



BOARD OF COUNTY COMMISSIONERS

WARREN COUNTY, OHIO

406 Justice Drive, Lebanon, Ohio 45036

www.co.warren.oh.us

commissioners@co.warren.oh.us

Telephone (513) 695-1250

Facsimile (513) 695-2054

TOM GROSSMANN

SHANNON JONES

DAVID G. YOUNG

APPROVE ENGINEERING AGREEMENT WITH THE JACOBS ENGINEERING GROUP FOR THE DESIGN OF IMPROVEMENTS TO THE WAYNESVILLE REGIONAL WWTP

WHEREAS, this Board of County Commissioners (the "Board") of the County of Warren, Ohio (the "County") recognizing the need to perform improvements to the Waynesville Regional Wastewater Treatment Plant, directed the Warren County Water and Sewer Department to procure the services of a qualified engineering firm to assist with the aforesated improvements; and

WHEREAS, the Jacobs Engineering Group, Inc. was selected for this project in accordance with applicable state procurement regulations (Ohio Revised Code, §§ 153.66 through 153.69); and

NOW THEREFORE BE IT RESOLVED, to enter into an Agreement with Jacobs Engineering Group, Inc., for engineering services for the above referenced project, subject to the following conditions:

1. The scope of services shall be as stipulated in the "Engineering Agreement" attached hereto and made part thereof.
2. Compensation shall be in accordance with the provisions of the "Engineering Agreement" and the attachment thereto.

Mr. Young moved for adoption of the foregoing resolution being seconded by Mrs. Jones. Upon call of the roll, the following vote resulted:

Mr. Grossmann – yea

Mrs. Jones – yea

Mr. Young – yea

Resolution adopted this 14th day of March 2017.

BOARD OF COUNTY COMMISSIONERS

Tina Osborne, Clerk

cc: c/a – Jacobs Engineering Group
Water/Sewer (file)
Project file



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Mr. Young moved for adoption of the foregoing resolution being seconded by Mrs. Jones. Upon call of the roll, the following vote resulted:

Mr. Grossmann – yea

Mrs. Jones – yea

Mr. Young – yea

Resolution adopted this 14th day of March 2017.

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TOM GROSSMANN

SHANNON JONES

DAVID G. YOUNG

SELECTION OF AN ENGINEERING FIRM FOR THE WAYNESVILLE REGIONAL WASTEWATER TREATMENT PLANT UPGRADES PROJECT

WHEREAS, this Board of County Commissioners (the "Board") of the County of Warren, Ohio (the "County"), recognizing the need to construct improvements to the Waynesville Regional Wastewater Treatment Plant, directed the Warren County Water and Sewer Department on February 9, 2016, through Resolution 16-0221, to issue a Request for Qualifications for aforesated improvements; and

WHEREAS, Section 153.65-71 of the Ohio Revised Code identifies the requirements and procedures for procuring the services of a consulting engineering firm for the development of detailed plans, specifications, and bid documents for the aforesated project; and

WHEREAS, nine qualification submittals from engineering consulting companies were received, reviewed and evaluated by the Warren County Water and Sewer Department with the results of the review provided to the Board during the October 10, 2016 work session; and

WHEREAS, on October 25, 2016 this Board interviewed the top three ranked engineering firms; and

NOW THEREFORE BE IT RESOLVED, to direct the Water and Sewer Department to initiate negotiations with Jacob Engineering Group, Inc. for the respective engineering services.

Mr. Grossmann moved for adoption of the foregoing resolution being seconded by Mr. Young. Upon call of the roll, the following vote resulted:

Mrs. South – absent
Mr. Young – yea
Mr. Grossmann – yea

Resolution adopted this 25th day of October 2016.

BOARD OF COUNTY COMMISSIONERS

Tina Osborne, Clerk

cc: Water/Sewer (file)
Project File

PUBLIC ANNOUNCEMENT

WARREN COUNTY WATER & SEWER

Request for Qualifications - Consultant Engineering Services Waynesville Regional Wastewater Treatment Plant Upgrades

July 2016

The Warren County Board of Commissioners will procure the services of a consulting engineering firm to study, prepare and develop detailed construction drawings and specifications for process improvements to the County's Waynesville Regional Wastewater Treatment Plant (Waynesville Regional) that serves customers in the Villages of Waynesville, Corwin, and Harveysburg, unincorporated areas of Wayne Township, and unincorporated areas of Massie Township including Caesar Creek State Park.

This project includes the design, bidding, and construction services for a new preliminary treatment mechanical screen, new ultraviolet disinfection system, aeration improvements to the sludge holding and digestion tank, and the design of a new supervisory control and data acquisition system.

Consulting engineering firms are invited to submit their qualifications for consideration during our review and selection process. Project background, description of required services, and project schedule are as follows.

BACKGROUND

Waynesville Regional is located at 444 North State Route 42, Waynesville, Ohio and has an Ohio EPA approved design rated flow of 0.7 million gallons per day (mgd). The facility is located along the Little Miami River as shown in **FIGURE 1**. The average daily flow at the facility is approximately 0.5 mgd but experiences peak hourly flows as high as 3.7 mgd. The last upgrades to the treatment plant were completed in 1999. The treatment process consists of influent pumping, screening, grit & grease removal, Schrieber activated sludge aeration and clarification, chlorine disinfection, and post aeration. A flow schematic illustrating the treatment process is included in **FIGURE 2**.

INFLUENT MECHANICAL BAR SCREEN

As part of the 1999 upgrades, a new preliminary treatment facility was constructed with a mechanically cleaned bar screen, bypass channel containing a manually cleaned bar rack, and grit and grease removal equipment. The treatment process was designed per and installed with Schrieber, Inc. equipment. The mechanical bar screen is equipped with 5/8-inch spacing between bars and is mounted in an 18-inch wide by 42-inch deep channel. The equipment is rated for a peak hourly flow of 3.7 mgd. Collected screenings drop through a chute to a hand cart dumpster at grade. The screen is located outdoors on the upper deck of the preliminary treatment facility and is not equipped with a protective weather covering.

While in operation, the screen performed poorly. The mechanical screen is no longer operable and the County has chosen to abandon the equipment due to the frequent maintenance needs and unreliability operation. Screening is currently accomplished at the facility using the manually cleaned bar racks.

DISINFECTION FACILITY

Disinfection of the secondary clarifier effluent is accomplished in a three-pass, serpentine, chlorine contact tank designed with a detention period of 36.5 minutes at 2.3 mgd flow. Each channel pass is 6-foot wide with a sidewall depth of 11.5 feet and water depth of approximately 10-feet. Disinfection is accomplished using chlorine gas stored in the existing Control Building. Chlorine solution is fed to the chlorine contact tank through a 1.5 inch diameter PVC schedule 80 pipe where it is injected through a PVC diffuser pipe equipped with 5/8-inch diameter orifices.

Dechlorination is accomplished at the end of the chlorine tank using sodium bisulfate. This solution is also fed through a 1.5-inch PVC schedule 80 pipe and injected through a PVC diffuser assembly.

Water from the contact tank is discharged through a 20-inch line to a control structure that measures the effluent flow through a v-notch weir. Once the flow is measured the water is aerated through a series of cascades before making its way to the Little Miami River.

SLUDGE HOLDING TANK

The Waynesville facility stores, aerates, and thickens waste activated sludge in two tanks that were constructed in 1981 for primary settling and flow equalization. These tanks were retrofitted in 1999 to be equipped with blower and fine bubble diffusers. Each tank is 60' long x 16' wide x 12' side water depth with a capacity of 86,000 gallons and a combined storage of 172,000 gallons. The tanks are equipped with three positive displacement blowers (345 scfm) and telescoping valves that are used to decant the supernatant allowing the County to produce biosolids with approximately 5% solids content.

The County stabilizes its biosolids prior to land application using lime that is stored in a 12-foot diameter, 33-foot high silo. The lime stabilization process reduces odors and pathogen levels by raising the pH level above 12 for a minimum of 120 minutes. This process meets the Federal 503 disposal guidelines. The lime stabilization process occurs in the Spiragester tank that was constructed in 1961. The stabilization tank is a conical bottomed tank that is 26-feet in diameter with a 36-foot side wall depth, holding approximately 140,000 gallons of biosolids. When it was originally constructed, the Spiragester provided primary treatment with anaerobic digestion of the settled solids beneath the primary settling tank. This tank was retrofitted in 1981 to serve as a solids holding and lime stabilization. The steel weirs, skirts, and supports were removed from the tank and a submersible pump was installed in its center to aid in mixing and sludge loading. The tank is not equipped with aeration, therefore the stored biosolids go anaerobic making additional thickening and decanting of the tank difficult.

All Additional Figures depicting existing processes can be found in the Appendix.

REQUIRED SERVICES

Influent Mechanical Bar Screen The Consultant shall evaluate and design fine screening (3 mm or 0.12 inches) facilities at the existing headworks. The fine screening will reduce operational problems associated with storm flow events, provide a sludge that is free of debris, and reduce the wear and tear on mechanical equipment including pumps and aerators. Working within the physical constraints of the existing headwork structure, the Consultant shall design a new screening installation with the following goals:

- Reuse the existing physical facility and design necessary structural modifications including, but not limited to, removal of divider walls, raising/lowering of channels, construction of overflow or screen bypass channels, or the installation of cantilevered steel structures.
- Installation of a self cleaning screen that discharges collected debris to a centralized dumpster or hand cart located at the ground elevation.
- Screen shall be easily removable from the channel for maintenance purposes.
- Maximize the capacity of the screen with the goal of handling a peak flow of over 5.0 mgd.
- The facility shall be equipped with a manually cleaned bypass screen or a passive hydraulic bypass channel that diverts flow to the grit channel should the unit fail or the screen becomes blinded with debris.
- Design a removable cover for cost effective cold weather protection.
- Equipment failure and high level alarms shall provide both local and remote SCADA notification to operators.
- All electrical equipment and controls to be moved to upper level in close proximity to new screen.

UV Disinfection Facility The Consultant shall design ultraviolet (UV) disinfection of the secondary effluent to replace the existing chlorine contact disinfection process. The new disinfection facility shall be designed with the following goals:

- Retrofit and reuse the existing chlorine contact basin structure to house the UV equipment.

- Evaluate different UV disinfection systems including low-pressure and medium-pressure mercury arc lamp systems with low or high intensities.
- UV system shall be designed for average and peak day flows allowing multiple bulbs or banks of lamps to be activated and deactivated based on treatment plant flow.
- Design a control weir to regulate the water level within the UV reactor area.
- Facility shall be equipped with a jib crane and motorized hoist to remove the UV modules.

Sludge Holding Tank The Consultant shall design an aeration system for the Spiragester/Lime Stabilization tank. The aeration improvements shall be designed with the following goals:

- Coarse air bubble diffusers shall be installed along the circumference of the bottom of the tank and shall be of sufficient numbers to provide complete mixing of the entire tank.
- The air piping shall be PVC for submerged areas and stainless steel for nonsubmerged locations.
- Consultant shall evaluate the ability to reuse the three existing 30 hp Hoffman centrifugal blowers, piping, and valves located on the first floor of the Control Building that was constructed as part of the 1969 contact stabilization improvements.

Supervisory Control & Data Acquisition The treatment plant is not equipped with a functional SCADA system. Equipment is operated from localized control panels with very few alarm features. Monitoring and tracking of equipment and instrumentation is typically performed manually by the operators during plant inspections. Alarm callouts, process and equipment monitoring, and equipment operation will be more effective with the implementation of a SCADA system. The Consultant shall design a SCADA system for the treatment plant with the following goals.

- The system shall conform to Warren County Standards and shall allow remote monitoring using VTScada software by Trihedral. Applications engineering and software programming shall be performed by the County.
- Remote monitoring of the treatment plant shall be accomplished from the Administration/Laboratory building.
- The system shall monitor equipment status and sensor (flow, pressure, ORP, etc) readings.
- Consultant shall develop detailed process and instrumentation control diagrams that identifies all equipment, sensors, local control panels, programmable logic controllers, and human machine interface (HMI) computers.
- Consultant shall develop wiring and conduit drawings identifying needed runs for control wiring and fiber optic cable
- Consultant shall connect the Waynesville Regional WWTP Scada system to the County's Wastewater Treatment Network, allowing the remote monitoring of the treatment plant from other location using a private security network (PSN).

PROJECT SCHEDULE

County Issues Request for Qualifications	July 21, 2016
Qualifications Due to County	September 30, 2016
Select & Award Engineering Consultant	December 2, 2016
Negotiate Consultant Contract	March 3, 2017
Project Completion	March 2, 2018

Please demonstrate your qualifications to perform the work and your experience with similar projects. Provide a list of five (5) similar projects in last ten (10) years. Submittals shall be limited to twenty (20) pages in length, excluding appendices, resumes, company brochures, and the like.

As required by Ohio Revised Code 153.65-71, responding firms will be evaluated and ranked in order of their qualifications for the project. Following this evaluation, the Warren County Board of Commissioners will enter into contract negotiations with the most highly qualified firm.

To be considered, three sets of Qualifications should be submitted by **5:00 p.m., Friday, September 30, 2016** to:

Chris Brausch, P.E.
Warren County Water and Sewer Department
P.O. Box 530
406 Justice Drive
Lebanon, Ohio 45036
513-695-1377

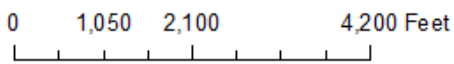
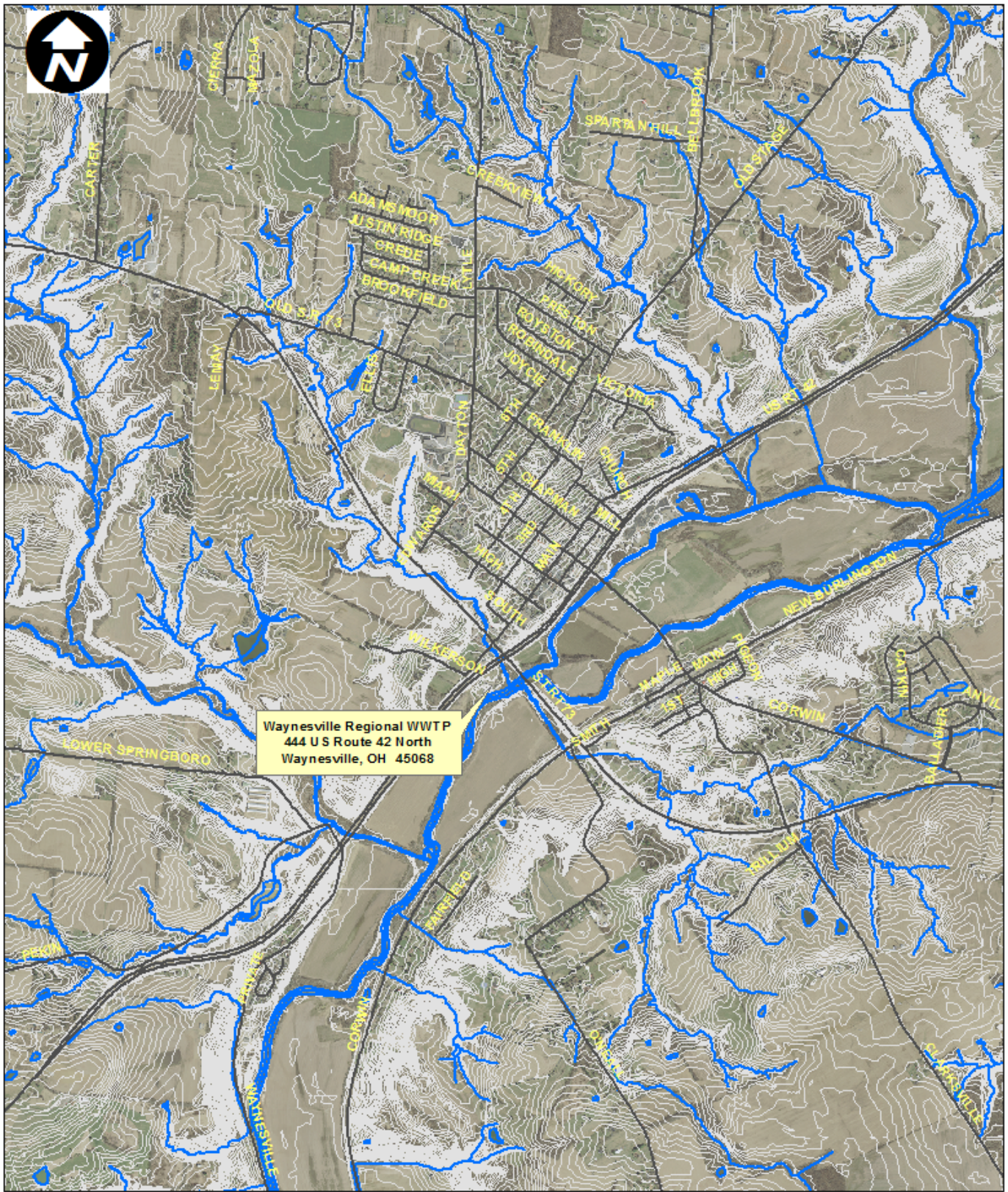
SUBMISSION

The firm's submission shall be in sufficient detail to provide Warren County with the following information:

1. Firm and Individual Qualifications.
 - A. Firms Background – Provide description of firm and years of operation.
 - B. Project Team – Provide a description of the project team organization including an organization chart.
 - C. Project Team Qualifications - Provide qualifications and experience of key project team personnel.
 - D. Firm Qualifications - provide descriptions of a minimum of five similar projects completed within the last ten years. Indicate status of the projects (completed or ongoing), client references, and involvement of proposed project team staff.
 - E. Warren County Experience – provide description of past and current projects performed for the County.
2. Geographic Information.
 - A. Number and location of offices in or near Ohio.
 - B. Location of office where this project will be performed.
3. Capacity to perform the work.
 - A. Size and availability of staff.
 - B. Projects in progress.
4. Project Approach
 - A. Familiarity and Understanding of Project
 - B. Project Approach
 - C. Proposed Scope
 - D. Proposed Schedule
5. Insurance
 - A. Documentation of firm's Professional Liability Insurance Policy.

APPENDIX

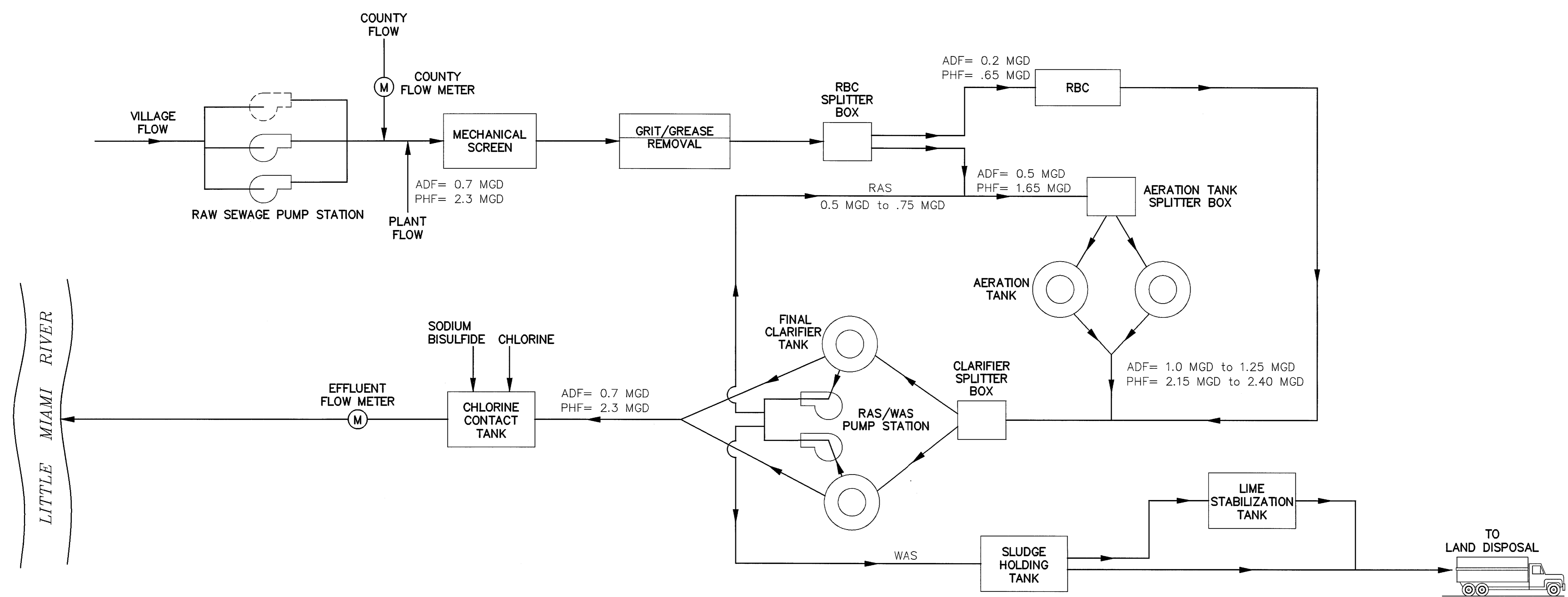
- 1) FIGURE 1 – LOCATION MAP
- 2) FIGURE 2 – TREATMENT PROCESS SCHEMATIC
- 3) FIGURE 3 – HYDRAULIC PROFILE
- 4) FIGURE 4 – EXISTING INFLUENT MECHANICAL BAR SCREEN
- 5) FIGURE 5 – EXISTING CHLORINE CONTACT TANK
- 6) FIGURE 6 – EXISTING AERATION BUILDING
- 7) FIGURE 7 – EXISTING SPIRAGESTER



Waynesville Regional WWTP
NPDES No.: 1PB00032

FIGURE 1 – LOCATION MAP

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ADF_ AVERAGE DAILY FLOW
 PHF_ PEAK HOURLY FLOW
 RAS_ RETURN ACTIVATED SLUDGE
 WAS_ WASTE ACTIVATED SLUDGE

FIGURE 2 - TREATMENT PROCESS SCHEMATIC

NO.	DESCRIPTION	DATE	BY

Dodson Stilson Dodson-Stilson, Inc.
 A DLZ Company
 ENGINEERS • ARCHITECTS • SCIENTISTS

VILLAGE OF WAYNESVILLE, OHIO
 WASTEWATER TREATMENT PLANT
 PHASE 1-IMPROVEMENTS

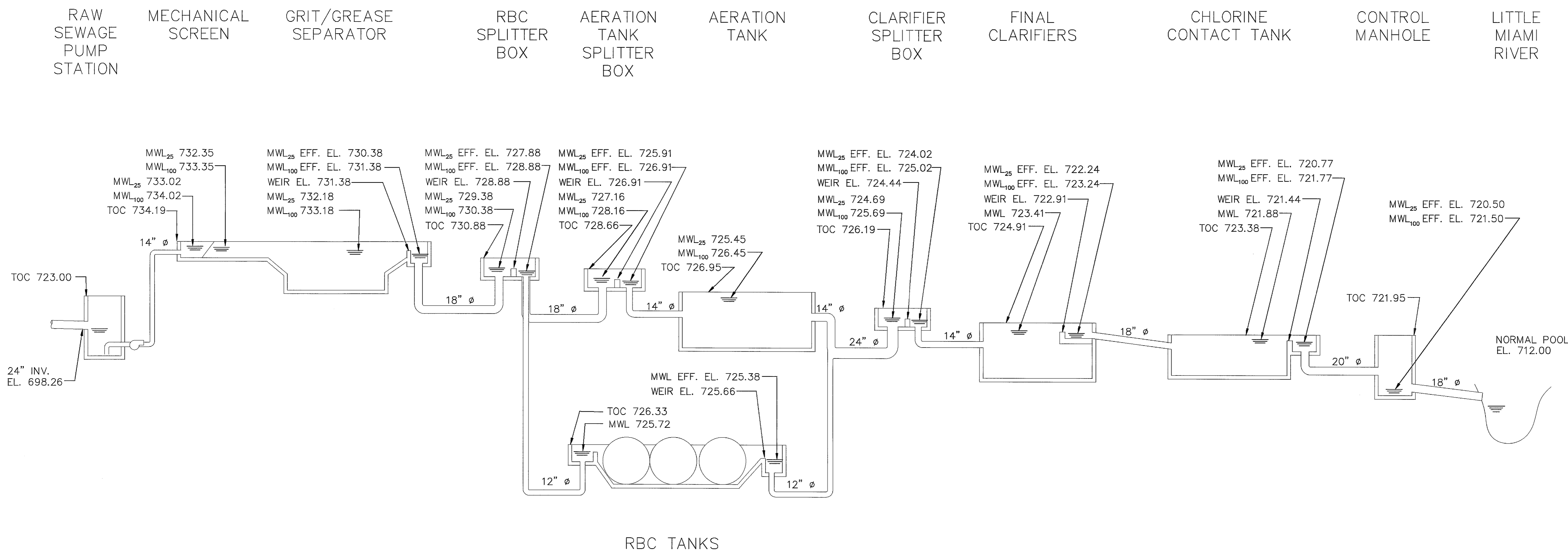
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CHECKED	AG	SHEET	OF
APPROVED	ERH	DRAWING NUMBER	
APPROVED			
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SCALE	N.T.S.		

RECORD DRAWING

G-3

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RBC TANKS

HYDRAULIC PROFILE
SCALE: N.T.S.

FIGURE 3 - HYDRAULIC PROFILE

- LEGEND**
- MWL₂₅ MAXIMUM WATER LEVEL @ 25 YEAR FLOOD (CALCULATED @ 3.7 MGD)
 - MWL₁₀₀ MAXIMUM WATER LEVEL @ 100 YEAR FLOOD (CALCULATED @ 3.7 MGD)
 - EFF. EFFLUENT
 - TOC TOP OF CONCRETE
 - 25 YEAR FLOOD ELEVATION = 720.5
 - 100 YEAR FLOOD ELEVATION = 721.5

RECORD DRAWING

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REVISIONS

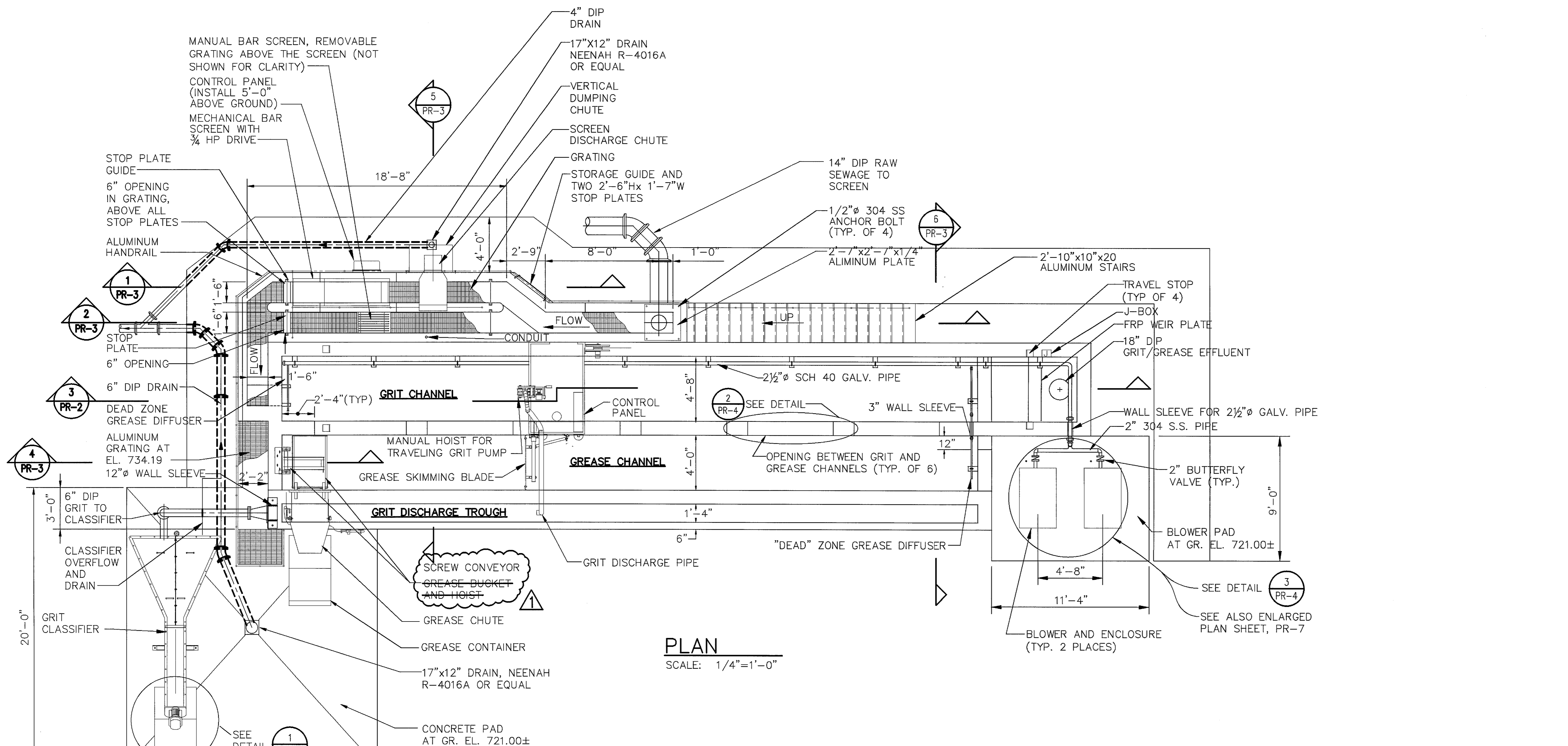
Dodson Stilson Dodson-Stilson, Inc.
A DLZ Company
ENGINEERS • ARCHITECTS • SCIENTISTS

VILLAGE OF WAYNESVILLE, OHIO
WASTEWATER TREATMENT PLANT
IMPROVEMENTS-PHASE 1

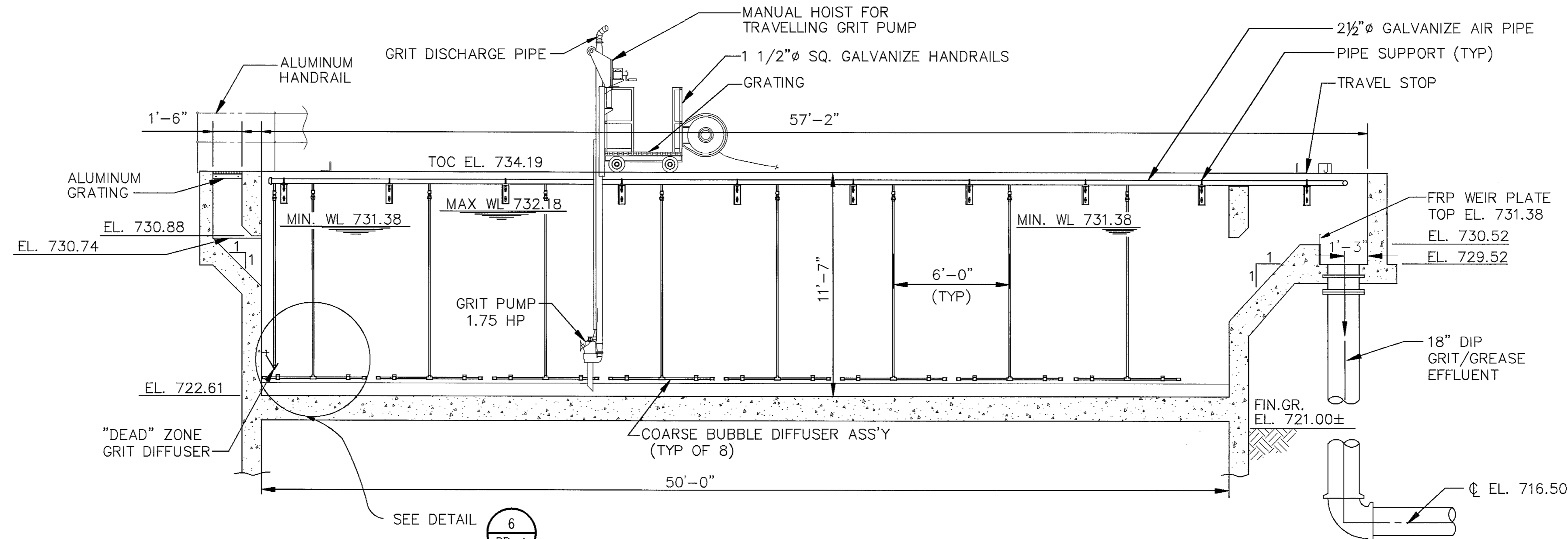
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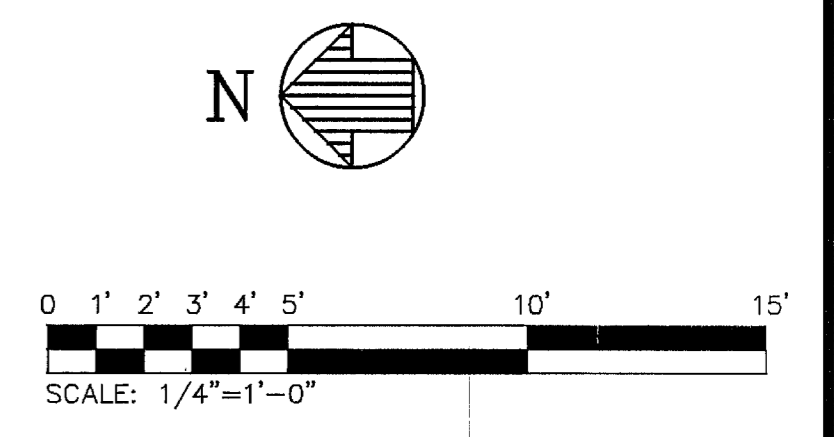
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SECTION
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FIGURE 4 - EXISTING INFLUENT MECHANICAL BAR SCREEN

RECORD DRAWING



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Dodson Stilson **Dodson-Stilson, Inc.**
A DLZ Company
ENGINEERS • ARCHITECTS • SCIENTISTS

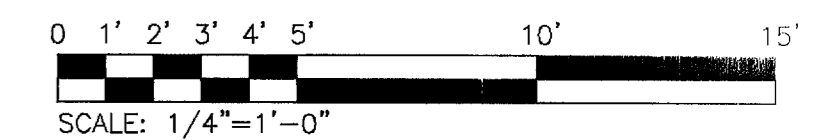
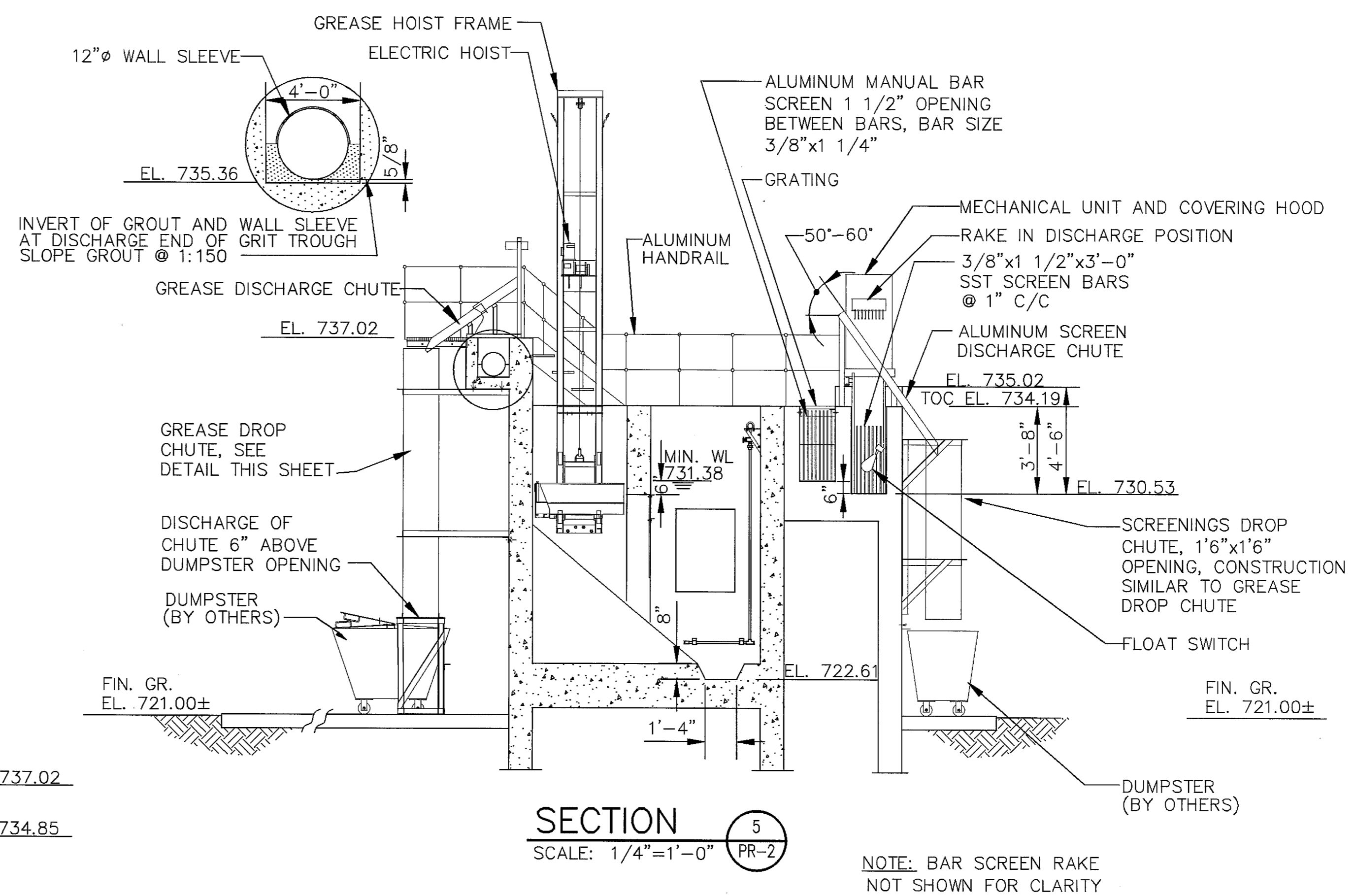
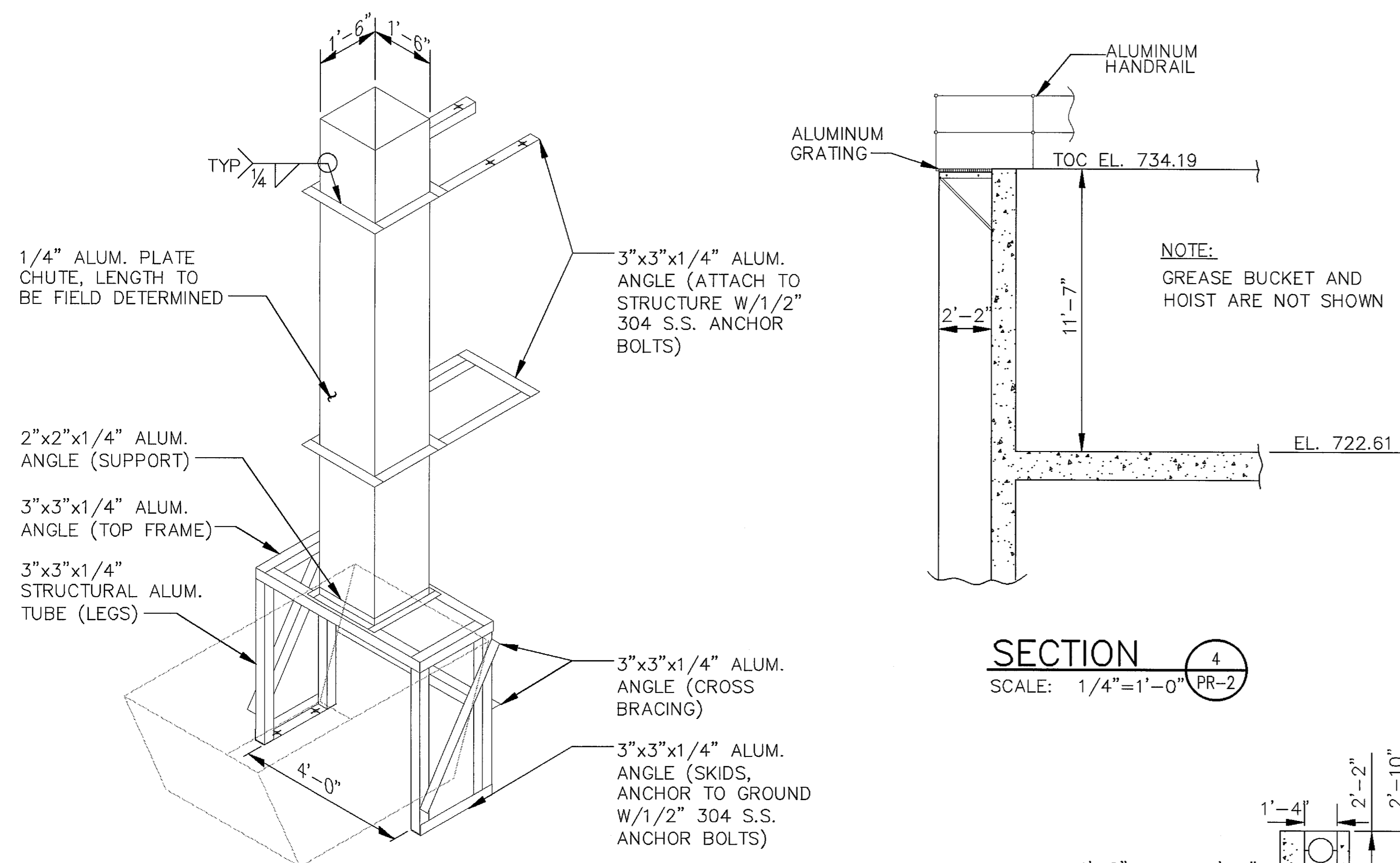
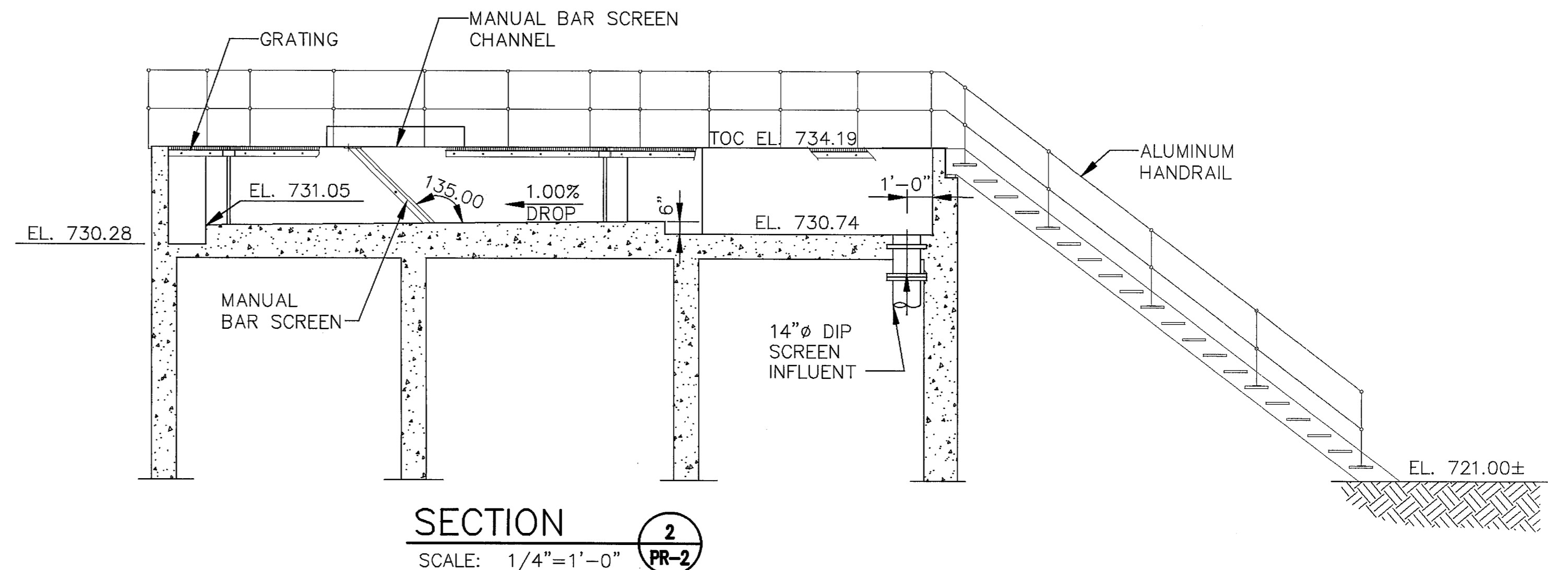
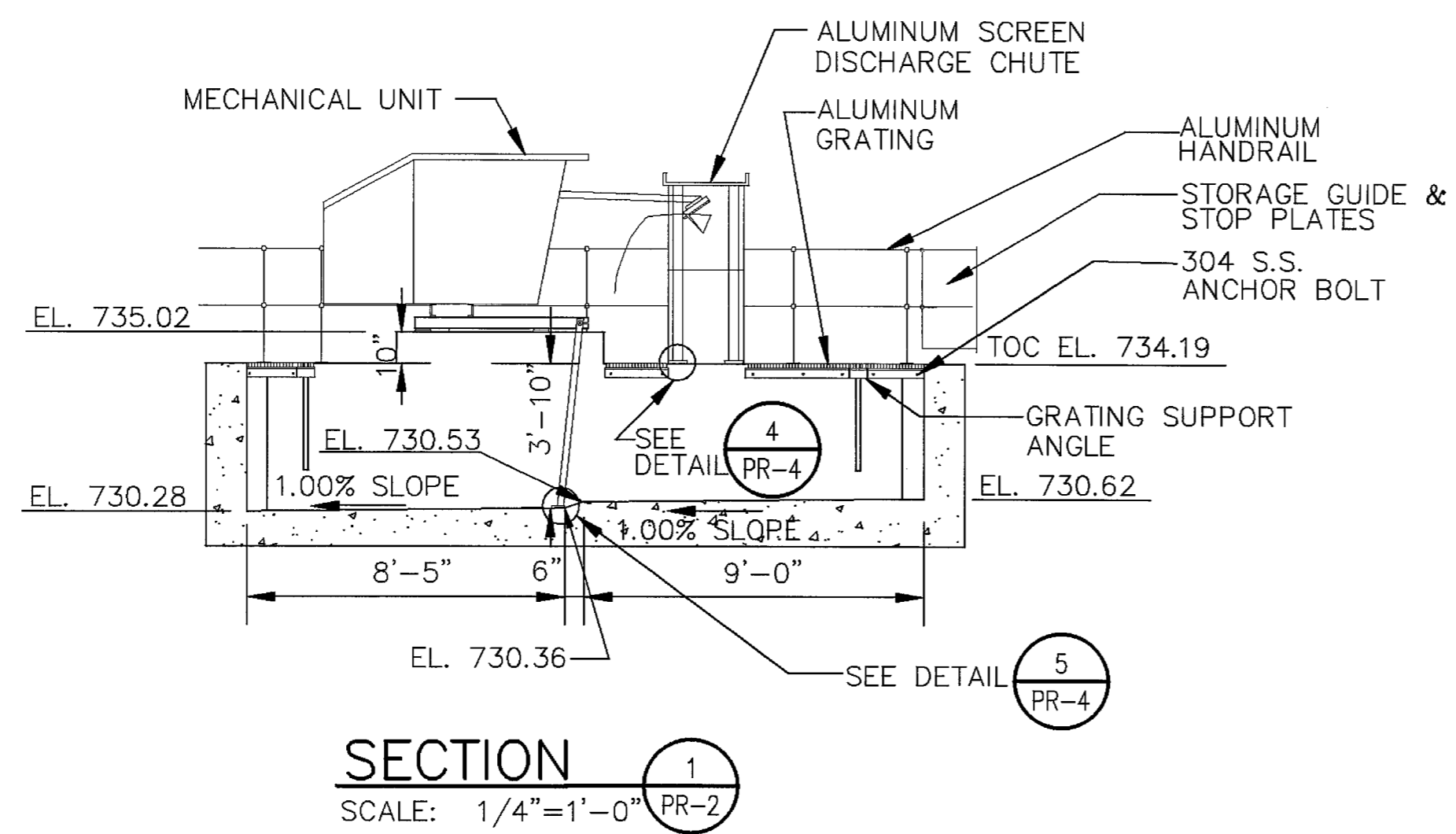
VILLAGE OF WAYNESVILLE, OHIO
WASTEWATER TREATMENT PLANT
IMPROVEMENTS-PHASE 1

**SCREEN AND GRIT/GREASE UNIT
PLAN AND SECTION**

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DESIGNED	SCM	CONTRACT	
CHECKED	AG	SHEET	OF
APPROVED	ERH	DRAWING NUMBER	

DATE **JAN 98**
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PR-2

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NO.	DESCRIPTION	DATE	BY

REVISIONS

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VILLAGE OF WAYNESVILLE, OHIO
WASTEWATER TREATMENT PLANT
IMPROVEMENTS-PHASE 1

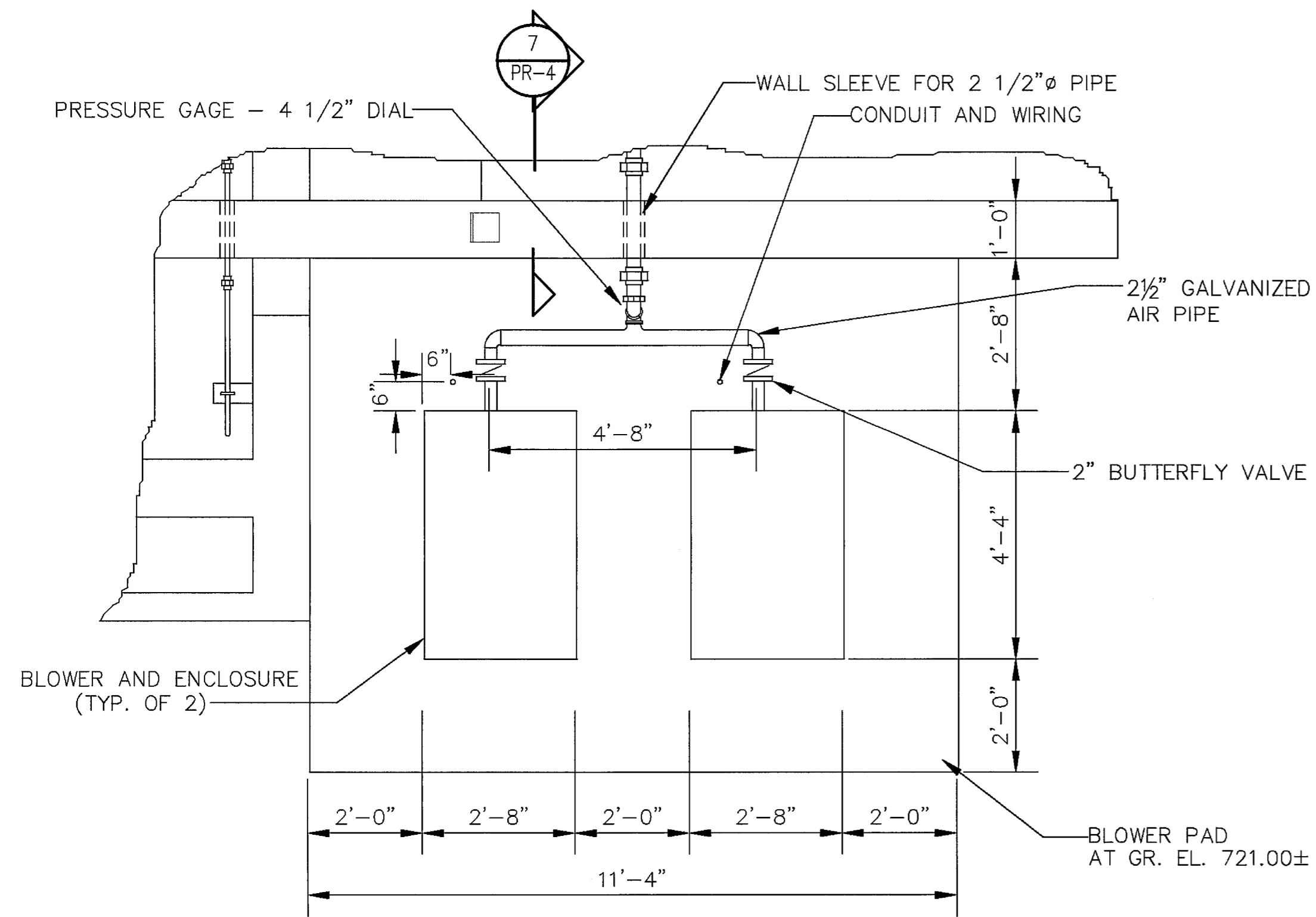
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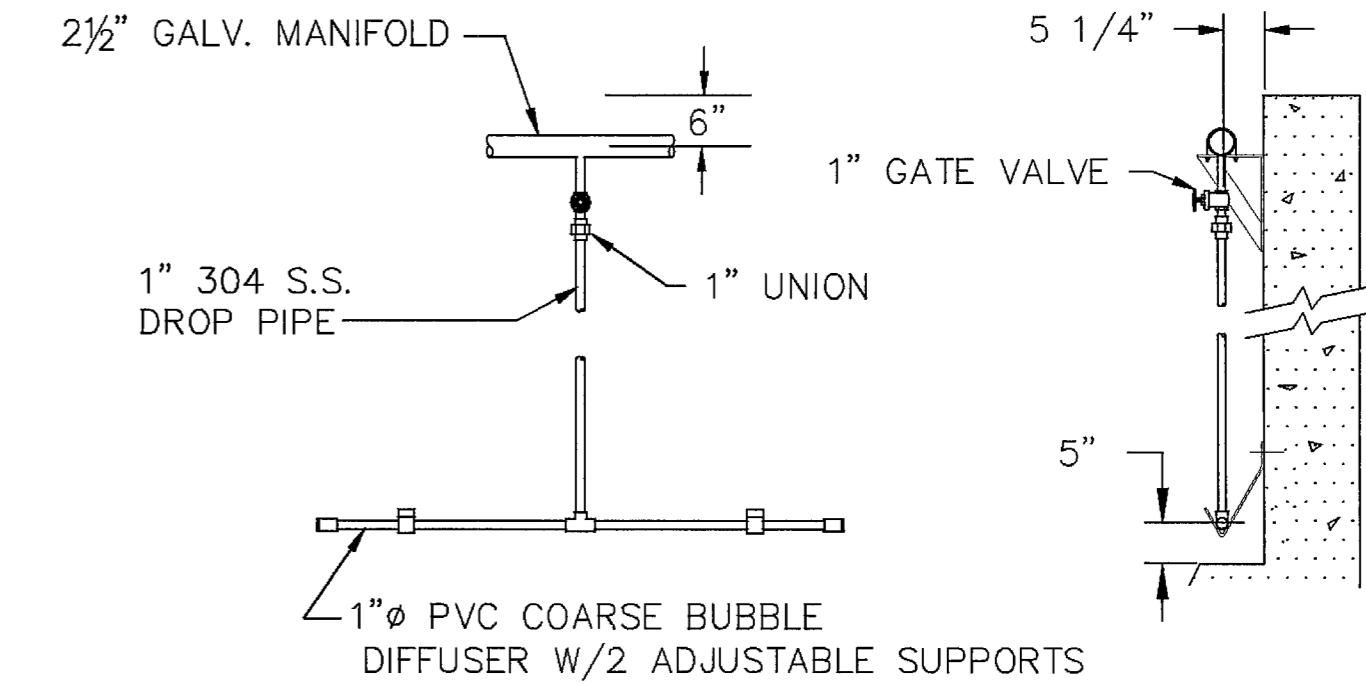
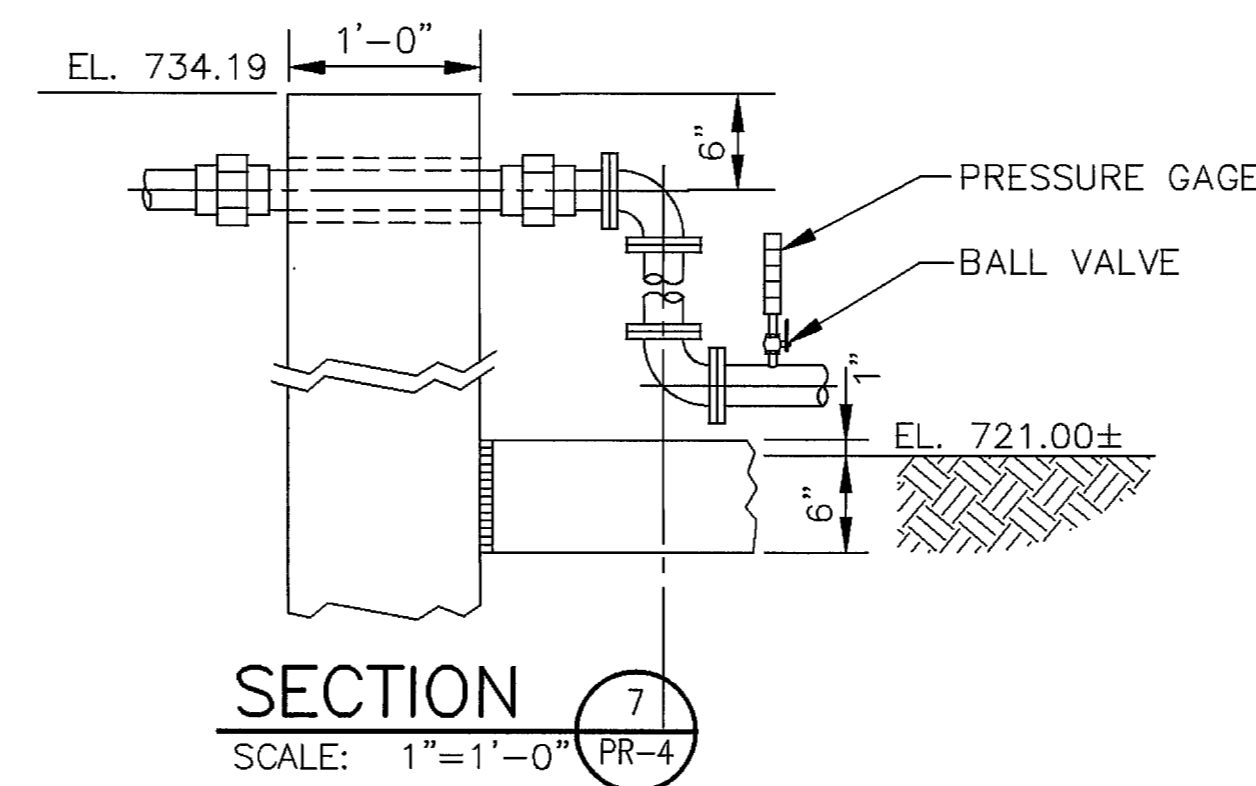
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FIGURE 4 - EXISTING INFLUENT MECHANICAL BAR SCREEN

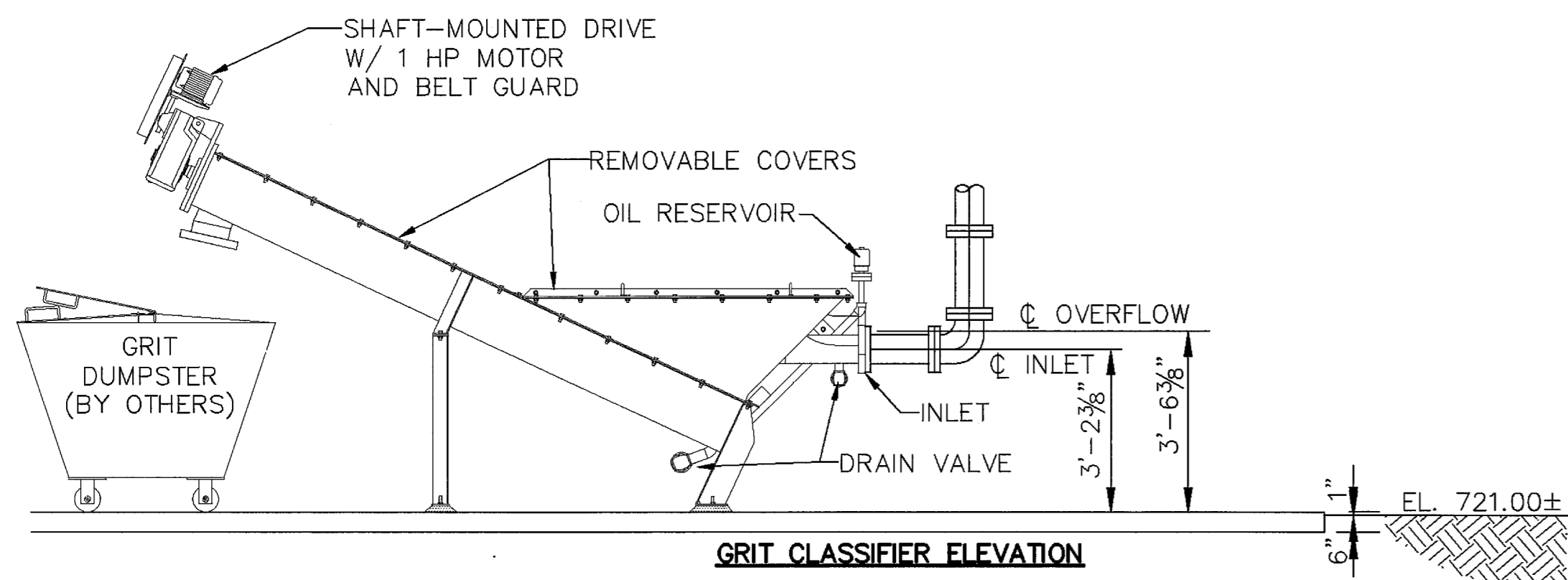
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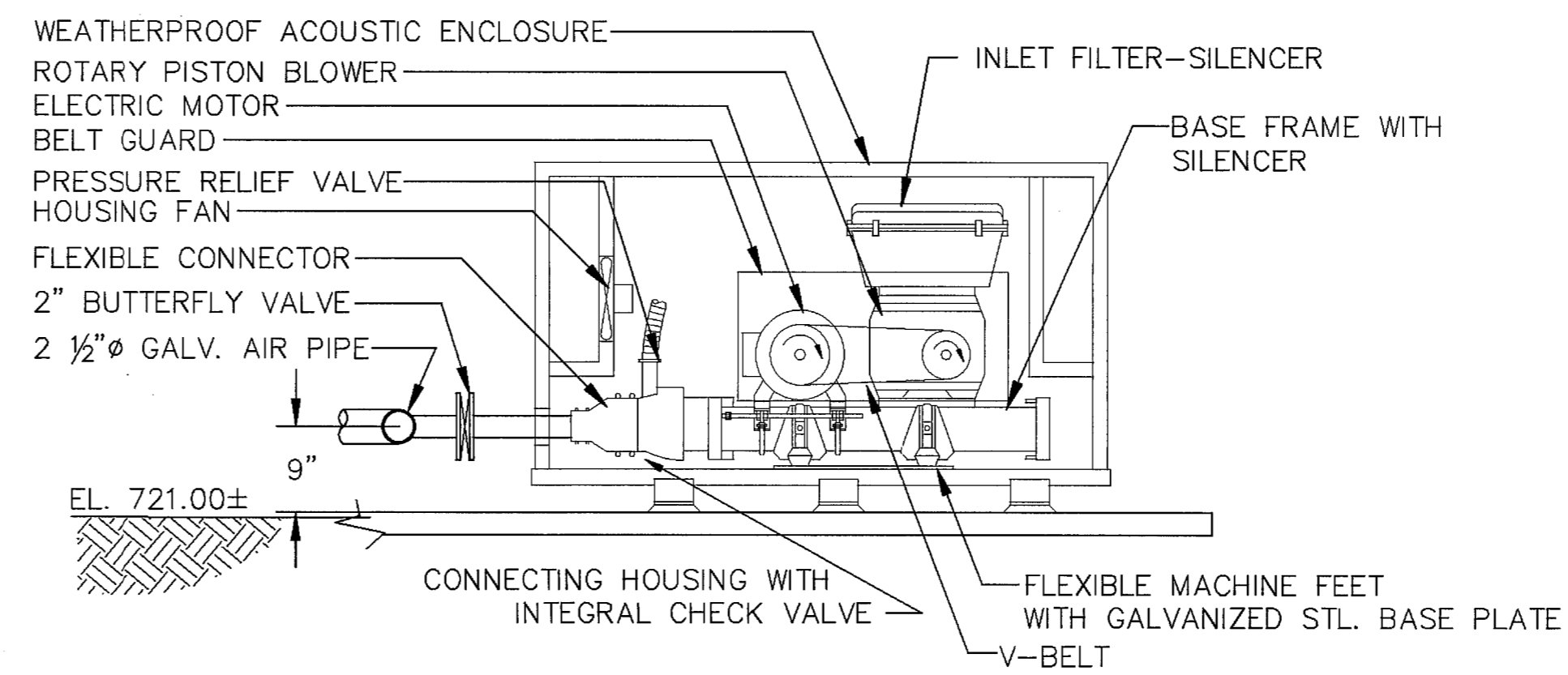
PLAN VIEW - GRIT BLOWERS
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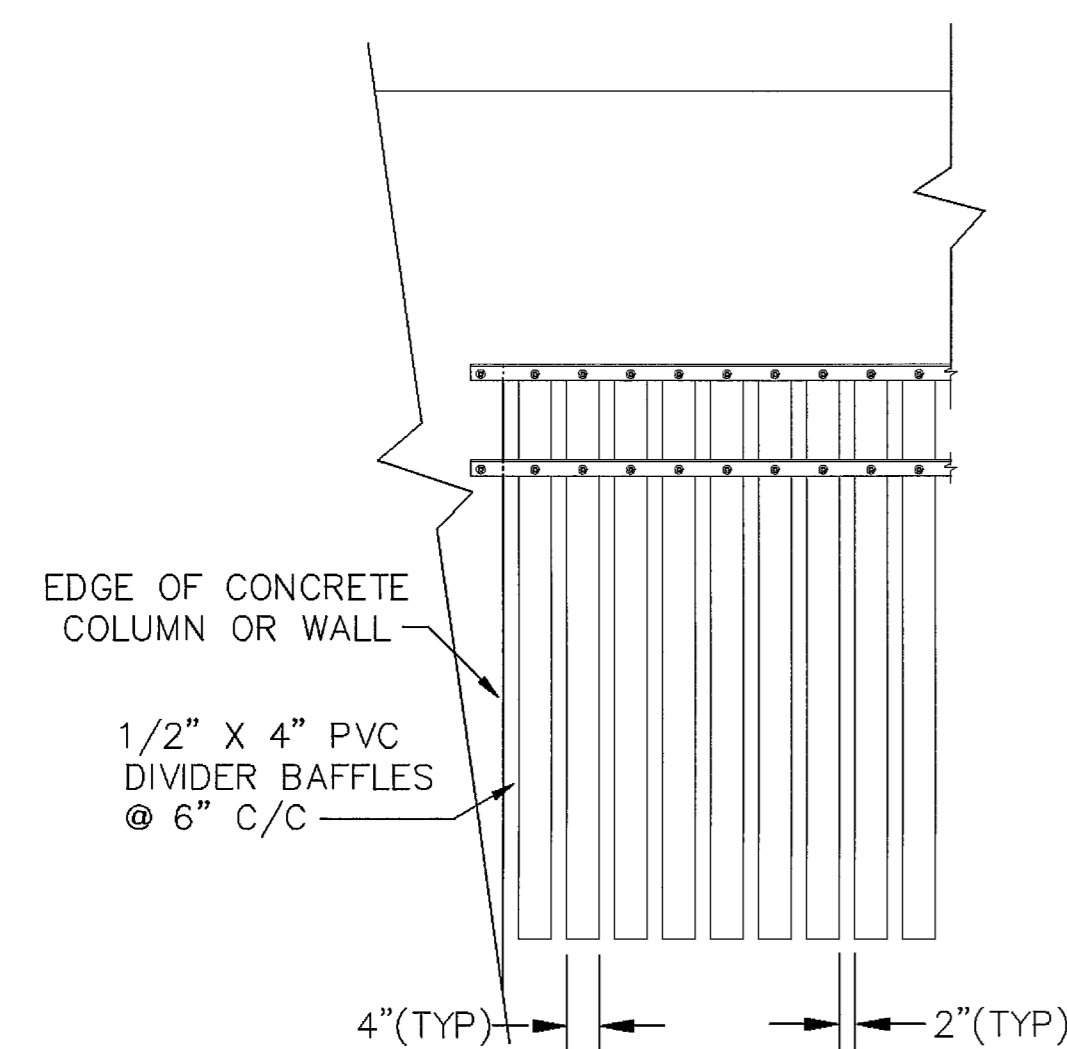
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DETAIL 6
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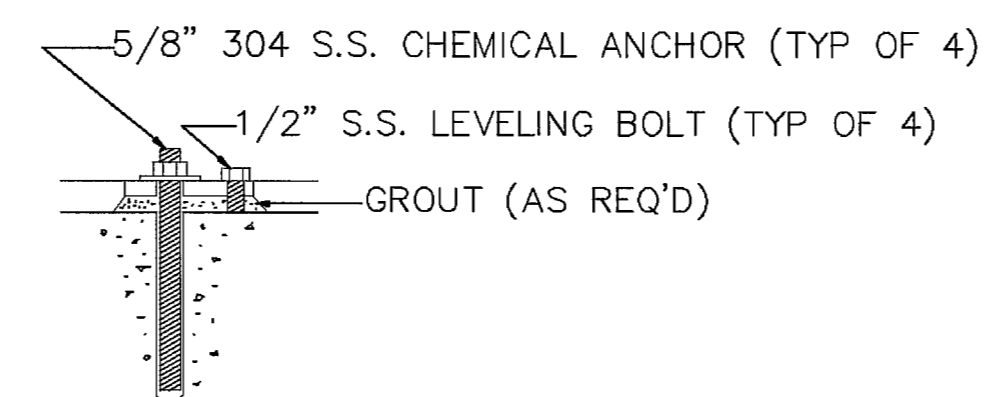
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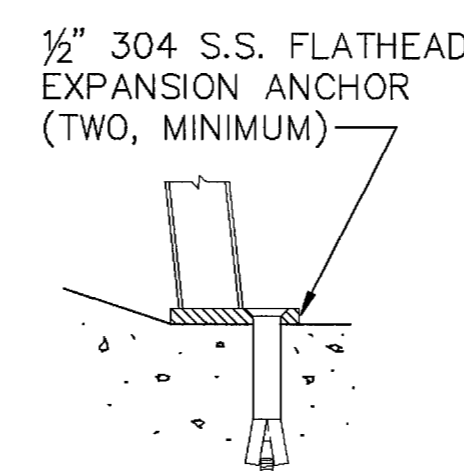
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DIVIDER BAFFLE DETAIL
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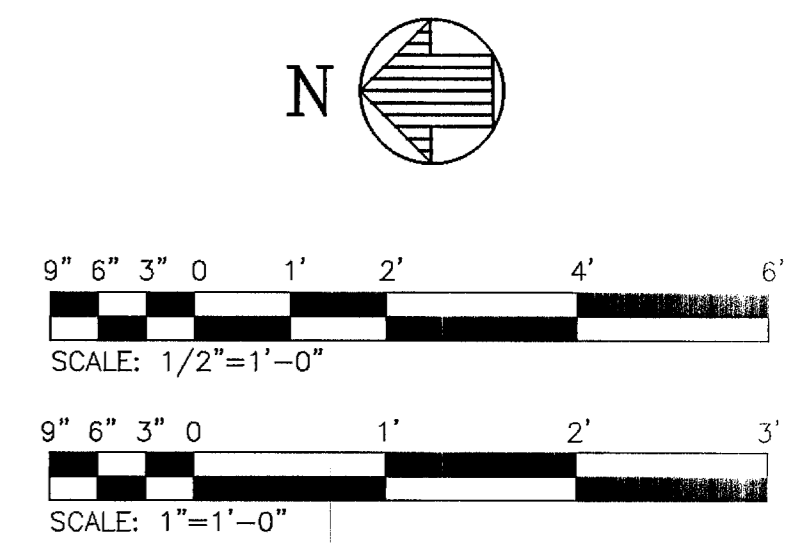


DETAIL 4
 SCALE: N.T.S. PR-3



DETAIL 5
 SCALE: N.T.S. PR-3

FIGURE 4 - EXISTING INFLUENT MECHANICAL BAR SCREEN



NO.	DESCRIPTION	DATE	BY

REVISIONS

Dodson Stilson Dodson-Stilson, Inc.
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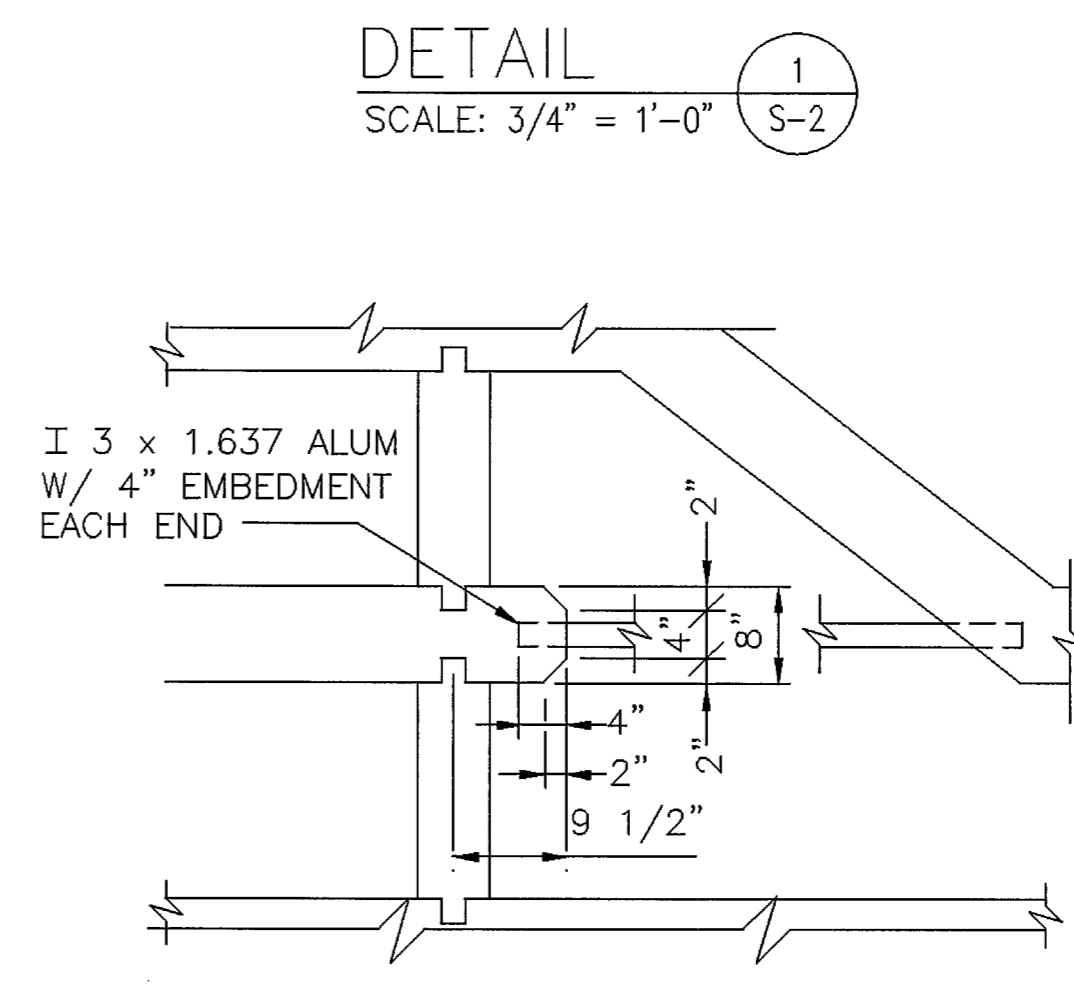
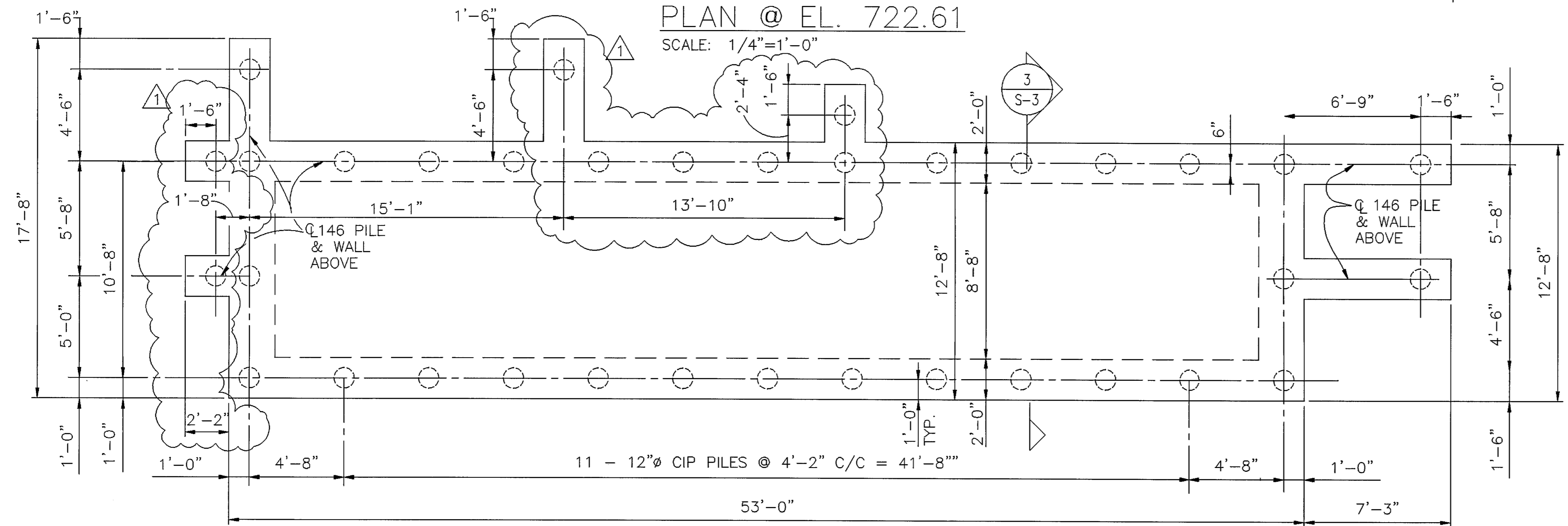
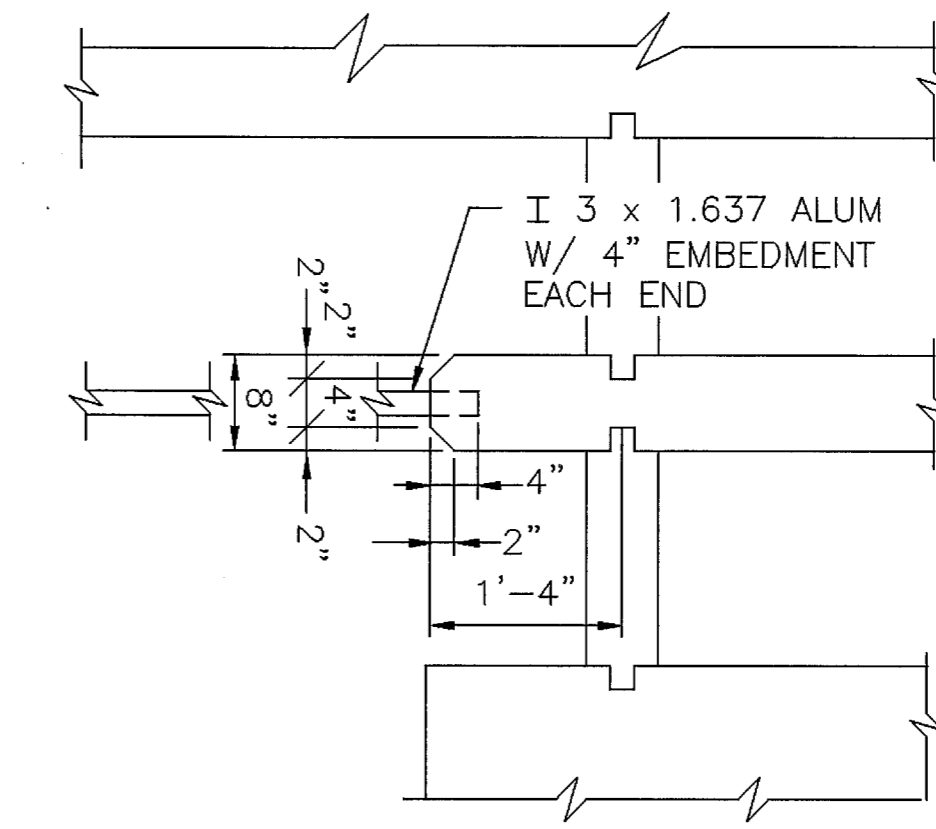
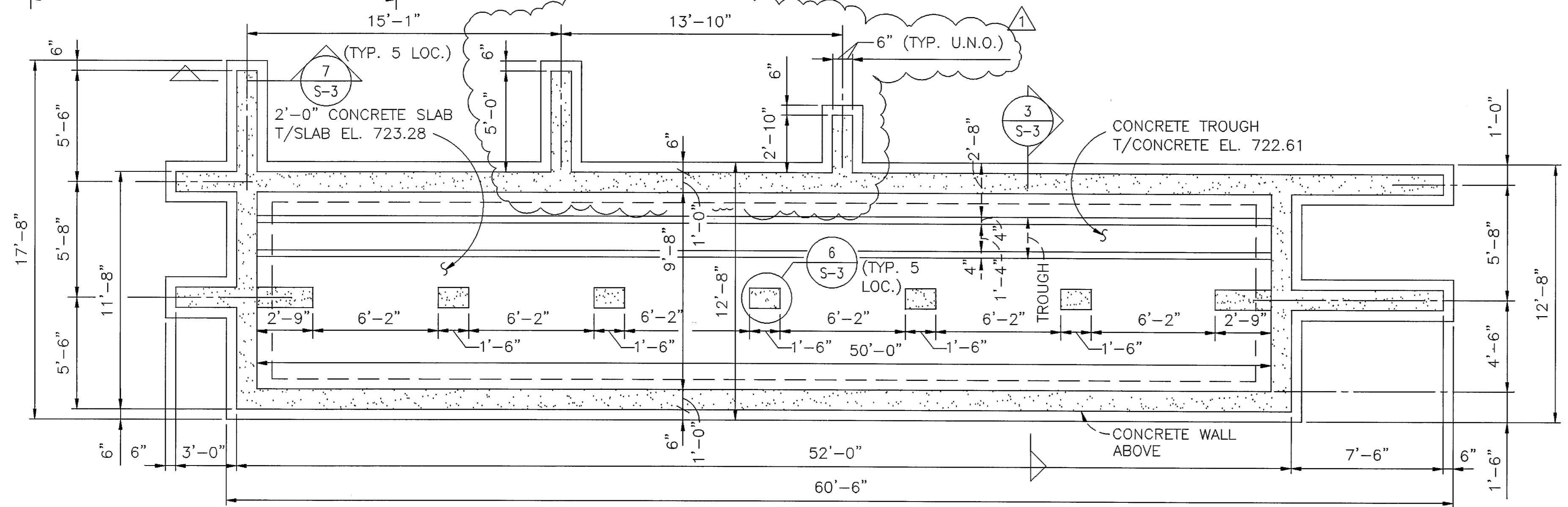
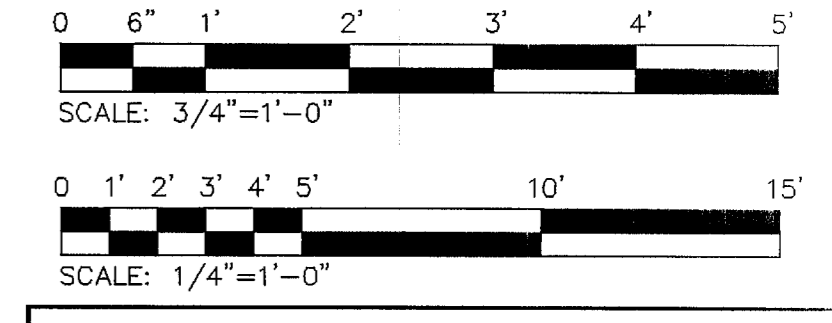
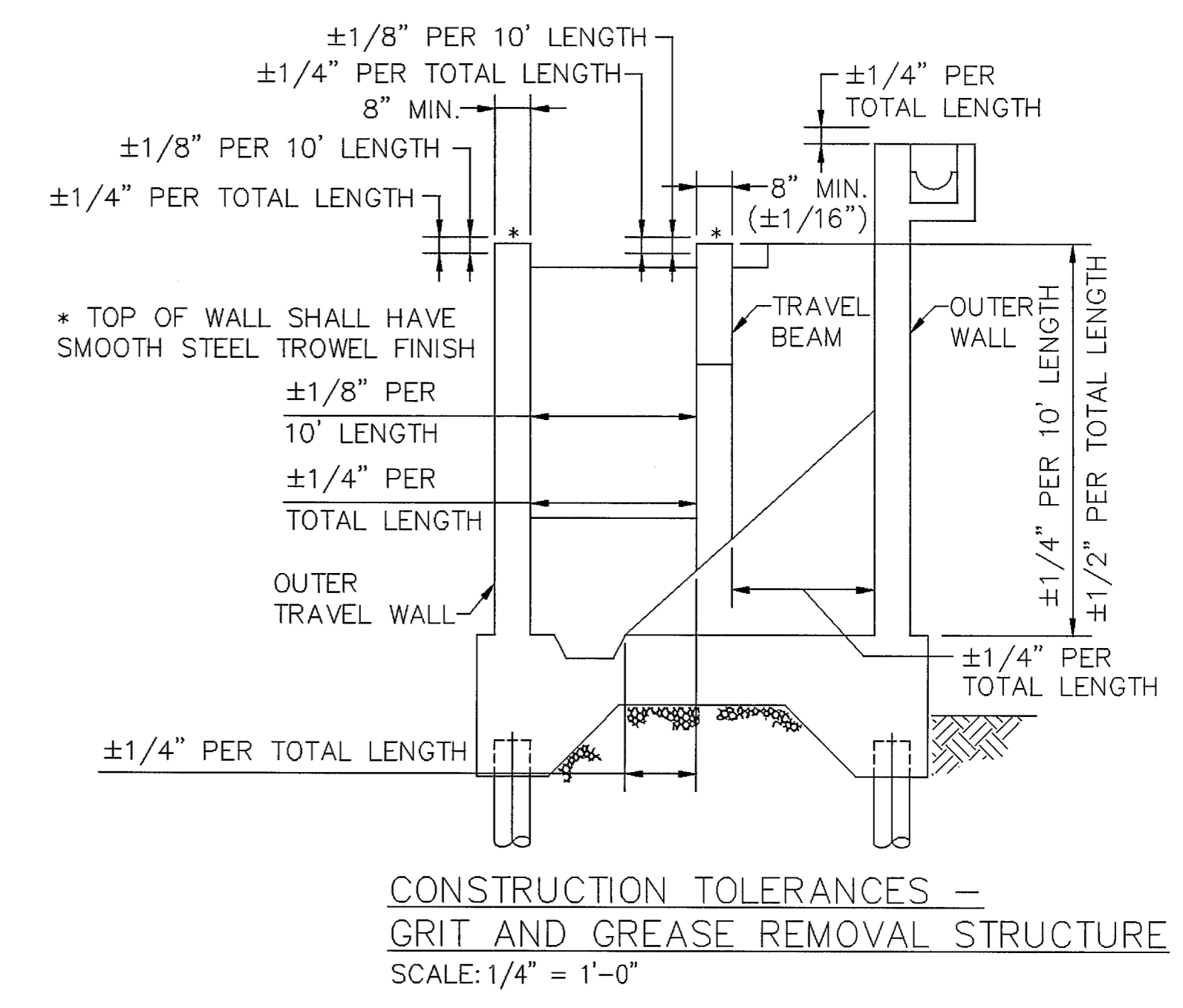
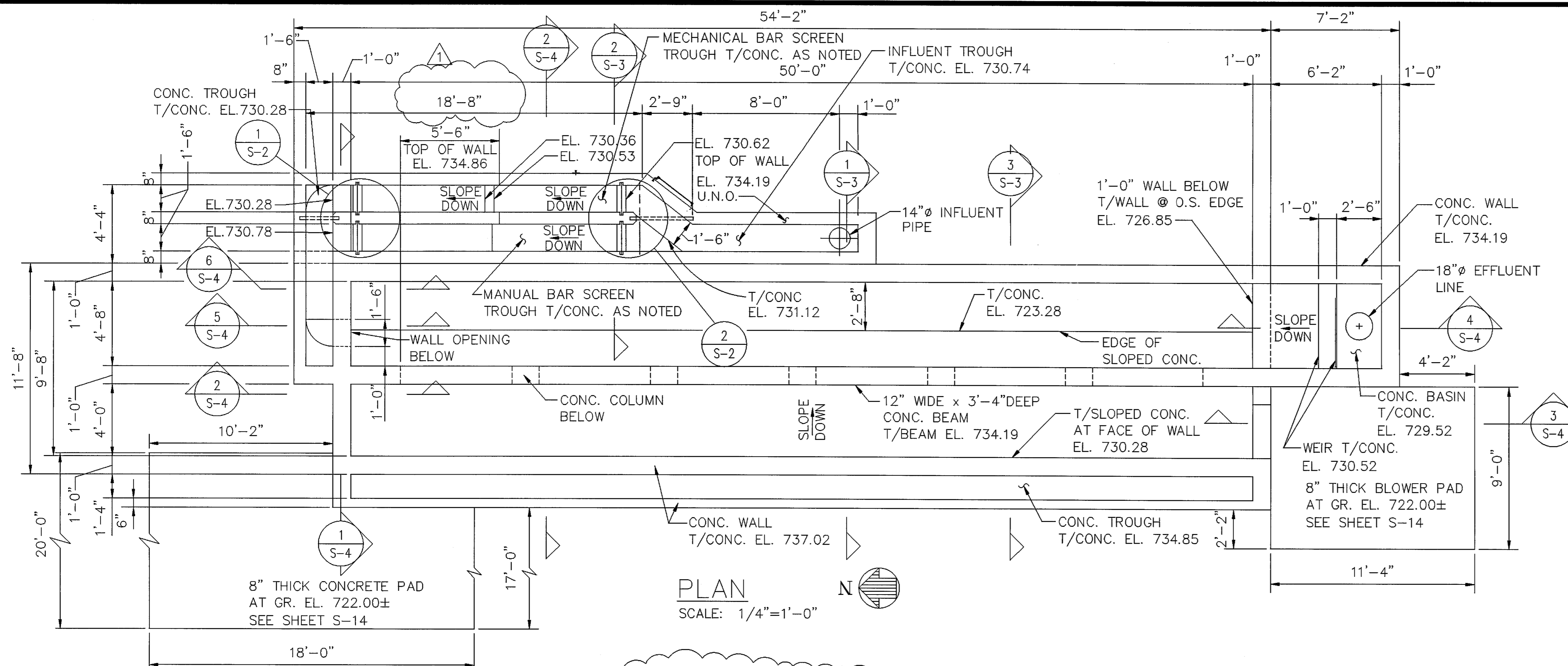
VILLAGE OF WAYNESVILLE, OHIO
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS-PHASE 1

SCREEN AND GRIT/GREASE UNIT
 DETAILS

DRAWN	EA	PROJECT NO.	9821-6005.00
DESIGNED	SCM	CONTRACT	
CHECKED	AG	SHEET	OF
APPROVED	ERH	DRAWING NUMBER	
DATE	JAN 98		
SCALE	AS SHOWN		

RECORD DRAWING

PR-4



NO.	DESCRIPTION	DATE	BY
1	REVISED DIMENSIONS	7/7/99	JFS

REVISIONS

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ENGINEERS • ARCHITECTS • SCIENTISTS

VILLAGE OF WAYNESVILLE, OHIO
WASTEWATER TREATMENT PLANT
PHASE 1-IMPROVEMENTS

SCREEN AND GRIT/GREASE UNIT
STRUCTURAL
PLAN AND SECTION

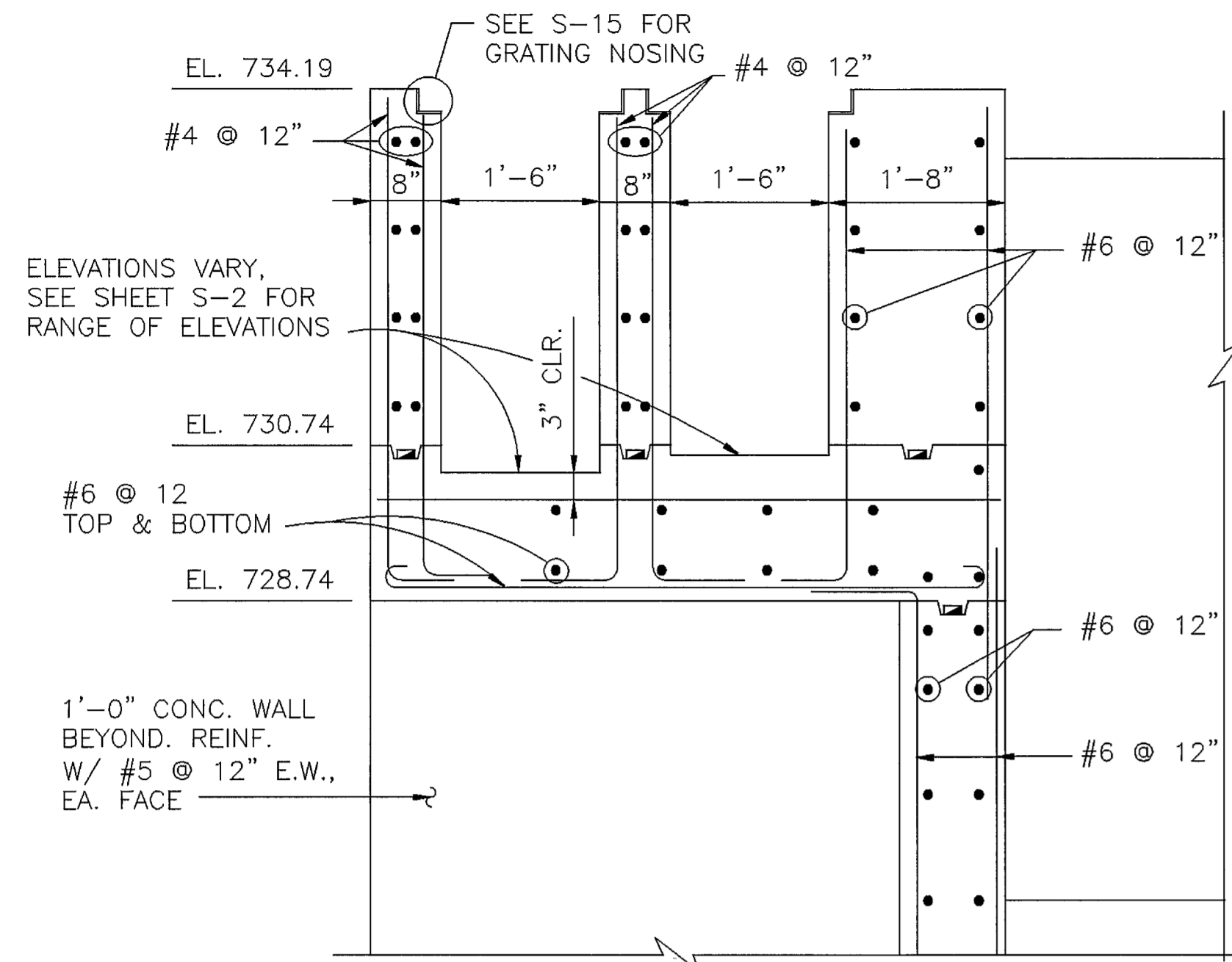
DRAWN	GV	PROJECT NO.	
DESIGNED	PHB	CONTRACT	
CHECKED		SHEET	OF
APPROVED		DRAWING NUMBER	

SCALE 1/4"=1'-0"

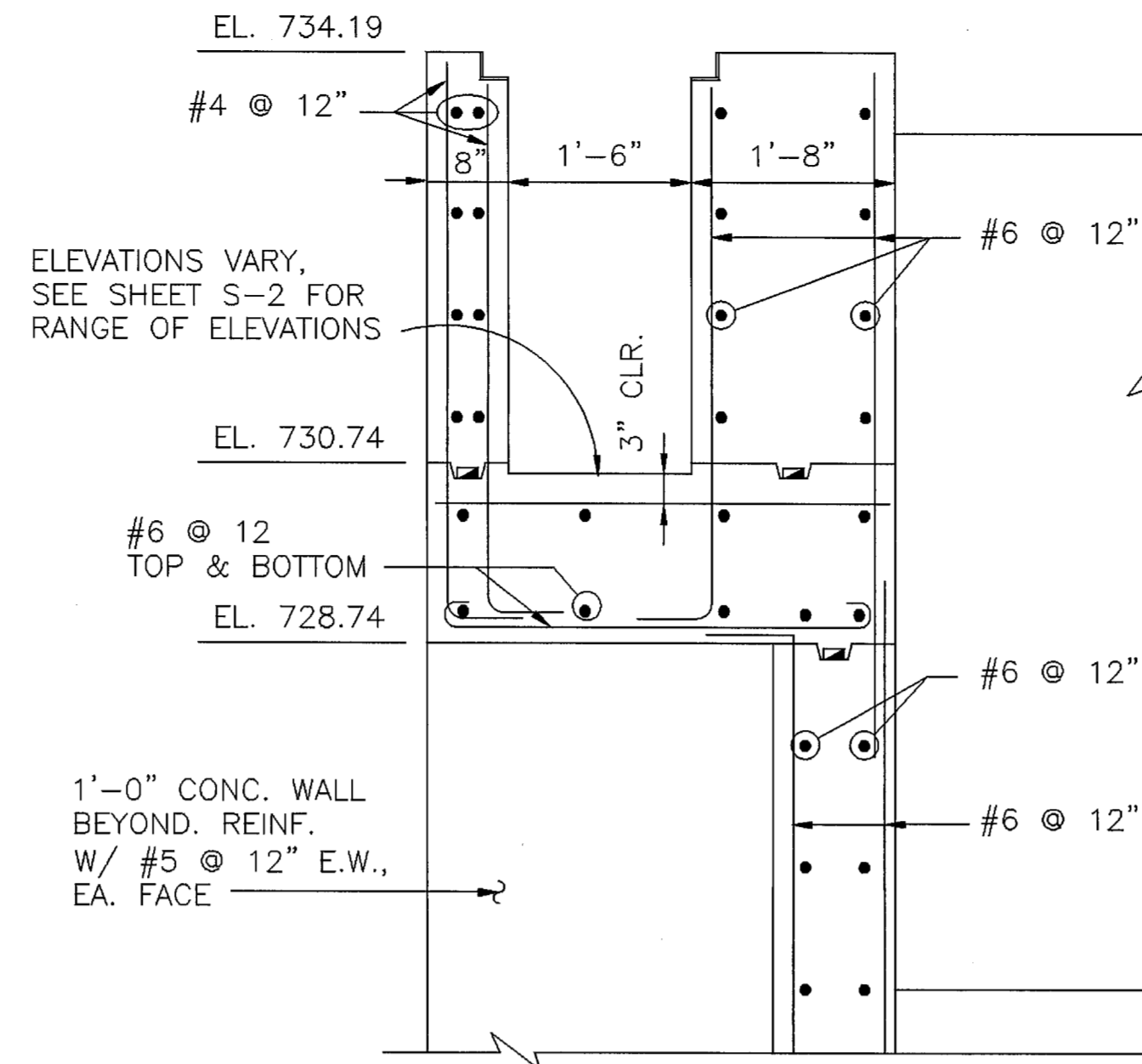
RECORD DRAWING

S-2

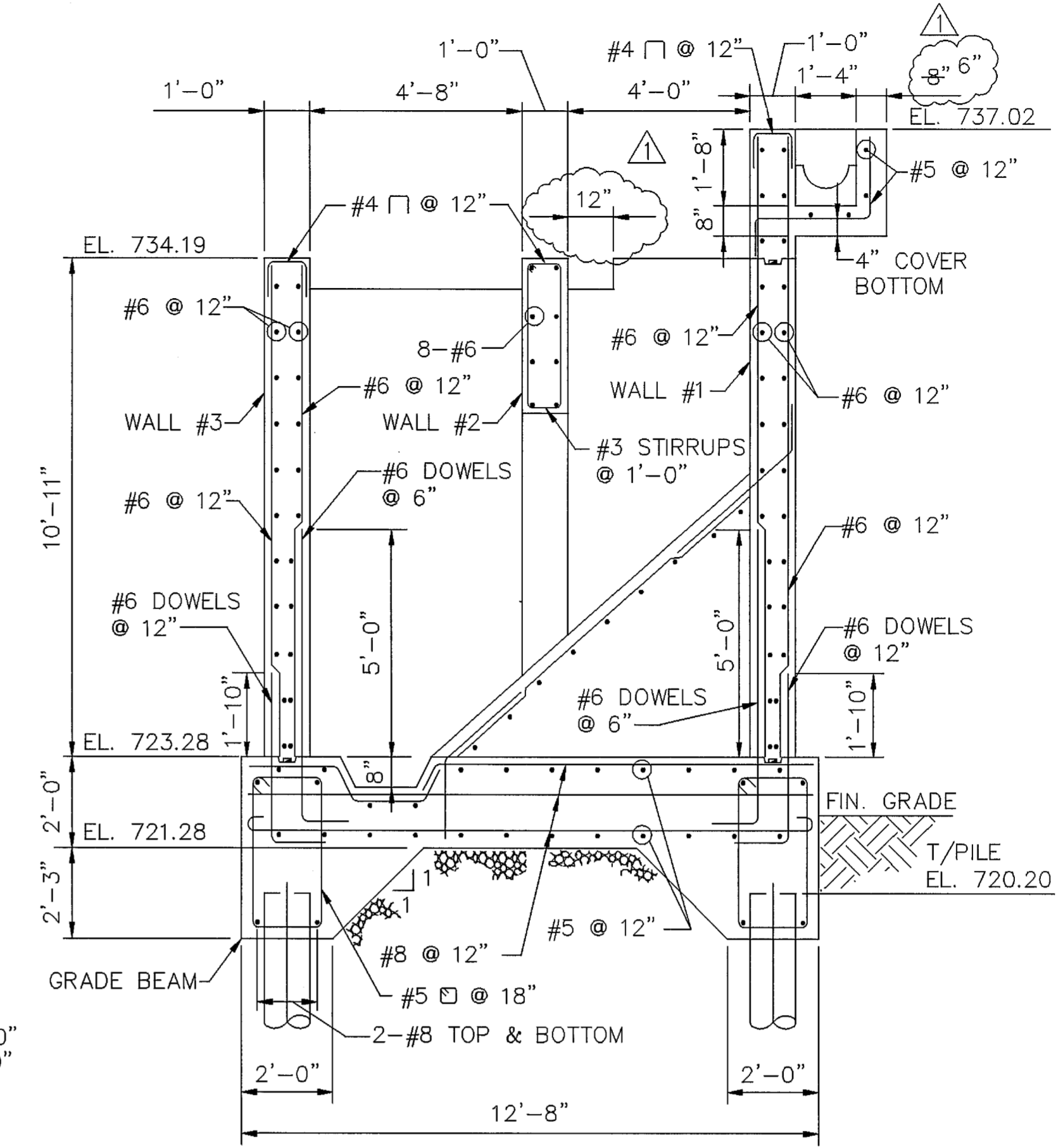
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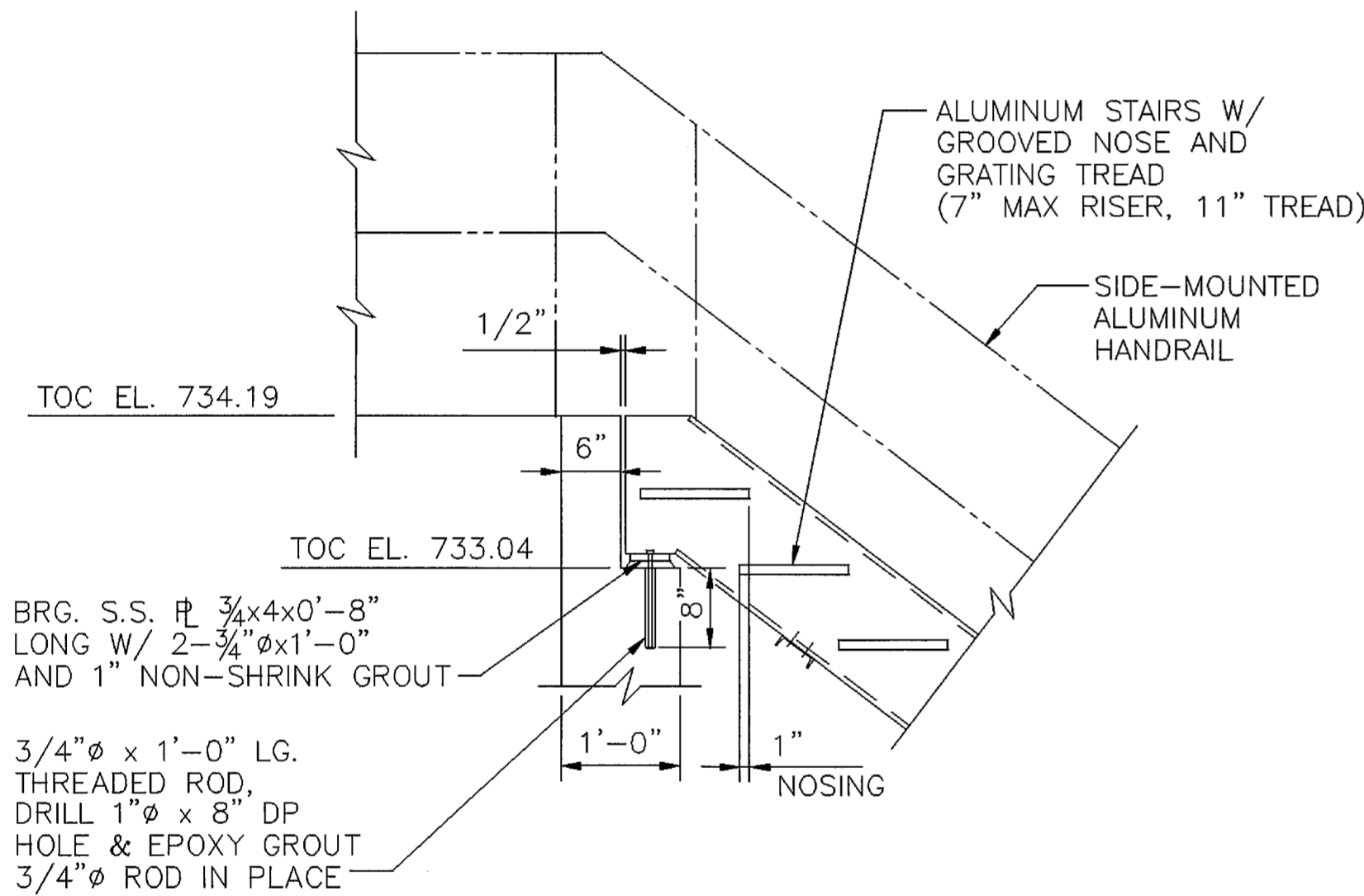
SECTION 1
SCALE: 3/4" = 1'-0"



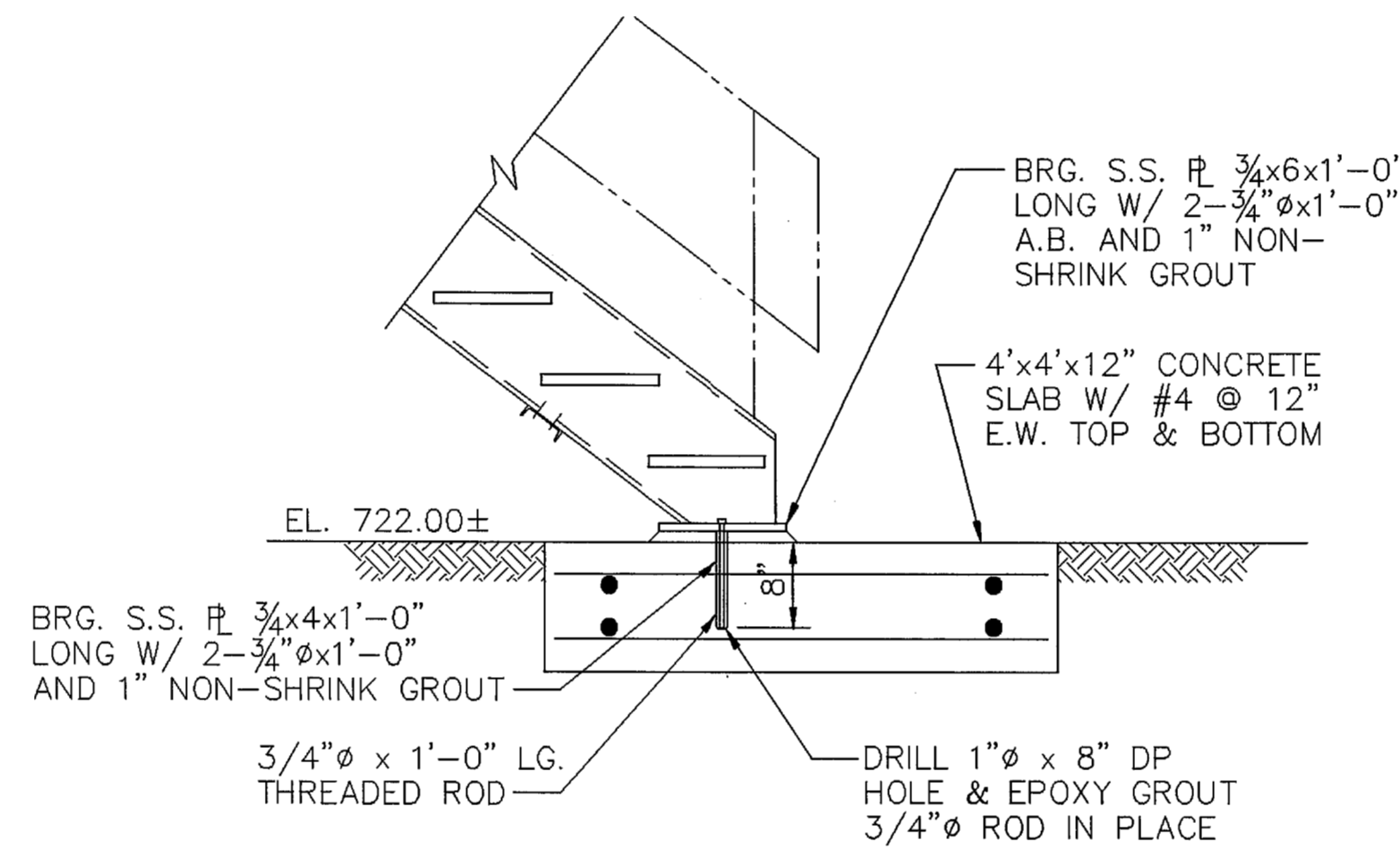
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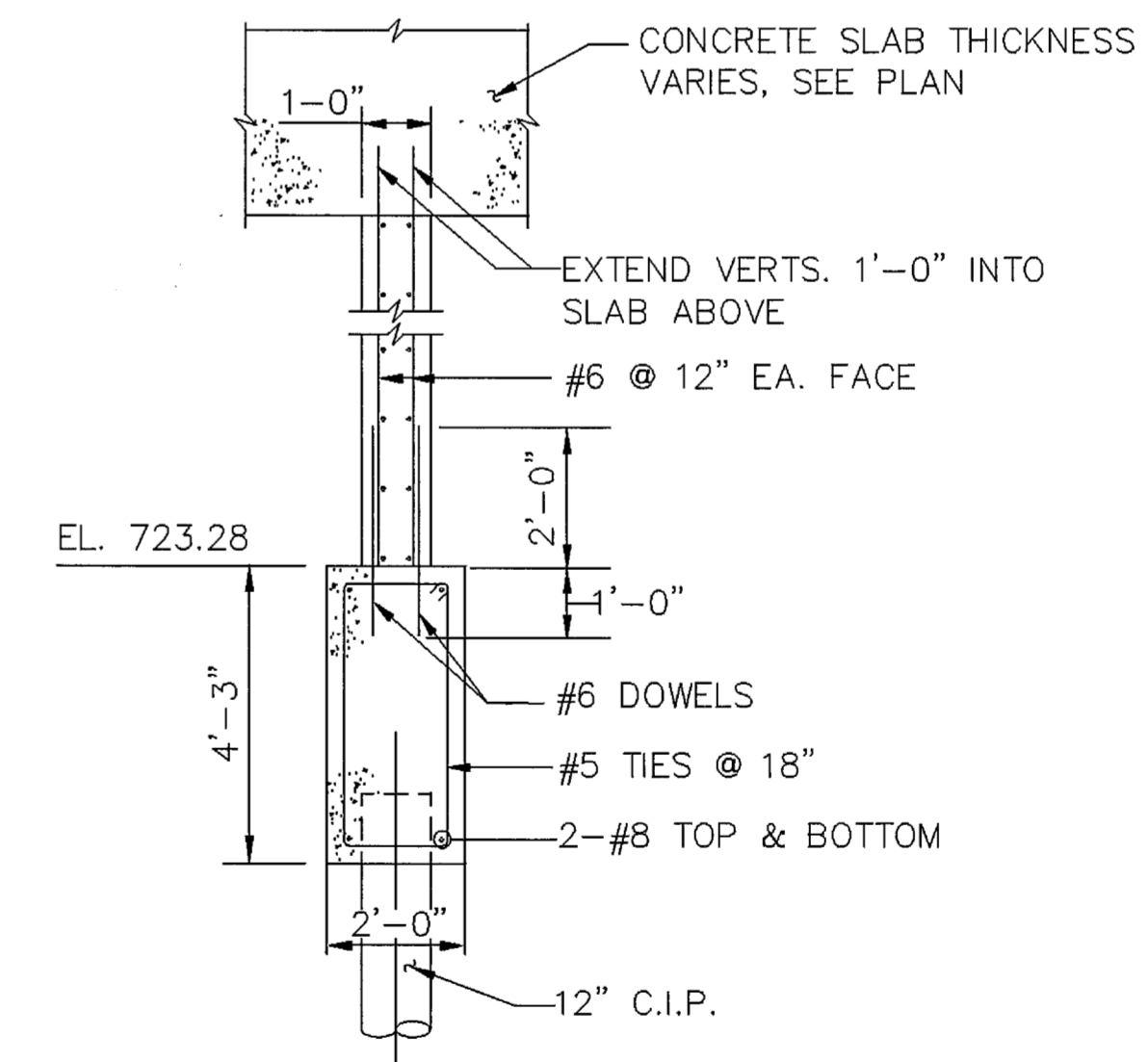
SECTION 3
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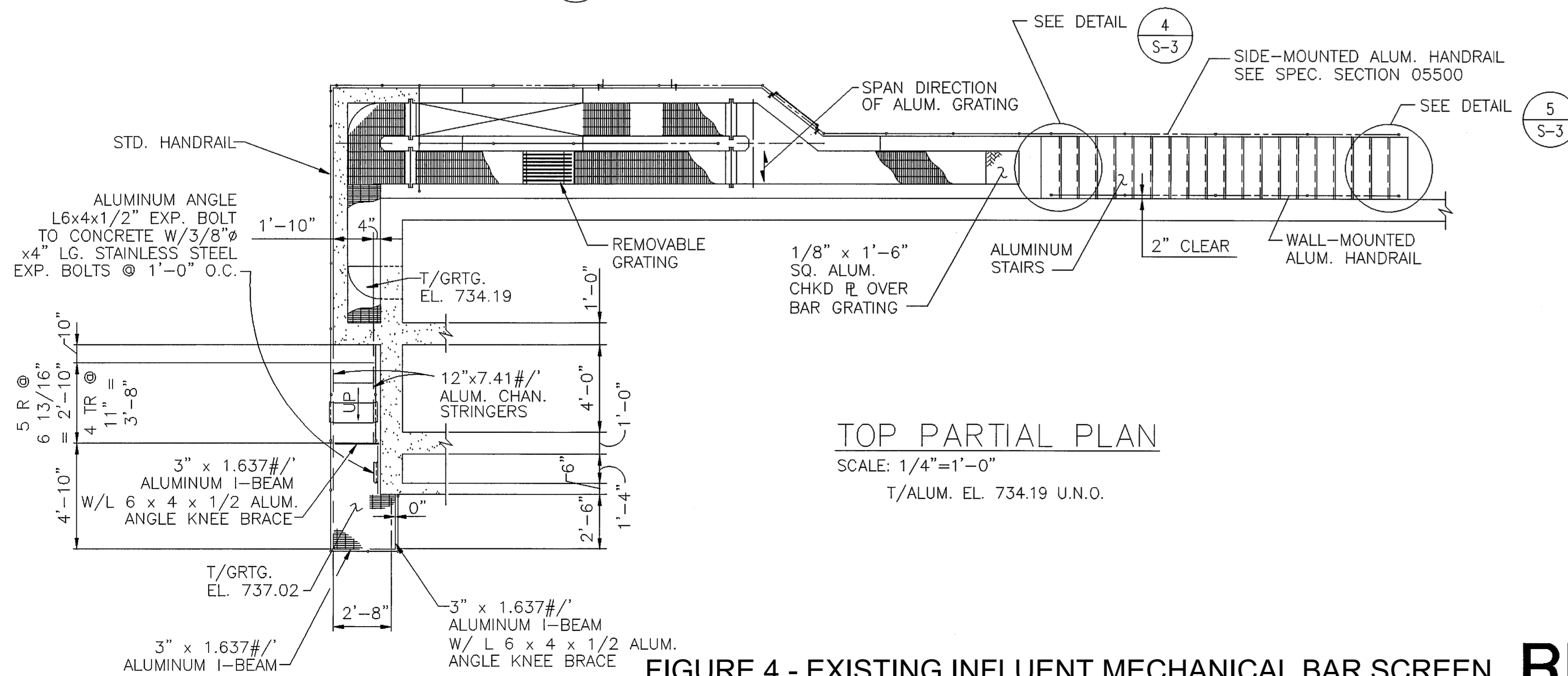
DETAIL 4
SCALE: 3/4" = 1'-0"



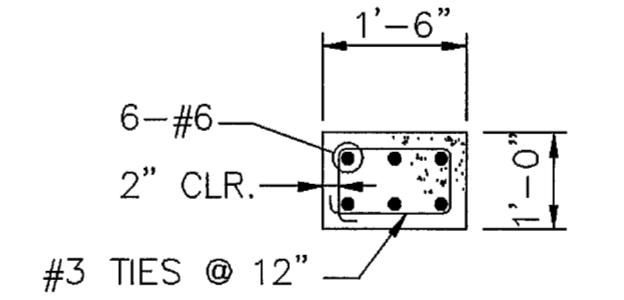
DETAIL 5
SCALE: 3/4" = 1'-0"



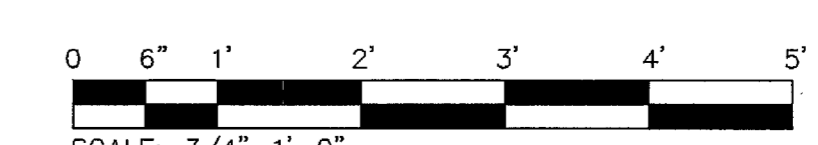
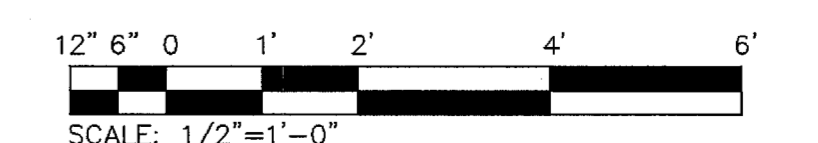
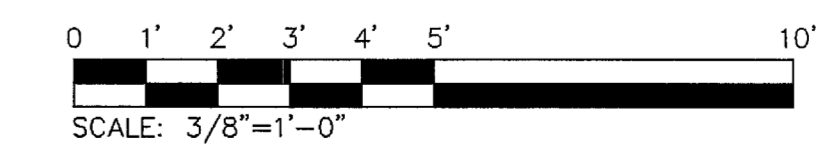
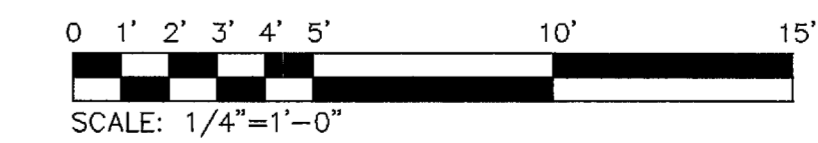
SECTION 7
SCALE: 3/8" = 1'-0"



TOP PARTIAL PLAN
SCALE: 1/4" = 1'-0"



SECTION 6
SCALE: 1/2" = 1'-0"



REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	REVISED AS CONSTRUCTED	10/00	SLB

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VILLAGE OF WAYNESVILLE, OHIO
WASTEWATER TREATMENT PLANT
PHASE 1-IMPROVEMENTS

SCREEN AND GRIT/GREASE UNIT
STRUCTURAL
SECTIONS AND DETAILS

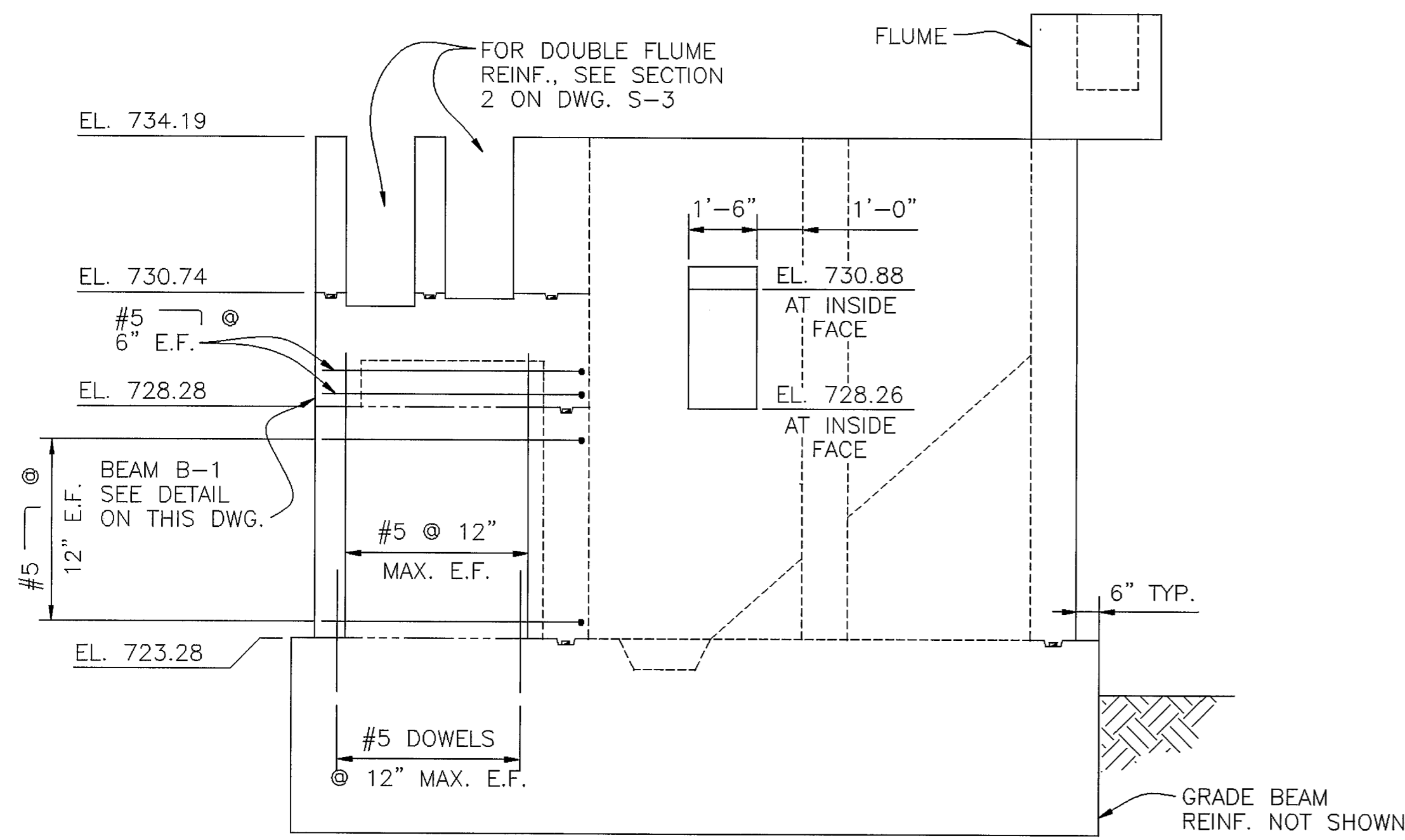
DRAWN	GV	PROJECT NO.
DESIGNED	PHB	CONTRACT
CHECKED		SHEET OF
APPROVED		DRAWING NUMBER
APPROVED		
DATE		
SCALE	1/4" = 1'-0"	

S-3

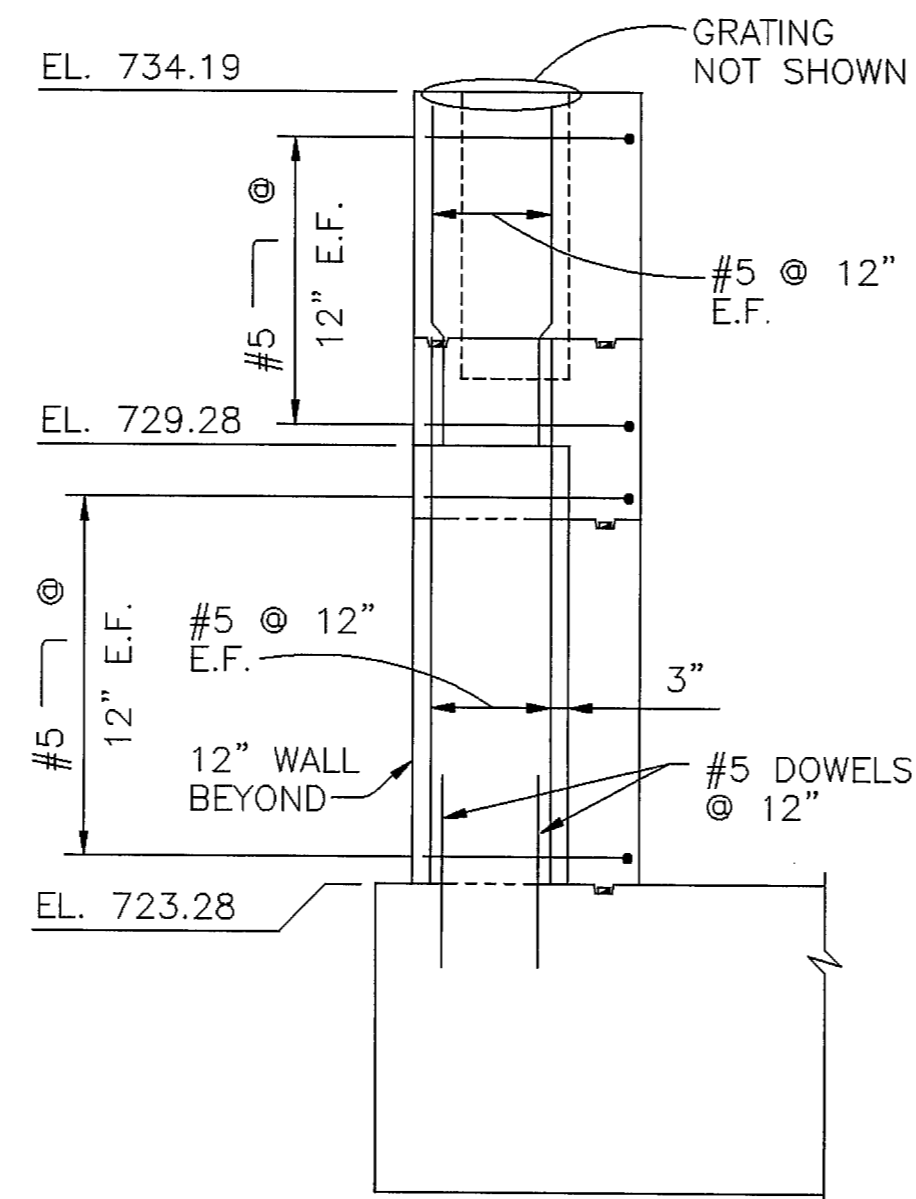
RECORD DRAWING

FIGURE 4 - EXISTING INFLUENT MECHANICAL BAR SCREEN

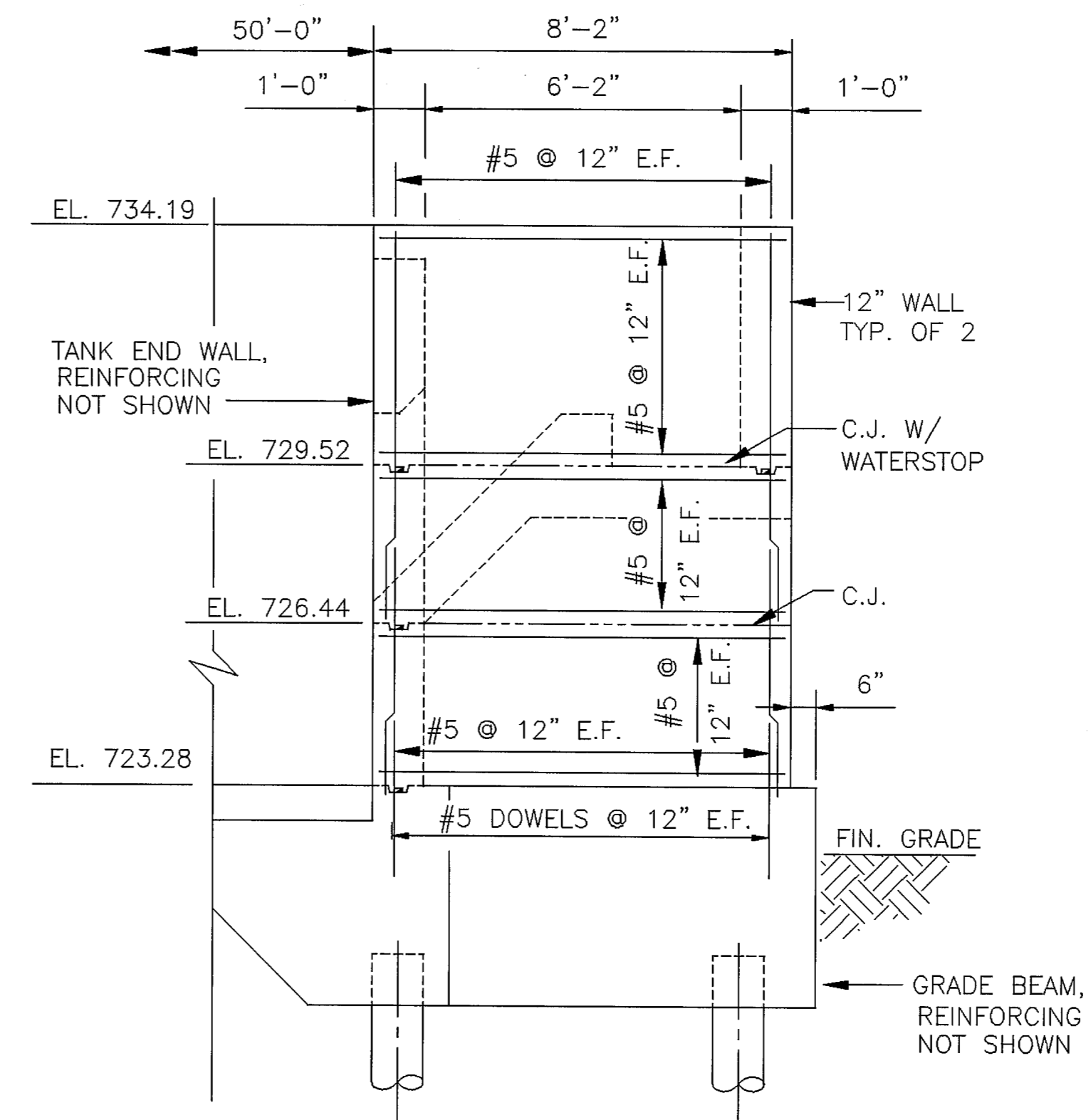
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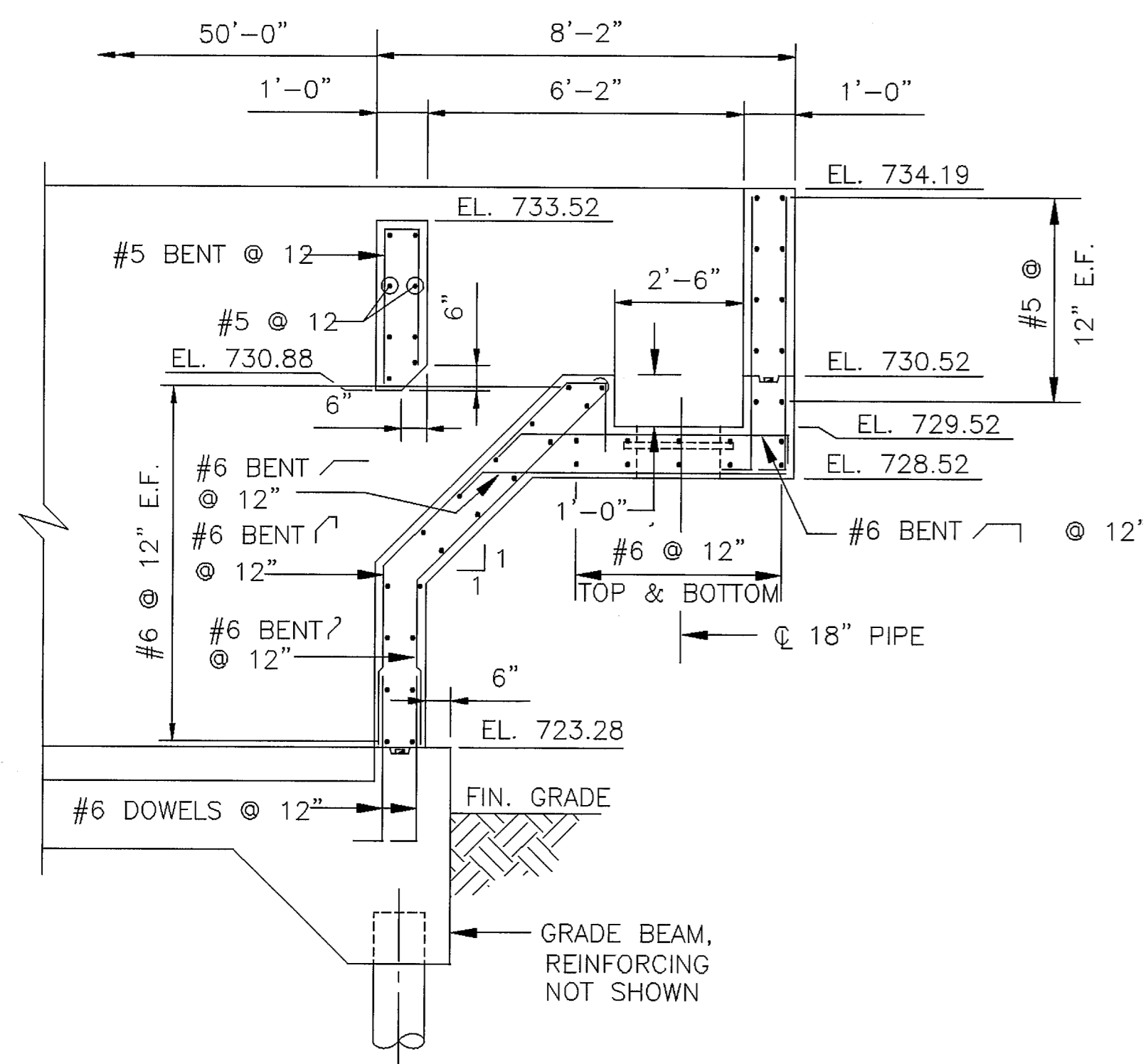
SECTION 1
SCALE: 3/8" = 1'-0" S-2



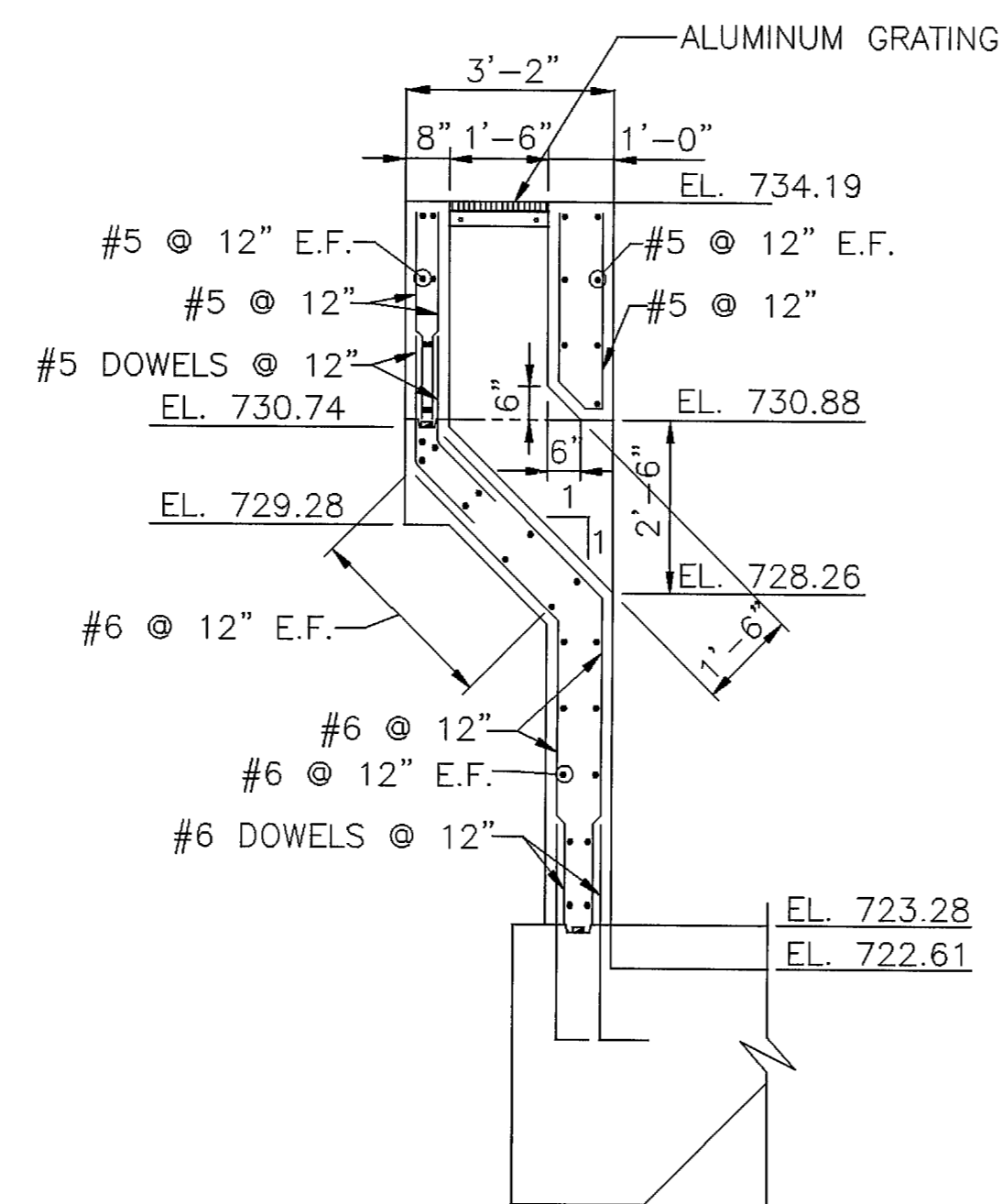
SECTION 2
SCALE: 3/8" = 1'-0" S-2



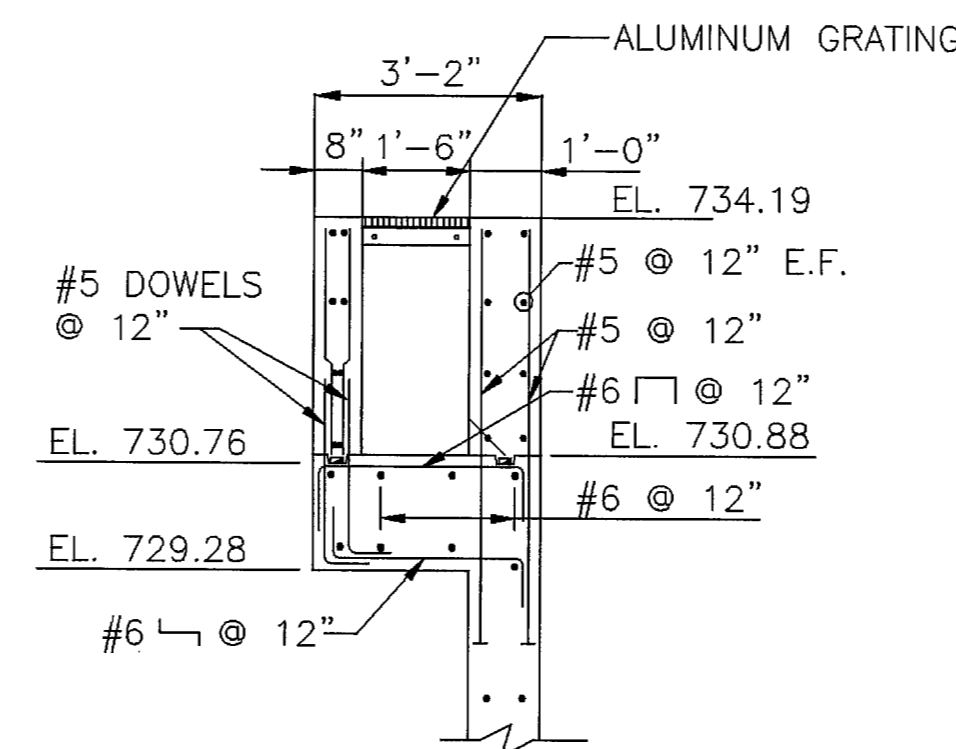
SECTION 3
SCALE: 3/8" = 1'-0" S-2



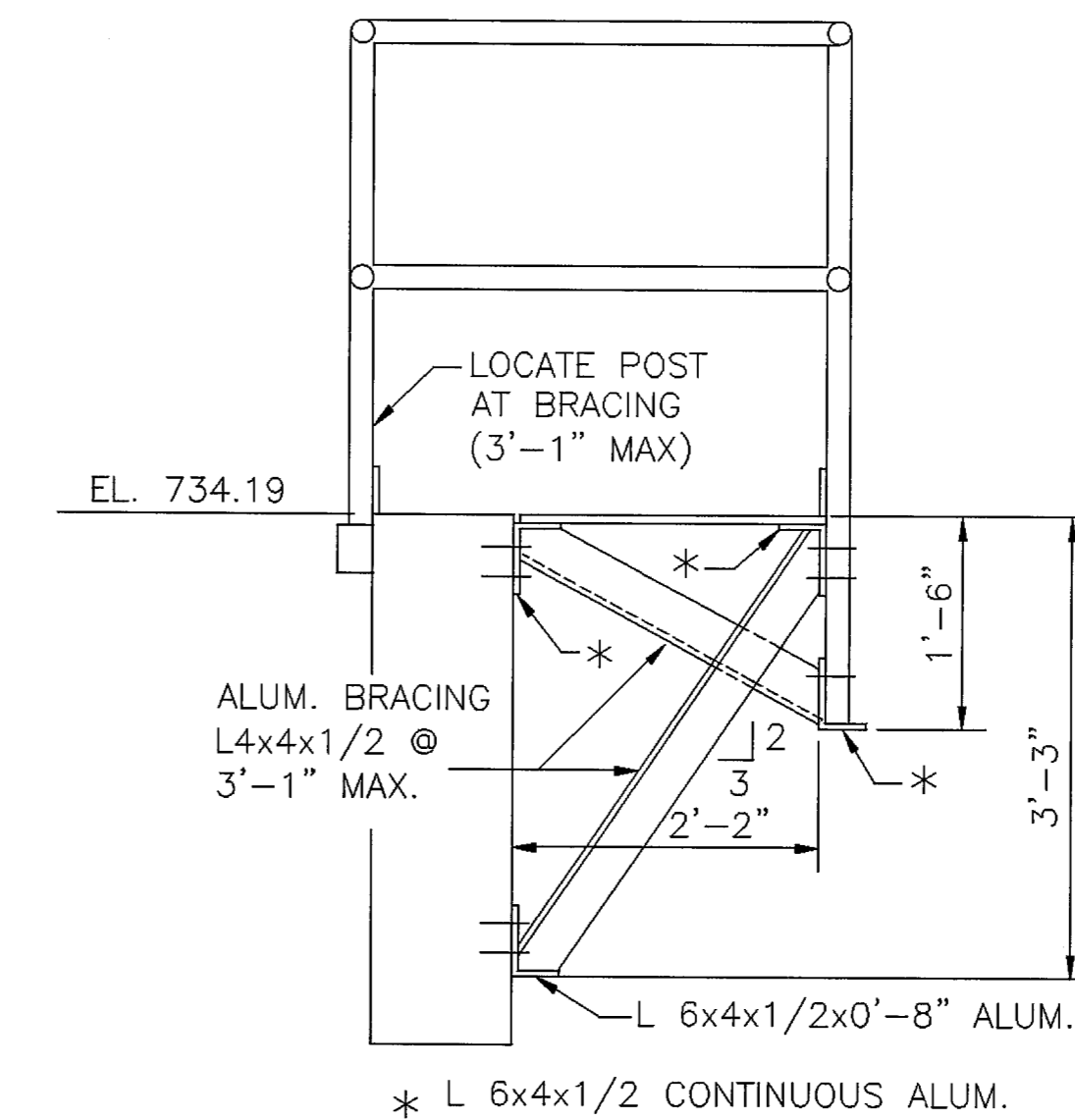
SECTION 4
SCALE: 3/8" = 1'-0" S-2



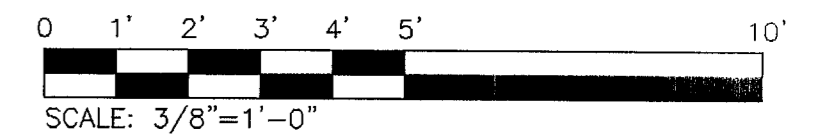
SECTION 5
SCALE: 3/8" = 1'-0" S-2



SECTION 6
SCALE: 3/8" = 1'-0" S-2



SECTION 7
SCALE: N.T.S. S-2



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WASTEWATER TREATMENT PLANT
PHASE 1-IMPROVEMENTS

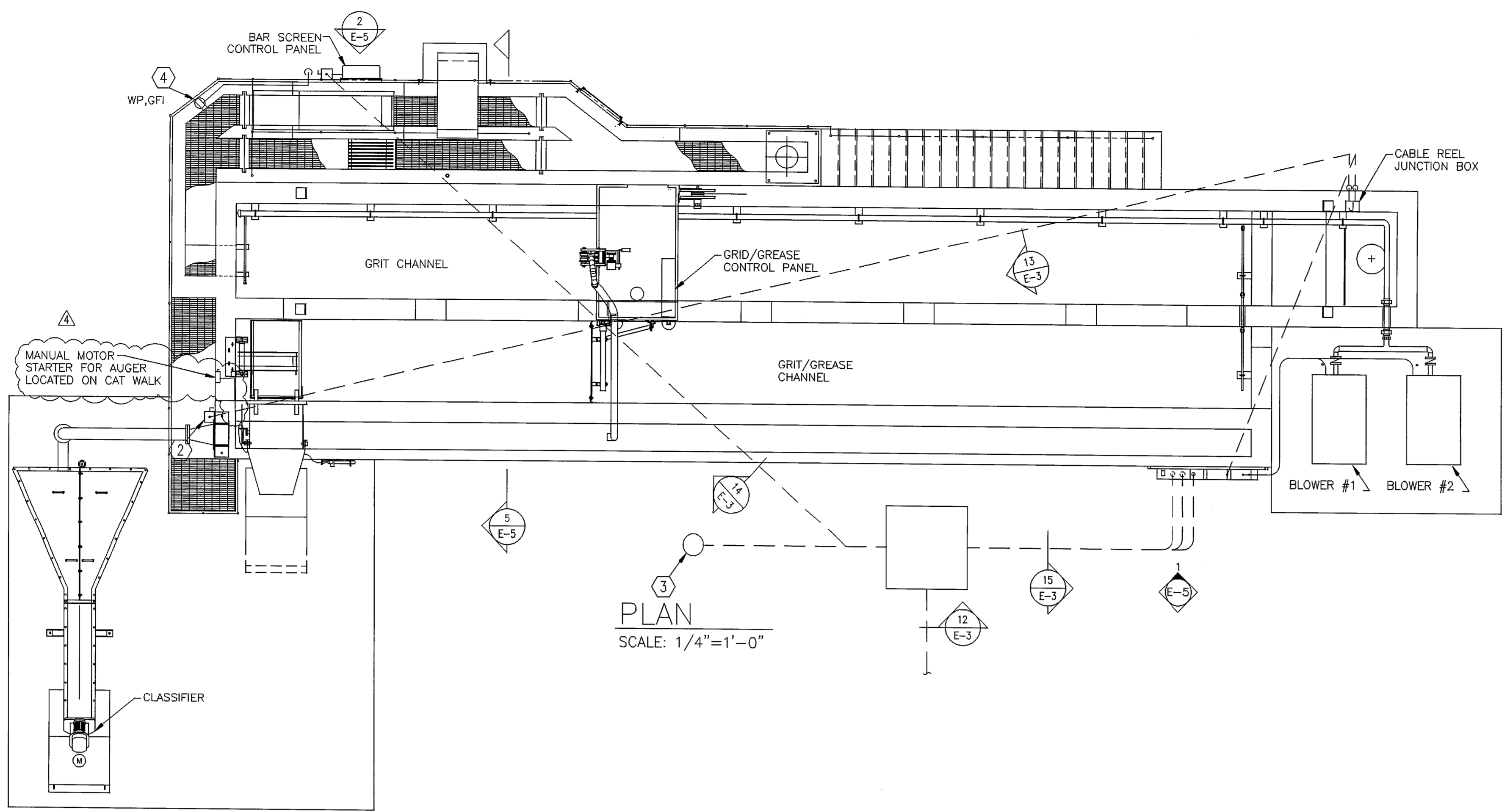
SCREEN AND GRIT/GREASE UNIT
STRUCTURAL
SECTIONS AND DETAILS

DRAWN	GV	PROJECT NO.
DESIGNED	PHB	CONTRACT
CHECKED		SHEET OF
APPROVED		DRAWING NUMBER
APPROVED		
DATE		
SCALE	AS SHOWN	

S-4

FIGURE 4 - EXISTING INFLUENT MECHANICAL BAR SCREEN

RECORD DRAWING

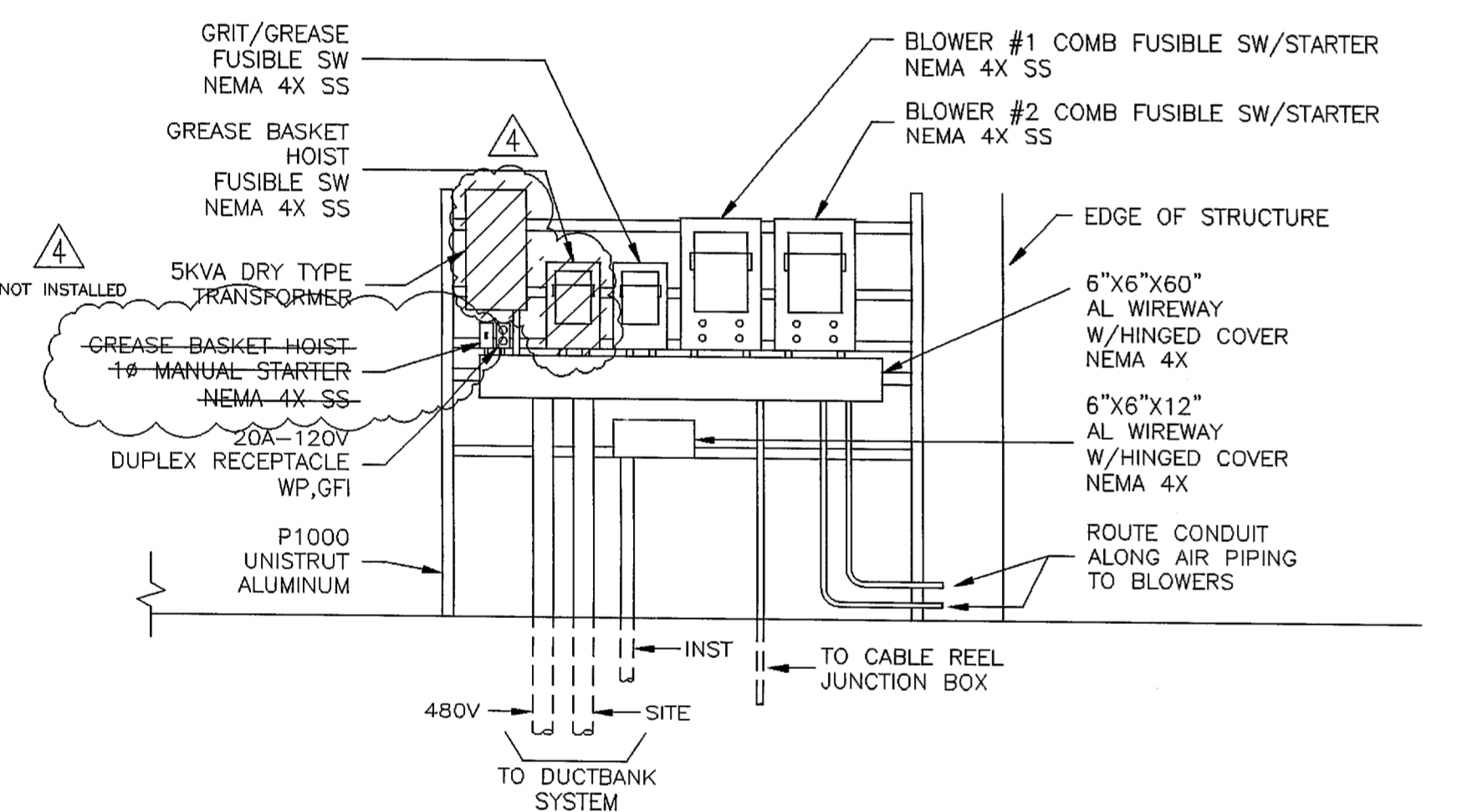


PLAN
SCALE: 1/4" = 1'-0"

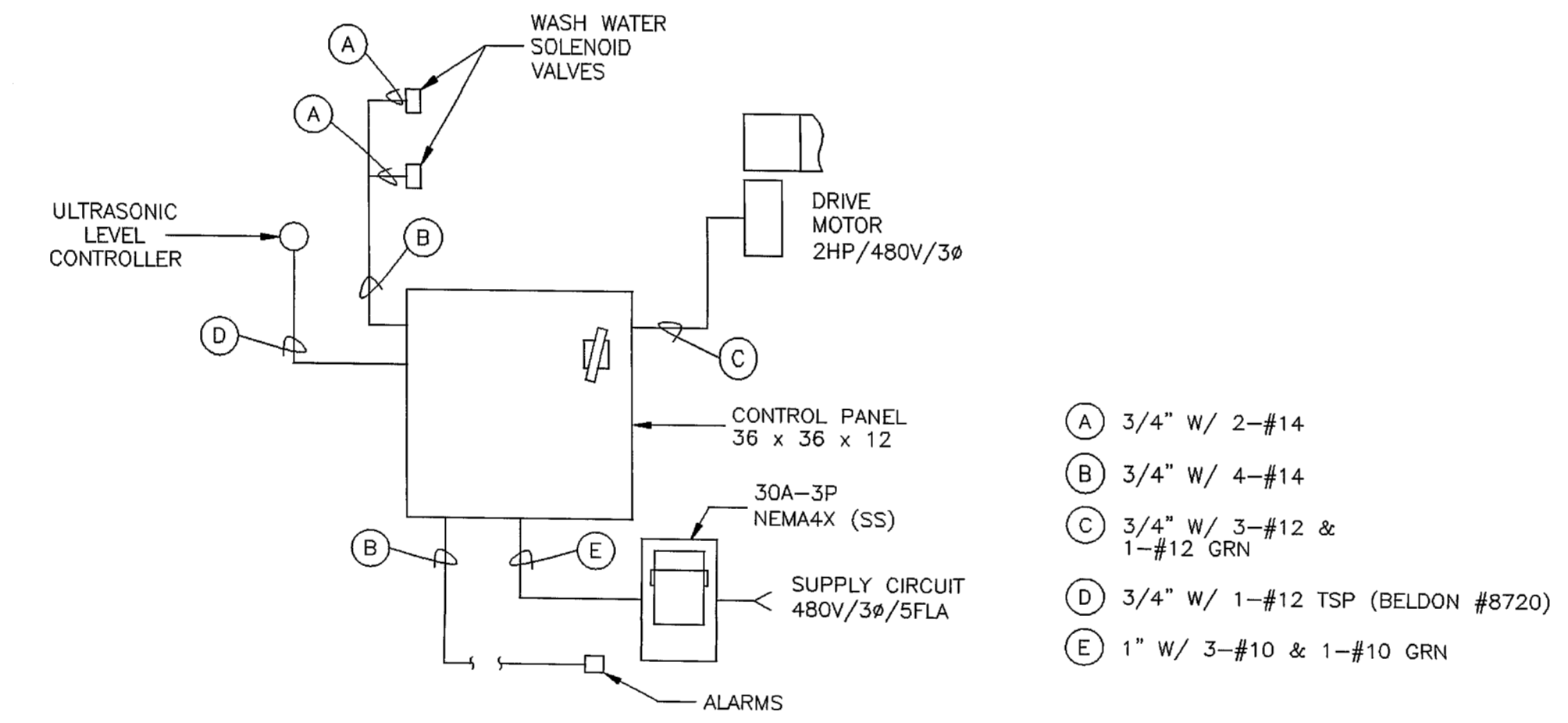
- CODING NOTES:**
- ① DUCTBANK SYSTEM. REFER TO SHEET E-1 FOR CONTINUATION.
 - ② DISCONNECT SWITCH FOR CLASSIFIER. MOUNT TOP AT 60" AFG USING P-1000 ALUMINUM UNISTRUT. ROUTE CONDUIT FROM SWITCH ALONG PIPE SUPPORT TO CLASSIFIER MOTOR. CONNECT WIRING FROM CLASSIFIER STARTER IN GRIT/GREASE CONTROL PANEL VIA THE CABLE REEL JUNCTION BOX OF THE SWITCH.
 - ③ EXTERIOR LIGHTING FIXTURE, HOLOPHANE #CW 3A 250 HP 4B BZ CA WITH PHOTO CONTROL KIT. FED WITH 1" PVC W/2-#8 & 1-#8 GND. REFER TO LIGHT FIXTURE DETAIL 6 AND POLE BASE DETAIL 2 ON SHEET E-1B. POLE TO BE HOLOPHANE AXRT 20 WITH HAND HOLE.
 - ④ 20A-120V DUPLEX RECEPTACLE, GFI, WP IN FS BOX WITH WEATHERPROOF COVER AND MOUNTED TO HAND RAIL.

GENERAL NOTE:

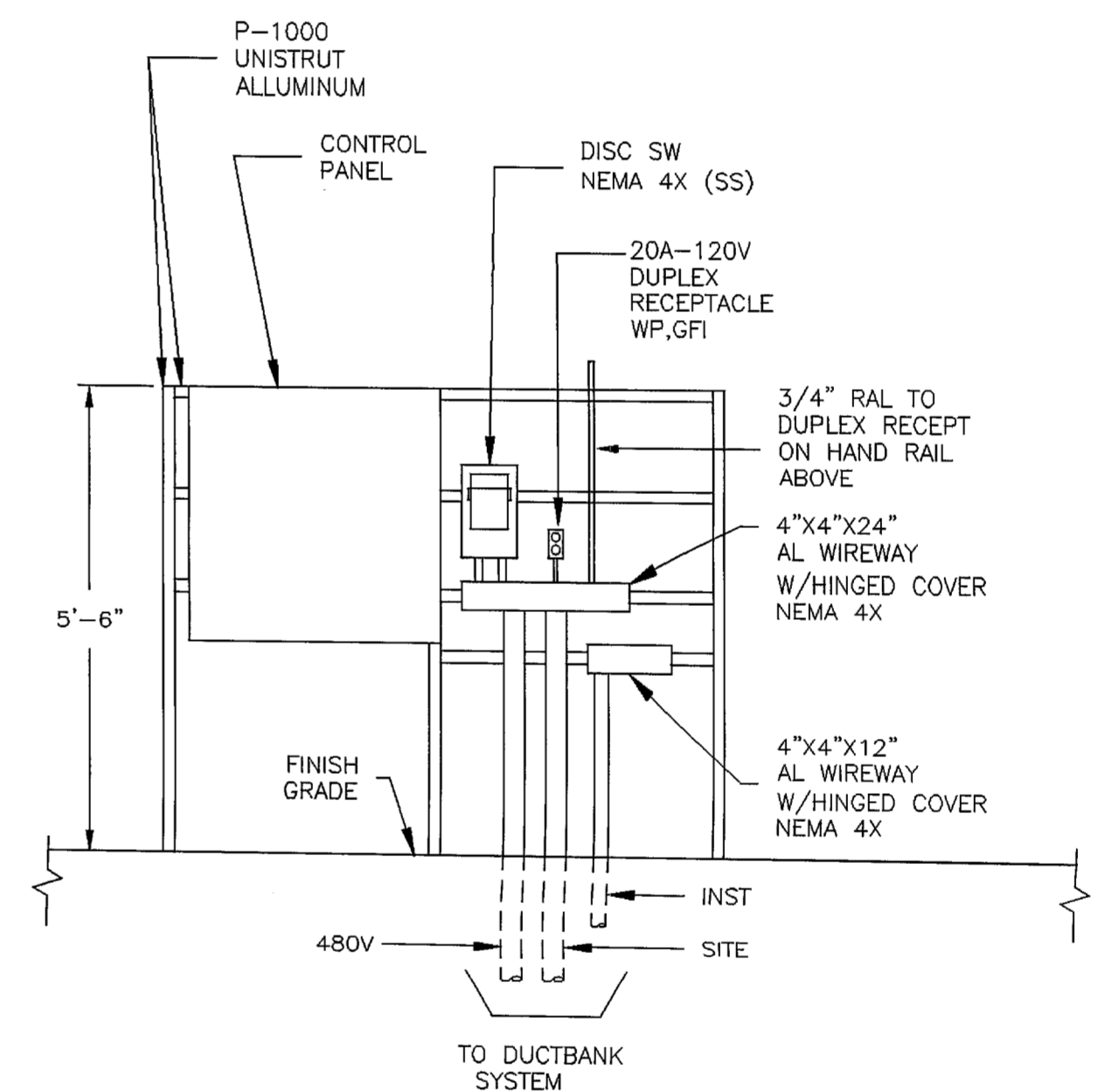
A. ROUTE PVC CONDUIT IN CONCRETE WALLS OR SLABS, TRANSITION TO RIGID GALVANIZED STEEL CONDUIT BEFORE LEAVING THE CONCRETE.



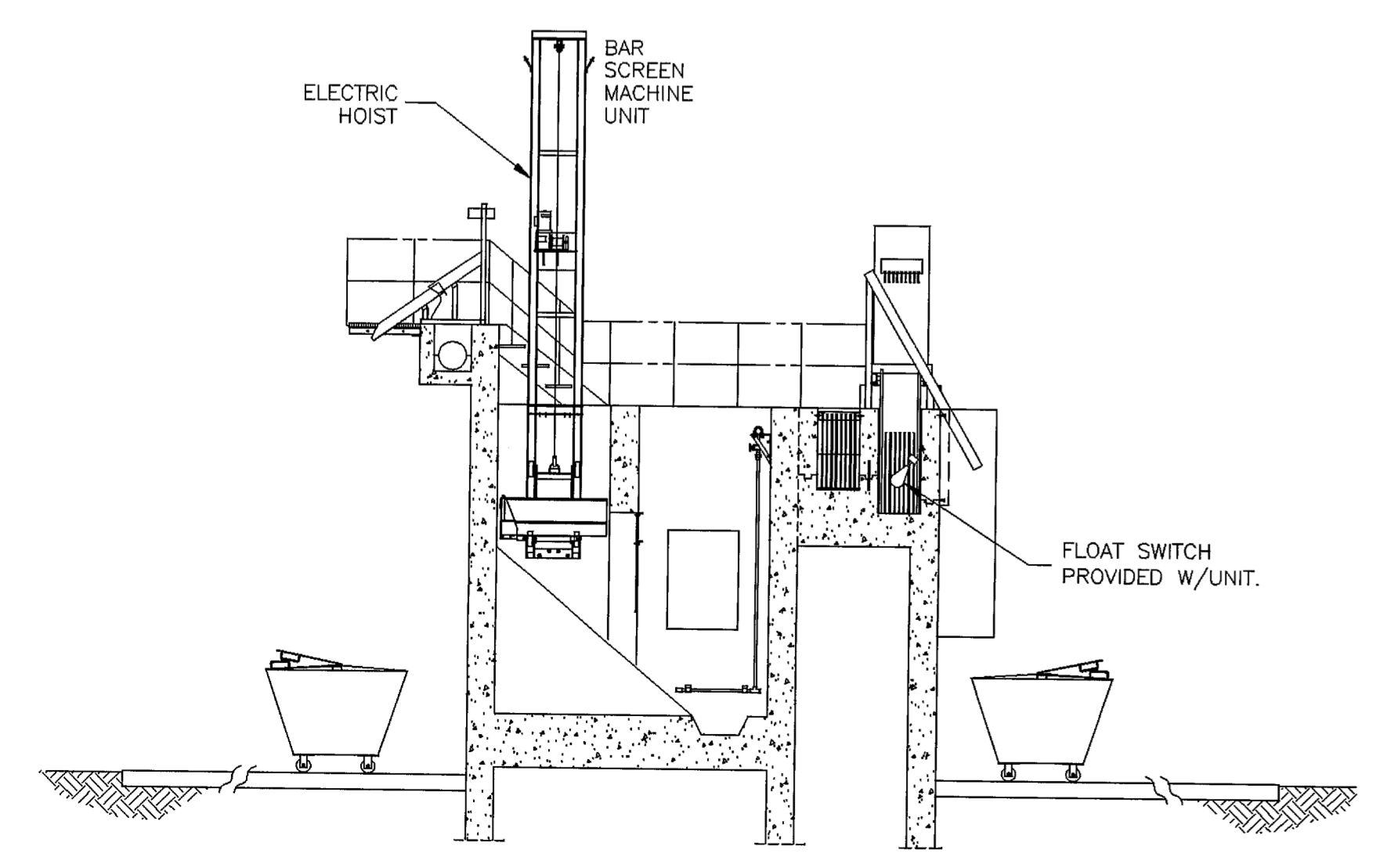
ELEVATION 1
SCALE: 1/2" = 1'-0"
E-5



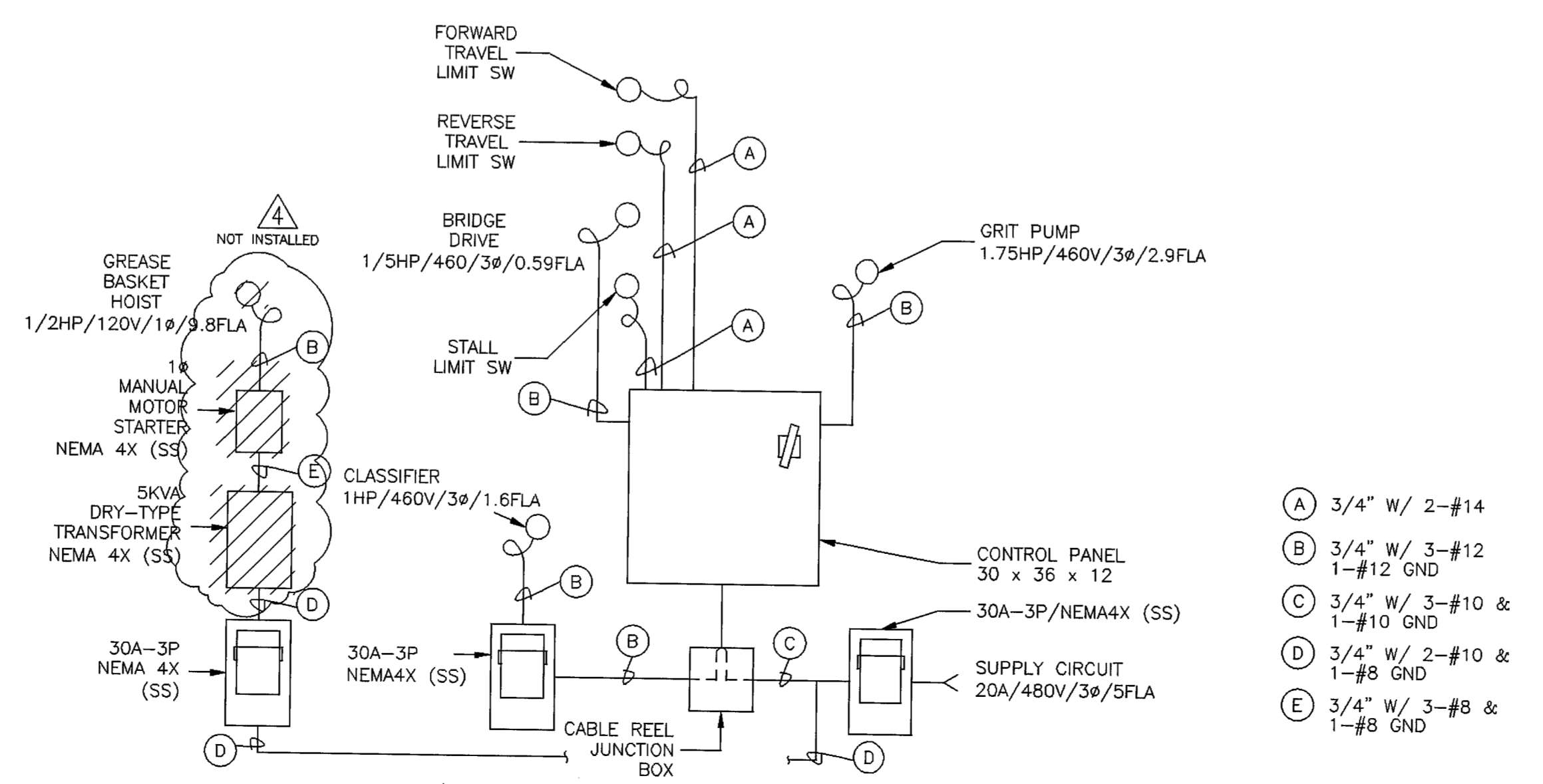
BAR SCREEN SYSTEM 3
SCALE: N.T.S.
E-5



ELEVATION 2
SCALE: 1/2" = 1'-0"
E-5



SECTION 5
SCALE: 3/16" = 1'-0"
E-5



GRIT/GREASE SYSTEM 4
SCALE: N.T.S.
E-5

REVISIONS			
NO.	DESCRIPTION	DATE	BY
ADDENDUM NO. 3		4/19/99	TLS
REVISED AS CONSTRUCTED		10/00	SLB

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VILLAGE OF WAYNESVILLE
WASTEWATER TREATMENT PLANT
IMPROVEMENTS - PHASE 1

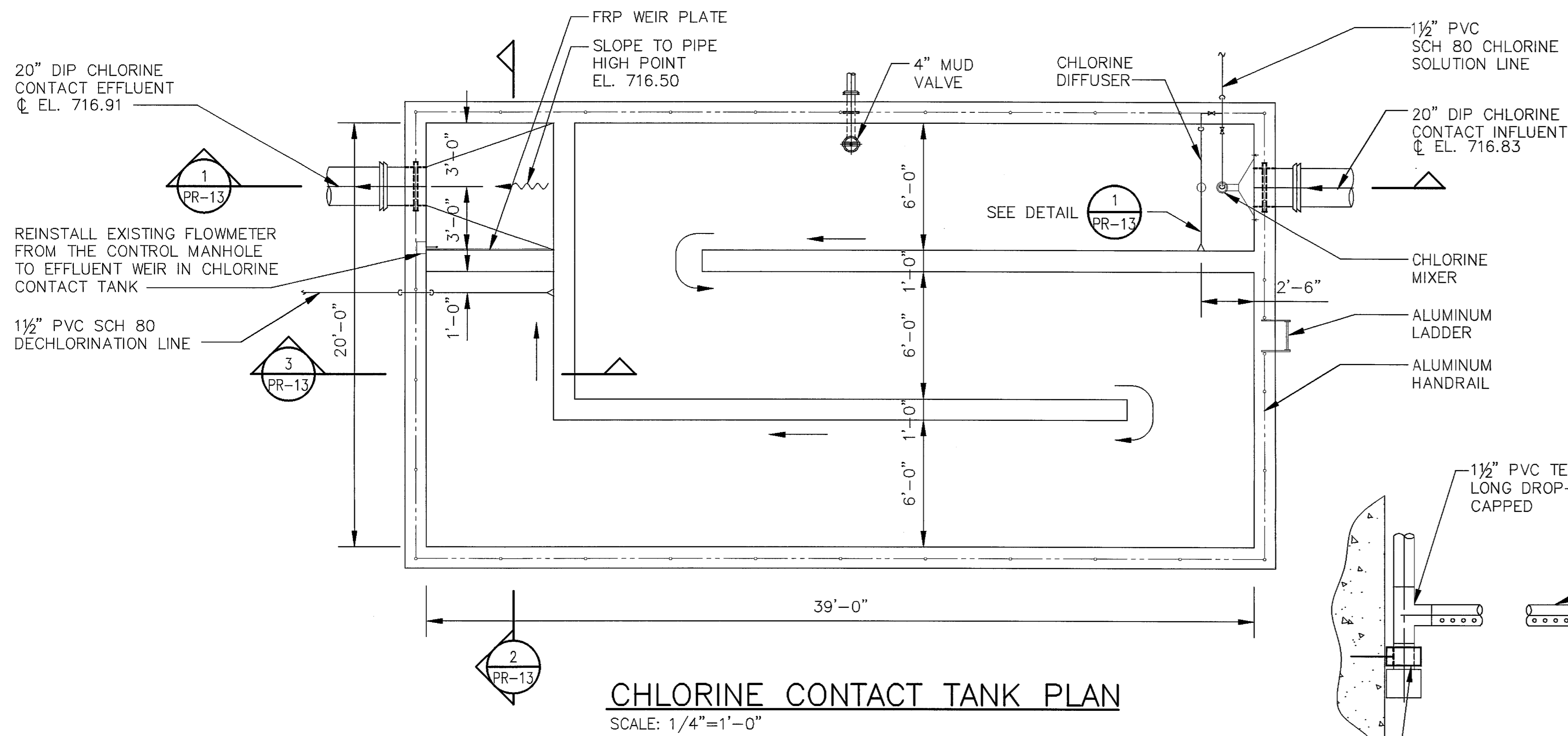
SCREEN AND GRIT/GREASE
UNIT PLANS AND SECTIONS

FIGURE 4 - EXISTING INFLUENT
MECHANICAL BAR SCREEN

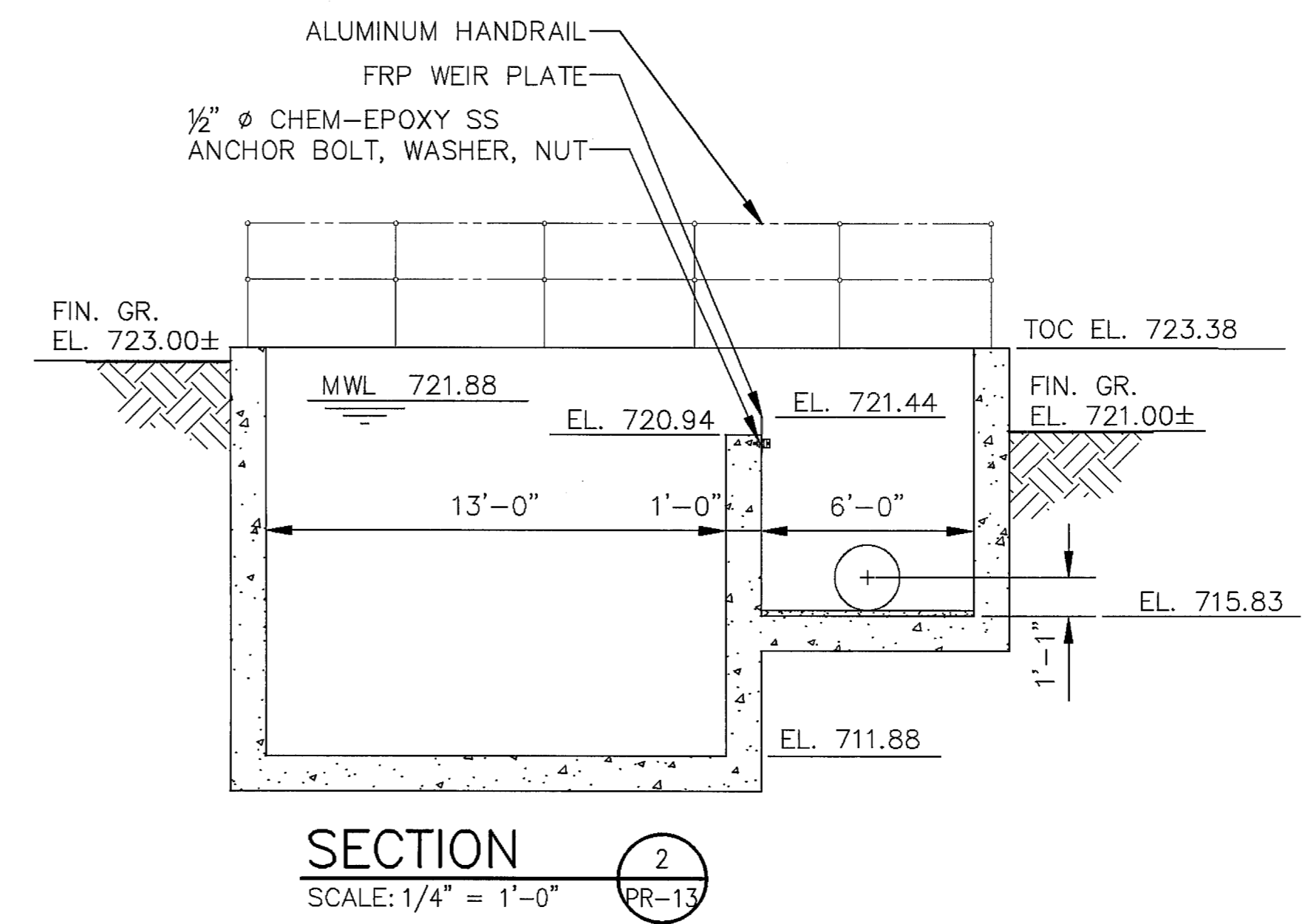
RECORD DRAWING

DRAWN DHC	PROJECT NO. 9821-6005.00
DESIGNED JHB	CONTRACT
CHECKED JPM	SHEET OF
APPROVED	DRAWING NUMBER
DATE JUNE 1998	E-5
SCALE	

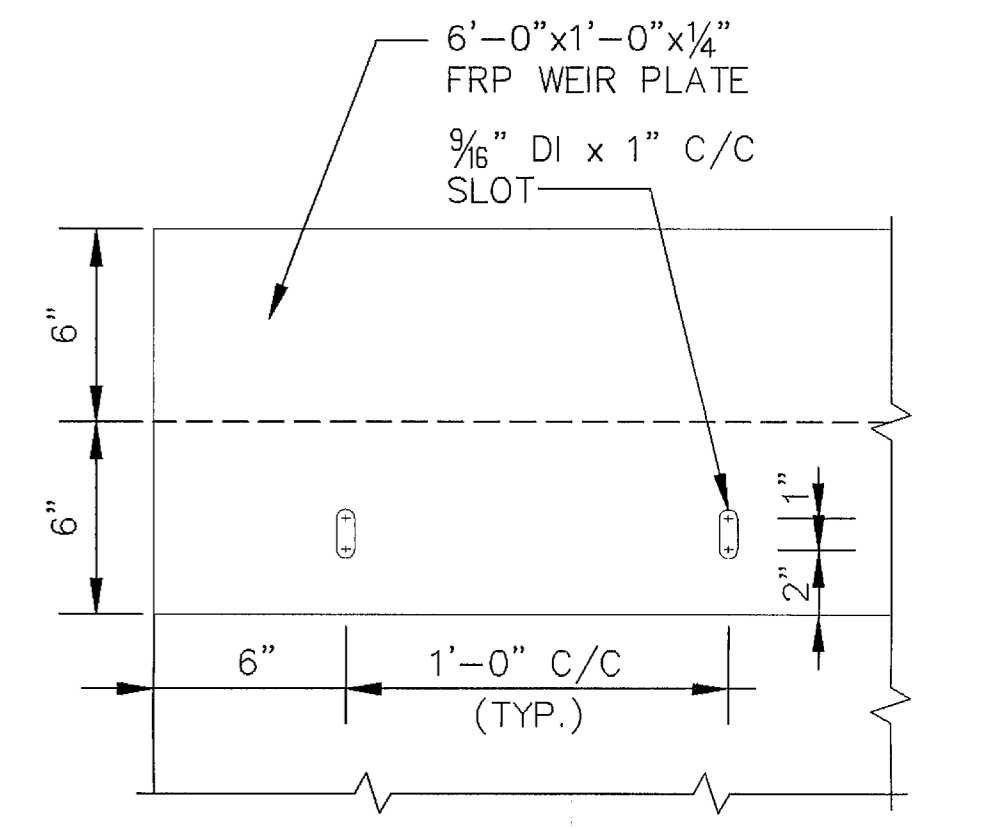
[E:\BOND] M:\PROJ\9821\6005\elec\0005-EGS.DWG - MAR 08, 2001 - 14:59:47 - PLOT: 1=1



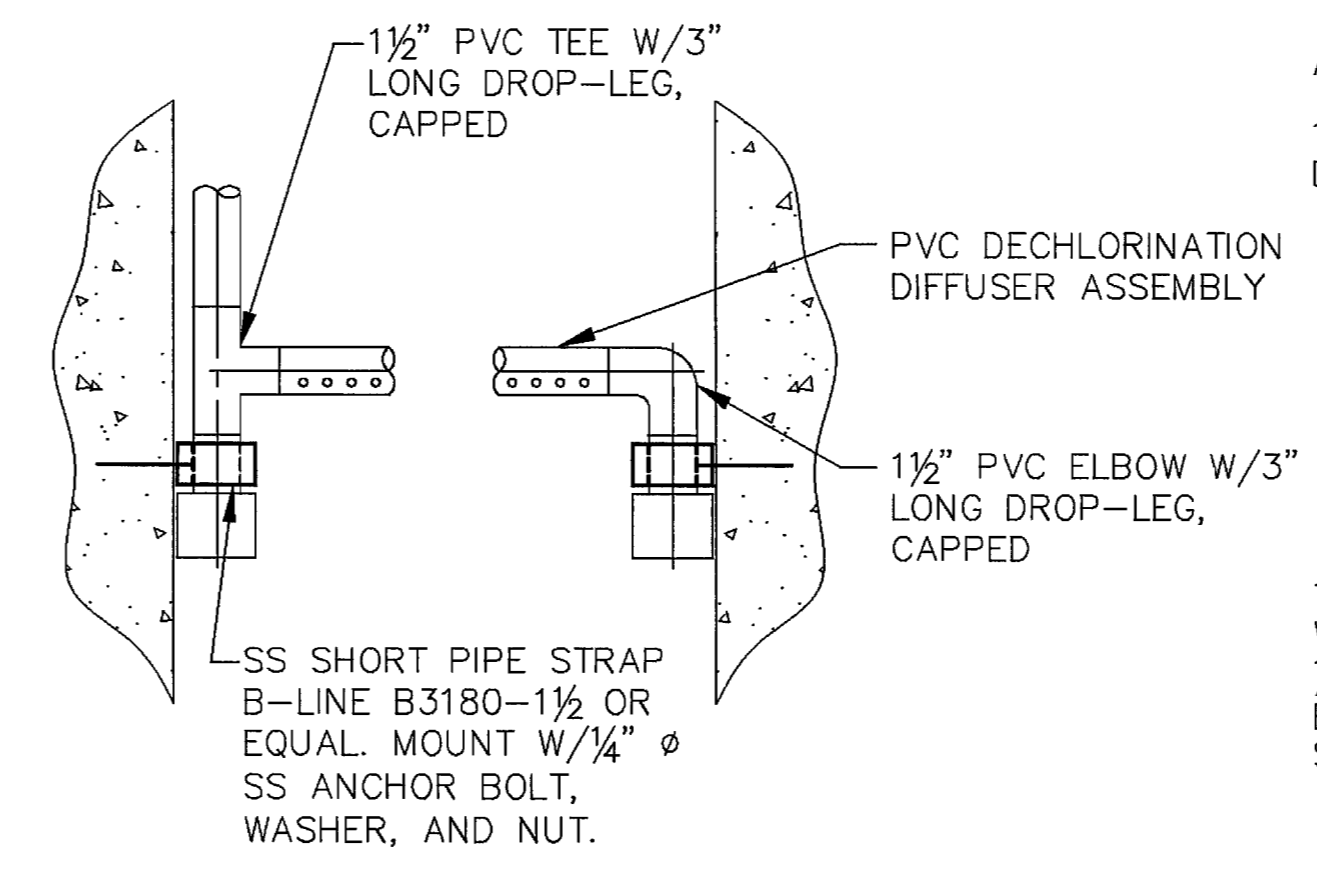
CHLORINE CONTACT TANK PLAN
SCALE: 1/4" = 1'-0"



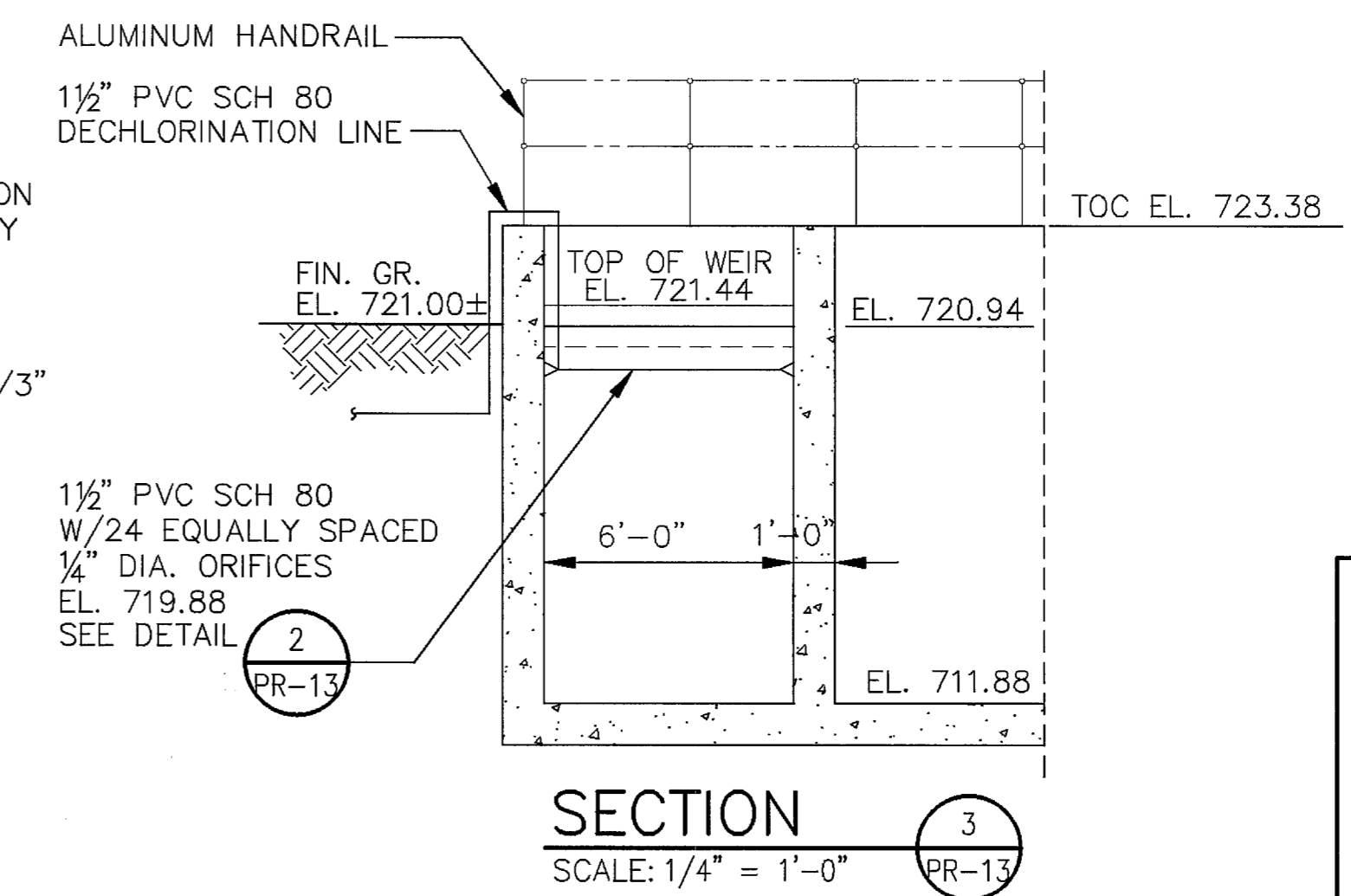
SECTION 2
SCALE: 1/4" = 1'-0"



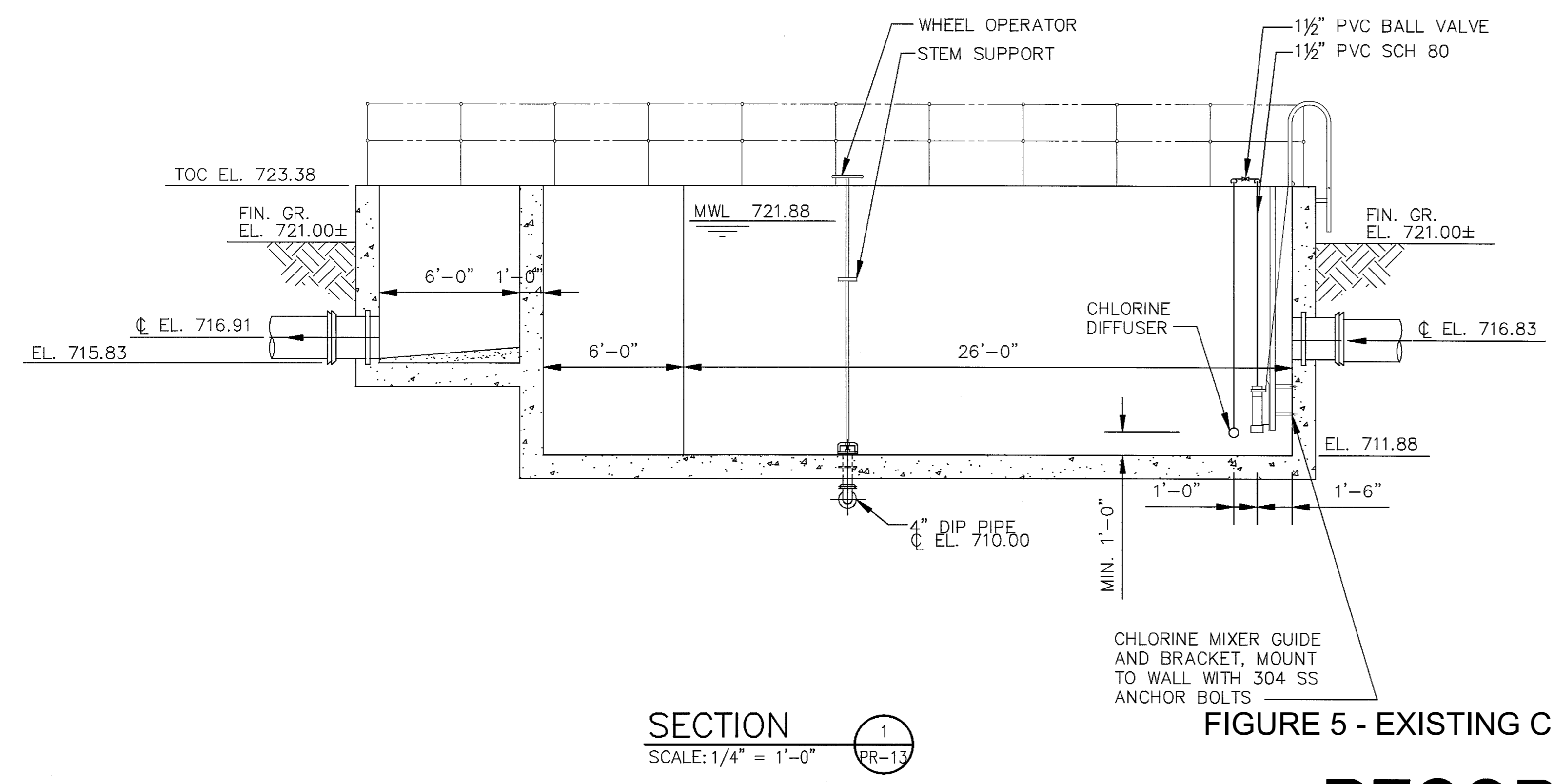
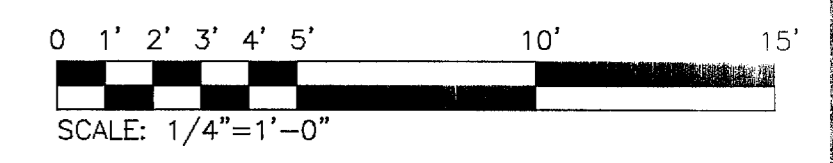
REINFORCED FIBERGLASS WEIR PLATE
SCALE: N.T.S.



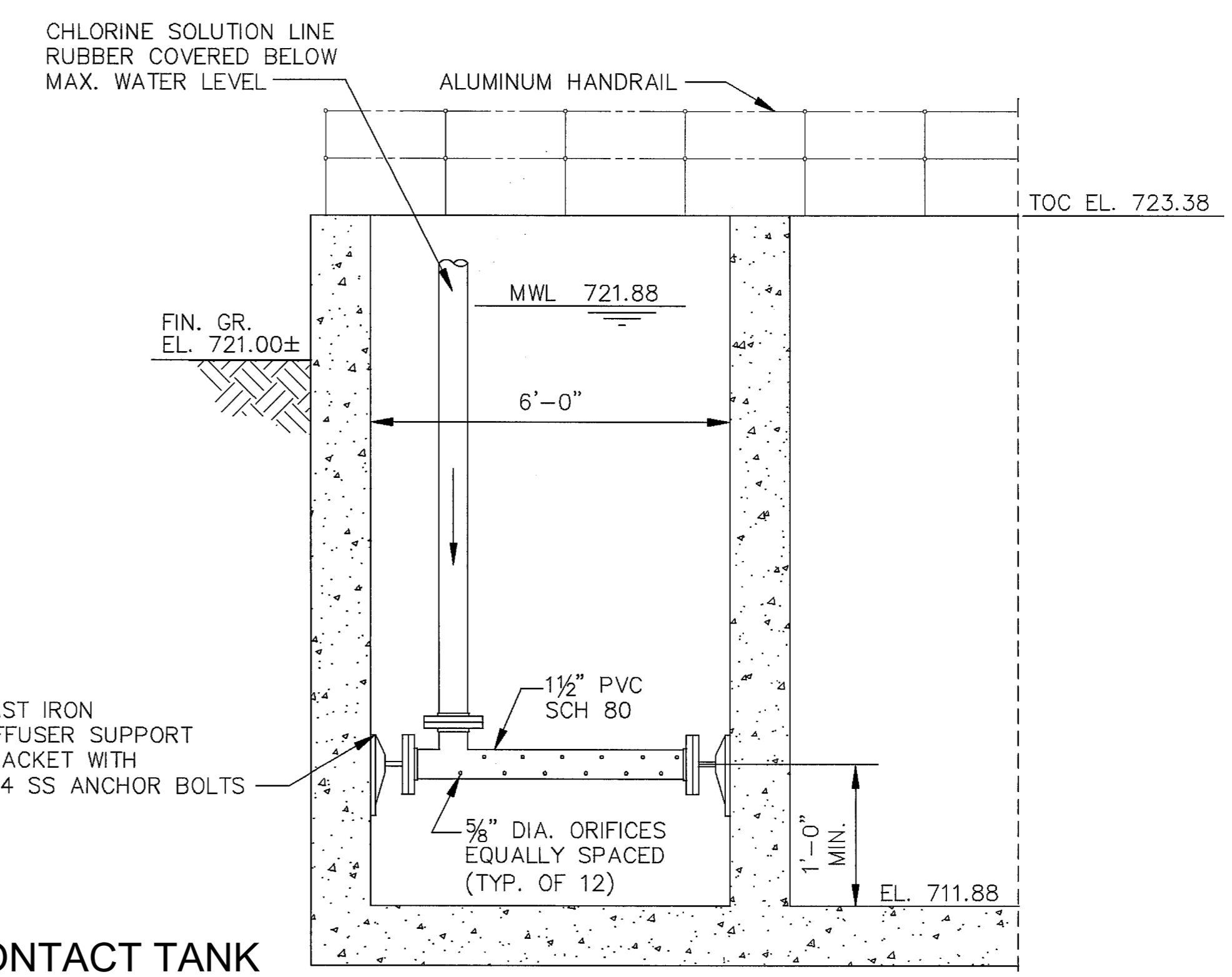
DETAIL 2
SCALE: N.T.S.



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



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



DETAIL 1
N.T.S.

FIGURE 5 - EXISTING CHLORINE CONTACT TANK

RECORD DRAWING

NO.	DESCRIPTION	DATE	BY
REVISIONS			

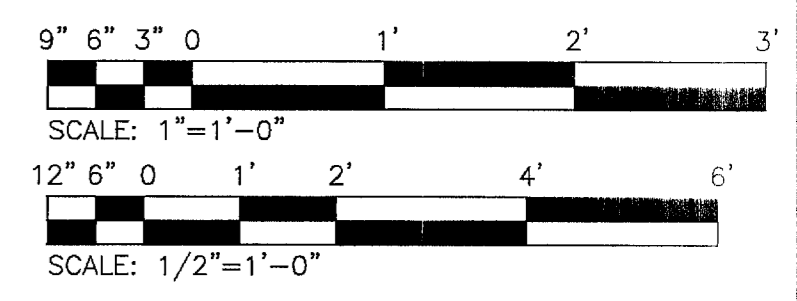
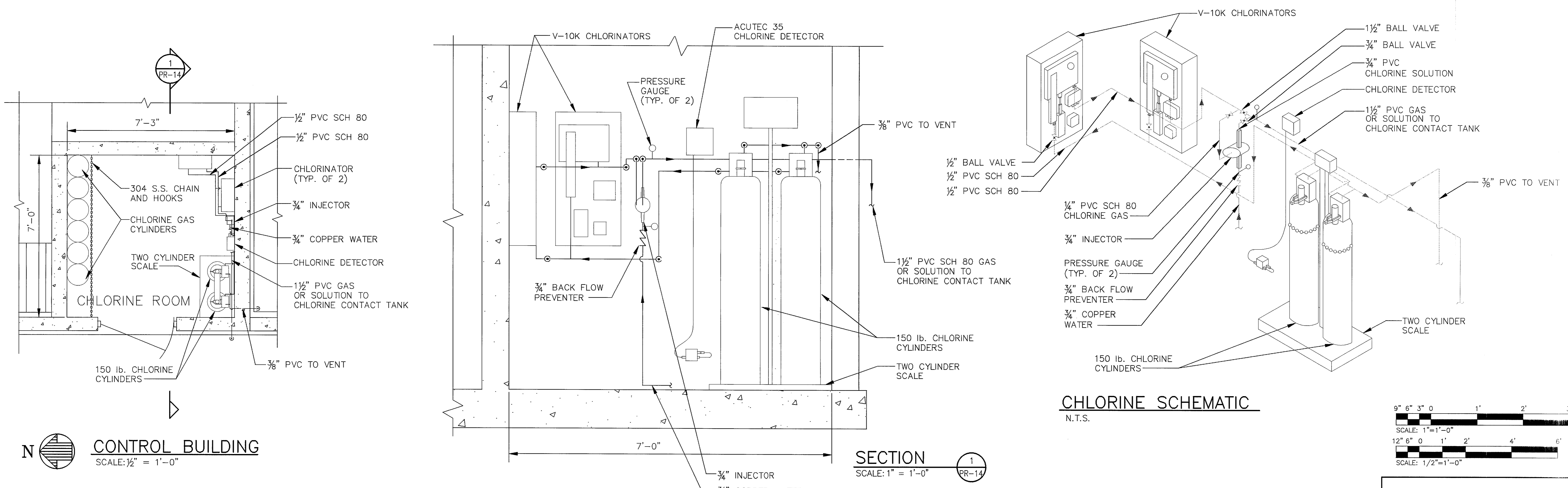
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VILLAGE OF WAYNESVILLE, OHIO
WASTEWATER TREATMENT PLANT
IMPROVEMENTS-PHASE 1

CHLORINE CONTACT TANK

DRAWN	EA	PROJECT NO.	9821-6005.00
DESIGNED	MS	CONTRACT	
CHECKED	AG	SHEET	OF
APPROVED	ERH	DRAWING NUMBER	
APPROVED			
DATE	JAN 98		PR-13
SCALE	AS SHOWN		

[[SPOND]] M:\PROJ\9821\6005\PROC\PR-13.DWG - MAR 08, 2001 - 13:26:26 - PLOT: 1=1



CONTROL BUILDING
 SCALE: 1/2" = 1'-0"

SECTION 1
 SCALE: 1" = 1'-0"

NO.	DESCRIPTION	DATE	BY

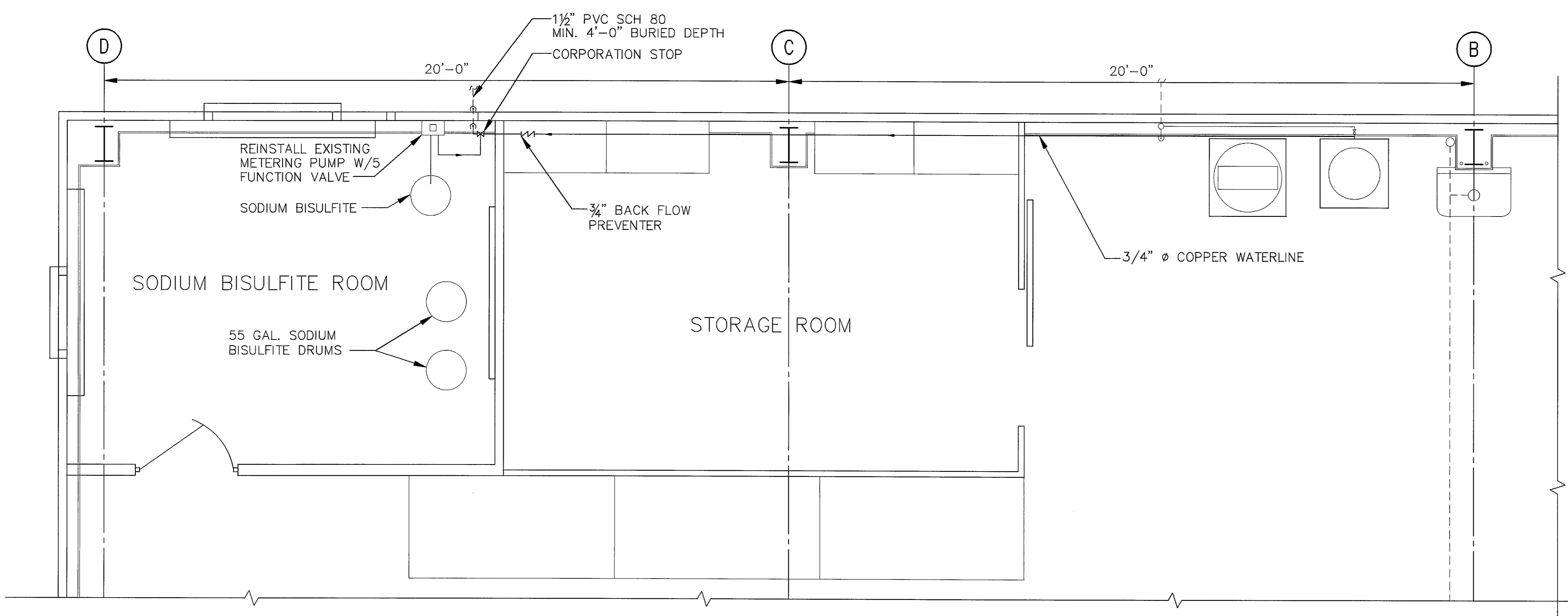
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VILLAGE OF WAYNESVILLE, OHIO
 WASTEWATER TREATMENT PLANT
 IMPROVEMENTS—PHASE 1

**CHLORINATION AND
 DECHLORINATION
 FACILITIES**

DRAWN	EA	PROJECT NO.	9821-6005.00
DESIGNED	MS	CONTRACT	
CHECKED	AG	SHEET	
APPROVED	ERH	DRAWING NUMBER	
APPROVED			
DATE	JAN 98		
SCALE	AS SHOWN		



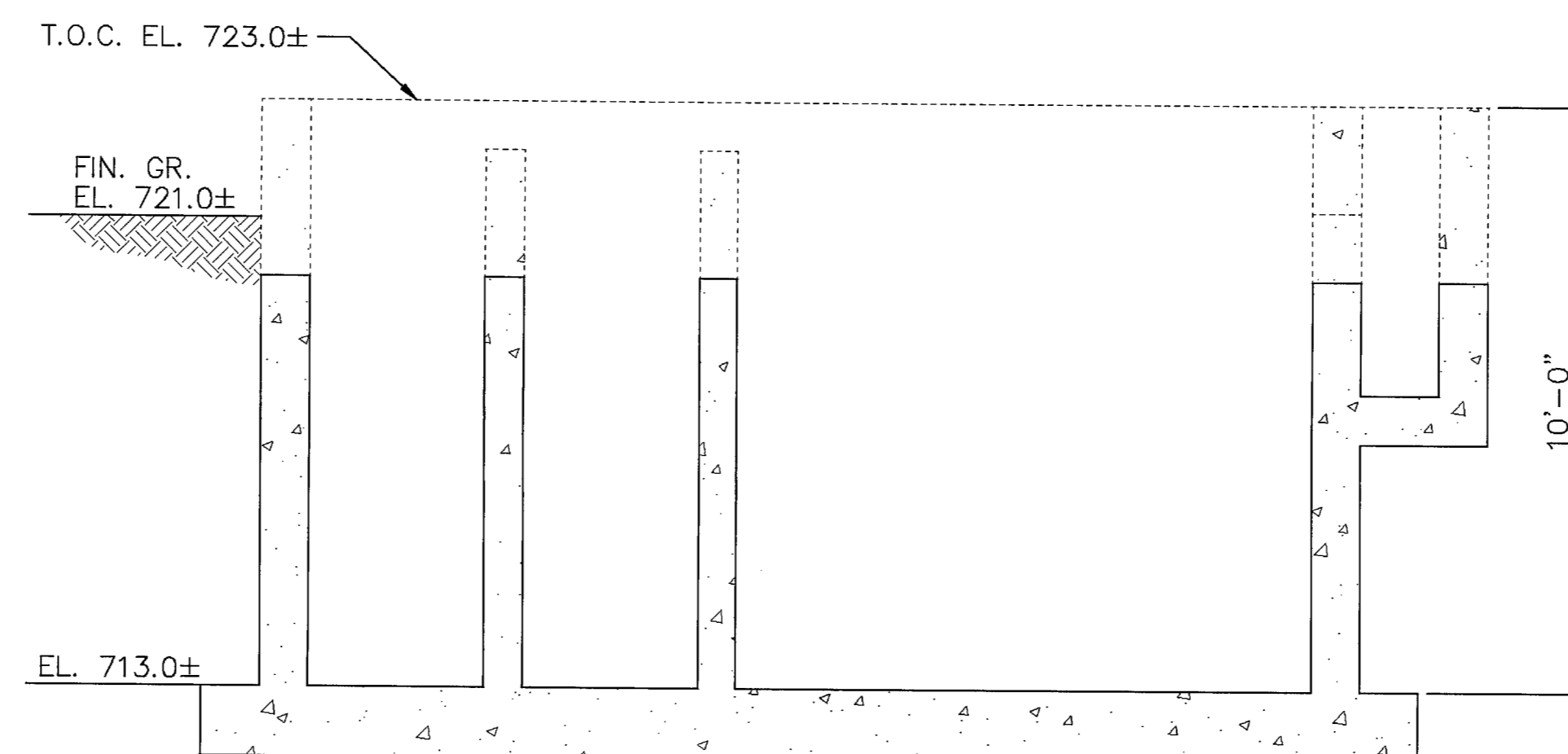
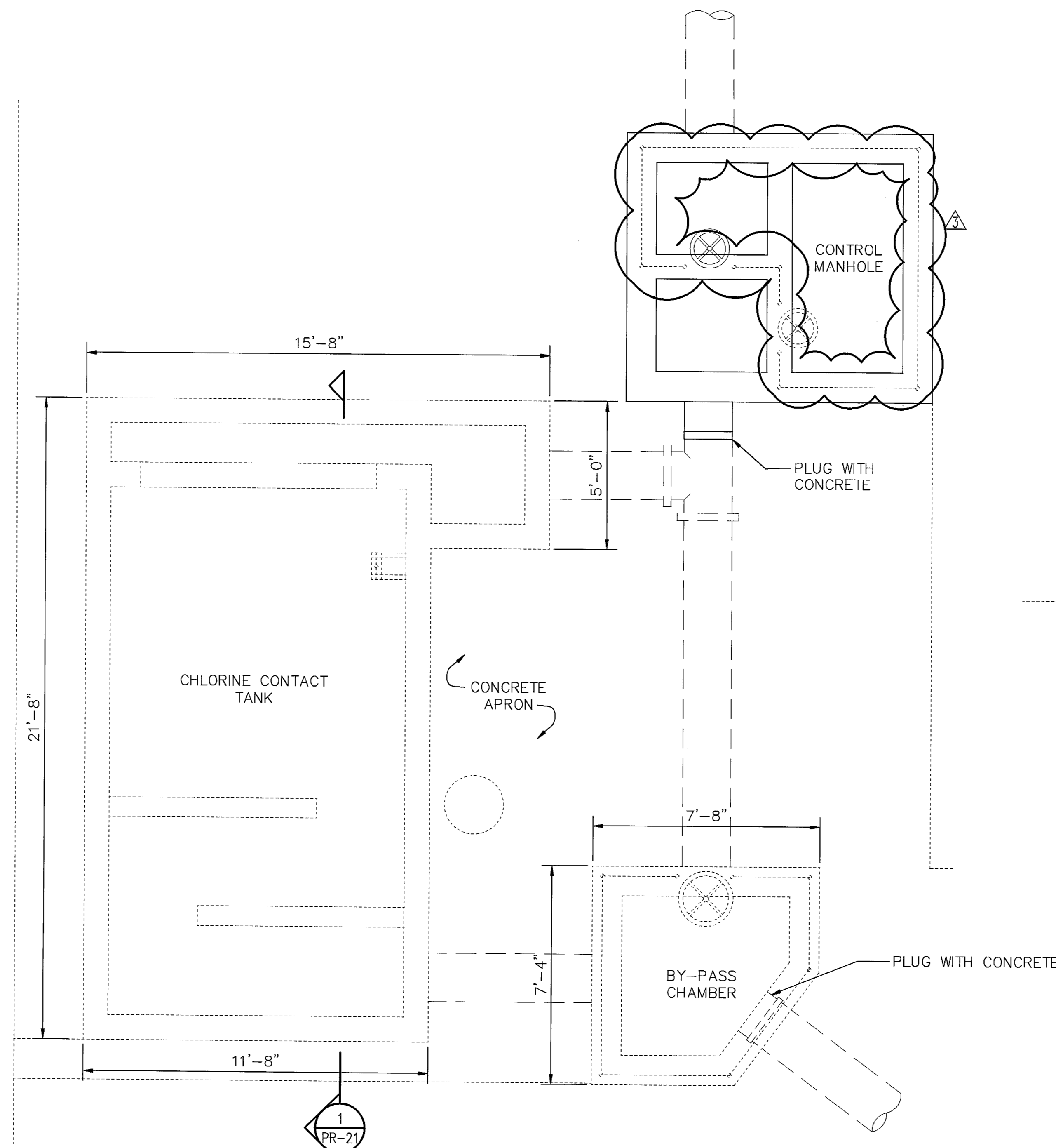
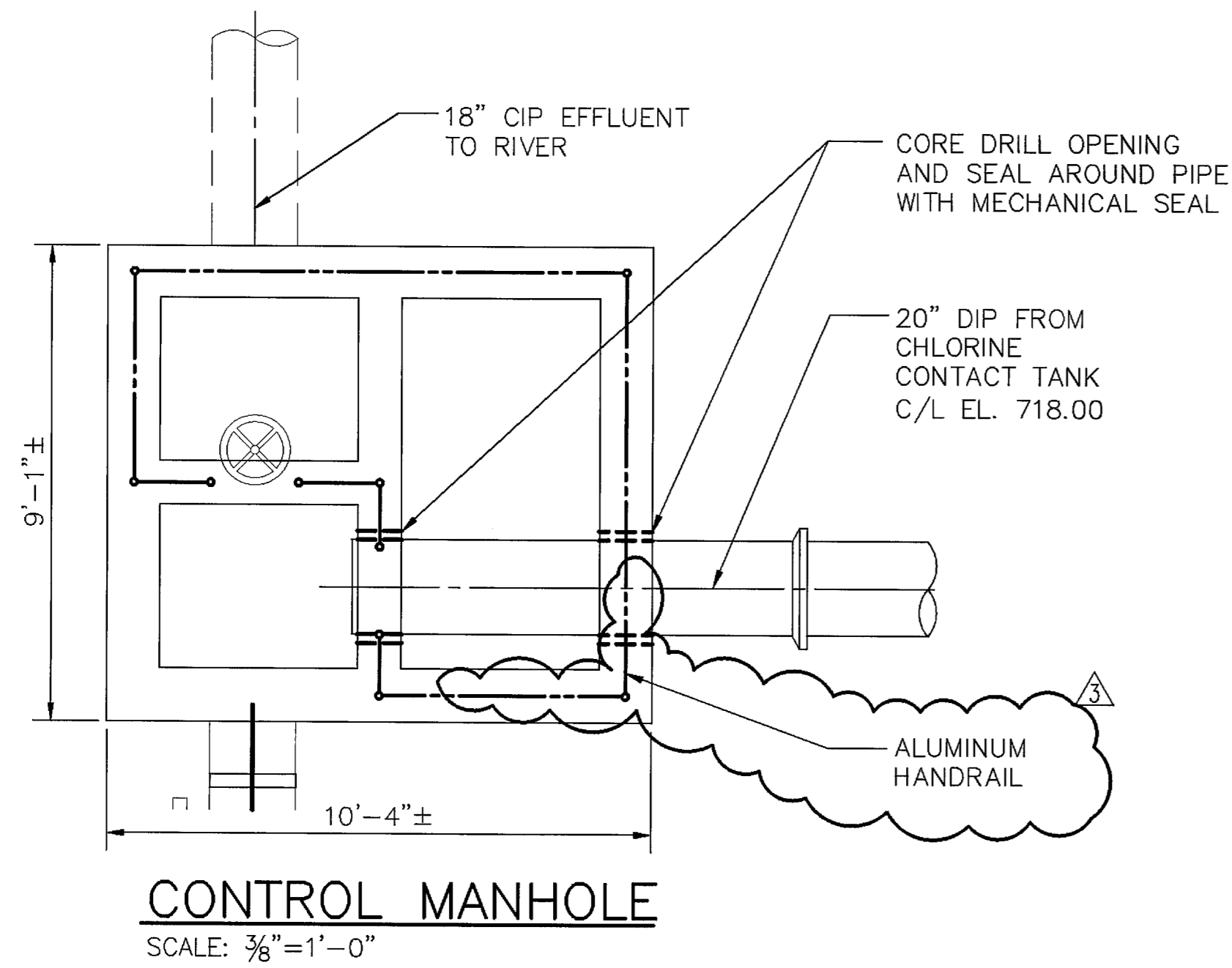
STORAGE GARAGE
 SCALE: 1/2" = 1'-0"

FIGURE 5 - EXISTING CHLORINE CONTACT TANK

RECORD DRAWING

PR-14

[[SEBOND]] M:\PROJ\9821\6005\PROC\PR-14.DWG — MAR 08, 2001 — 13:27:33 — PLOT: 1=1



DEMOLITION NOTES

1. REMOVE AS SHOWN CHLORINE CONTACT TANK STRUCTURE AND EQUIPMENT. PLUG OR REMOVE PIPING CONNECTED TO THE STRUCTURE. BACKFILL AND COMPACT EXCAVATED AREAS AND RESTORE TO MATCH ADJACENT GRADE.
2. REMOVE AS SHOWN BY-PASS CHAMBER STRUCTURE AND EQUIPMENT. PLUG OR REMOVE PIPING CONNECTED TO THE STRUCTURE. BACKFILL AND COMPACT EXCAVATED AREAS AND RESTORE TO MATCH ADJACENT GRADE.
3. REMOVE AS SHOWN CONTROL MANHOLE STRUCTURE AND EQUIPMENT. PLUG OR REMOVE PIPING CONNECTED TO THE STRUCTURE. BACKFILL AND COMPACT EXCAVATED AREAS AND RESTORE TO MATCH ADJACENT GRADE.
4. DEMOLITION WORK SHALL BE CONDUCTED ONLY AFTER CONSTRUCTION OF NEW FACILITIES HAS BEEN COMPLETED.

----- DESIGNATES ITEMS TO BE DEMOLISHED

REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	ADDENDUM NO. 3	4/19/99	JW

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WASTEWATER TREATMENT PLANT
IMPROVEMENTS-PHASE 1

EXISTING CHLORINE CONTACT TANK
DEMOLITION
PLAN AND SECTION,
CONTROL MANHOLE

DRAWN	JAW	PROJECT NO.	9821-6005.00
DESIGNED		CONTRACT	
CHECKED		SHEET	OF
APPROVED		DRAWING NUMBER	
DATE	JAN 98		
SCALE	3/8"=1'-0"		

FIGURE 5 - EXISTING CHLORINE CONTACT TANK

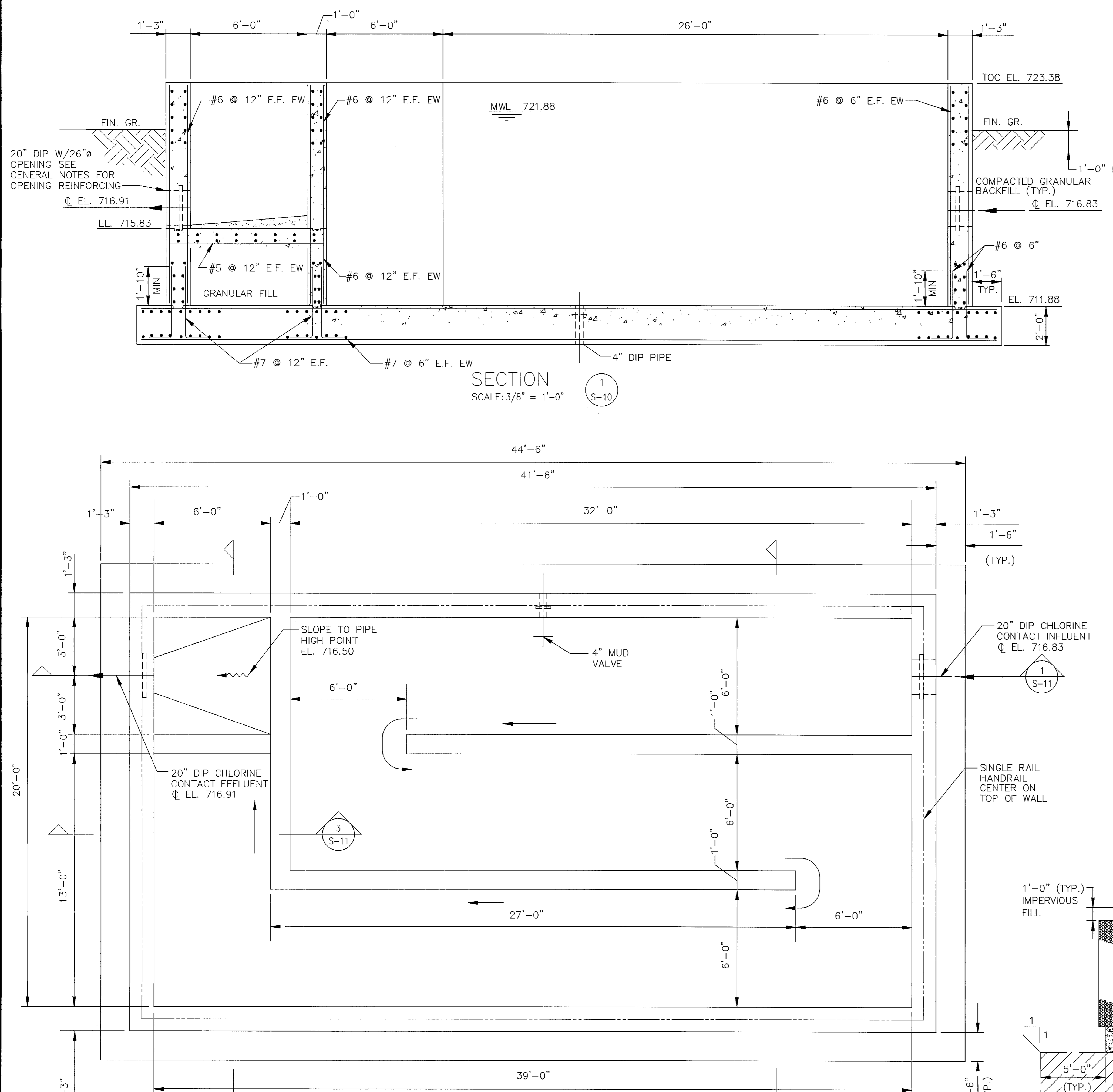
SECTION 1 PR-21
SCALE: 3/8" = 1'-0"

RECORD DRAWING

PR- 22

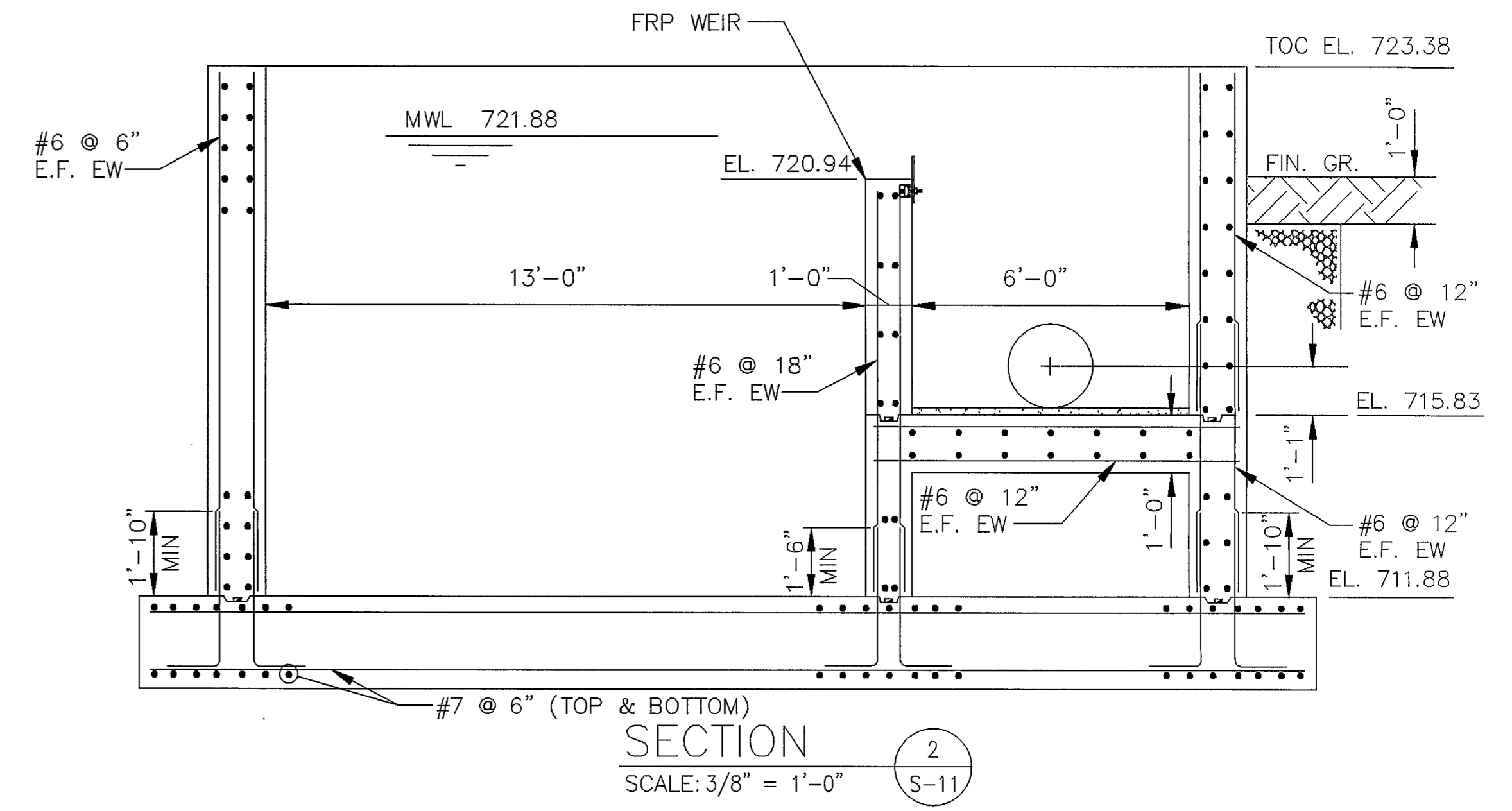
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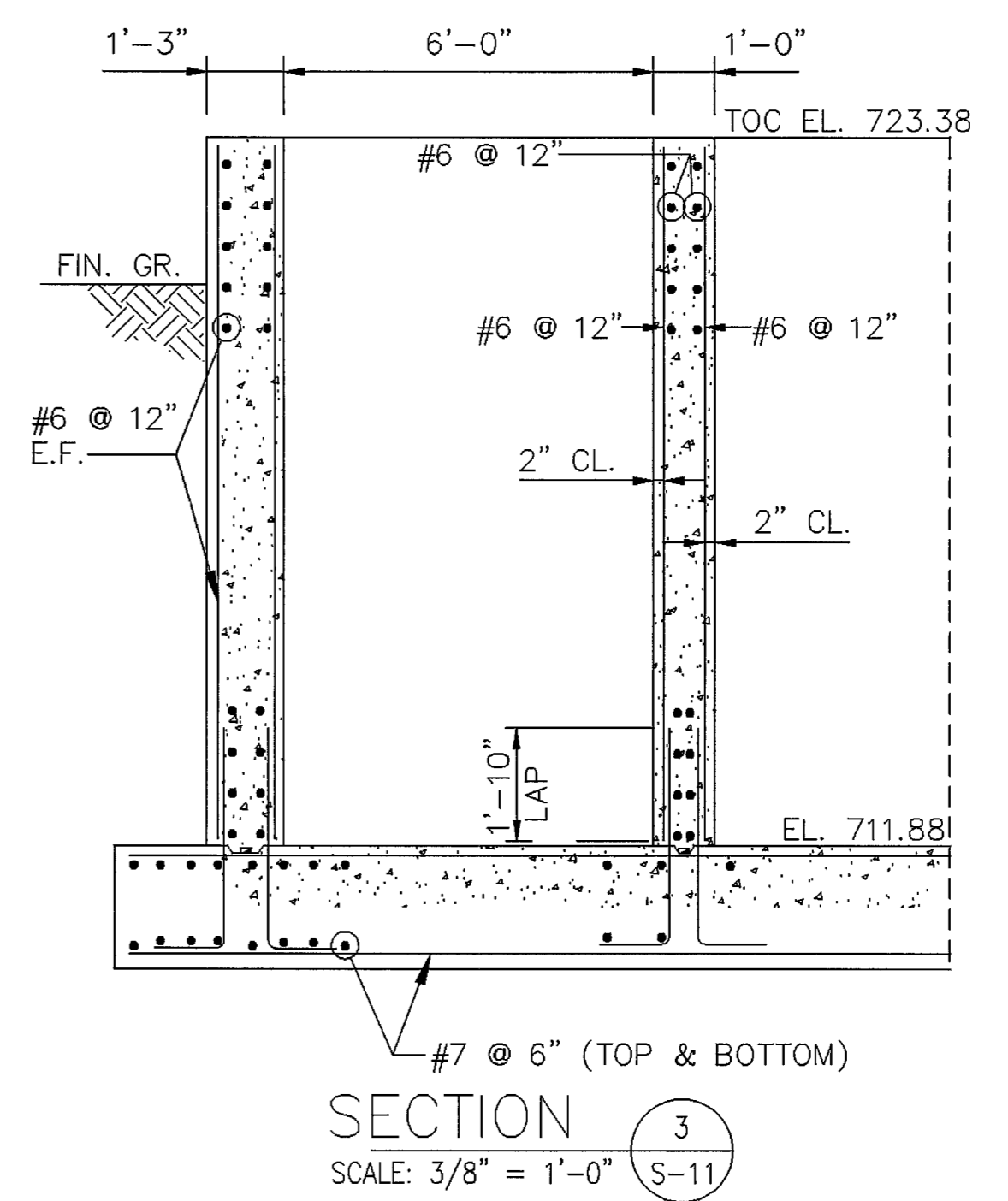


CHLORINE CONTACT TANK PLAN N
SCALE: 3/8" = 1'-0"

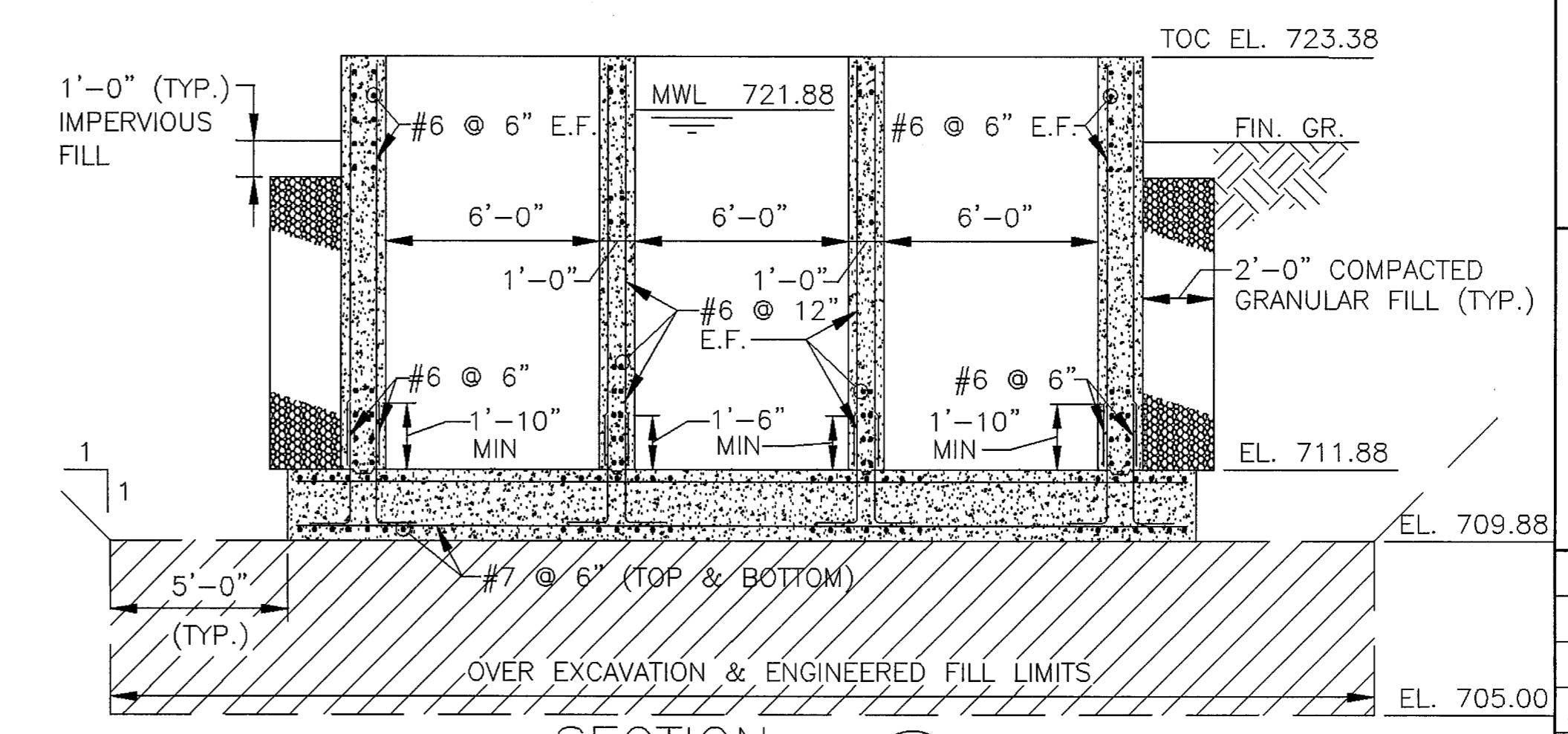
FIGURE 5 - EXISTING CHLORINE CONTACT TANK



SECTION 2
SCALE: 3/8" = 1'-0"



SECTION 3
SCALE: 3/8" = 1'-0"



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

NOTE:
1. SEE GENERAL STRUCTURAL NOTE FOR OPENING REINFORCING.

0 1' 2' 3' 4' 5' 10'
SCALE: 3/8" = 1'-0"

0 1' 2' 3' 4' 5' 10' 15'
SCALE: 1/4" = 1'-0"

NO.	DESCRIPTION	DATE	BY
REVISIONS			

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WASTEWATER TREATMENT PLANT
PHASE 1-IMPROVEMENTS

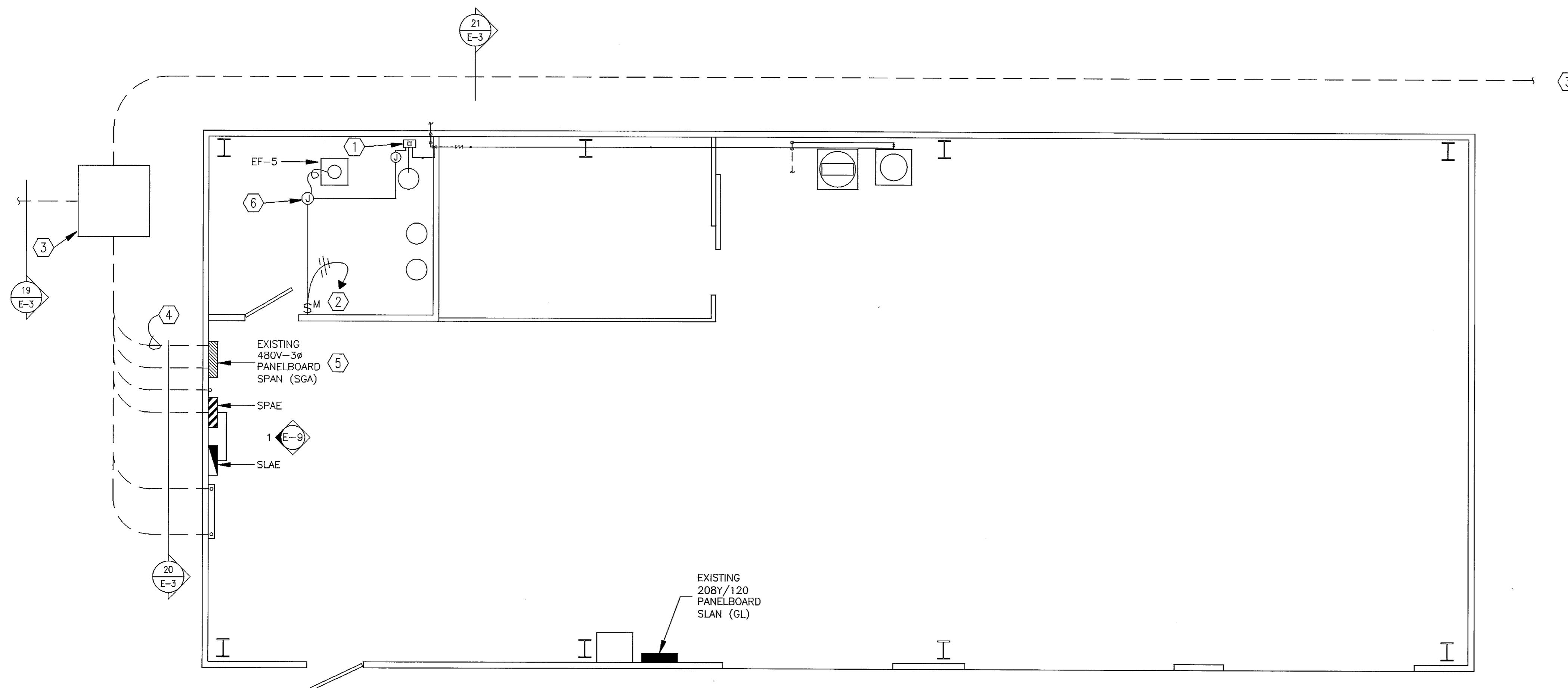
CHLORINE CONTACT TANK
STRUCTURAL
PLAN AND SECTIONS

DRAWN	GV	PROJECT NO.	
DESIGNED	PHB	CONTRACT	
CHECKED		SHEET	OF
APPROVED		DRAWING NUMBER	
APPROVED			
DATE			
SCALE	AS NOTED		

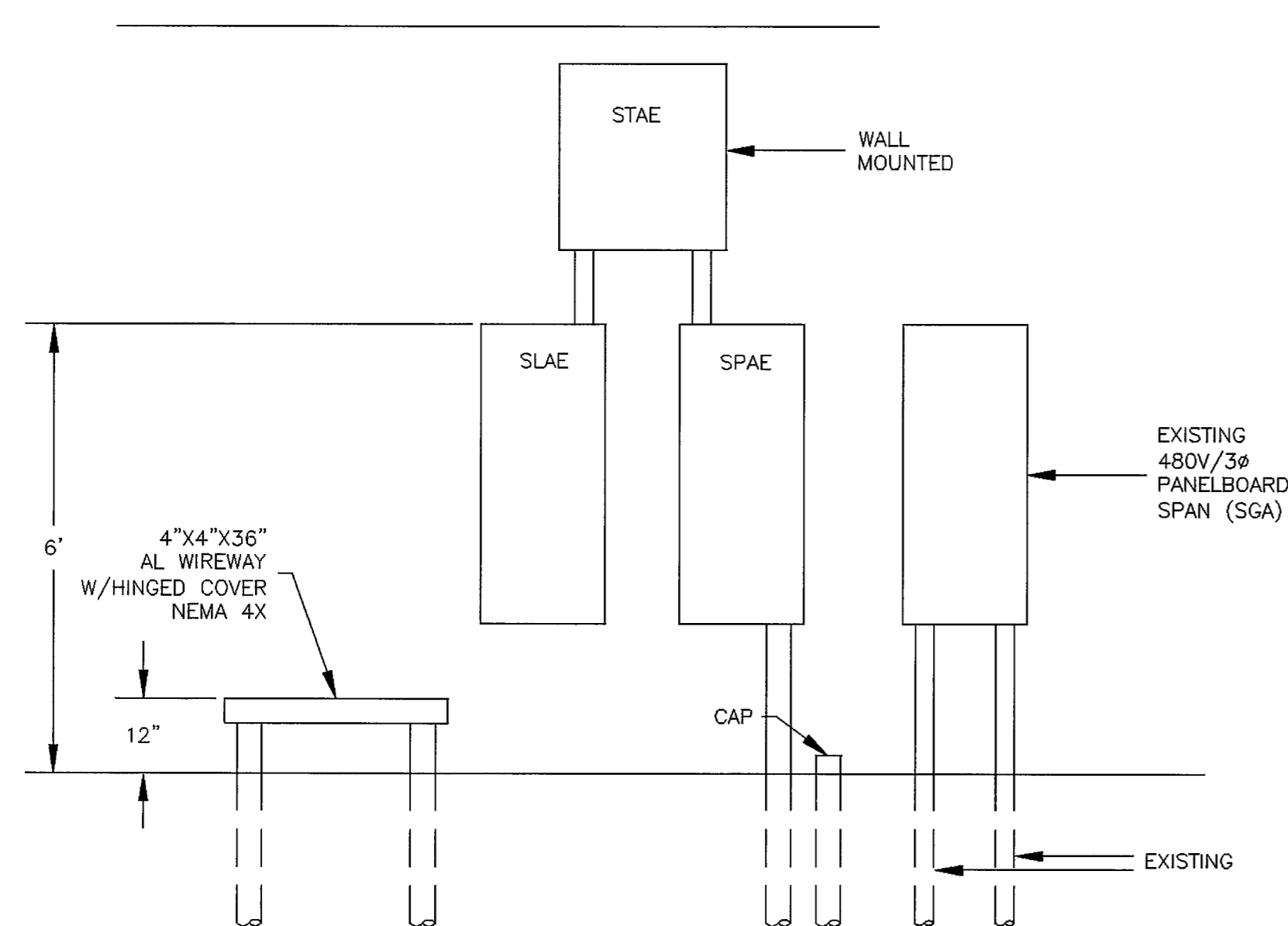
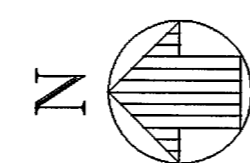
S-11

CODED NOTES: ⬡

- 1 METERING PUMP FOR SODIUM BISULFATE. FLEX TO UNIT AND WIRE COMPLETE.
- 2 TO LOCAL 120 VOLT PANELBOARD. ADD 1-20A-1P CIRCUIT BREAKER TO EXISTING PANELBOARD. VERIFY PANELBOARD MANUFACTURER AND CIRCUIT BREAKER TYPE.
- 3 DUCTBANK SYSTEM. REFER TO SHEET E-1 FOR CONTINUATION.
- 4 EXISTING FEEDER REWORKED TO NEW MANHOLE. NEW CONDUCTORS PULLED FROM NEW SWITCHBOARD.
- 5 EXISTING 480V-3PH-3W PANELBOARD. REPLACE EXISTING FEEDER WITH NEW FEEDER FROM NEW SWITCHBOARD. ADD NEUTRAL BUSS TO PANELBOARD. REWORK SPARE CONDUIT TO NEW MANHOLE AND PULL IN NEW CONDUCTORS. EXISTING FEEDER CONDUIT REWORKED TO NEW MANHOLE AFTER OLD FEEDER CONDUCTORS PULLED. CONDUIT BECOMES SPARE.
- 6 OUTLET FOR EF-5. 1/6 HP-120V-1PH 4.4FLA. FLEX TO UNIT AND WIRE COMPLETE.



STORAGE/GARAGE
SCALE: 1/4"=1'-0"



ELEVATION 1
SCALE: 1/2"=1'-0" E-13

FIGURE 5 - EXISTING CHLORINE CONTACT TANK

NO.	DESCRIPTION	DATE	BY

REVISIONS

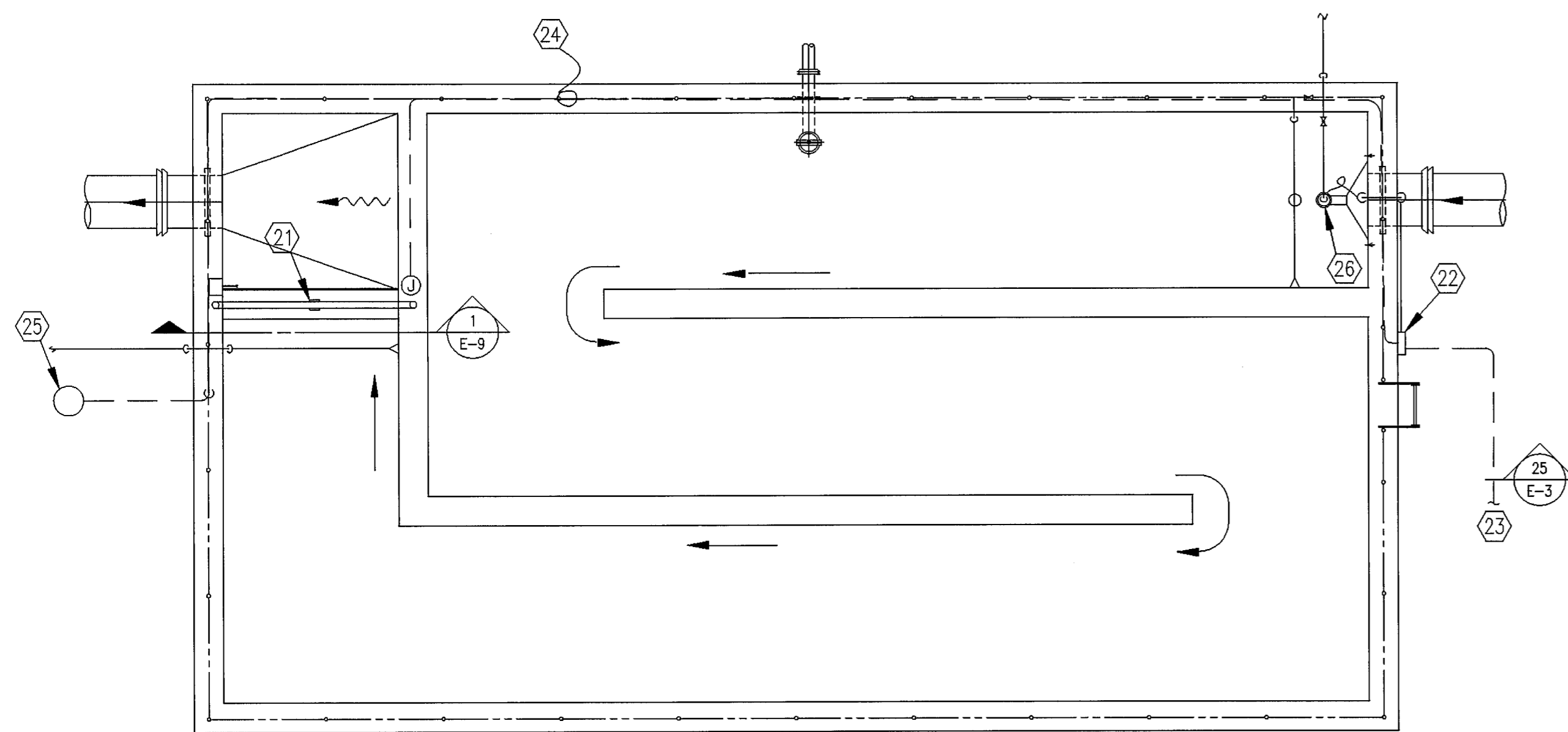
Dodson Stilson Dodson-Stilson, Inc.
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VILLAGE OF WAYNESVILLE
WASTEWATER TREATMENT PLANT
IMPROVEMENTS - PHASE 1

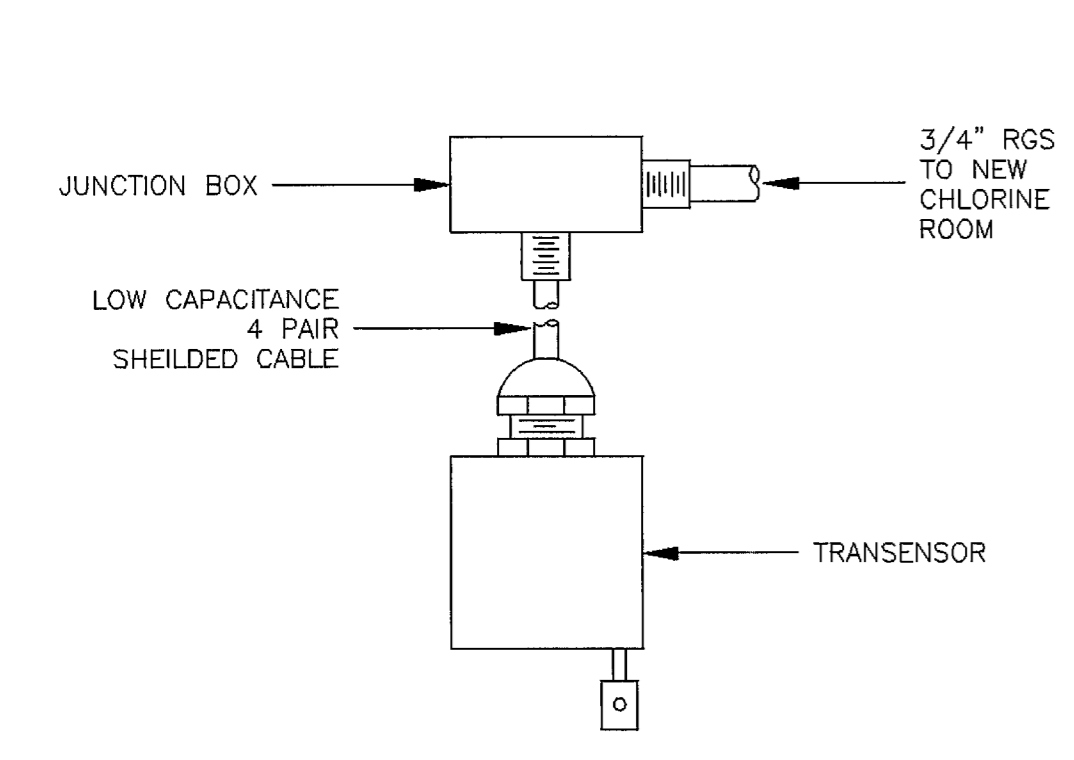
EXISTING STORAGE/GARAGE
(DECHLORINE FACILITY)

DRAWN	DHC	PROJECT NO.	9821-6005.00
DESIGNED	JHB	CONTRACT	
CHECKED	JPM	SHEET	OF
APPROVED		DRAWING NUMBER	
DATE	JUNE 1998	E-10	
SCALE			

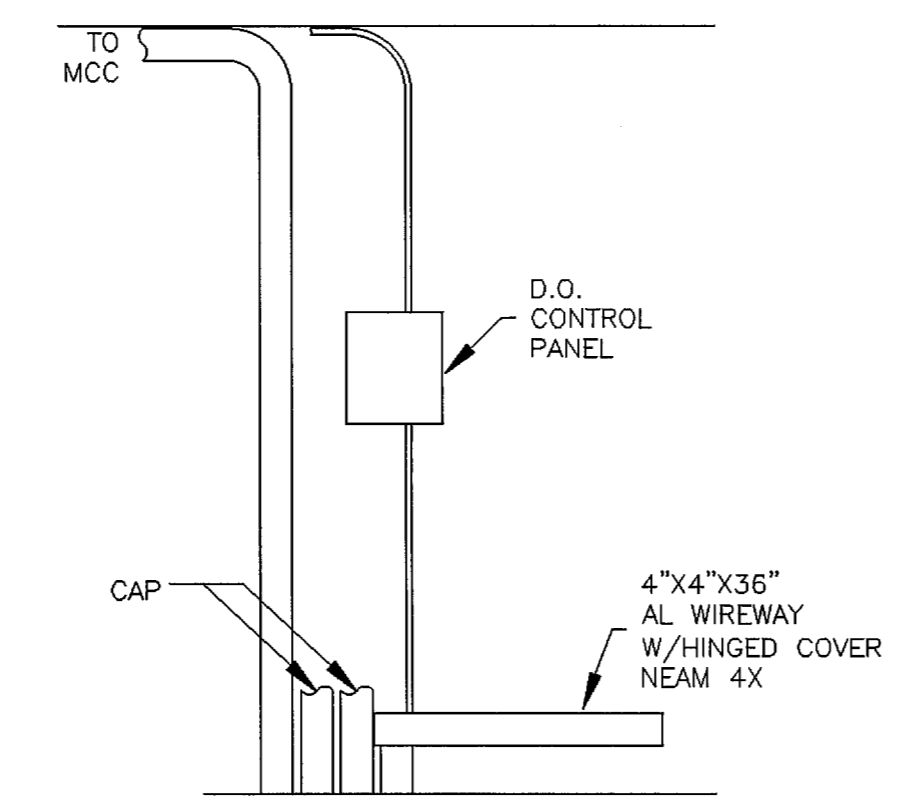
RECORD DRAWING



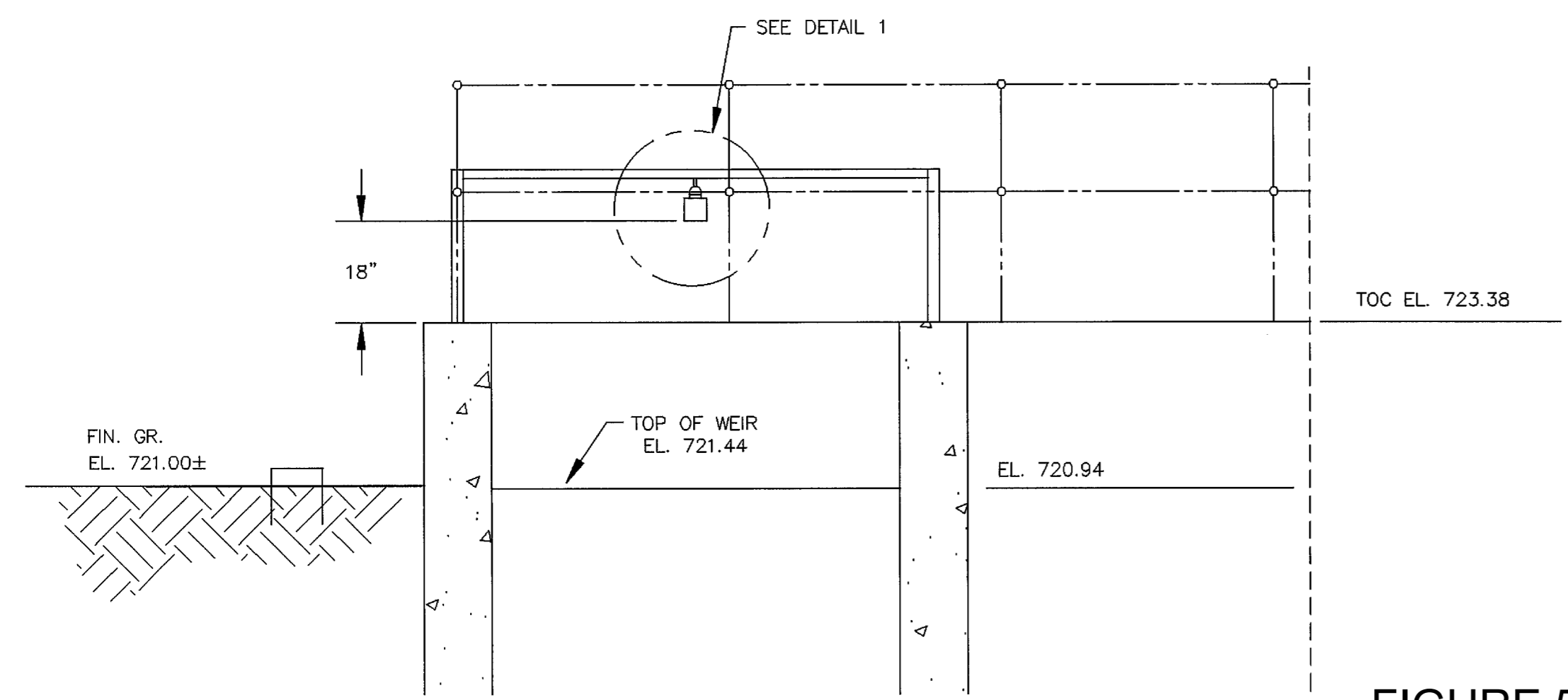
CHLORINE CONTACT TANK PLAN
SCALE: 1/4"=1'-0"



TRANSENSOR DETAIL
SCALE: 3"=1'-0"

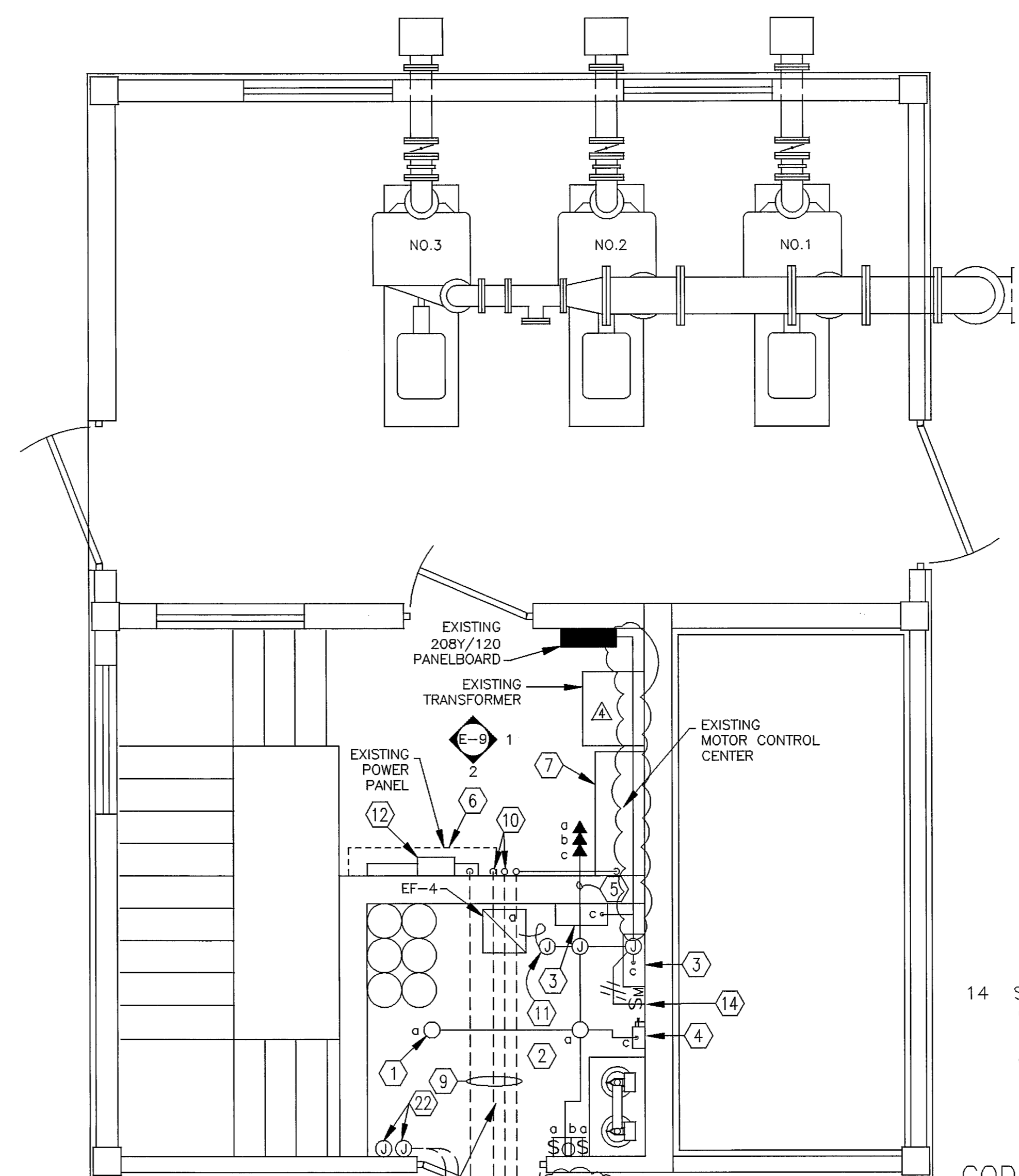


ELEVATION
SCALE: 1/2"=1'-0"

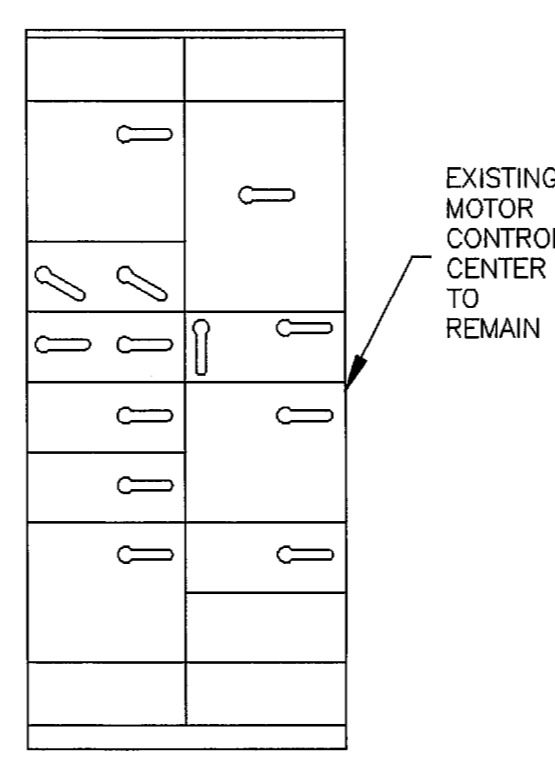


PLAN AT ELEVATION 677.00
SCALE: 1/2"=1'-0"

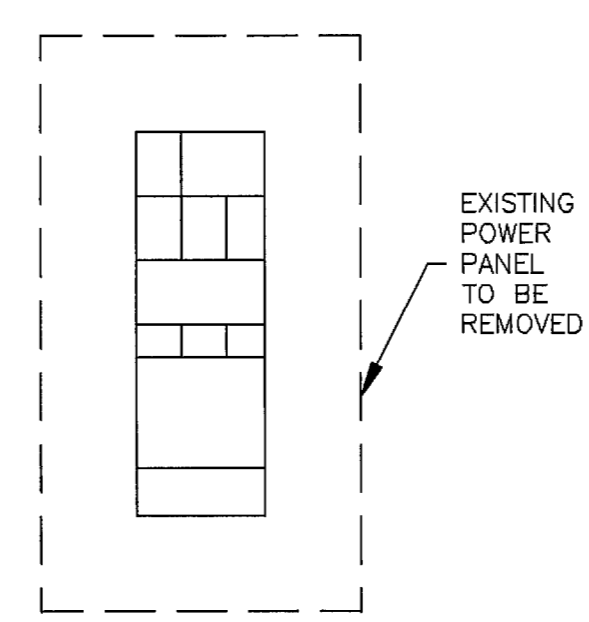
FIGURE 5 - EXISTING CHLORINE CONTACT TANK



EXISTING CONTROL BUILDING
SCALE: 3/8"=1'-0"



ELEVATION
SCALE: 1/2"=1'-0"



ELEVATION
SCALE: 1/2"=1'-0"

CODED NOTES:

- 1 100 WATT INCANDESCENT VAPOR TIGHT LIGHT FIXTURE WITH CAST BODY AND POLYCARBONATE GLOBE. APPLETON # VPGL-2PL.
- 2 ALL CONDUITS, BOXES, COVERPLATES, FITTINGS, ETC. IN THIS ROOM TO BE SCHEDULE 40 PVC.
- 3 CHLORINATOR CONTROL PANEL. 120 VOLT - 1FLA. FLEX TO UNIT AND WIRE COMPLETE.
- 4 CHLORINE DETECTOR. 120 VOLT - 1FLA. FLEX TO UNIT AND WIRE COMPLETE.
- 5 TO LOCAL 120 VOLT PANELBOARD. ADD 3-20A-1P CIRCUIT BREAKERS TO EXISTING PANELBOARD. VERIFY PANELBOARD MANUFACTURER AND CIRCUIT BREAKER TYPE.
- 6 EXISTING POWER PANEL REMOVED COMPLETE AND TURNED OVER TO OWNER.
- 7 EXISTING MOTOR CONTROL CENTER REFEED FROM NEW SWITCHBOARD.
- 8 CORE DRILL EXISTING WALL. SEAL WATER TIGHT.
- 9 RUN CONDUITS EXPOSED ON CEILING BELOW.
- 10 CAP CONDUIT.
- 11 OUTLET FOR EF-4. 1/6 HP-120V-1PH 4.4FLA. FLEX TO UNIT AND WIRE COMPLETE.
- 12 DISSOLVED OXYGEN PROBE SENSOR CONTROL PANEL. RUN 1-TSP (BELDEN # 8720) TO EACH SENSOR. WIRE COMPLETE. CONTROL PANEL CONTROLS BLOWER OPERATION (LEAD-LAG-STAGED). ADD H-O-A SELECTOR SWITCH TO EACH STARTER AND MODIFY ASSOCIATED CONTROL CIRCUIT AS REQUIRED FOR PROPER OPERATION.
- 13 TO LOCAL 120 VOLT PANELBOARD. ADD 1-20A-1P CIRCUIT BREAKER TO EXISTING PANELBOARD. VERIFY PANELBOARD MANUFACTURER AND CIRCUIT BREAKER TYPE.

CODED NOTES:

- 14 SINGLE PHASE MANUAL MOTOR STARTER FOR CHLORINE MIXER. SEE NOTE 26 THIS SHEET. EXTEND 3/4" CONDUIT TO UNDERGROUND DUCT JUNCTION BOX. SEE NOTE 22 THIS SHEET AND DUCT SECTION 17 SHEET E-3.
- 21 FLOW METER SENSOR RELOCATED FROM EXISTING METERING PIT. EXTEND 4 PAIR LOW CAPACITANCE SHIELDED CABLE BACK TO NEW CHLORINE ROOM AND CONNECT TO CHLORINE INJECTOR CONTROL PANEL. WIRE COMPLETE.
- 22 12" X 12" X 8" NEMA 4X (SS) JUNCTION BOX WITH HINGED COVER AND HASP FOR POWER, LIGHTING AND INSTRUMENTATION WIRING.
- 23 DUCTBANK SYSTEM. REFER TO SHEET E-1 FOR CONTINUATION.
- 24 3/4" RGS CONDUIT BURIED IN SIDEWALL FOR FLOW METER CABLE.
- 25 EXTERIOR LIGHTING FIXTURE, HOLOPHANE #CW 3A 250 HP 4B BZ CA WITH PHOTO CONTROL KIT. FED WITH 1" PVC W/2-#8 & 1-#8 GND. REFER TO LIGHT FIXTURE DETAIL 6 AND POLE BASE DETAIL 2 ON SHEET E-18. POLE TO BE HOLOPHANE AXRT 20 WITH HAND HOLE.
- 26 OUTLET FOR CHLORINE MIXER. 1/6HP-120V-1PH-4.6FLA. EXTEND MSC CABLE FURNISHED WITH UNIT THRU 2" RIGID PVC CONDUIT TO JUNCTION BOX. SEE NOTE 22 THIS SHEET. PUMP CONTROLLED FROM MANUAL MOTOR STARTER IN NEW CHLORINE ROOM.

NO.	DESCRIPTION	DATE	BY
△	REVISED AS CONSTRUCTED	10/00	SLB
△	ADDENDUM NO. 3	4/19/99	TL5

REVISIONS			

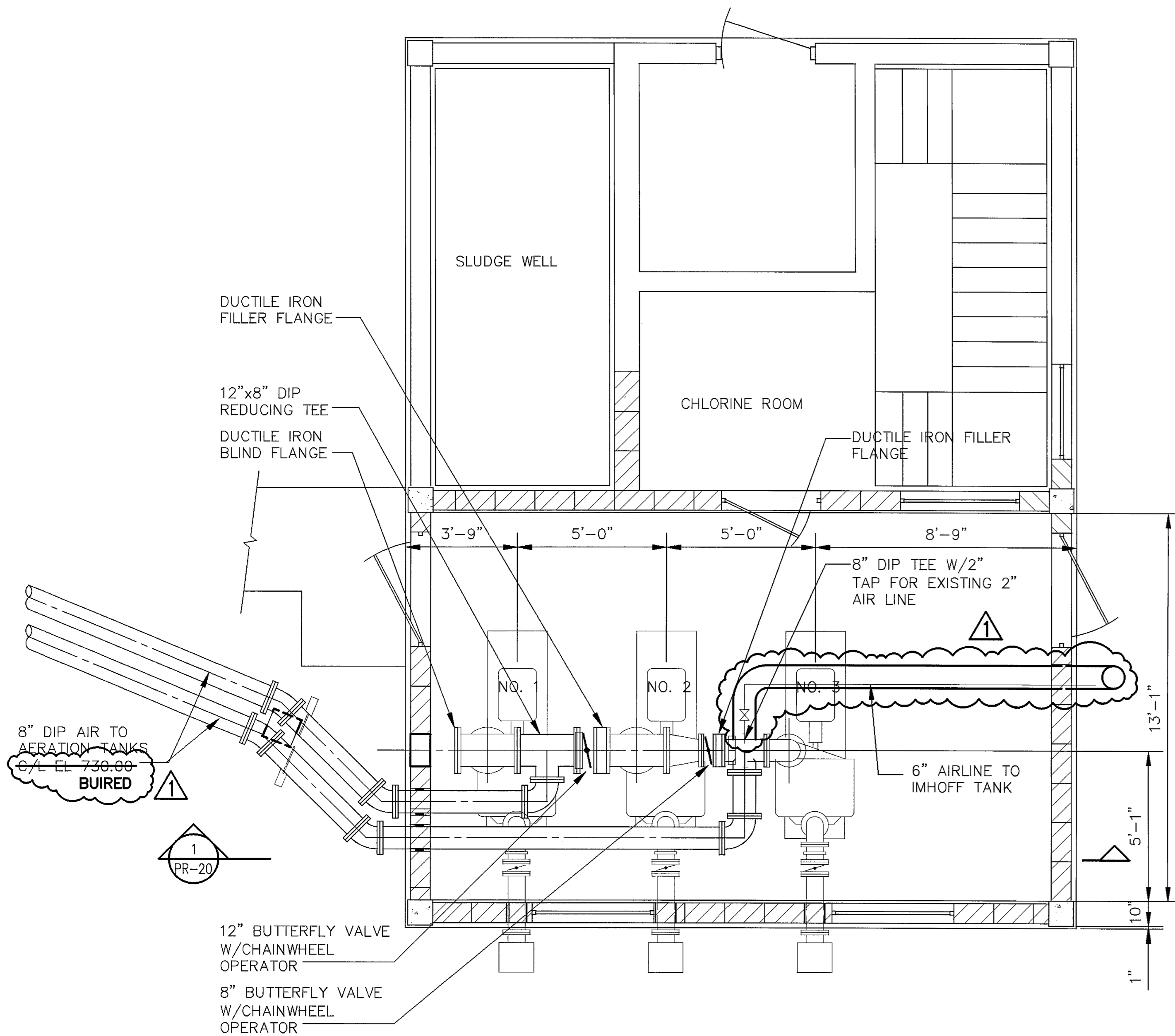
VILLAGE OF WAYNESVILLE
WASTEWATER TREATMENT PLANT
IMPROVEMENTS - PHASE 1

EXISTING CONTROL BUILDING
(CHLORINE FACILITY)

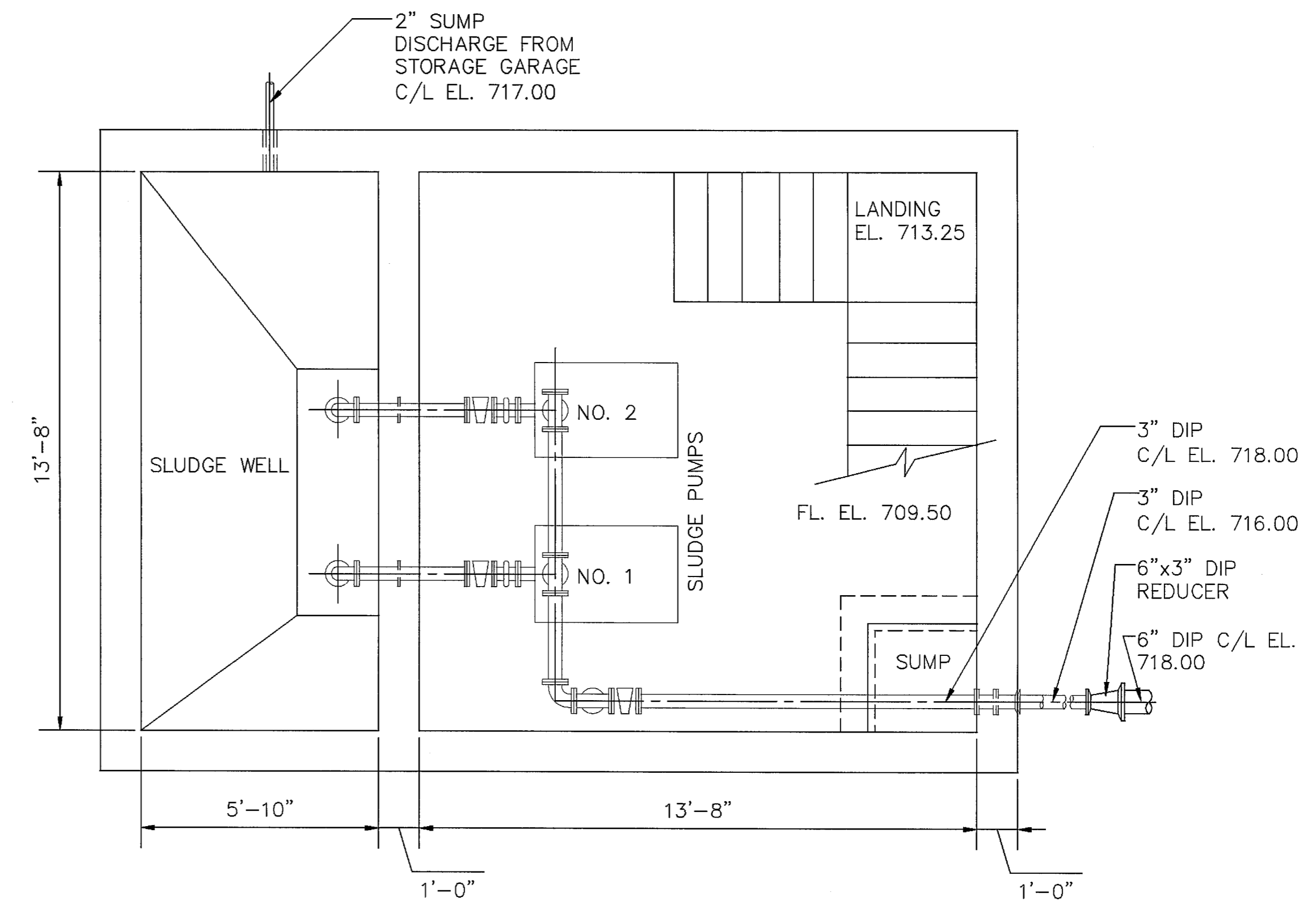
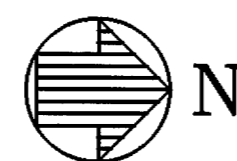
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DESIGNED	JHB	CONTRACT	
CHECKED	JPM	SHEET	OF
APPROVED		DRAWING NUMBER	
APPROVED		E-9	
DATE	JUNE 1998		
SCALE			

RECORD DRAWING

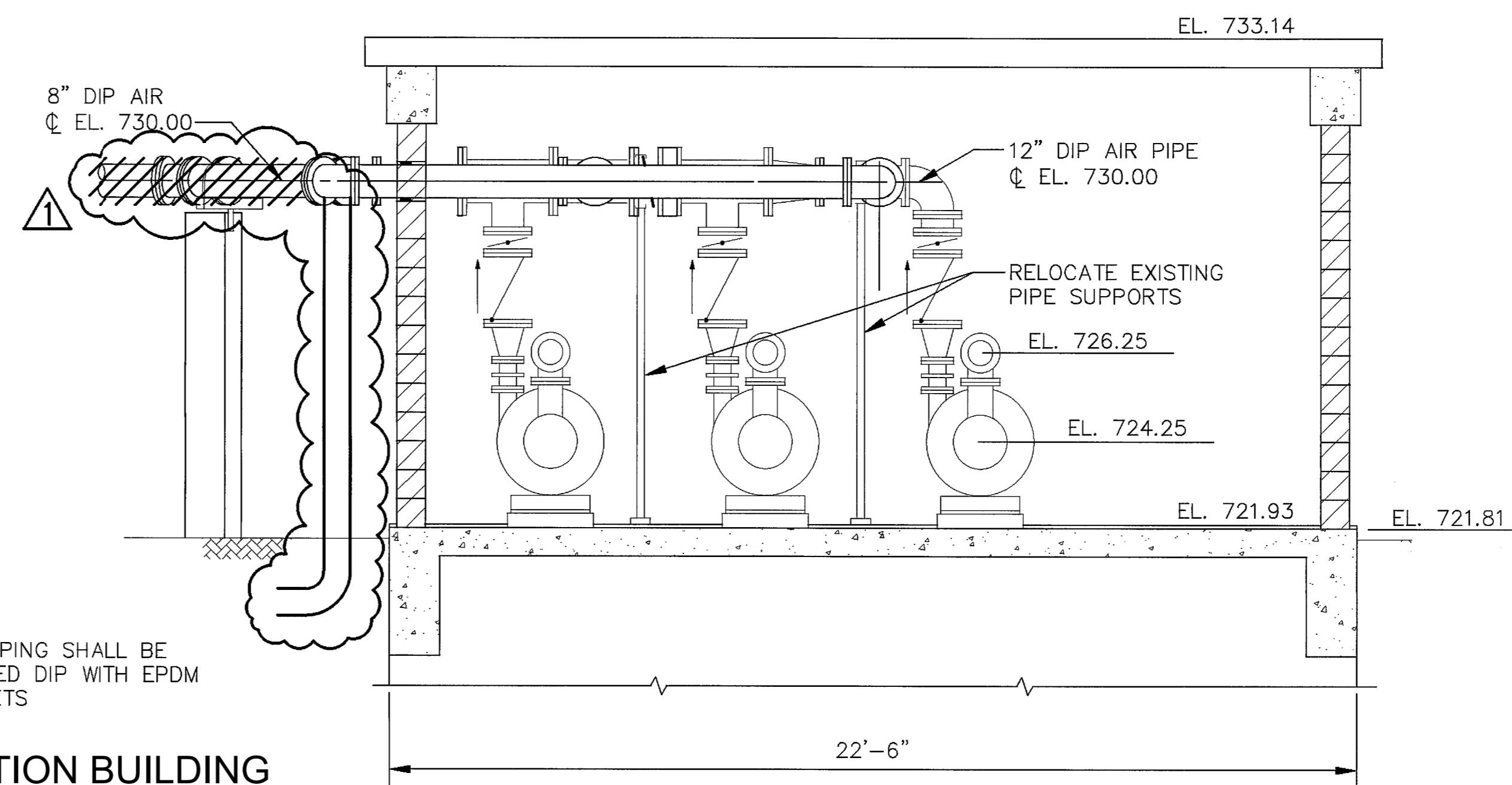
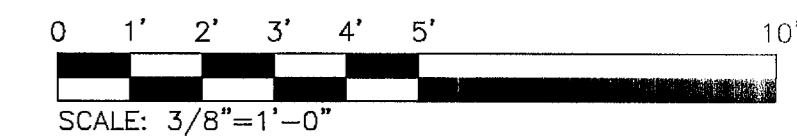
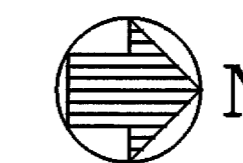
[S:\BIDD\1\PROJ\9821\6005\ELEC\6005-609.DWG - MAR 08, 2001 - 15:04:24 - PLOT: 1-1



PLAN
SCALE: 3/8"=1'-0"



PLAN @ EL. 720.00
SCALE: 3/8"=1'-0"



NOTE:
AIR PIPING SHALL BE
UNLINED DIP WITH EPDM
GASKETS

FIGURE 6 - EXISTING AERATION BUILDING

RECORD DRAWING

SECTION 1
SCALE: 3/8" = 1'-0"

NO.	DESCRIPTION	DATE	BY
1	REVISED AS CONSTRUCTED	10/00	SLB

REVISIONS

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VILLAGE OF WAYNESVILLE, OHIO
WASTEWATER TREATMENT PLANT
IMPROVEMENTS-PHASE 1

AERATION BUILDING

DRAWN	EA	PROJECT NO.	9821-6005.00
DESIGNED	MS	CONTRACT	
CHECKED	AG	SHEET	OF
APPROVED	ERH	DRAWING NUMBER	
APPROVED			
DATE	JAN 98		
SCALE	3/8"=1'-0"		

PR-20

[[SBOVD]] M:\PROJ\9821\6005\PROJ\PR-20.DWG - MAR 08, 2001 - 13:33:24 - PLOT: 1=1

ANCHORAGE OF CABLE TRAY (37)

@ LIME STORAGE SILO:

ATTACH 3" x 3" x 1/4" x 6" LONG ALUMINUM ANGLE TO SILO W/ 3 - 3/8" Ø BOLTS & WASHERS.

ATTACH CABLE TRAY TO ANGLE W/ 2 - 3/8" Ø BOLTS, SHIM AS NECESSARY.

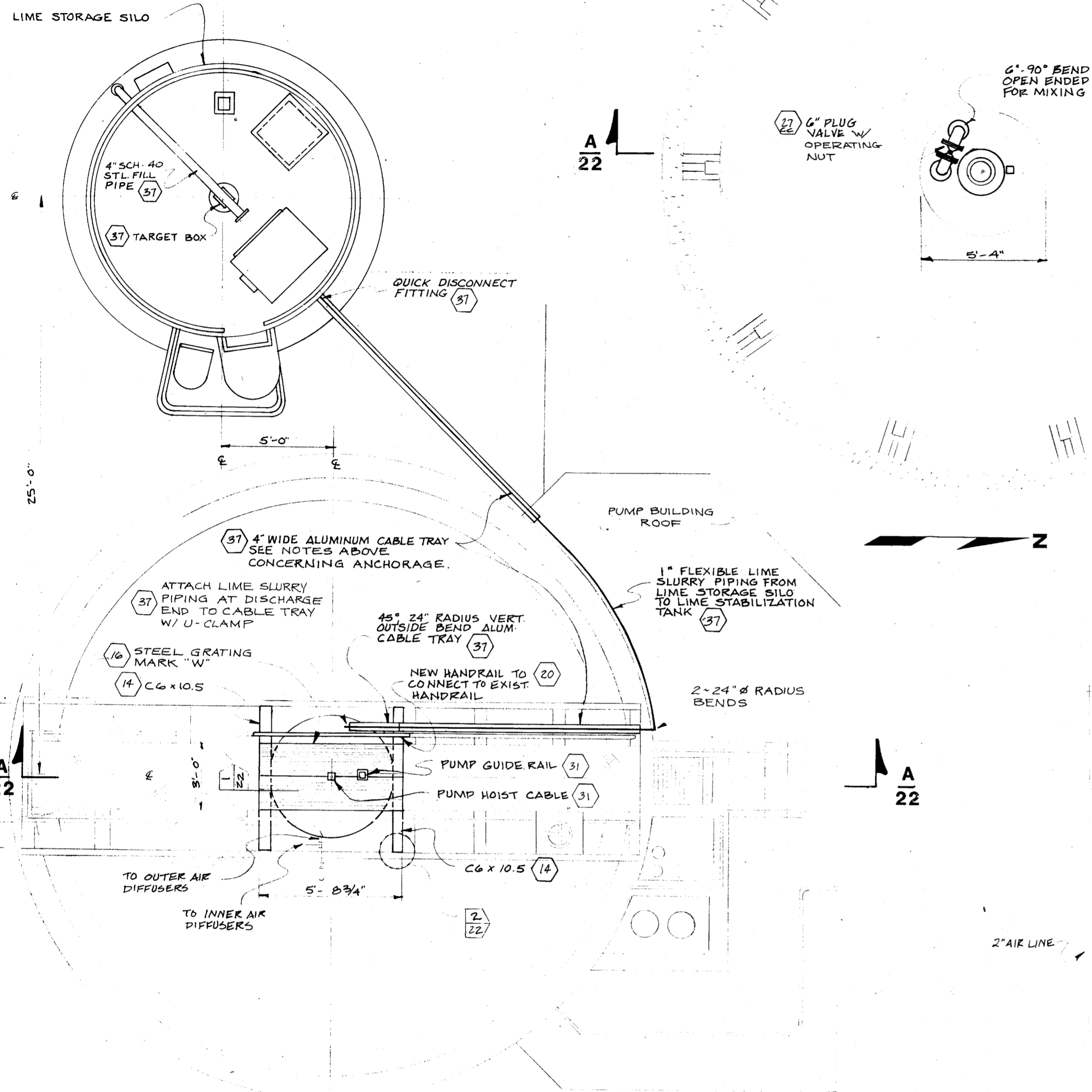
@ PUMP BUILDING ROOF:

ATTACH 2 - 4" x 3" x 1/4" x 2" LONG ALUMINUM ANGLES TO PUMP BLDG ON OPPOSITE SIDES OF THE CABLE TRAY W/ 3/8" Ø EXPANSION ANCHORS.

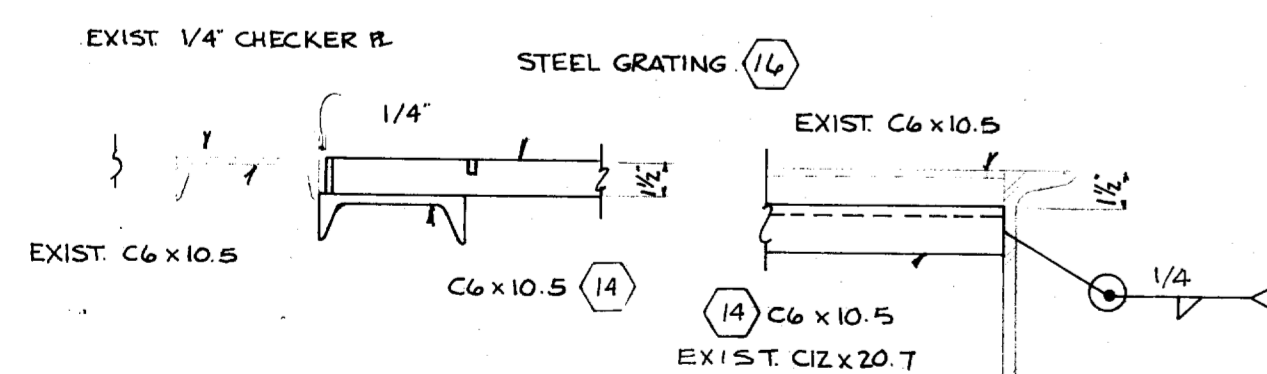
ATTACH CABLE TRAY TO ANGLES W/ 3/8" Ø BOLTS & WASHERS.

@ LIME STABILIZATION TANK BRIDGE:

ATTACH CABLE TRAY TO BRIDGE W/ 3/8" Ø BOLTS & WASHERS @ 4 POINTS.

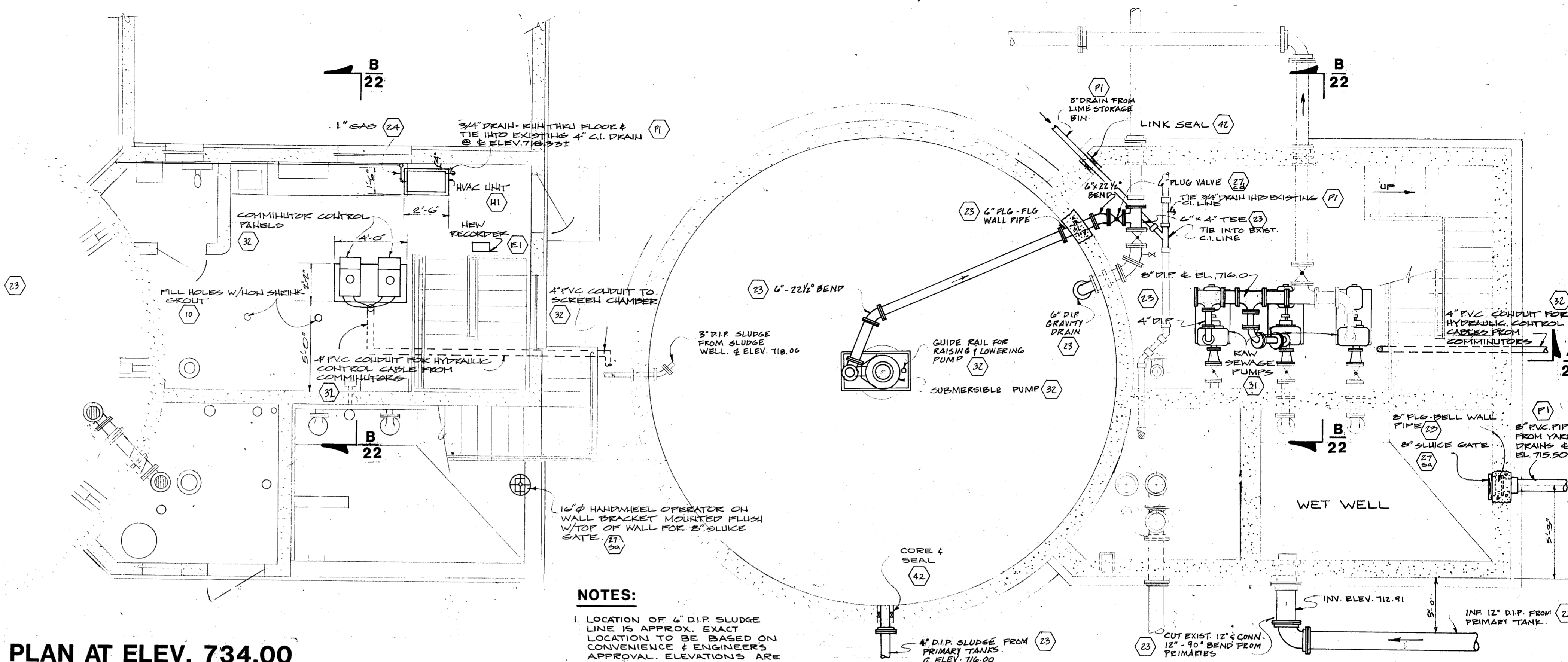


TOP PLAN



1 2

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



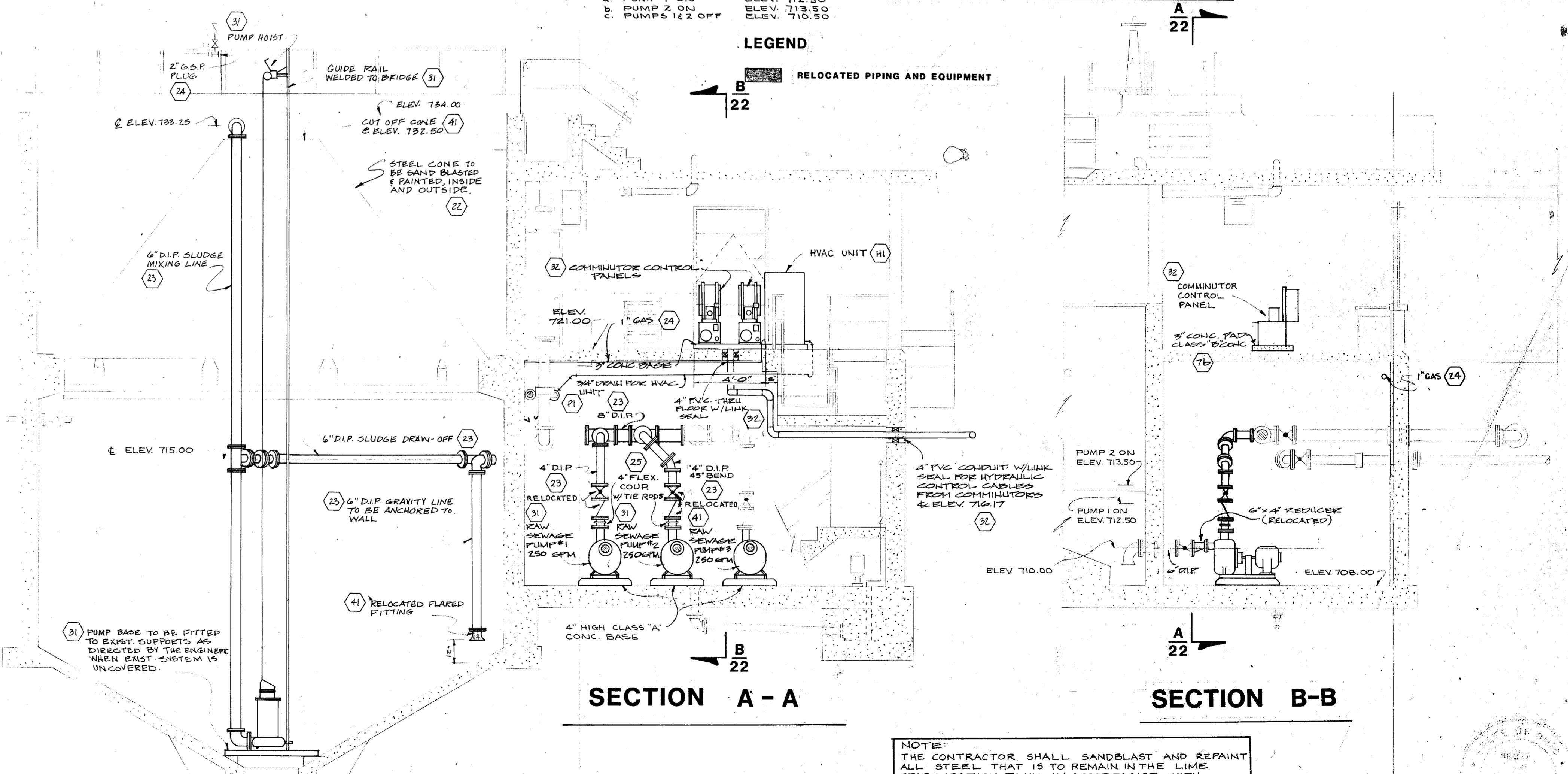
PLAN AT ELEV. 734.00

NOTES:

- LOCATION OF 4" DIP SLUDGE LINE IS APPROX. EXACT LOCATION TO BE BASED ON CONVENIENCE & ENGINEER'S APPROVAL. ELEVATIONS ARE TO BE AS SPECIFIED.
- RAW SEWAGE PUMPS SHALL HAVE THE FOLLOWING ACTUATION ELEVATIONS IN THE WET WELL:
 - a. PUMP 1 ON ELEV. 712.50
 - b. PUMP 2 ON ELEV. 713.50
 - c. PUMPS 1 & 2 OFF ELEV. 710.50

LEGEND

RELOCATED PIPING AND EQUIPMENT



SECTION A - A

SECTION B - B

NOTE: THE CONTRACTOR SHALL SANDBLAST AND REPAINT ALL STEEL THAT IS TO REMAIN IN THE LIME STABILIZATION TANK IN ACCORDANCE WITH ITEM # 22, PAINTING.

FIGURE 5 - EXISTING SPIRAGESTER