION.
2. THE HANDRAIL SHALL BE MADE OF PIPES JOINED TOGETHER WITH COMPONENT FITTINGS. SAMPLES OF ALL COMPONENTS, BASES, TOE PLATE AND PIPE SHALL BE SUBMITTED FOR APPROVAL AT THE REQUEST OF THE ENGINEER. COMPONENTS THAT ARE POP-RIVETED OR GLUED AT THE JOINTS WILL NOT BE ACCEPTABLE. ALL COMPONENTS MUST BE MECHANICALLY FASTENED WITH STAINLESS STEEL HARDWARE. HANDRAIL AND COMPONENTS SHALL BE, AS MANUFACTURED BY THOMPSON FABRICATING, LLC (BIRMINGHAM, ALABAMA), PEAK TO PEAK RAILINGS (WHEAT RIDGE, COLORADO), GOLDEN RAILINGS, (BROOMFIELD, COLORADO) OR AN APPROVED EQUAL.
3. RAILINGS SHALL BE 1 1/2" SCHEDULE 40 ALUMINUM PIPE ALLOY 6105-T5, ASTM-B-429 OR ASTM-B-221. POSTS SHALL BE 1 1/2" SCHEDULE 80 ALUMINUM PIPE OF THE SAME ALLOY. POST SPACING SHALL BE A MAXIMUM OF 6'-0".
4. GUARDRAILS AND HANDRAILS SHALL BE DESIGNED TO WITHSTAND A 200 LB CONCENTRATED LOAD APPLIED IN ANY DIRECTION AND AT ANY POINT ON THE TOP RAIL. GUARDRAILS AND HANDRAILS SHALL ALSO BE DESIGNED TO WITHSTAND A UNIFORM LOAD OF 50 LB/FT APPLIED HORIZONTALLY TO THE TOP RAIL. UNIFORM LOADS ARE NOT TO BE APPLIED SIMULTANEOUSLY WITH THE CONCENTRATED LOADS.
5. PICKETS AND INTERMEDIATE RAILINGS SHALL BE DESIGNED TO WITHSTAND A HORIZONTALLY APPLIED NORMAL LOAD OF 50 LB ON AN AREA NOT TO EXCEED ONE SQUARE FOOT INCLUDING OPENINGS AND SPACE BETWEEN RAILS.
6. THE MANUFACTURER SHALL SUBMIT CALCULATIONS FOR APPROVAL AT THE REQUEST OF THE ENGINEER. TESTING OF BASE CASTINGS OR BASE EXTRUSIONS BY AN INDEPENDENT LAB OR MANUFACTURER'S LAB (IF MANUFACTURER'S LAB MEETS THE REQUIREMENTS OF THE ALUMINUM ASSOCIATION) WILL BE AN ACCEPTABLE SUBSTITUTE FOR CALCULATIONS. CALCULATIONS WILL BE REQUIRED FOR APPROVAL OF ALL OTHER DESIGN ASPECTS.
7. POSTS SHALL NOT INTERRUPT THE CONTINUATION OF THE TOP RAIL AT ANY POINT ALONG THE RAILING, INCLUDING CORNERS AND END TERMINATIONS (OSHA 1910.23). THE TOP SURFACE OF THE TOP RAILING SHALL BE SMOOTH AND SHALL NOT BE INTERRUPTED BY PROJECTED FITTINGS.
8. CONCRETE ANCHORS SHALL BE STAINLESS STEEL,TYPE 304, AND SHALL BE FURNISHED BY THE HANDRAIL MANUFACTURER. THE ANCHOR DESIGN SHALL INCLUDE THE APPROPRIATE REDUCTION FACTORS FOR SPACING AND EDGE DISTANCES IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED DATA.
9. TOE PLATE SHALL CONFORM TO OSHA STANDARDS. TOE PLATE SHALL BE A MINIMUM OF 4" HIGH AND SHALL BE AN EXTRUSION THAT ATTACHES TO THE POSTS WITH CLAMPS THAT WILL ALLOW FOR EXPANSION AND CONTRACTION BETWEEN POSTS. TOE PLATES SHALL BE SET 1/4" ABOVE THE WALKING SURFACE. TOE PLATES SHALL BE PROVIDED ON HANDRAILS AS REQUIRED BY JOSHUA AND/OR AS SHOWN ON DRAWINGS. TOE PLATES SHALL BE SHIPPED LOOSE IN STOCK LENGTHS FOR FIELD INSTALLATION.
10. OPENINGS IN THE RAILING SHALL BE GUARDED BY A SELF-CLOSING GATE (OSHA 1910.23). SAFETY CHAINS SHALL NOT BE USED UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS.
11. FINISH SHALL BE ALUMINUM ASSOCIATION M10-C22-A41 (215-R1). THE PIPE SHALL BE PLASTIC-WRAPPED. THE PLASTIC WRAP IS TO BE REMOVED AFTER ERECTION.
12. ALUMINUM SURFACES IN CONTACT WITH CONCRETE, GROUT OR DISSIMILAR METALS WILL BE PROTECTED WITH A COAT OF BITUMINOUS PAINT, MOLAR ISOLATORS OR OTHER APPROVED MATERIAL.

KEYED NOTES:

(1) PICKETS AND INTERMEDIATE RAILINGS SHALL BE PROVIDED SUCH THAT A 4-INCH DIAMETER SPHERE CANNOT PASS THROUGH ANY OPENING UP TO A HEIGHT OF 34 INCHES. FROM A HEIGHT OF 34 INCHES TO 42 INCHES ABOVE THE ADJACENT WALKING SURFACE, A SPHERE 8 INCHES IN DIAMETER SHALL NOT PASS. THE TRIANGULAR OPENINGS FORMED BY THE RISER, TREAD AND BOTTOM RAIL AT THE OPEN SIDE OF A STAIRWAY SHALL BE OF A SIZE SUCH THAT A SPHERE OF 6 INCHES IN DIAMETER CANNOT PASS THROUGH THE OPENING.

(2) THE MID-RAIL AT A CORNER RETURN SHALL BE ABLE TO WITHSTAND A 200 LB LOAD WITHOUT LOOSENING. THE MANUFACTURER IS TO DETERMINE THIS DIMENSION FOR THEIR SYSTEM AND PROVIDE PHYSICAL LABORATORY TESTS TO CONFIRM COMPLIANCE.

(3) APPLY TWO (2) COATS OF COAL TAR EPOXY WHERE ALUMINUM COMES INTO CONTACT WITH CONCRETE.



ELEVATION

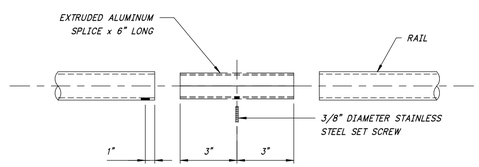
NOTE:
TOEBOARD SHIPPED IN 20'-0" LENGTHS. FIELD TRIM AS REQUIRED.

PLAN VIEW

TYPICAL TOEBOARD DETAILS

DETAIL S903

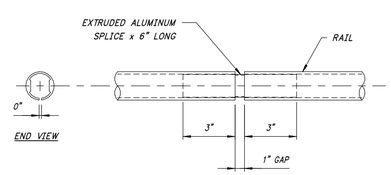
N.T.S.



SPLICE LOCK

DETAIL S904

N.T.S.



EXPANSION SPLICE

DETAIL S905

N.T.S.

BID DRAWINGS

MARCH 21, 2025

1"

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

DATE	REVISION

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STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — LARRY C. HARRIS — NO. 13205 — 3/21/25

HAWKINS WEIR ENGINEERS, INC.

BLACK & VEATCH

CITY OF BENTONVILLE, ARKANSAS
BENTONVILLE WATER RESOURCE RECOVERY FACILITY IMPROVEMENTS

STRUCTURAL DETAILS IX

FOR: BENTONVILLE WASTEWATER UTILITIES

DATE: MARCH 2025
SCALE: AS SHOWN
DESIGNED BY: LCH
DRAWN BY: ADF
HWEI NO.: 2021037
FILENAME: WWRF21037-ST

SHEET NO.
SZ-9

Autodesk Docs://410144 - Bentonville Water Resource Recovery Facility Improvements/WWRF21037-ST.rvt 3/21/2025 7:05:43 AM / ADF / STRUCTURAL DETAILS IX