

Attachment A
SHPO 106 Review
Part 2

UNDERGROUND UTILITIES

TWO WORKING DAYS
BEFORE YOU DIG
Call 800-362-2764 (Toll Free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OHIO
Utilities Protection
SERVICE

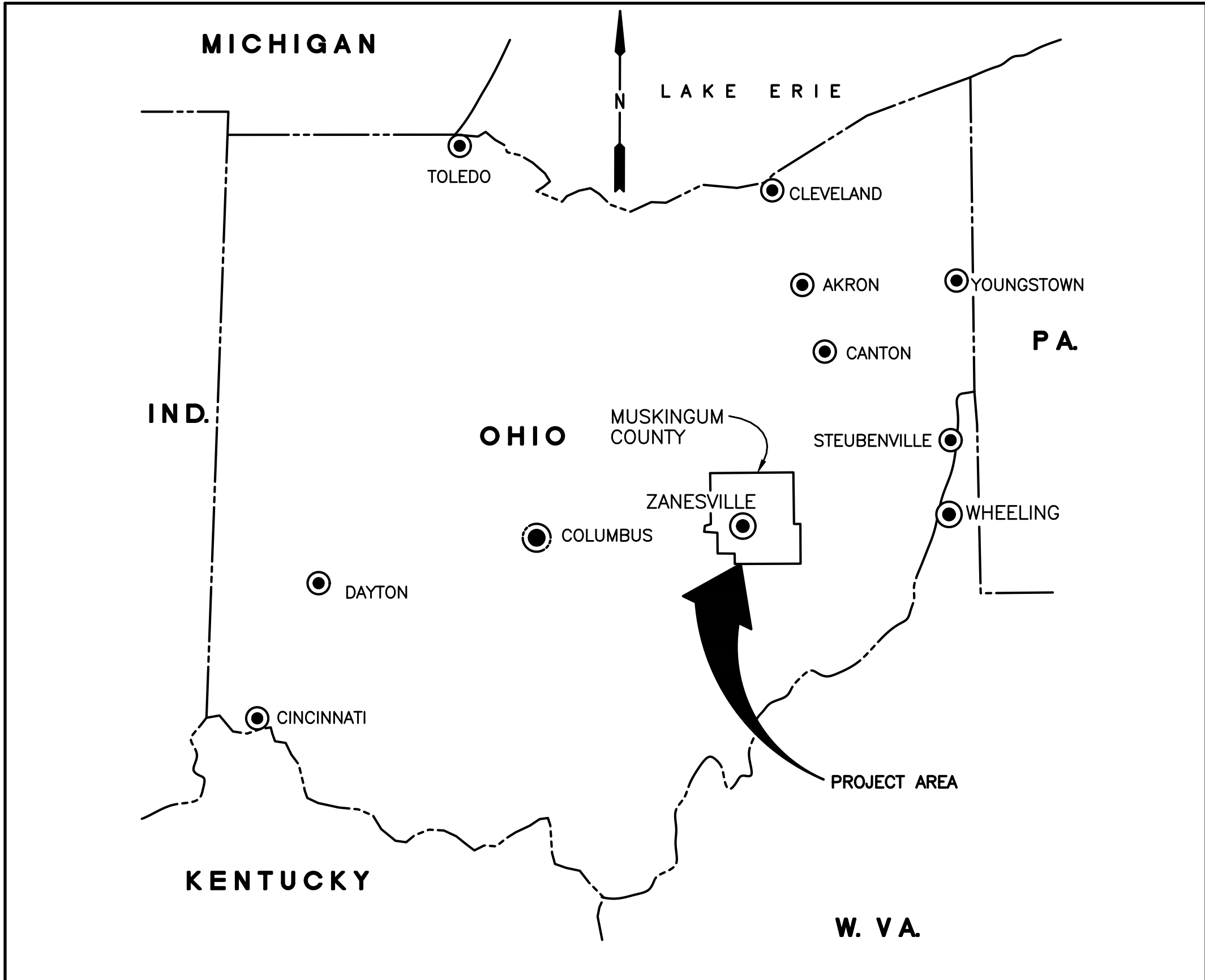
VILLAGE OF FRAZEYSBURG

Muskingum County, Ohio

PWS I.D. #6000612

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- Water Treatment Plant Improvements -

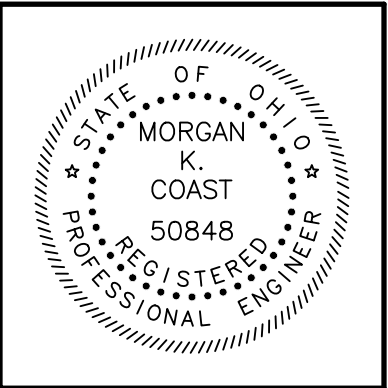


VICINITY MAP



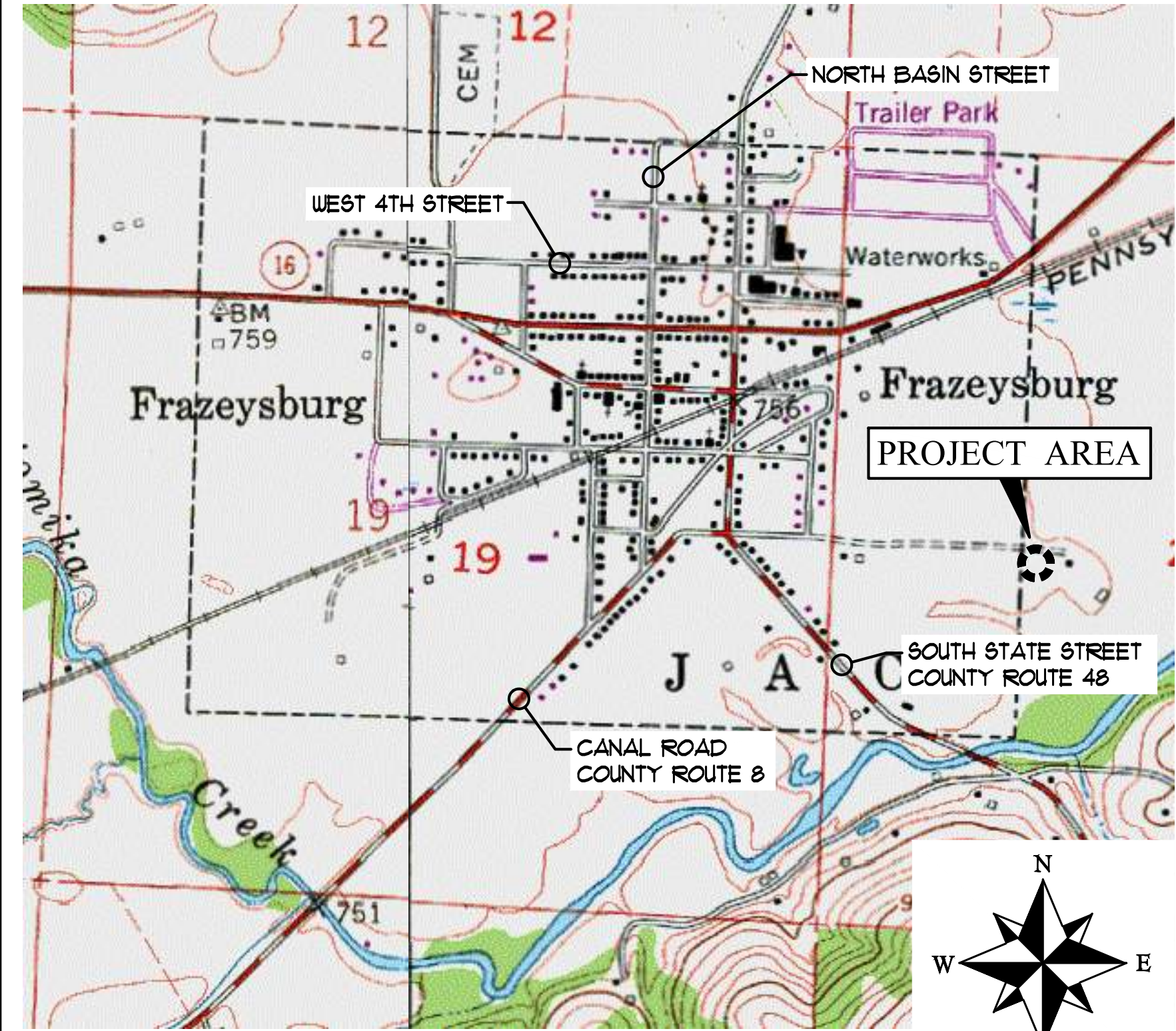
Mayor Gerald R. Howard

APPROVED: Gerald R. Howard DATED: 5-11-22

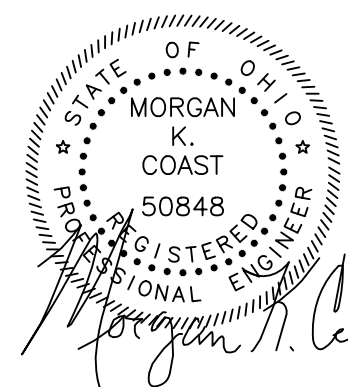
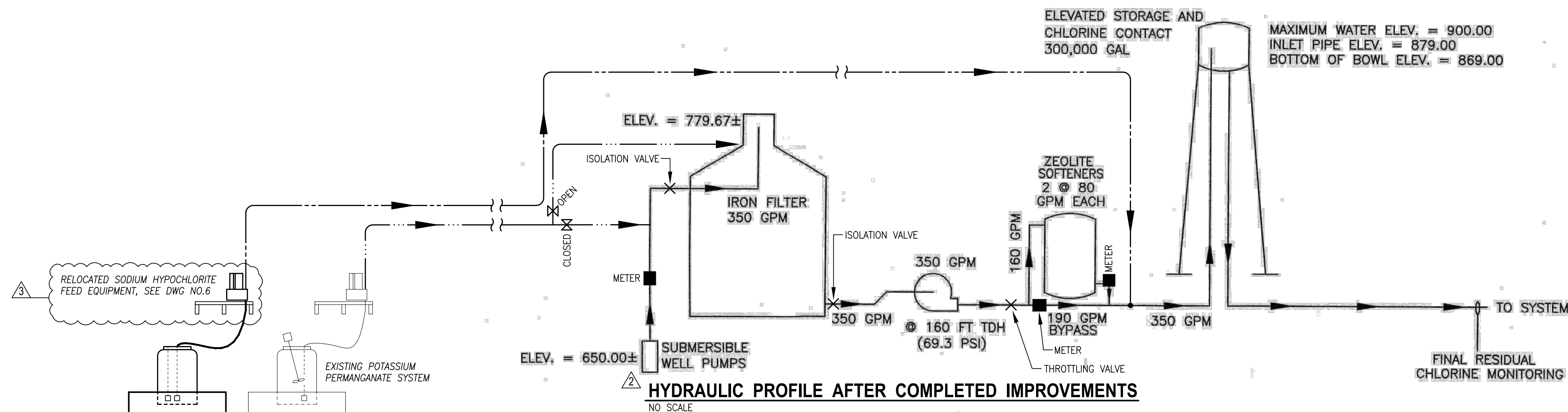
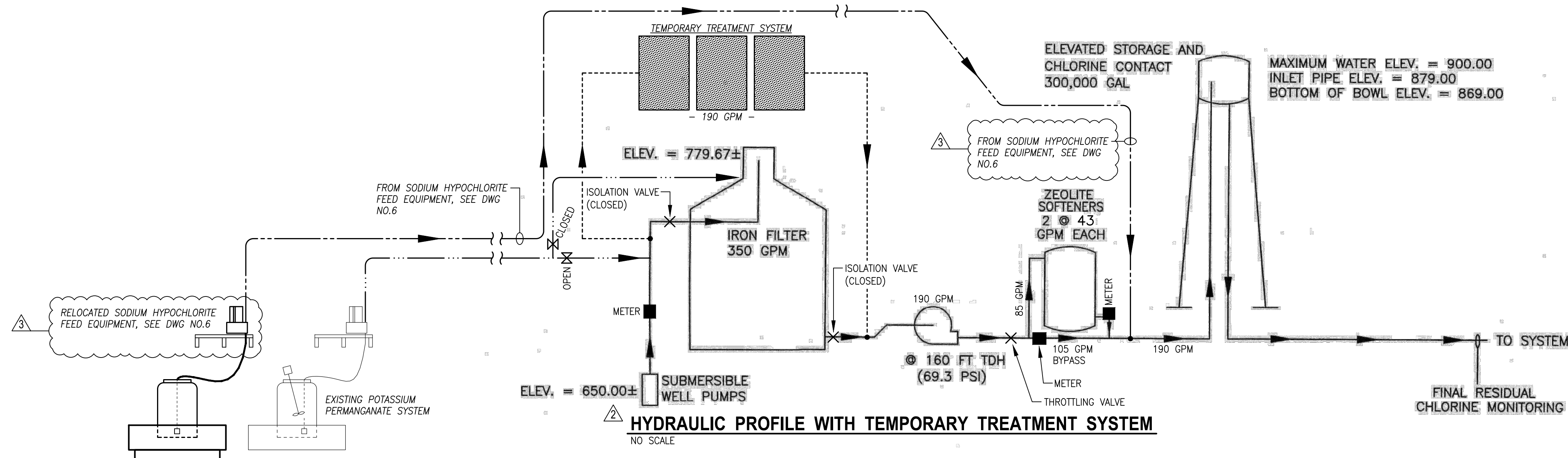
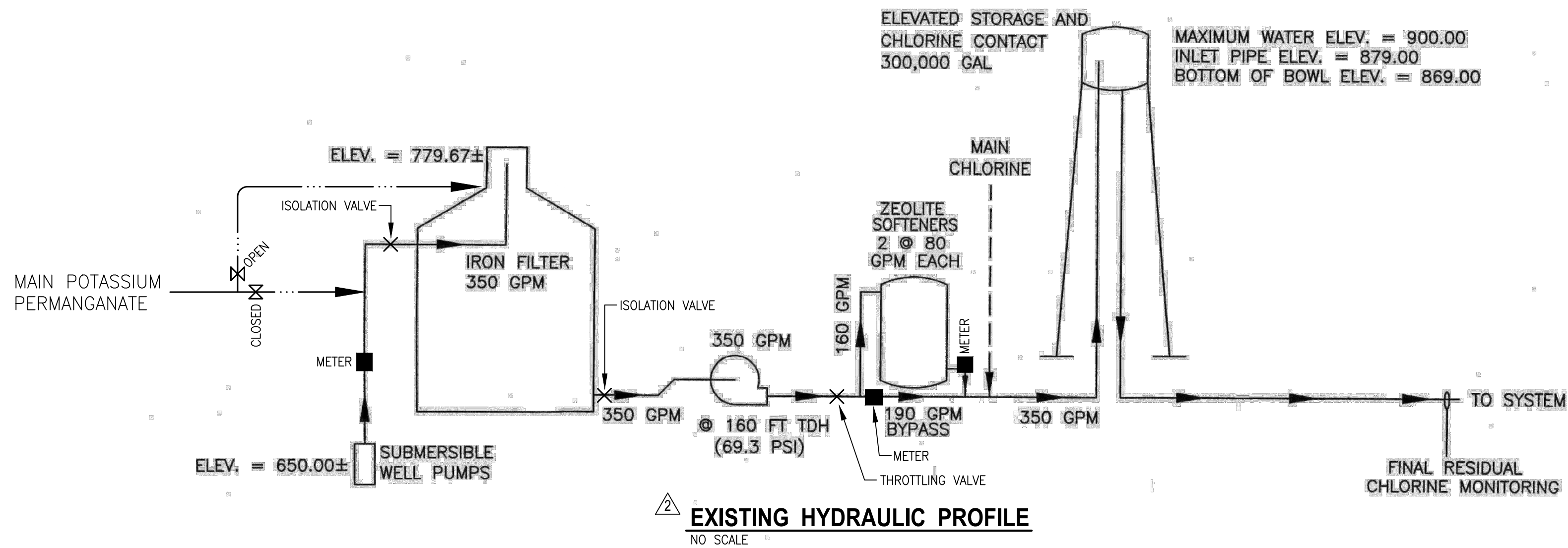


APPROVED: Morgan K. Coast DATE: 5/11/22

VAUGHN, COAST & VAUGHN, INC.
Engineers
154 South Marietta Street
St. Clairsville, Ohio 43950
740-695-7256 Fax: 740-695-2203



PROJECT LOCATION MAP



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NO.	DATE	REVISION	
1	11/9/22	ADDED THIS DRAWING FOR HYDRAULIC PROFILES	dms
2	5/30/23	REVISED HYDRAULIC PROFILES	dms
3	10/6/23	REVISED NOTES	dms

DRAWN BY:
DAVID STEWART
CHECKED BY:
MORGAN K. COAST

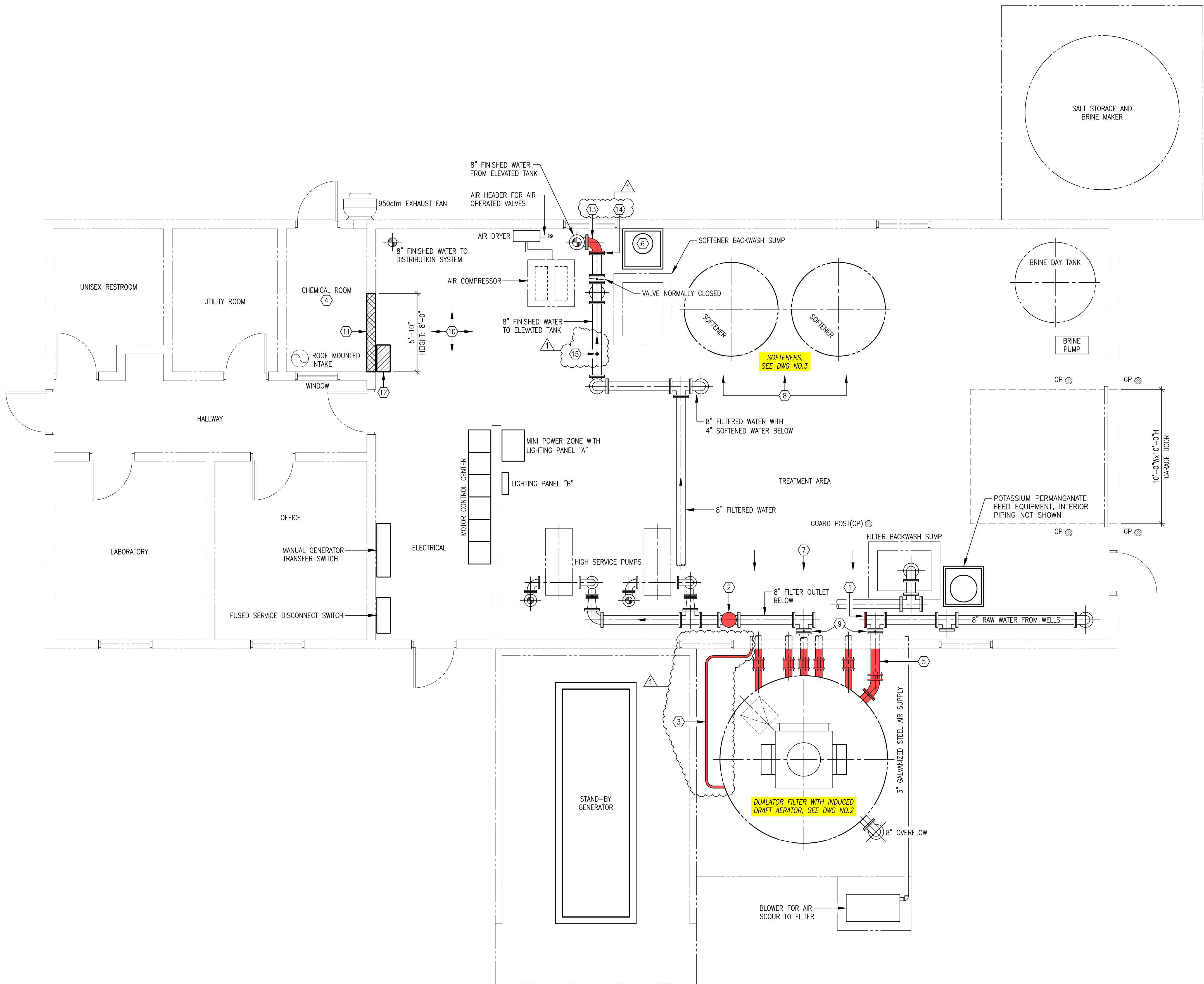
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VILLAGE OF FRAZEYSBURG
- Water Treatment Plant Improvements -
Muskingum County, Ohio

HYDRAULIC PROFILES

SCALE: AS SHOWN
DATE: NOVEMBER 2022
PROJECT NO. -
DRAWING NO. Br

V:\Autocad\Projects\Frazeysburg\2022 Water Plant Improvements\01_Consulting\Drawings\DWG\106-2022-35-466 PM, AutoCAD PLOT High Quality Print.pcl, 1/25/22

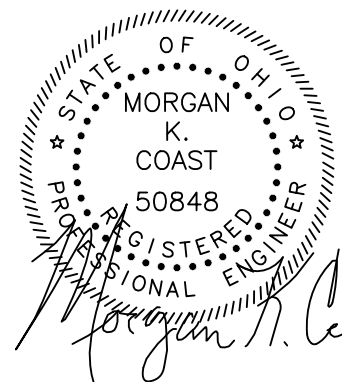


KEY NOTES THIS DWG:

- TEE WITH BLIND FLANGE, REMOVE BLIND FLANGE AND CONNECT TEMPORARY TREATMENT SYSTEM INFLUENT, SEE MODIFIED PLAN DWG NO.4
- TEE WITH BLIND FLANGE, REMOVE BLIND FLANGE, ROTATE TEE AND CONNECT TEMPORARY TREATMENT SYSTEM EFFLUENT, SEE MODIFIED PLAN DWG NO.4
- 1/2" SCHD 80 PVC POTASSIUM PERMANGANATE FEED PIPING AT EXTERIOR TO BE REMOVED AND REPLACED WITH NEW, SEE MODIFIED PLAN DWG NO.4
- CHEMICAL FEED ROOM (NOT IN USE), PIPING AND ASSOCIATED ELECTRICAL TO BE REMOVED BY OWNER. TO BE MODIFIED FOR SODIUM HYPOCHLORITE FEED, SEE MODIFIED PLAN DWG NO.4
- A. EXTERIOR PIPING BETWEEN FILTER AND WALL HAVE HEAT TRACING AND INSULATION WITH PROTECTIVE JACKETING AS SHOWN WITH SHADING, TYP. 12 PLACES.
B. HEAT TRACING AND INSULATION WITH PROTECTIVE JACKETING SHALL BE REMOVED AND REPLACED WITH NEW.
- SODIUM HYPOCHLORITE FEED EQUIPMENT, PIPING AND ASSOCIATED ELECTRICAL TO BE REMOVED BY OWNER.
- SEE DUALATOR FILTER PIPING PHOTOS NO.4 AND 5, DWG NO.2
- SEE SOFTENER PIPING PHOTO NO.6, DWG NO.3
- VALVE TO BE CLOSED DURING WORK ON DUALATOR FILTER
- CHEMICAL FEED ROOM ADDITION TO BE CONSTRUCTED IN THIS AREA, SEE MODIFIED PLAN DWG NO.4
- REMOVE BLOCK WALL FOR NEW PRECAST CONCRETE LINTEL AND WALL OPENING TO ROOM ADDITION, SEE MODIFIED PLAN DWG NO.4
- REMOVE BOOSTER PUMP CONTROL PANEL AND ASSOCIATED ELECTRICAL.
- ROTATE 90° ELBOW UP AND CONNECT TEMPORARY TREATMENT SYSTEM BACKWASH SUPPLY, SEE MODIFIED PLAN DWG NO.4
- INSTALL BLIND FLANGE, SEE MODIFIED PLAN DWG NO.4.
- REMOVE CHLORINE FEED TAP(NOT IN USE) AND INSTALL NEW TAP FOR SODIUM HYPOCHLORITE FEED, SEE MODIFIED PLAN DWG NO.4

EXISTING PLAN

1/4"=1'-0" (22'x34")
1/8"=1'-0" (11'x17")



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NO.	DATE	REVISION
1	5/30/23	REVISED KEY NOTES, ADDED POTASSIUM PERMANGANATE FEED PIPING AT EXTERIOR, ROTATED 90° ELBOW UP AND INSTALLED BLIND FLANGE

DRAWN BY:	DAVID STEWART
CHECKED BY:	MORGAN K. COAST



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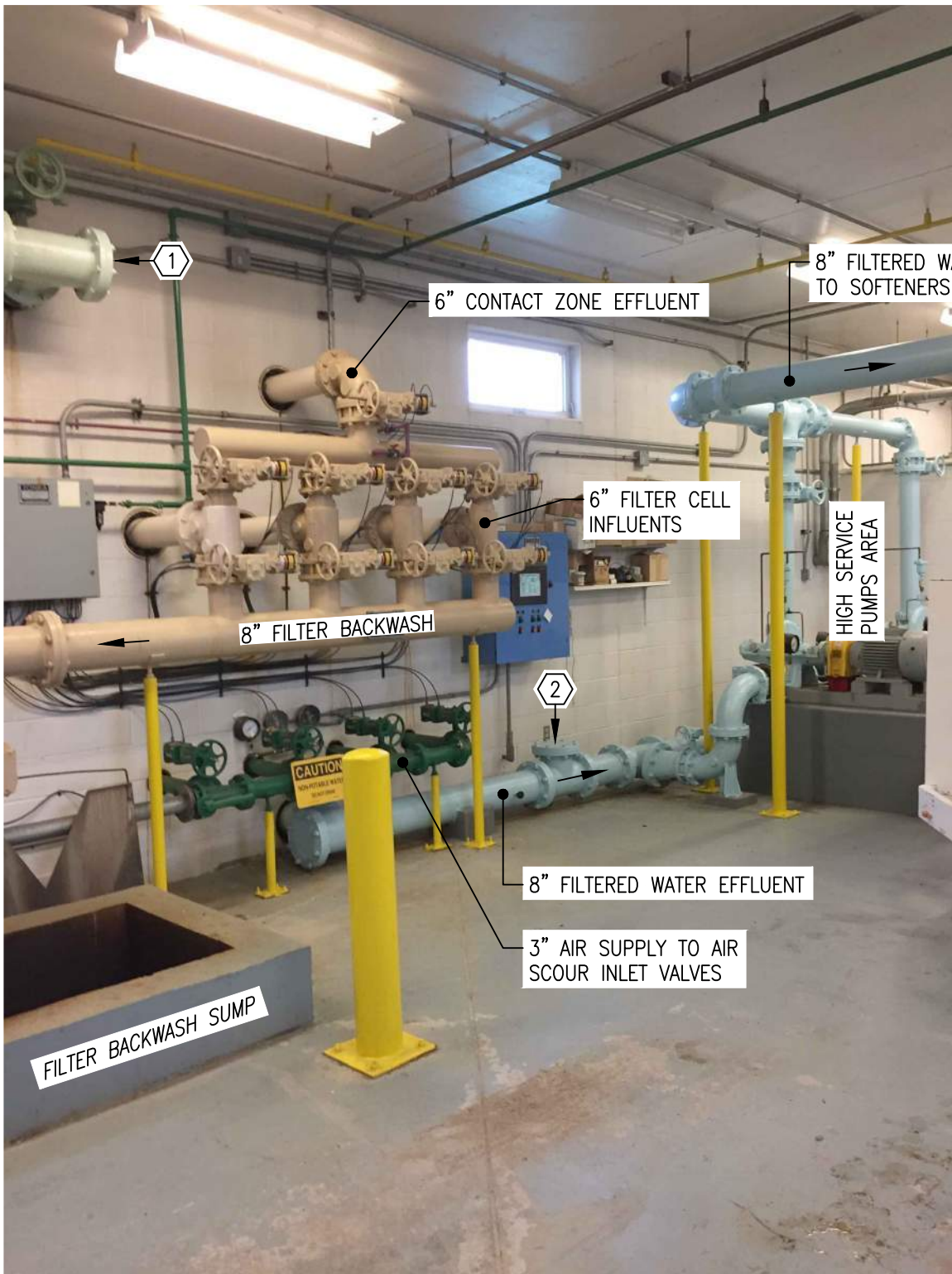
VILLAGE OF FRAZEYSBURG
- Water Treatment Plant Improvements -
Muskingum County, Ohio

EXISTING PLAN

SCALE:	AS SHOWN	PROJECT NO.	-
DATE:	MAY 2022	DRAWING NO.	1r



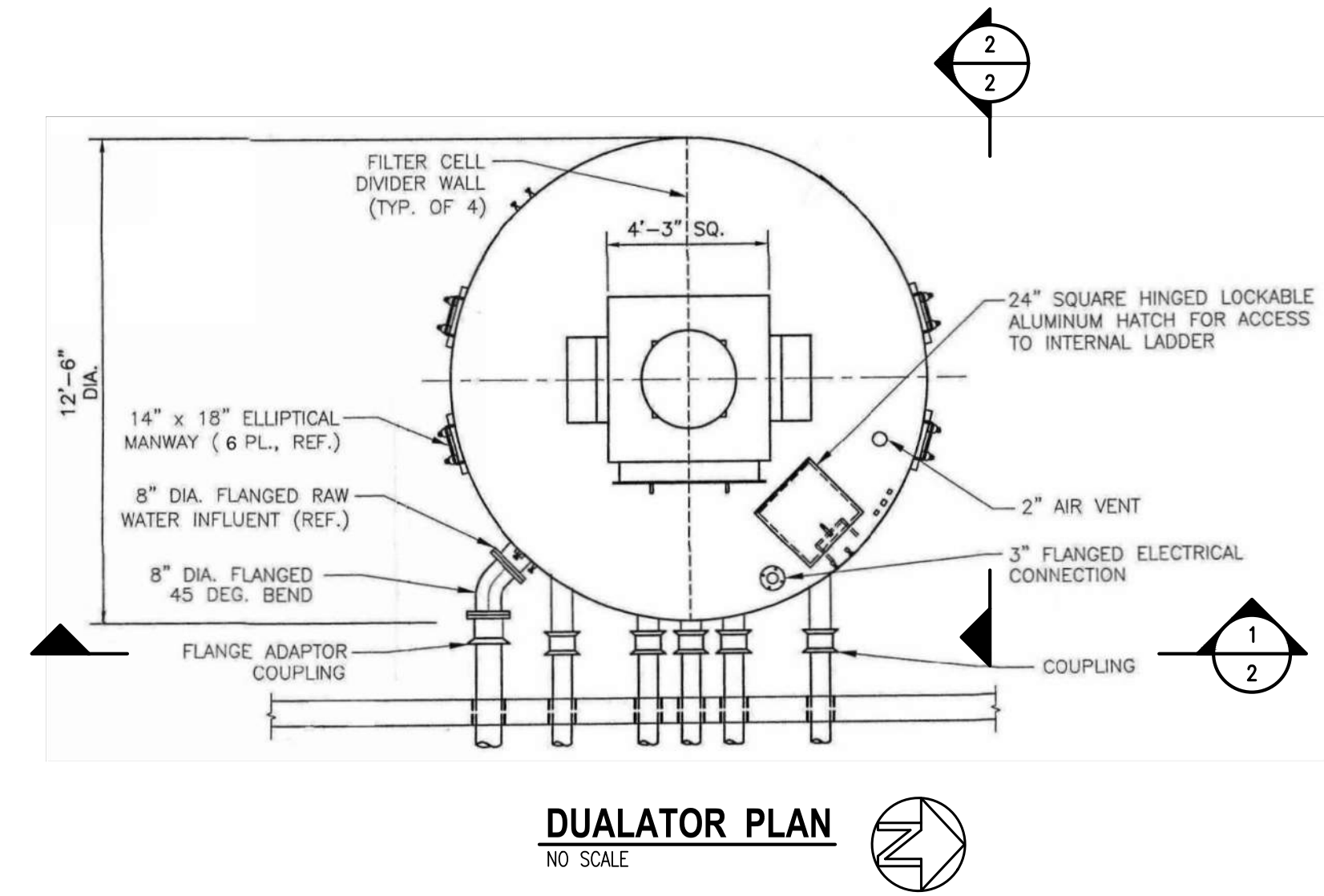
DUALATOR FILTER PIPING PHOTO NO.1
NO SCALE



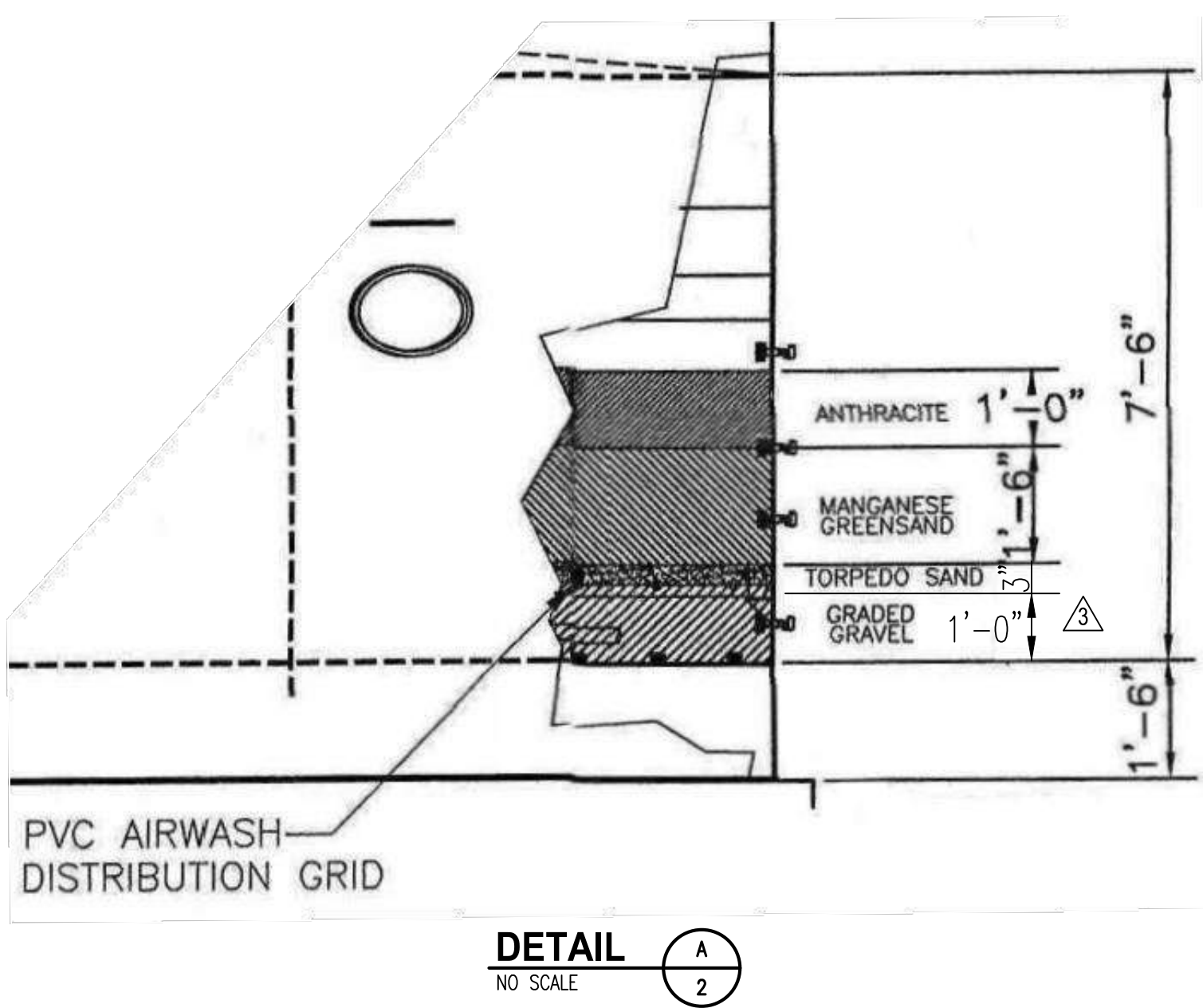
DUALATOR FILTER PIPING PHOTO NO.2
NO SCALE

KEY NOTES FOR PHOTOS THIS DWG:

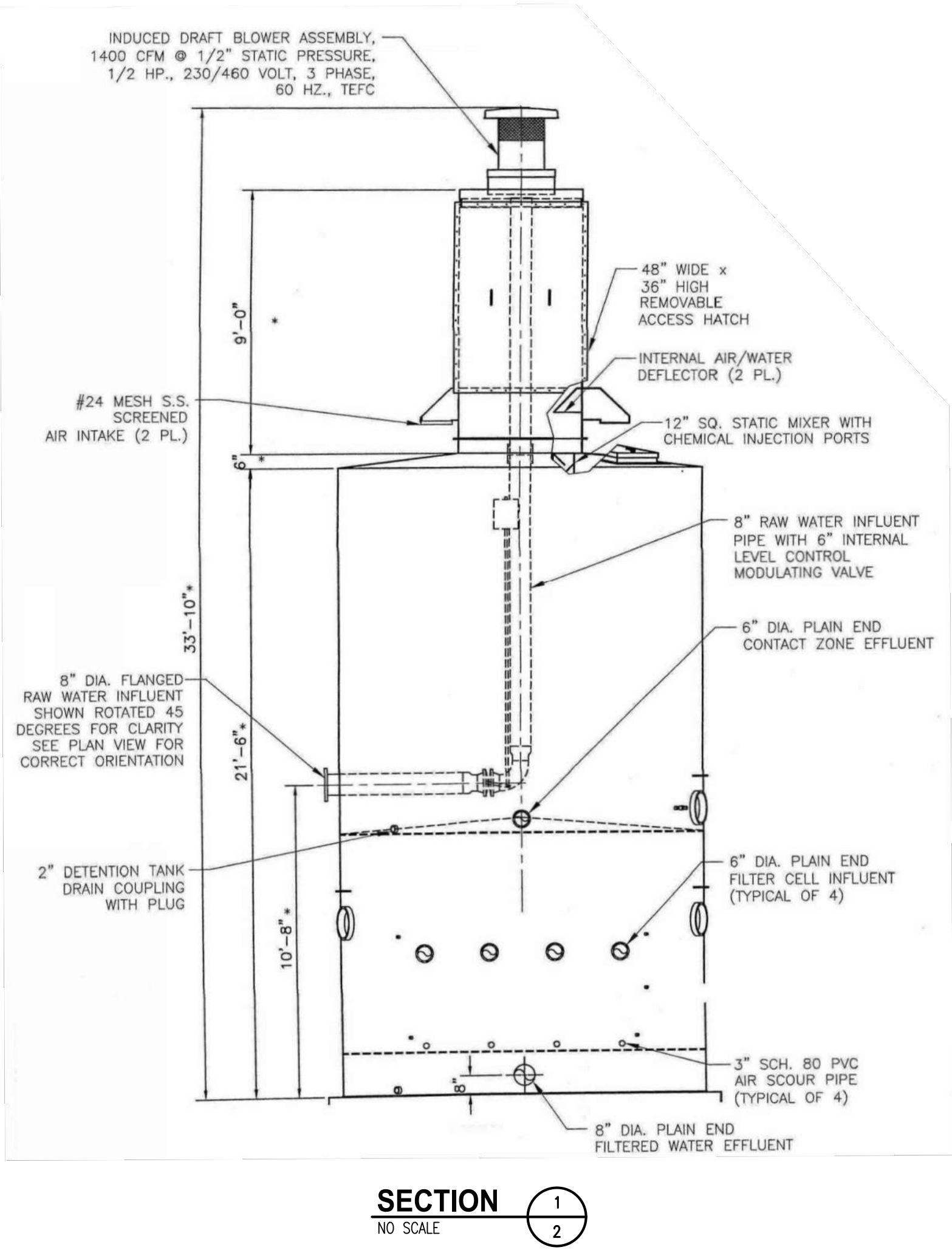
- TEE WITH BLIND FLANGE, REMOVE BLIND FLANGE AND CONNECT TEMPORARY TREATMENT SYSTEM INFLUENT, SEE MODIFIED PLAN DWG NO.4
- TEE WITH BLIND FLANGE, REMOVE BLIND FLANGE, ROTATE TEE AND CONNECT TEMPORARY TREATMENT SYSTEM EFFLUENT, SEE MODIFIED PLAN DWG NO.4
- POTASSIUM PERMANGANATE FEED EQUIPMENT TO REMAIN.



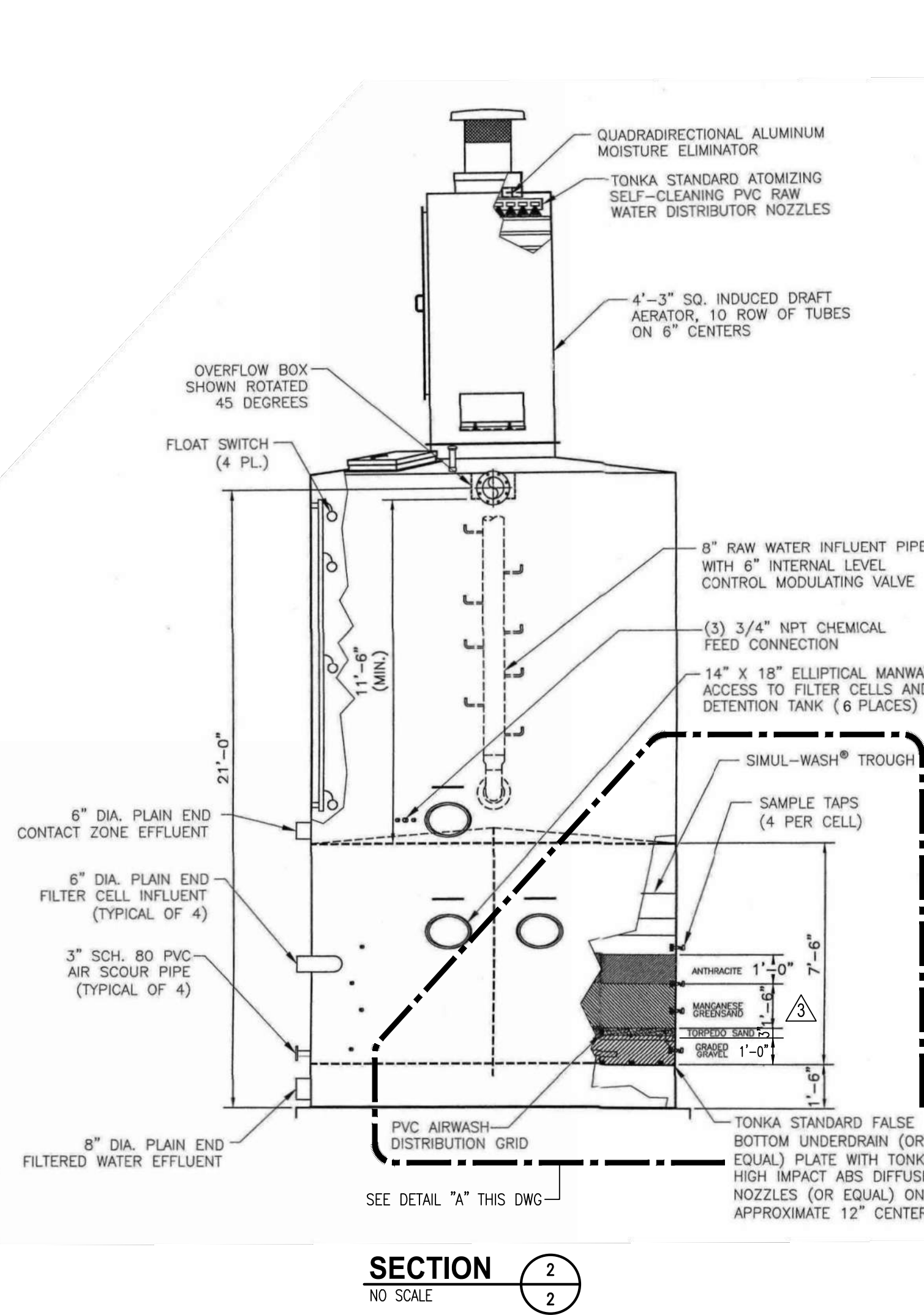
DUALATOR PLAN
NO SCALE



DETAIL A
NO SCALE



SECTION 1
NO SCALE



SECTION 2
NO SCALE

MEDIA SPECIFICATIONS

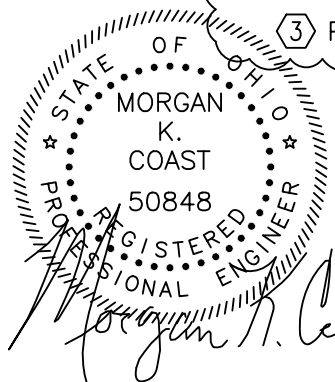
- Iron and Manganese Removal Filters – Dualator
 - Anthracite, torpedo sand and support gravel to meet AWWA B100 Standards
 - Anthracite – filter anthracite be 12 inches in depth with an effective size of 0.8 mm to 1.2 mm with a uniformity coefficient 1.7
 - Torpedo Sand – 3-inch layer having an effective size of 0.8 mm to 2.0 mm and a uniformity coefficient of 1.7
 - Support Gravel – 12 inches of support gravel consisting of four layers of gravel provided in accordance with the following size and depth distribution.

Size (inches)	Depth (inches)
3/16 to 3/32	2 to 3
1/2 to 3/16	2 to 3
3/4 to 1/2	3 to 5
1.5 to 3/4	3 to 5

- Greensand Plus Filter Media to be 18" in depth, effective size 0.30 mm to 0.35 mm, with uniformity coefficient of less than 1.6
- Installation of filter media to be in accordance with AWWA B102 Manganese Greensand for filters.

DUALATOR FILTER NOTES:

- FILTER MEDIA, AIR WASH DISTRIBUTION GRID AND UNDERDRAIN NOZZLES ARE TO BE REPLACED.
- THE EXTERIOR OF THE CARBON STEEL TANK AND INTERIOR OF TANK ABOVE FILTERS ARE TO BE SANDBLASTED AND PAINTED.
- POTASSIUM PERMANGANATE FEED LINE AT EXTERIOR NOT SHOWN, SHALL BE REMOVED AND REPLACED WITH NEW, SEE DWG NO.4
- EXTERIOR PIPING INSULATION AND HEAT TRACE ARE TO BE REPLACED.
- REFER TO SPECIFICATIONS FOR MEDIA REPLACEMENT AND DETAILS.



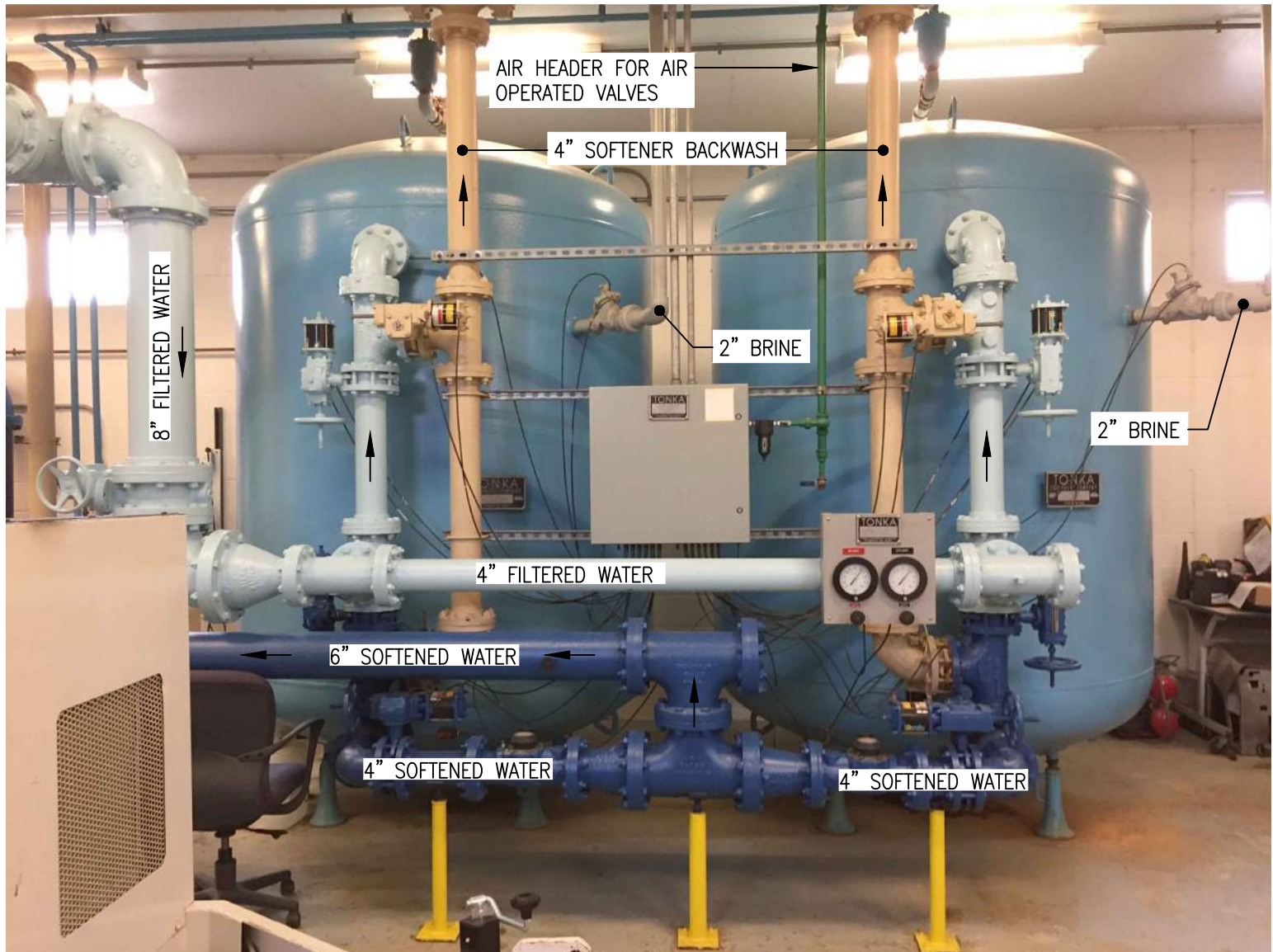
NO.	DATE	REVISION	DRAWN BY:
4	11/20/23	REVISED MEDIA SPECIFICATIONS	DAVID STEWART
			CHECKED BY:
			MORGAN K. COAST



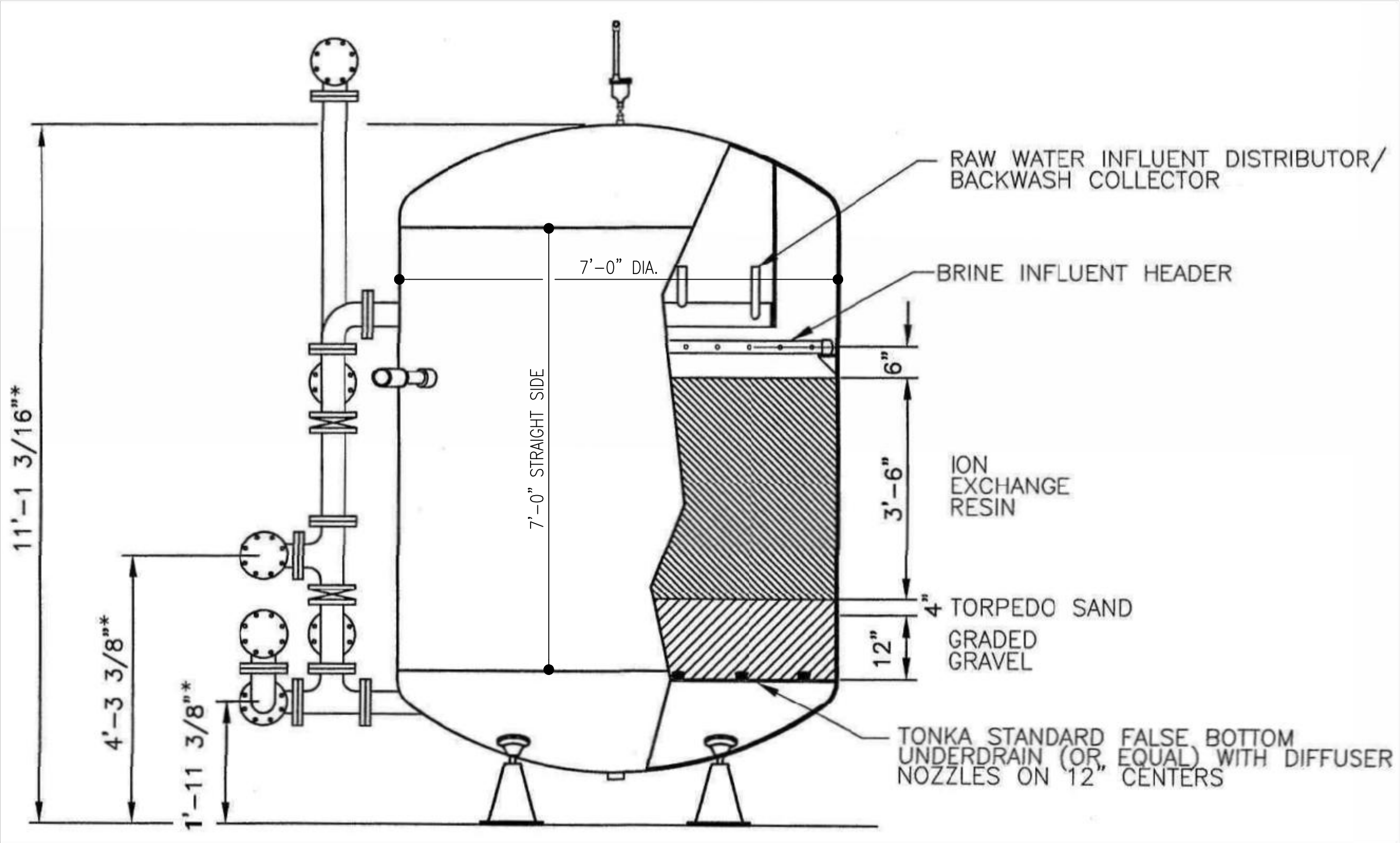
VILLAGE OF FRAZEYSBURG
- Water Treatment Plant Improvements -
Muskingum County, Ohio

EXISTING DUALATOR FILTER
PIPING PHOTOS, PLAN, SECTIONS AND DETAIL

SCALE:	AS SHOWN	PROJECT NO.	-
DATE:	MAY 2022	DRAWING NO.	2r



SOFTENERS PIPING PHOTO
NO SCALE



SOFTENER DETAIL
NO SCALE TYP. OF TWO

SOFTENER NOTES:

1. BRINE INFLUENT HEADER, UNDERDRAIN NOZZLES, ION EXCHANGE RESIN, SAND AND GRAVEL ARE TO BE REPLACED.
2. REFER TO SPECIFICATIONS FOR DETAILS.

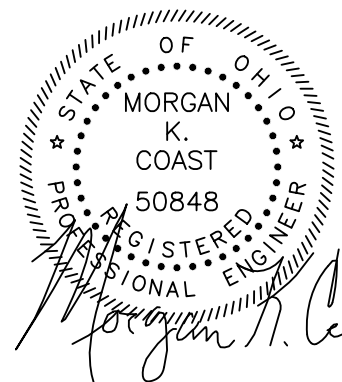
MEDIA SPECIFICATIONS

Softeners

- a. Support Gravel – 12 inches of support gravel consisting of four layers of gravel provided in accordance with the size and depth distribution in table below.

Size (inches)	Depth (inches)
3/16 to 3/32	2 to 3
1/2 to 3/16	2 to 3
3/4 to 1/2	3 to 5
1.5 to 3/4	3 to 5

- b. Torpedo sand - 4-inch layer having an effective size of 0.8 mm to 2.0 mm and a uniformity coefficient of 1.7
- c. Ion Exchange Resin to be 42 inches in depth.



NO.	DATE	REVISION
1	11/9/22	ADDED SOFTENER NOTES dms
2	10/6/23	ADDED MEDIA SPECIFICATIONS dms

DRAWN BY:
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**EXISTING SOFTENERS
PIPING PHOTO AND DETAIL**

SCALE:
AS SHOWN

DATE:
MAY 2022

PROJECT NO.
-

DRAWING NO.
3r