WELCOME

FORT PECK DAM
POWERHOUSE #2 BUTTERFLY VALVE REHABILITATION

INDUSTRY DAY
SOLICITATION: W9128F23R0009

17 NOV 2022 / 11:00 MST

To join the meeting:
https://usace1.webex.com/meet/ronald.s.beyer

Conference line: 1-844-800-2712 (Toll-Free)
1-669-234-1177 (US)
Access Code: 199 032 3791

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INTRODUCTIONS

USACE, Omaha District Office

Ron Beyer	Project Manager
Robin Puskar	Program Manager
Dan Monahan	Contracting Officer
Lynne Reed	Contract Specialist
Mo Al Soufi	Mechanical Engineer

Fort Peck

Dale Pugh	Maintenance and Operations Manager
Tom Grant	Mechanical Engineer
Mike Bratz	Senior Power Plant Mechanic
Irene Whitmer	Electrical Engineer

Missouri River Construction Office

Tom Westenburg	Resident Engineer

Hydroelectric Design Center (HDC), Portland

Dan Lundy	Mechanical Engineer
Kwadwo Amankwa-Poku	Electrical Engineer
Sean Kim	Structural Engineer

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AGENDA – NOV 17, 2022

1100 – 1105	Introductions / Project Overview
1105 – 1110	Contracting Briefing / Rules of Engagement
1110 – 1130	Statement of Work / Project Specs
1130 – 1200	Project Site Specifics
1200 – 1230	Q&A

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PROJECT OVERVIEW

Objective is to reduce internal bypass leakage on Units 4 and 5 valve discs and address component end of life and system reliability

1) Refurbish the eighteen (18) foot spiral case butterfly valve in Units 4 and 5
2) Manufacture and install new Hydraulic Power Units (HPUs) and related equipment in Units 4 and 5
3) Optional Items
   - Ultrasonic testing of Tunnel 2, and the Units 4 and 5 penstock
   - Penstock External Paint System Repairs
   - Butterfly Valve Weld Repairs as needed

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RULES OF ENGAGEMENT

DAN MONAHAN, CONTRACTING OFFICER

- No side bars or independent conversations between contractors and government personnel.
- No discussions relating to other Corps acquisitions.
- No corporate denigration or sabotage will be tolerated.
- Hold all questions until the designated question and answer session.
- The Government will address general questions during this briefing. Specific questions must be entered into ProjNet via the published Bidder Inquiry Key.
- There will be a site visit opportunity once the solicitation is posted.

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PROJECTED SCHEDULE

Pre-solicitation	Late Dec 2022
Advertise Period	Jan-Feb 2023 (30-day advertisement period)
Contractor Site Visit	TBD (posted with solicitation)
Award	Mar/Apr 2023
Penstock Outage	
Start	16 September 2024
End	24 January 2025 (130 calendar days)

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CONTRACT AND EVALUATION INFORMATION

Contract Information

- Contract Type: Firm Fixed Price Construction
- Solicitation Type: Request for Proposal (RFP)
- Contract Magnitude: $1M-$5M
- Period of Performance: NTP (Est. April 2023) – Jan 2025
  (Note: onsite work must be completed by 24Jan2025)

Evaluation Factors

- Factor 1 Past Performance (most important)
- Factor 2 Technical Approach (second most important)
- Factor 3 Personnel Qualifications and Experience (equal to factor 2)
- Factor 4 Small Business Participation (significantly less important than factors 1-3)
- Factor 5 Price (Least important factor. All evaluation factors other than price, when combined, are considered significantly more important than Price.)

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PROJNET AND CONTACT INFORMATION

ProjNet

- Used for Contractor(s) to submitted questions
- Website: https://www.projnet.org
- Virtual Industry Day Bidder Inquiry Key: E3BCGG-7ABR3E
- Questions need to be submitted before 4 pm Mountain Standard Time, 20 NOV 2022

Contract Specialist Contact Information

Lynne Reed

- Email: Lynne.D.Reed@usace.army.mil
- Phone: 402-995-2039

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HYDROELECTRIC DESIGN CENTER

DAN LUNDY, MECHANICAL ENGINEER

STATEMENT OF WORK
AND
PROJECT SPECS

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STATEMENT OF WORK

Functional Areas

- Mechanical Scope of Work
  - Butterfly Valves
  - Hydraulic Power Systems
  - Scroll Case and Tunnel Drain Valves
  - Other
    - »Tunnel 2, Unit 4, and Unit 5 Penstock Ultrasonic Testing (optional)
    - »Penstock Paint Repairs - 10 Locations (optional)
- Electrical Scope of Work
  - Electrical Equipment for Hydraulic Power Systems
  - Electrical Equipment for Motor Operated Bypass Valves, and Misc.

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STATEMENT OF WORK

Mechanical Scope of Work:

(1) Refurbishment of two (2) 216-inch diameter penstock BFVs, performed simultaneously.

- valve disc seal;
- stainless-steel overlay body seat;
- valve internal surfaces (LBP abatement, blast, and recoating);

– Inspect butterfly valve welds;

– Repair butterfly valve welds (OPTION);

Removal and replacement of:

- upper stub shaft (trunnion) bearing and seals;
- lower stub shaft (trunnion) bearing and seals, and thrust bearing assemblies;

– Adjust and align disc leaf seals (contact bluing check);

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STATEMENT OF WORK

Mechanical Scope of Work:

(2) Two new complete Penstock BFV grease lubrication systems, including:

Removal and replacement of:

- grease lines;
- grease lubrication components and supporting systems;

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STATEMENT OF WORK

Mechanical Scope of Work

(3) Refurbishment of two Penstock BFV bypass systems, including:

Removal and replacement of:

- Limitorque motor operated gate valve with manual handle;
- bypass system piping;
- absolute pressure switch,
- system controls;

Install new manually operated isolation gate valve; and new equalizing line pressure monitoring system;

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STATEMENT OF WORK

Mechanical Scope of Work

(4) Refurbishment of two spiral case drain valves:

Removal and replacement of:

- manual gate valve with new manual operated gate valve;
- insulation;
- limit switch;

STATEMENT OF WORK

Mechanical Scope of Work

(5) Refurbishment of tunnel drain valve:

Removal and replacement of:

- one manual gate valve (current location, as shown);
- piping and insulation;
- heating cable and thermostat;

(6) Provide new second manual operated gate valve located as shown;

(7) New maintenance platforms, ladders and guardrails for each BFV;

(8) Modify access hatch for each BFV;

(9) Furnish spare parts, including two sets of bronze metal disc seals.

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STATEMENT OF WORK

Hydraulic Scope of Work

- The work specified includes, but is not limited to, all appurtenances required for a complete, fully functional installed hydraulic power system.
- The new BFV operators, HPUs, and associated systems must be identical and interchangeable.

(1) Design and provide two BFV operators (quarter-turn hydraulic cylinder actuators) with integral mechanical locking device:

- Remove existing BFV operator and associated plumbing;
- Install new BFV operator with integral mechanical locking device, and new plumbing;

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STATEMENT OF WORK

Hydraulic Scope of Work

(2) Design and provide two BFV HPUs with controls and offline oil filtration system:

- Remove existing BFV HPU and associated plumbing;
- Install new BFV HPU and associated plumbing;

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STATEMENT OF WORK

Electrical Scope of Work

Supply and installation of:

(1) New motor actuators for the penstock fill bypass valves and remote operators, remote open/close indicators and control systems, one each for Unit 4 and Unit 5;

(2) Limit switches and wiring for new manually operated spiral case drain valves one each for Unit 4 and Unit 5;

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STATEMENT OF WORK

Electrical Scope of Work

(3) Supply and installation of new wall mounted 480VAC panels which contain a disconnect switch, motor starter and control power transformer as follows:

- 2-480VAC panel (BVQ) for the HPU pump motors for each unit:
  - BVQ1 - 480VAC panel for HPU pump 1
  - BVQ2 - 480VAC panel for HPU pump 2
- Two (2) - oil filtration system 480VAC panels (FSQ), one for each unit's HPU
- Two (2) - 480VAC panel (VP), one for each bypass valve motor actuator

(4) Supply and installation of new heat tape and thermostat for the tunnel drain valve

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FORT PECK PROJECT BRIEF

DAN LUNDY AND TOM GRANT

PROJECT SITE SPECIFICS

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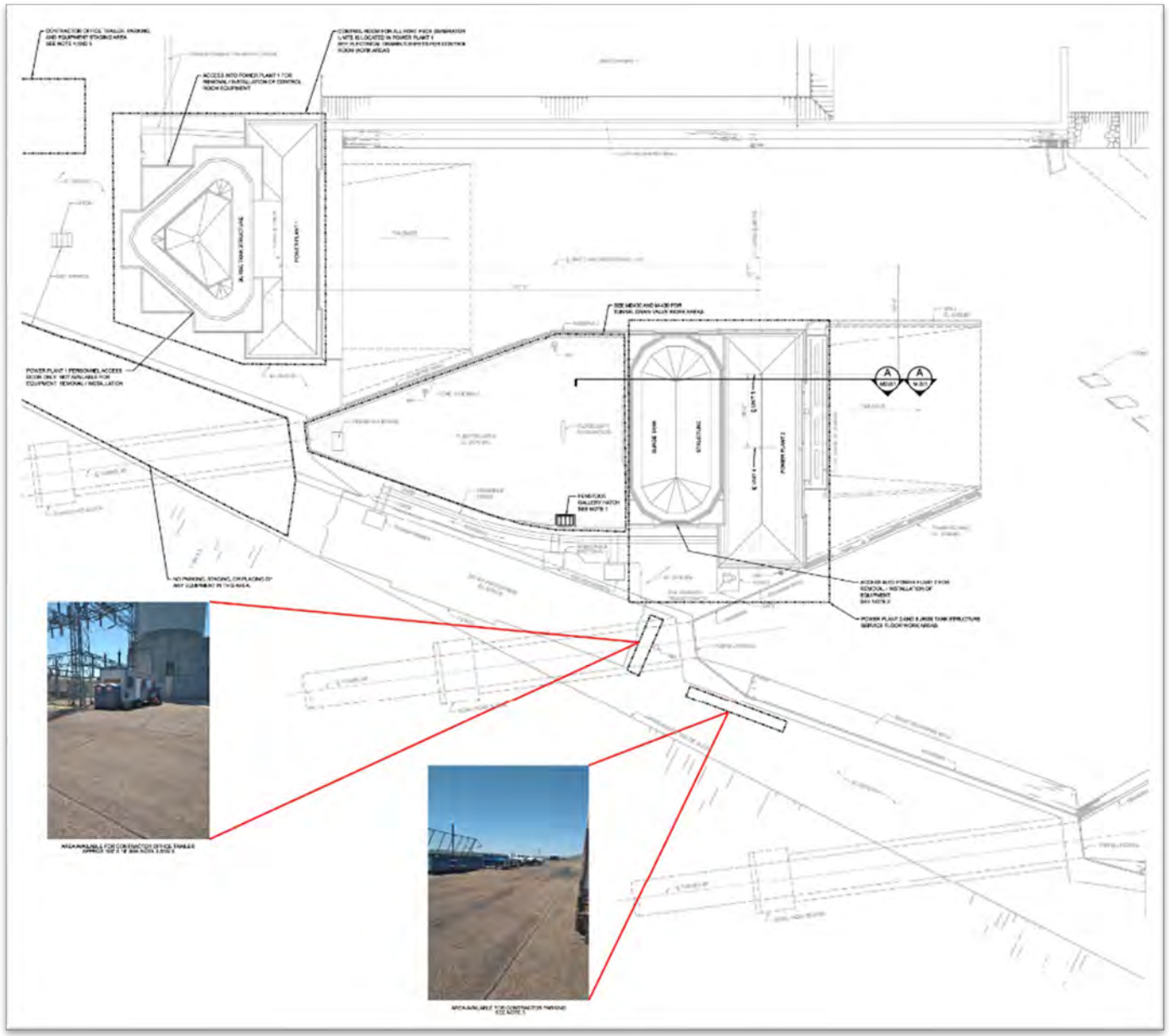

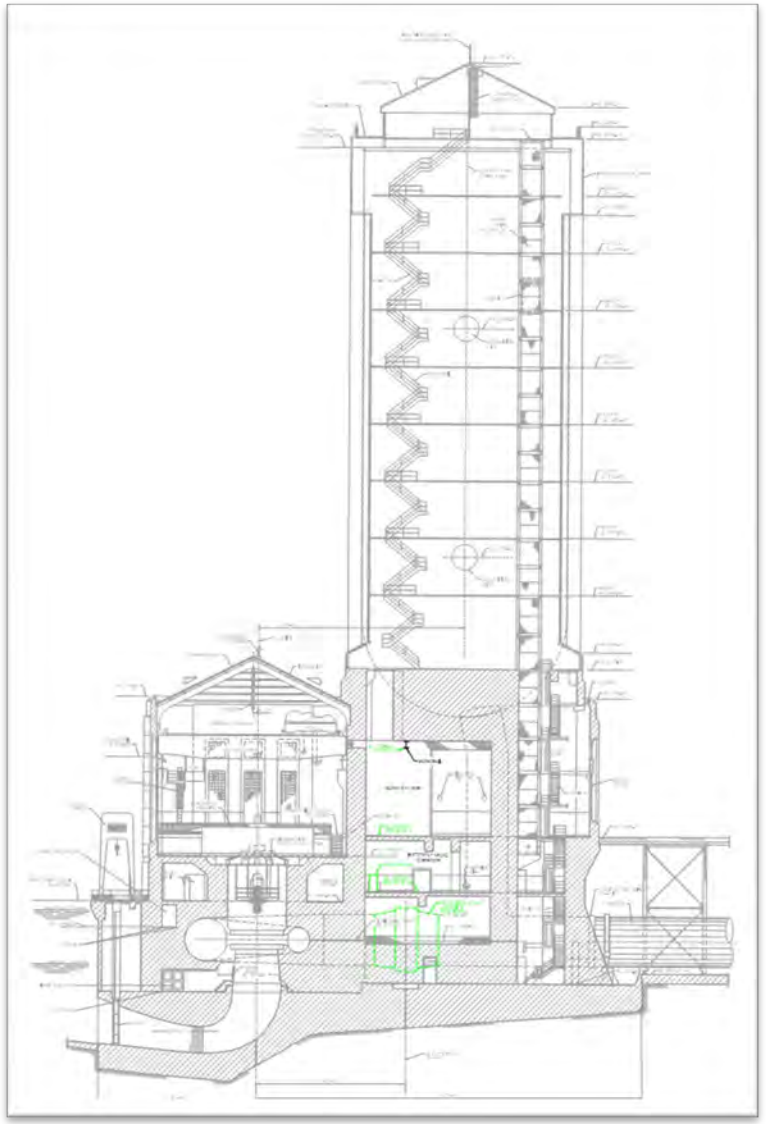

CONTRACTOR STAGING & WORK AREAS (SHEET G-401 & MD201)

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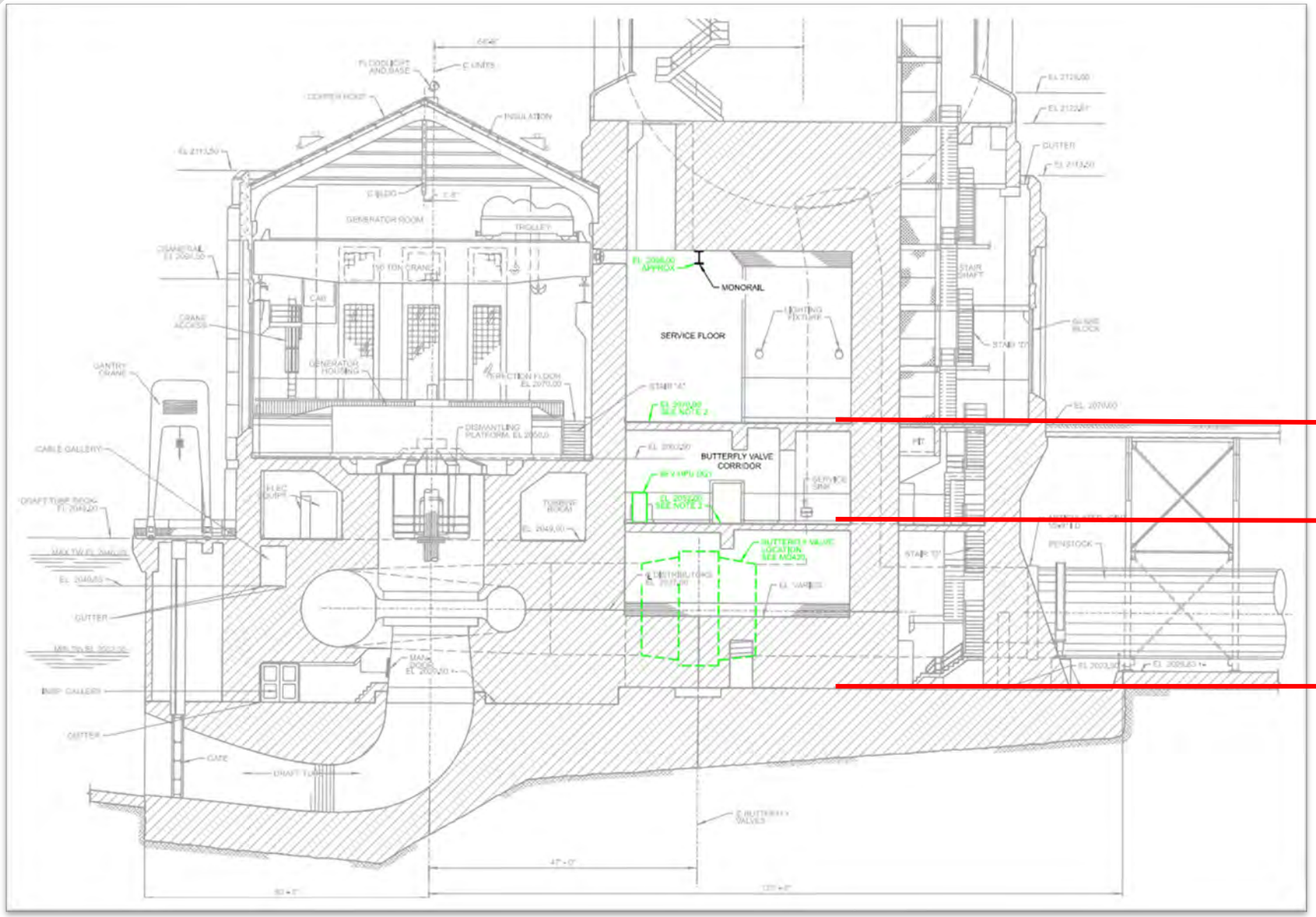

CONTRACTOR STAGING & WORK AREAS (SHEET MD201)

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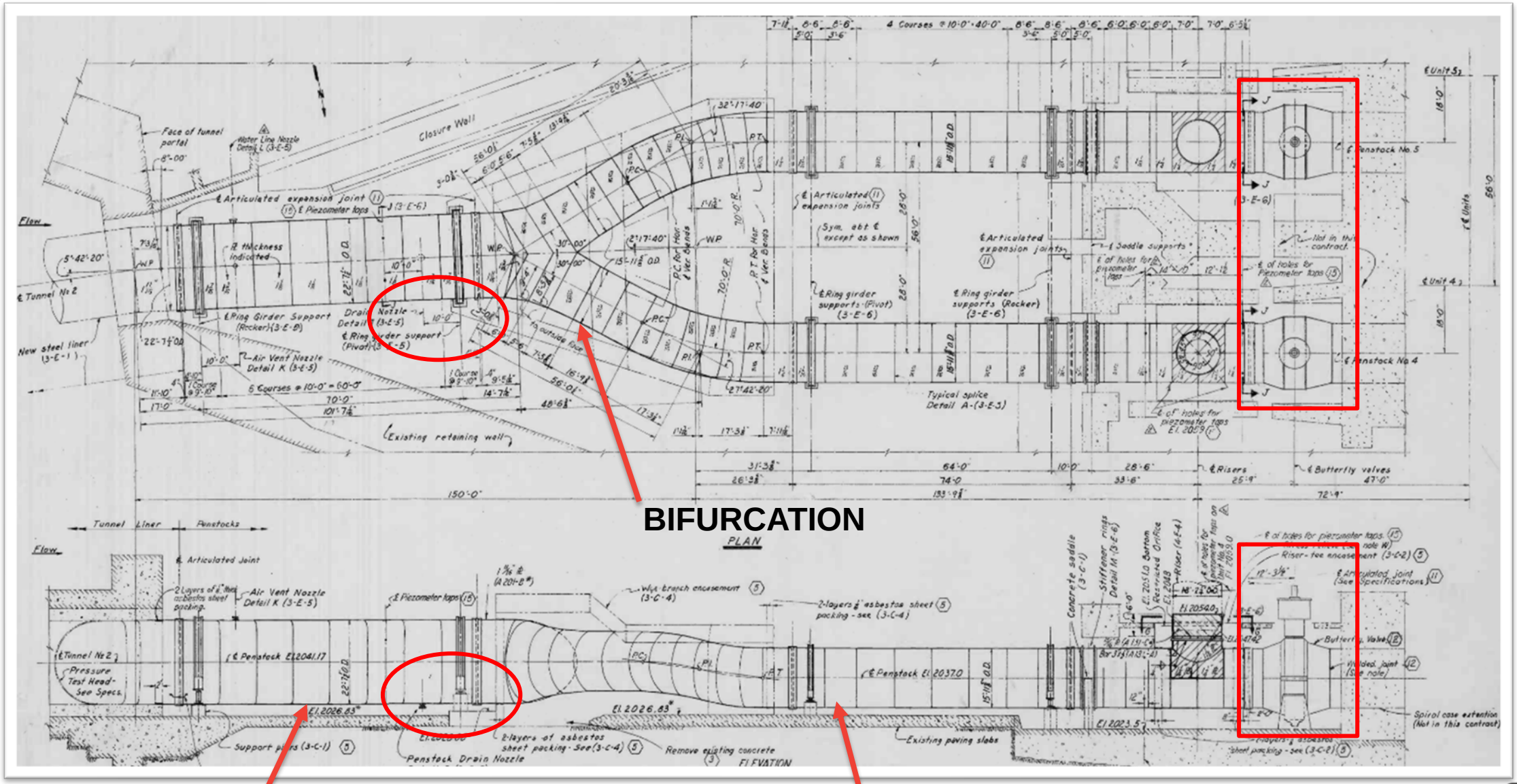

TUNNEL #2

PENSTOCKS 4 & 5

CONTRACTOR STAGING & WORK AREAS

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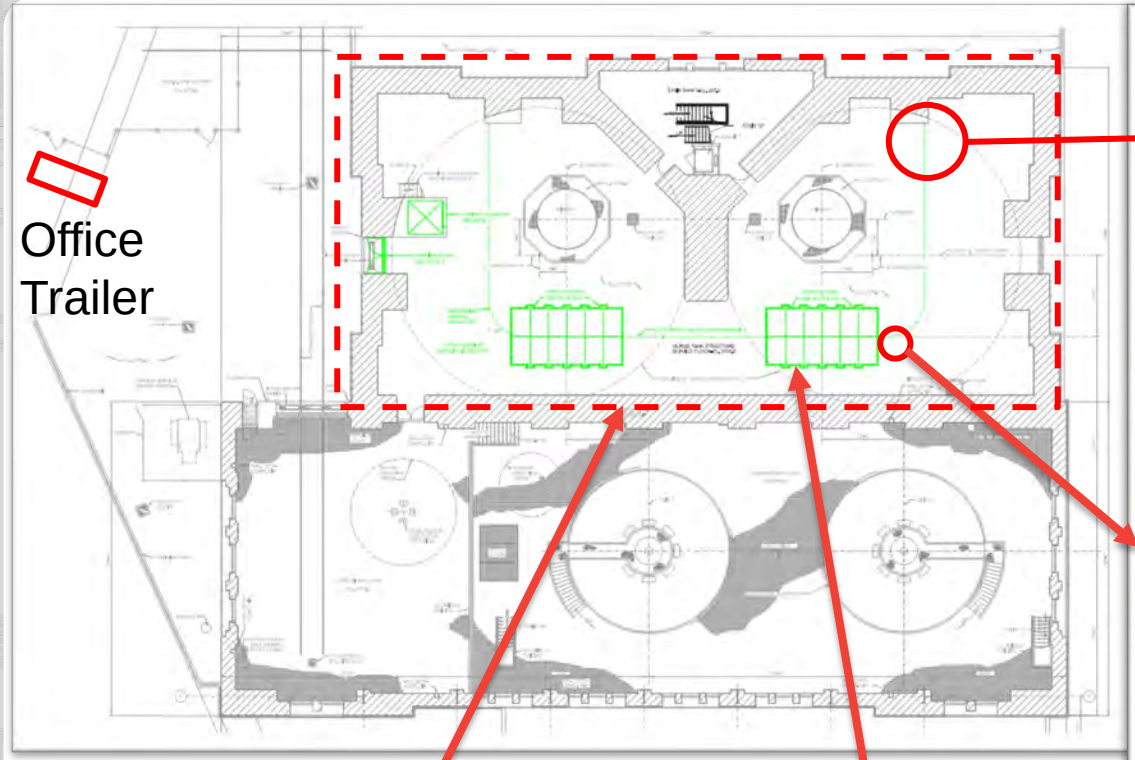

SURGE TANK STRUCTURE

BFV ACCESS HATCHES

10T MONORAIL HOIST

CONTRACTOR STAGING AND WORK AREAS (SH MD101)
SURGE TANK STRUCTURE, EL 2070.00

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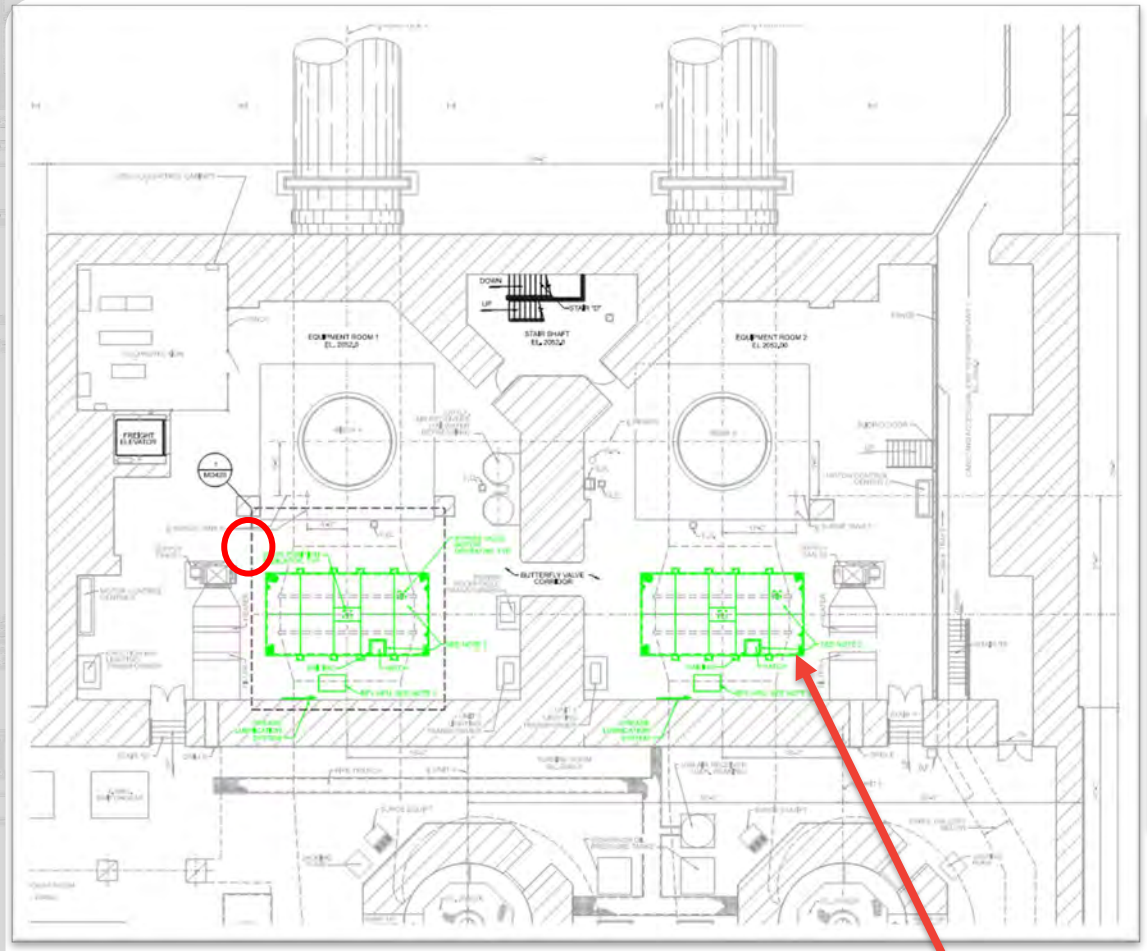

BFV ACCESS HATCHES

CONTRACTOR STAGING AND WORK AREAS (SH MD102)
BUTTERFLY VALVE CORRIDOR, EL 2052.00

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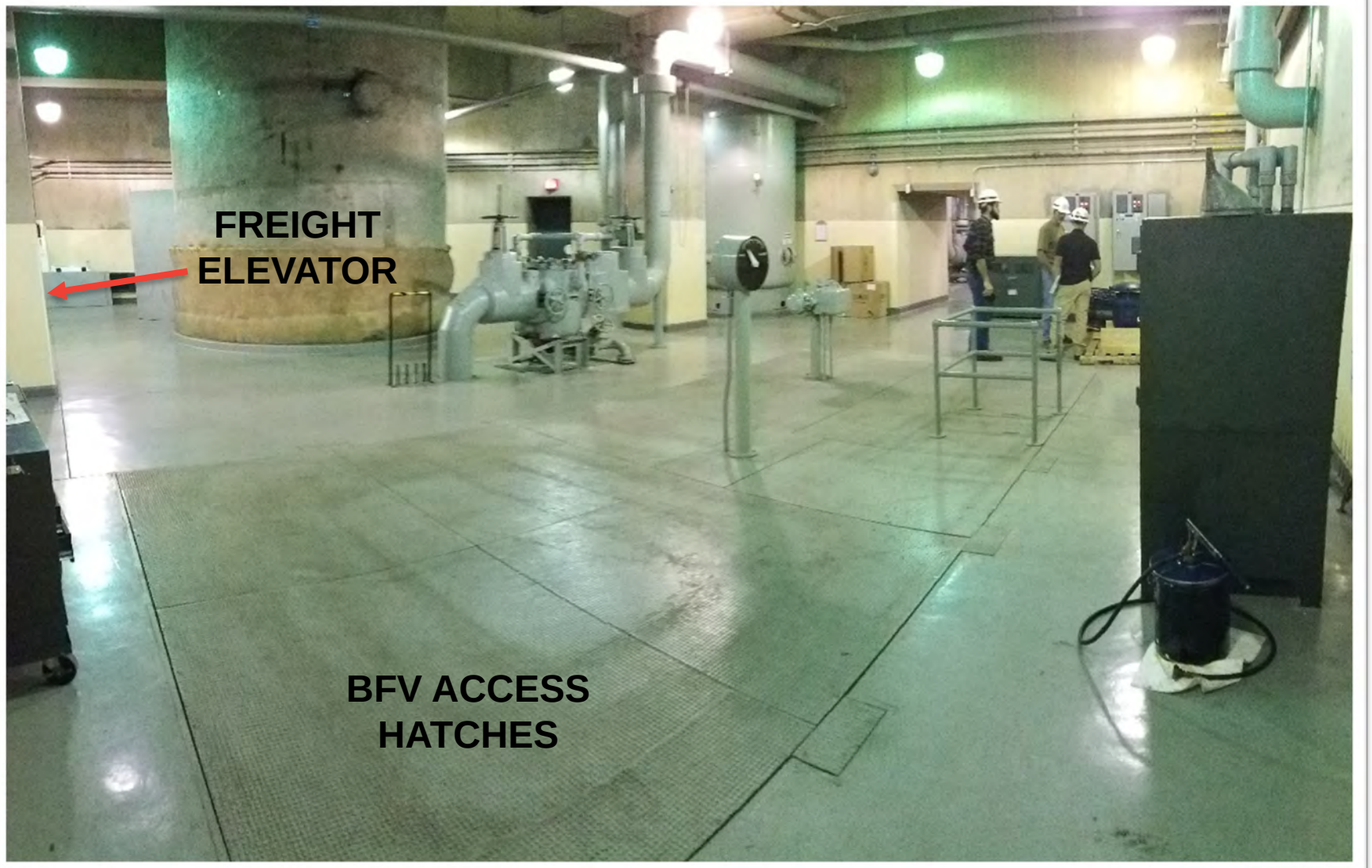

CONTRACTOR STAGING AND WORK AREAS (SH MD102)
BUTTERFLY VALVE CORRIDOR, EL 2052.00

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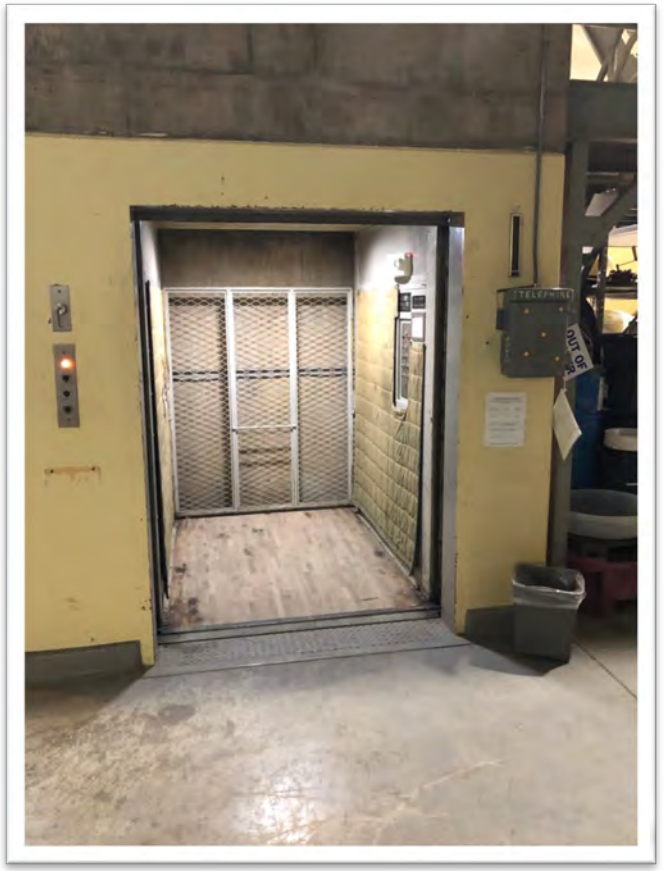

CONTRACTOR STAGING AND WORK AREAS
BUTTERFLY VALVE CORRIDOR, EL 2052.00

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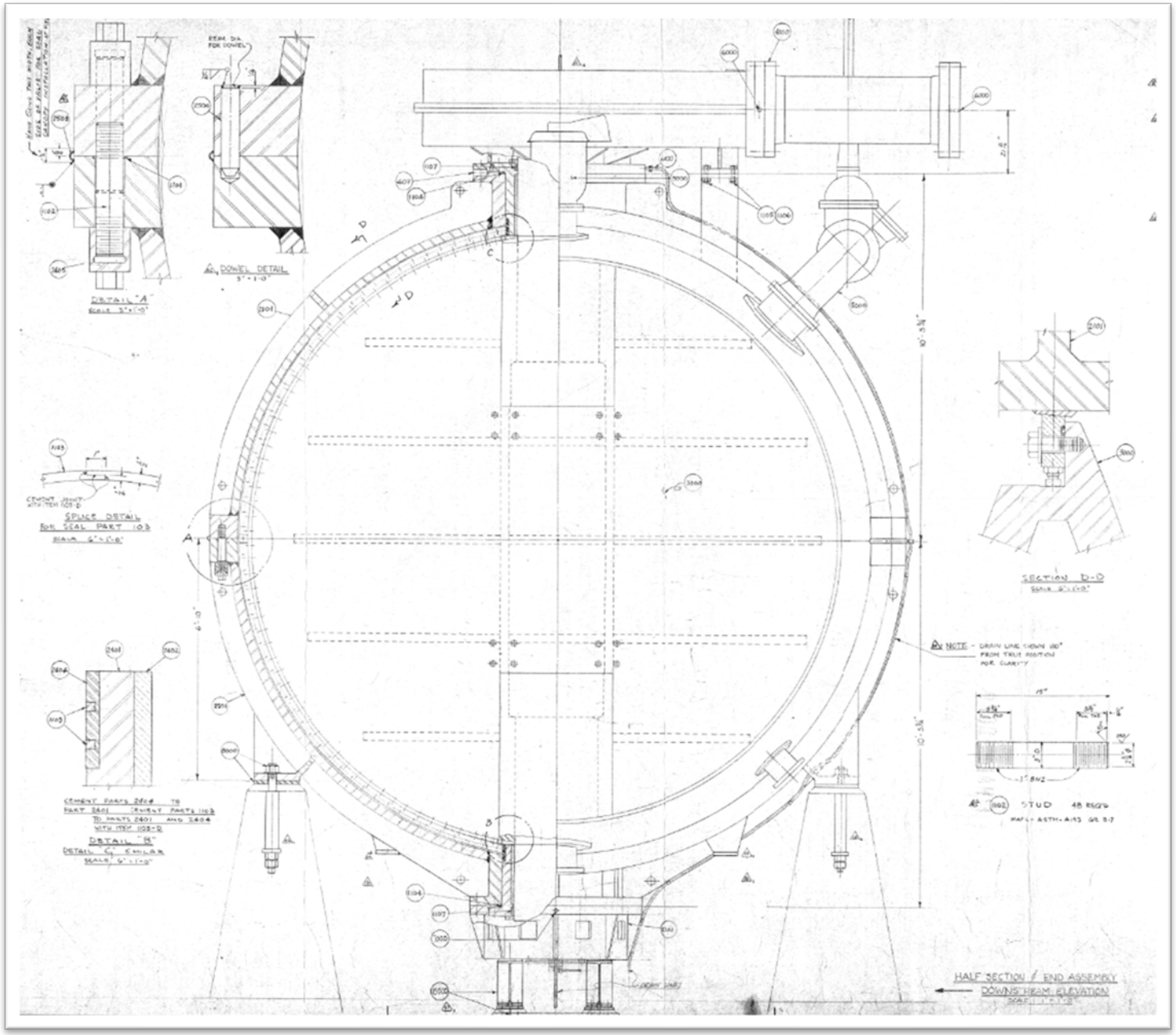

18 FT (216 INCHES) BUTTERFLY VALVE

EL 2023.50

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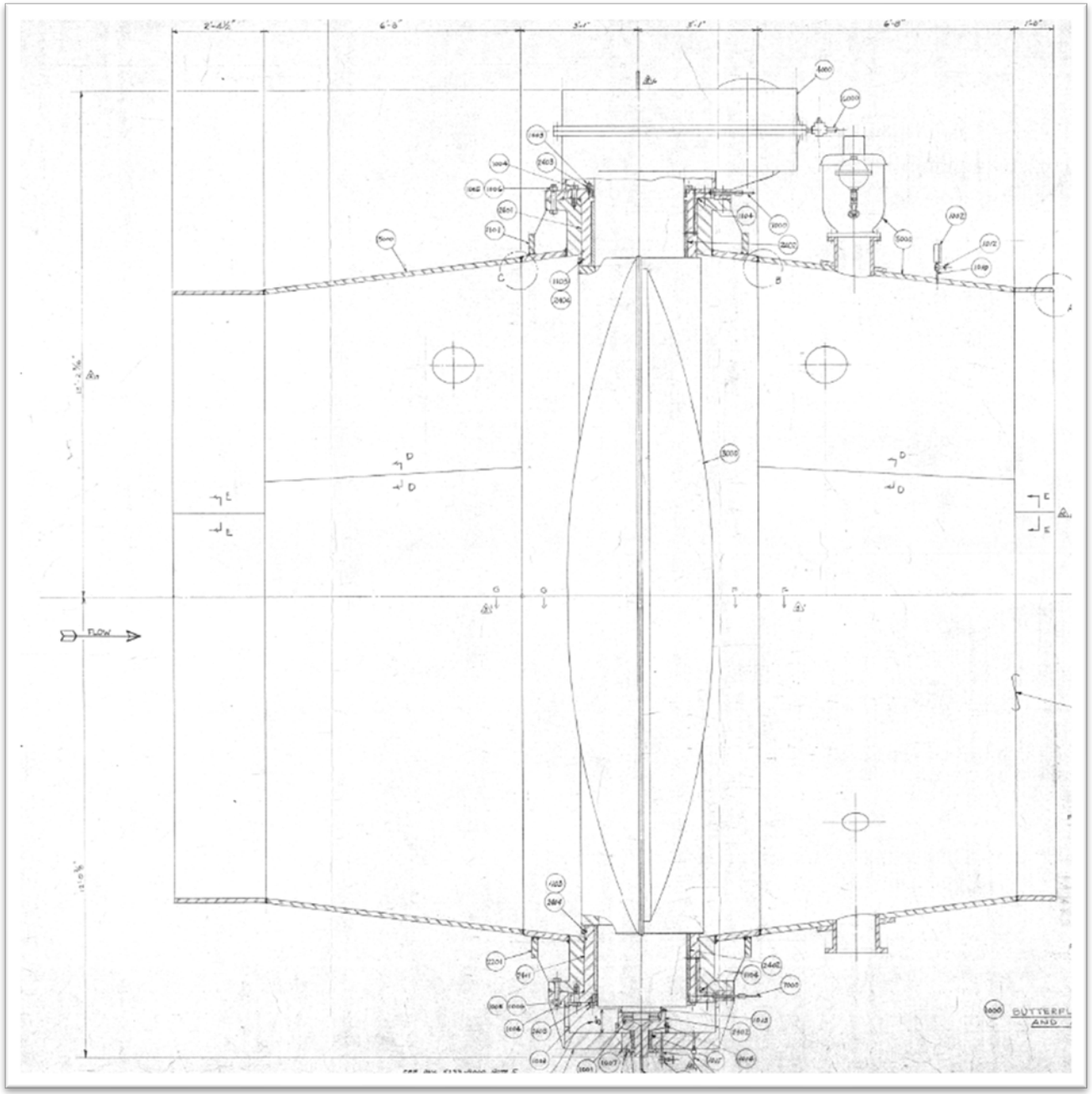

18 FT (216 INCHES)
BUTTERFLY VALVE

EL 2023.50

US Army Corps of Engineers ®

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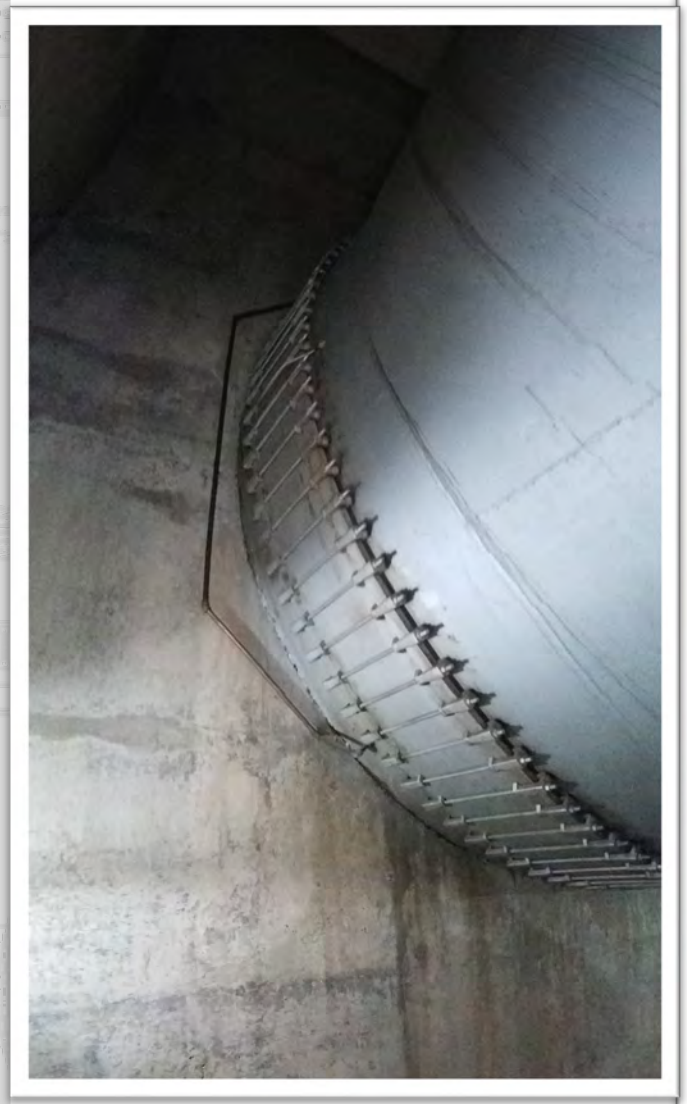

NORTH EXTERIOR IMAGES OF 18 FT (216 INCHES) BUTTERFLY VALVE

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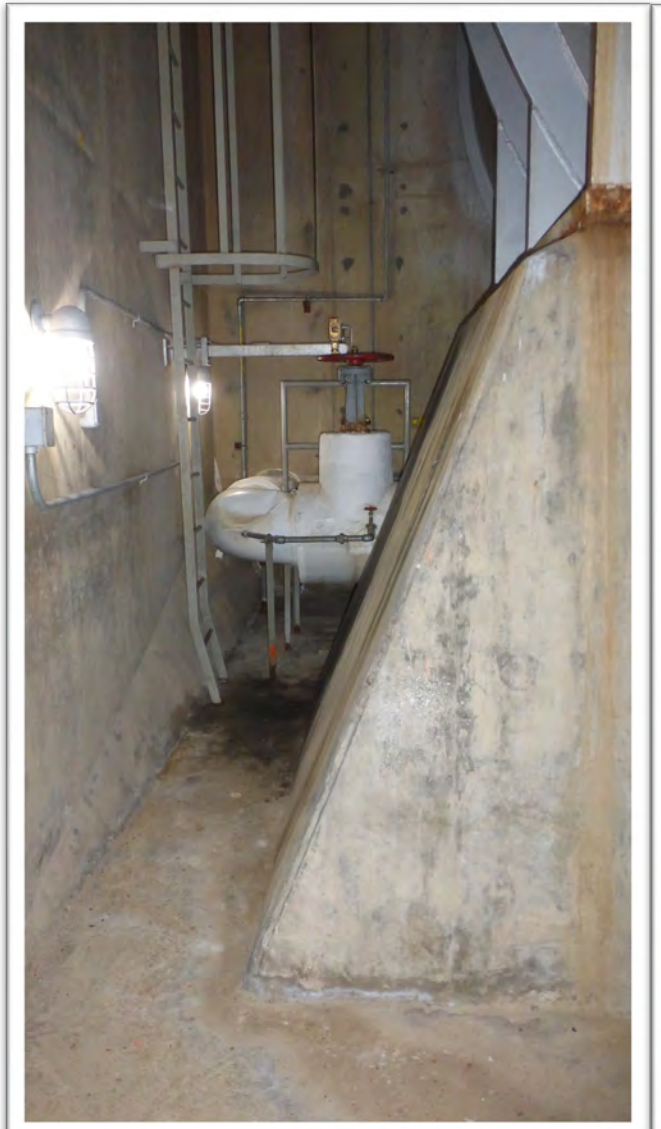

SOUTH EXTERIOR IMAGES OF 18 FT (216 INCHES) BUTTERFLY VALVE

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UPSTREAM UNDERSIDE EXTERIOR IMAGE OF 18 FT (216 INCHES) BUTTERFLY VALVE

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DOWNSTREAM UNDERSIDE EXTERIOR IMAGES OF 18 FT (216 INCHES) BUTTERFLY VALVE

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TOPSIDE EXTERIOR IMAGES OF 18 FT (216 INCHES) BUTTERFLY VALVE

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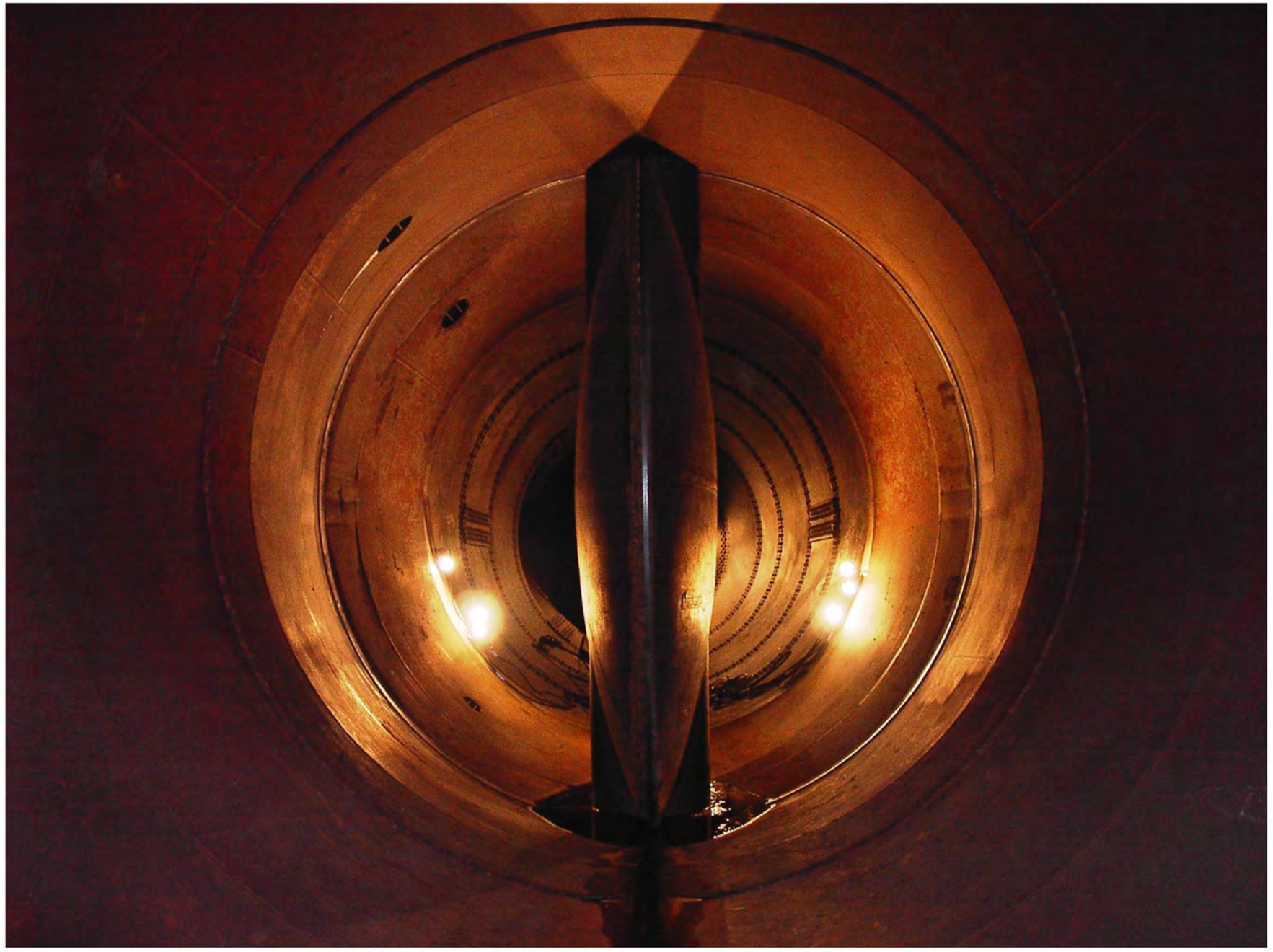

INTERIOR IMAGE OF
18 FT (216 INCHES)
BUTTERFLY VALVE

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INTERIOR IMAGE OF
18 FT (216 INCHES)
BUTTERFLY VALVE

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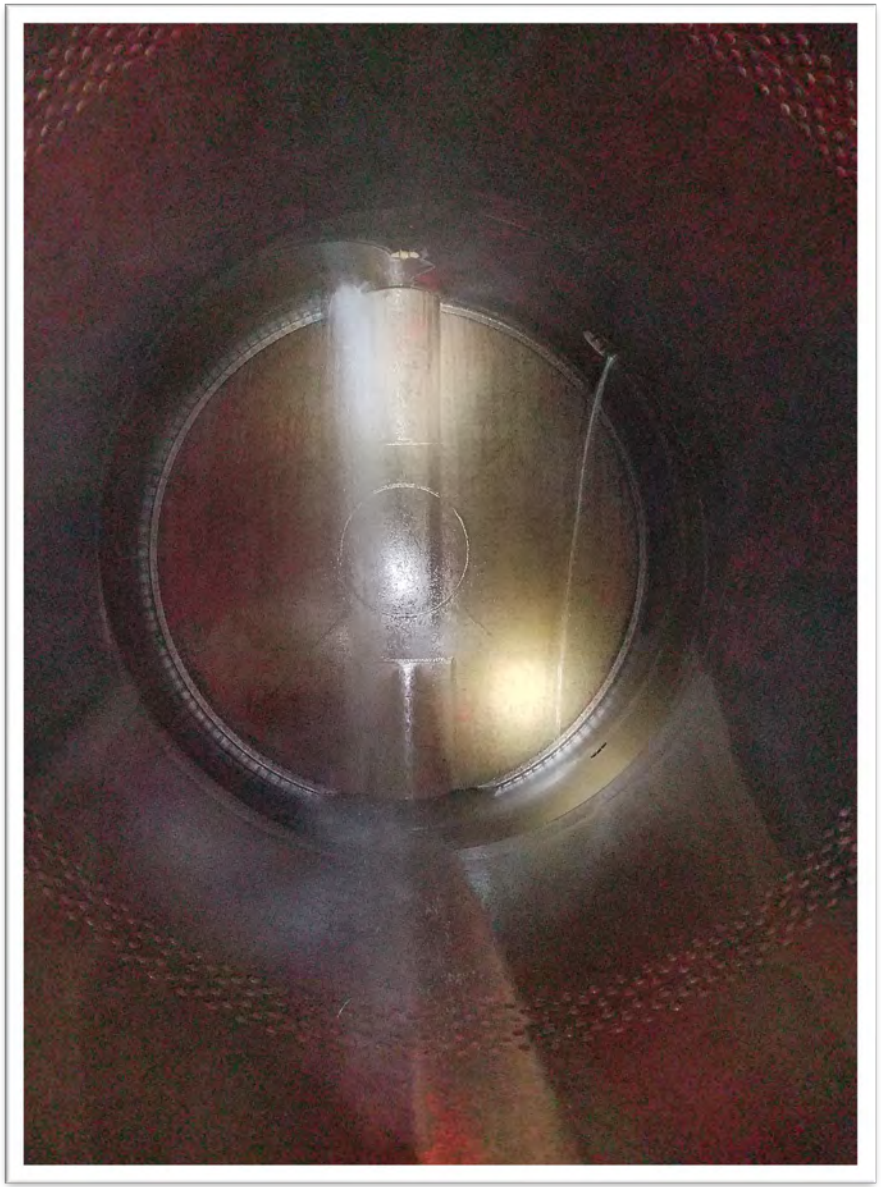
UNIT 4



UNIT 5

INTERIOR IMAGE OF
18 FT (216 INCHES)
BUTTERFLY VALVE

INTERNAL LEAKAGE

GOVERNMENT SEAL
ADJUSTMENT U4: 2006

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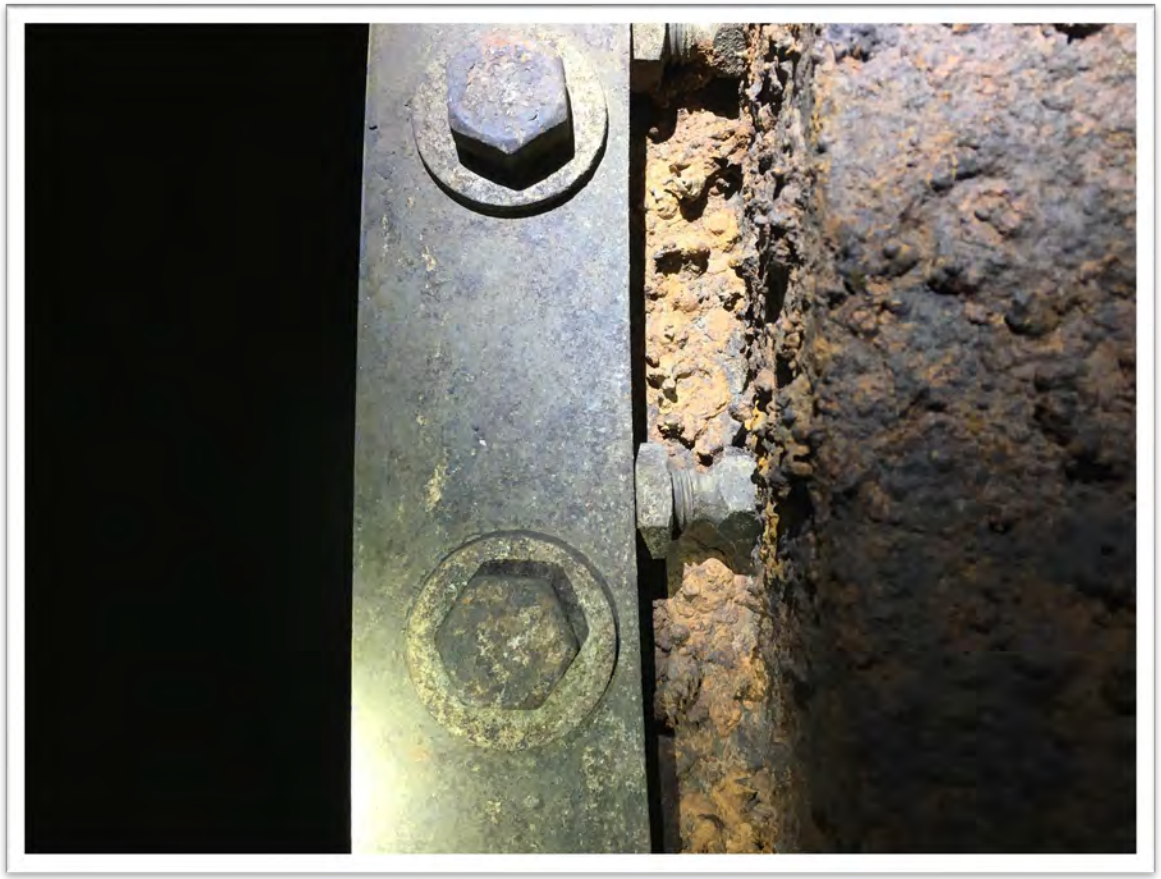

CLOSE-UP OF VALVE DISC BRONZE SEAL

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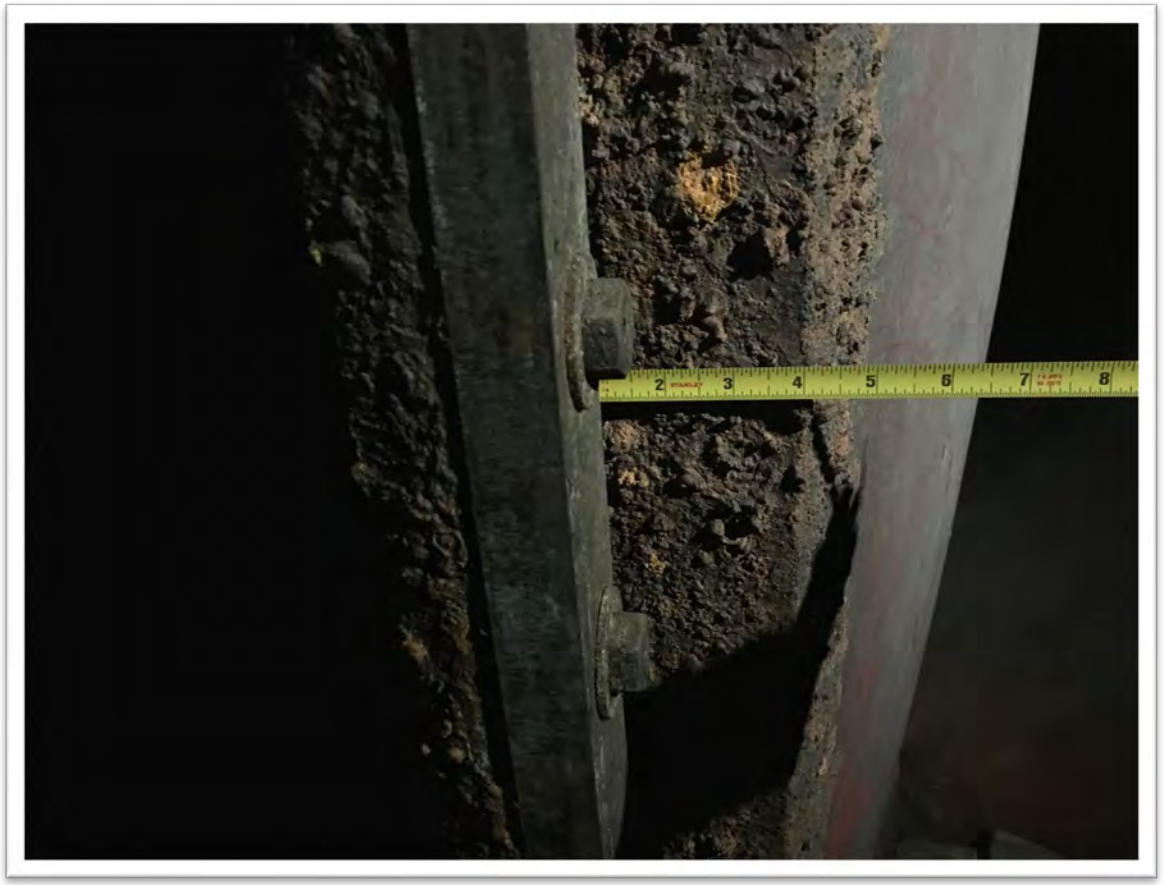

CLOSE-UP OF VALVE DISC BRONZE SEAL

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STAINLESS STEEL OVERLAY BODY SEAT AND INTERNAL SURFACES WISCO DWG H-4070

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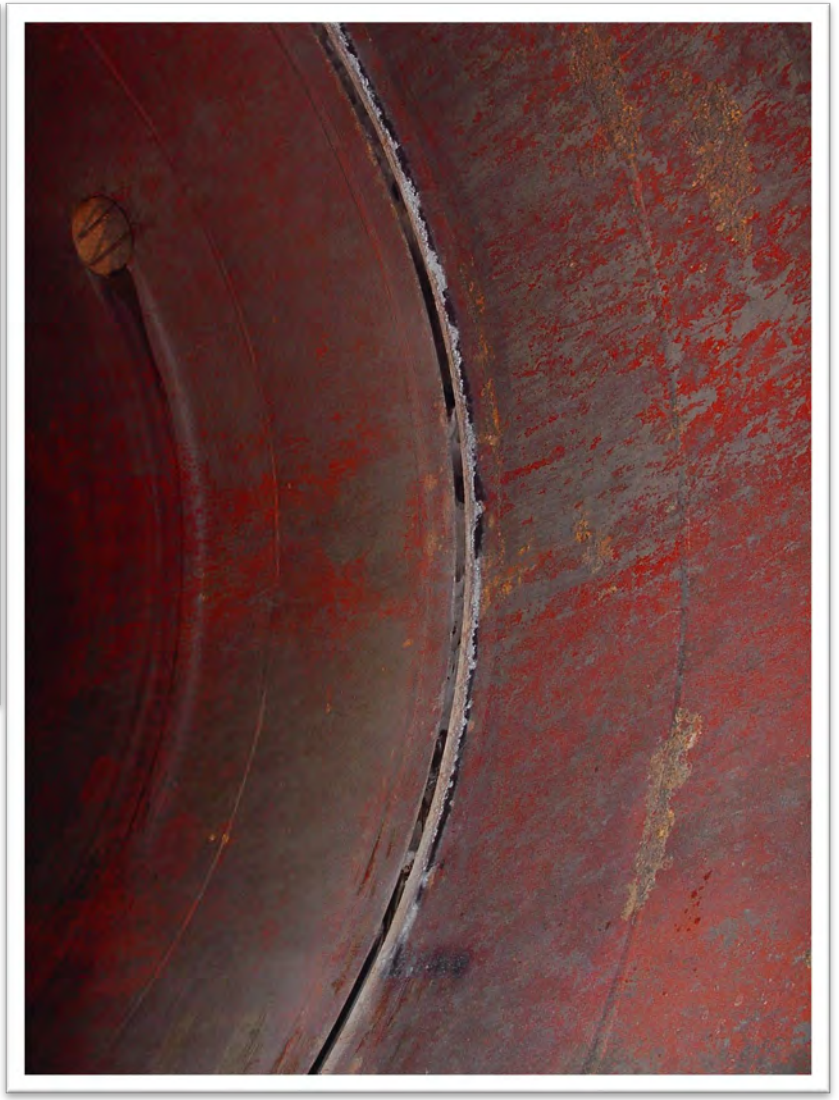

STAINLESS STEEL OVERLAY BODY SEAT AND INTERNAL SURFACES WISCO DWG H-4070

US Army Corps of Engineers ®

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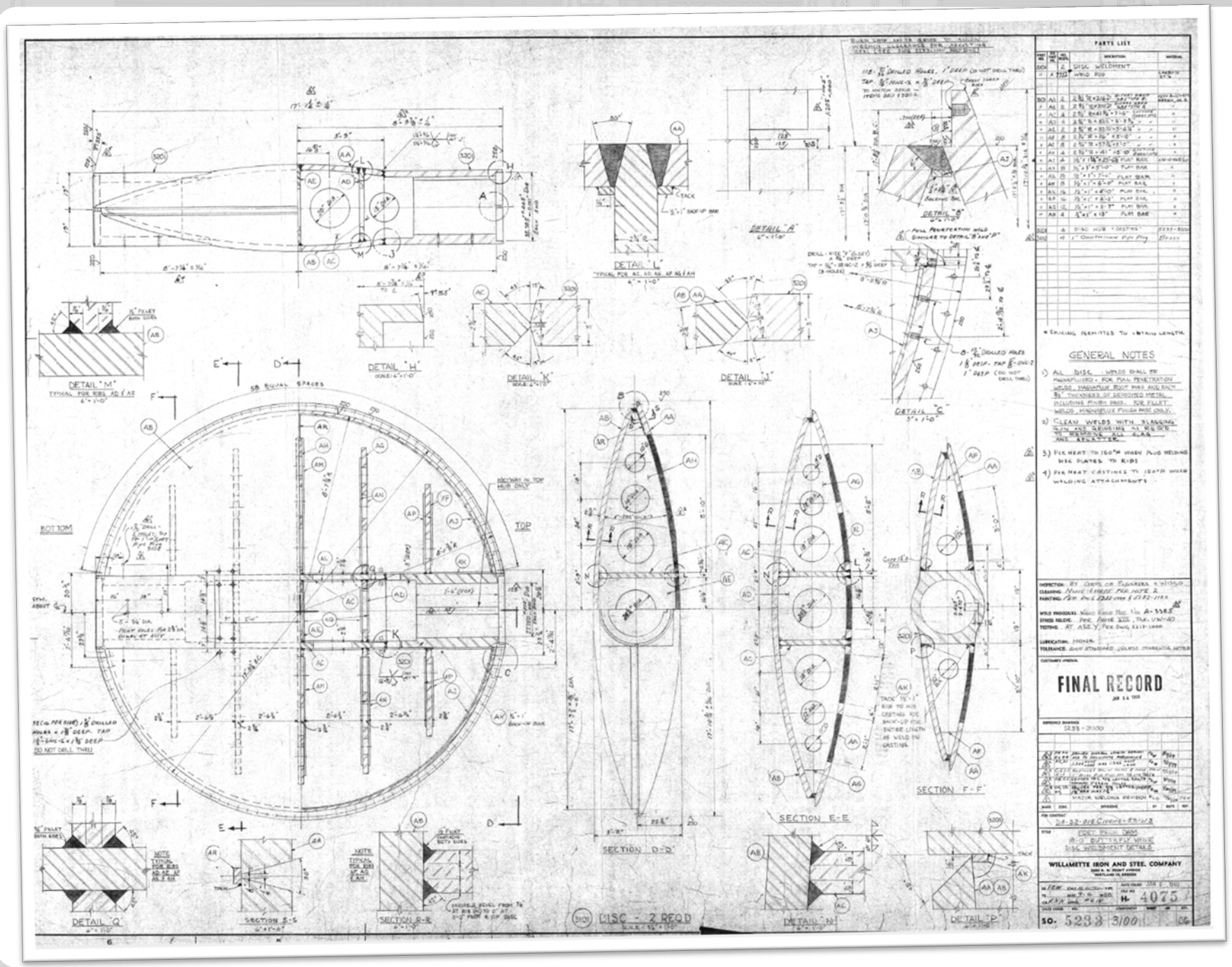

BUTTERFLY VALVE WELDS

WISCO DWG H-4075

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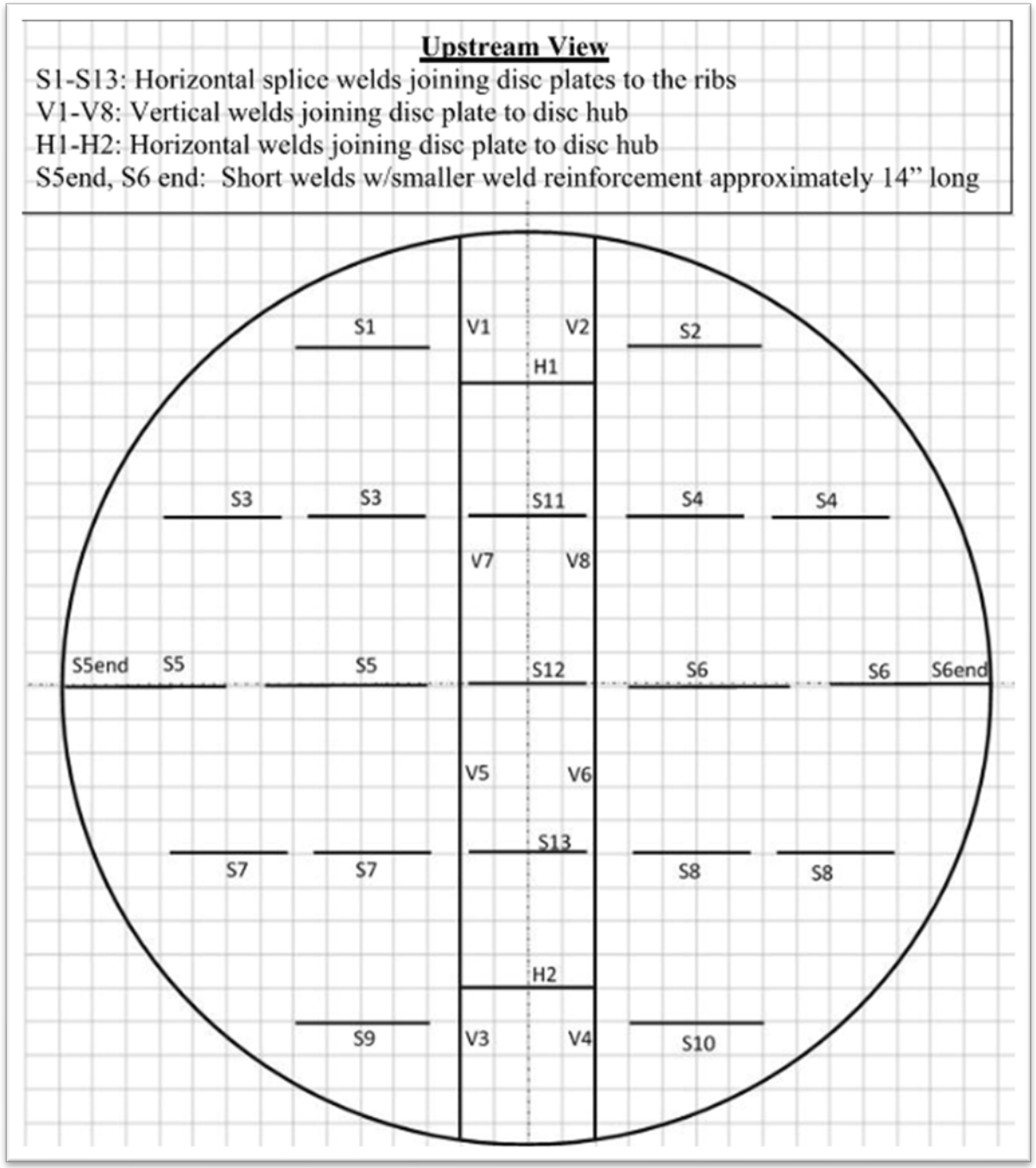

BUTTERFLY VALVE WELDS

(UPSTREAM SIDE)

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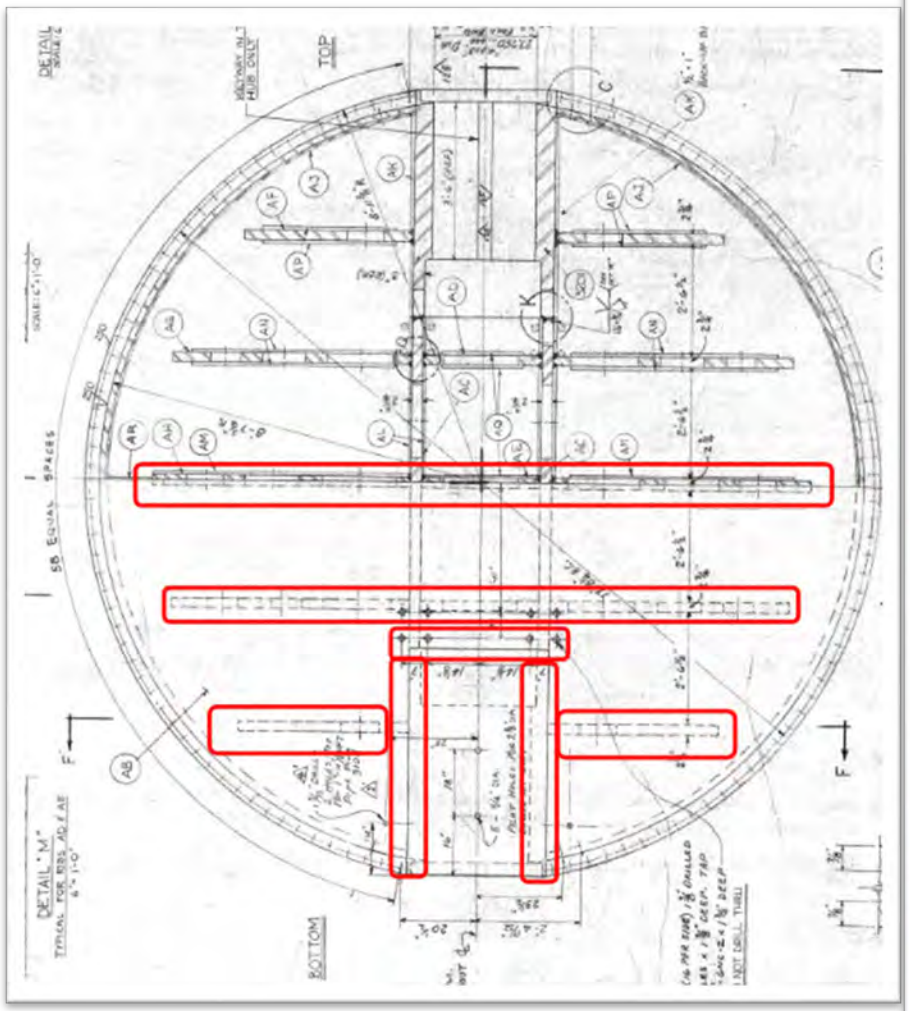

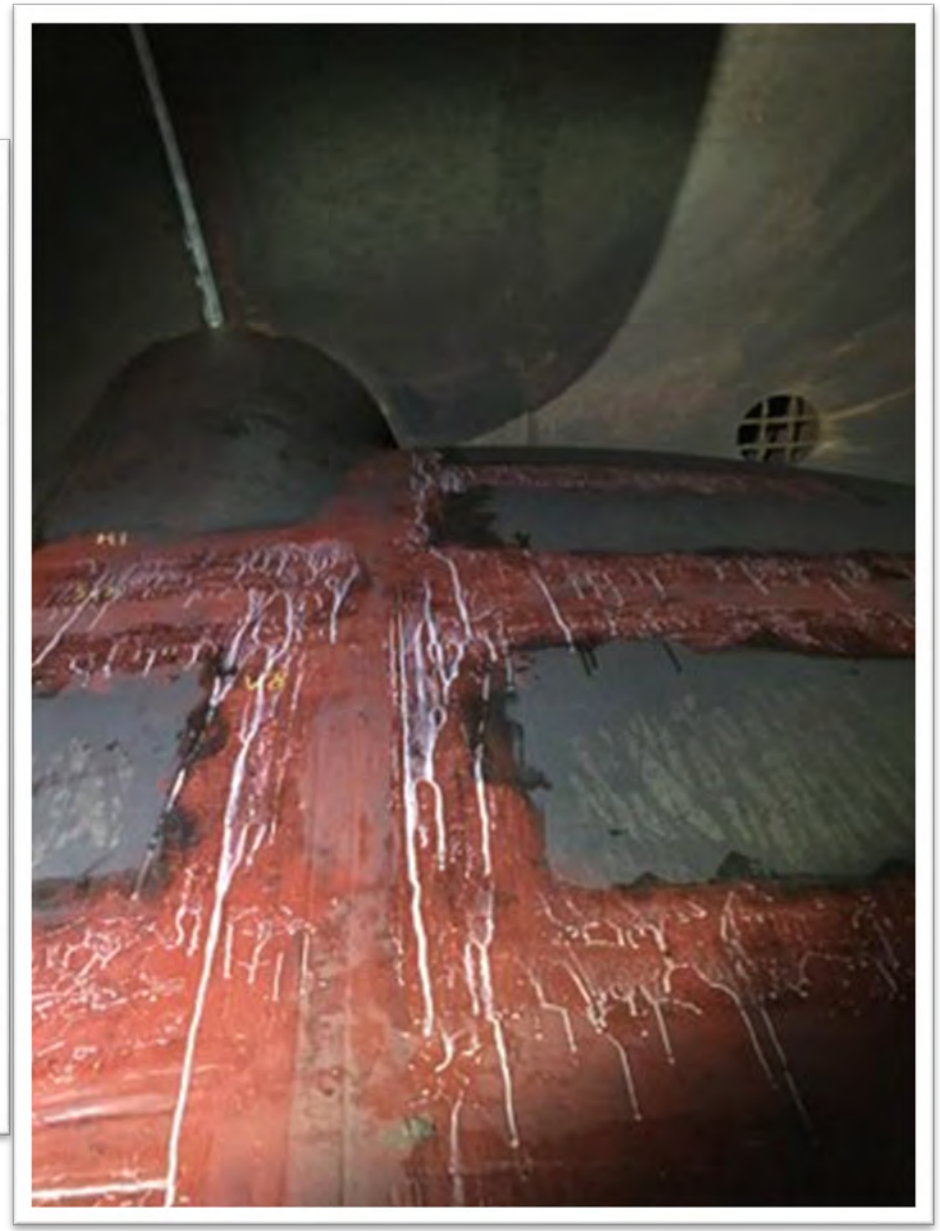

BUTTERFLY VALVE WELDS

(UPSTREAM SIDE)

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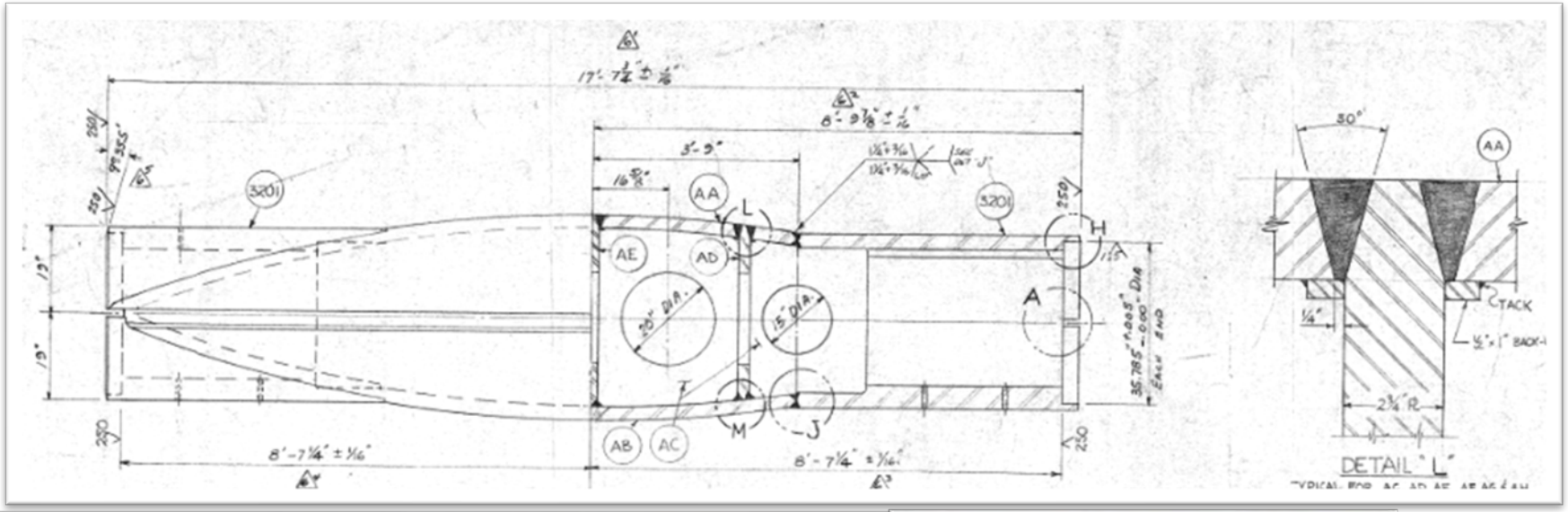

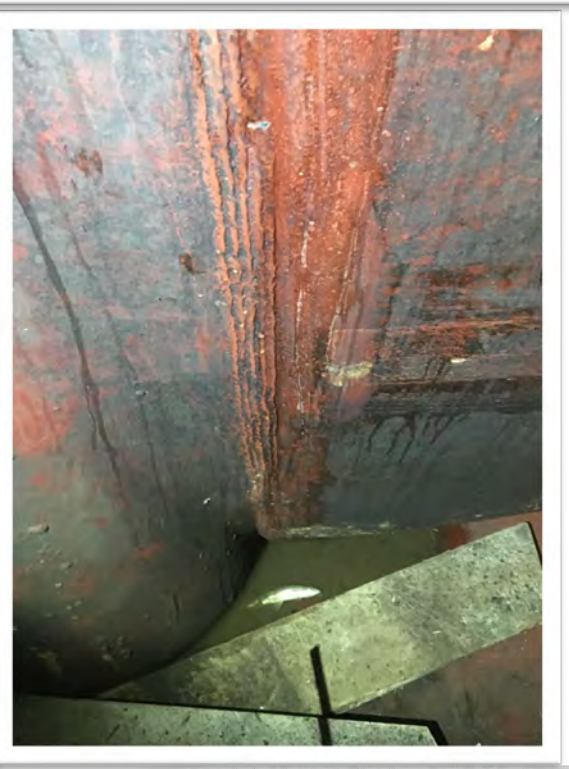

BUTTERFLY VALVE WELDS

(UPSTREAM SIDE)

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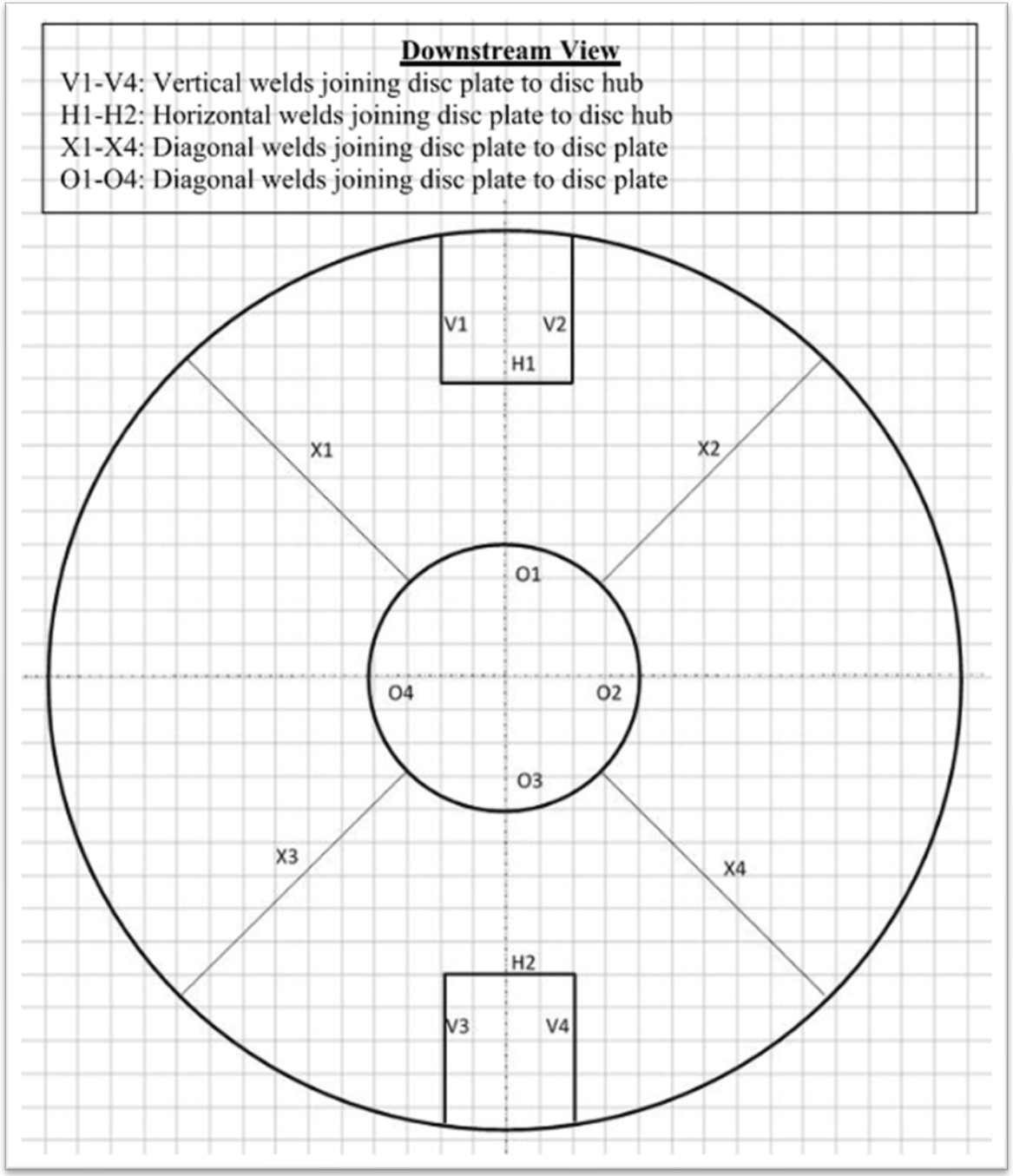

BUTTERFLY VALVE WELDS

(DOWNSTREAM SIDE)

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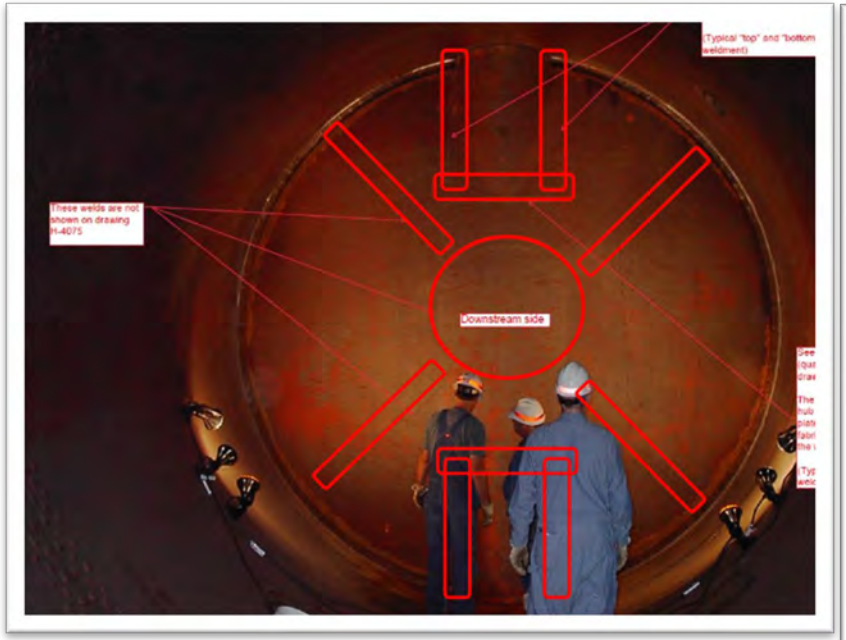

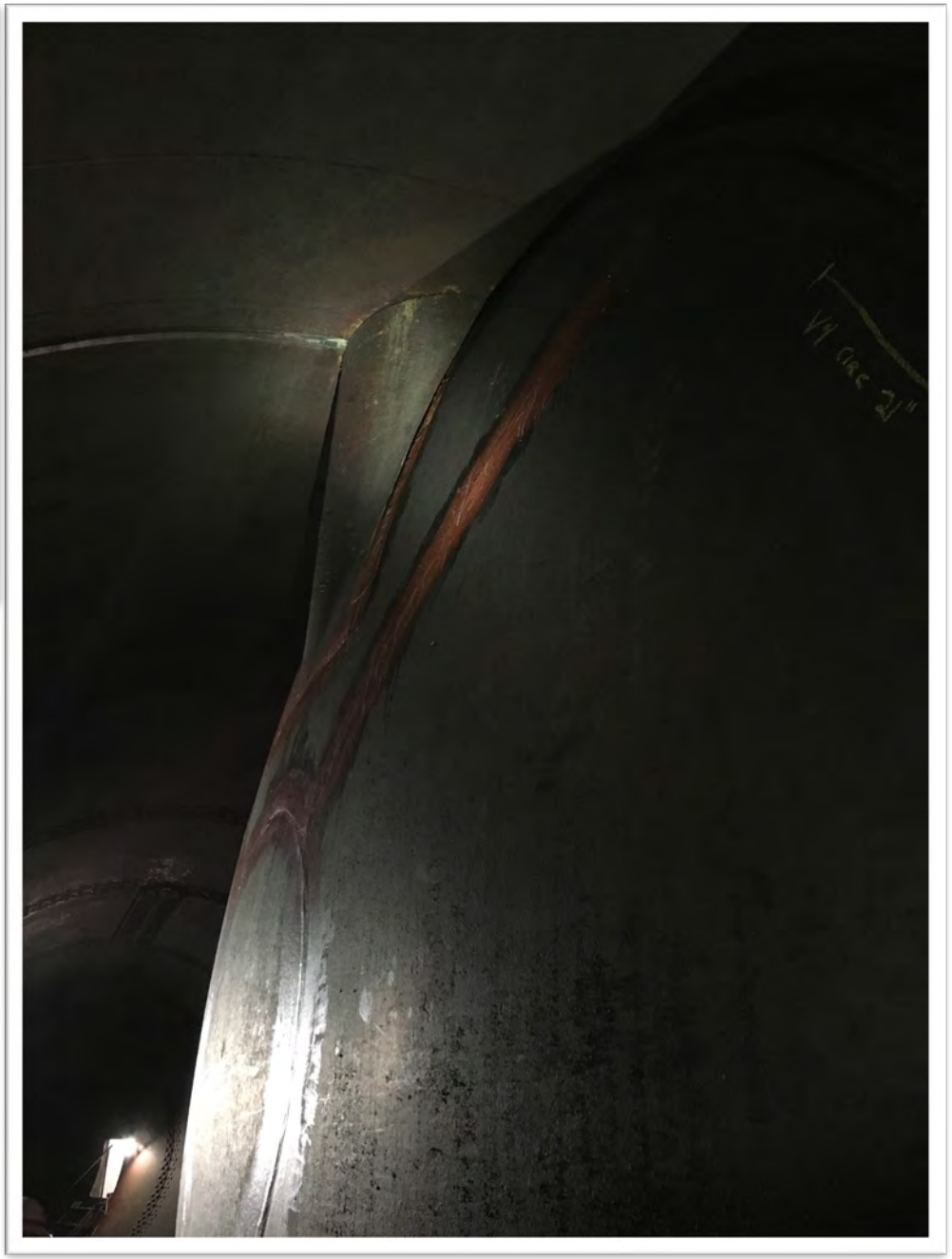

BUTTERFLY VALVE WELDS

(DOWNSTREAM SIDE)

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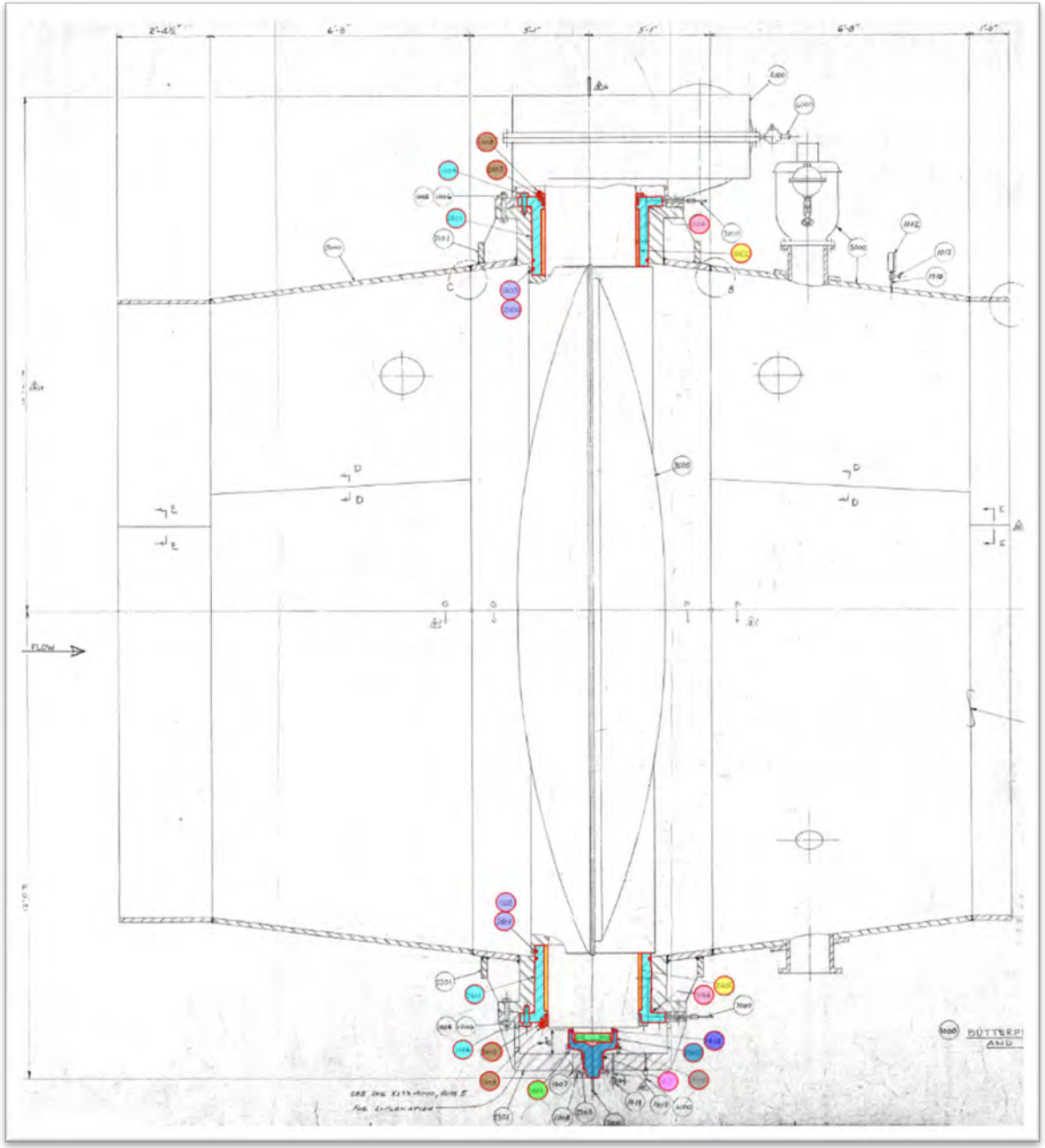

UPPER AND LOWER STUB SHAFT (TRUNNION) BEARINGS

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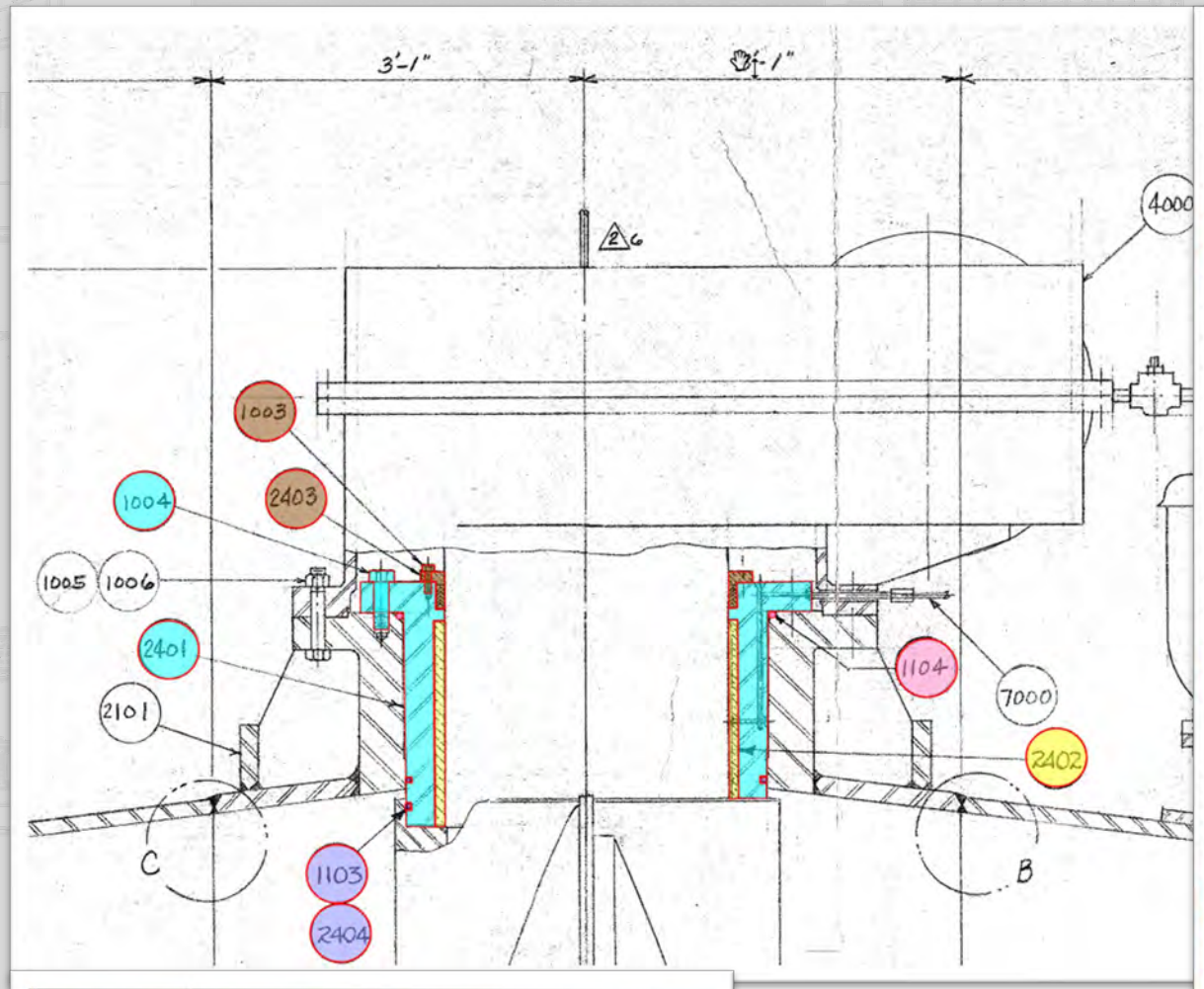


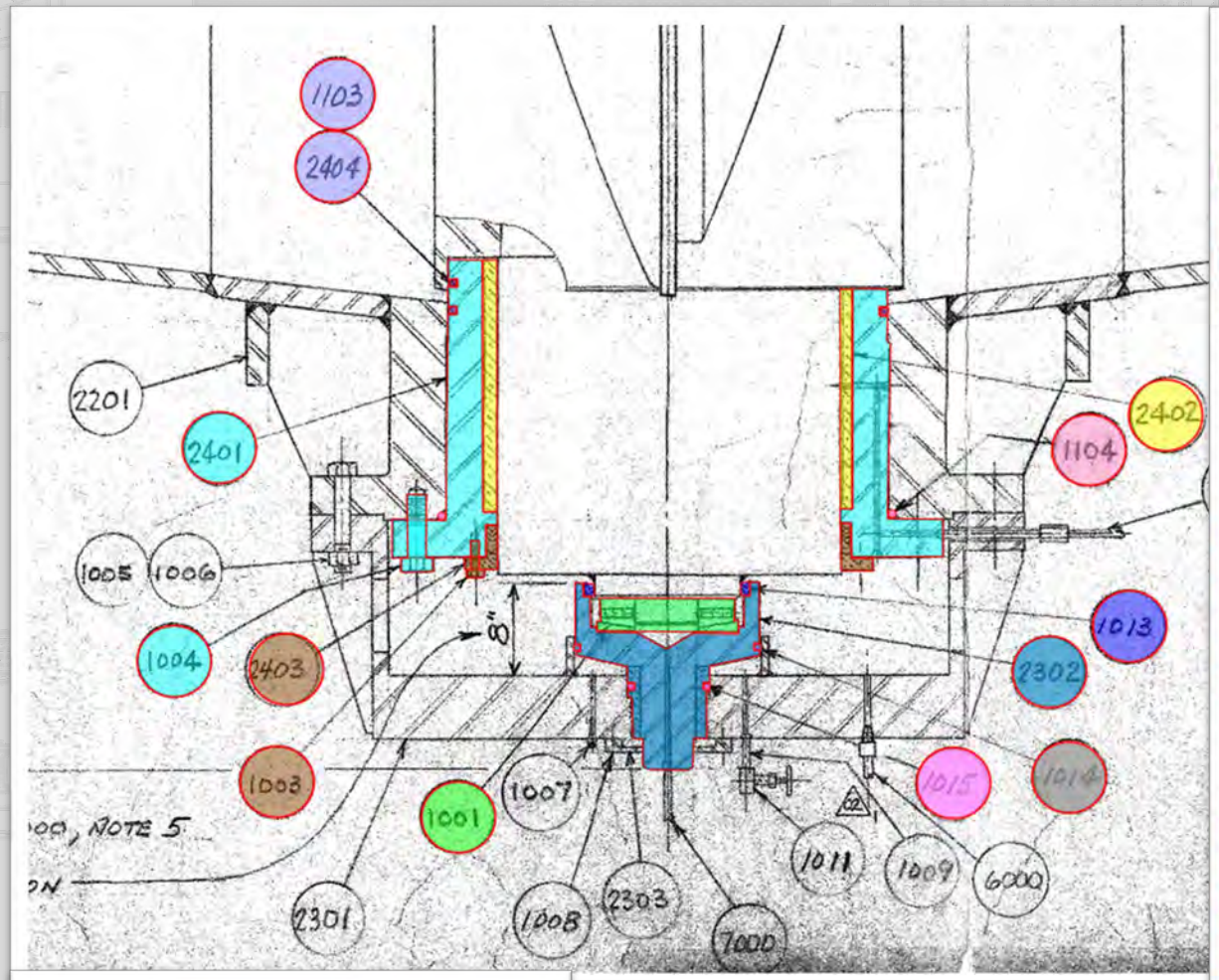
PARTS LIST

PART NO.	SUB PART NO.	NO. REQ'D.	DESCRIPTION	MATERIAL
1000		2	BUTTERFLY VALVE ASSY	
1001		2	THRUST BRG	KAYDON NO. RTS-511
1002		2	PRESS SWITCH (RANGE 0 TO 150 PSI)	MERCOID DA 31-3
1003		48	⅜-10NC-2×2 LG HEX. HD. CAP SCR.	ALLEN-STEEL TYPE 316
1004		48	1¼-6NC-2×9½ LG HEX HD CAP SCR.	COMM'L STEEL
1005		64	1¼-7NC-2×8" LG HEX HD. BOLT	SAE GR.5
1006		64	1¼-7NC-2 HEX HD NUT	SAE GR.5
1007		2	¼ NPT BUTTON HD FITTING	ALEMITE #A-1186
1008		4	¾-10NC-2×2 LG HEX HD CAP SCR	S. ST'L TYPE 302
1009		2	¼-NPT×3" LG STD. PIPE NIPPLE	WW-P-406a
1010		2	¼-NPT×3" LG " " "-BRASS	WW-P-351 GE A
1011		2	¼" BAR STOCK VALVE	CRANE 222H STEEL
1012		2	¼-125# BRASS GLOBE VALVE	CRANE #1 GLOBE
1013		3	SEAL	GARLOCK 51X4067
1014		3	14½OD×14"I.D O-RING	NATIONAL #622784
1015		3	6½OD×6"I.D. O-RING	NATIONAL #623036
1016		8	⅜" STD PIPE×4" LG.	A-106
1103		2	½" SQ×9'-6" GARLOCK #7392	5233-1100
1104		6	[illegible]" DIA×3[illegible] RD. "O"-RING	5233-1100
1017		8	1"-8NC-2×3½" LG HEX HEAD TAP BOLT	STEEL
2101		2	UPPER BODY HALF	5233-2100
2201		2	LOWER BODY HALF	5233-2200
2301		2	BEARING HOUSING	5233-2300
2302		2	THRUST BRG CARRIER	" "
2303		2	LOCK PLATE	" "
2401		2	BEARING CARRIER	5233-2400
2402		2	BEARING	" "
2403		2	GLAND	" "
2404		12	CARRIER SEAL	" "
3000		2	DISC ASSY	5233-3000
4000		2	OPERATOR ASSY	5233-4000
5000		2	TRANSITIONS ASSY	5233-5000
6000		2	HYD. UNIT & PIPING	5233-6000
7000		2	LUBRICATION UNIT & PIPING	5233-7000
8000		2	ANCHOR BOLT DET. & INSTAL.	5233-8000
9000		2	HANDLING & VALVE ASSY. PROCEDURE	5233-9000
1018		1	PERMATEX 11½oz. TUBE #2	COMM'L

UPPER STUB SHAFT (TRUNNION) BEARING

US Army Corps of Engineers ®

U.S.ARMY



PARTS LIST

PART NO.	SUB PART NO.	NO. REQ'D.	DESCRIPTION	MATERIAL
1000		2	BUTTERFLY VALVE ASSY	
1001		2	THRUST BRG	
1002		2	PRESS SWITCH (RANGE 0 TO 150 PSI)	MERCOID DA 31-3
1003		48	½"UNC-2X2 LG HEX. HD. CAP SCR	
1004		48	1½-6NC-2X4½ LG. HEX HD CAP SCR.	COMM'L STEEL
1005		64	1⅛-7NC-2X8" LG HEX HD. BOLT	SAE GR.5
1006		64	1⅛"-7NC-2 HEX HD NUT	SAE GR.5
1007		2	¼" NPT BUTTON HD FITTING	ALEMITE #A-1126
1008		4	¾"-10NC-2X2"LG HEX HD CAP SCR	S. ST'L TYPE 302
1009		2	¼"-NPT X 3" LG STD. PIPE NIPPLE	WW-P-406a
1010		2	¼"-NPT X 3" LG " " "-BRASS	WW-P-351 GE A
1011		2	¼" BAR STOCK VALVE	CRANE 222H STEEL
1012		2	¼"-125# BRASS GLOBE VALVE	CRANE #1 GLOBE
1013		3	SEAL	GARLOCK SIX 4007
1014		3	14½OD X 14"I.D O-RING	NATIONAL #623184
1015		3	6¾OD X 6"I.D O-RING	NATIONAL #623056
1016		8	⅜" STD PIPE X 4" LG.	A-106
1103		12	½" SQ X 9'-6" GARLOCK #7892	5233-1100
1104		6	⅝" DIA X 36⅝ RD. O-RING	5233-1100
1017		8	1"-8NC-2 X 3½" LG HEX HEAD TAP BOLT	STEEL
2101		2	UPPER BODY HALF	5233-2100
2201		2	LOWER BODY HALF	5233-2200
2301		2	BEARING HOUSING	5233-2300
2302		2	THRUST BRG CARRIER	" "
2303		2	LOCK PLATE	" "
2401		2	BEARING CARRIER	5233-2400
2402		2	BEARING	" "
2403		2	GLAND	" "
2404		12	CARRIER SEAL	" "
3000		2	DISC ASSY	5233-3000
4000		2	OPERATOR ASSY	5233-4000
5000		2	TRANSITIONS ASSY	5233-5000
6000		2	HYD. UNIT & PIPING	5233-6000
7000		2	LUBRICATION UNIT & PIPING	5233-7000
8000		2	ANCHOR BOLT DET. & INSTAL.	5233-8000
9000		2	HANDLING & VALVE ASSY. PROCEDURE	5233-9000
1018		1	PERMATEX 11⅛02 TUBE #2	COMM'L

LOWER STUB SHAFT (TRUNNION) BEARING & THRUST BEARING

US Army Corps of Engineers ®

U.S.ARMY

EXISTING GREASE LUBRICATION SYSTEM (UNIT 4 SHOW, UNIT 5 SIMILAR)

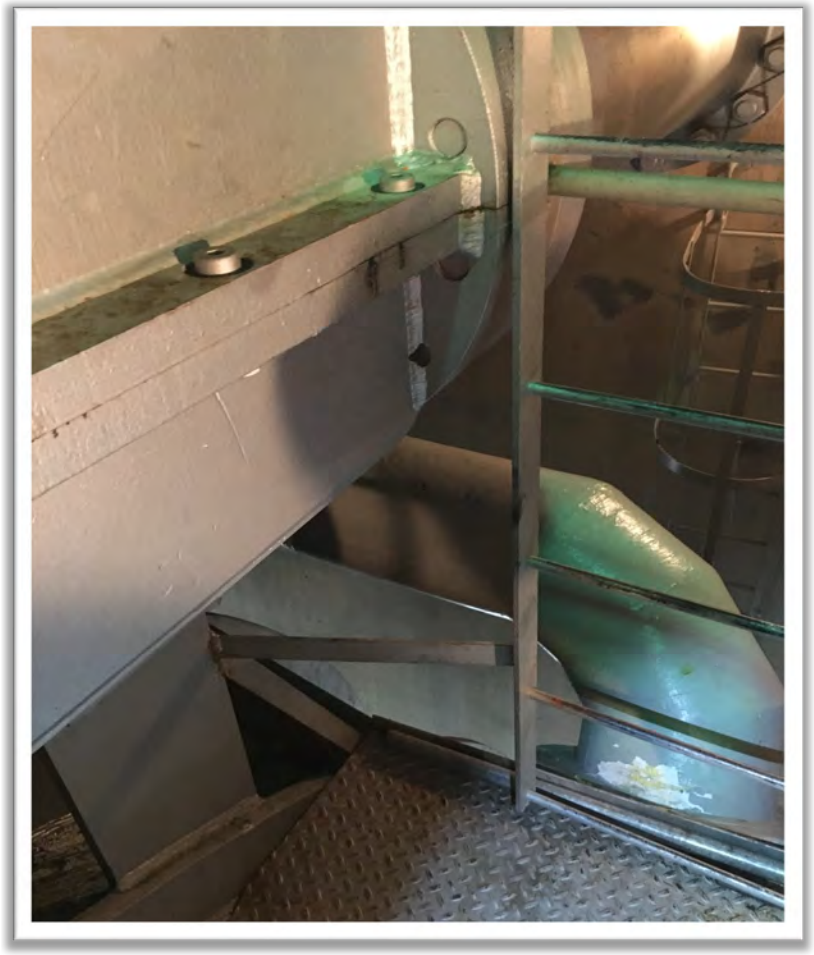
US Army Corps of Engineers ®

U.S.ARMY

EXISTING GREASE LUBRICATION SYSTEM (UNIT 4 SHOW, UNIT 5 SIMILAR)

US Army Corps of Engineers ®

U.S.ARMY



EXISTING BFV BYPASS SYSTEMS

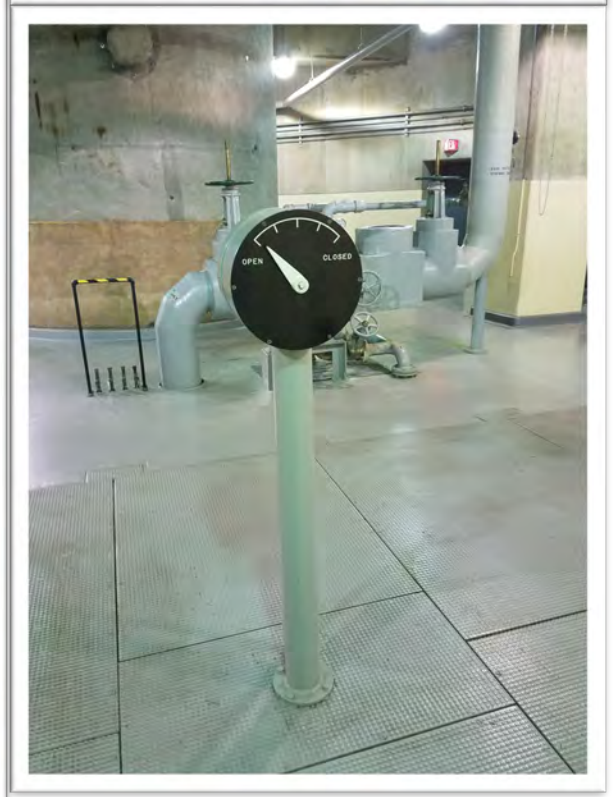
US Army Corps of Engineers ®

U.S.ARMY

EXISTING BFV BYPASS SYSTEMS
BYPASS VALVE & PIPING, & ABSOLUTE PRESSURE SWITCH

US Army Corps of Engineers ®

U.S.ARMY



EXISTING LIMITORQUE GATE VALVE – BYPASS VALVE OPERATOR

BFV POSITION INDICATOR

BFV ACCESS HATCH

MAINTENANCE ACCESS HATCH

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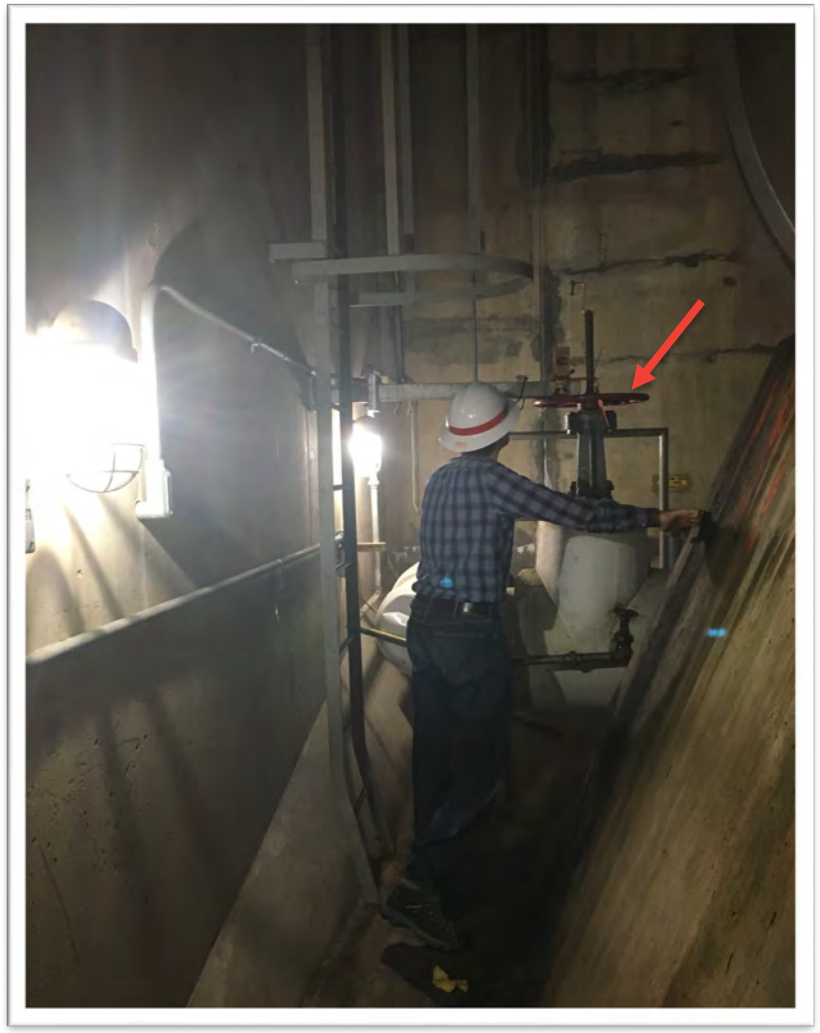
EXISTING BFV HPU

BYPASS VALVE CONTROLS & INDICATION

BFV CONTROLS & INDICATION

US Army Corps of Engineers ®

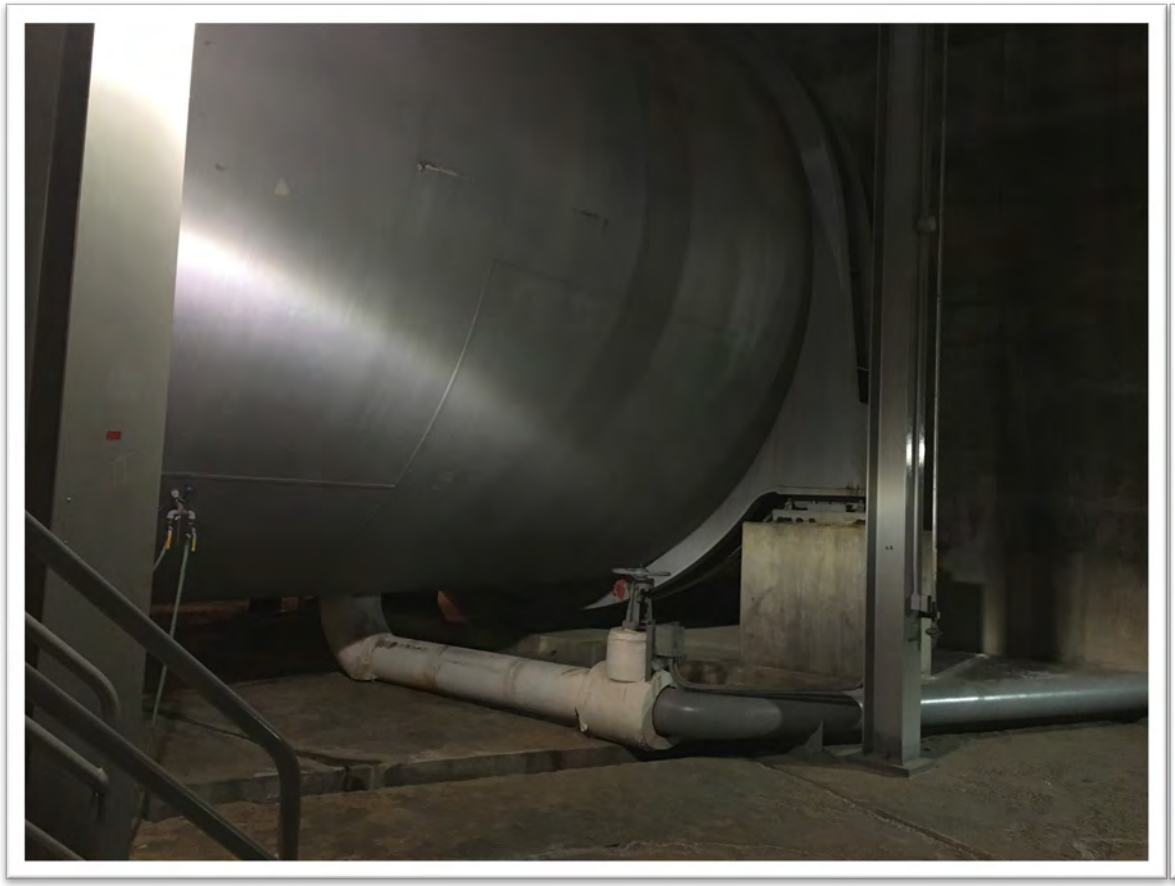
U.S.ARMY

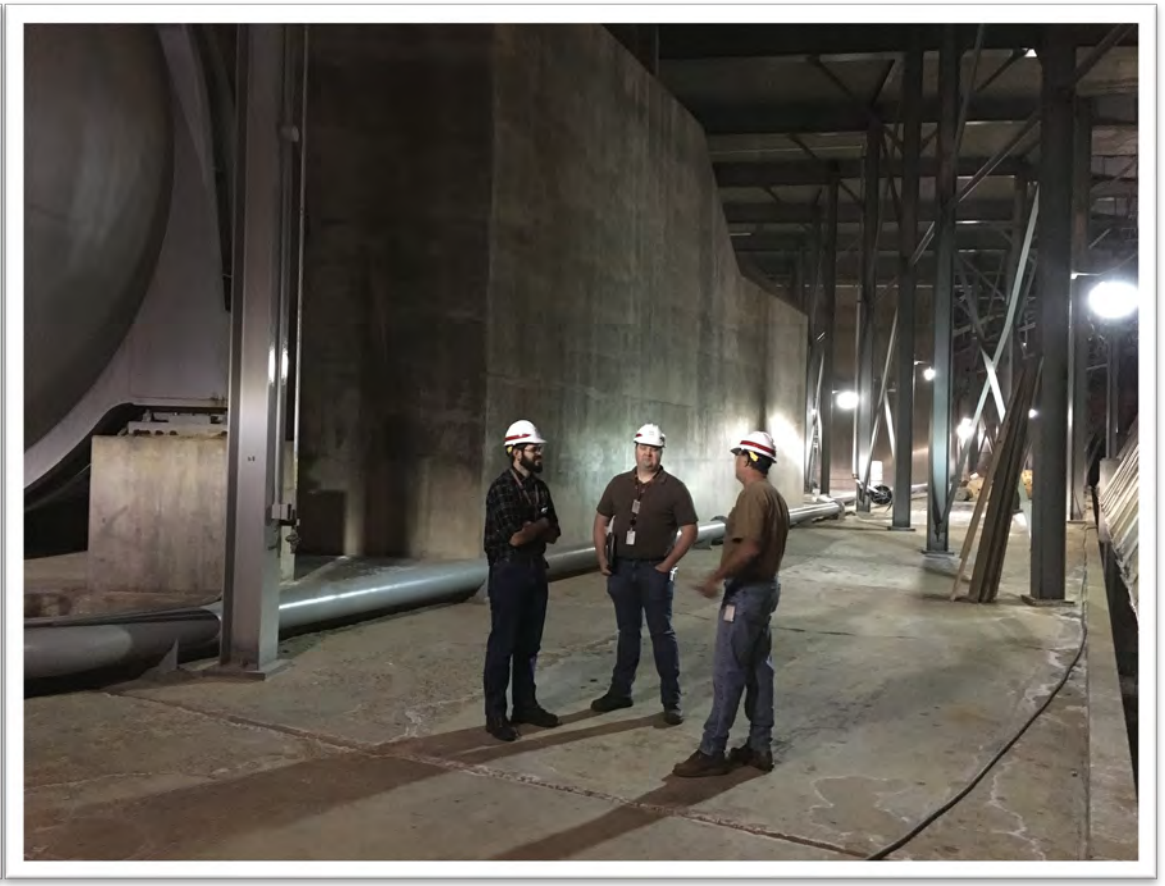


EXISTING SPIRAL CASE DRAIN VALVES

US Army Corps of Engineers ®

U.S.ARMY

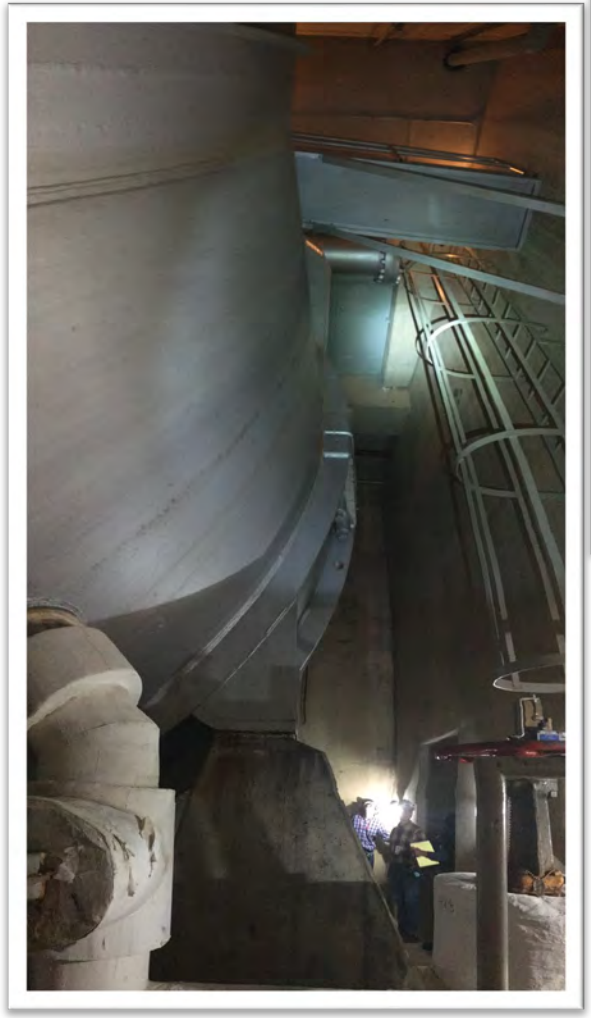


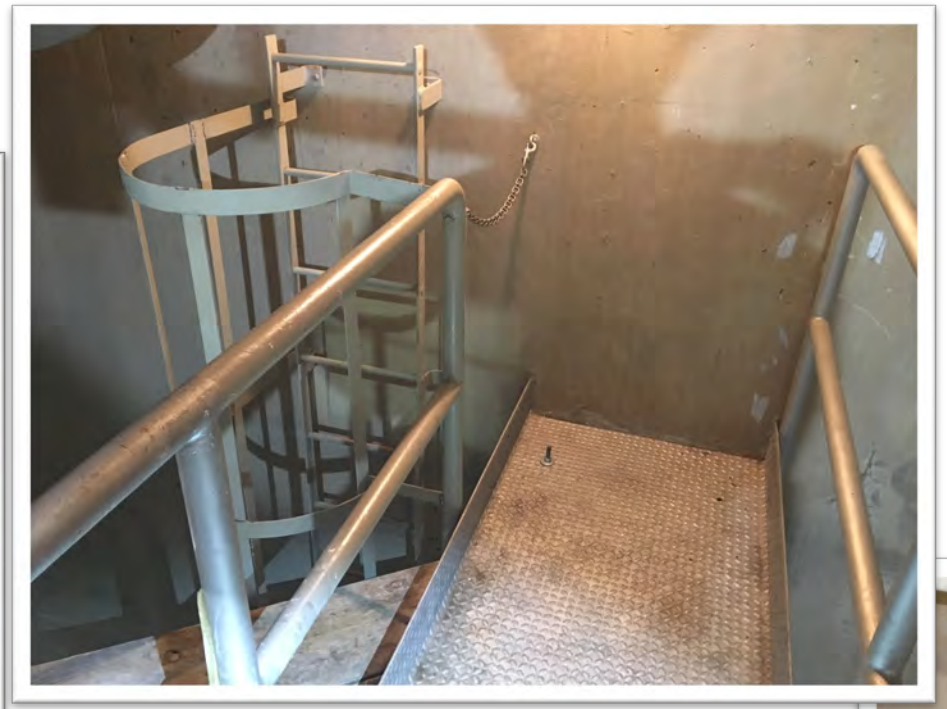


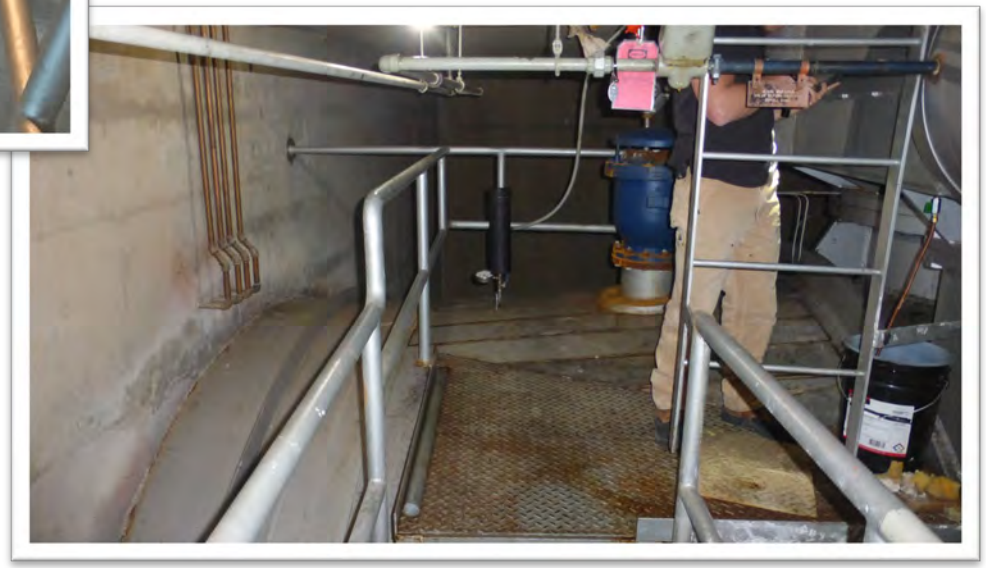
EXISTING TUNNEL DRAIN VALVES

US Army Corps of Engineers ®

U.S.ARMY







EXISTING MAINTENANCE LADDERS & PLATFORMS

US Army Corps of Engineers ®

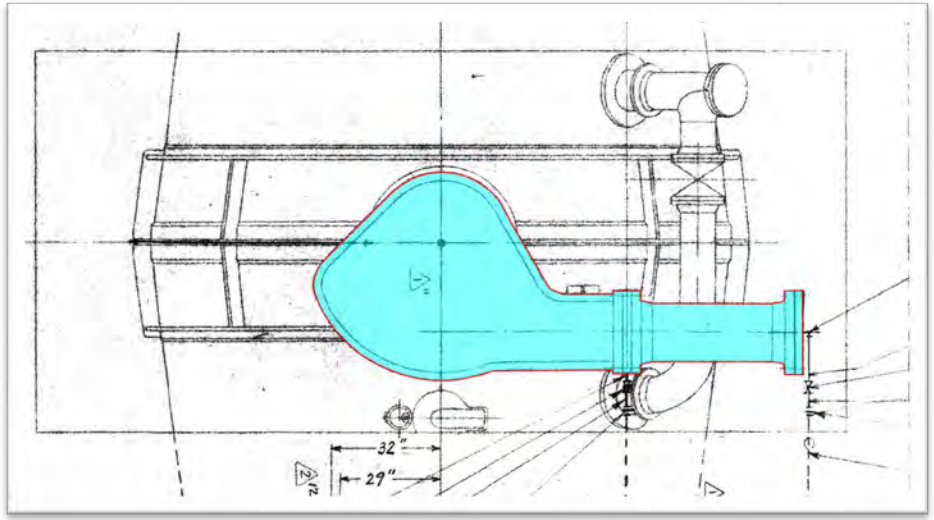
U.S.ARMY

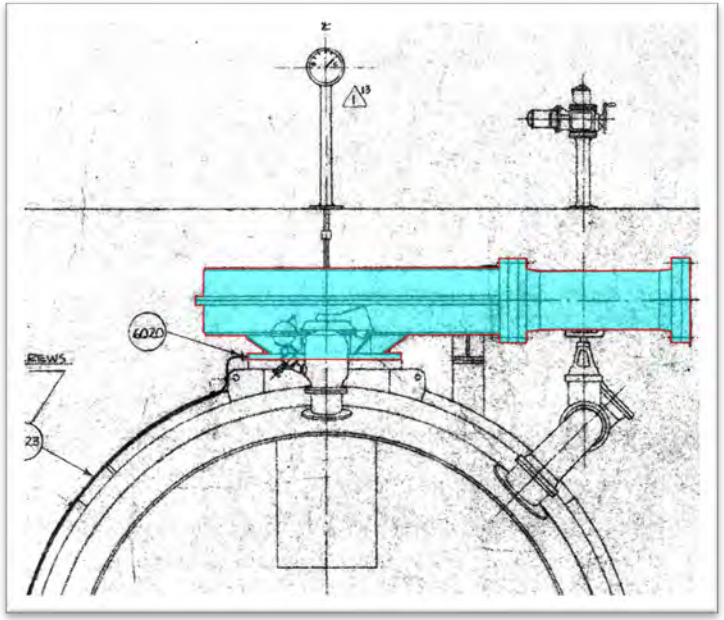
EXISTING BFV MAINTENANCE ACCESS HATCH

US Army Corps of Engineers ®

U.S.ARMY

HYDRAULIC POWER SYSTEMS





BFV OPERATOR

US Army Corps of Engineers ®

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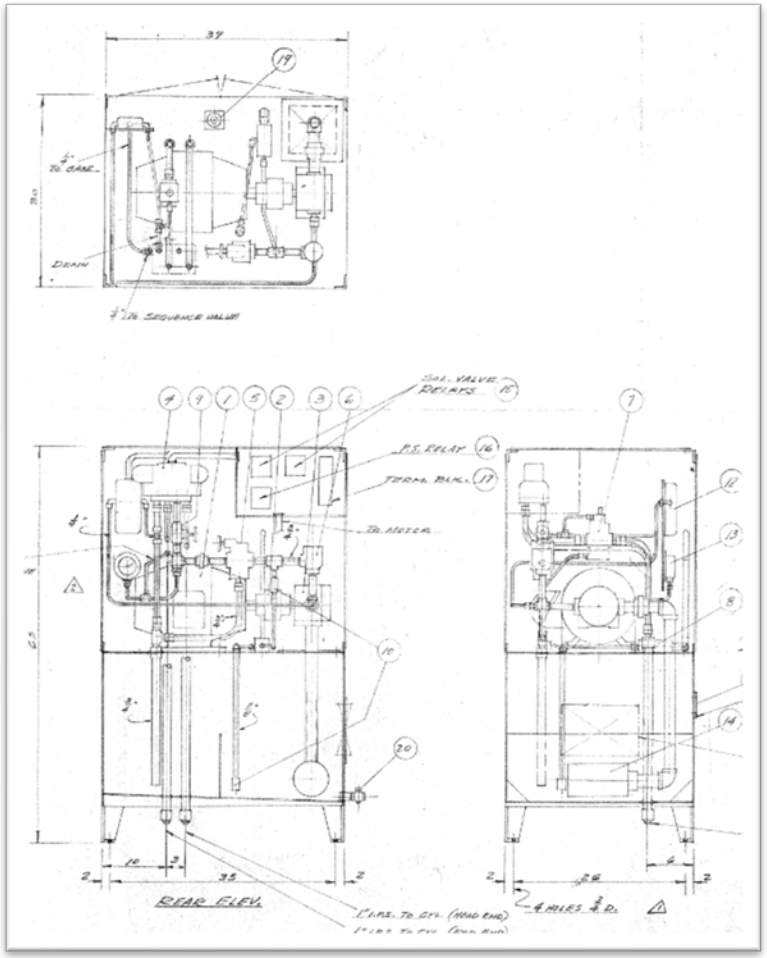
HYDRAULIC POWER SYSTEMS



BFV HPU

US Army Corps of Engineers ®

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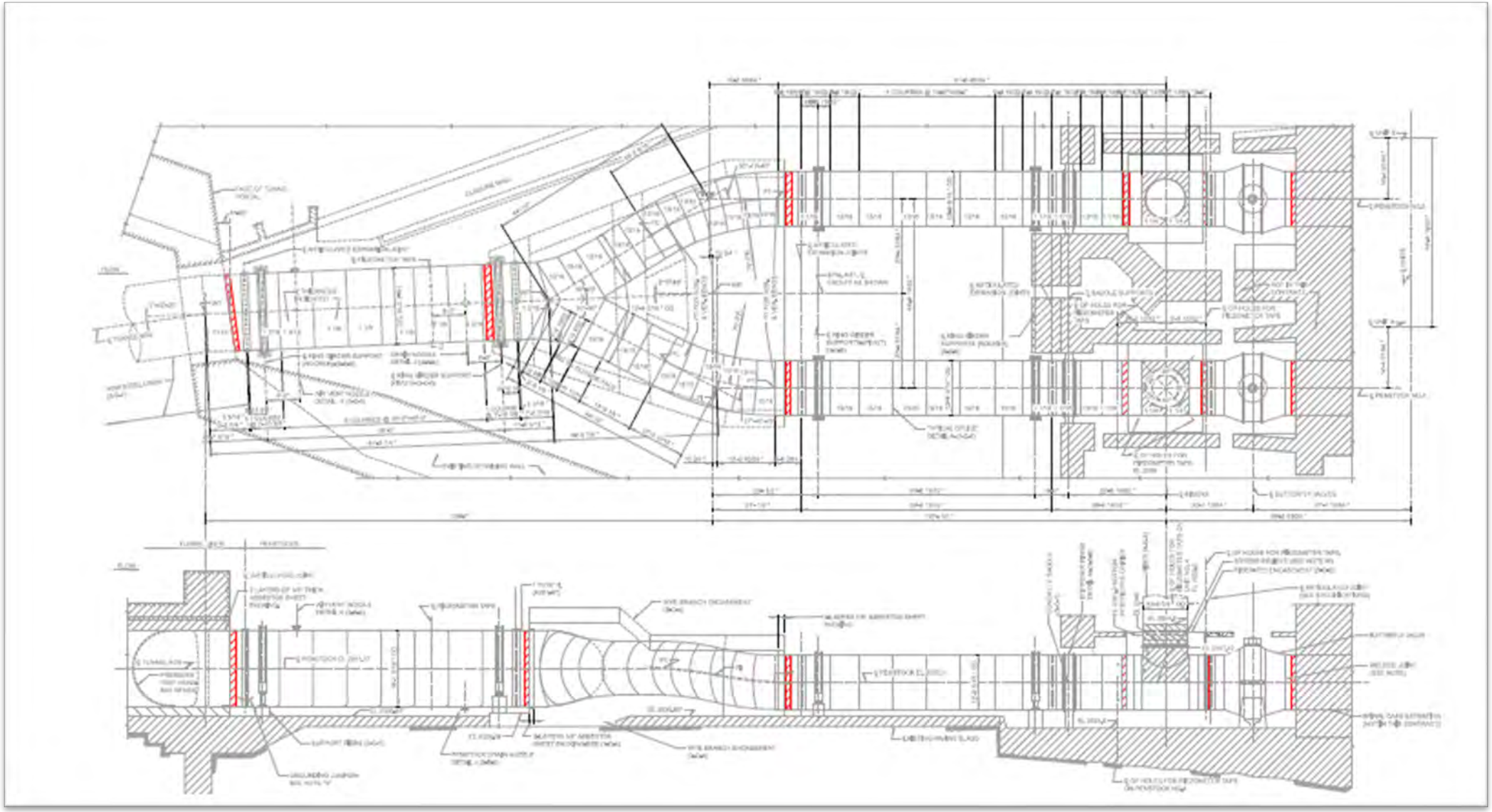
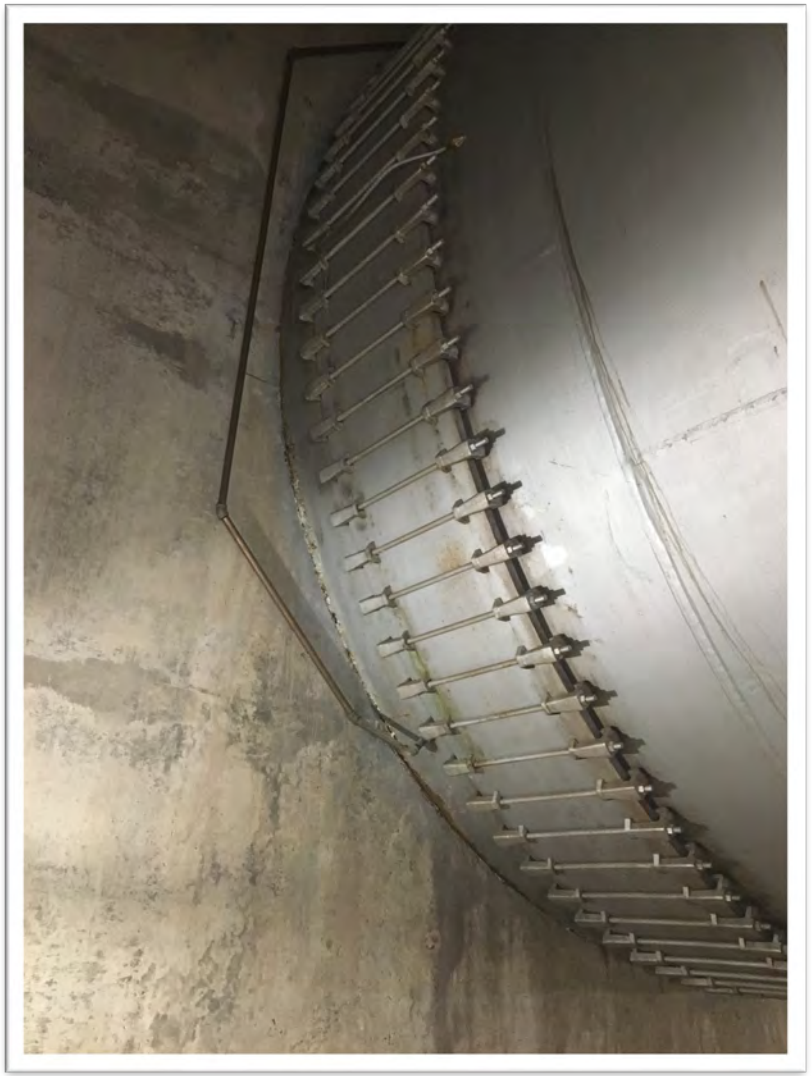


TUNNEL #2, UNIT 4 & 5 PENSTOCK ULTRASONIC TESTING AND PAINT REPAIR LOCATIONS (S-101)

US Army Corps of Engineers ®

U.S.ARMY

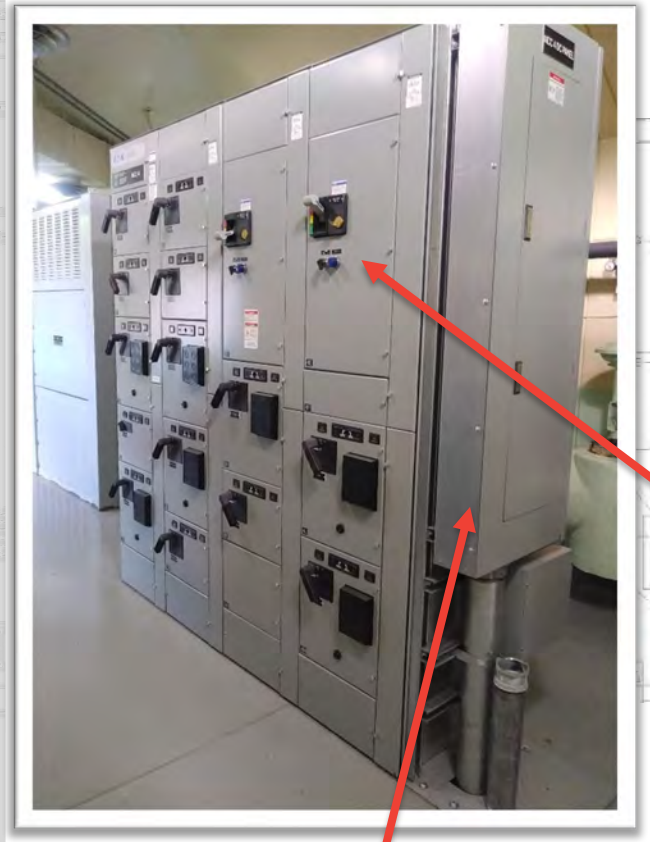


TUNNEL #2, UNIT 4 & 5 PENSTOCK ULTRASONIC TESTING AND PAINT REPAIR LOCATIONS (S-101)

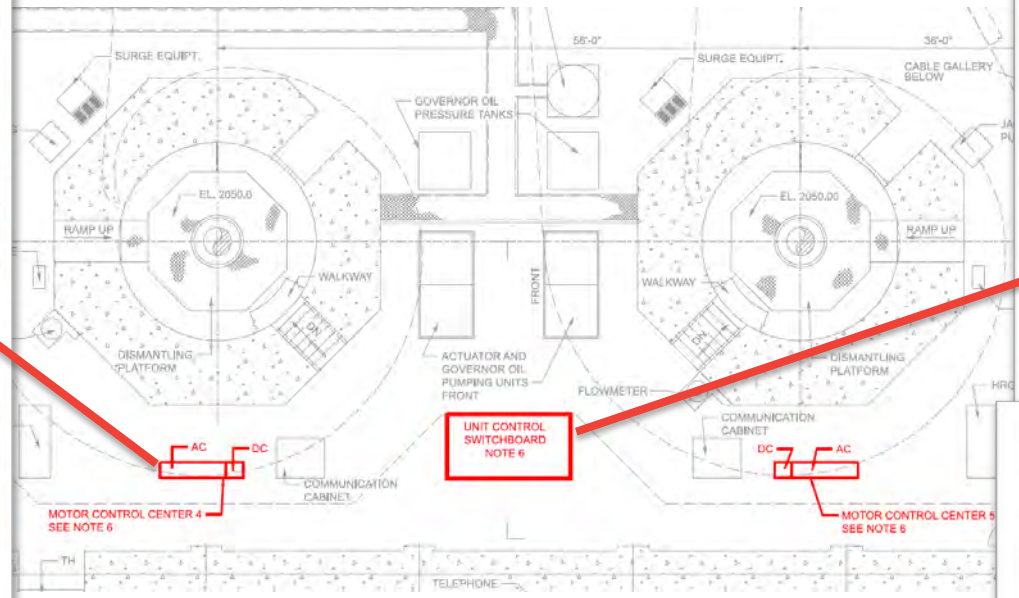
US Army Corps of Engineers ®

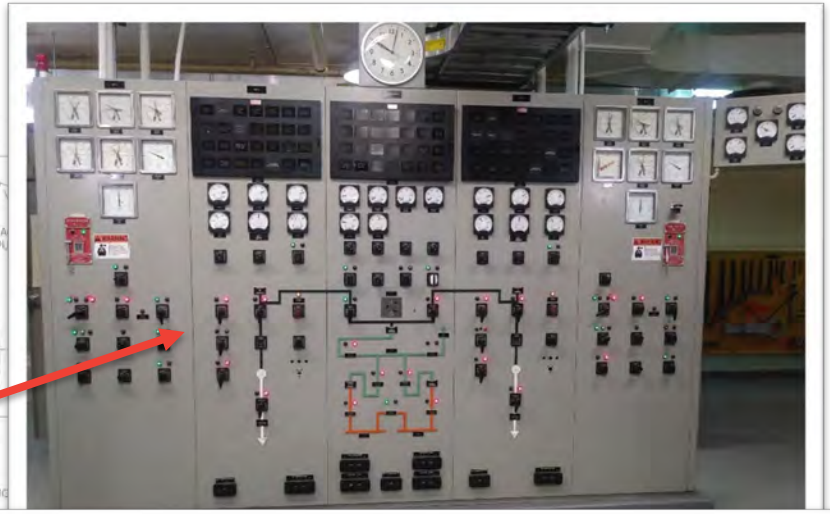
U.S.ARMY

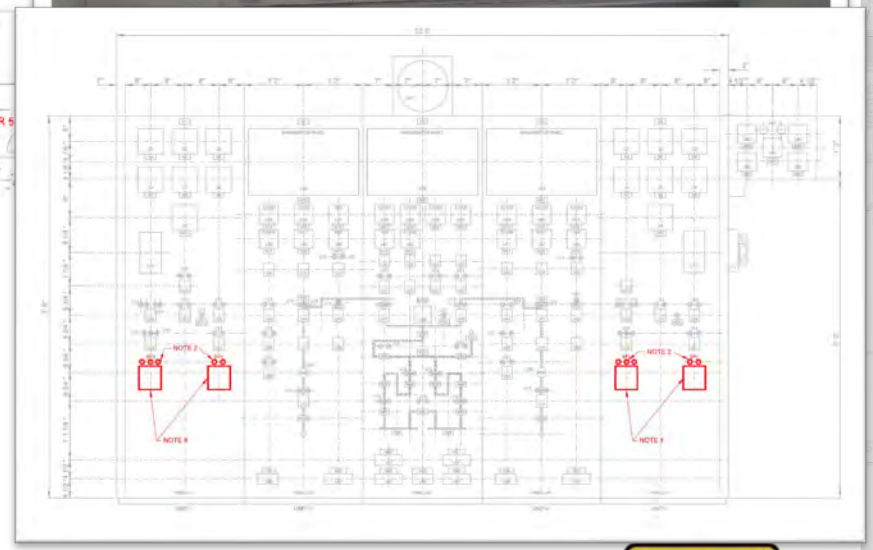
ELECTRICAL WORK



MCC4 DC
DIST. PANEL







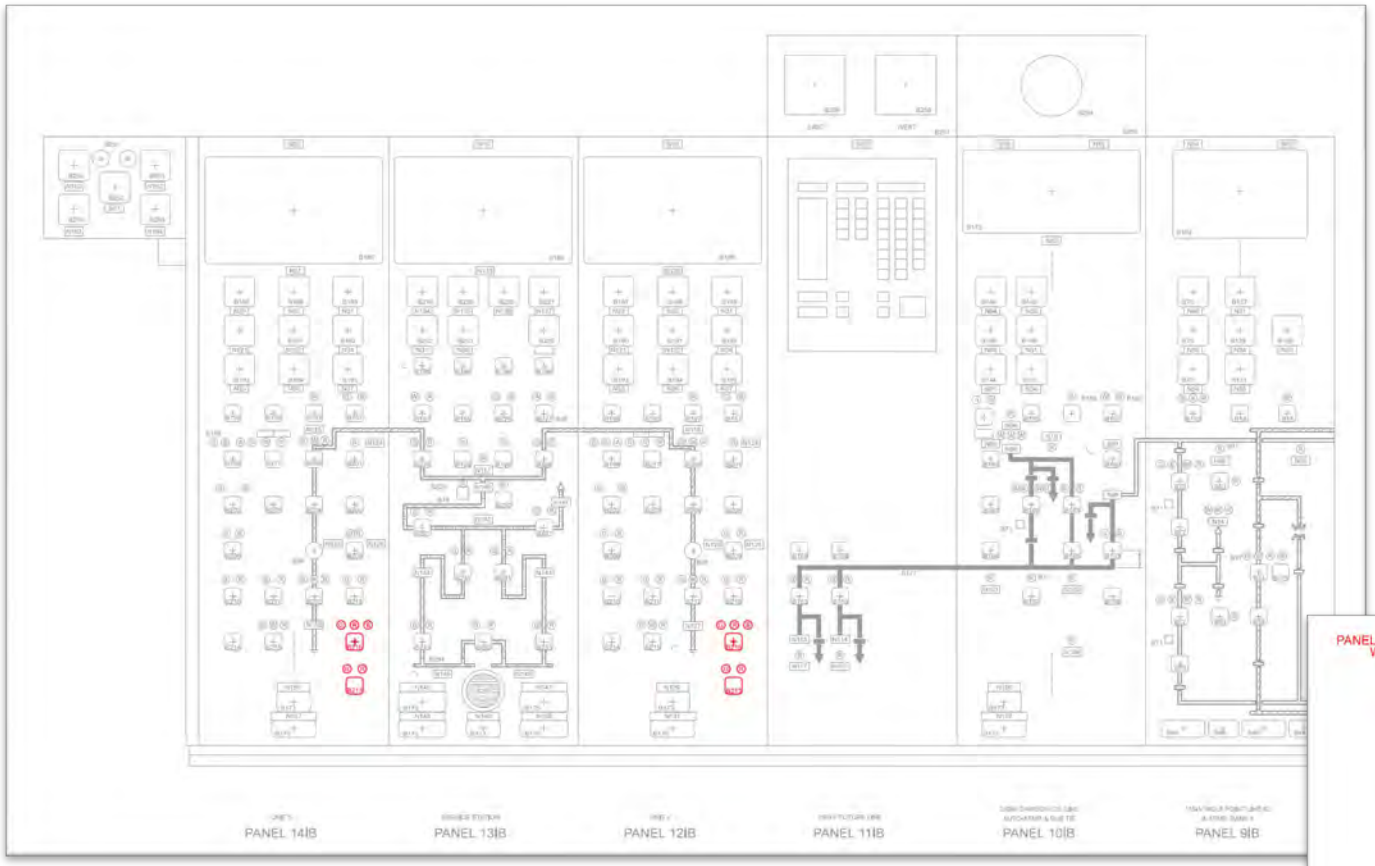
6. ROUTE POWER SUPPLY CABLES FROM MCC'S TO THE VARIOUS BFV SYSTEMS USING EXISTING CABLE TRAYS (NOT SHOWN) AND EXISTING OR NEW EXPOSED CONDUITS (NOT SHOWN) TO ACCESS THE HPU GALLERY.

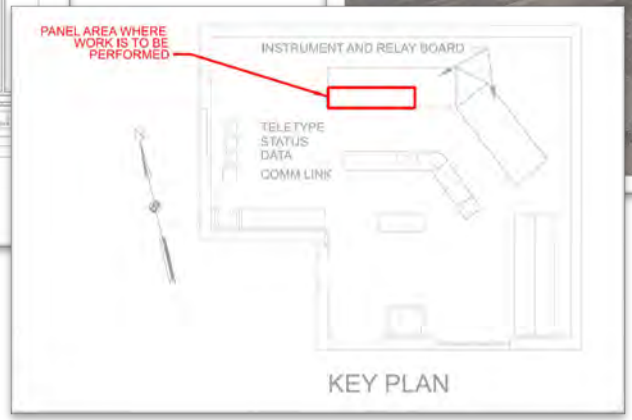
UNIT CONTROL SWITCHBOARD & MCC'S ON TURBINE FLOOR, EL. 2049.00 (E-101 & E-201)

US Army Corps of Engineers ®

U.S.ARMY

ELECTRICAL WORK



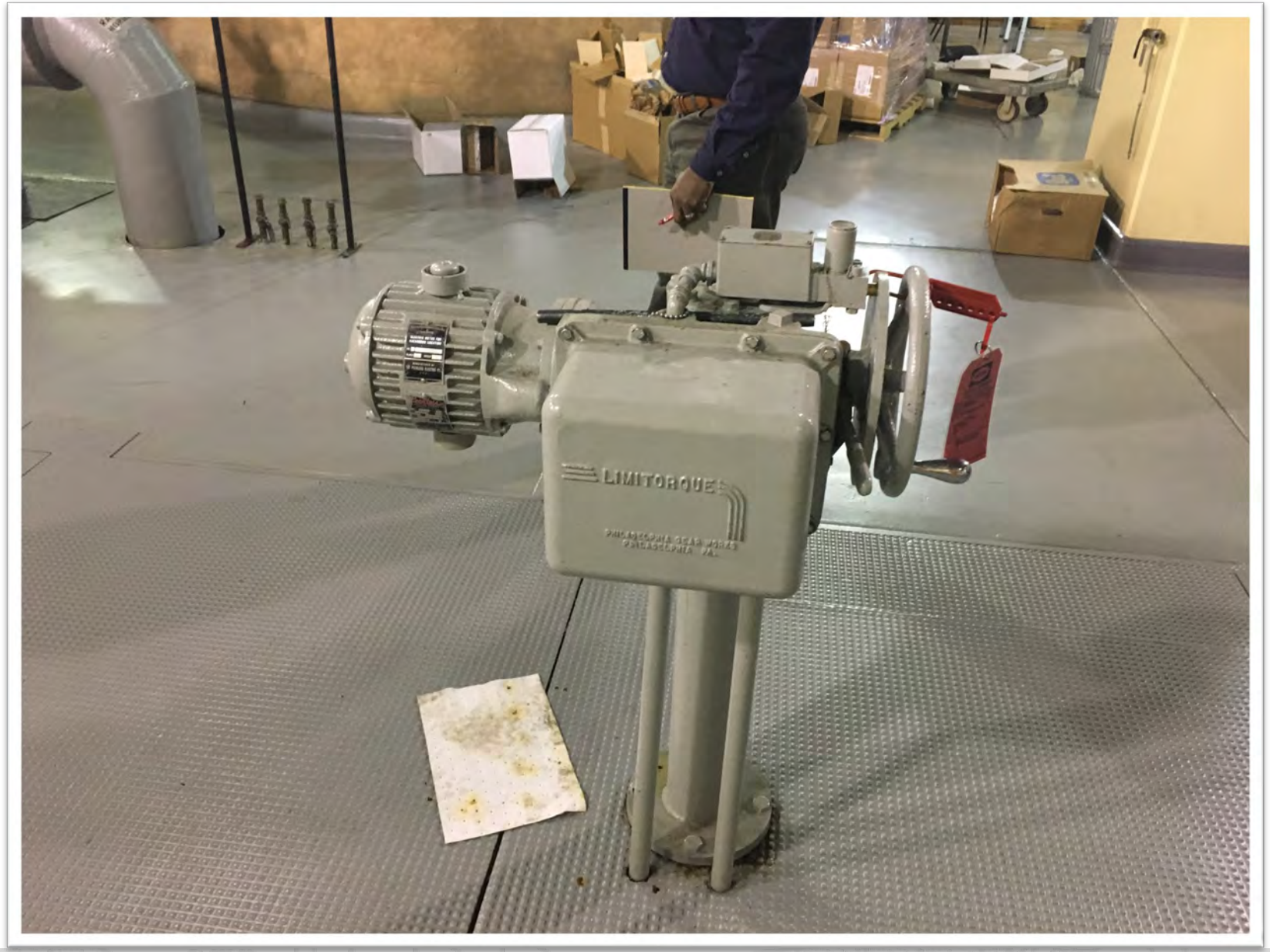


INSTRUMENT CONTROL BOARD, CONTROL ROOM (E-202)

US Army Corps of Engineers ®

U.S.ARMY

ELECTRICAL WORK

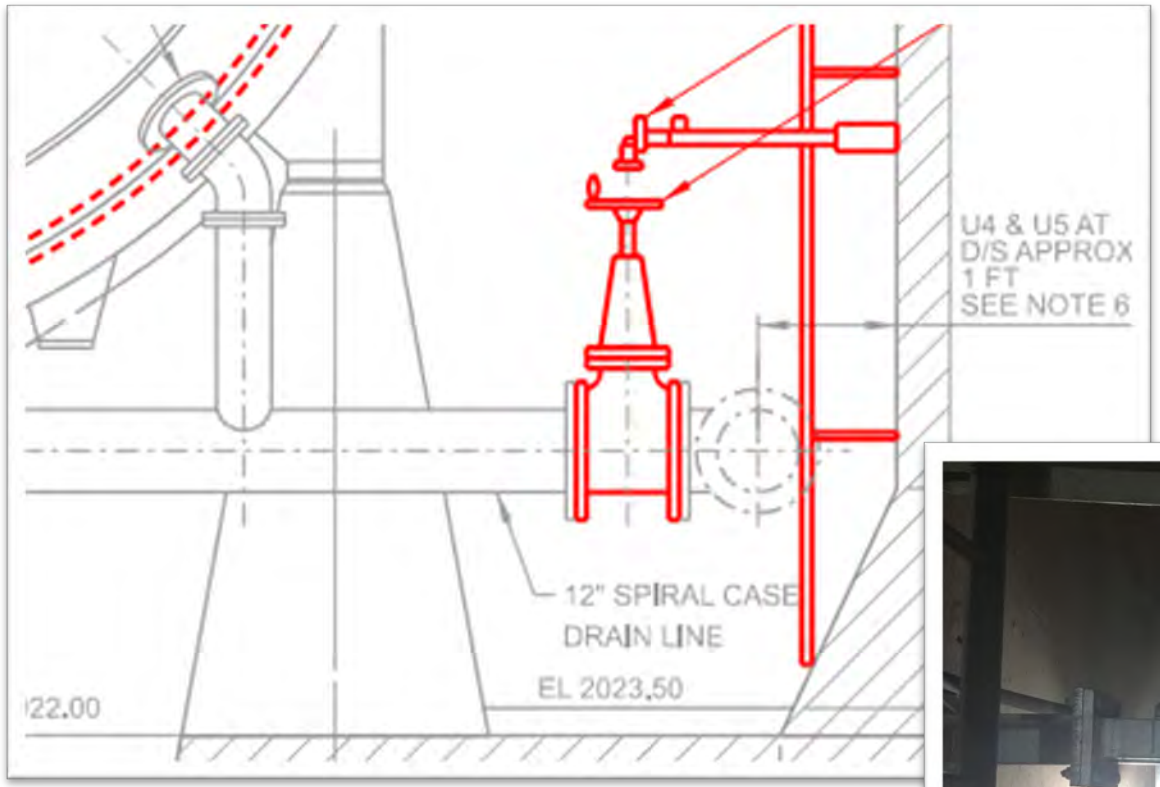


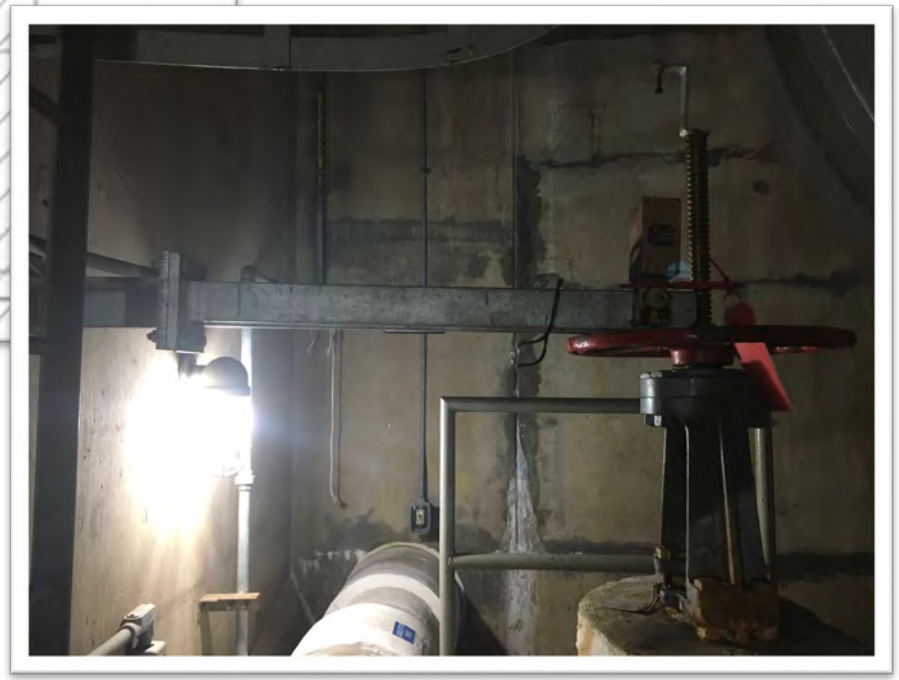
MOTOR ACTUATORS FOR BYPASS VALVE OPERATORS, W/ REMOTE OPEN/CLOSE INDICATORS & CONTROLS

US Army Corps of Engineers ®

U.S.ARMY

ELECTRICAL WORK





SUPPLY/INSTALL NEW LIMIT SWITCHES FOR SPIRAL CASE DRAIN

(SH M-420)

US Army Corps of Engineers ®

U.S.ARMY

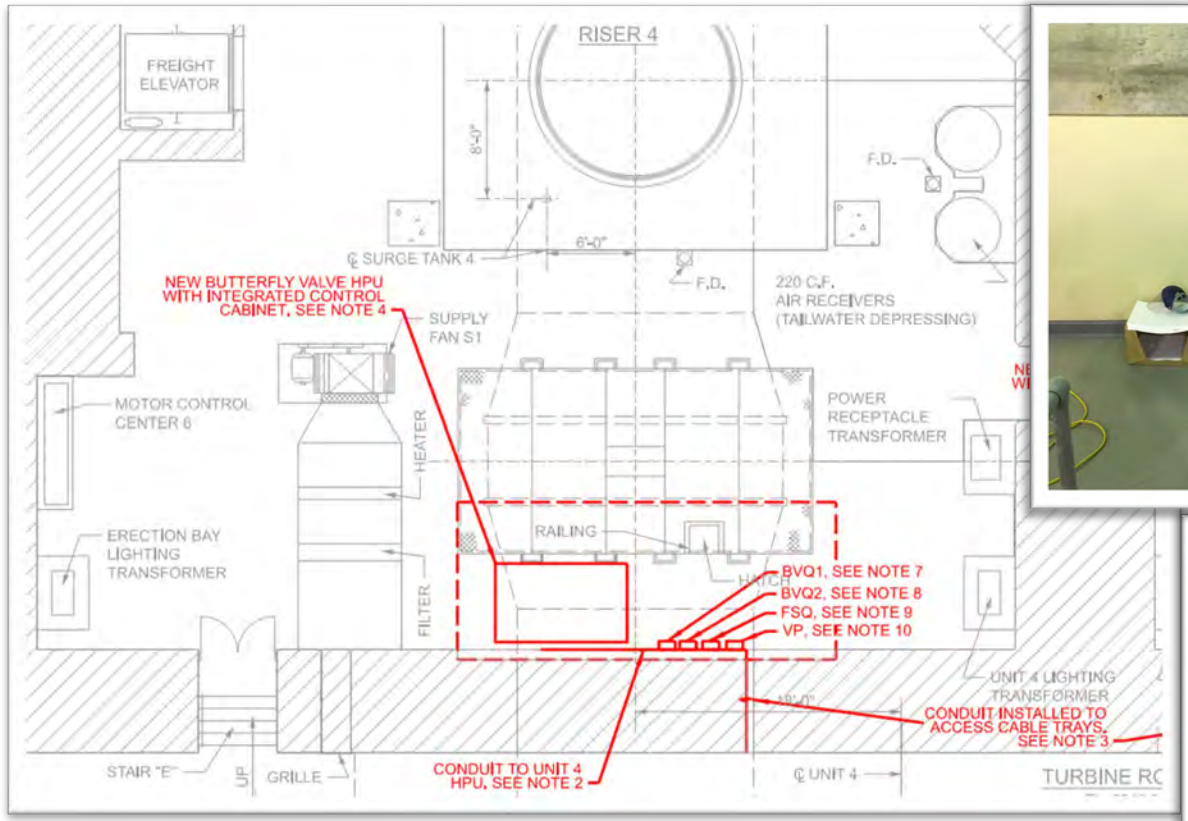
ELECTRICAL WORK

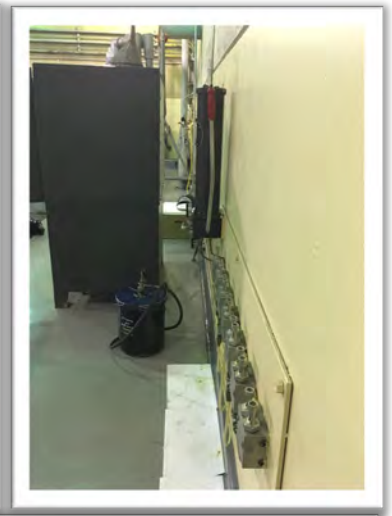
SUPPLY/INSTALL NEW LIMIT SWITCHES FOR BFV POSITION INDICATOR

(SH M-420 & M-601)

US Army Corps of Engineers ®

U.S.ARMY





7. INSTALL NEW WALL-MOUNTED 480VAC PANEL (UNIT 4 - BVQ1, UNIT 5 - BVQ3) FOR HPU PUMP 1. FIELD VERIFY AND COORDINATE INSTALLATION LOCATION WITH COR.

8. INSTALL NEW WALL-MOUNTED 480VAC PANEL (UNIT 4 - BVQ2, UNIT 5 - BVQ4) FOR HPU PUMP 2. FIELD VERIFY AND COORDINATE INSTALLATION LOCATION WITH COR.

9. INSTALL NEW WALL-MOUNTED 480VAC PANEL (FSQ) FOR HPU OIL FILTRATION SYSTEM. FIELD VERIFY AND COORDINATE INSTALLATION LOCATION WITH COR.

10. INSTALL NEW WALL-MOUNTED 480VAC PANEL (VP) FOR BYPASS VALVE. FIELD VERIFY AND COORDINATE INSTALLATION LOCATION WITH COR.

SHEET ID

E-101

WALL MOUNTED 480VAC PANELS W/ DISCONNECT SWITCHES, MOTOR STARTER, & CONTROL POWER TRANSFORMER FOR:

HPU PUMPS 1 & 2 OIL FILT. SYST. BYPASS VALVE MOT. ACTUATOR

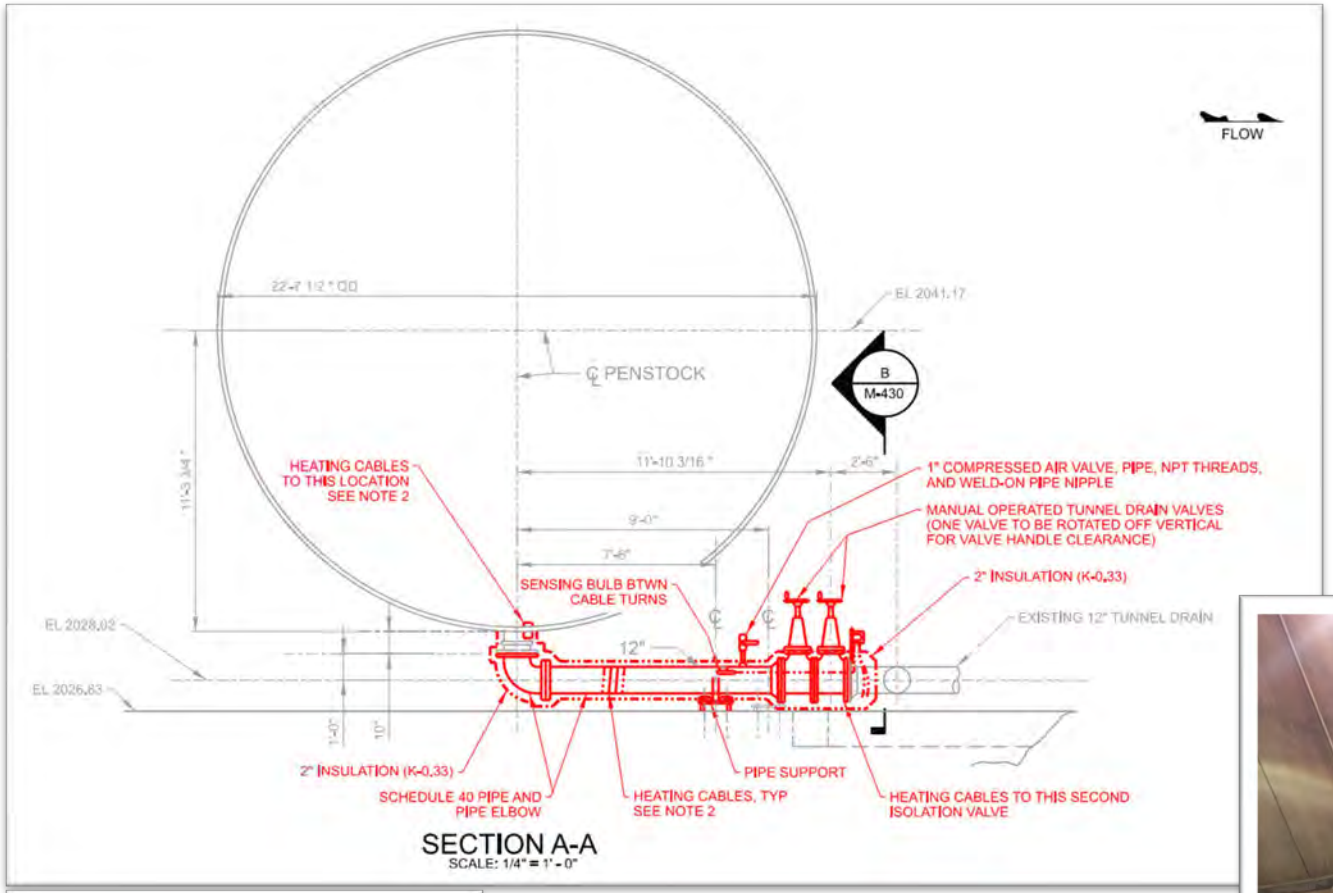
(SH E-101)

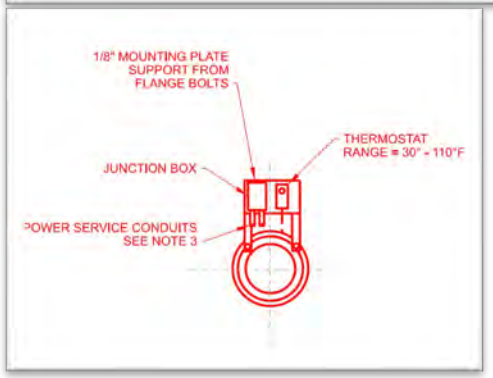
US Army Corps of Engineers ®

U.S.ARMY

NEW HEAT TAPE AND THERMOSTAT FOR TUNNEL DRAIN VALVE

(SH M-430)





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POST-INDUSTRY DAY
Q & A

US Army Corps of Engineers ®