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WALLA WALLA DISTRICT

VOLUME 1 GENERAL DRAWINGS & PLAN VIEWS

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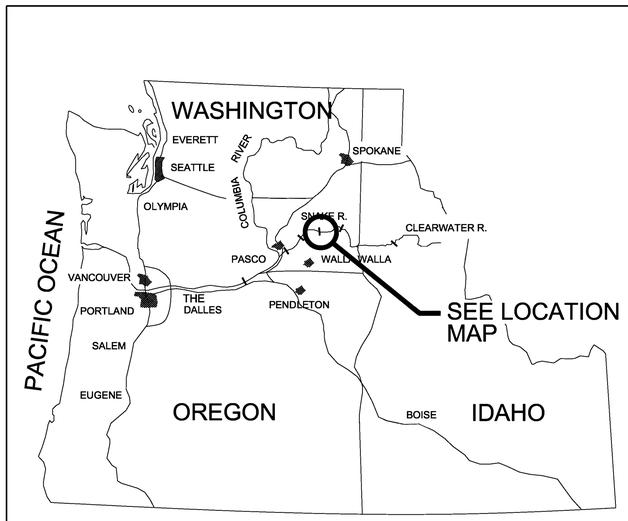
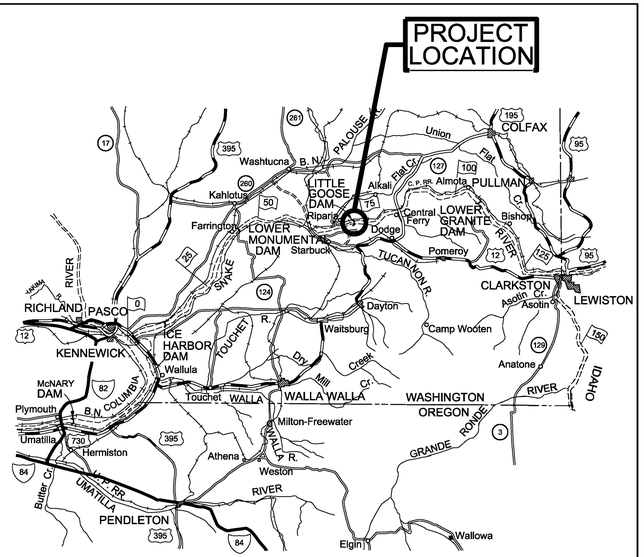
VOLUME 5 DC SYSTEM & PREFERRED AC

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR



VICINITY MAP

NOT TO SCALE



LOCATION MAP

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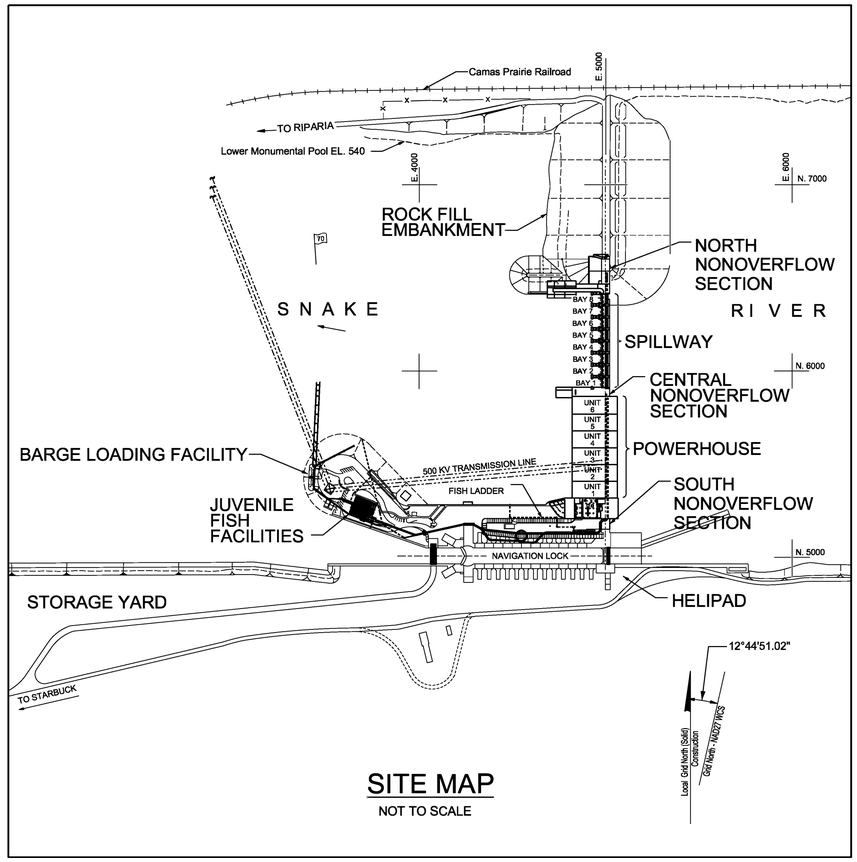

SITE MAP

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APPROVED BY:
JORDAN S. FINK, P.E.
DIRECTOR OF
HYDROELECTRIC DESIGN CENTER
FINK.JORDAN.S.1391890664
Digitally signed by FINK.JORDAN.S.1391890664
Date: 2022.08.15 16:53:30 -07'00'

SUBMITTED BY:
JAMES CALNON, P.E.
CHIEF OF MECHANICAL/STRUCTURAL BRANCH
HYDROELECTRIC DESIGN CENTER
CALNONJAMES.D.1231641170
Digitally signed by CALNONJAMES.D.1231641170
Date: 2022.08.15 13:34:15 -07'00'

SUBMITTED BY:
JOHN Z. YEN, P.E.
CHIEF OF ELECTRICAL BRANCH
HYDROELECTRIC DESIGN CENTER
YEN.JOHN.ZHONG.1386572999
Digitally signed by YEN.JOHN.ZHONG.1386572999
Date: 2022.08.15 13:14:45 -07'00'

APPROVED BY:
DWAYNE WESTON, P.E.
CHIEF OF ENGINEERING
WALLA WALLA DISTRICT

SUBMITTED BY:
MARCUS PALMER, P.E.
CHIEF OF DESIGN BRANCH
WALLA WALLA DISTRICT

SUBMITTED BY:
JULIO MORELOS, P.E.
CHIEF OF STRUCTURAL DESIGN
WALLA WALLA DISTRICT

SUBMITTED BY:
KEVIN RENSHAW, P.E.
CHIEF OF MECHANICAL DESIGN SECTION
WALLA WALLA DISTRICT
RENSHAW.KEVIN.M.1230505310
Digitally signed by RENSHAW.KEVIN.M.1230505310
Date: 2022.08.16 12:51:30 -07'00'

SUBMITTED BY:
LEVI VAN STEDUM, P.E.
CHIEF OF ELECTRICAL DESIGN SECTION
WALLA WALLA DISTRICT

SOLICITATION NO.: W912EF22R0001

CONTRACT NO.:

ISSUE DATE: AUGUST 2022

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DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
SIZE: ANSI D
FILE NAME: V1-LGP1 002-G-001.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

PROJECT LOCATION AND VICINITY MAPS

SHEET ID
VOLUME 1
G-001

FINAL

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DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. TINNEY, P.E.
ANSI D

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U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
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DRAWING INDEX
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FINAL

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INDEX TO DRAWINGS VOLUME 2

SHEET NO.	FILE NUMBER	TITLE

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MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D

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		ELECTRICAL REMOVAL
ED201	LGP-1.002_6-1D4/1	480V MCC CQ01, CQO2 -- ELEVATION VIEW -- REMOVAL
ED202	LGP-1.002_6-1D4/2	CONTROL CENTER CQO4, CQO5 -- ELEVATION VIEW -- REMOVAL
ED203	LGP-1.002_6-1D4/3	PANELBOARD FCQ1, CQO3 -- ELEVATION VIEW -- REMOVAL
ED204	LGP-1.002_6-1D4/4	PANELBOARD FCQ2, CQO7 -- ELEVATION VIEW -- REMOVAL
ED601	LGP-1.002_6-9A21/1	MCC CQO1 -- ONE LINE DIAGRAM -- REMOVAL
ED602	LGP-1.002_6-9A21/2	MCC CQO2 -- ONE LINE DIAGRAM -- REMOVAL
ED603	LGP-1.002_6-9A21/3	MCC CQO4, FCQ1, PANELBOARDS CQO3 & FCQ1 -- ONE LINE DIAGRAM -- REMOVAL
ED604	LGP-1.002_6-9A21/4	MCC CQ05 -- ONE LINE DIAGRAM -- REMOVAL
ED605	LGP-1.002_6-9A21/5	PANELBOARD FCQ2, CQ07 -- ONE LINE DIAGRAM -- REMOVAL
ED606	LGP-1.002_6-9A24/1	LUBE OIL PUMP NO. 3, TRANSIL OIL PUMP NO. 1 & NO. 2 -- DIRTY OIL PUMP NO. 4 500LBS GOV AIR COMPRESSOR -- CONTROL SCHEMATIC, REMOVAL
ED607	LGP-1.002_6-9A24/2	UNIT CONDITIONER UC-1 & UC-2, CENTRAL CONDITIONER -- FAN SF1, CENTRAL CONDITIONER FAN SF1 AND -- RECIRCULATING FAN RF1, CONTROL SCHEMATIC, REMOVAL
ED608	LGP-1.002_6-9A24/3	INTAKE DECK & TAILRACE DECK LIGHTS ONE LINE -- INTAKE GATE HYDRAULIC PUMPS -- CONTROL SCHEMATIC, REMOVAL
		ELECTRICAL INSTALL
E-201	LGP-1.002_6-1D4/4	CONTROL CENTER CQO1 -- ELEVATION VIEW -- INSTALL
E-202	LGP-1.002_6-1D4/5	CONTROL CENTER CQ02 -- ELEVATION VIEW -- INSTALL
E-203	LGP-1.002_6-1D4/6	PANELBOARD CQO3 & FCQ1 -- ELEVATION VIEW -- INSTALL
E-204	LGP-1.002_6-1D4/7	CONTROL CENTER CQO4 -- ELEVATION VIEW -- INSTALL
E-205	LGP-1.002_6-1D4/8	CONTROL CENTER CQO5 -- ELEVATION VIEW -- INSTALL
E-206	LGP-1.002_6-1A4/1	PANELBOARD FCQ2 -- ELEVATION VIEW -- INSTALL
E-207	LGP-1.002_6-1A4/2	OIL TRANSFER PUMP AND LUBE OIL PUMP -- CONTROL PANELS -- INSTALL
E-208	LGP-1.002_6-1A4/3	INTAKE GATE HYDRAULIC PUMP & SUPPLY FAN -- CONTROL PANELS -- INSTALL
E-209	LGP-1.002_6-1A4/4	500 LB AIR COMPRESSOR -- CONTROL PANEL -- INSTALL
E-601	LGP-1.002_6-9A21/6	480 VOLT CONTROL CENTER CQO1 -- ONE LINE DIAGRAM -- INSTALL
E-602	LGP-1.002_6-9A21/7	480 VOLT CONTROL CENTER CQO2 -- ONE LINE DIAGRAM -- INSTALL
E-603	LGP-1.002_6-9A21/8	PANELBOARD CQO3 & FCQ1 -- ONE LINE DIAGRAM -- INSTALL
E-604	LGP-1.002_6-9A21/9	480 VOLT CONTROL CENTER CQO4 -- ONE LINE DIAGRAM -- INSTALL
E-605	LGP-1.002_6-9A21/10	480 VOLT CONTROL CENTER CQO5 -- ONE LINE DIAGRAM -- INSTALL
E-606	LGP-1.002_6-9A21/11	PANELBOARD FCQO2 -- ONE LINE DIAGRAM -- INSTALL
E-607	LGP-1.002_6-9A24/4	TRANSIL OIL, DIRTY OIL, LUBE OIL PUMPS -- CONTROL SCHEMATIC -- INSTALL
E-608	LGP-1.002_6-9A24/5	500 LB AIR COMPRESSOR -- CONTROL SCHEMATIC -- INSTALL
E-609	LGP-1.002_6-9A24/6	SF1, UC-1, RF-1, UC2 -- CONTROL SCHEMATIC -- INSTALL
E-610	LGP-1.002_6-9A24/7	INTAKE DECK LIGHTING AND INTAKE GATE HYDRAULICS -- CONTROL SCHEMATIC -- INSTALL
E-701	LGP-1.002_6-9A51/1	CQO1 MISC EQUIPMENT -- TERMINAL BLOCK LAYOUT -- INSTALL
E-702	LGP-1.002_6-9A51/2	OIL TRANSFER PUMP AND LUBE OIL PUMP CONTROLS -- TERMINAL BLOCK LAYOUT -- INSTALL
E-703	LGP-1.002_6-9A51/3	CQO4 MISC EQUIPMENT -- TERMINAL BLOCK LAYOUT -- INSTALL
E-704	LGP-1.002_6-9A51/4	CQO2 AND CQO4 MISC EQUIPMENT -- TERMINAL BLOCK LAYOUT -- INSTALL
E-705	LGP-1.002_6-9A51/5	CQO4 MISC EQUIPMENT -- TERMINAL BLOCK LAYOUT -- INSTALL
E-706	LGP-1.002_6-9A51/6	INTAKE GATE HYDRAULIC PUMP CONTROL CABINET -- TERMINAL BLOCK LAYOUT -- INSTALL
E-707	LGP-1.002_6-9A51/7	500LBS AIR COMPRESSOR CONTROL CABINET -- TERMINAL BLOCK LAYOUT -- INSTALL

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SHEET NO.	FILE NUMBER	TITLE

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DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINNEY, P.E.
SPEC. WRITER: ANSLD
ISSUE DATE: AUGUST 2022
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WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

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		ELECTRICAL REMOVAL
ED201	LGP-1.002_6-1E4/1	480 VOLT CONTROL CENTERS SU1-SU3 -- ELEVATION VIEW -- REMOVAL
ED202	LGP-1.002_6-1G4/1	480V CONTROL CENTERS SU4-SU6 -- ELEVATION VIEW -- REMOVAL
ED601	LGP-1.002_6-9E21/1	MCC SU1/CP1 -- ONE LINE DIAGRAM -- REMOVAL
ED602	LGP-1.002_6-9E21/2	MCC SU2/CP2 -- ONE LINE DIAGRAM -- REMOVAL
ED603	LGP-1.002_6-9F21/1	MCC SU3/CP3 -- ONE LINE DIAGRAM -- REMOVAL
ED604	LGP-1.002_6-9F21/2	MCC SU4/CP4 -- ONE LINE DIAGRAM -- REMOVAL
ED605	LGP-1.002_6-9G21/1	MCC SU5/CP5 -- ONE LINE DIAGRAM -- REMOVAL
ED606	LGP-1.002_6-9G21/2	MCC SU6/CP6 -- ONE LINE DIAGRAM -- REMOVAL
ED607	LGP-1.002_6-9E21/3	SU1 CP1, SU2 CP2, SU3 CP3 (DC) -- SU4 CP4, SU5 CP5, SU6 CP6 (DC) -- ONE LINE DIAGRAMS, REMOVAL
ED608	LGP-1.002_6-9E21/4	PUMPS AND HEATER SU1-SU3 -- ONE LINE DIAGRAMS -- REMOVAL
ED609	LGP-1.002_6-9E21/5	GOVERNOR OIL PUMP NO.1 & NO. 2 - SU1 - SU3 -- ONE LINE DIAGRAMS -- REMOVAL
ED610	LGP-1.002_6-9E21/6	TURBINE BEARING OIL PUMPS SU1-SU3 -- ONE LINE DIAGRAM -- REMOVAL
ED611	LGP-1.002_6-9F21/3	PUMPS AND HEATER SU4-SU6 -- ONE LINE DIAGRAMS -- REMOVAL
ED612	LGP-1.002_6-9F21/4	GOVERNOR OIL PUMP NO.1 - SU4-SU6 -- (PUMP NO. 2 SIMILAR) -- REMOVAL
		ELECTRICAL INSTALL
E-201	LGP-1.002_6-9E4/2	480V CONTROL CENTER SU1-SU3 -- ELEVATION VIEW -- NEW
E-202	LGP-1.002_6-9F4/1	480 VOLT CONTROL CENTER SU4-SU6 -- ELEVATION VIEW -- INSTALL
E-203	LGP-1.002_6-9A40/1	TURBINE PIT CONTROL PANEL - TPC1 -- HI-PRESSURE OIL PUMP CONTROL PANEL - HPC1 -- INSTALL
E-204	LGP-1.002_6-9E40/1	GOVENOR OIL PUMP CONTROL - GOC1 -- FOR SU1-SU3 -- INSTALL
E-205	LGP-1.002_6-9A40/2	TURBINE PIT CONTROL PANEL - TPRC4 -- HI-PRESSURE TURBINE PUMP CONTROL - HPC4 -- INSTALL
E-206	LGP-1.002_6-9F40/1	GOVERNOR OIL PUMP CONTROL - GOC4 -- FOR SU4-SU6 -- INSTALL
E-601	LGP-1.002_6-9E21/7	480V CONTROL CENTER SU1 -- ONE LINE DIAGRAM -- INSTALL
E-602	LGP-1.002_6-9E21/8	480 VOLT CONTROL CENTER SU2 -- ONE LINE DIAGRAM -- INSTALL
E-603	LGP-1.002_6-9F21/5	480V CONTROL CENTER SU 3 -- ONE LINE DIAGRAM -- INSTALL
E-604	LGP-1.002_6-9F21/6	480 VOLT CONTROL CENTER SU4 -- ONE LINE DIAGRAM -- INSTALL
E-605	LGP-1.002_6-9G21/3	480 VOLT CONTROL CENTER SU5 -- ONE LINE DIAGRAM -- INSTALL
E-606	LGP-1.002_6-9G21/4	480 VOLT CONTROL CENTER SU6 -- ONE LINE DIAGRAM -- INSTALL
E-607	LGP-1.002_6-9A21/1	SU1-SU6 125 VDC LOADS -- ONE LINE DIAGRAM -- INSTALL
E-608	LGP-1.002_6-9E24/1	HEAD COVER SUMP PUMPS SU1 -- CONTROL SCHEMATIC -- INSTALL
E-609	LGP-1.002_6-9E24/2	GENERATOR HEATER - SU1 -- HI-PRESS THRUST BRG OIL PUMP - SU1 -- INSTALL
E-610	LGP-1.002_6-9E24/3	TURBINE BEARING OIL PUMPS - SU1 -- EMERGENCY GATE LOWER - SU1 -- INSTALL
E-611	LGP-1.002_6-9E24/4	GOVERNOR OIL PUMPS 1,2,3 -- CONTROL SCHEMATIC -- INSTALL
E-612	LGP-1.002_6-9E24/5	GOVERNOR OIL PUMP CONTROL - GOC1 -- CONTROL SCHEMATIC -- INSTALL
E-613	LGP-1.002_6-9E24/6	GOVERNOR OIL PUMP CONTROL - GOC1 -- CONTROL SCHEMATIC -- INSTALL
E-614	LGP-1.002_6-9F24/1	HEAD COVER SUMP PUMPS - SU4 -- CONTROL SCHEMATIC -- INSTALL
E-615	LGP-1.002_6-9F24/2	GENERATOR HEATER - SU4 -- HI-PRESS THRUST BRG OIL PUMP - SU4 -- INSTALL
E-616	LGP-1.002_6-9F24/3	TURBINE GUIDE BEARING OIL SUMP PUMP - SU4 -- CONTROL SCHEMATIC -- INSTALL
E-617	LGP-1.002_6-9F24/4	GOV OIL PUMP 1 & 2 -- CONTROL SCHEMATIC -- INSTALL
E-618	LGP-1.002_6-9F24/5	GOVERNOR OIL PUMP PLC - GOC4 -- CONTROL SCHEMATIC -- INSTALL
E-619	LGP-1.002_6-9F24/6	GOVERNOR OIL PUMP PLC - GOC4 -- CONTROL SCHEMATIC -- INSTALL
E-701	LGP-1.002_6-9E51/1	SU1 MISC EQUIPMENT - TERMINAL BLOCK LAYOUT - SHEET 1 OF 3 - INSTALL -- TERMINAL BLOCK LAYOUT -- INSTALL
E-702	LGP-1.002_6-9E51/2	SU1 MISC EQUIPMENT - TERMINAL BLOCK LAYOUT - SHEET 2 OF 3 - INSTALL -- TERMINAL BLOCK LAYOUT -- INSTALL
E-703	LGP-1.002_6-9E51/3	SU1 MISC EQUIPMENT - TERMINAL BLOCK LAYOUT - SHEET 3 OF 3 - INSTALL -- TERMINAL BLOCK LAYOUT -- INSTALL
E-704	LGP-1.002_6-9E51/4	GOC1 -- TERMINAL BLOCK LAYOUT -- INSTALL
E-705	LGP-1.002_6-9F51/1	SU4 MISC EQUIPMENT - TERMINAL BLOCK LAYOUT - SHEET 1 OF 3 - INSTALL -- TERMINAL BLOCK LAYOUT -- INSTALL
E-706	LGP-1.002_6-9F51/2	SU4 MISC EQUIPMENT - TERMINAL BLOCK LAYOUT - SHEET 2 OF 3 - INSTALL -- TERMINAL BLOCK LAYOUT -- INSTALL
E-707	LGP-1.002_6-9F51/3	SU4 MISC EQUIPMENT - TERMINAL BLOCK LAYOUT - SHEET 3 OF 3 - INSTALL -- TERMINAL BLOCK LAYOUT -- INSTALL
E-708	LGP-1.002_6-9F51/4	GOC4 -- TERMINAL BLOCK LAYOUT -- INSTALL

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DESIGNED BY: L. SUPPAN	ISSUE DATE: AUGUST 2022
DRAWN BY: B. MASOUMPANAH	SOLICITATION NO.: W912EF22R0001
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SUBMITTED BY: JORDAN S. TINNEY, P.E.	DRAWING NUMBER: LGP-1.002-0-3/4
SCALE: AS NOTED	FILENAME: V1-LGP1.002-G-005.dgn
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WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

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		ELECTRICAL REMOVAL
ED201	LGP-1.002-6-4A4/1	SB1-6 VDC DISTRIBUTION BOARD -- ELEVATION VIEW -- REMOVAL
ED601	LGP-1.002-6-9A23/1	125V DC CONTROL SOURCES -- ONE LINE DIAGRAM -- REMOVAL
ED712	LGP-1.002_6-9A46/3	MAIN UNIT GENERATOR -- SWITCHBOARD S11, S12, S1R1, S1R2 WIRING DIAGRAM -- REMOVAL
ED713	LGP-1.002_6-9A46/4	MAIN UNIT GENERATOR -- SWITCHBOARD S21, S2R1, S22, S2R2 WIRING DIAGRAM -- REMOVAL
ED714	LGP-1.002-6-9A46/5	MAIN UNIT GENERATOR -- SWITCHBOARD S31, S32, S3R1, S3R2 WIRING DIAGRAMS -- REMOVAL
ED715	LGP-1.002-6-9A46/6	MAIN UNIT GENERATOR -- SWITCHBOARD S41, S42, S4R1, S4R2 WIRING DIAGRAMS -- REMOVAL
ED716	LGP-1.002-6-9A46/7	MAIN UNIT GENERATOR -- SWITCHBOARD S51, S52, S5R1, S5R2 WIRING DIAGRAMS -- REMOVAL
ED717	LGP-1.002-6-9A46/8	MAIN UNIT GENERATOR -- SWITCHBOARD S61, S62, S6R1, S6R2 WIRING DIAGRAMS -- REMOVAL
		ELECTRICAL INSTALL
E-201	LGP-1.002-6-4A4/2	125V BATTERY SWITCHBOARDS SB1,SB2A & SB2B -- LAYOUT -- INSTALL
E-202	LGP-1.002-6-4A46/1	125 VDC PANELS CE1 - CE3 -- LAYOUT -- INSTALL
E-203	LGP-1.002-6-4A46/2	125 VDC PANELS CE4 - CE6 -- LAYOUT -- INSTALL
E-204	LGP-1.002-6-1A0/1	125V DC PANELS CA1, CE7 & CE8 -- LAYOUT -- INSTALL
E-205	LGP-1.002-6-1A4/1	PREFERRED AC SWITCHBOARDS CH1A, CH1B & CH3 -- LAYOUT -- INSTALL
E-206	LGP-1.002-6-4A0/2	125V DC BATTERY CHARGERS & INVERTERS -- LAYOUT -- INSTALL
E-207	LGP-1.002-6-4A0/3	SBC PLC CABINET SUGGESTED LAYOUT -- INSTALL
E-208	LGP-1.002-6-4A0/4	SG PLC CABINET SUGGESTED LAYOUT -- INSTALL
E-209	LGP-1.002-6-4A0/5	MANUAL BYPASS SWITCHES -- MBS 1 & 2 LAYOUT -- INSTALL
E-301	LGP-1.002-6-0A13/1	CABLE SPREADING ROOM -- SECTION VIEW EL. 580 -- INSTALL
E-302	LGP-1.002-6-0A13/2	EQUIPMENT ROOM -- SECTION VIEW EL. 598 -- INSTALL
E-601	LGP-1.002-6-9A21/1	125 VDC -- ONE LINE DIAGRAM -- SHEET 1 OF 3 - INSTALL
E-602	LGP-1.002-6-9A21/2	125 VDC -- ONE LINE DIAGRAM -- SHEET 2 OF 3 - INSTALL
E-603	LGP-1.002-6-9A21/3	125 VDC -- ONE LINE DIAGRAM -- SHEET 3 OF 3 - INSTALL
E-604	LGP-1.002-6-9A21/4	PREFERRED AC -- ONE LINE DIAGRAM -- SHEET 1 OF 2 - INSTALL
E-605	LGP-1.002-6-9A21/5	PREFERRED AC -- ONE LINE DIAGRAM -- SHEET 2 OF 2 - INSTALL
E-606	LGP-1.002-6-9A24/1	125V DC & PREFERRED AC METERING -- CONTROL SCHEMATIC -- INSTALL
E-607	LGP-1.002-6-9A24/2	SBC PLC INPUT -- CONTROL SCHEMATIC -- INSTALL
E-608	LGP-1.002-6-9A24/3	SBC PLC OUTPUT -- CONTROL SCHEMATIC -- INSTALL
E-609	LGP-1.002-6-9A24/4	SQO, SQ1 & SQ2 BREAKERS -- CONTROL SCHEMATIC -- INSTALL
E-701	LGP-1.002-6-9A42/1	SB1 -- WIRING DIAGRAM -- INSTALL
E-702A	LGP-1.002-6-9A42/2	SB2A -- WIRING DIAGRAM -- SHEET 1 OF 3 - INSTALL
E-702B	LGP-1.002-6-9A42/3	SB2A -- WIRING DIAGRAM -- SHEET 2 OF 3 - INSTALL
E-702C	LGP-1.002-6-9A42/4	SB2A -- WIRING DIAGRAM -- SHEET 3 OF 3 - INSTALL
E-703A	LGP-1.002-6-9A42/5	SB2B -- WIRING DIAGRAM -- SHEET 1 OF 3 - INSTALL
E-703B	LGP-1.002-6-9A42/6	SB2B -- WIRING DIAGRAM -- SHEET 2 OF 3 - INSTALL
E-703C	LGP-1.002-6-9A42/7	SB2B -- WIRING DIAGRAM -- SHEET 3 OF 3 - INSTALL
E-704	LGP-1.002-6-9A42/8	CA1, CE7 & CE8 -- WIRING DIAGRAM -- INSTALL
E-705A	LGP-1.002-6-9A42/9	CH1A -- WIRING DIAGRAM -- SHEET 1 OF 2 - INSTALL
E-705B	LGP-1.002-6-9A42/10	CH1A -- WIRING DIAGRAM -- SHEET 2 OF 2 - INSTALL
E-706A	LGP-1.002-6-9A42/11	CH1B -- WIRING DIAGRAM -- SHEET 1 OF 2 - INSTALL
E-706B	LGP-1.002-6-9A42/12	CH1B -- WIRING DIAGRAM -- SHEET 2 OF 2 - INSTALL
E-707	LGP-1.002-6-9A42/13	BATTERY CHARGERS -- WIRING DIAGRAM -- INSTALL
E-708	LGP-1.002-6-9A42/14	SBC PLC MODULE -- WIRING DIAGRAM -- SHEET 1 OF 4 - INSTALL
E-709	LGP-1.002-6-9A42/15	SBC TERMINAL BLOCKS -- WIRING DIAGRAM -- SHEET 2 OF 4 - INSTALL
E-710	LGP-1.002-6-9A42/16	SBC AUXILIARY RELAYS -- WIRING DIAGRAM -- SHEET 3 OF 4 - INSTALL
E-711	LGP-1.002-6-9A42/17	SBC MISC EQUIPMENT -- WIRING DIAGRAM -- SHEET 4 OF 4 - INSTALL
E-712	LGP-1.002-6-9A46/9	MAIN UNIT GENERATOR -- SWITCHBOARD WIRING DIAGRAMS -- S11, S12, S1R1, S1R2 - INSTALL
E-713	LGP-1.002-6-9A46/10	MAIN UNIT GENERATOR -- SWITCHBOARD WIRING DIAGRAMS -- S21, S22, S2R1, S2R2- INSTALL
E-714	LGP-1.002-6-9A46/11	MAIN UNIT GENERATOR -- SWITCHBOARD WIRING DIAGRAMS -- S31, S32, S3R1, S3R2 - INSTALL
E-715	LGP-1.002-6-9A46/12	MAIN UNIT GENERATOR -- SWITCHBOARD WIRING DIAGRAMS -- S41, S42, S4R1, S4R2 - INSTALL
E-716	LGP-1.002-6-9A46/13	MAIN UNIT GENERATOR -- SWITCHBOARD WIRING DIAGRAMS -- S51, S52, S5R1, S5R2 - INSTALL
E-717	LGP-1.002-6-9A46/14	MAIN UNIT GENERATOR -- SWITCHBOARD WIRING DIAGRAMS -- S61, S62, S6R1, S6R2 - INSTALL

INDEX TO DRAWINGS VOLUME 5

SHEET NO.	FILE NUMBER	TITLE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
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FILE NAME: V1-LGP1.002-G-006.dgn

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WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
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R-001	LGP-1.1-6-1A11/1	METAL TRAY SYSTEM SCHEMATIC DIAGRAM
R-002	LGP-1-3-8/17	ERECTION BAY CROSS SECTION THRU SUMP
R-003	LGP-6-0-0/8	ERECTION BAY PLAN - EL'S 494 & 498
R-004	LGP-6-0-0/9	ERECTION BAY PLAN - EL 522
R-005	LGP-6-0-0/10	ERECTION BAY PLAN - EL 542
R-006	LGP-6-0-0/11	ERECTION BAY PLAN - EL 558
R-007	LGP-6-0-0/12	ERECTION BAY PLAN GALLERY - EL'S 580 & 598
R-008	LGP-6-0-0/13	ERECTION BAY PLAN GALLERY - EL'S 618 & 634
R-009	LGP-6-0-0/14	ERECTION BAY PLAN - EL'S 651, 664 & 672
R-010	LGP-1-6-1D1/1	ERECTION BAY - EL 498 & AREAS BELOW
R-011	LGP-1-6-1D1/2	ERECTION BAY - EL 522
R-012	LGP-1-6-1D1/3	ERECTION BAY - EL 542
R-013	LGP-1-6-1D1/4	ERECTION BAY - PLAN GALLERY - EL'S 618 & 634
R-014	LGP-1-6-1D1/5	ERECTION BAY - INTAKE EL 522, 542 & 558
R-015	LGP-1-6-1D1/6	ERECTION BAY - INTAKE EL 580 & 598
R-016	LGP-1-6-1D1/7	ERECTION BAY - INTAKE EL 618 & 634
R-017	LGP-1-6-1D1/8	ERECTION BAY - INTAKE EL 651 & MISC DETAILS
R-018	LGP-1-6-1D1/9	ERECTION BAY - TAILRACE DECK EL 558
R-019	LGP-1-6-1E1/1	MAIN UNIT BAY 1 UPSTREAM HALF EL 542
R-020	LGP-1-6-1E1/2	MAIN UNIT BAY 1 DOWNSTREAM HALF EL 542
R-021	LGP-1-6-1E1/3	MAIN UNIT BAY 2 UPSTREAM HALF EL 542
R-022	LGP-1-6-1E1/4	MAIN UNIT BAY 2 DOWNSTREAM HALF EL 542
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R-024	LGP-1-6-1E1/6	MAIN UNIT GALLERY & INTAKE DECK BAY 1 EL 621 & 651
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R-029	LGP-1-6-1F1/1	MAIN UNIT BAY 3 UPSTREAM HALF EL 542
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R-031	LGP-1-6-1F1/3	MAIN UNIT GALLERY 3 EL 558 & 580
R-032	LGP-1-6-1F1/4	MAIN UNIT GALLERY & INTAKE DECK BAY 3 EL 621 & 651
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DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. TINNEY, P.E.
ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0022-0-3/06
SIZE: FILENAME: V1-LGP1.0022-G-007.dgn

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POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

RESOURCE DRAWING INDEX

SHEET ID
VOLUME 1
G-007

FINAL

FLOW

CONTRACTOR OFFICE TRAILER, PARKING, STAGING AND STORAGE AREAS

N

B3 GENERAL PLAN CONTRACTOR STAGING AND WORK AREAS

SCALE: NTS

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L. SUPPAN	AUGUST 2022
DRAWN BY:	SOLICITATION NO.:
B. MASOUMPANAH	W912EF22R0001
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D. DINH	DRAWING NUMBER:
SUBMITTED BY:	LGP-1.002_0/1
JORDAN S. PINK, P.E.	FILE NAME:
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CONTRACTOR STAGING & WORK AREAS

SHEET ID
VOLUME 1
G-101

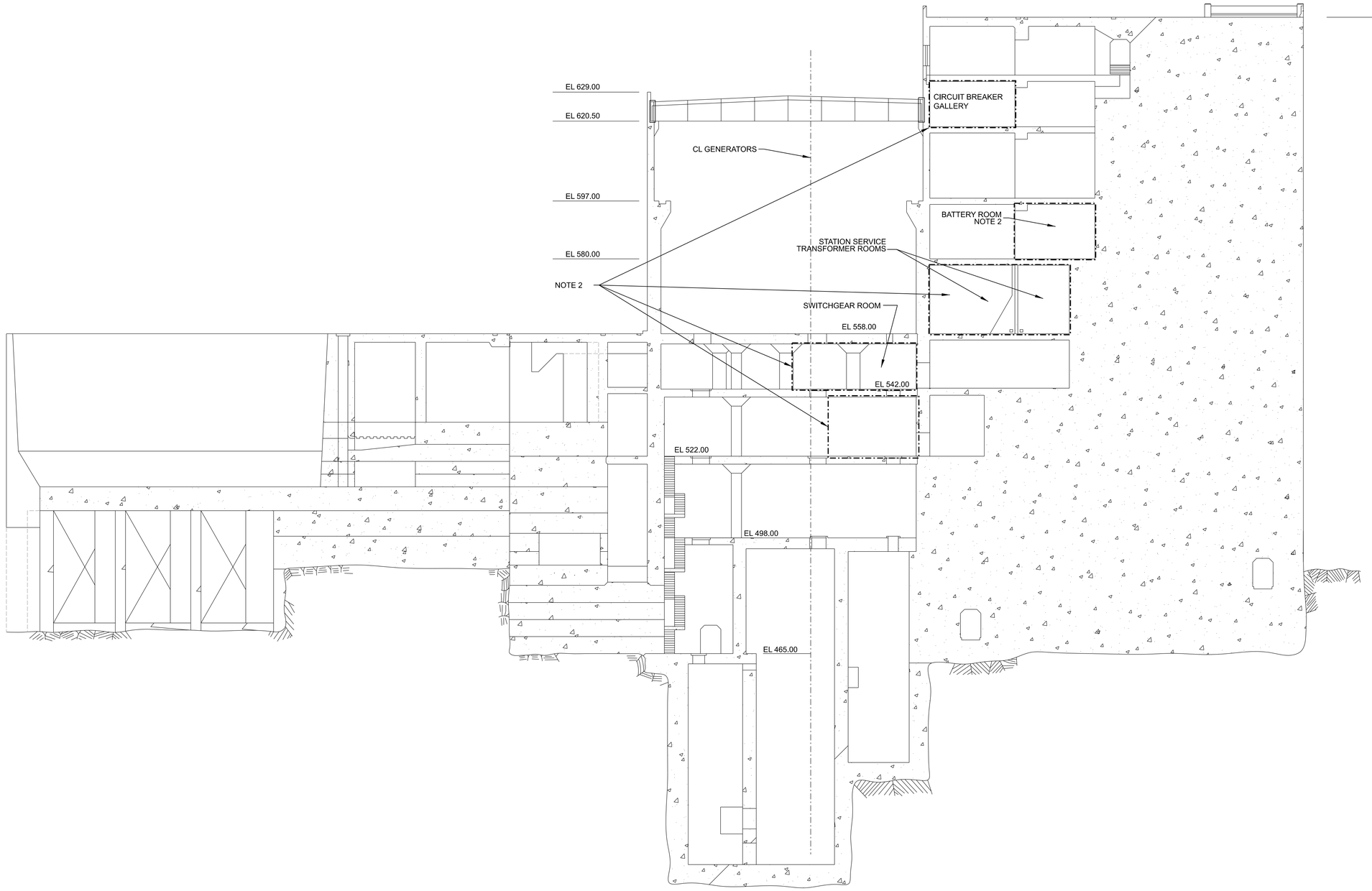
FINAL

GENERAL NOTES:

1. THIS DRAWING IS FOR GENERAL INFORMATION & ACCESS TO WORK AREA. NOT FOR CONSTRUCTION.
2. WORK LOCATIONS.

REFERENCE DRAWINGS:

DRAWING NO.	TITLE
LGP-1-4-0/8	GENERATOR & ERECTION BAYS TRANSVERSE SECTION.



A2 SECTION THRU SUMPS, ERECTION BAY

SCALE: 1/16"=1'-0"

0 8' 16' 32'

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CHECKED BY: D. DINH	CONTRACT NO.:
SUBMITTED BY: JORDAN S. FINK, P.E.	DRAWING NUMBER: LGP-1.002_4-0/1
SIZE: ANSI D	FILENAME: V1-LGP1.002-G-301.dgn

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POWERHOUSE
ERECTION BAY
TRANSVERSE SECTION

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G-301

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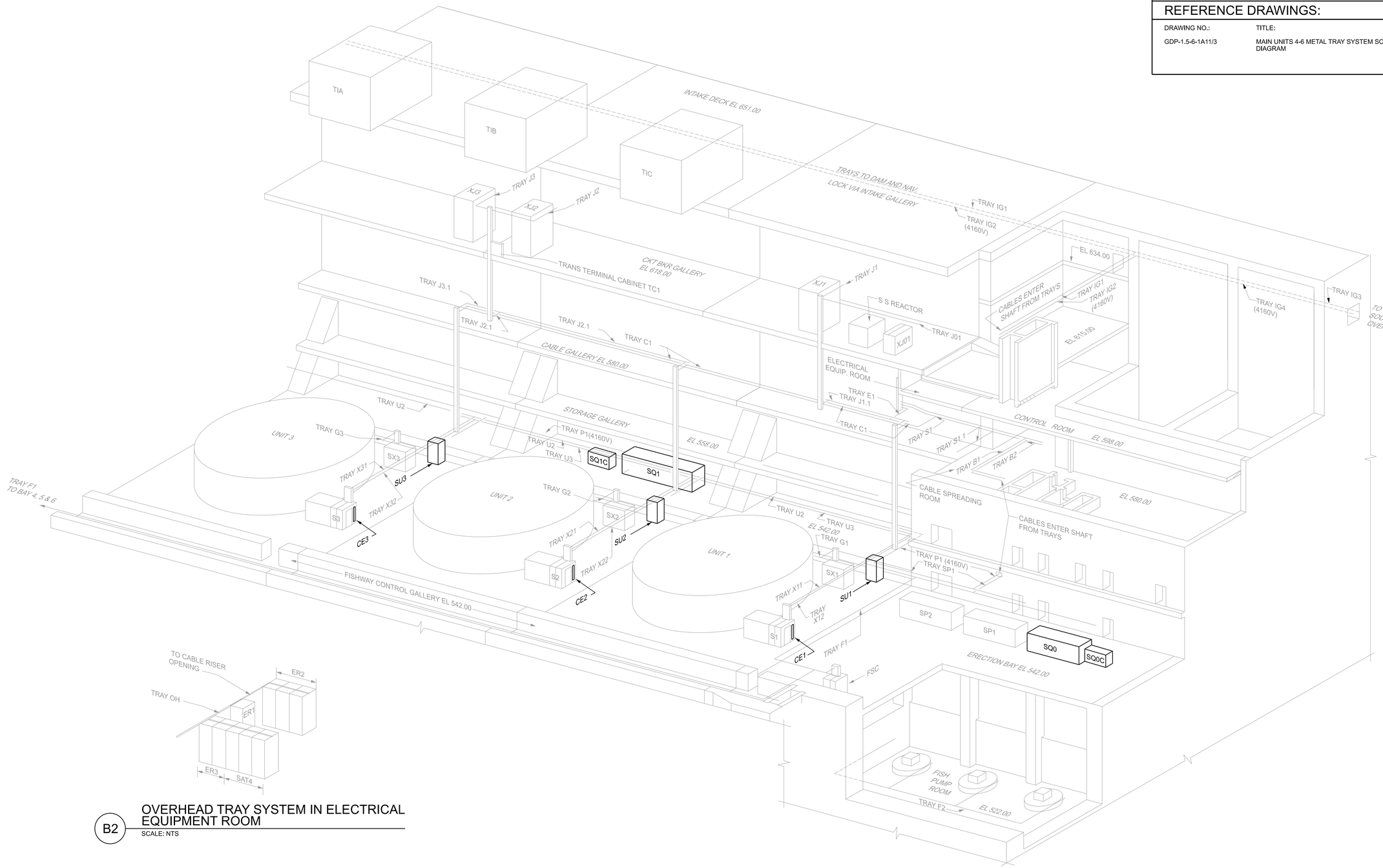
GENERAL NOTES:

1. BOLD INDICATES EQUIPMENT TO BE REMOVED AND/OR INSTALLED.
2. DRAWING IS NOT TO SCALE.
3. REFER TO ED102C AND E-102C FOR GOVERNOR OIL PUMP MOTOR REMOVAL AND INSTALL LOCATION.

REFERENCE DRAWINGS:

DRAWING NO.:	TITLE:
GDP-1.5-6-1A11/3	MAIN UNITS 4-6 METAL TRAY SYSTEM SCHEMATIC DIAGRAM



B2 OVERHEAD TRAY SYSTEM IN ELECTRICAL EQUIPMENT ROOM
SCALE: NTS

A1 POWERHOUSE GENERAL EQUIPMENT ARRANGEMENT, ERECTION BAY UNITS 1-3 ISOMETRIC
SCALE: NTS

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SUBMITTED BY:	JORDAN S. FINK, P.E.
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ANSI D	
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SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002_6-1A11/1
FILENAME:	V1-LGP1.002-G-901.dgn

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DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

POWERHOUSE GENERAL EQUIPMENT ARRANGMENT
ERECTION BAY & UNITS 1-3 ISOMETRIC
REMOVAL/INSTALL

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VOLUME 1
G-901

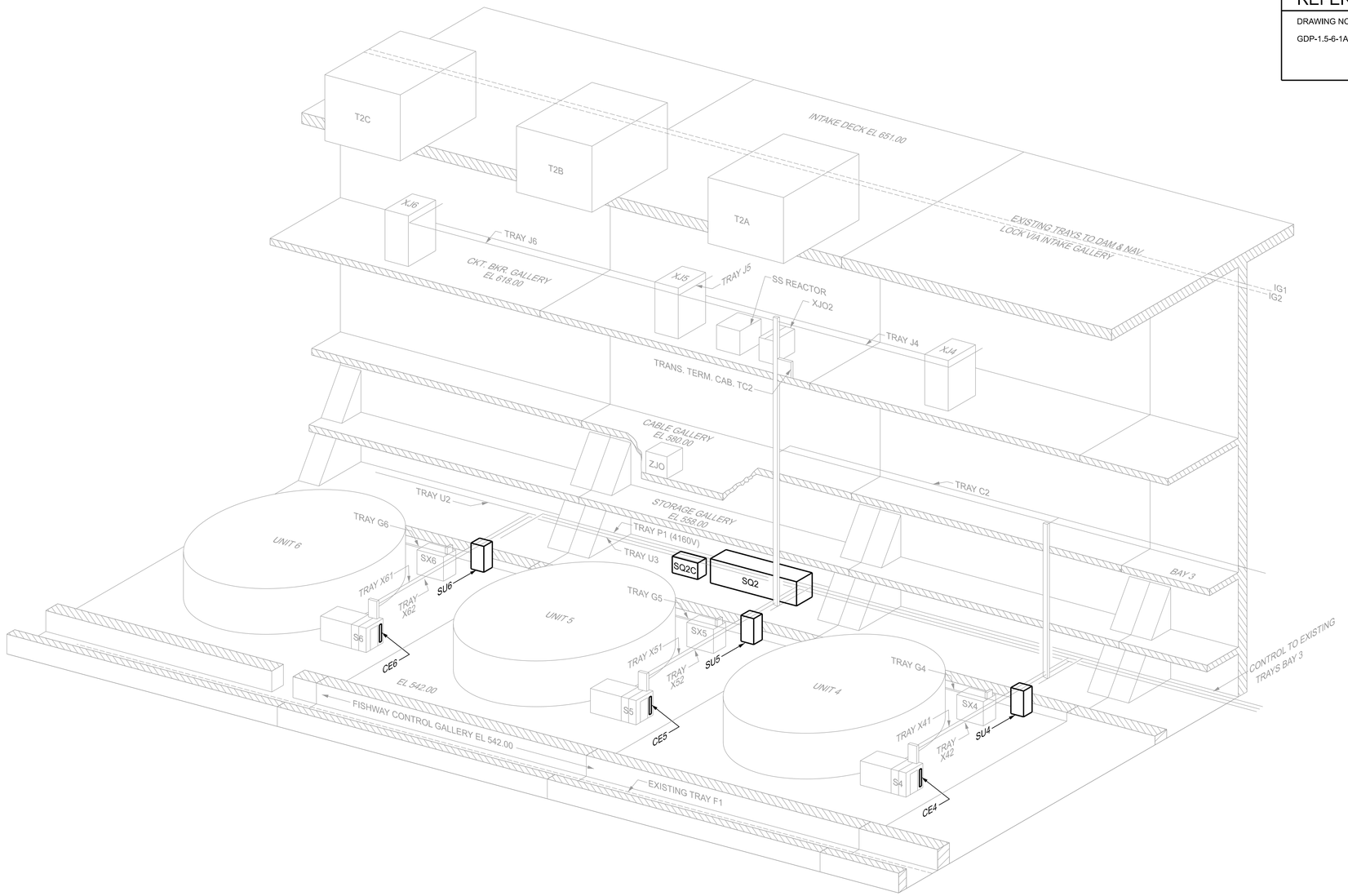
FINAL

GENERAL NOTES:

1. BOLD INDICATES EQUIPMENT TO BE REMOVED AND/OR INSTALLED.
2. DRAWING IS NOT TO SCALE.
3. REFER TO ED102C AND E-102C FOR GOVERNOR OIL PUMP MOTOR REMOVAL AND INSTALL LOCATION.

REFERENCE DRAWINGS:

DRAWING NO.:	TITLE:
GDP-1.5-6-1A11/3	MAIN UNITS 4-6 METAL TRAY SYSTEM SCHEMATIC DIAGRAM



C3 POWERHOUSE ISOMETRIC VIEW (UNITS 4-6)

SCALE: NOT TO SCALE

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SUBMITTED BY: JORDAN S. FINK, P.E.	DRAWING NUMBER: LGP-1.002_6-1A11/2
SIZE: ANSI D	FILENAME: V1-LGP1.002-G-902.dgn

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POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

POWERHOUSE GENERAL EQUIPMENT ARRANGMENT
UNITS 4-6 ISOMETRIC
REMOVAL/INSTALL

SHEET ID
VOLUME 1
G-902

FINAL

GENERAL NOTES:

1. BOLD INDICATES EQUIPMENT TO BE REMOVED AND/OR INSTALLED.

REFERENCE DRAWINGS:

DRAWING NO.:	TITLE:
R-114	LGP-1.9-3-9/104

K1 PHOTO 1
SCALE: NOT TO SCALE

K9 PHOTO 2
SCALE: NOT TO SCALE

THIS IS THE LOW PRESSURE GOVERNOR AIR SUPPLY.

E1 PHOTO 3
SCALE: NOT TO SCALE

THIS IS THE HIGH-PRESSURE GOVERNOR AIR SUPPLY DISCHARGE TO BAYS 4-6.

THIS IS THE HIGH-PRESSURE GOVERNOR AIR SUPPLY

THIS IS THE HIGH-TO-LOW GOVERNOR AIR SUPPLY INTERCHANGE 3-WAY VALVE.

E9 PHOTO 4
SCALE: NOT TO SCALE

E16 PHOTO 5
SCALE: NOT TO SCALE

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SUBMITTED BY:	DRAWING NUMBER:
JORDAN S. FENNER, P.E.	LGP-1.002_6-1A1I3
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SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

GOVERNMENT AIR SUPPLY EXCHANGE

INSTALL / REMOVAL

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G-903

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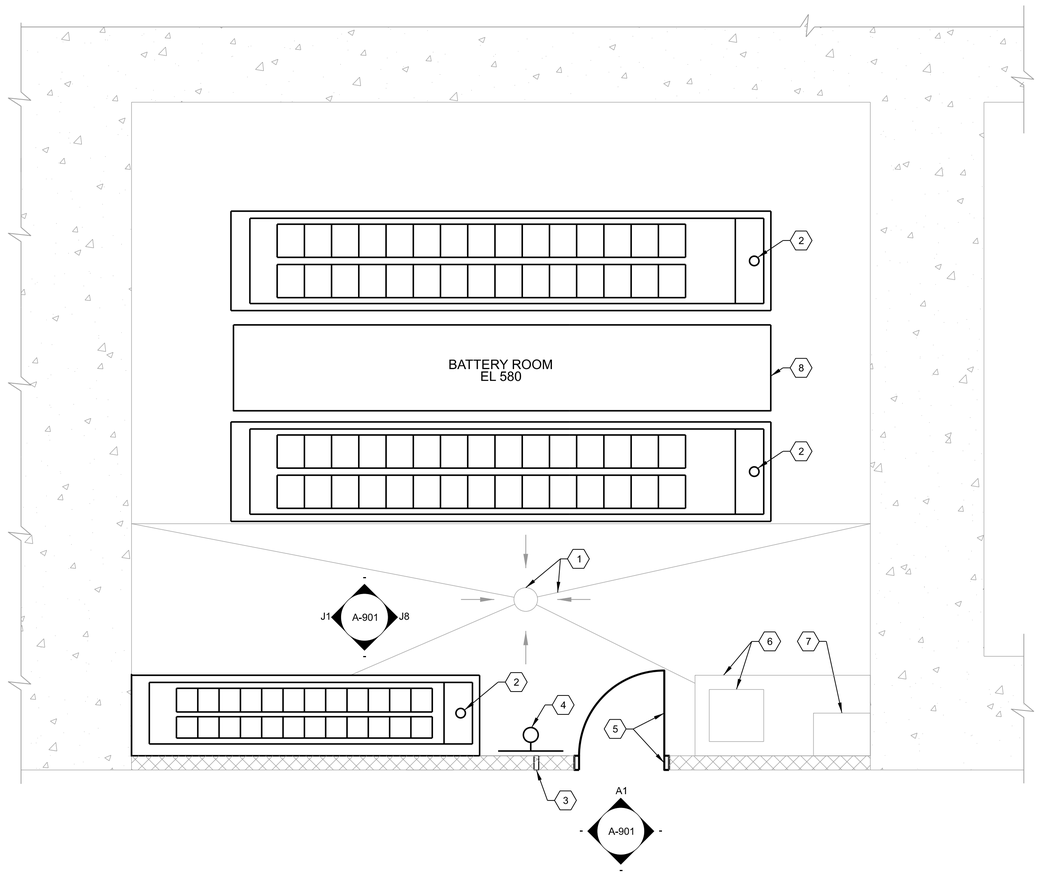


A3 BATTERY ROOM REMOVAL PLAN, EL 580
SCALE: 3/8" = 1'-0"

0 2' 4' 6'

GENERAL NOTES:

1. SEE SHEET SD101 FOR DEMOLITION OF EXISTING BATTERY PEDESTALS.
2. SEE SHEET MD101 FOR DEMOLITION OF EXISTING PIPING AND EQUIPMENT.
3. SEE SHEET ED107 FOR DEMOLITION OF EXISTING CONDUIT AND EQUIPMENT.
4. PREVENT CONTAMINATION OF EXISTING DRAIN LINES DURING DEMOLITION.
5. PROTECT EXISTING HVAC DUCTS AND CHASES FROM DUST MIGRATION DURING DEMOLITION.
6. PROTECT EXISTING DRAIN PIPING FROM DEBRIS DURING DEMOLITION.
7. THE EXISTING PAINT ON THE BATTERY ROOM FLOOR AND PEDESTALS IS CONFIRMED TO CONTAIN LEAD. SEE SPECIFICATION SECTION 02 83 33.12 28 FOR LEAD REMOVAL AND DISPOSAL REQUIREMENTS.

SHEET KEYNOTES:

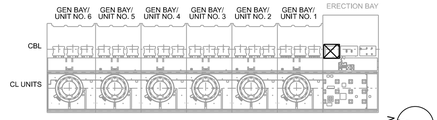
1. DEMOLISH EXISTING FLOOR DRAIN PER DETAIL K7 ON SHEET A-501. MODIFY FLOOR SLOPE TO CREATE A SUMP PER INSTALL PLAN A3 ON SHEET A-401.
2. DEMOLISH EXISTING PEDESTALS PER SD101. SEE KEYNOTES 1 AND 2 ON SHEET A-401 FOR ADDITIONAL INFORMATION ON THE EXISTING DRAINS AND PIPING.
3. EXISTING HOLE IN CMU WALL AT ABANDONED CONDUIT. SEE A-401 FOR REPAIR REQUIREMENTS.
4. DEMOLISH EXISTING COMBINATION EMERGENCY EYEWASH AND SHOWER PER MECHANICAL, SEE SHEET MD101.
5. DEMOLISH EXISTING DOOR, FRAME, AND SIGNS. CUT FRAME AND ANCHORS FROM THE EXISTING CONCRETE MASONRY WALL AND PATCH JAMBS TO RECEIVE NEW FRAME.
6. EXISTING COUNTER, BASE CABINET, AND SINK TO REMAIN
7. EXISTING WALL HUNG UPPER CABINET TO REMAIN
8. EXISTING BATTERY RACK AND ANCHORAGE TO BE REMOVED.

SHEET LEGEND:

ITEMS TO BE DEMOLISHED

EXISTING CMU WALL

EXISTING CONCRETE WALL



1 KEY PLAN: LGA POWERHOUSE ELEVATION 580.00
NOT TO SCALE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-6-DA402
DESIGNED BY:	M. ZANGER
DRAWN BY:	M. ZANGER
CHECKED BY:	K. ZAK
SUBMITTED BY:	MATTHEW G. ZANGER, R.A.
SIZE:	ANSI D
FILE NAME:	LGP1.002-AD401.dgn

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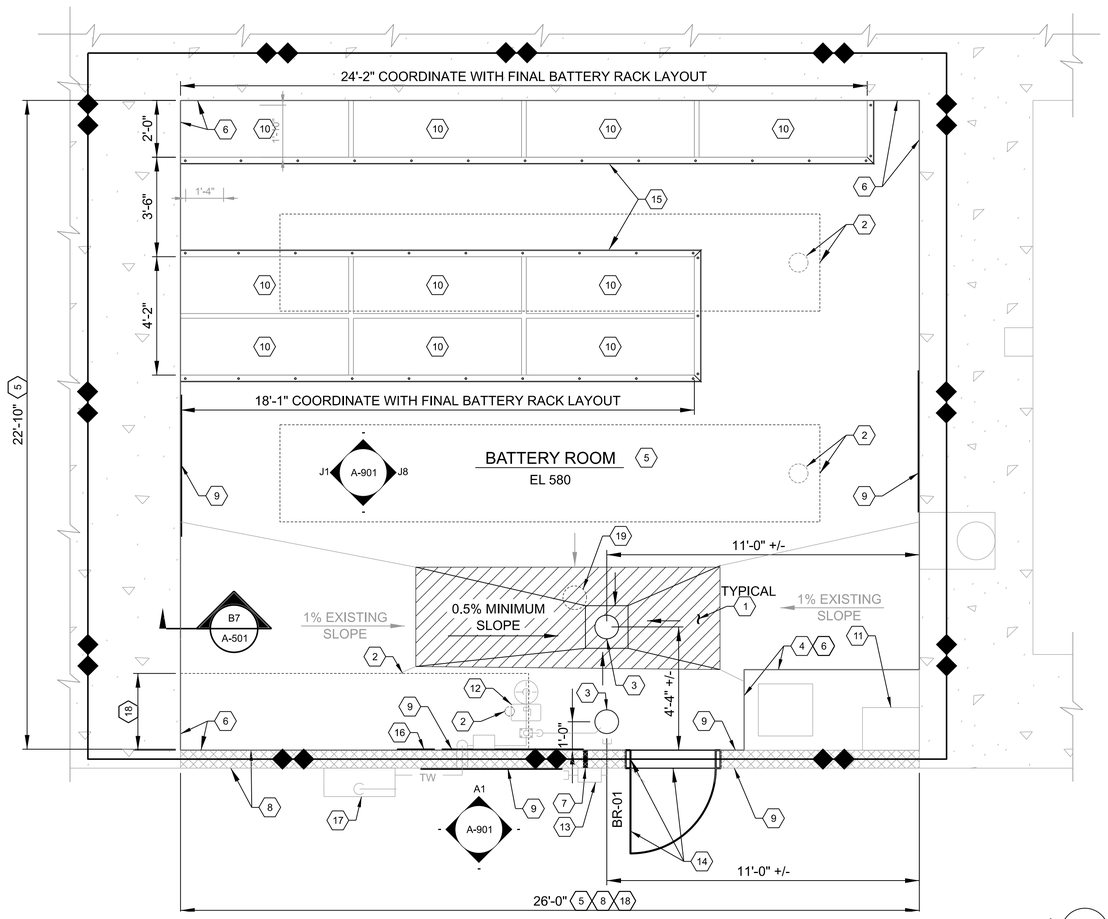
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

BATTERY ROOM IMPROVEMENTS
PLAN VIEW LEVEL 5 EL 580.00
REMOVAL

SHEET ID
VOLUME 1
AD401

FINAL



A3 BATTERY ROOM INSTALL PLAN, EL 580
SCALE: 3/8" = 1'-0"

GENERAL NOTES:

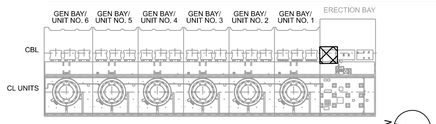
1. SEE SHEET AD101 FOR DEMOLITION OF EXISTING FEATURES.
2. THE BATTERY ROOM IS A RATED ROOM WITH FIRE BARRIERS AS FOLLOWS:
   - RATING OF CONCRETE / CMU WALL: 2-HOUR
   - RATING OF CONCRETE CEILING: 2-HOUR
   - RATING OF CONCRETE FLOOR: 3-HOUR (ABOVE TRANSFORMER VAULT)
3. SEE SHEET M-102 FOR FIRE DAMPERS AT SUPPLY DUCT AND EXHAUST CHASE.
4. SEE DOOR SCHEDULE ON A-601 FOR NEW DOOR AND FRAME.
5. INSTALL FIRESTOPPING FOR ALL EXISTING AND NEW THROUGH PENETRATIONS OF THE FIRE BARRIERS PER SECTION 07 84 00.00 28
6. PROVIDE SEISMIC ANCHORAGE TO SECURE THE RACKS AND BATTERIES PER SECTION 13 48 00.00 26.
7. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.

SHEET KEYNOTES:

1. NEW 18" X 18" FLOOR DRAIN DRAINAGE SUMP PER DETAIL K1 ON SHEET A-501. GRIND FLOOR DOWN AND FILL WITH EPOXY MORTAR AS NECESSARY TO CREATE POSITIVE DRAINAGE TOWARDS THE NEW SUMP AS SHOWN. BOTTOM OF SUMP TO MATCH EXISTING FLOOR DRAIN ELEVATION.
2. DEMOLISHED CONCRETE PEDESTALS AND DRAINS. FINISH PER SD101 AND DETAIL F7 ON SHEET A-501.
3. INSTALL A NEW FLOOR DRAINS AT NEW FLOOR DRAINAGE SUMP AND NEAR NEW COMBINATION EMERGENCY EYEWASH AND SHOWER EQUIPMENT PER DETAIL K1 ON SHEET A-501. CONNECT TO PIPING SHOWN ON M-102 AND M-401. FIRESTOP THE THROUGH PENETRATION. LOCATIONS SHOWN ARE APPROXIMATE. ADJUST LOCATION BASED ON RESULTS OF THE REBAR LOCATING SCAN TO MINIMIZE CUTTING REBAR.
4. EXISTING COUNTER, SINK, AND BASE CABINET TO REMAIN. ADHERE NEW LAMINATE SHEET OVER BASE CABINET END PANEL, MATCH EXISTING COLOR. PATCH REMAINING HOLE ON THE INSIDE OF THE BASE CABINET WITH WOOD FILLER.
5. INSTALL EPOXY FLOORING THROUGHOUT THE ENTIRE ROOM EXCEPT UNDER THE BASE CABINET. FLOORING MUST BE INSTALLED BEFORE THE BATTERY RACKS AND CONTAINMENT BARRIER.
6. INSTALL EPOXY FLOORING COVE BASE AT WALLS AND AROUND THE FRONT AND SIDE OF THE BASE CABINET PER DETAIL B7 ON SHEET A-501.
7. GROUT THE ABANDONED CONDUIT HOLE IN CMU WALL SOLID.
8. INSTALL CONTINUOUS FIRESTOPPING AT THE JOINT BETWEEN TOP OF CMU WALL AND CONCRETE CEILING PER DETAIL B13 ON SHEET A-501.
9. PAINT FIRE BARRIER IDENTIFICATION SIGNS AT 7'-0" ABOVE FINISH FLOOR, TOTAL OF 4. COORDINATE LOCATIONS IN THE FIELD WITH GOVERNMENT REPRESENTATIVE. SEE DETAIL F13 ON SHEET A-501
10. NEW BATTERY RACKS, SEE SPECIFICATION SECTION 13 48 00.00 26.
11. EXISTING UPPER CABINET TO REMAIN.
12. NEW COMBINATION EMERGENCY EYEWASH AND SHOWER PER MECHANICAL, SEE SHEET M-102 AND M-401.
13. DIFFERENTIAL PRESSURE EQUIPMENT, SEE SHEET M-102.
14. INSTALL DOOR, FRAME, AND THRESHOLD, SEE SHEETS A-501 AND A-601.
15. CONTINUOUS BATTERY ACID CONTAINMENT BARRIER. TWO-SIDED AT THE 4 RACK BATTERY BANK AND 3 SIDED AT THE 6 RACK BATTERY BANK. SEE DETAIL K13 ON SHEET A-501 AND SPECIFICATION SECTION 09 67 23.13 28.
16. INSTALL SIGN PER DETAIL J1 ON SHEET A-601.
17. TANKLESS ELECTRIC TEPID WATER HEATER AND PLUMBING PIPES, SEE M-102.
18. REPAINT INTERIOR WALLS INDICATED OF THE BATTERY ROOM AFTER DEMOLITION OF CONCRETE BATTERY PEDESTAL.
19. DEMOLISHED FLOOR DRAIN PER DETAIL K7 ON SHEET A-501.

SHEET LEGEND:

- EXISTING CMU WALL
- EXISTING CONCRETE WALL
- ITEMS IN BOLD INDICATE NEW ARCHITECTURAL WORK
- 2-HR FIRE BARRIER BOUNDARY



1 KEY PLAN: LGA POWERHOUSE ELEVATION 580.00
NOT TO SCALE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: M. ZANGER
DRAWN BY: M. ZANGER
CHECKED BY: K. ZAK
SUBMITTED BY: MATTHEW G. ZANGER, P.A.
ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001
DRAWING NUMBER: LGP-1.002-6-D0401
SIZE: FILENAME: V1-LGP1.002-A-401.dgn

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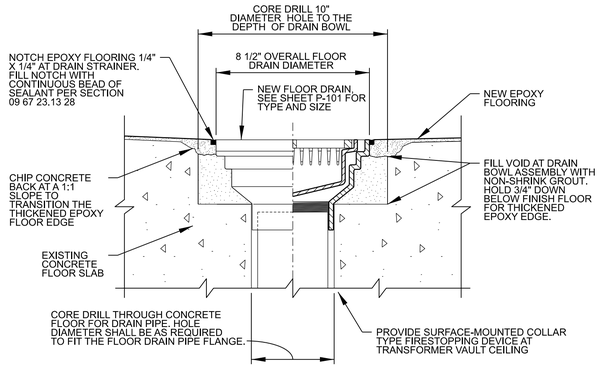
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

BATTERY ROOM IMPROVEMENTS
PLAN VIEW LEVEL 5 EL 580.00
INSTALL

SHEET ID
VOLUME 1
A-401

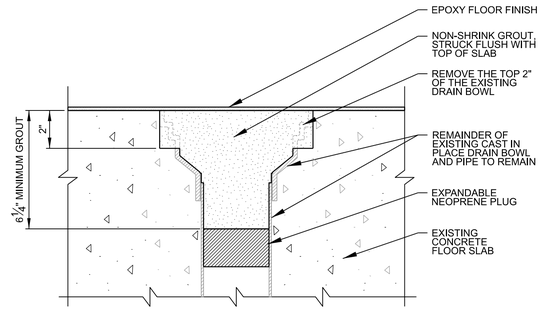
FINAL



REF A-401 K1

SECTION VIEW
DETAIL: EMERGENCY SHOWER DRAIN

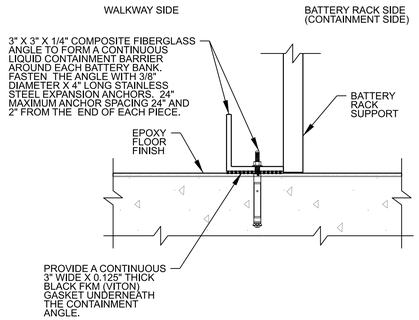
SCALE: 3" = 1'-0"



REF A-401 K7

SECITON VIEW
DETAIL: DEMOLISHED FLOOR DRAIN

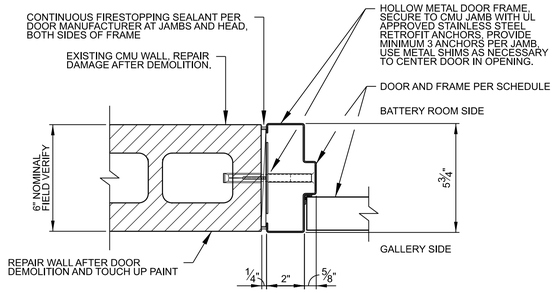
SCALE: 3" = 1'-0"



REF A-401 K13

SECTION VIEW
DETAIL: CONTAINMENT CURB

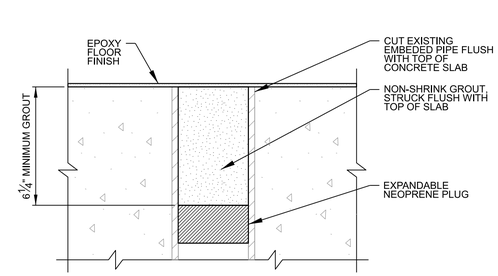
SCALE: 3" = 1'-0"



REF A-401 F1

PLAN VIEW
DETAIL: DOOR JAMB (HEAD SIMILAR)

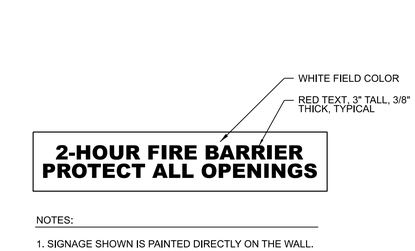
SCALE: 3" = 1'-0"



REF A-401 F7

SECTION VIEW
DETAIL: DEMOLISHED PEDESTAL DRAIN

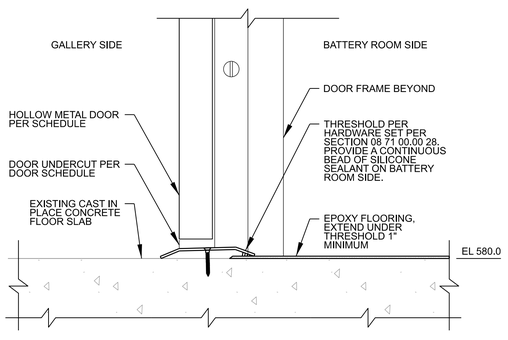
SCALE: 3" = 1'-0"



REF A-401 F13

ELEVATION VIEW
DETAIL: FIRE BARRIER SIGN

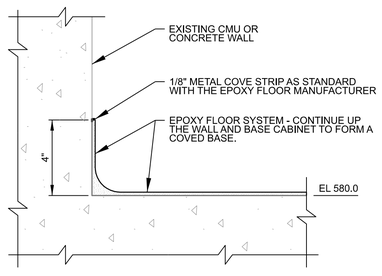
SCALE: 3" = 1'-0"



REF A-401 B1

SECTION VIEW
DETAIL: DOOR THRESHOLD

SCALE: 3" = 1'-0"

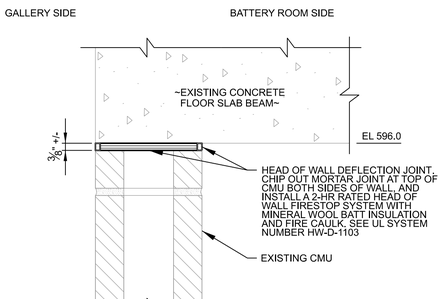


NOTE: SIMILAR AT BASE CABINET TOE KICK AND END PANEL

REF A-401 B7

SECTION VIEW
DETAIL: EPOXY WALL BASE (CABINET SIM)

SCALE: 3" = 1'-0"



REF A-401 B13

SECTION VIEW
DETAIL: HEAD OF WALL FIRESTOPPING

SCALE: 3" = 1'-0"

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DESIGNED BY: M. ZANGER
DRAWN BY: M. ZANGER
CHECKED BY: K. ZAK
SUBMITTED BY: MATTHEW G. ZANGER, P.A.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-4-DA13(1
FILENAME: V1-LGP1.002-A-501.dgn

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WALLA WALLA, WASHINGTON

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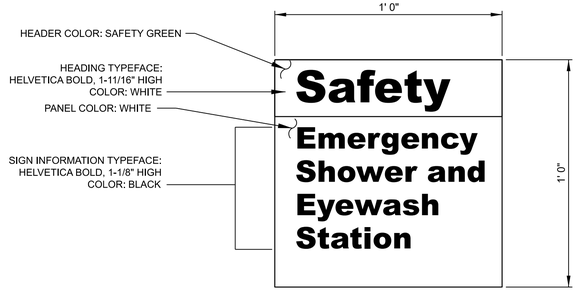
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

BATTERY ROOM IMPROVEMENTS
DETAILS
INSTALL

SHEET ID
VOLUME 1
A-501

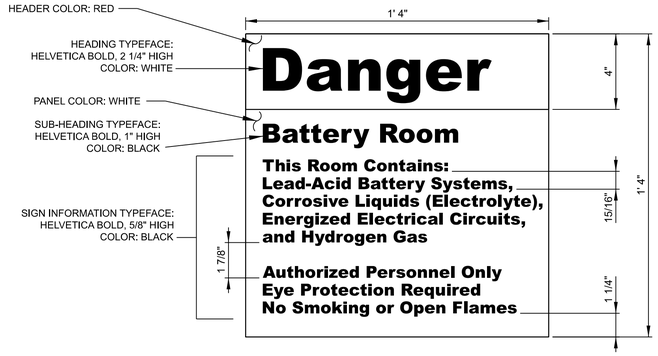
FINAL



NOTES TO EMERGENCY SHOWER AND EYEWASH STATION SIGN:

1. THE WALL SIGN SHALL FOLLOW THE CORPS OF ENGINEERS SIGN MANUAL, EP 310-1-6a FOR AN INDUSTRIAL SAFETY SIGN. THE SIGN TYPE SHALL BE A SAF-00, 12"X12" "SAFETY" SIGN AND SHALL FOLLOW THE SIGN MANUAL LEGEND FOR HEADING TEXT SIZE, TEXT FONT AND SIGN COLORS. THE SIGN MATERIAL SHALL BE ALUMINUM.
2. THE SIGN SHALL BE AFFIXED TO THE WALL AT THE LOCATION SHOWN ON ELEVATION A-401. MOUNTING HEIGHT SHALL BE 65" OFF OF THE FLOOR TO THE MIDPOINT OF THE SIGN. ATTACH THE SIGN TO THE WALL WITH ¼" DIAMETER X 1¼" L ZAMAK SINGLE EXPANSION ANCHORS TO EACH CORNER OF THE SIGN.

J1 EMERGENCY STATION SIGN
SCALE: NTS



NOTES TO DOOR SIGN:

1. THE DOOR SIGN SHALL FOLLOW THE CORPS OF ENGINEERS SIGN MANUAL, EP 310-1-6a FOR AN INDUSTRIAL SAFETY SIGN. THE SIGN TYPE SHALL BE A SDA-00, 16"X16" "DANGER" SIGN AND SHALL FOLLOW THE SIGN MANUAL LEGEND FOR HEADING TEXT SIZE, TEXT FONT AND SIGN COLORS. HOWEVER, IN ORDER TO FIT THE TEXT REQUIRED FOR THE SIGN, TEXT SIZE FOR THE SUB-HEADING AND THE SIGN INFORMATION DOES NOT CONFORM WITH THE PRESCRIBED BY THE SIGN MANUAL. SEE THE DETAIL FOR SPECIAL TEXT SIZES AND LINE SPACING REQUIRED FOR FIT. THE SIGN MATERIAL SHALL BE ALUMINUM.
2. THE SIGN SHALL BE AFFIXED TO THE HALL SIDE OF THE NEW DOOR AS INDICATED ON THE DOOR ELEVATION. USE INDUSTRIAL DOUBLE-STICK FOAM TAPE TO ATTACH THE SIGN.

J7 BATTERY ROOM DOOR SIGN
SCALE: NTS

DOOR SCHEDULE

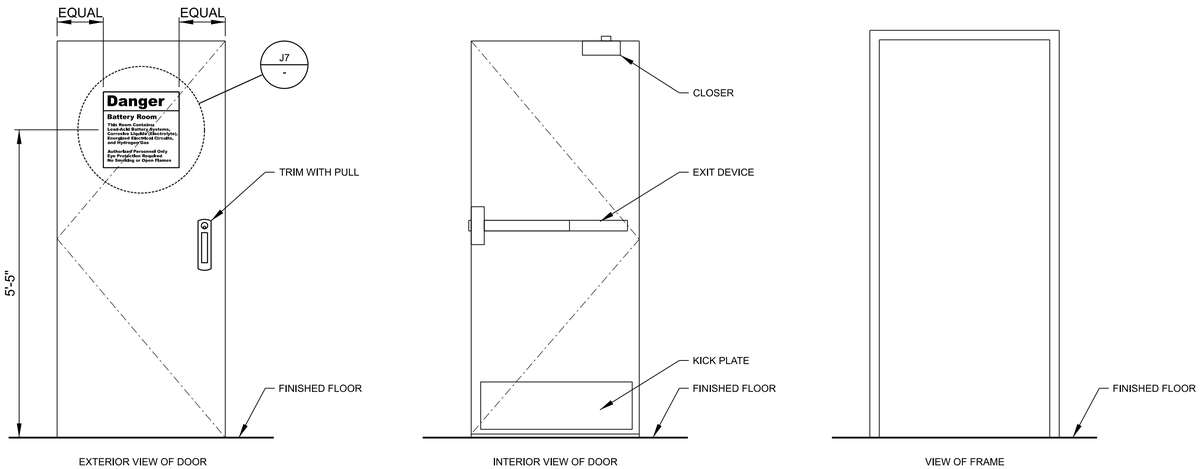
	DOOR							FRAME						DETAILS		
MARK	LOCATION	SIZE (W x H)	THICKNESS	MATERIAL	TYPE	HAND	FINISH / COLOR	MATERIAL	TYPE	FINISH/ COLOR	HARDWARE SET	FIRE RATING	GLAZING/ VENTING	HEAD	JAMB	THRESHOLD
BR-01	BATTERY ROOM	3'-0" x 7'-0"	1 3/4"	HM	F	LHRB	MFR	HM	DRSF	MFR	HW-1	90-MINUTES	N/A	F1/A-501 (SIM)	F1/A-501	B1/A-501

ABBREVIATIONS:

DRSF	DOUBLE RABBET STANDARD FRAME
F	FLUSH
HM	HOLLOW METAL
HW	HARDWARE
LHRB	LEFT HAND REVERSE BEVEL
MFR	MANUFACTURER
N/A	NOT APPLICABLE
SIM	SIMILAR

SCHEDULE NOTES:

1. PROVIDE 3/4" MAXIMUM DOOR UNDERCUT.



A1 BATTERY ROOM DOOR
SCALE: 3" = 1'-0"

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MARK	DESCRIPTION	DATE

DESIGNED BY: M. ZANGER
DRAWN BY: M. ZANGER
CHECKED BY: K. ZAK
SUBMITTED BY: MATTHEW G. ZANGER, R.A.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-21
FILENAME: V1-LGP1.002-A-601.dgn

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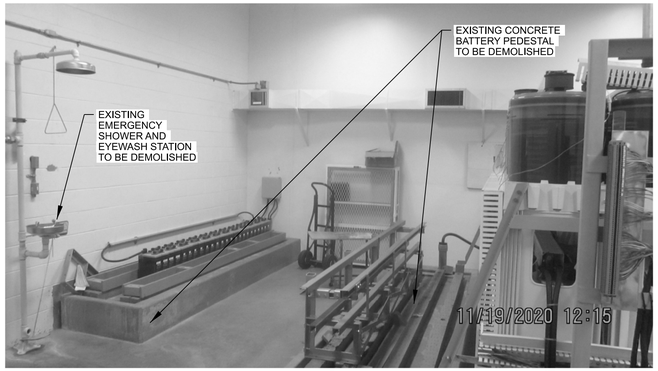
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

BATTERY ROOM IMPROVEMENTS
DOOR SCHEDULE, DOOR AND SIGN ELEVATIONS
INSTALL

SHEET ID
VOLUME 1
A-601

FINAL



REF A-401 J1

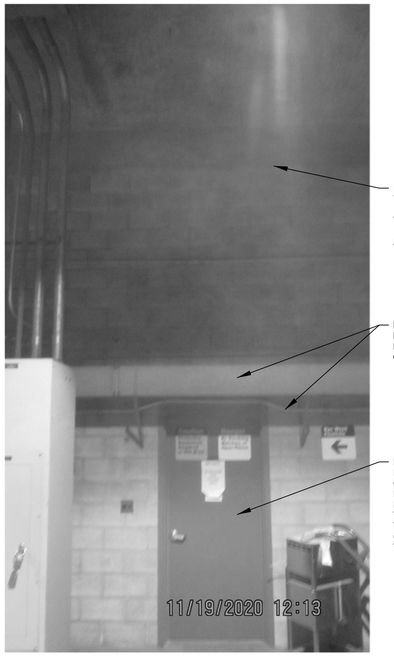
PHOTO:
EXISTING BATTERY ROOM NORTH WALL

NOT TO SCALE

REF A-401 J8

PHOTO:
EXISTING BATTERY ROOM SOUTH WALL

NOT TO SCALE



REF A-401 A1

PHOTO:
EXISTING BATTERY ROOM ENTRANCE

NOT TO SCALE

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MARK	DESCRIPTION	DATE

DESIGNED BY: M. ZANGER	ISSUE DATE: AUGUST 2022
DRAWN BY: M. ZANGER	SOLICITATION NO.: W912EF22R0001
CHECKED BY: K. ZAK	CONTRACT NO.:
SUBMITTED BY: MATHEW G. ZANGER, P.A.	DRAWING NUMBER: LGP-1.002-222
SIZE: ANSI D	FILENAME: V1-LGP1.002-A-901.dgn

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SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

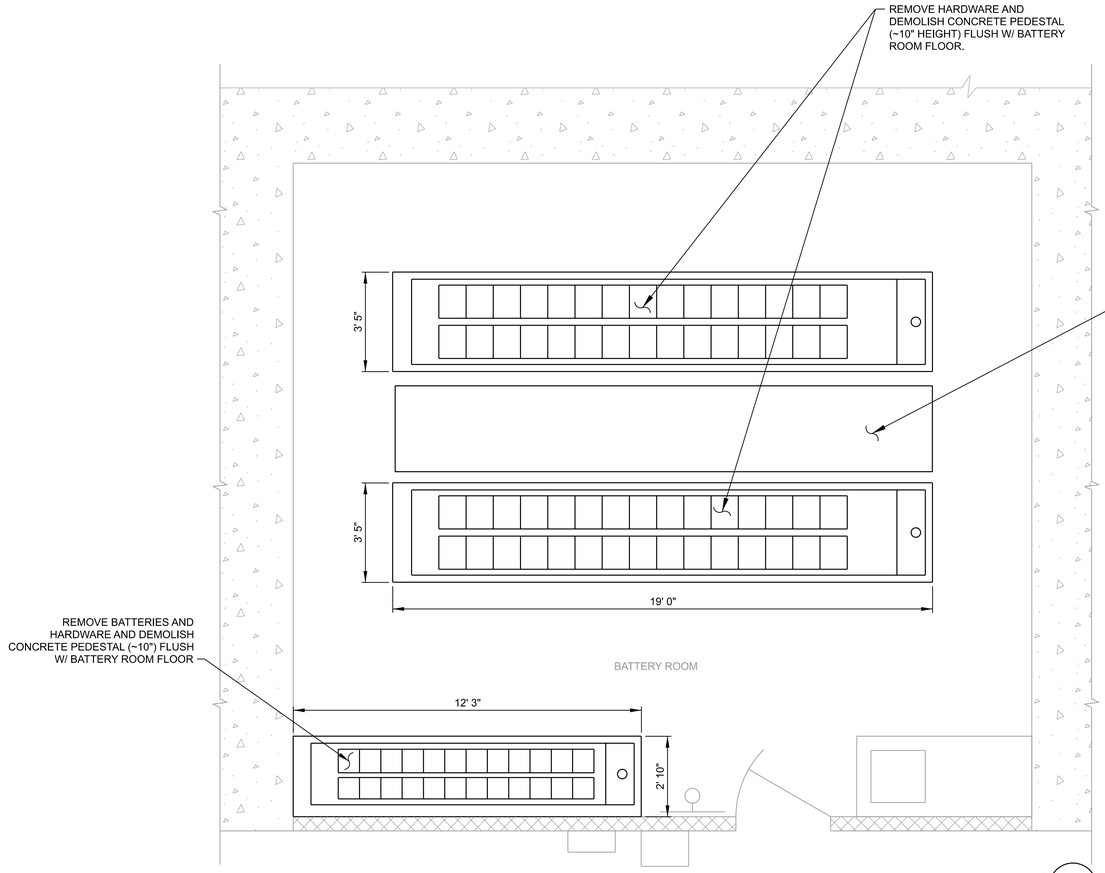
BATTERY ROOM IMPROVEMENTS
EXISTING CONDITIONS PHOTOS
INSTALL

SHEET ID
VOLUME 1
A-901

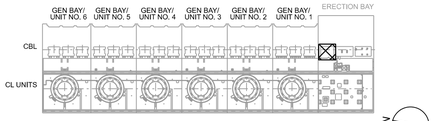
FINAL

GENERAL NOTES:

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE REMOVED.
2. THE PAINT ON THE FLOOR AND PEDESTALS CONTAINS LEAD. SEE SECTION 02 83 00.



D7 BATTERY ROOM PLAN VIEW, LEVEL 5, EL 580.00
SCALE: 3/8"=1'-0"



1 KEY PLAN: LGA POWERHOUSE ELEVATION 580.00
NOT TO SCALE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: A. MUEHLECK
DRAWN BY: B. MASOUMPANAH
CHECKED BY: T. MCGILVREY
SUBMITTED BY: JORDAN S. FINK, P.E.
SIZE: ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002_5-01-2
FILE NAME: V1-LGP1.002-SD101.dgn

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WALLA WALLA, WASHINGTON

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SNAKE RIVER
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DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

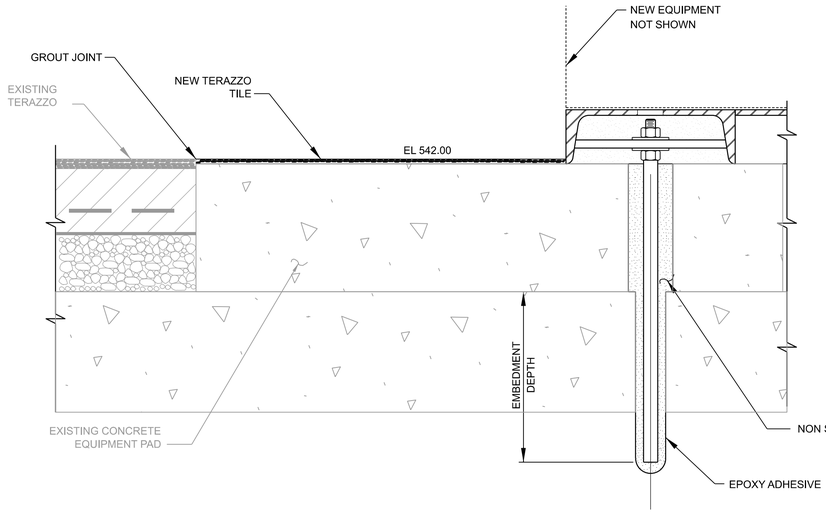
BATTERY ROOM IMPROVEMENTS
PLAN VIEW, LEVEL 5 EL 580.00
REMOVAL

SHEET ID
VOLUME 1
SD101

FINAL

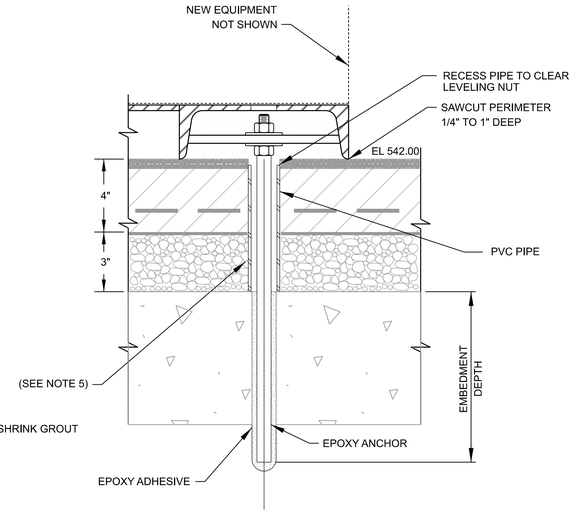
GENERAL NOTES:

1. FIELD VERIFY DIMENSIONS OF EXISTING EQUIPMENT PRIOR TO FABRICATING SUPPORTS.
2. PAINT AS PER SPECIFICATION.
3. FOUNDATION DETAIL SHOWN FOR INSTALLING NEW FOUNDATION CHANNELS FOR NEW EQUIPMENT ON EXISTING CONCRETE EQUIPMENT PADS AND TERAZZO.
4. USE OF SEISMIC BRACES MOUNTING TO WALL MAY BE ACCEPTABLE PURSUANT TO CONTRACTORS SEISMIC ANCHORAGE DESIGN AND MANUFACTUREDERS REQUIREMENTS.
5. INJECT ADHESIVE INTO GRAVEL IF NECESSARY TO LOCALLY STABILIZE GRAVEL PRIOR TO GRAVEL REMOVAL AND PIPE SLEEVE INSTALLATION
6. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.



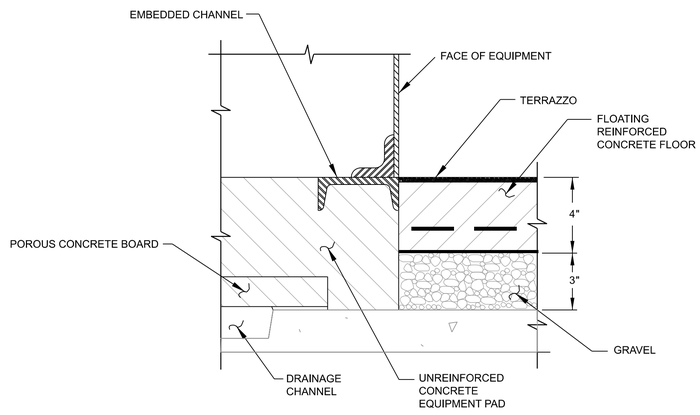
G1 STEEL CHANNEL FOUNDATION EPOXY FOUNDATION INSTALLATION ON CONCRETE PAD

SCALE: NTS (SEE NOTE 3 AND 4)



G8 STEEL CHANNEL FOUNDATION EPOXY FOUNDATION INSTALLATION ON TERAZZO TILE

SCALE: NTS (SEE NOTE 3 AND 4)



G15 EXISTING FOUNDATION DETAIL

SCALE: 3"=1'-0"

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MARK	DESCRIPTION	DATE

DESIGNED BY: A. MUEHLECK
DRAWN BY: B. MASOUMPANAH
CHECKED BY: T. MCGILVREY
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002_S-501
SCALE: FILENAME: V1-LGP1.002-S-501.dgn

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

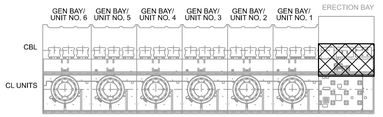
FLOOR MOUNTED EQUIPMENT
STEEL CHANNEL FOUNDATION DETAILS, EL 640.00
INSTALL

SHEET ID
VOLUME 1
S-501

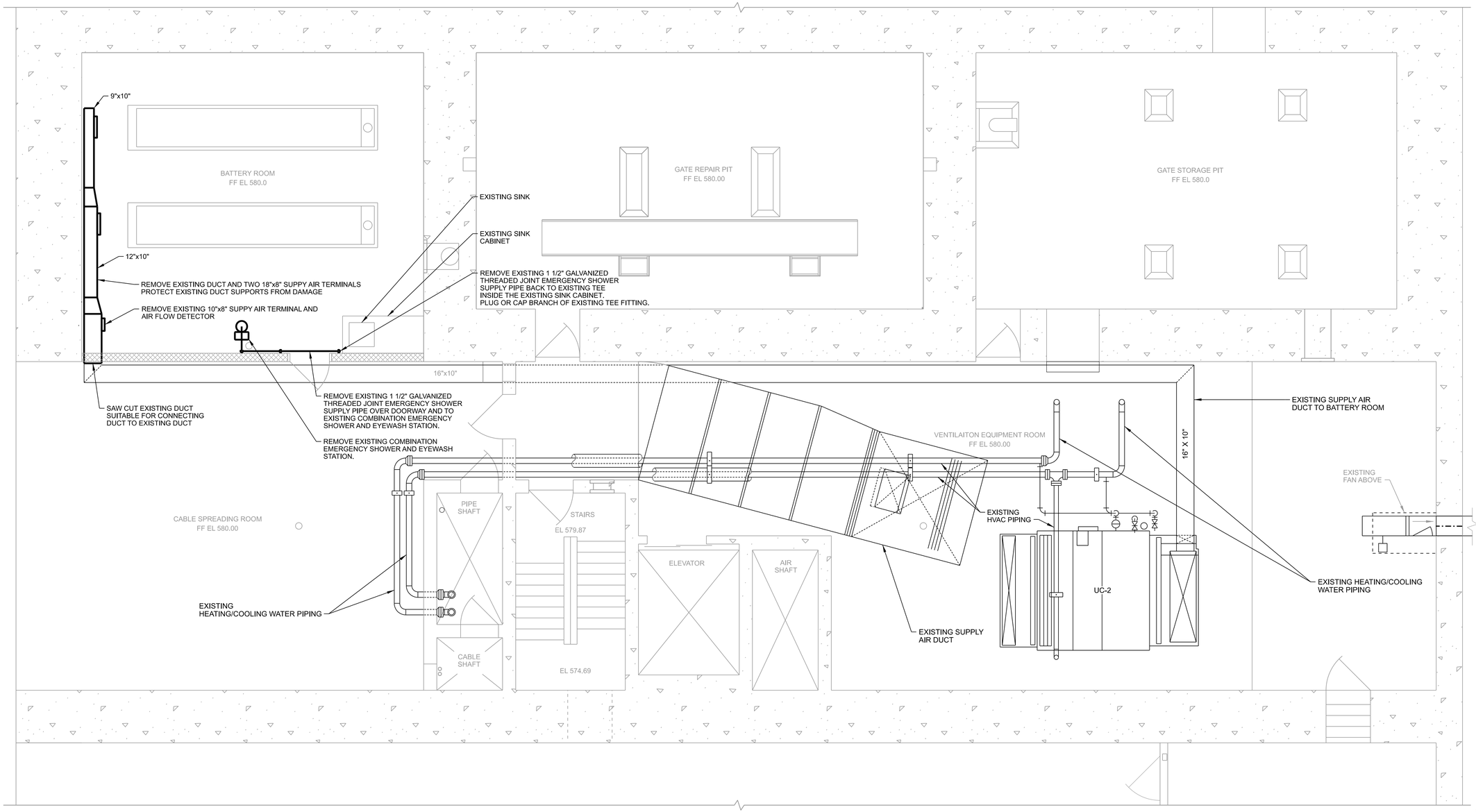
FINAL

GENERAL NOTES:

1. SEE ABBREVIATIONS, LEGENDS, AND MECHANICAL GENERAL NOTES ON SHEET M-001.



1 KEY PLAN: LGA POWERHOUSE ELEVATION 580.00
NOT TO SCALE



A1 REMOVAL PLAN: ERECTION BAY 5TH FLOOR EL 580.00 - EMERGENCY SHOWER, SHOWER DRAIN, HVAC
SCALE: 1/4" = 1'

0 2' 4' 8'

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MARK	DESCRIPTION	DATE

DESIGNED BY: C. BRENNEISE
DRAWN BY: C. BRENNEISE
CHECKED BY: M. J. EVANS
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002_S-774
SIZE: FILENAME: V1-L.GP1.002-MD101.dgn

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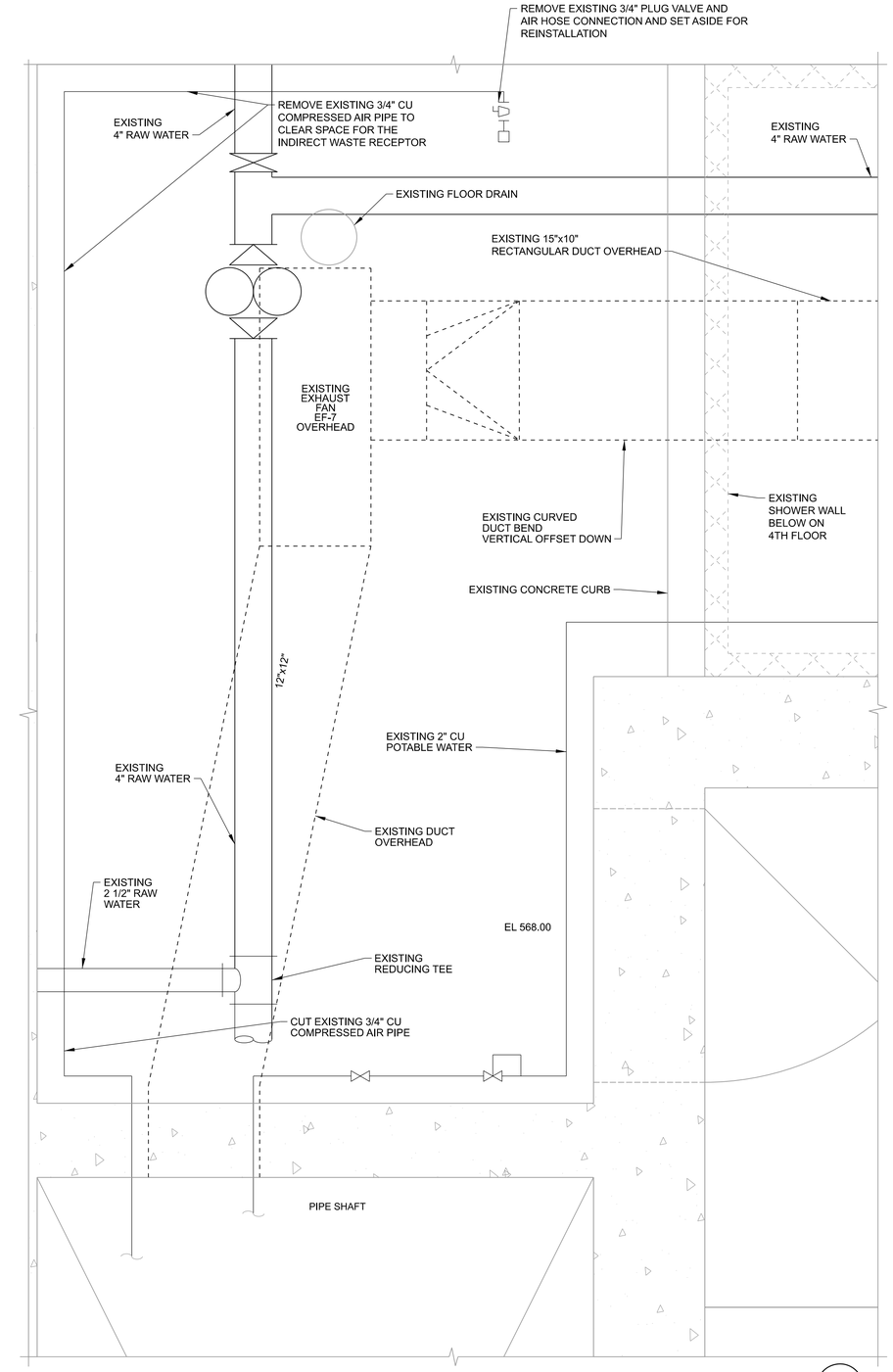
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

ERECTION BAY PLUMBING & HVAC
5TH FLOOR PLAN EL 580.00
HVAC - REMOVAL

SHEET ID
VOLUME 1
MD101

FINAL



H7
M-101 A1

ENLARGED PLAN: MECHANICAL CLOSET ELEVATION 568.0

SCALE: 1" = 1'

0 6" 1' 2'

GENERAL NOTES:

1. SEE ABBREVIATIONS, LEGENDS, AND MECHANICAL GENERAL NOTES ON SHEET M-001.

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MARK	DESCRIPTION	DATE

DESIGNED BY: C. BRENNEISE	ISSUE DATE: AUGUST 2022
DRAWN BY: C. BRENNEISE	SOLICITATION NO.: W912EF22R0001
CHECKED BY: M. J. EVANS	CONTRACT NO.:
SUBMITTED BY: JORDAN S. FINK, P.E.	DRAWING NUMBER: LGP-1.002_S-7/5
SIZE: ANSI D	FILE NAME: V1-LGP1.002-MD401.dgn

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POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

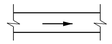
MECHANICAL CLOSET DUCT & PLUMBING CONNECTIONS
ENLARGED PLAN VIEW, 5TH FLOOR EL 580.00
REMOVAL

SHEET ID
VOLUME 1
MD401

FINAL

HVAC AIR DISTRIBUTION LEGEND:

SQUARE OR RECTANGULAR DUCT:
FIRST FIGURE INDICATES THE DIMENSION OF THE SIDE SHOWN IN INCHES.
SECOND FIGURE INDICATES THE DIMENSION OF THE SIDE NOT SHOWN IN INCHES.



DIRECTION OF AIR FLOW

DUCT SECTION - SUPPLY OR TRANSFER AIR

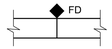
DUCT SECTION - RETURN OR EXHAUST

DUCT ACCESS PANELS

FLEXIBLE DUCT CONNECTOR

AIR FLOW ARROW;
INDICATES AIR JET DIRECTION AND DEFLECTION

RETURN OR EXHAUST AIR INLET,
OUTDOOR OR INDOOR



FIRE DAMPER IN DUCT

PIPING LEGEND:

TW	TEPID WATER
PW	POTABLE WATER
	ELBOW TURNING AWAY OR DOWN
	ELBOW TURNING TOWARD OR UP
	UNION
	BALL VALVE

MECHANICAL GENERAL NOTES:

1. MECHANICAL GENERAL NOTES APPLY ONLY TO MECHANICAL SHEETS AND MECHANICAL DEMOLITION SHEETS.
2. PROVIDE WORK INDICATED IN HEAVY LINE WEIGHT. SEE MECHANICAL LINE WEIGHT LEGEND.
3. REMOVE EXISTING MECHANICAL WORK INDICATED IN HEAVY LINE WEIGHT ON MECHANICAL DEMOLITION SHEETS AND WHERE INDICATED ON MECHANICAL SHEETS.
4. PROVIDE WORK INDICATED ON MECHANICAL SHEETS IN ACCORDANCE WITH MECHANICAL GENERAL REQUIREMENTS.
5. FILL ANNULAR SPACES BETWEEN THE OUTSIDE SURFACE OF DUCTS AND PIPES AND THE INSIDE SURFACE OF PENETRATION HOLES IN FIRE BARRIER WALLS WITH FIRESTOPPING OR CEMENTITIOUS GROUT THAT MEETS FIRESTOPPING REQUIREMENTS.

MECHANICAL LINE WEIGHT LEGEND:

HEAVY LINE WEIGHT INDICATING MECHANICAL WORK PROVIDED BY PERFORMANCE OF THIS CONTRACT AND MECHANICAL WORK REMOVED BY PERFORMANCE OF THIS CONTRACT.

MEDIUM LINE WEIGHT INDICATING EXISTING MECHANICAL WORK TO REMAIN.

LIGHT LINE WEIGHT INDICATING:
WORK OTHER THAN MECHANICAL,
EXISTING WORK OTHER THAN MECHANICAL THAT IS TO REMAIN, AND
EXISTING SITE FEATURES TO REMAIN.

MECHANICAL ABBREVIATIONS:

°F	DEGREES FAHRENHEIT
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
CFM	CUBIC FEET PER MINUTE
CO	CLEANOUT
CPVC	CHLORINATED POLYVINYL CHLORIDE
CU	COPPER
EL	ELEVATION
FF	FINISHED FLOOR
FT	FEET
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
HP	HORSE POWER
Hz	HERTZ
IN	INCHES
InWC	INCHES WATER COLUMN
kW	KILOWATTS
LB	POUNDS
MAX	MAXIMUM
MIN	MINIMUM
NPT	AMERICAN NATIONAL STANDARD TAPER PIPE THREADS
PH	PHASE
RPM	REVOLUTIONS PER MINUTE
T	TEMPERATURE
TAB	TESTING ADJUSTING AND BALANCING
TW	TEPID WATER
V	VOLTS

LEGEND

ELECTRIC TEPID WATER HEATER

MARK	LOCATION	SERVICE	TYPE	WATER FLOW RATE (GPM)	TEMPERATURE RISE (°F)	DESIGN SET POINT (°F)	MINIMUM POWER RATING (kW)	ELECTRICAL POWER (V/PH/Hz)
TWH 1 TWH-1	5TH FLOOR CABLE SPREADING ROOM	EMERGENCY SHOWER IN BATTERY ROOM	TANKLESS	23	21	70	72	480/60/3

LEGEND

BATTERY ROOM EXHAUST FAN

MARK	LOCATION	SPACE SERVED	WEIGHT (LB)	FAN				MOTOR				
				TYPE	AIR FLOW RATE (CFM)	STATIC PRESSURE (inWC)	MAXIMUM BRAKE HORSEPOWER (HP)	MAXIMUM SPEED (RPM)	MINIMUM POWER RATING (HP)	ELECTRICAL POWER (V/PH/Hz)	NOTES	CONTROL
EF 6 EF-6	OVERHEAD IN 6TH FLOOR HALLWAY THAT ACCESSES GENERATOR ROOM BRIDGE CRANE CAB. REPLACEMENT FOR EXISTING BELT DRIVEN FAN EF-6	BATTERY ROOM	80	CENTRIFUGAL, BACKWARD INCLINED WHEEL, SINGLE WIDTH, DIRECT DRIVE, AMCA TYPE A SPARK RESISTANT CONSTRUCTION	1,000	0.25	0.45	1800	1/2	115/1/60	OPEN DRIPPROOF ENCLOSURE, PERMANENTLY LUBRICATED BEARINGS. USE EXISTING CIRCUIT FED FROM PANEL CR05, BREAKER 28.	EXISTING WALL SWITCH

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
C. BRENNEISE	AUGUST 2022
DRAWN BY:	SOLICITATION NO.:
N. BAKKE	W912EF22R0001
CHECKED BY:	CONTRACT NO.:
M. J. EVANS	
SUBMITTED BY:	DRAWING NUMBER:
JORDAN S. FINK, P.E.	LGP-1.002_S-770
SIZE: FILENAME:	
ANSI D	V1-LGP1.002-M-001.dgn

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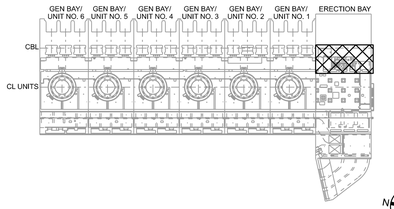
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MECHANICAL LEGENDS
GENERAL NOTES
ABBREVIATIONS

SHEET ID
VOLUME 1
M-001

Final



3 KEY PLAN: LGA POWERHOUSE ELEVATION 558.00
NOT TO SCALE

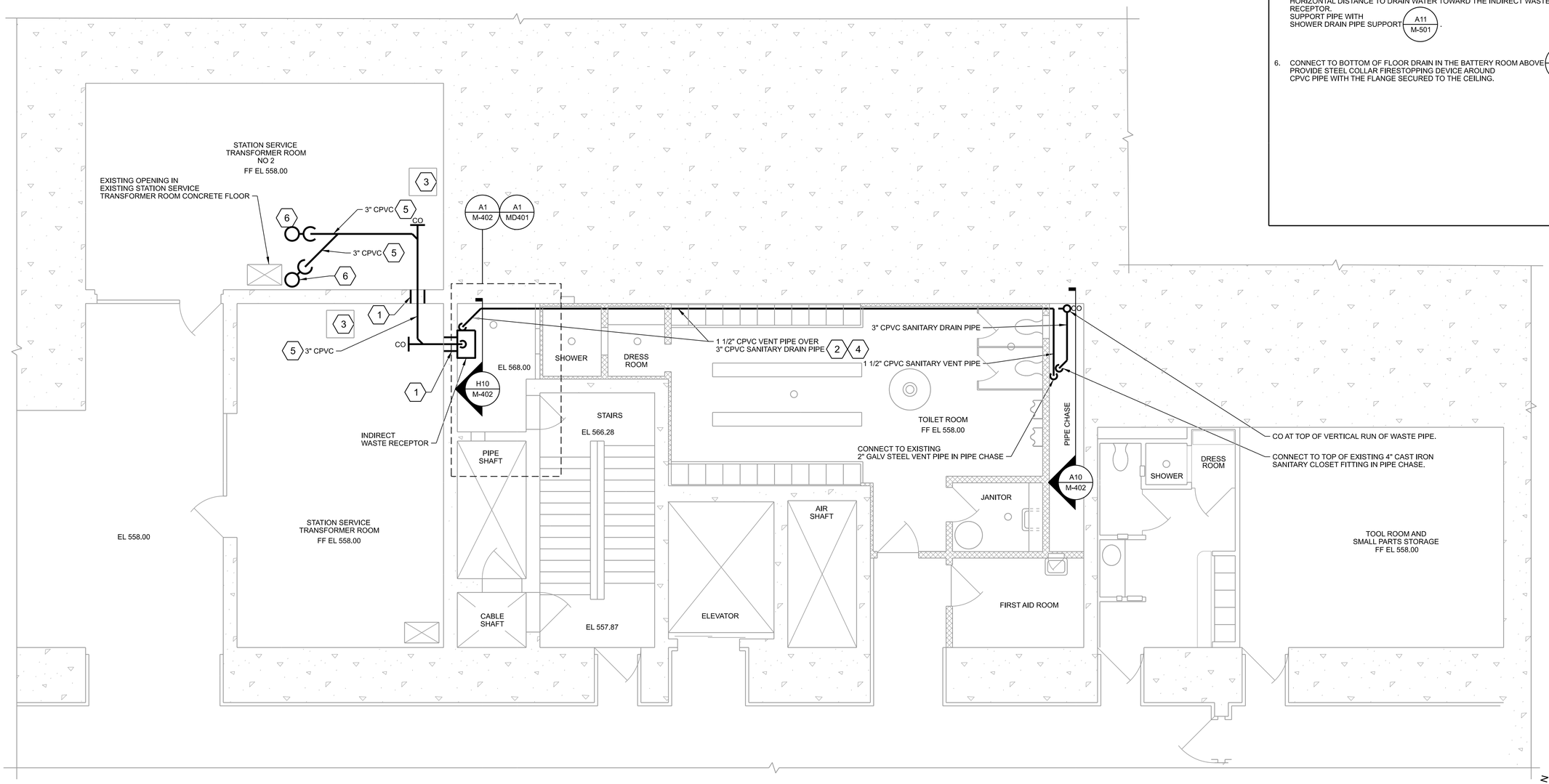
GENERAL NOTES:

1. SEE ABBREVIATIONS, LEGENDS, AND MECHANICAL GENERAL NOTES ON SHEET M-001.

SHEET KEYNOTES:

1. CORE DRILL HOLE THROUGH EXISTING STEEL REINFORCED CONCRETE WALL. USE NON-DESTRUCTIVE METHOD TO LOCATE EXISTING STEEL REINFORCEMENT. SHIFT HOLE LOCATION TO MINIMIZE CUTTING OF REINFORCEMENT STEEL. PROVIDE 3-HR STEEL COLLAR FIRESTOPPING DEVICE AROUND CPVC PIPE WITH THE FLANGE SECURED TO THE WALL.
2. ROUTE PIPE ABOVE EXISTING SUSPENDED CEILING OVER MEN'S BATHROOM. SUPPORT PIPE WITH HOT DIP GALVANIZED OFFSET PIPE CLAMP:
   - ANVIL FIG 103,
   - COOPER B-LINE FIG B3148,
   - GLOBE SERIES 504, OR
   - APPROVED EQUAL.

   PROVIDE FELT OR PLASTIC PRESSURE PAD BETWEEN PIPE AND PIPE HANGER AS RECOMMENDED BY THE PIPE MANUFACTURER. SPACE OFFSET PIPE CLAMPS ALONG THE PIPE AS RECOMMENDED BY THE PIPE MANUFACTURER. SHORE UP THE EXISTING SUSPENDED CEILING OVER THE MEN'S BATHROOM TO PREVENT ITS COLLAPSE WHILE PIPE INSTALLERS ARE WORKING ABOVE IT. PAD SHORING SYSTEM COMPONENTS IN CONTACT WITH THE BOTTOM OF THE EXISTING CEILING WITH BLANKETS OR CLOTH TO PREVENT DAMAGING THE EXISTING CEILING FINISH.
3. EXISTING SUMP IN STATION SERVICE GENERATOR CONCRETE FLOOR WITH CURB.
4. SLOPE HORIZONTAL RUNS OF SANITARY WASTE PIPE NOT LESS THAN 1/4" PER FOOT OF HORIZONTAL DISTANCE TO DRAIN WATER AWAY FROM THE INDIRECT WASTE RECEPTOR.
5. SLOPE HORIZONTAL RUNS OF INDIRECT PIPE NOT LESS THAN 1/4" PER FOOT OF HORIZONTAL DISTANCE TO DRAIN WATER TOWARD THE INDIRECT WASTE RECEPTOR.
   SUPPORT PIPE WITH SHOWER DRAIN PIPE SUPPORT (A11 / M-501).
6. CONNECT TO BOTTOM OF FLOOR DRAIN IN THE BATTERY ROOM ABOVE (K1 / A-501). PROVIDE STEEL COLLAR FIRESTOPPING DEVICE AROUND CPVC PIPE WITH THE FLANGE SECURED TO THE CEILING.



A1 PLAN: ERECTION BAY 4TH FLOOR EL 558.00 - SHOWER DRAIN
SCALE: 1/4" = 1'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. BRENNEISE
DRAWN BY: N. BAKKE
CHECKED BY: M. J. EVANS
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002_3-7/1
SIZE: FILENAME: V1-LGP1.002-M-101.dgn

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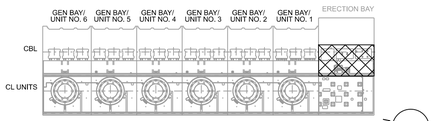
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

ERECTION BAY PLUMBING & HVAC
PLAN VIEW, 4TH FLOOR EL 558.00
EMERGENCY SHOWER DRAIN PIPING - INSTALL

SHEET ID
VOLUME 1
M-101

FINAL



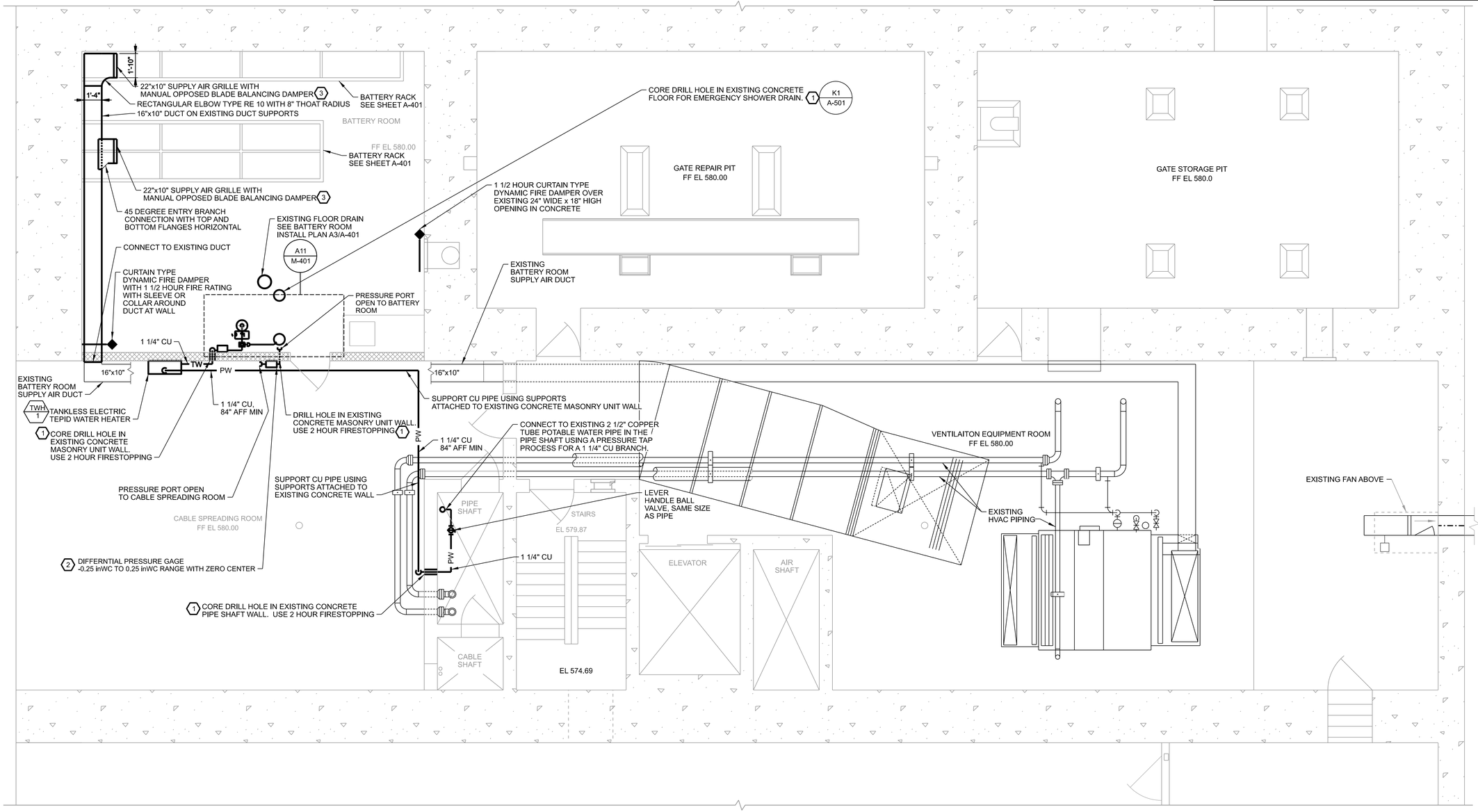
1 KEY PLAN: LGA POWERHOUSE ELEVATION 580.00
NOT TO SCALE

GENERAL NOTES:

1. SEE ABBREVIATIONS, LEGENDS, AND MECHANICAL GENERAL NOTES ON SHEET M-001.

SHEET KEYNOTES:

1. CORE DRILL HOLE THROUGH EXISTING STEEL REINFORCED CONCRETE. USE NON-DESTRUCTIVE METHOD TO LOCATE EXISTING STEEL REINFORCEMENT. SHIFT HOLE LOCATION TO MINIMIZE CUTTING OF EXISTING REINFORCEMENT STEEL, AND INTERFEARANCES WITH EXISTING EXPOSED ELECTRICAL CONDUIT OR EXISTING EXPOSED PIPING. FILL ANNULAR SPACE BETWEEN THE INSIDE SURFACES OF THE HOLE AND THE OUTSIDE SURFACES OF THE PIPE WITH PORTLAND CEMENT BASED GROUT OR FIRESTOPPING.
2. FASTEN DIFFERENTIAL PRESSURE GAGE TO THE EXISTING CONCRETE MASONARY UNIT WALL AT THE SAME HEIGHT AFF AS THE EXISTING THERMOSTAT, INSIDE THE BATTERY ROOM.
3. CENTER SUPPLY AIR GRILLE TO BLOW SUPPLY AIR JET OVER THE CENTER OF THE ROW OF BATTERIES. ADJUST GRILLE DEFLECTION BLADES FOR ZERO DEFLECTION. ADJUST MANUAL BALANCING DAMPER TO PROVIDE THE TOTAL SUPPLY AIR FLOW RATE THAT INDUCES 0.05 INCHES WATER COLUMN TO 0.12 INCHES WATER COLUMN BATTERY ROOM DIFFERENTIAL PRESSURE AT THE DIFFERENTIAL PRESSURE TRANSMITTER WHEN THE BATTERY ROOM DOOR IS CLOSED.



A1 PLAN: ERECTION BAY 5TH FLOOR EL 580.00 - EMERGENCLY SHOWER, SHOWER DRAIN, HVAC
SCALE: 1/4" = 1'

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MARK	DESCRIPTION	DATE

DESIGNED BY: C. BRENNEISE
DRAWN BY: N. BAKKE
CHECKED BY: M. J. EVANS
SUBMITTED BY: JORDAN S. RINKE, P.E.
SCALE: FULL SIZE ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002_S-1/2
FILE NAME: V1-LGP1.002-M-102.dgn

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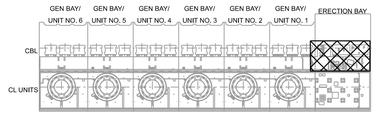
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

ERECTION BAY PLUMBING & HVAC
PLAN VIEW: 5TH FLOOR EL 580.00 EMERGENCY SHOWER, SHOWER DRAIN, HVAC - INSTALL

SHEET ID
VOLUME 1
M-102

FINAL



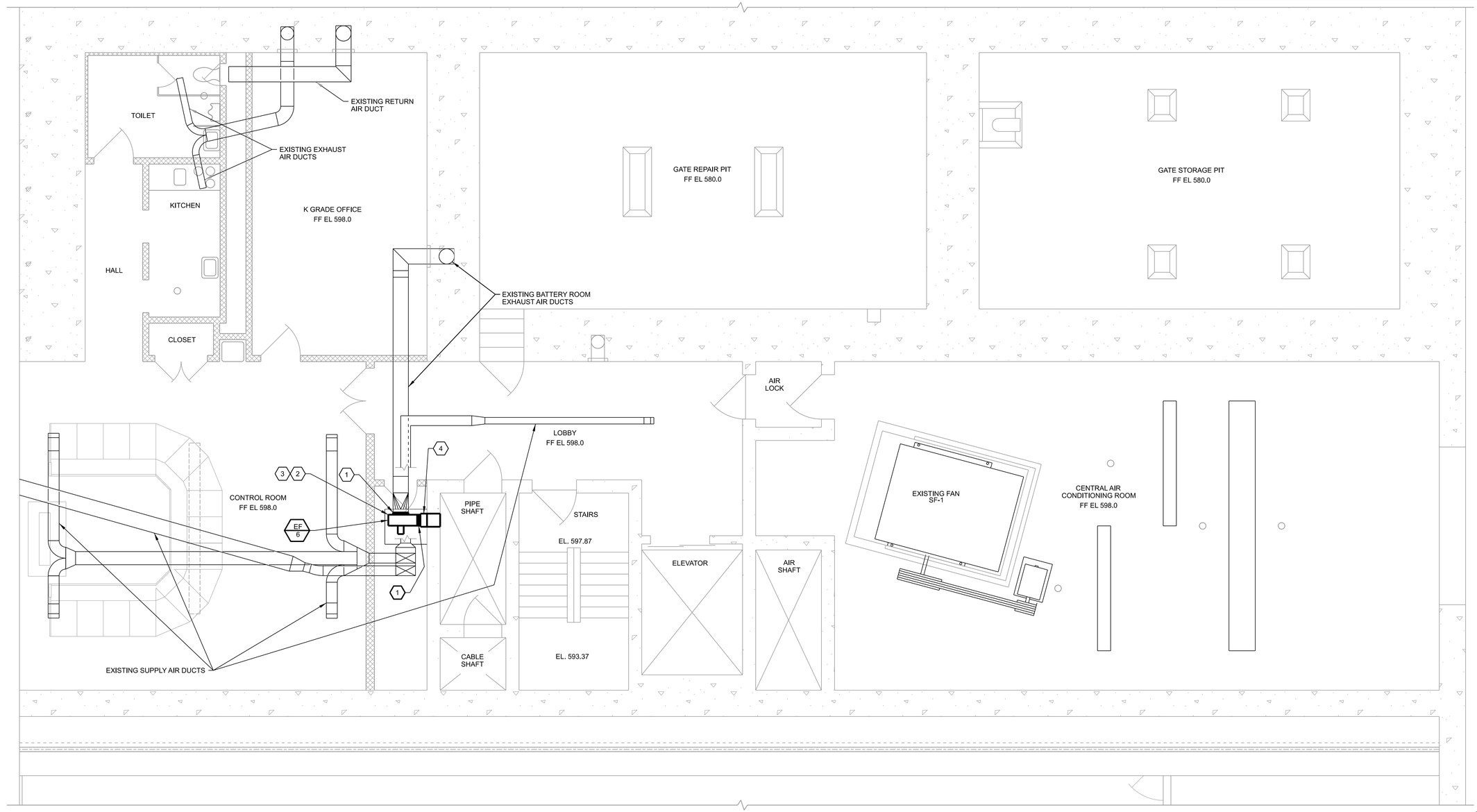
4 KEY PLAN: LGA POWERHOUSE ELEVATION 598.00
NOT TO SCALE

GENERAL SHEET NOTES

1. SEE ABBREVIATIONS, LEGENDS, AND MECHANICAL GENERAL NOTES ON SHEET M-001.

SHEET KEYNOTES

1. GENERAL SERVICE DUCT CONNECTOR
2. REMOVE EXISTING EXHAUST FAN EF-6. PROVIDE EXHAUST FAN. (EF 6)
3. CONNECT POWER TO EF-6 USING THE EXISTING CONDUCTORS AND POWER SWITCH ON THE WALL IN ACCORDANCE WITH BASIC ELECTRICAL MATERIALS AND METHODS.
4. 1 1/2 HOUR RATED FIRE DAMPER WITH SLEEVE OUTSIDE EXISTING CONCRETE WALL.



A1 PLAN: ERECTION BAY 6TH FLOOR EL 598.00 - EXHAUST FAN
SCALE: 1/4" = 1'

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MARK	DESCRIPTION	DATE

DESIGNED BY: C. BRENNWEISE	ISSUE DATE: AUGUST 2022
DRAWN BY: N. BAKKE	SOLICITATION NO.: W912EF22R0001
CHECKED BY: M. J. EVANS	CONTRACT NO.:
SUBMITTED BY: JORDAN S. FINK P.E.	DRAWING NUMBER: LGP-1.002_S-773
ANSI D	SCALE: FILENAME: V1-LGP1.002-M-103.dgn

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SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

ERECTION BAY HVAC
PLAN VIEW, 6TH FLOOR EL 598.00
EXHAUST FAN - INSTALL

SHEET ID
VOLUME 1
M-103

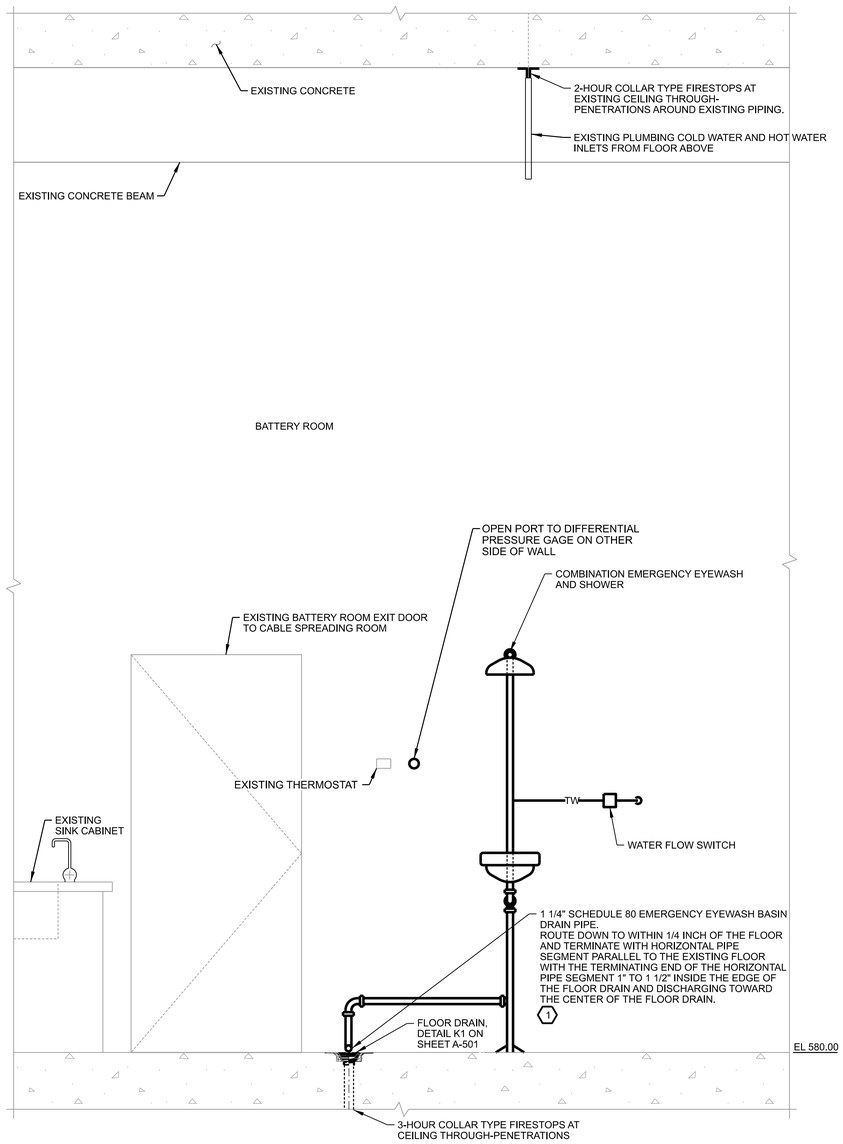
FINAL

GENERAL NOTES:

1. SEE ABBREVIATIONS, LEGENDS, AND MECHANICAL GENERAL NOTES ON SHEET M-001.

SHEET KEYNOTES:

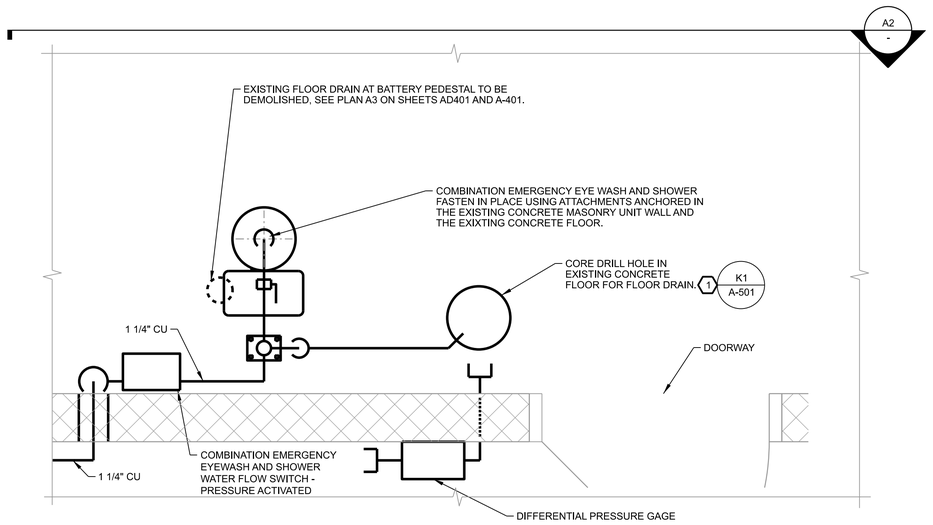
1. CORE DRILL HOLE THROUGH EXISTING STEEL REINFORCED CONCRETE. USE NON-DESTRUCTIVE METHOD TO LOCATE EXISTING STEEL REINFORCEMENT. SHIFT HOLE LOCATION TO MINIMIZE CUTTING OF EXISTING REINFORCEMENT STEEL, AND INTERFEARANCES WITH EXISTING EXPOSED ELECTRICAL CONDUIT OR EXISTING EXPOSED PIPING. FILL ANNULAR SPACE BETWEEN THE INSIDE SURFACES OF THE HOLE AND THE OUTSIDE SURFACES OF THE PIPE WITH PORTLAND CEMENT BASED GROUT OR FIRESTOPPING.



G19 / - A2 SECTION: EMERGENCY EYEWASH SHOWER

SCALE: 3/4" = 1'

0 1' 2' 4'



H5 / M-102 A11 PARTIAL PLAN: TEPID WATER SYSTEM AND EMERGENCY EYEWASH / SHOWER

SCALE: 1" = 1'

0 6" 1' 2'

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MARK	DESCRIPTION	DATE

DESIGNED BY: C. BRENNESE
DRAWN BY: N. BAKKE
CHECKED BY: M. J. EVANS
SUBMITTED BY: JORDAN S. FINK, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002_3-9/1
FILENAME: V1-LGP1.002-M-401.dgn

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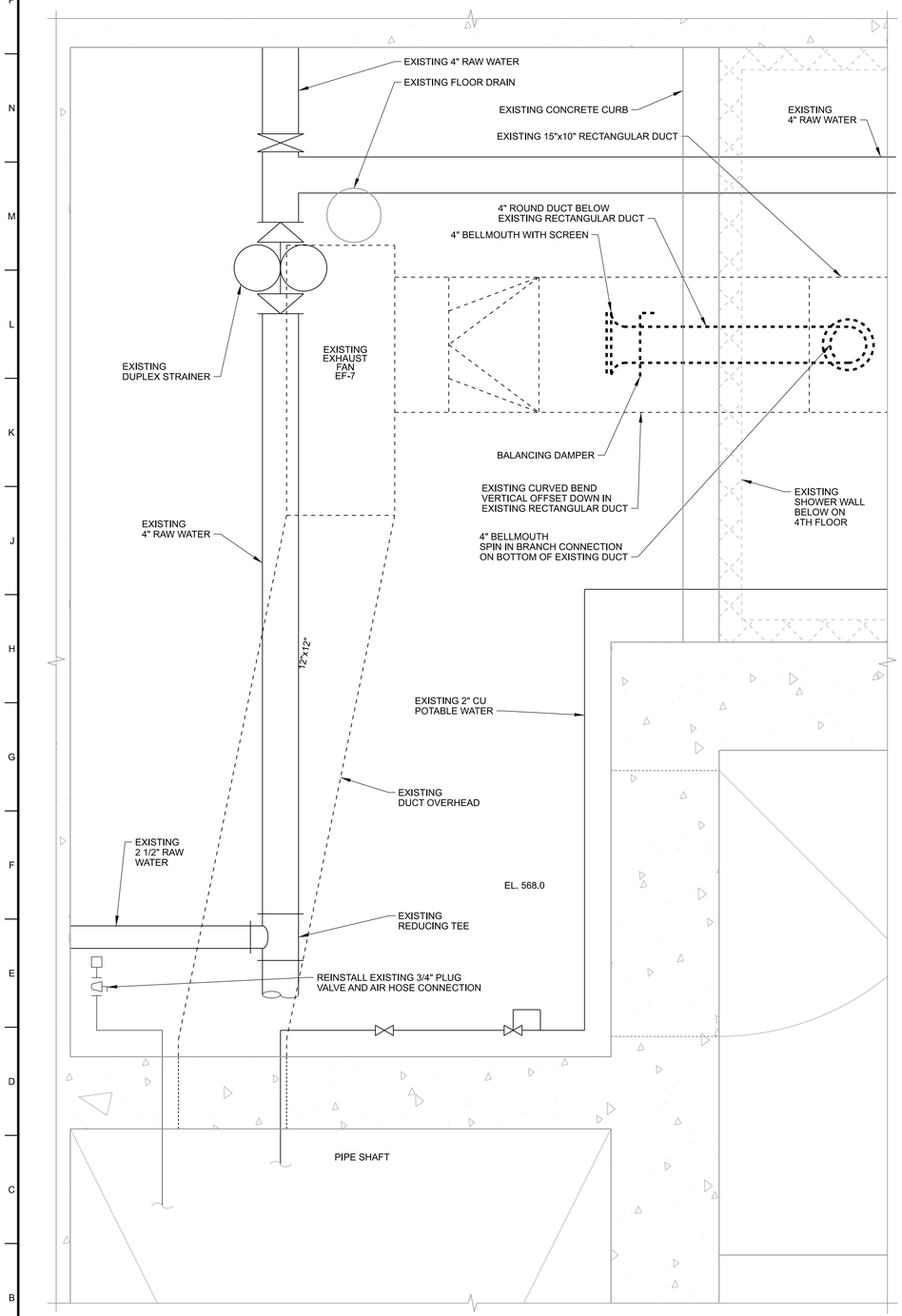
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

ERECTION BAY PLUMBING
PARTIAL PLAN VIEW, BATTERY ROOM
TEPID WATER SYSTEM & SHOWER - INSTALL

SHEET ID
VOLUME 1
M-401

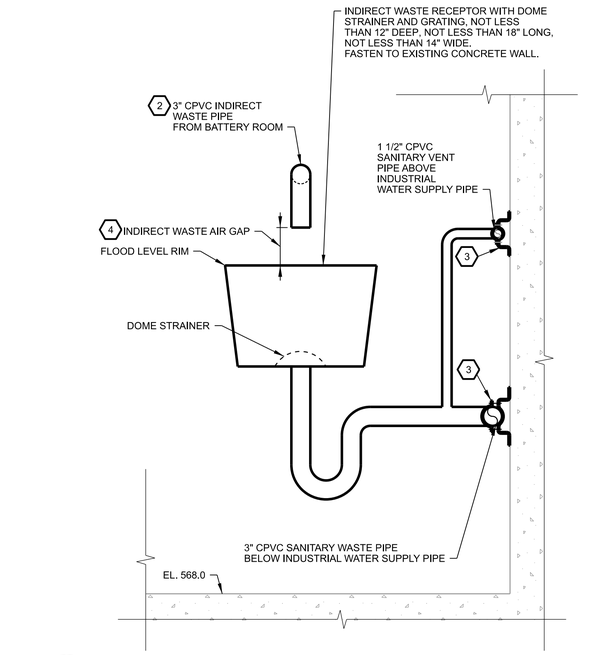
FINAL



H7 / M-101 **A1** ENLARGED PLAN: MECHANICAL CLOSET EL. 568.0

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

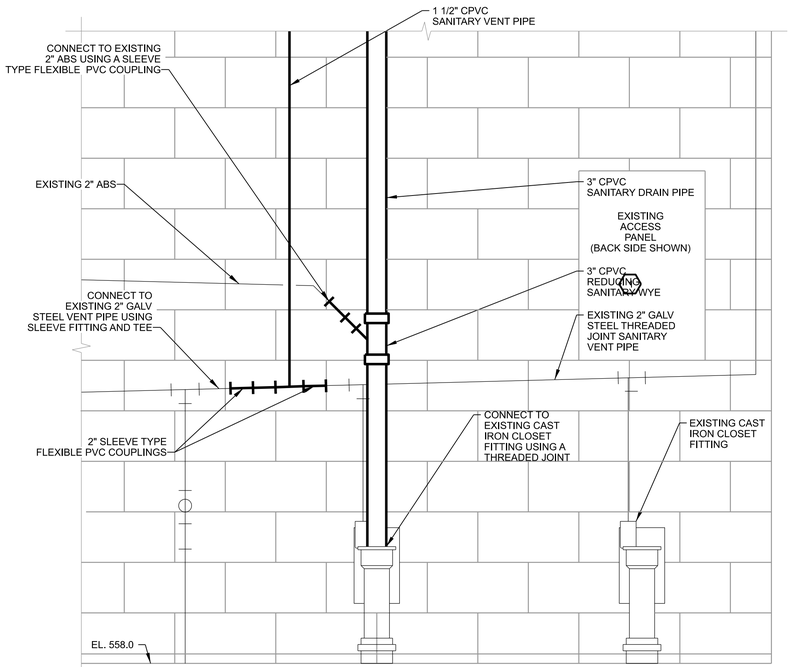
0 6" 1' 2'



F7 / M-101 **H10** SECTION - INDIRECT WASTE RECEPTOR EL. 568.0

SCALE: 1" = 1'-0"

0 6" 1' 2'



E14 / M-101 **A10** SECTION: SANITARY PIPING CONNECTIONS EL. 558.0

SCALE: 1" = 1'-0"

0 6" 1' 2'

GENERAL NOTES:

1. SEE ABBREVIATIONS, LEGENDS, AND MECHANICAL GENERAL NOTES ON SHEET M-001.

SHEET KEYNOTES:

1. REMOVE EXISTING 2" ABS SANITARY WYE AND 2" ABS PIPE BELOW THE EXISTING 2" ABS SANITARY WYE TO CLEAR SPACE FOR THE 3" CPVC SANITARY WYE AND 3" CPVC PIPE.
2. PENETRATE EXISTING CONCRETE WALL BELOW EXISTING FAN SUPPORT.
3 OFFSET PIPE CLAMP, HOT-DIP GALVANIZED ANVIL FIG. 103 COOPER B-LINE FIG B3148, GLOBE SERIES 504, OR APPROVED EQUAL. PROVIDE FELT OR PLASTIC PRESSURE PAD BETWEEN PIPE AND HANGER AS RECOMMENDED BY THE PIPE MANUFACTURER. SPACE OFFSET PIPE CLAMPS AS RECOMMENDED BY THE PIPE MANUFACTURER.
4. (PIPE INSIDE DIAMETER)x2 MIN, 7" MAX

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: C. BRENNESE
DRAWN BY: N. BAKKE
CHECKED BY: M. J. EVANS
SUBMITTED BY: JORDAN S. TINKHAM, P.E.
QA/QC: FILENAME: V1-LGP1.002_M-402.dgn
ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002_3-7/4

U.S. ARMY CORPS OF ENGINEERS
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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MECHANICAL CLOSET DUCT & PLUMBING CONNECTIONS
ENLARGED PLAN VIEW, 5TH FLOOR
INSTALL

SHEET ID
VOLUME 1
M-402

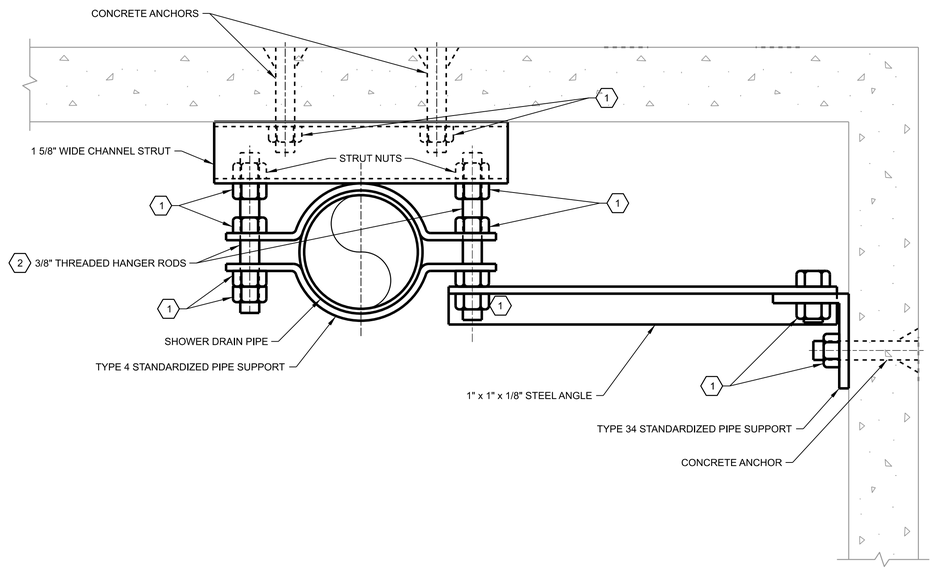
FINAL

GENERAL NOTES:

1. SEE ABBREVIATIONS, LEGENDS, AND MECHANICAL GENERAL NOTES ON SHEET M-001.

SHEET KEYNOTES:

1. HEX NUT.
2. ADJUST THE LENGTH OF THE HANGER RODS AND ELEVATION OF THE TYPE 4 STANDARDIZED PIPE SUPPORTS TO ACHIEVE THE SLOPE OF THE PIPE INDICATED TO DRAIN WASTE WATER TOWARD THE SANITARY SEWER.



REF M-101 A11 DETAIL: SHOWER DRAIN PIPE SUPPORT

SCALE: 6" = 1'

0 1-1/2" 3" 6"

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DESIGNED BY: C. BRENNEISE	ISSUE DATE: AUGUST 2022
DRAWN BY: N. BAKKE	SOLICITATION NO.: W912EF22R0001
CHECKED BY: M. J. EVANS	CONTRACT NO.:
SUBMITTED BY: JORDAN S. FINK, P.E.	DRAWING NUMBER: LGP-1.002_3-SI/2
SIZE: ANSI D	FILENAME: V1-LGP1.002-M-501.dgn

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

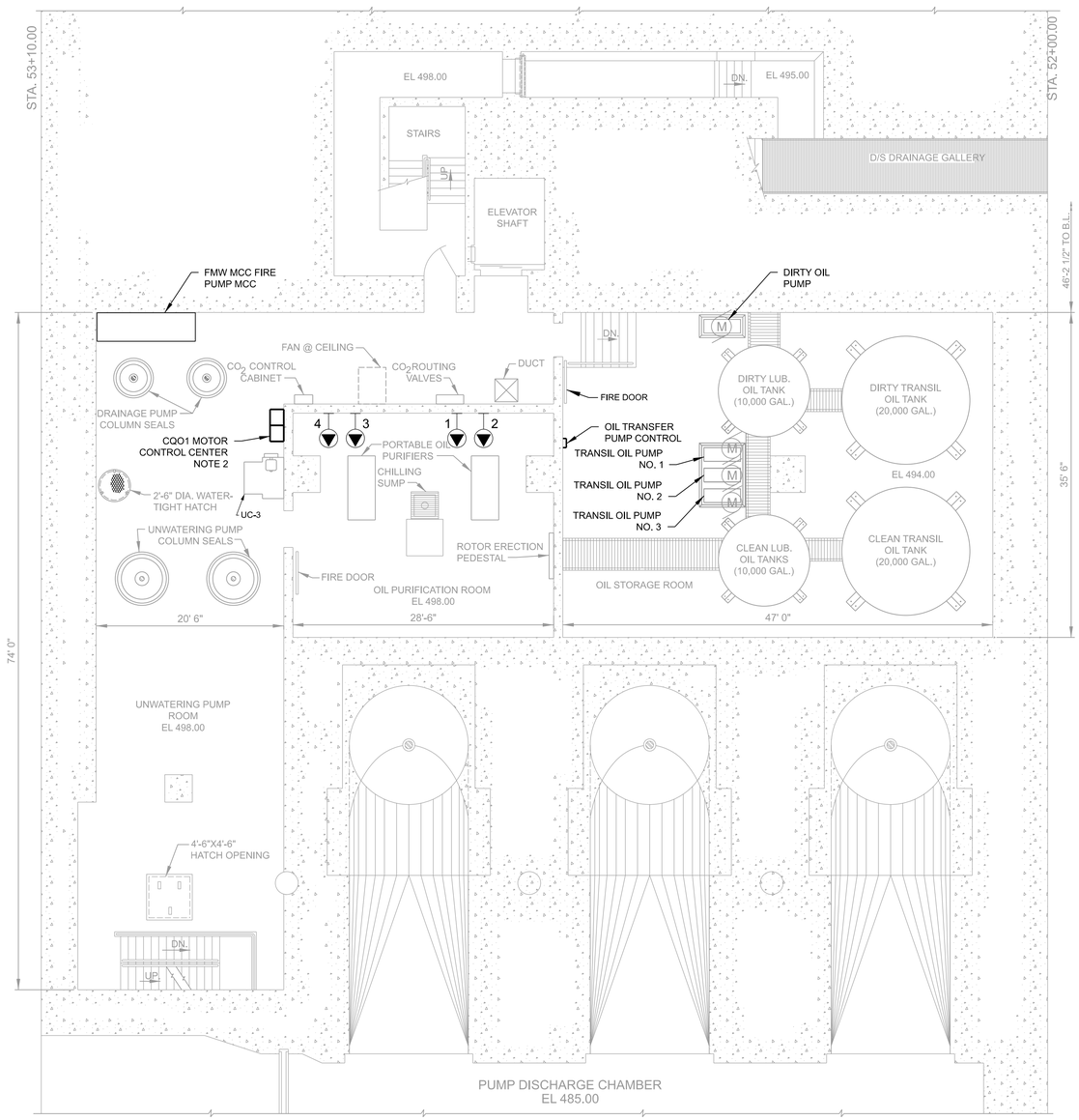
ERECTION BAY PLUMBING
BATTERY ROOM DETAILS
INSTALL

SHEET ID
VOLUME 1
M-501

FINAL

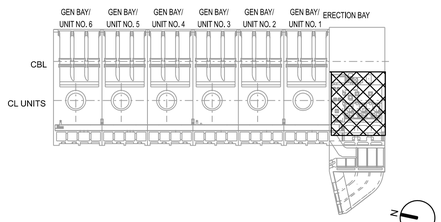
GENERAL NOTES:

1. PROVIDE TEMPORARY POWER TO ALL CRITICAL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
2. DISCONNECT EXISTING FEEDERS AND CIRCUITS TO MCC CQ01. PULL BACK CONDUIT AS REQUIRED TO REMOVE MCC CQ01 AND INSTALL NEW. SEE SHEET E-101 FOR NEW.
3. ITEMS IN BOLD INDICATE EQUIPMENT TO BE REMOVED.



B4 CQO1 PLAN VIEW, LEVEL 1 EL 498.00

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



1 KEY PLAN: LGA POWERHOUSE ELEVATION 489.00

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN	ISSUE DATE: AUGUST 2022
DRAWN BY: B. MASOUMPANAH	SOLICITATION NO.: W912EF22R0001
CHECKED BY: D. DINH	CONTRACT NO.:
SUBMITTED BY: JORDAN S. TENNANT, P.E.	DRAWING NUMBER: LGP-1.0024-D/A40/8
SIZE: ANSI D	FILENAME: V1-LGP1.002-ED101.dgn

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

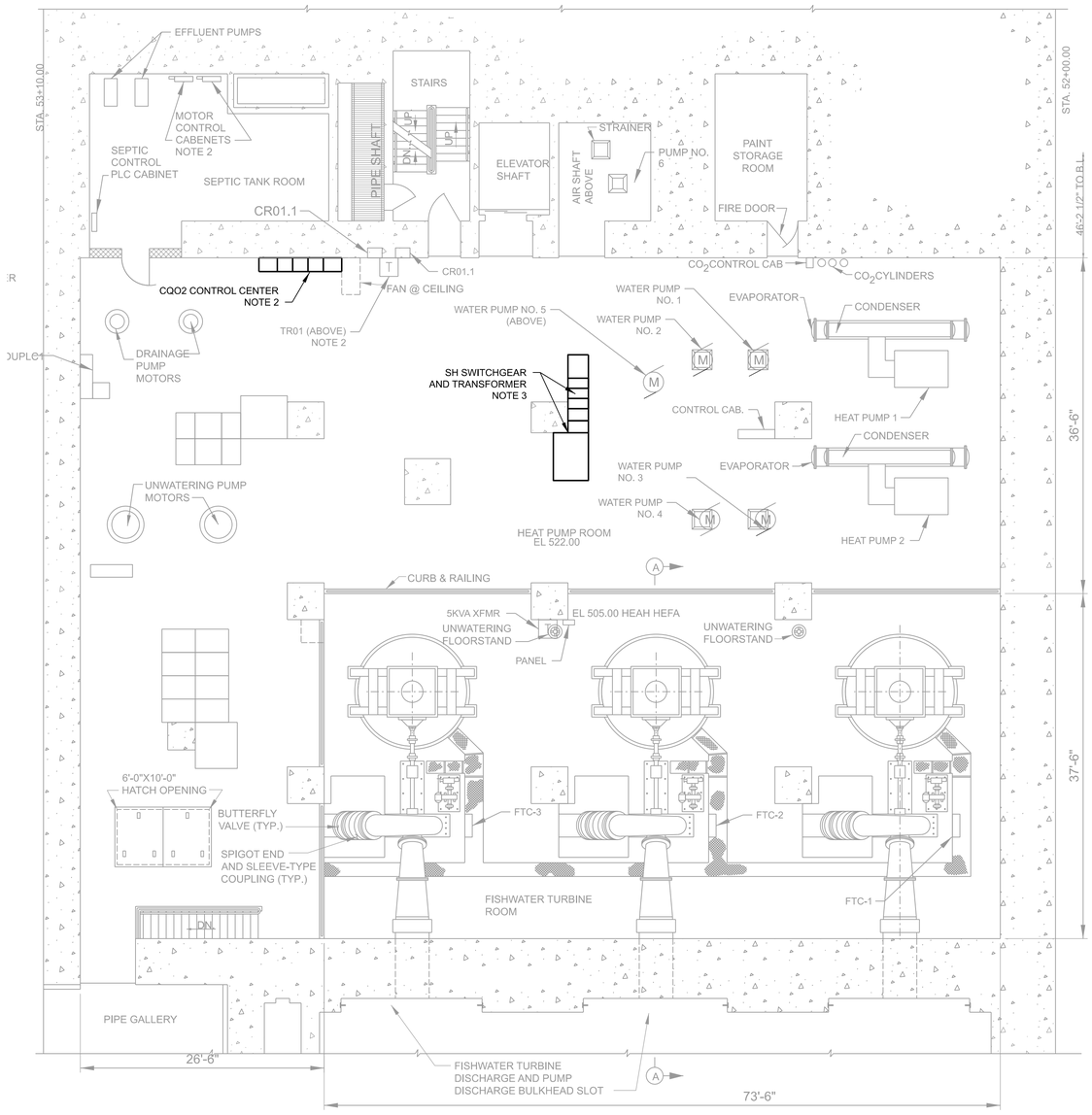
CQO1
PLAN VIEW, LEVEL 1 (EL 498.00)
REMOVAL

SHEET ID
VOLUME 1
ED101

FINAL

GENERAL NOTES:

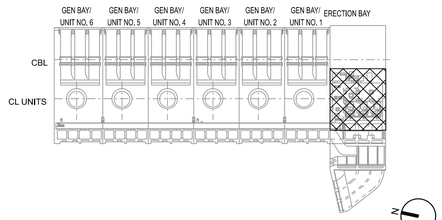
1. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
2. DISCONNECT EXISTING FEEDERS AND CIRCUITS TO MCC CQO2. PULL BACK CONDUIT AS REQUIRED TO REMOVE MCC CQO2 AND INSTALL NEW IN EXISTING LOCATION. SEE SHEET E-102 FOR NEW.
3. EXISTING MCC SH (HVAC LOADS) TO BE REMOVED FOLLOWING INSTALLATION OF NEW MCC IN NEW LOCATION. EXTEND CONDUIT AS REQUIRED. PULL NEW CONDUCTORS FROM MCC TO NEXT CLOSEST TERMINATION POINT. SEE SHEET E-102 FOR NEW LOCATION.
4. ITEMS IN BOLD INDICATE EQUIPMENT TO BE REMOVED.



B6 DEMO PLAN VIEW LEVEL 2 (EL 522.00) HEAT PUMP ROOM CQO2 & HVAC MCC SH

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

0 4' 8' 16'



1 KEY PLAN: LGA POWERHOUSE ELEVATION 522.00

SCALE: NTS

MARK	DESCRIPTION	DATE

US Army Corps of Engineers®

DESIGNED BY:	L. SUPPAN
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. FINKAME, P.E.
SIZE:	ANSI D
ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-6-DA409
FILENAME:	V1-LGP1.002-ED102.dgn

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

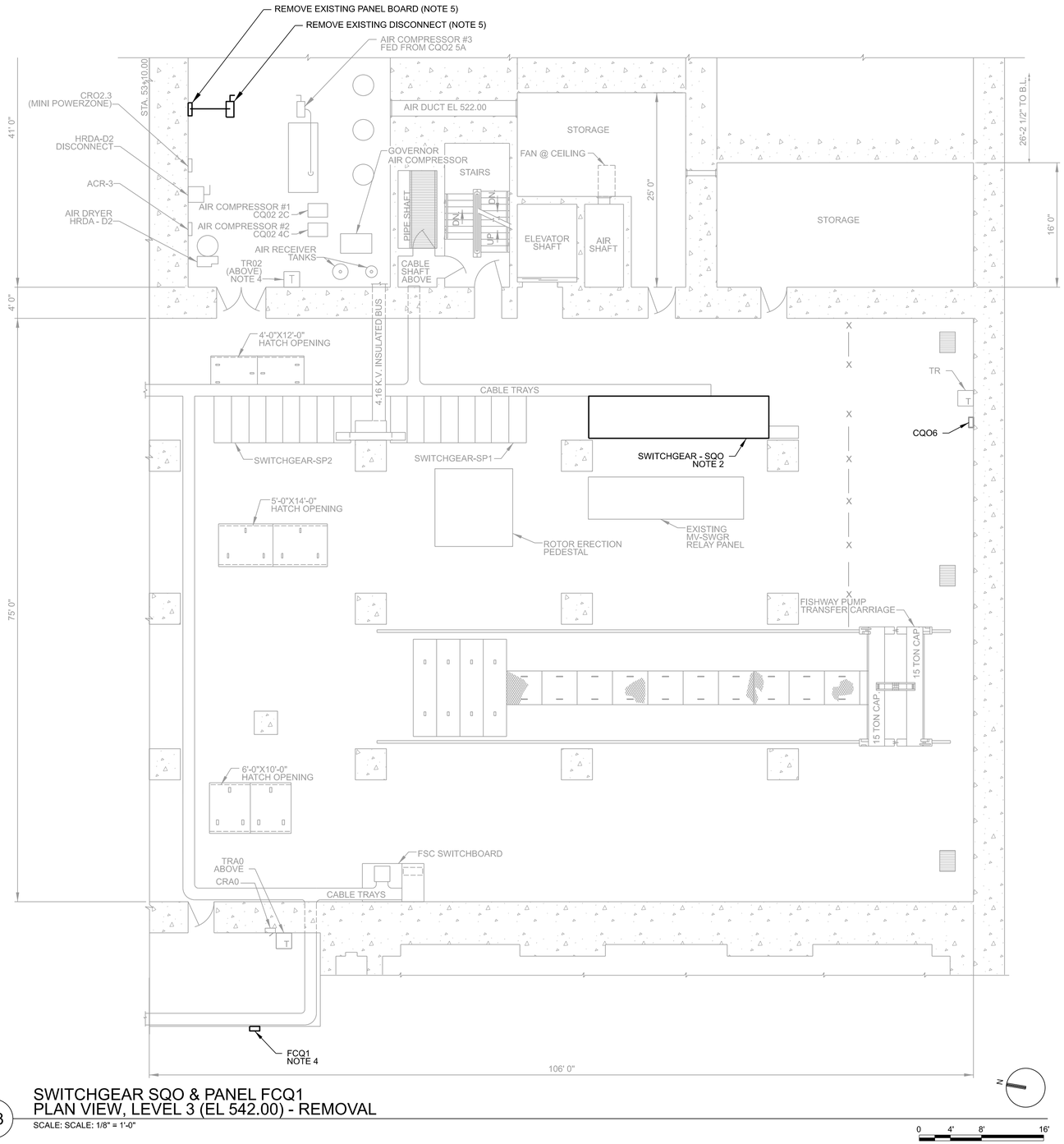
CQO2 & HVAC MCC SH
HEAT PUMP ROOM, PLAN LEVEL 2 (EL 522.00)
REMOVAL

SHEET ID
VOLUME 1
ED102

FINAL

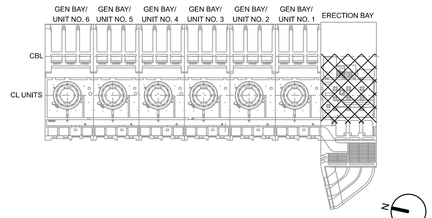
GENERAL NOTES:

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE REMOVED.
2. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
3. DISCONNECT EXISTING FEEDERS AND CIRCUITS TO SWITCHGEAR SQO. PULL BACK CONDUIT AS REQUIRED TO REMOVE SQO AND INSTALL NEW. SEE SHEET E-103 FOR NEW.
4. DISCONNECT EXISTING FEEDERS AND CIRCUITS TO PANEL FCQ1. PULL BACK CONDUIT AS REQUIRED TO REMOVE FCQ1 AND INSTALL NEW. SEE SHEET E-103 FOR NEW.
5. CHECK WITH CONSTRUCTION BRANCH TO MAKE SURE THE CORRECT DISCONNECT AND PANELBOARD ARE IDENTIFIED FOR DEMOLITION. THESE DO NOT HAVE A PANEL/DISCONNECT NAME ASSOCIATED WITH THEM.



B3 SWITCHGEAR SQO & PANEL FCQ1
PLAN VIEW, LEVEL 3 (EL 542.00) - REMOVAL

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



2 KEY PLAN: LGA POWERHOUSE ELEVATION 542.00

NOT TO SCALE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
L. SUPPAN	AUGUST 2022
DRAWN BY:	SOLICITATION NO.:
B. MASOUMPANAH	W912EF22R0001
CHECKED BY:	CONTRACT NO.:
D. DINH	DRAWING NUMBER:
SUBMITTED BY:	LGP-1.002-6-ED403
JORDAN S. FINK, P.E.	SIZE: FILENAME:
ANSI D	V1-LGP1.002-ED103.dgn

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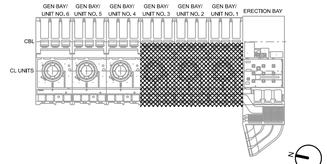
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SWITCHGEAR SQO AND PANEL FCQ1
PLAN LEVEL 3 (EL 542.00)
REMOVAL

SHEET ID
VOLUME 1
ED103

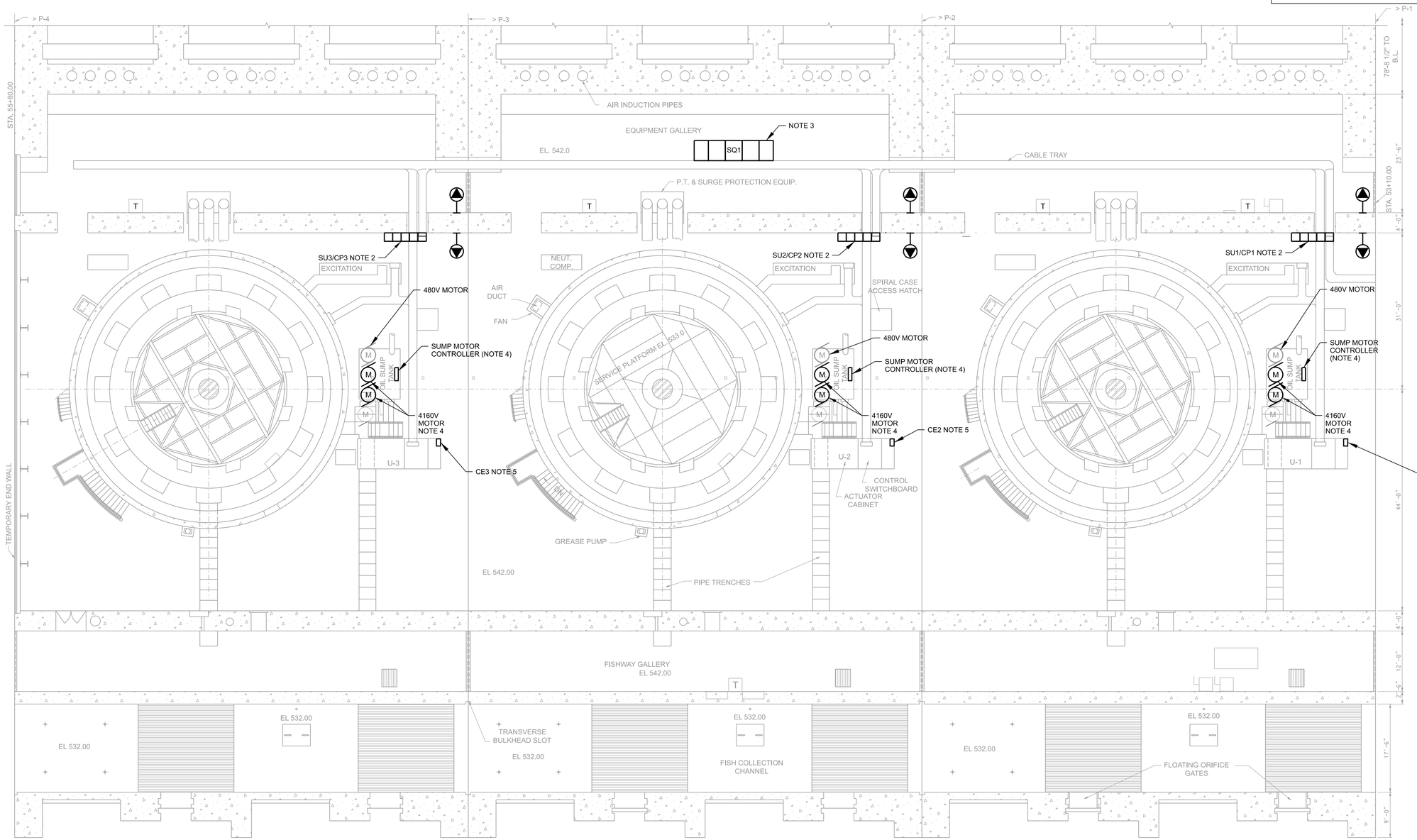
FINAL



2 KEY PLAN: LGA POWERHOUSE ELEVATION 542.00
NOT TO SCALE

GENERAL NOTES:

1. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
2. DISCONNECT EXISTING FEEDERS AND CIRCUITS TO MCC'S SU1, SU2, AND SU3. REMOVE CONDUCTORS AS ALL CONDUCTORS WILL BE REPLACED AND PULL BACK CONDUIT AS REQUIRED TO REMOVE SU MCCS. SEE SHEET E-104 FOR NEW. CP1, CP2, AND CP3 TO BE REMOVED AND NOT REPLACED.
3. DISCONNECT EXISTING FEEDERS AND CIRCUITS TO SWITCHGEAR SQ1. PULL BACK CONDUCTORS AND CONDUIT AS REQUIRED TO REMOVE SWITCHGEAR. SEE SHEET E-104 FOR NEW.
4. REPLACE EXISTING 4160V GOV OIL MOTOR WITH NEW 480V MOTOR. STARTER SHALL BE LOCATED IN SU MCC. REMOVE CONTROLS FROM SUMP MOUNTED CONTROLLER.
5. DISCONNECT EXISTING FEEDERS AND CIRCUITS TO CE PANELS. PULL BACK CONDUCTORS AND CONDUIT AS REQUIRED TO REMOVE CE PANELS. SEE SHEET E-104 FOR NEW.
6. ITEMS IN BOLD INDICATE EQUIPMENT TO BE REMOVED.



PLAN VIEW SU UNITS 1,2,3, & SQ1
GENERATOR BAYS 1, 2, AND 3
LEVEL 3 (EL 542.00)

A1

SCALE: 3/32"=1'-0"

0 5' 10' 20'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-ED-E04
SIZE: FILENAME: V1-LGP1.002-ED104.dgn

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WALLA WALLA, WASHINGTON

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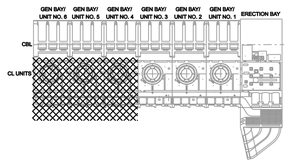
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SU UNITS 1, 2, & 3 AND SQ1, GENERATOR BAYS 1,2, AND 3
PLAN VIEW, LEVEL 3 (EL 542.00)
REMOVAL

SHEET ID
VOLUME 1
ED104

FINAL



KEY PLAN: LGA POWERHOUSE ELEVATION 542.00

M3

SCALE: NTS

GENERAL NOTES:

1. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
2. DISCONNECT EXISTING FEEDERS AND CIRCUITS TO MCC'S SU4, SU5, AND SU6. PULL BACK CONDUCTORS AND CONDUIT AS REQUIRED TO REMOVE SU MCCS. SEE SHEET E-105 FOR NEW. CP4, CP5, AND CP6 TO BE REMOVED AND NOT REPLACED.
3. DISCONNECT EXISTING FEEDERS AND CIRCUITS TO SWITCHGEAR SQ2. PULL BACK CONDUCTORS AND CONDUIT AS REQUIRED TO REMOVE SWITCHGEAR. SEE SHEET E-105 FOR NEW.
4. REPLACE EXISTING 4160V GOV OIL MOTOR WITH NEW 480V MOTOR. STARTER SHALL BE LOCATED IN SU MCC. REMOVE CONTROLS FROM SUMP MOUNTED CONTROLLER.
5. DISCONNECT EXISTING FEEDERS AND CIRCUITS TO CE PANELS. PULL BACK CONDUCTORS AND CONDUIT AS REQUIRED TO REMOVE CE PANELS. SEE SHEET E-105 FOR NEW.
6. ITEMS IN BOLD INDICATE EQUIPMENT TO BE REMOVED.

GENERAL NOTES:

7. REPLACE EXISTING FEEDERS AND CIRCUITS TO NEW PANEL FCQ2. MODIFY CONDUIT AS REQUIRED TO NEW FCQ2 INSTALLED IN EXISTING LOCATION. SEE SHEET ED103 FOR REMOVAL.

AIR INDUCTION PIPES
NOTE 3
SQ2
EL 542.00
CABLE TRAY
GOV. AIR COMPRESSOR 1000# AIR COMP #2
EL. 542.00
GOV. AIR COMPRESSOR 1000# AIR COMP #1
PT & SURGE EQUIPMENT
EQUIPMENT GALLERY
CABLE RISER ABOVE
GEN. NEUTRAL
EXCITATION
SU6/CP6 NOTE 2
SU5/CP5 NOTE 2
SPIRAL CASE ACCESS HATCH
SU4/CP4 NOTE 2
4160V MOTOR, NOTE 4
SUMP MOTOR CONTROLLER NOTE 4
GOV. SUMP TANK
SERVICE PLATFORM EL. 533.09
U-6
U-5
U-4
CE6 NOTE 5
CE5 NOTE 5
CE4 NOTE 5
ACTUATOR
GEN SWBD
OIL FILTER
PIPE TRENCHES
TURBINE VACUUM BREAKER
TRA2 (ABOVE)
CRA1
CRA1.1 NOTE 4
FCQ2 NOTE 7
EL. 542.00
FISHWAY GALLERY
EL. 530.00
FISH COLLECTION CHANNEL.
EL. 532.00
DN

PLAN VIEW - SU UNITS 4, 5, & 6 & SQ2
GENERATOR BAYS 4, 5, 6
LEVEL 3 (EL 542.00)

A1

SCALE: 3/32"=1'-0"

0 5' 10' 20'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN	ISSUE DATE: AUGUST 2022
DRAWN BY: B. MASOUMPANAH	SOLICITATION NO.: W912EF22R0001
CHECKED BY: D. DINH	CONTRACT NO.:
SUBMITTED BY: JORDAN S. FINK, P.E.	DRAWING NUMBER: LGP-1.002-6-DP-40/4
SIZE: ANSI D	FILENAME: V1-LGP1.002-ED105.dgn

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

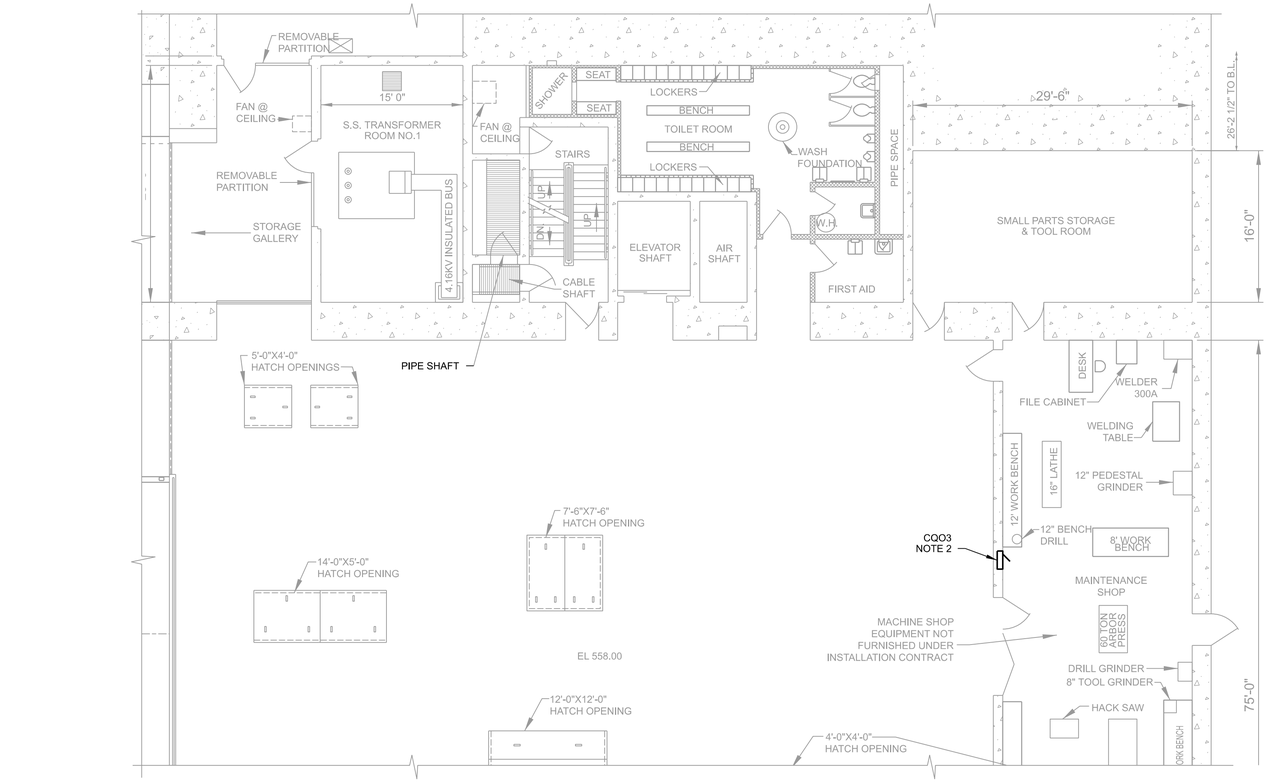
SU UNITS 4, 5 , & 6 AND SQ2
GENERATOR BAYS 4, 5, 6, PLAN LEVEL 3 (EL 542)
REMOVAL

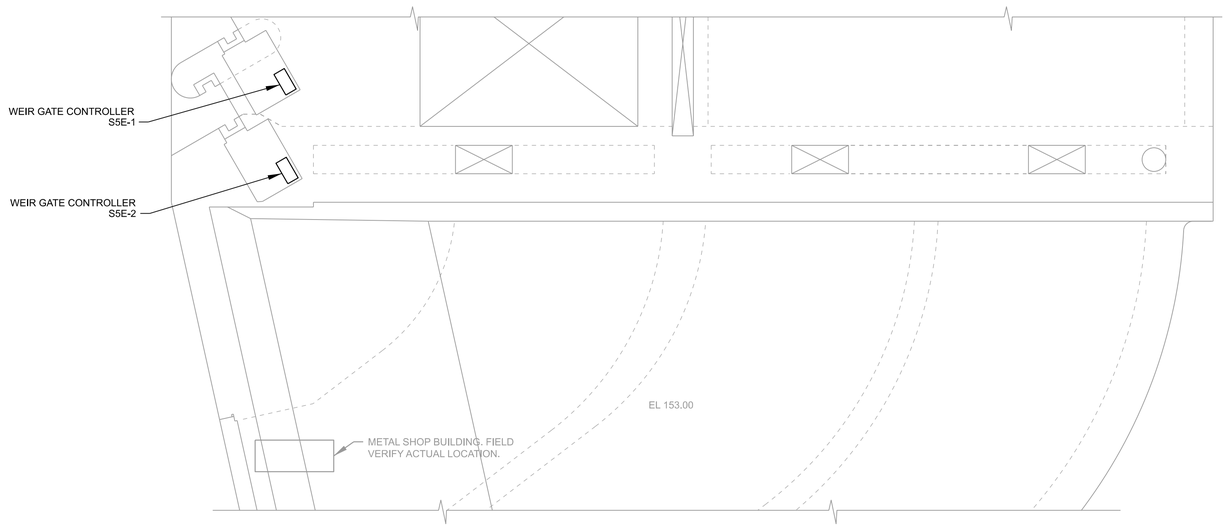
SHEET ID
VOLUME 1
ED105

FINAL

GENERAL NOTES:

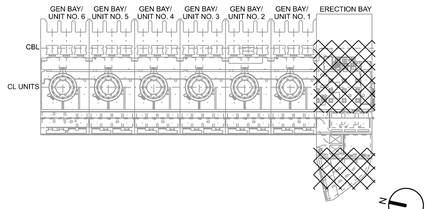
1. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
2. DISCONNECT EXISTING FEEDERS AND CIRCUITS TO PANEL CQO3. PULL BACK CONDUIT AS REQUIRED TO REMOVE CQO3 AND INSTALL NEW. SEE SHEET E-106 FOR NEW.
3. ITEMS IN BOLD INDICATE EQUIPMENT TO BE REMOVED.





A6 CQO3 - PLAN VIEW, LEVEL 4 (EL 558.00)
SCALE: 1/8"=1'-0"

0 4' 8' 16'



3 KEY PLAN: LGA POWERHOUSE ELEVATION 558.00
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0024-0-0440/10
SIZE: FILENAME: V1-LGP1.0024-ED106.dgn

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WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
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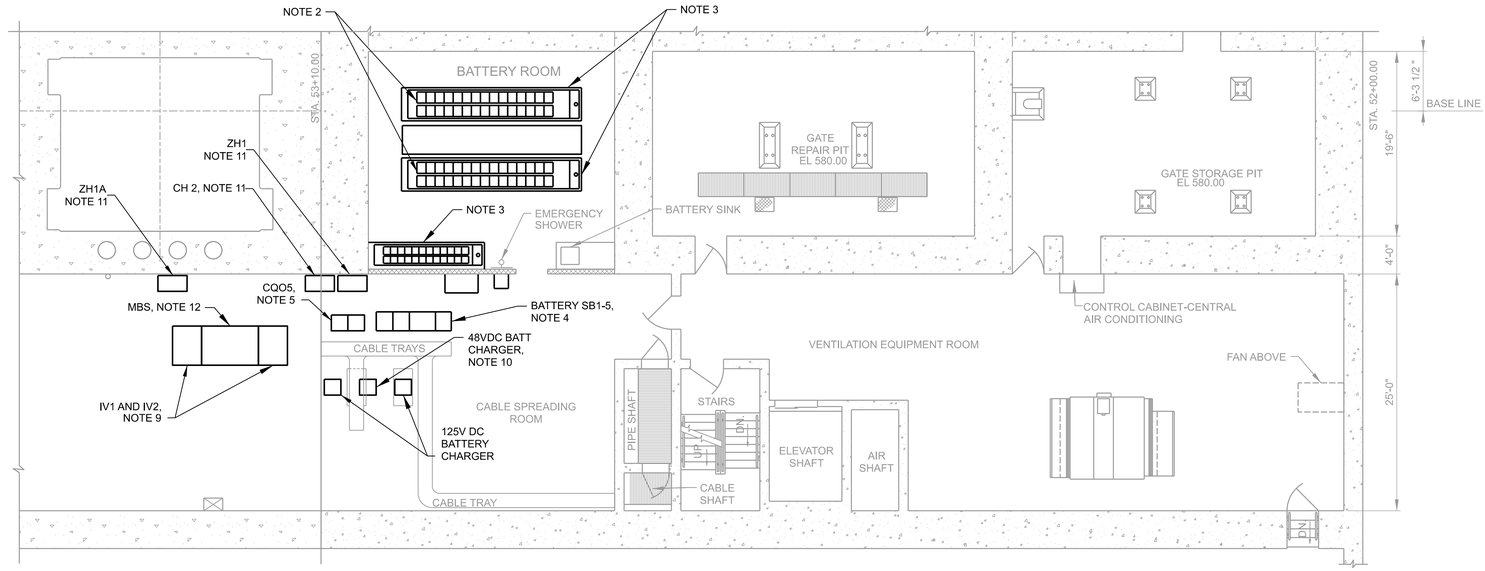
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CQO3 AND MAINTENANCE SHOP
PLAN VIEW, LEVEL 4 (EL 558.00)
REMOVAL

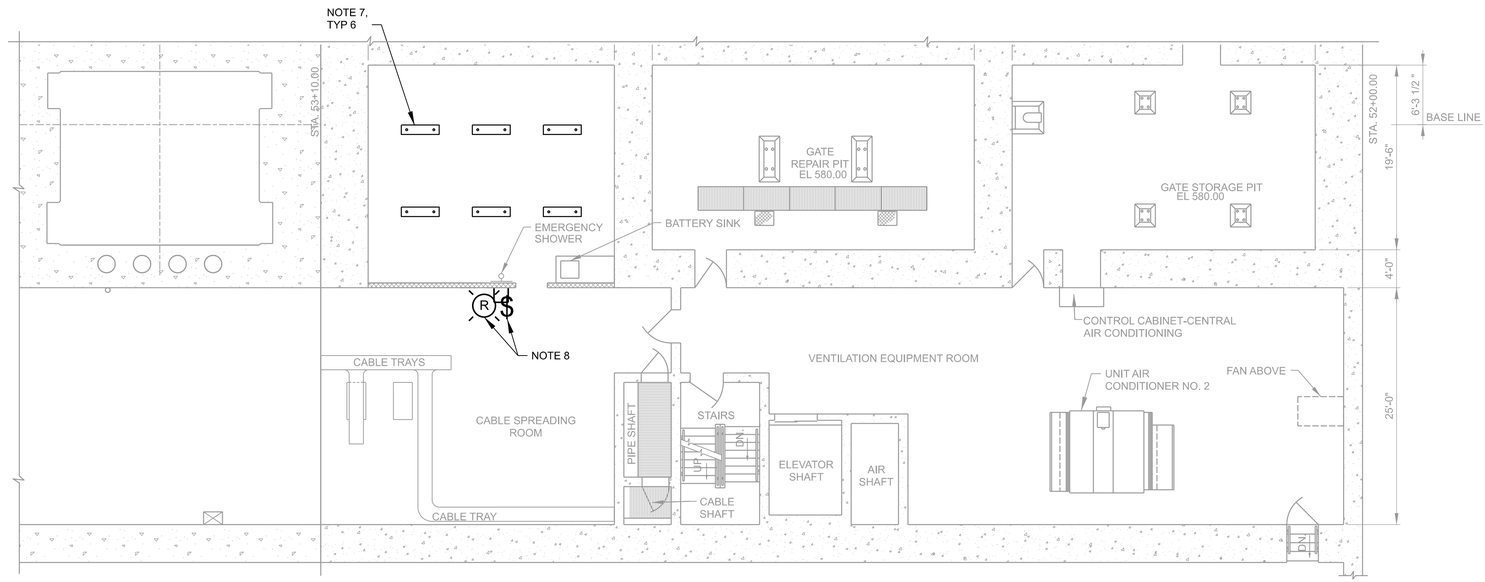
SHEET ID
VOLUME 1
ED106

FINAL



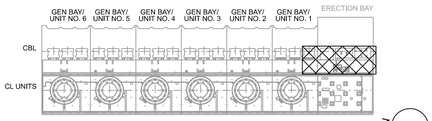
H4 DEMO ELECTRICAL PLAN LEVEL 5 (EL 580.00)

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



B4 DEMO LIGHTING PLAN LEVEL 5 (EL 580.00)

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



1 KEY PLAN: LGA POWERHOUSE ELEVATION 580.00

NOT TO SCALE

GENERAL NOTES:

1. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
2. EXISTING BATTERY BANK AND RACK TO BE REMOVED. NEW RACK AND BATTERY BANK SHALL BE PROCURED. SEE SHEET E-107 FOR NEW LAYOUT.
3. EXISTING CONCRETE BATTERY PEDESTAL TO BE REMOVED. REPAIR FLOOR SURFACE AS REQUIRED TO PROVIDE SMOOTH DURABLE SURFACE.
4. ONCE NEW BATTERY SWITCH-BOARD IS INSTALLED IN A DIFFERENT LOCATION, LOAD SWITCHED OVER AND TESTED. REMOVE EXISTING SWITCHBOARD. SEE E-107 FOR THE NEW LOCATION.
5. ONCE NEW CQO5 IS INSTALLED, LOAD SWITCHED OVER AND TESTED, REMOVE EXISTING CQO5.
6. ONCE NEW DC SYSTEM CONTROL PANEL IS INSTALLED, AND TESTED, REMOVE EXISTING CONTROL PANEL.
7. REMOVE EXISTING PENDANT MOUNTED LUMINAIRES. RETAIN EXISTING WIRING. ONLY LIGHTING IN THE BATTERY ROOM SHALL BE REMOVED AND REPLACED.
8. EXISTING BATTERY RM LIGHT SWITCH AND INDICATOR LIGHT TO REMAIN.
9. EXISTING INVERTERS TO BE KEPT AND RELOCATED. SEE SHEET E-107 FOR NEW LOCATION.
10. REMOVE EXISTING 48V DC BATTERY CHARGER AND EQUIPMENT PAD. REPAIR FLOOR FINISH AS REQUIRED TO MATCH ADJACENT CONDITION.
11. REMOVE EXISTING 125V DC AND PREFERRED AC EQUIPMENT AS INDICATED. SEE SHEETS E-107, ED615 FOR ADDITIONAL INFORMATION.
12. REMOVE EXISTING 5-POSITION MANUAL BYPASS SWITCH AS INDICATED. SEE SHEETS E-107, ED615, AND E-615 FOR ADDITIONAL INFORMATION.
13. ITEMS IN BOLD INDICATE EQUIPMENT TO BE REMOVED.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-DA40111
FILENAME: V1-LGP1.002-ED107.dgn

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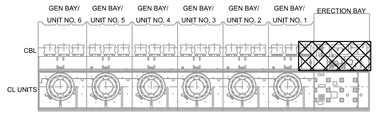
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CQO5, BATTERY CHARGING / BATTERY ROOM
PLAN VIEW LEVEL 5 (EL 580.00)
REMOVAL

SHEET ID
VOLUME 1
ED107

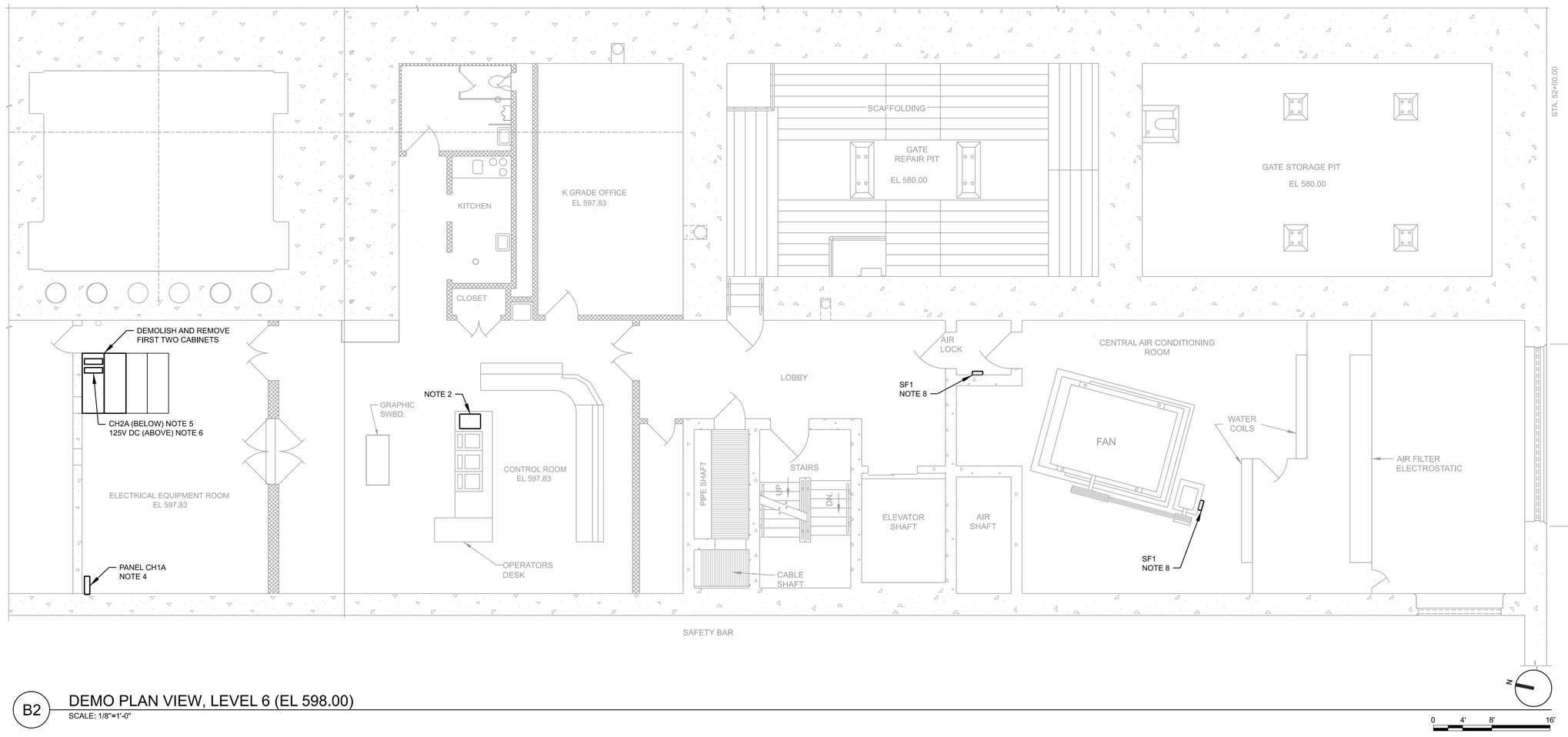
FINAL



4 KEY PLAN: LGA POWERHOUSE ELEVATION 598.00
NOT TO SCALE

GENERAL NOTES:

1. COORDINATE ALL WORK IN CONTROL ROOM WITH PROJECT STAFF. MINIMIZE DISTRUBANCES AND NOISE WHILE PERFORMING WORK.
2. RELOCATE EXISTING RADIO SYSTEM TO FACILITATE INSTALLATION OF NEW HMI CONTROL PANEL.
3. EXISTING PANEL CH2 AND 125V DC PANELS ARE LOCATED IN EXISTING ELECTRICAL ENCLOSURE. COORDINATE RELOCATION OF EXISTING LOADS TO NEW PANELS. REMOVE PANELS ONCE LOADS ARE SUCCESSFULLY TRANSFERRED AND OPERATIONAL. SEE SHEETS E-108, ED615, AND E-615 FOR ADDITIONAL INFORMATION.
4. EXISTING PANEL TO REMAIN. RENAME FROM CH1A TO CH2.
5. REFEED EXISTING LOADS IN PANEL CH2A FROM NEW PANEL CH3. THEN REMOVE PANEL CH2A. SEE E-108 FOR NEW LOCATION.
6. REFEED EXISTING LOADS IN 125V DC PANEL TO NEW PANEL CE6.1. THEN REMOVE EXISTING 125V DC PANEL. SEE E-108 FOR NEW PANEL LOCATION.
7. ITEMS IN BOLD INDICATE EQUIPMENT TO BE REMOVED.
8. SF1 ARE LOCAL CONTROLS FOR THE SF-1 SUPPLY AIR FAN TO TURN OFF THE MOTOR. BOTH CONTROLS WILL BE REPLACED.



B2 DEMO PLAN VIEW, LEVEL 6 (EL 598.00)
SCALE: 1/8"=1'-0"

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MARK	DESCRIPTION	DATE

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DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-DA40172
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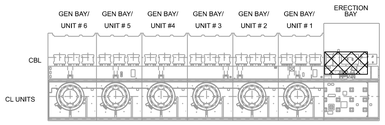
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CONTROL ROOM
PLAN VIEW LEVEL 6 (EL 598)
REMOVAL

SHEET ID
VOLUME 1
ED108

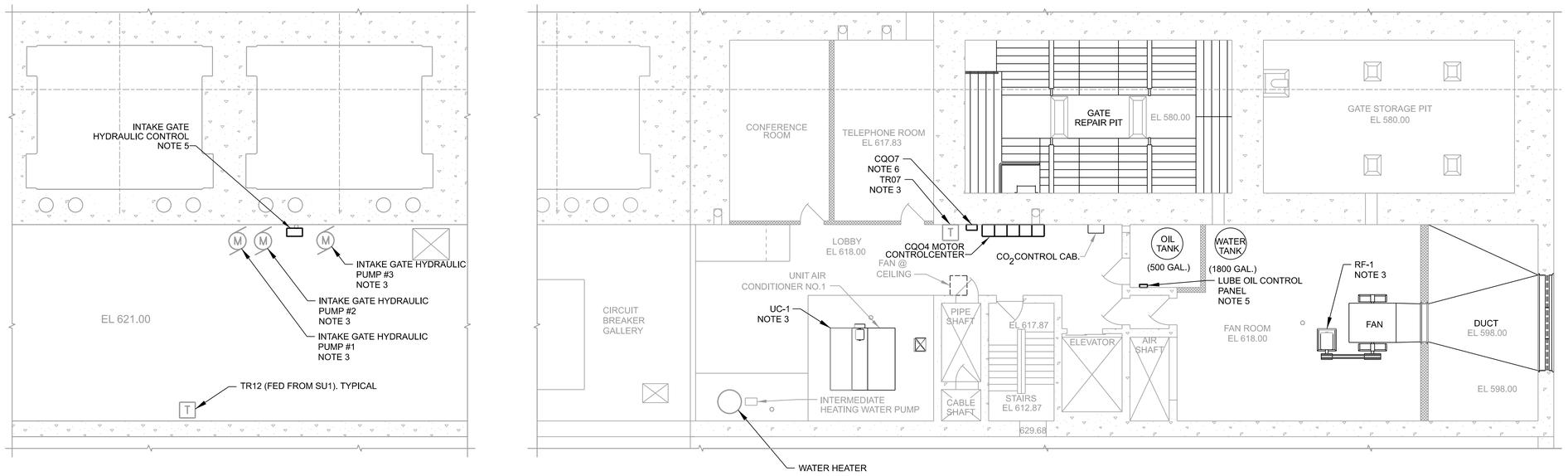
FINAL



5 KEY PLAN: LGA POWERHOUSE ELEVATION 618.00
NOT TO SCALE

GENERAL NOTES:

1. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
2. REPLACE EXISTING FEEDERS AND CIRCUITS FROM NEW MCC CQO4 TO EQUIP. MODIFY CONDUIT AS REQUIRED TO NEW MCC INSTALLED IN EXISTING LOCATION.
3. REPLACE EXISTING CIRCUIT FROM CQO4 TO EXISTING EQUIPMENT. MODIFY CONDUIT AS REQUIRED BASED ON NEW MCC INSTALLATION.
4. ITEMS IN BOLD INDICATE EQUIPMENT TO BE REMOVED.
5. CONTROLS AND ENCLOSURES WILL BE REPLACED.
6. CONTRACTOR TO VERYFY EXACT LOCATION. CQO7 WILL BE INSTALLED DURING THE GATE REPAIR PIT UPGRADE PROJECT. THIS PANELBOARD WILL BE INTEGRATED INTO THE NEW CQO4 MCC.



D3 CQO4 - PLAN VIEW, LEVEL 7 (EL 618.00)
SCALE: 1/8"=1'-0"

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MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
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CHECKED BY: D. DINH
JORDAN S. FINK, P.E.
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ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
SUBMITTED BY:
DRAWING NUMBER: LGP-1-002-6-DA40113
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SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

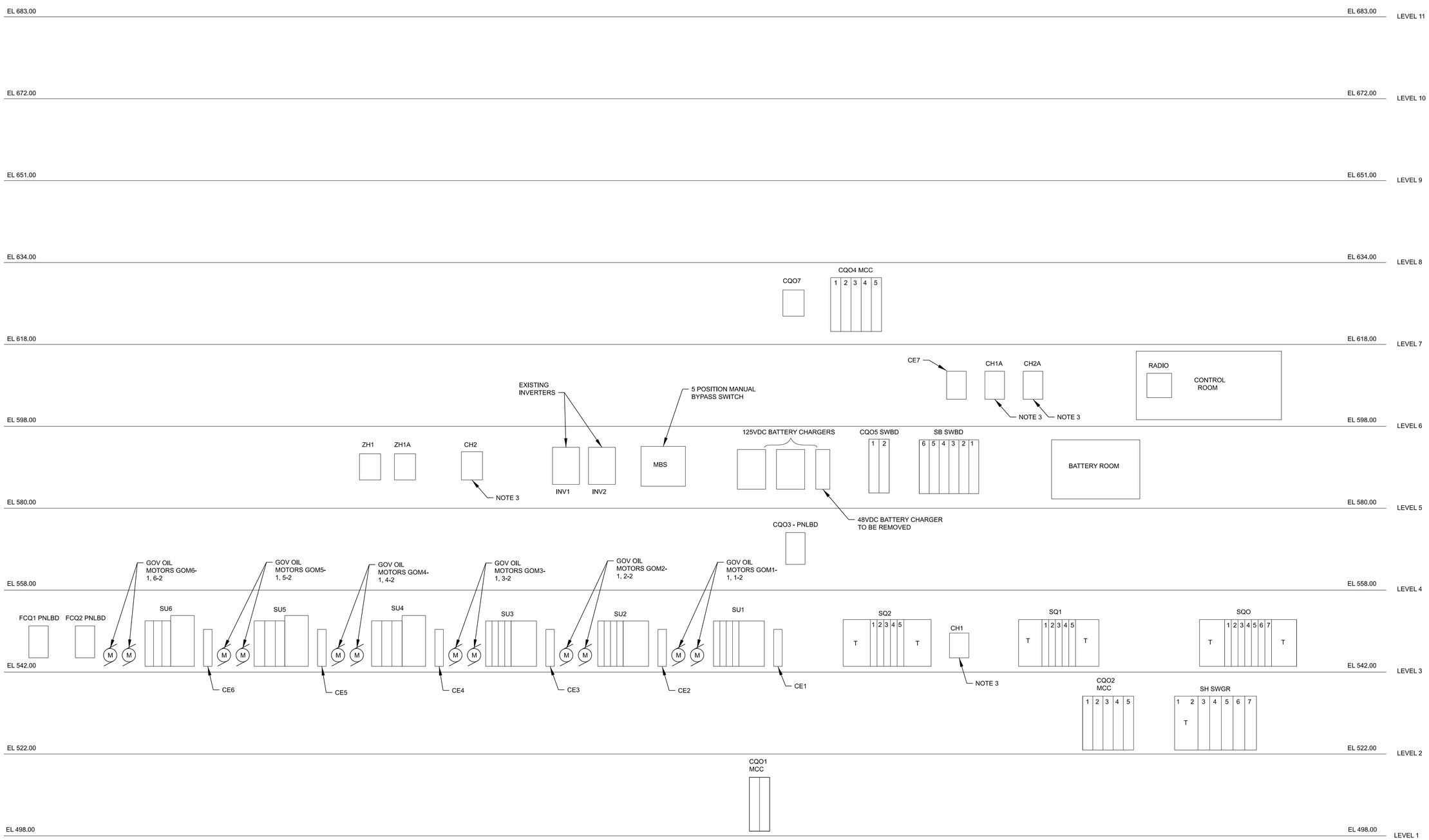
CQO4
PLAN VIEW, LEVEL 7, EL 618.00
REMOVAL

SHEET ID
VOLUME 1
ED109

FINAL

GENERAL NOTES:

1. REFER TO PLAN DRAWINGS FOR LOCATIONS OF EQUIPMENT REPLACED UNDER THIS PROJECT.
2. EQUIPMENT TO BE REPLACED INDICATED ON THIS PLAN.
3. RENAME PANEL. REFER TO TABLE 6 IN PARAGRAPH 3.3.2.12 IN THE DDR FOR THE NEW PANEL NAMES.



A1 OVERVIEW EQUIPMENT BY ELEVATION

SCALE: NOT TO SCALE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
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SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
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DRAWING NUMBER: LGP-1.002-02
SIZE:
FILENAME: V1-LGP1.002-ED200.dgn

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

OVERVIEW EQUIPMENT BY ELEVATION

REMOVAL

SHEET ID
VOLUME 1
ED200

FINAL

CONDUIT			CABLE						DESCRIPTION				REMARKS
NUMBER	SIZE	LENGTH	NUMBER	NO COND	SIZE	INS	RUN LENGTH	OPR VOLTAGE	FUNCTION	FROM	TO	ROUTING	
SP18-p1-SQ0	3"	50	SP18-p1-SQ0	3-1/C	#1	5000V	55	4160V	CQO POWER	SP17	CQO	EXISTING CONDUIT	MC
SP17-p1-SQ0	3"	50	SP17-p1-SQ0	3-1/C	#1	5000V	55	4160V		SP18	CQ1	EXISTING CONDUIT	MC
SQO-q1-CQO1	2"	185	SQO-q1-CQO1	3-1/C	#1/0	600V	203.5	480VAC	CQO1	SQO	CQO1	EMBEDDED CONDUIT	
SQO-q1-CQO2	3"	145	SQO-q1-CQO2	3-1/C	#350Kcmil	600V	150	480VAC	CQO2	SQO	CQO2	EMBEDDED CONDUIT	
SQO-q1-CQO3	2"	25	SQO-q1-CQO3	3-1/C	#1/0	600V	27.5	480VAC	CQO3	SQO	CQO3	EXISTING CONDUIT	
SQO-q1-CQO4	4"	195	SQO-q1-CQO4	3-1/C	#500Kcmil+2G	600V	200	480VAC	CQO4	SQO	CQO4	EXISTING CONDUIT	
SQO-q1-CQO5	1 1/4"	156.25	SQO-q1-CQO5	3-1/C	#4	600V	171.875	480VAC	CQO5	SQO	CQO5	CABLE TRAY	
SQO-q1-K	3"	112.5	SQO-q1-K	3-1/C	#350kcmil +#3G	600V	123.75	480VAC	600 TON BRIDGE CRANE	SQO	600 TON BRIDGE CRANE	EXISTING CONDUIT	
SQO-q1-FWM MCC	3"	185	SQO-q1-FWM MCC	6-1/C	#350KCMIL	600V	200	480VAC	FIRE PUMP PANEL	SQO	FWM MCC	EXISTING CONDUIT	
SQO-c1-CY O1	3/4"	200	SQO-c1-CY O1	1-2/C	#19/25	600V	220	120VAC	CQO1-CO2 TRIP	SQO	CY01	EMBEDDED CONDUIT	
SQO-q2-CQO1	2"	185	SQO-q2-CQO1	3-1/C	#1/0	600V	203.5	480VAC	CQO1	SQO	CQO1	EMBEDDED CONDUIT	
SQO-q2-CQO2	3"	145	SQO-q2-CQO2	3-1/C	#350 Kcmil	600V	150	480VAC	CQO2	SQO	CQO2	EMBEDDED CONDUIT	
SQO-q2-CQO4	4"	195	SQO-q1-FCQ5	3-1/C	#4G	600V	200	480VAC	CQO4	SQO	CQO4	EXISTING CONDUIT	
SQO-q2-FCQ5	1 1/4"	310	SQO-q2-CQO6	3-1/C	#350KCMIL + #4G	600V	320	480VAC	FCQ5 (FISH SCREEN BAYS 1&2)	SQO	FCQ5 (FISH SCREEN BAYS 1&2)	EXISTING CONDUIT	
SQO-q2-CQO6	3"	70	SQO-q1-FCQ1	3-1/C	#350KCMIL	600V	80	480VAC	CQO6	SQO	CQO6	EXISTING CONDUIT	
SQO-q1-FCQ1	1 1/4"	245	SQO-q2-CQO5	3-1/C	#4G	600V	260	480VAC	FCQ1	SQO	FCQ1	EMBEDDED CONDUIT	
SQO-q2-CQO5	1 1/4 "	156.25	SQO-q2-CQO5	3-1/C	#4	600V	171.875	480VAC	CQO5	SQO	CQO5	CABLE TRAY	
SQ1-P1-CP3	3"	247.5	SQ1-P1-CP3	3-1/C	#1/0	5000V	272.25	4160V	SQ1 POWER	SQ1	CP3	EXISTING CONDUIT	MC
CP2-P1-SQ1	3"	248	CP2-P1-SQ1	3-1/C	#1/0	5000V	272	4160V	SQ2 POWER	CP2	SQ1	EXISTING CONDUIT	MC
SQ1-P2-CP3	3"	247.5	SQ1-P2-CP3	3-1/C	#1/0	5000V	272.25	4160V	SQ1 POWER	SQ1	CP3	EXISTING CONDUIT	MC
CP2-P2-SQ1	3"	248	CP2-P2-SQ1	3-1/C	#1/0	5000V	272	4160V	SQ2 POWER	CP2	SQ1	EXISTING CONDUIT	MC
SQ1-q1-T1	1 1/2"	190	SQ1-q1-T1	3-1/C	#4	600V	200	480VAC	TRANS T1 COOLING FEEDER #1	SQ1	T1	EXISTING CONDUIT	
SQ1-q1-SU1	3"	175	SQ1-q1-SU1	3-1/C	#3/0	600V	192.5	480VAC	SU1 FEEDER #1	SQ1	SU1	CABLE TRAY	
SQ1-q1-SU2	3"	68.75	SQ1-q1-SU2	3-1/C	#3/0	600V	75.625	480VAC	SU2 FEEDER #1	SQ1	SU2	CABLE TRAY	
SQ1-q1-SU3	3"	112.5	SQ1-q1-SU3	3-1/C	#3/0	600V	123.75	480VAC	SU3 FEEDER #1	SQ1	SU3	CABLE TRAY	
SQ1-q1-SU4	3"	206.25	SQ1-q1-SU4	6-1/C	#3/0 + #3G	600V	206.25	480VAC	SU4 FEEDER #1	SQ1	SU4	CABLE TRAY	
SQ1-q2-T1	1 1/2"	190	SQ1-q2-T1	3-1/C	#4	600V	200	480VAC	TRANS T1 COOLING FEEDER #2	SQ1	T1	EXISTING CONDUIT	
SQ1-q2-SU1	3"	175	SQ1-q2-SU1	3-1/C	#3/0	600V	192.5	480VAC	SU1 FEEDER #2	SQ1	SU1	CABLE TRAY	
SQ1-q2-SU2	3"	68.75	SQ1-q2-SU2	3-1/C	#3/0	600V	75.625	480VAC	SU2 FEEDER #2	SQ1	SU2	CABLE TRAY	
SQ1-q2-SU3	3"	112.5	SQ1-q2-SU3	3-1/C	#3/0	600V	123.75	480VAC	SU3 FEEDER #2	SQ1	SU3	CABLE TRAY	
SQ1-q2-SU4	3"	206.25	SQ1-q2-SU4	6-1/C	#3/0 + #3G	600V	206.25	480VAC	SU4 FEEDER #2	SQ1	SU4	CABLE TRAY	
SQ1-q1-JB3B	2"	310	SQ1-q1-JB3B	3-1/C	#3/0	600V	320	480VAC	FISH SCREEN BAYS 3 & 4	SQ1	FISH SCREEN BAYS 3 & 4	EXISTING CONDUIT	
SQ2-P1-CP6			SQ2-P1-CP6	3-1/C	#1/0	5000V	629.75	4160V	SQ2 POWER	SQ2	CP6	EXISTING CONDUIT	
CP5-P1-SQ2			CP5-P1-SQ2	3-1/C	#1/0	5000V	629.75	4160V	SQ2 POWER	CP5	SQ2	EXISTING CONDUIT	
SQ2-P2-CP6	3"	572.5	SQ2-P2-CP6	3-1/C	#1/0	5000V	629.75	4160V	SQ2 POWER	SQ2	CP6	EXISTING CONDUIT	MC
CP5-P2-SQ2	3"	572.5	CP5-P2-SQ2	3-1/C	#1/0	5000V	629.75	4160V	SQ2 POWER	CP5	SQ2	EXISTING CONDUIT	MC
SQ2-q1-SU5	3"	68.75	SQ2-q1-SU5	3-1/C	#3/0	600V	75.625	480VAC	SU5 FEEDER #1	SQ2	SU5	CABLE TRAY	
SQ2-q1-SU6	3"	112.5	SQ2-q1-SU6	3-1/C	#3/0	600V	123.75	480VAC	SU6 FEEDER #1	SQ2	SU6	CABLE TRAY	
SQ2-q1-T2	1 1/2"	190	SQ2-q1-T2	3-1/C	#4	600V	200	480VAC	T2 COOLING FANS FEEDER #1	SQ2	T2	EXISTING CONDUIT	
SQ2-q1-JB5A	2"	310	SQ2-q1-JB5A	3-1/C	#2/0	600V	320	480VAC	FISH SCREEN BAYS 5 & 6	SQ2	FISH SCREEN BAYS 5 & 6	EXISTING CONDUIT	
SQ2-q2-SU5	3"	68.75	SQ2-q2-SU5	3-1/C	#3/0	600V	75.625	480VAC	SU5 FEEDER #2	SQ2	SU5	CABLE TRAY	
SQ2-q2-SU6	3"	112.5	SQ2-q2-SU6	3-1/C	#3/0	600V	123.75	480VAC	SU6 FEEDER #2	SQ2	SU6	CABLE TRAY	
SQ2-q2-T2	1 1/2"	190	SQ2-q2-T2	3-1/C	#4	600V	200	480VAC	T2 COOLING FANS FEEDER #2	SQ2	T2	EXISTING CONDUIT	
100 TON CRANE	3"	130	100 TON CRANE	3-1/C	#250KCMIL + 4G	600V	300	480VAC	100 TON CRANE	SQ2	100 TON CRANE	EXISTING CONDUIT	
SP22-p1-SH	3	75	SP22-p1-SH	3-1/C	#1	5000V	85	4160V	SH FEEDER	SP22	SH	EXISTING CONDUIT	MC
SH-Q1	1	80	SH-Q1	3-1/C	#12	600V	90	480VAC	INTERMEDIATE COOLING WATER PUMP P6	SH	P6	EXISTING CONDUIT	
SH-C1	3/4	110	SH-C1	1-2/C	#12	600V	120	120VAC	CONTROL POWER TO PRESSURE SWITCH PS7	SH	PS7	EXISTING CONDUIT	
SH-Q2	1	30	SH-Q2	3-1/C	#10	600V	55	480VAC	CIRCULATING WATER PUMP P4	SH	P4	EXISTING CONDUIT	
SH-Q3	1.25	37.5	SH-Q3	3-1/C	#10	600V	65	480VAC	HEAT PUMP SUPPLY WATER PUMP P3	SH	P3	EXISTING CONDUIT	
SH-Q4	3	110	SH-Q3	3-1/C+G	#3/0, #4GND	600V	120	480VAC	HEAT PUMP #2	SH	HQ2	EXISTING CONDUIT	
SH-c5	1 1/4	115	SH-c5	1-8C+G	#12, #12, #12GND	600V	125	120VAC	CONTROL POWER FOR HEAT PUMP NO. 2	SH	HEAT PUMP NO. 2 CONTROL PANEL	EXISTING CONDUIT	
			SH-c2-HQ2	1-2/C	#12	600V	140	120VAC	CTCV2 CONTROL POWER	SH	HEAT PUMP NO. 2 CONTROL PANEL		
			SH-c1-P3	1-2/C	#12	600V	140	120VAC	P3 CONTROL CIRCUIT	SH	HEAT PUMP NO. 2 CONTROL PANEL		
			SH-c1-P4	1-2/C	#12	600V	140	120VAC	P4 CONTROL CIRCUIT	SH	HEAT PUMP NO. 2 CONTROL PANEL		
SH-c8	1.25	55	SH-c8	1-2/C	#12	600V	65	120VAC	CONTROL PANEL	SH	HEAT PUMP CONTROL PANEL	EXISTING CONDUIT	CONTRACTOR TO VERIFY
SH-Q11	3/4	45	SH-Q11	3-1/C	#8	600V	40	480VAC	BOOSTER WATER PUMP P5	SH	P5	EXISTING CONDUIT	
SH-Q7	3	140	SH-Q7	3-1/C+G	3/0, 4GND	600V	150	480VAC	HEAT PUMP #1	SH	HQ1	EXISTING CONDUIT	
SH-c6	1 1/4	145	SH-c6	1-8C+G	#12, #12, #12GND	600V	155	120VAC	CONTROL POWER FOR HEAT PUMP NO. 1	SH	HEAT PUMP NO. 1 CONTROL PANEL	EXISTING CONDUIT	
		145	SH-c2-HQ1	1-2/C	#12	600V	155	120VAC	CTCV1 CONTROL POWER	SH	HEAT PUMP NO. 1 CONTROL PANEL		
		145	SH-c1-P1	1-2/C	#12	600V	155	120VAC	P1 CONTROL CIRCUIT	SH	HEAT PUMP NO. 1 CONTROL PANEL		
		145	SH-c1-P2	1-2/C	#12	600V	155	120VAC	P2 CONTROL CIRCUIT	SH	HEAT PUMP NO. 1 CONTROL PANEL		
		145	SH-c2-P5	1-2/C	#12	600V	155	120VAC	P5 CONTROL CIRCUIT	SH	P5		
SH-Q8	1.25	110	SH-Q8	3-1/C	#10	600V	100	480VAC	GENERATOR WATER PUMP P1	SH	P1	EXISTING CONDUIT	
SH-q1-Q9	1	15	SH-q1-Q9	3-1/C	#10	600V	40	480VAC	CIRCULATING WATER PUMP P2	SH	P2	EXISTING CONDUIT	
SH-Q10	3/4	75	SH-Q10	3-1/C	#12	600V	90	480VAC	UNIT CONDITIONER UC-3	SH	UC-3	EXISTING CONDUIT	
SH-c10	3/4	85	SH-c10	1-2/C	#12, #12 GND	600V	100	120VAC	UC-3 CONTROL CIRCUIT	SH	UC-3	EXISTING CONDUIT	
CQO1-Q1	1	90	CQO1-Q1	3-1/C	#12	600V	100	480VAC	TRANSIL OIL PUMP #1	CQO1	TRANSIL OIL PUMP #1	EXISTING CONDUIT	
CQO1-C1	1.5	50	CQO1-C1	1-5/C	#12	600V	60	120VAC	TRANSIL OIL PUMP #1 CONTROL	CQO1	TRANSIL OIL PUMP #1 CONTROL	EMBEDDED CONDUIT	
			CQO1-c2-QPT	1-5/C	#12	600V	60	120VAC	TRANSIL OIL PUMP #2 CONTROL	CQO2	TRANSIL OIL PUMP #2 CONTROL		
CQO1-Q2	1	90	CQO1-Q2	3-1/C	#12	600V	100	480VAC	TRANSIL OIL PUMP #2	CQO1	TRANSIL OIL PUMP #2	EXISTING CONDUIT	
CQO1-C2	1 1/2	50	CQO1-C2	1-5/C	#12	600V	60	480VAC	LUBE OIL PUMP CONTROL	CQ01	LUBE OIL PUMP CONTROL	EMBEDDED CONDUIT	
			CQO1-c2-QPD	1-6/C	#12	600V	60	120VAC	DIRTY OIL PUMP CONTROL	CQ01	DIRTY OIL PUMP CONTROL		

GENERAL NOTES:

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MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. TINNEY, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0022-6-DA7.01
FILENAME: V1-LGP1.0022-ED801.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
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U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CABLE & CONDUIT SCHEDULE
SHEET 1 OF 7
REMOVAL

SHEET ID
VOLUME 1
ED801

FINAL

CONDUIT			CABLE					DESCRIPTION				REMARKS
NUMBER	SIZE	LENGTH	NUMBER	NO COND	SIZE	INS	RUN LENGTH	OPR VOLTAGE	FUNCTION	FROM	TO	ROUTING	
CQO1-Q3	1	90	CQO1-Q3	3-1/C	#10	600V	100	480VAC	LUBE OIL PUMP #3	CQO1	LUBE OIL PUMP #3	EXISTING CONDUIT	
CQO1-C3	1.25	200	CQO1-C3	1-7/C	#12	600V	210	480VAC	LUBE OIL PUMP CONTROL	CQO1	LUBE OIL PUMP CONTROL	EXISTING CONDUIT	
CQO1-Q10	1	165	CQO1-Q10	4-1/C	#6	600V	175	480VAC	OSCC PLC	CQO1	OSCC PLC	EXISTING CONDUIT	
CQO1-Q4	1	90	CQO1-Q4	3-1/C	#10	600V	100	480VAC	DIRTY OIL PUMP #4	CQO1	DIRTY OIL PUMP #4	EXISTING CONDUIT	
CQO1-C4	3/4	90	CQO1-C4	1-2/C	#12	600V	100	480VAC	DIRTY OIL PUMP CONTROL	CQO1	DIRTY OIL PUMP CONTROL	EXISTING CONDUIT	
CQO1-Q5	1 1/4	25	CQO1-Q5	3-1/C	#6	600V	35	480VAC	OIL PURIFICATION #1	CQO1	OIL PURIFICATION #1	EMBEDDED CONDUIT	
CQO1-Q6	1 1/4	25	CQO1-Q6	3-1/C	#6	600V	35	480VAC	OIL PURIFICATION #2	CQO1	OIL PURIFICATION #2	EMBEDDED CONDUIT	
CQO1-Q7	1 1/4	10	CQO1-Q7	3-1/C	#6	600V	20	480VAC	OIL PURIFICATION #3	CQO1	OIL PURIFICATION #3	EMBEDDED CONDUIT	
CQO1-Q8	1 1/4	10	CQO1-Q8	3-1/C	#6	600V	20	480VAC	OIL PURIFICATION #4	CQO1	OIL PURIFICATION #4	EMBEDDED CONDUIT	
CQO2-Q16	1	15	CQO2-Q16	3-1/C	#12	600v	25	480VAC	COMMINUTOR/MUFFIN MONSTER	CQO2	SEWAGE AIR COMPRESSOR	EMBEDDED CONDUIT	
CQO2-Q1	1.25	20	CQO2-Q1	3-1/C	#6	600V	30	480VAC	TRO1	CQO2	TRO1	EMBEDDED CONDUIT	
CQO2-Q6	1	145	CQO2-Q6	3-1/C	#8	600V	155	480VAC	STATION AIR COMPRESSOR #1	CQO2	STATION AIR COMPRESSOR #1	EMBEDDED CONDUIT	
CQO2-Q3	1	120	CQO2-Q3	3-1/C	#12	600V	130	480VAC	TAILRACE DECKLIGHTS	CQO2	TAILRACE DECKLIGHTS	EMBEDDED CONDUIT	
CQO2-C3-CQO4	1	130	CQO2-C3-CQO4	1-2/C	#19/25	600V	140	120VAC	TAILRACE DECKLIGHTS CONTROL	CQO2	TAILRACE DECKLIGHTS CONTROL	EXISTING CONDUIT	
CRO1-R2	0.75	15	CRO1-R2	1-2/C	#12	600V	25	120VAC	120VAC SOURCE	CQO2	TAILRACE DECKLIGHTS CONTROL	EXISTING CONDUIT	
CQO2-Q2	1.25	65	CQO2-Q2	3-1/C	#6	600V	75	480VAC	480V OUTLETS	CQO2	OUTLETS	EMBEDDED CONDUIT	
TFPR1	1		TFPR1	3-1/C + G	#12, #12 GND	600V		480VAC	TFPR1 - GFCI FISH PUMP ROOM RECEPTICAL	CQO2	TFPR1 - GFCI FISH PUMP ROOM RECEPTICAL	EXISTING CONDUIT	
CQO2-C15	1	138	CQO2-C15	3-1/C	#6	600V	145	480VAC	CRO2.3	CQO2	CRO2.3	EXISTING CONDUIT	
CQO2-Q5	0.75	60	CQO2-Q5	3-1/C	#10	600V	65	480VAC	EFFLUENT PUMP #1	CQO2	EFFLUENT PUMP #1	EMBEDDED CONDUIT	
TO1 PUMP #1	1	125	TO1 PUMP #1	3-1/C + G	#10, #10 GND	600V	135	480VAC	T01 TRANSFORMER OIL PUMP #1	CQO2	T01 TRANSFORMER OIL PUMP #1	EXISTING CONDUIT	
			TO1 PUMP #2	3-1/C + G	#10, #10 GND	600V	135	480VAC	T01 TRANSFORMER OIL PUMP #2	CQO2	T01 TRANSFORMER OIL PUMP #2		
TO2 PUMP #1	1	165	TO2 PUMP #1	3-1/C + G	#10, #10 GND	600V	175	480VAC	T02 TRANSFORMER OIL PUMP #1	CQO2	T02 TRANSFORMER OIL PUMP #1	EXISTING CONDUIT	
			TO2 PUMP #2	3-1/C + G	#10, #10 GND	600V	175	480VAC	T02 TRANSFORMER OIL PUMP #2	CQO2	T02 TRANSFORMER OIL PUMP #2		
CQO2-Q8	1	35	CQO2-Q8	3-1/C	#10	600V	45	480VAC	500LBS AIR COMPRESSOR	CQO2	AA1	EMBEDDED CONDUIT	
CQO2-C8	1.25	20	CQO2-C8	5-1/C	#12	600V	25	480VAC	500LBS AIR COMPRESSOR	CQO2	AA1	EMBEDDED CONDUIT	
CQO2-Q10	0.75	65	CQO2-Q10	3-1/C	#12	600V	75	480VAC	EFFLUENT PUMP #2	CQO2	EFFLUENT PUMP #2	EMBEDDED CONDUIT	
CQO2-Q13	1.25	40	CQO2-Q13	3-1/C	#6	600V	50	480VAC	480V OUTLETS	CQO2	480V OUTLETS	EMBEDDED CONDUIT	
CQO2-Q12	1	45	CQO2-Q12	3-1/C	#10	600	55	480VAC	TRO2	CQO2	TRO2	EMBEDDED CONDUIT	
CQO2-Q11	1	145	CQO2-Q11	3-1/C	#8	600V	155	480VAC	STATION AIR COMPRESSOR #2	CQO2	STATION AIR COMPRESSOR #2	EMBEDDED CONDUIT	
HRDA-D2	1	170	HRDA-D2	3-1/C + G	#12, #12 GND	600V	180	480VAC	HRDA	CQO2	HRDA	EXISTING CONDUIT	
CQO2-Q14	1.5	175	CQO2-Q14	3-1/C	#2	600V	185	480VAC	TAILRACE CRANE	CQO2	TAILRACE CRANE	EMBEDDED CONDUIT	
CQO2-Q9	3	70	CQO2-Q9	3-1/C	#3/0	600V	80	480VAC	STATION AIR COMPRESSOR #3	CQO2	STATION AIR COMPRESSOR #3	EMBEDDED CONDUIT	
CQO3-Q1	3/4	12	CQO3-Q1	3-1/C	#12	600V	20	480V	SHOP HOIST	CQO3	SHOP HOIST	EXISTING CONDUIT	
CQO3-Q4	1.25	35	CQO3-Q4	3-1/C	#6	600V	45	480V	16" LATHE	CQO3	16" LATHE	EXISTING CONDUIT	
CQO3-Q3	3/4	40	CQO3-Q3	3-1/C	#12	600V	50	480V	RADIAL DRILL	CQO3	RADIAL DRILL	EXISTING CONDUIT	
CQO3-Q8	0.75	16	CQO3-Q8	3-1/C	#12	600V	25	480V	RECEPTACLES ELECTRICAL SHOP	CQO3	RECEPTACLES ELECTRICAL SHOP	EXISTING CONDUIT	
CQO3-Q5	0.75	35	CQO3-Q5	3-1/C	#12	600V	45	480V	10" LATHE	CQO3	10" LATHE	EXISTING CONDUIT	
CQO3-Q2	3/4	80	CQO3-Q2	3-1/C	#12	600V	90	480V	VERTICAL LIFT DOOR	CQO3	VERTICAL LIFT DOOR	EXISTING CONDUIT	
CQO3-Q7	1.25	145	CQO3-Q7	3-1/C	#12	600V	155	480V	5TH FLOOR OFFICES	CQO3	5TH FLOOR OFFICES	EXISTING CONDUIT	
CQO3-Q10	3/4	45	CQO3-Q10	3-1/C	#12	600V	55	480V	PRESS	CQO3	PRESS	EXISTING CONDUIT	
CQO3-Q11	1	60	CQO3-Q11	3-1/C	#10	600V	70	480V	TR03 (LIGHTING)	CQO3	TR03 (LIGHTING)	EXISTING CONDUIT	
CQO3-Q13	1	65	CQO3-Q13	3-1/C	#10	600V	75	480V	HI-BAY LIGHTS	CQO3	HI-BAY LIGHTS	EXISTING CONDUIT	
CQO3-Q14	1.25	90	CQO3-Q14	3-1/C	#12	600V	100	480V	TR04 (LIGHTING)	CQO3	TR04 (LIGHTING)	EXISTING CONDUIT	
CQO3-Q12	1	80	CQO3-Q12	3-1/C	#10	600V	90	480V	HI-BAY LIGHTS	CQO3	HI-BAY LIGHTS	EXISTING CONDUIT	
CQO4-Q2	1.5	100	CQO4-Q2	3-1/C	#4	600V	110	480VAC	EVEVATOR	CQO4	EVEVATOR	EMBEDDED CONDUIT	
CQO4-q1-EL	1	140	CQO4-q1-EL	3-1/C + G	#8, #10 GND	600V	150	480VAC	EVEVATOR EQUIPMENT ROOM HEAT PUMP	CQO4	EVEVATOR EQUIPMENT ROOM HEAT PUMP	EXISTING CONDUIT	
CQO4-Q18	1.25	25	CQO4-Q18	3-1/C	#6	600V	35	480VAC	TR07	CQO4	TR07	EMBEDDED CONDUIT	
CQO4-Q4	1.25	180	CQO4-Q4	3-1/C	#6	600V	190	480VAC	TRASH RAKE CRANE	CQO4	TRASH RAKE CRANE	EMBEDDED CONDUIT	
CQO4-Q5	1.25	190	CQO4-Q5	3-1/C	#6	600V	200	480VAC	INTAKE GATE HYDRAULIC PUMP #1	CQO4	INTAKE GATE HYDRAULIC PUMP #1	EMBEDDED CONDUIT	
CQO4-Q7	1.25	190	CQO4-Q7	3-1/C	#6	600V	185	480VAC	INTAKE GATE HYDRAULIC PUMP #2	CQO4	INTAKE GATE HYDRAULIC PUMP #2	EMBEDDED CONDUIT	
CQO4-Q6	0.75	190	CQO4-Q6	3-1/C	#12	600V	170	480VAC	INTAKE GATE HYDRAULICK PUMP #3	CQO4	INTAKE GATE HYDRAULICK PUMP #3	EMBEDDED CONDUIT	
CQO4-Q8	3/4	45	CQO4-Q8	3-1/C	#12	600V	55	480VAC	INTAKE DECK LIGHTING	CQO4	INTAKE DECK LIGHTING	EMBEDDED CONDUIT	
CQO2-c3-CQ04	1	135	CQO2-c3-CQ04	1-2/C	#19/25	600V	145	480VAC	INTAKE DECK LIGHTING CONTROL	CQO4	INTAKE DECK LIGHTING CONTROL	EMBEDDED CONDUIT	
CQO4-r1-CRO7.1	0.75	25	CQO4-r1-CRO7.1	1-2/C	#12	600V	35	120VAC	INTAKE DECK LIGHTING CONTROL	CQO4	INTAKE DECK LIGHTING CONTROL	EMBEDDED CONDUIT	
CQO4-Q10	1.25	20	CQO4-Q10	3-1/C	#6	600V	30	480VAC	TR06	CQO4	TR06	EMBEDDED CONDUIT	
CQO4-Q11	1 1/4	45	CQO4-Q11	3-1/C	#6	600V	55	480VAC	OUTLET - SCREEN REPAIR	CQO4	OUTLET - SCREEN REPAIR	EMBEDDED CONDUIT	
CQO4-Q17	1 1/4	55	CQO4-Q17	3-1/C	#6	600V	65	480VAC	OUTLET - REPAIR PIT	CQO4	OUTLET - REPAIR PIT	EMBEDDED CONDUIT	
IN. DECK OUTLETS	1.25	190	IN. DECK OUTLETS	3-1/C	#6	600V	200	480VAC	OUTLET - INTAKE DECK	CQO4	OUTLET - INTAKE DECK	EMBEDDED CONDUIT	
CQO4-Q19	1 1/4	70	CQO4-Q19	3-1/C	#6	600V	80	480VAC	CENTRAL CONDITIONER FAN SF-1	CQO4	CENTRAL CONDITIONER FAN SF-1	EMBEDDED CONDUIT	
CQO4-C19	1.25	95	CQO4-C19	1-8/C	#12	600V	110	480VAC	SF-1 CONTROL	CQO4	SF-1 CONTROL	EMBEDDED CONDUIT	
HF-C3	1		HF-C3	2	#12	600V		120VAC	SF-1 CONTROL	CQO4	SF-1 CONTROL	EXISTING CONDUIT	
HF-C4	0.75		HF-C4	3	#12	600V		120VAC	SF-1 CONTROL	CQO4	SF-1 CONTROL	EXISTING CONDUIT	
HF-C5	0.75		HF-C5	4	#12	600V		120VAC	SF-1 CONTROL	CQO4	SF-1 CONTROL	EXISTING CONDUIT	
CQO4-Q20	3/4	40	CQO4-Q20	3-1/C	#12	600V	50	480VAC	RECIRCULATING FAN RF-1	CQO4	RECIRCULATING FAN RF-1	EMBEDDED CONDUIT	
CQO4-C20	3/4	30	CQO4-C20	1-3/C	#12	600V	40	480VAC	RF-1 CONTROL	CQO4	RF-1 CONTROL	EMBEDDED CONDUIT	
CQO4-Q13	1 1/4	60	CQO4-q1-WH	3-1/C	#6	600V	70	480VAC	WATER HEATER	CQO4	WATER HEATER	EMBEDDED CONDUIT	
CQO4-Q14	1.25	180	CQO4-Q14	3-1/C	#6	600V	190	480VAC	INTAKE CRANE HEATER	CQO4	INTAKE CRANE HEATER	EMBEDDED CONDUIT	
CQO4-Q23	1.25	190	CQO4-Q23	3-1/C	#6	600V	200	480VAC	OUTLET - INTAKE DECK	CQO4	OUTLET - INTAKE DECK	EMBEDDED CONDUIT	
CQO4-Q12	3/4	40	CQO4-Q12	3-1/C	#12	600V	50	480VAC	UC-1 CONTROL CABINENT PWR	CQO4	UC-1 CONTROL CABINENT PWR	EMBEDDED CONDUIT	
CQO4-C12	0.75	40	CQO4-C12	1-2C	#12	600V	50	120VAC	UC-1 CONTROL	CQO4	UC-1 CONTROL	EMBEDDED CONDUIT	
CQO4-c12.1	0.75	45	CQO4-c12.1	1-2/C	#12	600V	55	120VAC	UC-1 CONTROL	CQO4	UC-1 CONTROL	EMBEDDED CONDUIT	
CQO4-Q16	3/4	100	CQO4-Q16	3-1/C	#12	600V	110	480VAC	UC-2 CONTROL CABINENT PWR	CQO4	UC-2 CONTROL CABINENT PWR	EMBEDDED CONDUIT	
CQO4-c16	0.75	100	CQO4-c16	1-2/C	#12	600V	110	120VAC	UC-2 CONTROL	CQO4	UC-2 CONTROL	EMBEDDED CONDUIT	
CQO4-Q24	1.25	190	CQO4-Q24	3-1/C	#6	600V	200	480VAC	OUTLET - INTAKE DECK	CQO4	OUTLET - INTAKE DECK	EMBEDDED CONDUIT	
CQO4-Q25	1.25	190	CQO4-Q25	3-1/C	#6	600V	200	480VAC	OUTLET - INTAKE DECK	CQO4	OUTLET - INTAKE DECK	EMBEDDED CONDUIT	
CQO4-Q3	0.75	320	CQO4-Q3	3-1/C	#10	600V	330	120VAC	480V PIPE CHASE LIGHTING	CQO4	480V PIPE CHASE LIGHTING	EMBEDDED CONDUIT	
CQO4-S2	1"	165	CQO4-S2	3-1/C	250KCMIL, + #6 GND	600V	175	120VAC	LUNCH ROOM	CQO4	LUNCH ROOM	EXISTING CONDUIT	

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DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
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SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0024-DAT02
SHEET FILENAME: V1-LGP1.002-ED802.dgn

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WALLA WALLA DISTRICT
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CABLE & CONDUIT SCHEDULE
SHEET 2 OF 7
REMOVAL

SHEET ID
VOLUME 1
ED802

FINAL

CONDUIT			CABLE						DESCRIPTION				REMARKS
NUMBER	SIZE	LENGTH	NUMBER	NO COND	SIZE	INS	RUN LENGTH	OPR VOLTAGE	FUNCTION	FROM	TO	ROUTING	
CQO5-Q1	1.25		CQO5-q1-TR05	3/C	#10	600V	65	480VAC	BATTERY CHARGER NO. 3	CQO5	BATTERY CHARGER NO. 3	EXISTING CONDUIT	
CQO5-Q3	1.25		CQO5-Q3	3/C	#6	600V	30	480VAC	LIGHTING TRANSFORMER TRO5	CQO5	LIGHTING TRANSFORMER TRO5	EXISTING CONDUIT	
CQO5-Q2	0.75		CQO5-Q2	3/C	#12	600V	40	480VAC	48VDC BATTERY CHARGER	CQO5	48VDC BATTERY CHARGER	EXISTING CONDUIT	
CQO5-Q4	1.25		CQO5-Q4	3/C	#10	600V	40	480VAC	BATTERY CHARGER NO. 2	CQO5	BATTERY CHARGER NO. 2	EXISTING CONDUIT	
CQO5-Q5	1.25		CQO5-Q5	3/C	#10	600V		480VAC	BATTERY CHARGER NO. 1	CQO5	BATTERY CHARGER NO. 1	EXISTING CONDUIT	
CQ05-TRINV			CQ05-TRINV	3/C	#10	600V	60	120V	BYPASS TRANSFORMER TRINV (PREF. AC)	CQO5	TRINV	EXISTING CONDUIT	
FCQ1-q1-FSC	1	35	FCQ1-q1-FSC	2-1/C	#10	600V	45	480VAC	FISHWAY TRANSFORMER	FCQ1	FISHWAY TRANSFORMER	EMBEDDED CONDUIT	
FCQ1-Q5	1	140	FCQ1-Q5	3-1/C	#12	600V	150	480VAC	FISH PUMP AUX (FTC1)	FCQ1	FISH PUMP AUX (FTC1)	EMBEDDED CONDUIT	
FCQ1-Q4	1	110	FCQ1-Q4	3-1/C	#12	600V	120	480VAC	FISH PUMP AUX (FTC2)	FCQ1	FISH PUMP AUX (FTC2)	EMBEDDED CONDUIT	
FCQ1-Q3	1	85	FCQ1-Q3	3-1/C	#12	600V	95	480VAC	FISH PUMP AUX (FTC3)	FCQ1	FISH PUMP AUX (FTC3)	EMBEDDED CONDUIT	
FCQ1-q1-TRA0	1	40	FCQ1-q1-TRA0	3-1/C	#10	600V	50	480VAC	TRA0	FCQ1	TRA0	EMBEDDED CONDUIT	
FCQ1-q1-TRA1	1	180	FCQ1-q1-TRA1	3-1/C	#10	600V	190	480VAC	TRA1	FCQ1	TRA1	EMBEDDED CONDUIT	
FCQ1-q1-SPE1	1	80	FCQ1-q1-SPE1	3-1/C	#12	600V	90	480VAC	WEIR GATE SPE1	FCQ1	WEIR GATE SPE1	EMBEDDED CONDUIT	
FCQ1-q1-SPE2	1	90	FCQ1-q1-SPE2	3-1/C	#12	600V	100	480VAC	WEIR GATE SPE2	FCQ1	WEIR GATE SPE2	EMBEDDED CONDUIT	
FCQ1-Q2	1	140	FCQ1-Q2	3-1/C + G	#10, #10 GND	600V	150	480VAC	480V OUTLET FISHPUMP ROOM	FCQ1	480V OUTLET FISHPUMP ROOM	EMBEDDED CONDUIT	
FCQ1-Q10-BH	0.75	60	FCQ1-Q10-BH	3-1/C	#12	600V	70	480VAC	EMERG. GEN. ENGINE HEATER	FCQ1	EMERG. GEN. ENGINE HEATER	EXISTING CONDUIT	
FCQ1-q12-EF3	0.75	60	FCQ1-q12-EF3	6-1/C	#12	600V	70	480VAC	EMERG. GEN. WATER PUMP & EX. FAN	FCQ1	EMERG. GEN. WATER PUMP & EX. FAN	EXISTING CONDUIT	
FCQ1-Q11-P1	0.75	60	FCQ1-Q11-P1	3-1/C	#10	600V	70	480VAC	P-1 COOLING PUMP	FCQ1	P-1 COOLING PUMP	EXISTING CONDUIT	
FSC-u1-FCQ1	1	45	FSC-u1-FCQ1	3-1/C	#12	600V	55	480VAC	ANNUNCIATION	FSC	ANNUNCIATION	EXISTING CONDUIT	
FSC-u1-FCQ2	1	45	FSC-u1-FCQ2	3-1/C	#12	600V	55	480VAC	ANNUNCIATION	FSC	ANNUNCIATION	EXISTING CONDUIT	
FCQ1-Q1-FCQ2	1.25		FCQ1-Q1-FCQ2	3/C	#4	600V		480VAC	FCQ2 FEEDER	FCQ1	FCQ2	EXISTING CONDUIT	
FCQ2-q1-TRA2	1	62	FCQ2-q1-TRA2	3-1/C	#10	600V	67	480VAC	TRA2 - 9 KVA TRANSFORMER	FCQ2	TRA2	EMBEDDED CONDUIT	
FCQ2-q1-NPE1	1	65	FCQ2-q1-NPE1	3-1/C	#12	600V	70	480VAC	WEIR GATE 1 CONTROL PANEL	FCQ2	WEIR GATE	EMBEDDED CONDUIT	
FCQ2-q1-NPE2	1	60	FCQ2-q1-NPE2	3-1/C	#12	600V	65	480VAC	WEIR GATE 2 CONTROL PANEL	FCQ2	WEIR GATE	EMBEDDED CONDUIT	
FCQ2-q1-NPC	1	75	FCQ2-q1-NPC	3-1/C	#10	600V	80	480VAC	WING GATE CONTROL PANEL	FCQ2	WING GATE	EMBEDDED CONDUIT	
FCQ1-u1-FCQ2	1		FCQ1-u1-FCQ2	3-1/C	#12	600V	120	480VAC	ANNUNCIATION	FCQ2	ANNUNCIATION	EXISTING CABLE TRAY	
FCQ1-q1-FCQ2	1.25	460	FCQ1-q1-FCQ2	3-1/C	#4	600V	570	480VAC	FCQ2 POWER	FCQ1	FCQ2	EXISTING CABLE TRAY	
SU1-Q1	1.25	87.5	SU1-Q1	3-1/C	#6	600V	96.25	480VAC	TR11	SU1	TR11	EMBEDDED CONDUIT	
SU1-Q4	1	135	SU1-Q4	3-1/C	#10	600V	148.5	480VAC	TR12	SU1	TR12	EMBEDDED CONDUIT	
SU1-Q3	3/4	107.5	SU1-Q3	3-1/C	#12	600V	118.25	480VAC	AC TURBINE BRG OIL PUMP	SU1	AC TURBINE BRG OIL PUMP	EMBEDDED CONDUIT	MC Cable
SU1-c1-TP1	1 1/2	160	SU1-c1-TP1	1-14/C	#12	600V	170	120VAC	HEAD COVER SUMP PUMP CONTROL	SU1	TURBINE PIT - MULTI RANGER	EXISTING CONDUIT	
SU1-c2-TP1			SU1-c2-TP1	1-5/C	#12	600V	165	125VDC	AC TURBINE BRG OIL PUMP CONTROL	SU1	TURBINE PIT		
SU1-c3-TP1			SU1-c3-TP1	1-5/C	#12	600V	165	120VAC	DC TURBINE BRG OIL PUMP CONTROL	SU1	TURBINE PIT		
SU1-c1-DGC1	1	165	SU1-c1-HPC1	1-4/C	#12	600V	175	120VAC	HIGH PRESSURE THRUST BRG OIL PUMP CONTROL	SU1	HI PRES THRUST BRG OIL PUMP	EXISTING CONDUIT	
SU1-Q16	1	165	SU1-Q16	3-1/C	#10	600V	175	480VAC	HIGH PRESSURE THRUST BRG OIL PUMP	SU1	HGH THRUST BRG OIL PUMP	EMBEDDED CONDUIT	
SU1-Q7	3/4	125	SU1-Q7	3-1/C	#12	600V	137.5	480VAC	HEAD COVER SUMP PUMP 1	SU1	HEAD COVER SUMP PUMP 1	EMBEDDED CONDUIT	MC Cable
SU1-Q14	3/4	130	SU1-Q14	3-1/C	#12	600V	143	480VAC	HEAD COVER SUMP PUMP 2	SU1	HEAD COVER SUMP PUMP 2	EMBEDDED CONDUIT	MC Cable
SU1-Q8	1.25	130	SU1-Q8	3-1/C	#6	600V	143	480VAC	480V OUTLET	SU1	OUTLET	EMBEDDED CONDUIT	
SU1-Q17	1 1/4	30	SU1-Q17	3-1/C	#6	600V	35	480VAC	480V OUTLET	SU1	OUTLET	EMBEDDED CONDUIT	
SU1-q4-RECPT	0.5	92	SU1-q4-RECPT	3-1/C	#12 + #12G	600V	98	480VAC	BANDSAW	SU1	BANDSAW	EXISTING CONDUIT	
SU1-q1-3F	1.25	25	SU1-q1-3F	3-1/C	#6 + #10G	600V	30	480VAC	3RD FLOOR UPSTREAM GALLERY WORKSHOP	SU1	3RD FLOOR UPSTREAM GALLERY WORKSHOP	EXISTING CONDUIT	
SU1-Q13	1	126	SU1-Q13	3-1/C	#12, #12 GND	600	138.6	480VAC	GOV. OIL KIDNEY PUMP	SU1	GOV. OIL KIDNEY PUMP	EXISTING CONDUIT	
SU1-Q6	1	190	SU1-Q6	3-1/C	#12	600V	209	480VAC	XJ-1 FAN A	SU1	XFA	EMBEDDED CONDUIT	
SU1-Q11	1	70	SU1-Q11	3-1/C , 2/C	#8 , #12	600V	75	480VAC	GEN HEATER	SU1	GEN HEATER	EMBEDDED CONDUIT	
SU1-c1-GH	3/4	5	SU1-c1-G1	1-2/C	#12	600V	55	120VAC	GENERATOR HEATER CONTROL	SU1	G1 TERMINAL CABINET		
SU1-Q15	1	112.5	SU1-Q15	3-1/C	#10	600V	123.75	480VAC	HI-BAY LIGHTING	SU1	HI-BAY LIGHTING	EMBEDDED CONDUIT	
SU1-Q9	1 1/2	52.5	SU1-Q9	3-1/C	#4	600V	65.625	480VAC	GOV. OIL PUMP #1	SU1	GOV. OIL PUMP #1	EXISTING CONDUIT	
CP1-P1	2	75	CP1-P1	3/C	#4	600V	65	480VAC	GOV. OIL PUMP #2	CP1	GOV. OIL PUMP #2	EXISTING CONDUIT	
CP1-C1	3	75	CP1-C1	3/C	#19/25	600V	65	480VAC	GOV. OIL PUMP #2 CONTROL	CP1	GOV. OIL PUMP #2 CONTROL	EXISTING CONDUIT	
			CP1-C2	3/C	#19/25	600V	65	480VAC	GOV. OIL PUMP #3 CONTROL	CP1	GOV. OIL PUMP #3 CONTROL	EXISTING CONDUIT	
SU1-C9	1.25	75	SU1-C9	3/C	#19/25	600V	65	480VAC	GOV. OIL PUMP #1 CONTROL	SU1	GOV. OIL PUMP #1 CONTROL	EXISTING CONDUIT	
CP1-C1.1	3	75	CP1-C1.1	9/C	#19/25	600V	65	480VAC	CP1-C1 & SU1-C9 COMBINE INTO CP2-C1.1			EXISTING CONDUIT	
CP1-P2	2		CP1-P2	3/C	#4	600V		480VAC	GOV. OIL PUMP #3	CP1	GOV. OIL PUMP #3	EXISTING CONDUIT	
CP1-C1	2		CP1-C1	3/C	#19/25	600V		480VAC	EMERG. GEN. LOAD SHEDDING	CP1	EMERG. GEN. LOAD SHEDDING	EXISTING CONDUIT	
SU1-E1-TP1	0.75	135	SU1-E1-TP1	2-1/C	#19/22	600V	145	125V DC	D.C. TURBINE BRG. OIL PUMP	SU1	D.C. TURBINE BRG. OIL PUMP	EMBEDDED CONDUIT	MC Cable
SU1-E1	1	65	SU1-E1	4-1/C	#12	600V	75	125V DC	EMERGENCY LIGHTING	SU1	EMERGENCY LIGHTING	EMBEDDED CONDUIT	
SU2-Q1	1.25	87.5	SU2-Q1	3-1/C	#6	600V	80	480V	TR21	SU2	TR21	EMBEDDED CONDUIT	
SU2-Q4	1	135	SU2-Q4	3-1/C	#10	600V	148.5	480V	TR22	SU2	TR22	EMBEDDED CONDUIT	
SU2-Q3	0.75	107.5	SU2-Q3	3-1/C	#12	600V	118.25	480V	AC TURBINE BRG OIL PUMP	SU2	TURBINE BRG OIL PUMP	EMBEDDED CONDUIT	MC Cable
SU2-c1-TP2	1.5	160	SU2-c1-TP2	1-14/C	#12	600V	170	120VAC	HEAD COVER SUMP PUMP CONTROL	SU2	TURBINE PIT - MULTI RANGER	EXISTING CONDUIT	
SU2-c2-TP2			SU2-c2-TP2	1-5/C	#12	600V	165	125VDC	AC TURBINE BRG OIL PUMP CONTROL	SU2	TURBINE PIT		
SU2-c3-TP2			SU2-c3-TP2	1-5/C	#12	600V	165	120VAC	DC TURBINE BRG OIL PUMP CONTROL	SU2	TURBINE PIT		
SU2-C1	1	165	SU2-C1	1-3/C	#12	600V	175	120VAC	HIGH PRESSURE THRUST BRG OIL PUMP CONTROL	SU2	HI PRES THRUST BRG OIL PUMP - DGC2	EXISTING CONDUIT	
SU2-Q16	1	165	SU2-Q16	3-1/C	#10	600V	175	480V	HIGH PRESSURE THRUST BRG OIL PUMP	SU2	HGH THURST BRG. OIL PUMP	EMBEDDED CONDUIT	
SU2-Q7	0.75	125	SU2-Q7	3-1/C	#10	600V	137.5	480V	HEAD COVER SUMP PUMP 1	SU2	HEAD COVER SUMP PUMP 1	EMBEDDED CONDUIT	MC Cable
SU2-Q14	0.75	130	SU2-Q14	3-1/C	#10	600V	143	480V	HEAD COVER SUMP PUMP 2	SU2	HEAD COVER SUMP PUMP 2	EMBEDDED CONDUIT	MC Cable
SU2-Q8	1.25	130	SU2-Q8	3-1/C	#6	600V	143	480V	480V OUTLET	SU2	480V OUTLET	EMBEDDED CONDUIT	
SU2-Q17	1.25	30	SU2-Q17	3-1/C	#6	600V	35	480VAC	480V OUTLET	SU2	480V OUTLET	EMBEDDED CONDUIT	
SU2-Q6	1	155	SU2-Q6	3-1/C	#12, #12 GND	600V	170.5	480V	GOV. OIL KIDNEY PUMP	SU2	GOV. OIL KIDNEY PUMP	EXISTING CONDUIT	
SU2-Q13	1	177	SU2-Q13	3-1/C	#12	600V	194.7	480VAC	XJ-2 FAN A	SU2	XFA	EMBEDDED CONDUIT	
SU2-Q11	1	60	SU2-Q11	3-1/C	#6, #10 GND	600V	70	480V	GEN HEATER	SU2	GEN HEATER	EMBEDDED CONDUIT	

GENERAL NOTES:

1. ALL CABLE AND CONDUIT LENGTHS PROVIDED ARE APPROXIMATIONS AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
SUBMITTED BY: JORDAN S. FINNEY, P.E.
SIZE: ANSI D
DRAWING NUMBER: LGP-1.0024-DA7/03
FILENAME: V1-LGP1.0024-ED803.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CABLE & CONDUIT SCHEDULE
SHEET 3 OF 7
REMOVAL

SHEET ID
VOLUME 1
ED803

FINAL

CONDUIT			CABLE						DESCRIPTION				REMARKS
NUMBER	SIZE	LENGTH	NUMBER	NO COND	SIZE	INS	RUN LENGTH	OPR VOLTAGE	FUNCTION	FROM	TO	ROUTING	
SU2-c1-GH	3/4		SU2-c1-G2	1-2/C	#12	600V	75	120VAC	GENERATOR HEATER CONTROL	SU2	G2 TERMINAL CABINET	NEW CONDUIT	
SU2-Q15	1	100	SU2-Q15	3-1/C	#10	600V	110	480V	HI-BAY LIGHTING	SU2	HI-BAY LIGHTING	EMBEDDED CONDUIT	
SU2-Q18	1	175	SU2-Q18	3-1/C	#10	600V	192.5	480V	HI-BAY LIGHTING	SU2	HI-BAY LIGHTING	EMBEDDED CONDUIT	
SU2-Q9	1.5	52.5	SU2-Q9	3-1/C	#4	600V	65.625	480V	GOV. OIL PUMP #1	SU2	GOV. OIL PUMP #1	EXISTING CONDUIT	
CP2-P1	2	45	CP2-P1	3-1/C	#4	600V	49.5	480VAC	GOV. OIL PUMP #2	SU2	GOV. OIL PUMP #2	EXISTING CONDUIT	
CP2-P2	2	50	CP2-P2	3-1/C	#4	600V	55	480VAC	GOV. OIL PUMP #3	SU2	GOV. OIL PUMP #3	EXISTING CONDUIT	
CP2-C1	2	75	CP2-C1	3/C	#19/25	600V	65	480VAC	GOV. OIL PUMP #2 CONTROL	SU2	GOV. OIL PUMP #2 CONTROL	EXISTING CONDUIT	
			CP2-C2	3/C	#19/25	600V	65	480VAC	GOV. OIL PUMP #3 CONTROL	SU2	GOV. OIL PUMP #3 CONTROL	EXISTING CONDUIT	
SU2-C9	1.25	75	SU2-C9	3/C	#19/25	600V	65	480VAC	GOV. OIL PUMP #1 CONTROL	SU2	GOV. OIL PUMP #1 CONTROL	EXISTING CONDUIT	
CP2-C1.1	3	75	CP2-C1.1	9/C	#19/25	600V	65	480VAC	CP2-C1 & SU2-C9 COMBINE INTO CP2-C1.1	SU2	GOV OIL CONTROL	EXISTING CONDUIT	
SU2-E1-TP2	3/4	135	SU2-E1-TP2	2-1/C	#8, #8 GND	600V	145	125V DC	D.C. TURBINE BRG. OIL PUMP	SU2	D.C. TURBINE BRG. OIL PUMP	EMBEDDED CONDUIT	MC Cable
SU2-E1	1	75	SU2-E1	4-1/C	#10, #10 GND	600V	65	125V DC	EMERGENCY LIGHTING	SU2	EMERGENCY LIGHTING	EMBEDDED CONDUIT	
SU3-Q1	1.25	87.5	SU3-Q1	3-1/C	#6	600V	96.25	480V	TR31	SU3	TR31	EMBEDDED CONDUIT	
SU3-Q4	1	135	SU3-Q4	3-1/C	#10	600V	148.5	480V	TR32	SU3	TR32	EMBEDDED CONDUIT	
SU3-Q3	3/4	107.5	SU3-Q3	3-1/C	#12	600V	118.25	480V	AC TURBINE BRG OIL PUMP	SU3	TURBINE BRG OIL PUMP	EMBEDDED CONDUIT	MC Cable
SU3-c1-TP3	1.5	160	SU3-c1-TP3	1-14/C	#12	600V	170	120VAC	HEAD COVER SUMP PUMP CONTROL	SU3	TURBINE PIT - MULTI RANGER	EXISTING CONDUIT	
SU3-c2-TP3			SU3-c2-TP3	1-5/C	#12	600V	165	125VDC	AC TURBINE BRG OIL PUMP CONTROL	SU3	TURBINE PIT		
SU3-c3-TP3			SU3-c3-TP3	1-5/C	#12	600V	165	120VAC	DC TURBINE BRG OIL PUMP CONTROL	SU3	TURBINE PIT		
SU3-c1-DGC3	1	165	SU3-c1-HPC3	1-4/C	#12	600V	175	120VAC	HIGH PRESSURE THRUST BRG OIL PUMP CONTROL	SU3	HI PRES THRUST BRG OIL PUMP - DGC3	NEW CONDUIT	
SU3-Q16	1	165	SU3-Q16	3-1/C	#10	600V	175	480V	HIGH PRESSURE THRUST BRG OIL PUMP	SU3	HIGH THURST BRG. OIL PUMP	EMBEDDED CONDUIT	
SU3-Q7	3/4	125	SU3-Q7	3-1/C	#10	600V	137.5	480V	HEAD COVER SUMP PUMP 1	SU3	HEAD COVER SUMP PUMP 1	EMBEDDED CONDUIT	MC Cable
SU3-Q14	3/4	130	SU3-Q14	3-1/C	#10	600V	143	480V	HEAD COVER SUMP PUMP 2	SU3	HEAD COVER SUMP PUMP 2	EMBEDDED CONDUIT	MC Cable
SU3-Q8	1.25	130	SU3-Q8	3-1/C	#6	600V	143	480V	480V OUTLET	SU3	480V OUTLET	EMBEDDED CONDUIT	
SU3-	1.25	25	SU3-	3-1/C	#1, #8 GND	600V	30	480V	60A OUTLET	SU3	60A OUTLET	EMBEDDED CONDUIT	
SU3-Q17	1.25	30	SU3-Q17	3-1/C	#6	600V	35	480VAC	480V OUTLET	SU3	480V OUTLET	EMBEDDED CONDUIT	
SU3-Q6	1	160	SU3-Q6	3-1/C	#12 + #12G	600V	170	480VAC	XJ-3 FAN A	SU3	XFA	EMBEDDED CONDUIT	
SU3-Q11	1	60	SU3-Q11	3-1/C, 2/C	#8, #12	600V	70	480V	GEN HEATER	SU3	GEN HEATER	EMBEDDED CONDUIT	
SU3-c1-GH	3/4		SU3-c1-G3	1-2/C	#12	600V	75	120VAC	GENERATOR HEATER CONTROL	SU3	G3 TERMINAL CABINET		
SU3-Q15	1	100	SU3-Q15	3-1/C	#10	600V	110	480V	HI-BAY LIGHTING	SU3	HI-BAY LIGHTING	EMBEDDED CONDUIT	
SU3-Q9	1.5	52.5	SU3-Q9	3-1/C	#4	600V	65.625	480V	GOV. OIL PUMP #1	SU3	GOV. OIL PUMP #1	EMBEDDED CONDUIT	
SU3-C9	1.25		SU3-C9	3/C	#19/25	600V		480V	GOV. OIL PUMP #1 CONTROL	SU3	GOV. OIL PUMP #1 CONTROL	EXISTING CONDUIT	
CP3-P1	2	45	CP3-P1	3-1/C	#4	600V	49.5	480VAC	GOV. OIL PUMP #2	SU3	GOV. OIL PUMP #2	EXISTING CONDUIT	
CP3-C1	2"	75	CP3-C1	3/C	#19/25	600V	65	480VAC	GOV. OIL PUMP #2 CONTROL	SU3	GOV. OIL PUMP #2 CONTROL	EXISTING CONDUIT	
			CP3-C2	3/C	#19/25	600V	65	480VAC	GOV. OIL PUMP #3 CONTROL	SU3	GOV. OIL PUMP #3 CONTROL		
CP3-P2	2	50	CP3-P2	3-1/C	#4	600V	55	480VAC	GOV. OIL PUMP #3	SU3	GOV. OIL PUMP #3	EXISTING CONDUIT	
CP3-C1.1	3	75	CP3-C1.1	9/C	#19/25	600V	65	480VAC	CP3-C1 & SU3-C9 COMBINE INTO CP3-C1.1	SU3	GOV. SUMP TANK		
SU3-E1-TP3	3/4	135	SU3-E1-TP3	2-1/C	#8, #8 GND	600V	145	125V DC	D.C. TURBINE BRG. OIL PUMP	SU3	D.C. TURBINE BRG. OIL PUMP	EMBEDDED CONDUIT	MC Cable
SU3-E1	1	65	SU3-E1	4-1/C	#10, #10 GND	600V	75	125V DC	EMERGENCY LIGHTING	SU3	EMERGENCY LIGHTING	EMBEDDED CONDUIT	
SU4-Q1	1.25	87.5	SU4-Q1	3-1/C	#8	600V	96.25	480VAC	TR41	SU4	TR41	EMBEDDED CONDUIT	
SU4-Q4	1	135	SU4-Q4	3-1/C	#10	600V	148.5	480VAC	TR42	SU4	TR42	EMBEDDED CONDUIT	
SU4-Q2	3/4	107.5	SU4-Q2	3-1/C	#12	600V	118.25	480VAC	TURBINE BRG OIL SUMP PUMP	SU4	TURBINE BRG OIL PUMP	EMBEDDED CONDUIT	MC Cable.
SU4-c1-TP4	1.5	160	SU4-c1-TP4	1-14/C	#12	600V	170	120VAC	HEAD COVER SUMP PUMPS CONTROL	SU4	TURBINE PIT	EXISTING CONDUIT	
SU4-c2-TP4		160	SU4-c2-TP4	1-5/C	#12	600V	170	120VAC	TURBINE GUIDE BRG OIL SUMP PUMP CONTROL	SU4	TURBINE PIT	EXISTING CONDUIT	
SU4-c1-DGC4	1	165	SU4-c1-HPC4	1-4/C	#12	600V	175	120VAC	HIGH PRESSURE THRUST BRG OIL PUMP CONTROL	SU4	HI PRES THRUST BRG OIL PUMP - DGC4	EXISTING CONDUIT	
SU4-Q16	1	165	SU4-Q16	3-1/C	#10	600V	175	480VAC	HIGH PRESSURE THRUST BRG OIL PUMP	SU4	G4 TERMINAL CABINET	EMBEDDED CONDUIT	
SU4-Q7	3/4	125	SU4-Q7	3-1/C	#10	600V	137.5	480VAC	HEAD COVER SUMP PUMP 1	SU4	HEAD COVER SUMP PUMP 1	EMBEDDED CONDUIT	MC Cable
SU4-Q14	3/4	155	SU4-Q14	3-1/C	#10	600V	170	480VAC	HEAD COVER SUMP PUMP 2	SU4	HEAD COVER SUMP PUMP 2	EMBEDDED CONDUIT	MC Cable
SU4-Q18	1.25	50	SU4-Q18	3-1/C	#6	600V	55	480VAC	OUTLET	SU4	OUTLET	EMBEDDED CONDUIT	
SU4-	1.25	25	SU4-	3-1/C	#1, #8 GND	600V	35	480VAC	60 AMP OUTLET	SU4	60 AMP OUTLET	EXISTING CONDUIT	
SU4-Q8	1.25	130	SU4-Q8	3-1/C	#6	600V	148	480VAC	OUTLET	SU4	OUTLET	EMBEDDED CONDUIT	
SU4-Q3	1.25	40	SU4-Q3	3-1/C	#6	600V	45	480VAC	OUTLET	SU4	OUTLET	EMBEDDED CONDUIT	
SU4-Q5	1.25	45	SU4-Q5	3-1/C	#6	600V	55	480VAC	OUTLET	SU4	OUTLET	EMBEDDED CONDUIT	
SU4-Q10	1.25	75	SU4-Q10	3-1/C	#6	600V	85	480VAC	OUTLET	SU4	OUTLET	EMBEDDED CONDUIT	
SU4-Q17	1.25	20	SU4-Q17	3-1/C	#6	600V	25	480VAC	OUTLET	SU4	OUTLET	EMBEDDED CONDUIT	
SU4-Q6	1	150	SU4-Q6	3-1/C	#12	600V	165	480VAC	XJ-4 FAN A	SU4	XFA	EMBEDDED CONDUIT	
SU4-Q13	1	150	SU4-Q13	3-1/C	#12	600V	165	480VAC	XJ-4 FAN B	SU4	XFB	EMBEDDED CONDUIT	
SU4-Q11	1.25	60	SU4-Q11	3-1/C, 2/C	#8, #12	600V	70	480VAC	GENERATOR HEATER	SU4	G4 TERMINAL CABINET	EMBEDDED CONDUIT	
SU4-c1-GH	3/4		SU4-c1-GH	1-2/C	#12	600V	75	120VAC	GENERATOR HEATER CONTROL	SU4	G4 TERMINAL CABINET		
SU4-Q15	1	93.75	SU4-Q15	3-1/C	#10	600V	103.125	480VAC	HI-BAY LIGHTING	SU4	JB EL. 682 BAY 4	EMBEDDED CONDUIT	
SU4-q1-AA	0.75	60	SU4-q1-AA	3-1/C	#4, #10GND	600V	70	480VAC	AIR COMPRESSOR #1 (1000LB)	SU4	ACB AIR COMPRESSOR	EXISTING CONDUIT	
SU4-Q9	3/4	175	SU4-Q9	3-1/C	#12	600V	180	480VAC	GOVERNOR SUMP HEATER	SU4	EHQ	EXISTING CONDUIT	
CP4-P1	2	60	CP4-P1	3-1/C	#4	600V	70	480VAC	GOV OIL PUMP NO. 1	SU4	GOV OIL PUMP 1	EXISTING CONDUIT	
CP4-P2	2	70	CP4-P2	3-1/C	#4	600V	80	480VAC	GOV OIL PUMP NO. 2	SU4	GOV OIL PUMP 2	EXISTING CONDUIT	
CP4-C1	3	60	CP4-C1-CP4	3/C	#19/25	600V	70	480VAC	EMERGENCY ENG. LOAD SHEDDING	CP4	EMERGENCY ENG. LOAD SHEDDING	EXISTING CONDUIT	
			CP4-C1	9/C	#19/25	600V	70	480VAC	GOV. OIL PUMP #1 CONTROL	CP4	GOV. OIL PUMP #1 CONTROL		
			CP4-C2	9/C	#19/25	600V	70	480VAC	GOV. OIL PUMP #2 CONTROL	CP4	GOV. OIL PUMP #2 CONTROL		
CP4-C1.1	3	75	CP4-C1.1	21/C	#19/25	600V	65	480VAC	GOV. SUMP TANK	CP4	GOV. SUMP TANK	EXISTING CONDUIT	
CP4-C1.2	3	75	CP4-C.1	9/C	#19/25	600V	65	480VAC	GOV PRESS TANK	CP4	GOV PRESS TANK	EXISTING CONDUIT	
			CP4-C.2	9/C	#19/25	600V	65	480VAC	GOV PRESS TANK	CP4	GOV PRESS TANK		
			SU4-C2-AA	9/C	#19/25	600V	65	480VAC	1000LB AIR COMP CONTROL	SU4	1000LB AIR COMP CONTROL		
SU4-C2-AA	2	75	SU4-C2-AA	9/C	#19/25	600V	65	480VAC	1000LB AIR COMP CONTROL	SU4	1000LB AIR COMP CONTROL	EXISTING CONDUIT	
SU4-C1-AA	0.75	75	SU4-C1-AA	7/C	#12	600V	65	480VAC	1000LB AIR COMP CONTROL	SU4	1000LB AIR COMP CONTROL	EXISTING CONDUIT	
SU4-C3.1-AA	0.75	75	SU4-C3.1-AA	9/C	#19/25	600V	65	480VAC	BAY 5 CONTROL	SU4	BAY 5 CONTROL	EXISTING CONDUIT	
SU4-C3.2-AA	0.75	75	SU4-C3.2-AA	5/C	#19/25	600V	65	480VAC	BAY 6 CONTROL	SU4	BAY 6 CONTROL	EXISTING CONDUIT	
SU4-E1	1	65	SU4-E1	4-1/C	#19/25	600V	75	125VDC	EMERGENCY LIGHTING	SU4	EMERGENCY LIGHTING	EMBEDDED CONDUIT	
S4R1-E1-SU4	3/4	65	S4R1-E1-SU4	2/C	#19/25	600V	30	125VDC		SU4		EMBEDDED CONDUIT	

GENERAL NOTES:

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MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. TINKLE, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0022-6-DA7/04
SIZE: FILENAME: V1-LGP1.0022-ED804.dgn

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LITTLE GOOSE LOCK AND DAM
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DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CABLE & CONDUIT SCHEDULE
SHEET 4 OF 7
REMOVAL

SHEET ID
VOLUME 1
ED804

FINAL

CONDUIT			CABLE						DESCRIPTION				REMARKS
NUMBER	SIZE	LENGTH	NUMBER	NO COND	SIZE	INS	RUN LENGTH	OPR VOLTAGE	FUNCTION	FROM	TO	ROUTING	
SU5-Q1	1.25	87.5	SU5-Q1	3-1/C	#8	600V	96.25	480V	TR51	SU5	TR51	EMBEDDED CONDUIT	
SU5-Q4	1	135	SU5-Q4	3-1/C	#10	600V	148.5	480V	TR52	SU5	TR52	EMBEDDED CONDUIT	
SU5-Q2	3/4	107.5	SU5-Q2	3-1/C	#10	600V	118.25	480V	TURBINE BRG OIL SUMP PUMP	SU5	TURBINE BRG OIL SUMP PUMP	EMBEDDED CONDUIT	MC Cable
SU5-c1-TP5	1.5	160	SU5-c1-TP5	1-14/C	#12	600V	170	120VAC	HEAD COVER SUMP PUMPS CONTROL	SU5	TURBINE PIT	EXISTING CONDUIT	
SU5-c2-TP5		160	SU5-c2-TP5	1-5/C	#12	600V	170	120VAC	TURBINE GUIDE BRG OIL SUMP PUMP CONTROL	SU5	TURBINE PIT		
SU5-c1-DGC5	1	165	SU5-c1-HPC5	1-4/C	#12	600V	175	120VAC	HIGH PRESSURE THRUST BRG OIL PUMP CONTROL	SU5	HI PRES THRUST BRG OIL PUMP - DGC5	NEW CONDUIT	
SU5-c1-HPC5	1	165	SU5-c2-HPC5	1-6/C	#12	600V	175	120VAC	HP THRUST BRG OIL PUMP UPPER CONTROL PANEL	SU5	NEAR HI THRUST BRG OIL PUMP	NEW CONDUIT	
SU5-Q16	1	165	SU5-Q16	3-1/C	#10	600V	175	480VAC	HIGH PRESSURE THRUST BRG OIL PUMP	SU5	G5 TERMINAL CABINET	EMBEDDED CONDUIT	
SU5-Q7	3/4	125	SU5-Q7	3-1/C	#10	600V	137.5	480VAC	HEAD COVER SUMP PUMP 1	SU5	HEAD COVER SUMP PUMP 1	EMBEDDED CONDUIT	MC Cable
SU5-Q14	3/4	155	SU5-Q14	3-1/C	#10, #10 GND	600V	170	480VAC	HEAD COVER SUMP PUMP 2	SU5	HEAD COVER SUMP PUMP 2	EMBEDDED CONDUIT	MC Cable
SU5-Q8	1.25	130	SU5-Q8	3-1/C	#6	600V	148	480V	OUTLET	SU5	OUTLET	EMBEDDED CONDUIT	
SU5-	1.25	40	SU5-	3-1/C	#1, #8 GND	600V	45	480VAC	60A OUTLET	SU5	60A OUTLET	EXISITNG CONDUIT	
SU5-Q5	1.25	45	SU5-Q5	3-1/C	#6	600V	55	480VAC	OUTLET	SU5	OUTLETS	EMBEDDED CONDUIT	
SU5-Q18	1.25	50	SU5-Q18	3-1/C	#6	600V	60	480VAC	OUTLET	SU5	OUTLET	EMBEDDED CONDUIT	
SU5-Q17	1.25	20	SU5-Q17	3-1/C	#6	600V	25	480V	OUTLET	SU5	OUTLET	EMBEDDED CONDUIT	
SU5-Q10	1.25	75	SU5-Q10	3-1/C	#6	600V	85	480V	OUTLET	SU5	OUTLET	EMBEDDED CONDUIT	
SU5-Q3	1.25	5	SU5-Q3	3-1/C	#6, #10 GND	600V	10	480V	OUTLET	SU5	OUTLET	EMBEDDED CONDUIT	
SU5-Q6	1	160	SU5-Q6	3-1/C	#12	600V	170	480VAC	XJ-5 FAN A	SU5	XFA	EMBEDDED CONDUIT	
SU5-Q13	1	160	SU5-Q13	3-1/C	#12 + #12G	600V	170	480VAC	XJ-5 FAN B	SU5	XFB	EMBEDDED CONDUIT	
SU5-Q11	1.25	60	SU5-Q11	3-1/C, 2/C	#8, #12	600V	70	480VAC	GENERATOR HEATER	SU5	G5 TERMINAL CABINET	EMBEDDED CONDUIT	
SU5-c1-GH	3/4		SU5-c1-GH	1-2/C	#12	600V	75	120VAC	GENERATOR HEATER CONTROL	SU5	G5 TERMINAL CABINET		
SU5-Q12	1	93.75	SU5-Q12	3-1/C	#10	600V	103.125	480VAC	HI-BAY LIGHTING	SU5	HI-BAY LIGHTING	EMBEDDED CONDUIT	
SU5-Q15	1	85	SU5-Q15	3-1/C	#10	600V	95	480VAC	HI-BAY LIGHTING	SU5	HI-BAY LIGHTING	EMBEDDED CONDUIT	
SU5-Q7	1.25	155	SU5-Q7	3-1/C	#8	600V	165	480VAC	1000 LB COMP. #2	SU5	1000 LB COMP. #2	EXISTING CONDUIT	
SU5-Q9	3/4	175	SU5-Q9	3-1/C	#6	600V	180	480VAC	GOVERNOR SUMP HEATER	SU5	EHQ	EXISTING CONDUIT	
CP5-P1	2	60	CP5-P1	3-1/C	#4	600V	70	480VAC	GOV OIL PUMP NO. 1	SU5	GOV OIL PUMP 1	EXISTING CONDUIT	
CP5-P2	2	70	CP5-P2	3-1/C	#4	600V	80	480VAC	GOV OIL PUMP NO. 2	SU5	GOV OIL PUMP 2	EXISTING CONDUIT	
CP5-C1	3	60	CP5-C1	9/C	#19/25	600V	70	120VAC	GOV OIL PUMP NO. 1 CONTROL	GOC5	SUMP CONTROL CABINET	EXISTING CONDUIT	
			CP5-C2	9/C	#19/25	600V	70	120VAC	GOV OIL PUMP NO. 1 CONTROL	GOC5	FLOAT SWITCHES PRESSURE TANK	EXISTING CONDUIT	
			SP21-C1-CP5	3/C	#19/25	600V	70	120VAC	TEST BUTTON ON ACCUMULATOR	GOC5	PRESSURE TANK	EXISTING CONDUIT	
CP5-C1.1	3	75	CP5-C1.1	21/C	#19/25	600v	65	120VAC	CP5-C1, CP5-C2, & SP21-C1-CP5 COMBINED	GOC5	CP5-C1, CP5-C2, & SP21-C1-CP5 COMBINED	EXISTING CONDUIT	
CP5-C1.2	3	75	CP5-C1.1	9/C	#19/25	600V	65	120VAC	GOC. PRESS. TANK	GOCV SUMP TANK	GOC. PRESS. TANK	EXISTING CONDUIT	
			CP5-C1.2	9/C	#19/25	600V	65	120VAC	GOC. PRESS. TANK	GOCV SUMP TANK	GOC. PRESS. TANK		
			SU4-C3.1-AA	9/C	#19/25	600V	65	120VAC	GOC. PRESS. TANK	SU5	GOC. PRESS. TANK		
SU5-Q?	0.75	75	SU5-Q?	3/C	#12	600V	65	480VAC	GOV OIL FILTER PUMP	SU5	GOV OIL FILTER PUMP	EXISTING CONDUIT	
SU5-E1	1	65	SU5-E1	4-1/C	#10, #10 GND	600V	75	125VDC	EMERGENCY LIGHTING	SU5	EMERGENCY LIGHTING	EMBEDDED CONDUIT	
S5R1-E1-SU4	3/4	65	S5R1-E1-SU4	2-1/C	#12 + #12G	600V	30	125VDC		SU5		EMBEDDED CONDUIT	
SU6-Q1	1.25	87.5	SU6-Q1	3-1/C	#8	600V	96.25	480V	TR61	SU6	TR61	EMBEDDED CONDUIT	
SU6-Q4	1	156.25	SU6-Q4	3-1/C	#10	600V	171.875	480V	TR62	SU6	TR62	EMBEDDED CONDUIT	
SU6-q1-TR63	1		SU6-q1-TR63	3-1/C	#10, #10 GND	600V	150	480V	TR63	SU6	TR63	EXISTING CONDUIT	
SU6-Q2	3/4	107.5	SU6-Q2	3-1/C	#12	600V	118.25	480V	TURBINE BRG OIL SUMP PUMP	SU6	TURBINE BRG OIL SUMP PUMP	EMBEDDED CONDUIT	MC Cable
SU6-c1-TP6	1.5	165	SU6-c1-TP6	1-14/C	#12	600V	175	120VAC	HEAD COVER SUMP PUMPS CONTROL	SU6	TURBINE PIT	EXISTING CONDUIT	
SU6-c2-TP6		165	SU6-c2-TP6	1-5/C	#12	600V	175	120VAC	TURBINE GUIDE BRG OIL SUMP PUMP CONTROL	SU6	TURBINE PIT	EXISTING CONDUIT	
SU6-c1-DGC6	1	165	SU6-c1-HPC6	1-4/C	#12	600V	175	120VAC	HIGH PRESSURE THRUST BRG OIL PUMP CONTROL	SU6	HI PRES THRUST BRG OIL PUMP - DGC6	EXISTING CONDUIT	
SU6-c1-HPC6	1	165	SU6-c2-HPC6	1-6/C	#12	600V	175	120VAC	HP THRUST BRG OIL PUMP UPPER CONTROL PANEL	SU6	NEAR HI THRUST BRG OIL PUMP	EXISTING CONDUIT	
SU6-Q16	1	165	SU6-Q16	3-1/C	#10	600V	175	480VAC	HIGH PRESSURE THRUST BRG OIL PUMP	SU6	G6 TERMINAL CABINET	EMBEDDED CONDUIT	
SU6-Q7	3/4	125	SU6-Q7	3-1/C	#10	600V	138	480VAC	HEAD COVER SUMP PUMP 1	SU6	HEAD COVER SUMP PUMP 1	EMBEDDED CONDUIT	MC Cable
SU6-Q14	3/4	155	SU6-Q14	3-1/C	#10	600V	170	480VAC	HEAD COVER SUMP PUMP 2	SU6	HEAD COVER SUMP PUMP 2	EMBEDDED CONDUIT	MC Cable
SU6-Q3	1.25	40	SU6-Q3	3-1/C	#6	600V	45	480V	OUTLET	SU6	OUTLET	EMBEDDED CONDUIT	
SU6-	1.25	40	SU6-	3-1/C	#1, #8 GND	600V	45	480VAC	60A OUTLET	SU6	60A OUTLET	EXISTING CONDUIT	
SU6-Q5	1.25	45	SU6-Q5	3-1/C	#6, #10 GND	600V	55	480VAC	OUTLET	SU6	OUTLETS	EMBEDDED CONDUIT	
SU6-Q18	1.25	50	SU6-Q18	3-1/C	#6	600V	60	480VAC	OUTLET	SU6	OUTLET	EMBEDDED CONDUIT	
SU6-Q8	1.25	130	SU6-Q8	3-1/C	#6	600V	148	480V	OUTLETS	SU6	OUTLET	EMBEDDED CONDUIT	
SU6-Q17	1.25	30	SU6-Q17	3-1/C	#6	600V	42	480V	OUTLET	SU6	OUTLET	EMBEDDED CONDUIT	
SU6-Q10	1.25	75	SU6-Q10	2/C	#6	600V	85	480V	OUTLET	SU6	OUTLET	EMBEDDED CONDUIT	
SU6-Q6	1	160	SU6-Q6	3-1/C	#12	600V	170	480VAC	XJ-6 FAN A	SU6	XFA	EXISTING CONDUIT	
SU6-Q13	1	160	SU6-Q13	3-1/C	#12	600V	170	480VAC	XJ-6 FAN B	SU6	XFB	EXISTING CONDUIT	
SU6-Q11	1.25	60	SU6-Q11	3-1/C	#8	600V	70	480VAC	GENERATOR HEATER	SU6	G6 TERMINAL CABINET	EXISTING CONDUIT	
SU6-c1-GH	3/4		SU6-c1-GH	1-2/C	#12	600V	75	120VAC	GENERATOR HEATER CONTROL	SU6	G6 TERMINAL CABINET		
SU6-Q15	1	85	SU6-Q15	3-1/C	#10	600V	95	480VAC	HI-BAY LIGHTING	SU6	JB EL. 682 BAY 6	EMBEDDED CONDUIT	
SU6-q1-YA1	1.25	180	SU6-q1-YA1	3-1/C	#10 + #10G	600V	190	480VAC	CO2 TANK COMPRESSOR #1	SU6	CO2 TANK COMPRESSOR #1	EXISTING CONDUIT	
SU6-q1-YA2	1.25	180	SU6-q1-YA2	3-1/C	#10 + #10G	600V	190	480VAC	CO2 TANK COMPRESSOR #2	SU6	CO2 TANK COMPRESSOR #2	EXISTING CONDUIT	
SU6-Q9	3/4	175	SU6-Q9	3-1/C	#12	600V	180	480VAC	GOVERNOR SUMP HEATER	SU6	EHQ	EXISTING CONDUIT	
CP6-P1	2	60	CP6-P1	3-1/C	#4	600V	70	480VAC	GOV OIL PUMP NO. 1	SU6	GOV OIL PUMP 1	EXISTING CONDUIT	
CP6-P2	2	70	CP6-P2	3-1/C	#4	600V	80	480VAC	GOV OIL PUMP NO. 2	SU6	GOV OIL PUMP 2	EXISTING CONDUIT	
CP6-C1	3	60	CP6-C1	9/C	#19/25	600V	70	120VAC	GOV OIL PUMP NO. 1 CONTROL	CP6	SUMP CONTROL CABINET	EXISTING CONDUIT	
			CP6-C2	9/C	#19/25	600V	70	120VAC	GOV OIL PUMP NO. 2 CONTROL	CP6	FLOAT SWITCHES PRESSURE TANK	EXISTING CONDUIT	
			SP21-C1-CP6	3/C	#19/25	600V	70	120VAC	EMERGECNY ENG. LOAD SHEDDING	CP6	PRESSURE TANK	EXISTING CONDUIT	
CP5-C1.1	3	75	CP5-C1.1	21/C	#19/25	600v	65	120VAC	CP6-C1, CP6-C2, & SP21-C1-CP6 COMBINED	GOC5	CP6-C1, CP6-C2, & SP21-C1-CP6 COMBINED	EXISTING CONDUIT	
CP5-C1.2	3	75	CP5-C1.1	9/C	#19/25	600V	65	120VAC	GOC. PRESS. TANK	GOCV SUMP TANK	GOC. PRESS. TANK	EXISTING CONDUIT	
			CP5-C1.2	9/C	#19/25	600V	65	120VAC	GOC. PRESS. TANK	GOCV SUMP TANK	GOC. PRESS. TANK		
			SU4-C3.2-AA	9/C	#19/25	600V	65	120VAC	GOC. PRESS. TANK	SU5	GOC. PRESS. TANK		
SU6-Q?	0.75	75	SU5-Q?	3/C	#12	600V	65	480VAC	GOV OIL FILTER PUMP	SU5	GOV OIL FILTER PUMP	EXISTING CONDUIT	
SU5-E1	1	65	SU5-E1	4-1/C	#10, #10 GND	600V	75	125VDC	EMERGENCY LIGHTING	SU6	EMERGENCY LIGHTING	EMBEDDED CONDUIT	
S5R1-E1-SU6	1/2	65	S5R1-E1-SU6	2-1/C	#12 + #12G	600V	30	125VDC		SU6		EMBEDDED CONDUIT	
SU1-e1	1	55	SU1-e1	4	19/25	1000V	65	125V DC	EMERGENCY LIGHTING	SU1	S1		

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DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
SUBMITTED BY: JORDAN S. FINN, P.E.
ANSI D
DRAWING NUMBER: LGP-1.0024-DA7.05
SIZE: FILENAME: V1-LGP1.0024-ED805.dgn

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CABLE & CONDUIT SCHEDULE
SHEET 5 OF 7
REMOVAL

SHEET ID
VOLUME 1
ED805

FINAL

CONDUIT			CABLE						DESCRIPTION				REMARKS
NUMBER	SIZE	LENGTH	NUMBER	NO COND	SIZE	INS	RUN LENGTH	OPR VOLTAGE	FUNCTION	FROM	TO	ROUTING	
S1R1-e1-SU1	3/4	45	S1R1-e1-SU1	2	19/25	1000V	65	125V DC	EMERGENCY LIGHTING	SU1	BAY 1 JB11		
			S1R2-e2.2-SU1	2	3/0	600V	70	125V DC	POWER	S1R2	SU1	TRAY X12	
			S1R2-e3.2-SU1	2	3/0	600V	70	125V DC	POWER	S1R2	SU1	TRAY X12	
			S1R2-e1-SX1	2	4	1000V	80	125V DC	FIELD FLASHING SOURCE	S1R2	SX1	TRAYS X12, G1	
SU2-e1	1	55	SU2-e1	4	19/25	1000V	65	125V DC	EMERGENCY LIGHTING	SU2	S2		
S2R1-e1-SU2	3/4	45	S2R1-e1-SU2	2	19/25	1000V	65	125V DC	EMERGENCY LIGHTING	SU2	BAY 2 JB21		
			S2R2-e2.2-SU2	2	3/0	600V	70	125V DC	POWER	S2R2	SU2	TRAY X22	
			S2R2-e3.2-SU2	2	3/0	600V	70	125V DC	POWER	S2R2	SU2	TRAY X22	
			S2R2-e1-SX2	2	4	1000V	80	125V DC	FIELD FLASHING SOURCE	S2R2	SX2	TRAYS X22, G2	
SU3-e1	1	55	SU3-e1	4	19/25	1000V	65	125V DC	EMERGENCY LIGHTING	SU3	S3		
S3R1-e1-SU3	3/4	45	S3R1-e1-SU3	2	19/25	1000V	65	125V DC	EMERGENCY LIGHTING	SU3	BAY 3 JB31		
			S3R2-e2.2-SU3	2	3/0	600V	130	125V DC	POWER	S3R2	SU3	TRAY X32	
			S3R2-e3.2-SU3	2	3/0	600V	130	125V DC	POWER	S3R2	SU3	TRAY X32	
			S3R2-e1-SX3	2	4	1000V	80	125V DC	FIELD FLASHING SOURCE	S3R2	SX3	TRAYS X32, G3	
SU4-e1	1	55	SU4-e1	4	19/25	1000V	65	125V DC	EMERGENCY LIGHTING	SU4	S4		
S4R1-e1-SU4	3/4	45	S4R1-e1-SU4	2	19/25	1000V	65	125V DC	EMERGENCY LIGHTING	SU4	BAY 4 JB41		
			S4R2-e2.2-JBE4	2	3/0	600V	70	125V DC	POWER	S4R2	JBE5	TRAY X41	
			S4R2-e3.2-JBE4	2	3/0	600V	70	125V DC	POWER	S4R2	JBE5	TRAY X41	
			S4R2-e1-SX4	2	4	1000V	80	125V DC	FIELD FLASHING SOURCE	S4R2	SX4	TRAYS X41, G4	
SU5-e1	1	55	SU5-e1	4	19/25	1000V	65	125V DC	EMERGENCY LIGHTING	SU5	S5		
S5R1-e1-SU5	3/4	45	S5R1-e1-SU5	2	19/25	1000V	65	125V DC	EMERGENCY LIGHTING	SU5	BAY 5 JB51		
			S5R2-e2.2-JBE5	2	3/0	600V	60	125V DC	POWER	S5R2	JBE5	TRAY X51	
			S5R2-e3.2-JBE5	2	3/0	600V	60	125V DC	POWER	S5R2	JBE5	TRAY X51	
			S5R2-e1-SX5	2	4	1000V	80	125V DC	FIELD FLASHING SOURCE	S5R2	SX5	TRAYS X51, G5	KTR TO VERIFY CONDUIT
SU6-e1	1	55	SU6-e1	4	19/25	1000V	65	125V DC	EMERGENCY LIGHTING	SU6	S6		KTR TO VERIFY CONDUIT
S6R1-e1-SU6	3/4	45	S6R1-e1-SU6	2	19/25	1000V	65	125V DC	EMERGENCY LIGHTING	SU6	BAY 6 JB61		KTR TO VERIFY CONDUIT
			S6R2-e2.2-JBE5	2	3/0	600V	130	125V DC	POWER	S6R2	JBE5	TRAY X61	
			S6R2-e3.2-JBE5	2	3/0	600V	130	125V DC	POWER	S6R2	JBE5	TRAY X61	
			S6R2-e1-SX6	2	4	1000V	80	125V DC	FIELD FLASHING SOURCE	S6R2	SX6	TRAYS X61, G6	
			SB1-P1-XPC	2	#10	600V	130	125V DC	REMOTE CONTROL XP BREAKERS	SB1	XPC		
			SB1-e3-MOD	2	#6	600V	160	125V DC	500KV MOD CONTROL POWER	SB1	500KV MOD		
			SB1-e4	2	#10	600V	120	125V DC	TELEPHONE RM RECEPT	SB1	TELEPHONE RM EL. 618		
			SB1-e5-BPA	2	#4	600V	65	125V DC	BPA RM DC PANEL	SB1	BPA ROOM EL 580		SINGLE CONDUCTORS
SB1-e6	2	10	SB1-e6-EG	2	#6	600V	320	125V DC	SP-EG BREAKER CONTROL	SB1	EMERG. GEN	E, TRAYS B1, SP1, F1, F2, E	
SB1-e6	2	10	SB1-e7-FTC3	2	#10	600V	330	125V DC	B.F. VALVE LIMITORQUE SUPPLY	SB1	B.F. VALVE @ FISH PUMP #3	E, TRAYS B1, SP1, F1, F2, E	
SB1-e1	1-1/4	34	SB1-e8-CA1	2	#6	600V	33	125V DC	CA1 EMERG. LTG DC SUPPLY	SB1	CA1		
SB1-e1-SP	1-1/4	10	SB1-e9-SP	2	#10	600V	123	125V DC	SP SWGR TEST STA. DC SUPPLY	SB1	SP SWGR	E, TRAY B1	
SB-e1-SP	1-1/4	24											
SB-e1-SP	1-1/4	2									TEST STATION		
SB-e1-B1	3	18	SB2-e1	2	500MCM	600V	33	125V DC	BATTERY LEADS	BATTERY RM	SB2		
SB-e1.1-B1	3	12											
			SB2-e2-JBE1	2	3/0	600V	120	125V DC	UNIT SWBD SUPPLY	SB2	JBE1	TRAYS B2 & S1	
			JBE1-e2-JBE2	2	3/0	600V	120	125V DC		JBE1	JBE2	TRAYS X12, U2 & X22	
			JBE2-e2-JBE3	2	3/0	600V	120	125V DC		JBE2	JBE3	TRAYS X22, U2 & X32	
			JBE1-e2-SU1	2	3/0	600V	18	125V DC	SU1 DC SUPPLY	JBE1	SU1		
			JBE1-e2-SU2	2	3/0	600V	18	125V DC	SU2 DC SUPPLY	JBE2	SU2		
			JBE1-e2-SU3	2	3/0	600V	18	125V DC	SU3 DC SUPPLY	JBE3	SU3		
			SB2-e3-JBE1	2	3/0	600V	120	125V DC	UNIT SWBD SUPPLY	SB2	JBE1	TRAYS B2 & S1	
			JBE1-e3-JBE2	2	3/0	600V	120	125V DC		JBE1	JBE2	TRAYS X12, U2 & X22	
			JBE2-e3-JBE3	2	3/0	600V	120	125V DC		JBE2	JBE3	TRAYS X22, U2 & X32	
			JBE1-e3-SU1	2	3/0	600V	18	125V DC	SU1 DC SUPPLY	JBE1	SU1		
			JBE1-e3-SU2	2	3/0	600V	18	125V DC	SU2 DC SUPPLY	JBE2	SU2		
			JBE1-e3-SU3	2	3/0	600V	18	125V DC	SU3 DC SUPPLY	JBE3	SU3		
SB-e2.1	1	5	SB1-e2.1	2	#8	600V	6	125V DC	MAINT. RM DC SUPPLY	SB2	SP SWGR		
SB-e2	1	163	SB1-e2	2	#8	600V	190	125V DC	MAINT. RM DC SUPPLY	SB2	SP SWGR	E, TRAY B1	
SB-e3	3		SB2-e6-ER23	2	#8	600V	100	125V DC	EQUIP. RM DC SUPPLY	SB2	ER23	E, TRAY B1	
SB-e5	3	10	SB2-e7-ER23	2	#8	600V	100	125V DC	EQUIP. RM DC SUPPLY	SB2	ER23	E, TRAY B1	
SB-e5	3		SB2-e8-SP11	2	#12	1000V	130	125V DC	TO1 RELAYS DC SUPPLY	SB2	TO1 RELAYS	E, TRAY B1 & SP1	
SB-e5	3		SB2-e10-SP15	5	#12	1000V	136	125V DC	STA. SER. ANN. DC SUPPLY	SB2	STATION SERVICE	E, TRAY B1 & SP1	
SB-e6	2	10	SB2-e11-FTC1	2	#10	1000V	380	125V DC	B.F. VALVE LIMITORQUE SUPPLY	SB2	B.F. VALVE @ FISH PUMP #1	E, TRAYS B1, SP1, F1, F2, E	
SB-e1-SQO	1-1/4	6	SB2-e12-SQO	2	#12	1000V	170	125V DC	SQO BREAKER CONTROL	SB2	SQO	E, TRAYS B1, SP1	
SB-e1-SQO	1-1/4		SB2-e13-SQO	2	#10	1000V	170	125V DC	SQO FDR BREAKER CONTROL	SB2	SQO	E, TRAYS B1, SP1	
SB-e6	2	10	SB2-e14-FTC2	2	#10	1000V	355	125V DC	B.F. VALVE LIMITORQUE SUPPLY	SB2	B.F. VALVE @ FISH PUMP #2	E, TRAYS B1, SP1, F1, F2, E	
			SB2-e15	2	#12	1000V	130	125V DC	TO2 RELAYS DC SUPPLY	SB2	TO2 RELAYS		
SB-e1-CY01	3/4	115	SB2-e16-CY01	2	#10	1000V	147	125V DC	CO2 CONTROL SUPPLY	SB2	CY01		
SB-e1-CY01	3/4	9											
SB-e1-CY02	3/4	28	SB2-e17-CY02	2	#10	1000V	64	125V DC	CO2 CONTROL SUPPLY	SB2	CY02		
SB-e1-CY02	3/4	19											
SB-e1-CY03	3/4	130	SB2-e18-CY03	2	#10	1000V	151	125V DC	CO2 CONTROL SUPPLY	SB2	CY03		
SB-e1-CY04	3/4	70	SB2-e19-CY04	2	#10	1000V	91	125V DC	CO2 CONTROL SUPPLY	SB2	CY04		
SB-e4	3	10	SB3-u1-SP19	7	#10	1000V	140	125V DC	ANNUNCIATION			E, TRAYS B2 & SP1	
SB3-u1-SB5	1-1/4	13	SB3-u1-SB5	5	#10	1000V	25	125V DC	ANNUNCIATION			E, TRAY B2	
SB-d1-B2	2	7	SB-d1-B2	2	1/0	600V	20	48V DC	48V BATTERY LEADS	SB6	48V BATTERY		KTR TO VERIFY ROUTING
SB-d1-TF	1-1/4	9	SB6-d1-TF	2	#10	1000V	190	48V DC	TELEPHONE RM DC SOURCE	SB6	TELEPHONE ROOM		KTR TO VERIFY ROUTING

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CABLE & CONDUIT SCHEDULE
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CONDUIT			CABLE						DESCRIPTION				REMARKS
NUMBER	SIZE	LENGTH	NUMBER	NO COND	SIZE	INS	RUN LENGTH	OPR VOLTAGE	FUNCTION	FROM	TO	ROUTING	
SB-d1-ER22	1-1/4	8	SB6-d1-ER22	2	#4	600V	95	48V DC	48V DC SOURCE	SB6	ER22	E. TRAY B1	KTR TO VERIFY ROUTING
			ER23-e3	2	#14	600V	40	125V DC	DC POWER	ER23	PSAT, NSAT DIGITAL DATA COLL. SYS.		KTR TO VERIFY ROUTING
			ER23-e4	2	#14	600V	40	125V DC	DC POWER	ER23	PTT, NTT TRANSFER TRIP		KTR TO VERIFY ROUTING
			ER23-e5	2	#14	600V	40	125V DC	DC POWER	ER23	DIGITAL GOV. HMI PWR		KTR TO VERIFY ROUTING
			ER23-e6	2	#14	600V	40	125V DC	DC POWER	ER23	PVB, NVB VOLTAGE BALANCER		KTR TO VERIFY CABLE & ROUTING
			ER23-e7	2	#14	600V	40	125V DC	DC POWER	ER23	POD, NOD CONSOLE (TRANSFER TRIP)		KTR TO VERIFY CABLE & ROUTING
			ER23-e8	5	#14	600V	40	125V DC	DC POWER	ER23	PUS, NUS UNIT SELECTION RELAYS		KTR TO VERIFY CABLE & ROUTING
			ER23-e9	2	#14	600V	40	125V DC	DC POWER	ER23	PSX, NSX BRKR SELECTION RELAYS		KTR TO VERIFY CABLE & ROUTING
			ER23-e10	2	#14	600V	40	125V DC	DC POWER	ER23	PS, NS TO ER12		KTR TO VERIFY CABLE & ROUTING
			ER23-e11	5	#14	600V	40	125V DC	DC POWER	ER23	PA, NA COMMON ANNUN.		KTR TO VERIFY CABLE & ROUTING
			ER23-e12	2	#14	600V	40	125V DC	DC POWER	ER23	SER		KTR TO VERIFY CABLE & ROUTING
			ER22-d2	2	#14	600V	40	125V DC	CODE CALL RELAY	ER22	CODE CALL RELAY		KTR TO VERIFY CABLE & ROUTING
			ER22-d3	2	#14	600V	40	125V DC	BPA BRKR INDICATION	ER22	BPA BRKR INDICATION		KTR TO VERIFY CABLE & ROUTING
			ER22-d5	2	#14	600V	40	125V DC	UNIT BRKR SELECTION	ER22	UNIT BRKR SELECTION		KTR TO VERIFY CABLE & ROUTING
			ER22-d6	2	#14	600V	40	125V DC	SUPERVISORY EQUIPMENT	ER22	SUPERVISORY EQUIPMENT		KTR TO VERIFY CABLE & ROUTING
			ER22-d7	2	#14	600V	40	125V DC	SPILLWAY GATE READOUT	ER22	SPILLWAY GATE READOUT		KTR TO VERIFY CABLE & ROUTING
			CH2-h2-CH2A	2	#10	600V	50	120VAC	CH2A POWER	CH2	CH2A		KTR TO VERIFY CABLE & ROUTING
			CH2A-h1	2	#14	600V	50	120VAC	STA MW & SYS FREQ. REC.	CH2A			KTR TO VERIFY CABLE & ROUTING
			CH2A-h2	2	#14	600V	50	120VAC	WATER LEVEL WR1 WR2	CH2A			KTR TO VERIFY CABLE & ROUTING
			CH2A-h5	2	#14	600V	50	120VAC	7TH FL BUZZER	CH2A	7TH FL		KTR TO VERIFY CABLE & ROUTING
			CH2A-h7	2	#14	600V	50	120VAC	SPILLWAY GATE CONTROL	CH2A			KTR TO VERIFY CABLE & ROUTING
			CH2A-h8	2	#14	600V	50	120VAC	D1, D2	CH2A			KTR TO VERIFY CABLE & ROUTING
			CH2A-h9	2	#14	600V	50	120VAC	HI GRD	CH2A			KTR TO VERIFY CABLE & ROUTING
			CH2A-h12	2	#14	600V	50	120VAC	PY, NY	CH2A			KTR TO VERIFY CABLE & ROUTING
			SO/H-h2-CH2	2		600V	10	120VAC	FEEDER FROM MANUAL BYPASS SWITCH	SO/H	ZH2		KTR TO VERIFY CABLE SIZE & ROUTING
			ZH2-h1-CH2	2		600V	50	120VAC	CH2 POWER	ZH2	CH2		KTR TO VERIFY CABLE SIZE & ROUTING
			CH2-h6	2	#10*	600V		120VAC	BATTERY VALIDATION SYSTEM	CH2	BATTERY VALIDATION SYSTEM		KTR TO VERIFY CABLE SIZE & ROUTING
			CH2-h7	2		600V		120VAC	SPARE TO TBH2 @SQ5 PANEL 1B	CH2			KTR TO VERIFY CABLE SIZE & ROUTING
			CH2-h8	2	#10*	600V		120VAC	WAREHOUSE ELECTRIC SHOP	CH2	WAREHOUSE ELECTRIC SHOP		KTR TO VERIFY CABLE SIZE & ROUTING
			CH2-h9	2	#12*	600V		120VAC	CONTROL RM RELAY	CH2	CONTROL RM (6TH FL)		KTR TO VERIFY CABLE SIZE & ROUTING
			CH2-h10	2	#4*	600V		120VAC	S BOARDS (1R 14 1R NEU)	CH2	S BOARDS		KTR TO VERIFY CABLE SIZE & ROUTING
			CH2-h12	2	#10*	600V		120VAC	SERVER/PHONE RM CONF. RM	CH2	SERVER/PHONE RM		KTR TO VERIFY CABLE SIZE & ROUTING
			CH2-h13	2	#10*	600V		120VAC	8TH FL OFC #1	CH2	8TH FL OFFICE		KTR TO VERIFY CABLE SIZE & ROUTING
			CH2-h14	2	#12*	600V		120VAC	TEL SW 7TH FL	CH2	TELEPHONE SW (7TH FL)		KTR TO VERIFY CABLE SIZE & ROUTING
			CH2-h15	2	#10*	600V		120VAC	8TH FL OFC #2	CH2	8TH FL OFFICE		KTR TO VERIFY CABLE SIZE & ROUTING
			CH2-h16	2	#10*	600V		120VAC	8TH FL OFC D/S	CH2	8TH FL OFFICE DOWNSTREAM		KTR TO VERIFY CABLE SIZE & ROUTING
			CH2-h17	2	#12*	600V		120VAC	CODE CALL & TIME CLOCK	CH2	CODE CALL & TIME CLOCK 5TH FL		KTR TO VERIFY CABLE SIZE & ROUTING
			CH2-h18	2	#12*	600V		120VAC	PHONE RM S WALL	CH2	PHONE RM (7TH FL)		KTR TO VERIFY CABLE SIZE & ROUTING
			CH2-h19	2		600V		120VAC	ER ROOM CH2A PANEL	CH2	CH2A PANEL		KTR TO VERIFY CABLE SIZE & ROUTING
			CH2-h20	2	#10*	600V		120VAC	MECH SHOP	CH2	MECH. SHOP		KTR TO VERIFY CABLE SIZE & ROUTING
			SO/H-h1A-ZH1A	2		600V		120VAC	FEEDER FROM MANUAL BYPASS SWITCH	SO/H	ZH1A		KTR TO VERIFY CABLE SIZE & ROUTING
			CH1A-h1A-ZH1A	2		600V		120VAC	CH1A POWER	ZH1A	CH1A		KTR TO VERIFY CABLE SIZE & ROUTING
			SO/H-h1-ZH1	2		600V		120VAC	FEEDER FROM MANUAL BYPASS SWITCH	SO/H	ZH1		KTR TO VERIFY CABLE SIZE & ROUTING
			CH1-h1-ZH1	2		600V		120VAC	CH1 POWER	ZH1	CH1		KTR TO VERIFY CABLE SIZE & ROUTING
			TRINV-h1-ZH	2		600V		120VAC	TRINV TRANSFORMER POWER	TRINV TRANSFORMER	ZH		KTR TO VERIFY CABLE SIZE & ROUTING
			ZH-h1-SO/H	2		600V		120VAC	SO/H INCOMING POWER FORM TRINV	ZH	SO/H		KTR TO VERIFY CABLE SIZE & ROUTING
			SB5-h1-IV1	2		600V		120VAC	INVERTER 1 FEEDER	SB5 BREAKER	IV1		KTR TO VERIFY CABLE SIZE & ROUTING
			SB5-h1-IV2	2		600V		120VAC	INVERTER 2 FEEDER	SB5 BREAKER	IV2		KTR TO VERIFY CABLE SIZE & ROUTING
			SO/H-h1-IV1	2		600V		120VAC	MANUAL BYPASS INVERTER 1	SO/H	IV1		KTR TO VERIFY CABLE SIZE & ROUTING
			IV1-h1-SO/H	2		600V		120VAC	MANUAL BYPASS INVERTER 1	IV1	SO/H		KTR TO VERIFY CABLE SIZE & ROUTING
			SO/H-h1-IV2	2		600V		120VAC	MANUAL BYPASS INVERTER 2	SO/H	IV2		KTR TO VERIFY CABLE SIZE & ROUTING
			IV2-h1-SO/H	2		600V		120VAC	MANUAL BYPASS INVERTER 2	IV2	SO/H		KTR TO VERIFY CABLE SIZE & ROUTING

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GRAPHIC SYMBOLS:

- DRAW OUT OR PLUG IN CONNECTION
- MOLDED CASE CIRCUIT BREAKER
- INTERLOCKED CIRCUIT BREAKERS
- POTENTIAL OR CONTROL TRANSFORMER
- TRANSFORMER
- OVERLOAD RELAY
- PUSH BUTTON (NORMALLY CLOSED)
- PUSH BUTTON (NORMALLY OPEN)
- CONTACTS NORMALLY CLOSED
- CONTACTS NORMALLY OPEN
- MAGNETIC CONTACTOR
- INDICATING LIGHT. LETTER INDICATES COLOR A=AMBER, B=BLUE, G=GREEN, R=RED
- MOTOR
- CONNECTION TO GROUND BUS
- BILL OF MATERIALS ITEM NO. TAG
- CIRCUIT IDENTIFIER
- TERMINAL
- CONTROL DEVICE
- NORMALLY CLOSED TIME DELAY OPEN
- NORMALLY OPEN TIME DELAY CLOSE
- NORMALLY CLOSED TIME DELAY OPEN
- 4" SQUARE INTERIOR JUNCTION BOX
- EXTERIOR JUNCTION BOX, SIZE AS INDICATED
- EXTERIOR TERMINAL BOX (EXTERIOR J-BOX WITH TERMINAL STRIPS)
- LIMIT SWITCH, NORMALLY CLOSED
- CENTRIFUGAL SPEED SWITCH (OPENS ON OVER SPEED OR UNDER SPEED CONDITIONS)
- 600V, 3P, 4W POWER RECEPTACLE
- NORTH ARROW
- PIN AND SLEEVE CONNECTION
- SHIELD GROUND
- EQUIPMENT CONNECTION
- 480V PANEL - PLAN
- PANEL - SCHEMATIC/ONE-LINE
- MCC - PLAN
- MCC - SCHEMATIC/ONE-LINE

RACEWAY:

- NEW RIGID CONDUIT AND WIRE OR NEW WIRE IN EXISTING CONDUIT
- NEW LIQUID-TITE FLEX CONDUIT AND WIRE
- EXISTING CONDUIT AND WIRE
- EXISTING CONDUIT AND WIRE TO BE REMOVED
- EXISTING WIRE TO BE REMOVED, EXISTING CONDUIT TO REMAIN
- EXISTING LIQUID-TITE FLEX CONDUIT AND WIRE
- CENTERLINE
- EQUIPMENT DIFFERENTIATOR
- EXISTING FEEDER
- NEW FEEDER IN NEW OR EXISTING RACEWAY
- CONDUIT EXPOSED
- CONDUIT EMBEDDED IN FLOOR OR WALL
- CONDUIT TURNING TOWARD OBSERVER.
- CONDUIT TURNING AWAY FROM OBSERVER.
- EXISTING LIQUID-TITE FLEX CONDUIT AND WIRE
- CABLE TRAY

NOMENCLATURE:

A. TERMINAL EQUIPMENT

L - LOCK
F - FISH RELATED
D - NON-OVERFLOW DAM

1. SWITCHBOARDS AND SWITCHGEAR

CH - 120V SWITCHBOARDS (POWERHOUSE)
LCQ - 480V SWITCHGEAR (NAV LOCK)
SB - 125VDC (POWERHOUSE)
SU - 480V SWITCHBOARD (MAIN UNITS)
SUA - 480V SWITCHBOARD (FISHWATER UNITS)
SJ - 13.8KV SWITCHGEAR (STATION SERVICE)

2. LOAD CENTERS

CD - 48VDC PANEL (POWERHOUSE)
CE - 125VDC PANELS (POWERHOUSE)
CQ - 480V (POWERHOUSE)
DQ - 480V (NON-OVERFLOW DAM)
FCQ - 480V (FISH RELATED
SQ - 480V SUBSTATION (POWERHOUSE)

3. APPARATUS

B - BATTERY
CT - CURRENT TRANSFORMER
GO - GOVERNOR OIL
IOR - REMOTE PLC INPUT/OUTPUT RACK
KC - CRANE CONTACTOR (N - NORTH, S - SOUTH)
L - LIGHTING
M - MOTOR
MBS - MANUAL BYPASS SWITCH
MCC - MOTOR CONTROL CENTER
T - TRANSFORMER (POWER)
TC - TERMINAL CABINET
TH - PREFERRED AC TRANSFORMER
TR - TRANSFORMER (LIGHTING)
UC - UNIT CONDITIONER
RF - RECIRCULATING FAN
X - BREAKER (ADD VOLTAGE LETTER)
Z - DISC. SWITCH (ADD VOLTAGE LETTER)

B. MODIFYING TERMS FOR TERMINAL EQUIPMENT

1. AS AN AID TO FURTHER IDENTIFICATION OF VOLTAGE CLASS AND LOCATION OF THE EQUIPMENT, THE FOLLOWING ARE APPLIED TO SEPARATELY MOUNTED BREAKERS, DISCONNECTING MOUNTED BREAKERS, DISCONNECTING SWITCHES, CURRENT TRANSFORMER AND VOLTAGE TRANSFORMERS.
   - J - 13.8kV
   - P - 5kV
   - Q - 480V
   - R - 120/240 (120/208)
   - N - NEUTRAL (i.e. GN1,TN1)
   2. SERVICE CODE OR VOLTAGE CLASS (USE LOWER CASE LETTERS ONLY)
   - c - CONTROL CIRCUITS
   - f - FIBER OPTIC CIRCUIT
   - h - POWER CIRCUIT, 120V PREF AC
   - j - POWER CIRCUIT, 13.8kVAC
   - p - POWER CIRCUIT, 5kVAC
   - q - POWER CIRCUIT, 480VAC
   - r - POWER CIRCUIT, 120/240 OR 120/208 VAC (LIGHTING)
   - s - SPARE CONDUIT
   - tn - LOCAL AREA NETWORK (LAN) CIRCUITS
   - u - ANNUNCIATION/INSTRUMENTATION

C. CIRCUIT AND ROUTING IDENTIFICATION

ELECTRICAL CIRCUITS AND CONDUITS ARE IDENTIFIED AS FOLLOWS:

BETWEEN MAJOR ITEMS OF EQUIPMENT A THREE PART NUMBER IS USED.

A TWO-PART NUMBER IS USED FOR MOST LIGHTING AND SOME POWER DISTRIBUTION CIRCUITS; I.E., THE END OF RUN IS OMITTED.

CONTROL CIRCUIT NUMBERS CORRESPOND TO THE NUMBER OF THE CONTROLLED POWER CIRCUIT; e.g. CQA3-c1 WOULD CONTROL CQA3-q1.

CONDUIT NUMBERS ARE GENERALLY IDENTICAL TO THE CIRCUIT CONTAINED WITHIN THE CONDUIT.

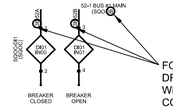
CIRCUITS TO DEVICES FORMING AN INTEGRAL PART OF TERMINAL EQUIPMENT RECEIVE THE TERMINAL EQUIPMENT DESIGNATION (e.g. THE CIRCUIT TO CT'S IN CIRCUIT BREAKER XJ1 COULD BE DESIGNATED SU1-q1-XJ1). CIRCUITS TO SEPARATELY MOUNTED DEVICES RECEIVE THE DESIGNATION ASSIGNED TO THE DEVICE (i.e. CQ24-q1-4C1 IS A CIRCUIT GOING TO TRANS. OIL PUMP 4C1).

MULTI-FIBER CABLES ARE IDENTIFIED BY SUFFIX "f"; i.e., 8/f INDICATES A EIGHT-FIBER CABLE.

MULTI-CONDUCTOR CABLES ARE IDENTIFIED BY SUFFIX "c"; i.e., 3/c INDICATES A THREE-CONDUCTOR CABLE.

D. WIRE NAMES FOR WIRES FROM LOCAL CONTROL PANELS TO SWITCHGEAR

WIRES FROM LOCAL CONTROL PANELS TO SWITCHGEAR HAVE NAMES THAT ARE SPECIFIC TO THE BREAKER CUBICLE; 1B, 2C, AND SO FORTH; ASSUMED TO HAVE A PARTICULAR MAIN, TIE, OR FEEDER ASSOCIATED WITH IT.
SHOP DRAWINGS MUST CHANGE THE CUBICLE DESIGNATION WITHIN THE WIRE NAME TO MATCH THE SWITCHGEAR AS IT WILL BE MANUFACTURED, IF THE CUBICLES FOR EACH PARTICULAR MAIN, TIE, OR LOAD FEEDER HAVE CHANGED.



FOR EXAMPLE: 3B CHANGES TO 1B ON SHOP DRAWINGS IF THE MAIN BREAKER FOR SQO WERE TO CHANGE TO 1B. "3B-52A" ON CONTRACT DRAWINGS WOULD BECOME "1B-52A" ON THE SHOP DRAWINGS AND FINAL AS-BUILT DRAWINGS. WIRE NAMES MUST BE CHANGED FOR ALL SCHEMATICS AND WIRING DIAGRAMS TO MATCH THE CUBICLES THEY TARGET IN THE DELIVERED SWITCHGEAR. THIS APPLIES TO WIRE NAMES SHOWN ON DRAWINGS IN VOLUME 2:
E-606 THROUGH E-614
E-704 THROUGH E-718

APPLY CHANGES TO SUBMITTAL ITEMS SD-02 SHOP DRAWINGS REQUIRED BY SPECIFICATIONS:
SECTION 26 23 10.10 26 SPT 1.4.3
SECTION 26 28 00.00 26 SPT 1.4.1.3
SECTION 40 95 00.00 26 SPT 1.6

ABBREVIATIONS:

A	AMPERE
mA	MILLI AMPERE
AC	ALTERNATING CURRENT
ARMS	ARC-FLASH REDUCTION MAINTENANCE SYSTEM
AWG	AMERICAN WIRE GAUGE
CB	CIRCUIT BREAKER
CL	CENTERLINE
CNTL	CONTROL
COMM	COMMUNICATIONS
COR	CONTRACTING OFFICER REPRESENTATIVE
DC	DIRECT CURRENT
DWG	DRAWING
EGC	EQUIPMENT GROUNDING CONDUCTOR
EL	ELEVATION
EOLR	END OF LINE RESISTOR
F/O	FIBER OPTIC
FOC	FIBER OPTIC CABLE
GEN #	GENERATION #
GND	GROUND
GQAR	GOVERNMENT QUALITY ASSURANCE REPRESENTATIVE
HCP	HOIST CONTROL PANEL
HP	HORSE POWER
HTR	HEATER
HTRS	HEATERS
I/O	INPUT/OUTPUT
JMPR	JUMPER
KVA	KILO-VOLT-AMPS
L/R	LOCAL/REMOTE
LT	LIGHT
LTS	LIGHTS
MC	MEDIA CONVERTER
MCC	MOTOR CONTROL CENTER
MOD	MODULE
MOTOR	MTR
NTS	NOT TO SCALE
PH	PHASE
PLC	PROGRAMMABLE LOGIC CONTROLLER
POS	POSITION

GENERAL NOTES:

1. A GROUND WIRE SHALL BE PROVIDED IN ALL POWER CONDUIT.
2. ALL GROUND WIRES INCLUDING EQUIPMENT SHALL BE INSULATED CONDUCTORS UNLESS OTHERWISE NOTED.
3. THE CONTRACTOR SHALL PROTECT EXISTING CONDUCTORS, CONDUIT, AND EQUIPMENT NOT INDICATED AS REMOVED, INCLUDING CONDUCTORS LOCATED IN CONDUIT/CABLETRAYS WHERE NEW CONDUCTORS ARE TO BE INSTALLED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF ANY ITEMS DAMAGED AS A PART OF THIS PROJECT.
4. CONTRACTOR SHALL PROVIDE PULL BOXES AS REQUIRED TO COMPLY WITH THE NATIONAL ELECTRICAL CODE MAXIMUM DEGREES CIRCUIT BENDING AND AS NEEDED TO FACILITATE THE PULLING OF CONDUCTORS.
5. THIS IS A STANDARD LEGEND SHEET. NOT ALL SYMBOLS OR ABBREVIATIONS INDICATED ON THIS SHEET APPEAR IN THE PLANS.
6. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED/REMOVED AS INDICATED, UNLESS NOTED OTHERWISE.

ABBREVIATIONS (CONTINUED):

PROX	PROXIMITY
PT	POTENTIAL TRANSFORMER
PWR	POWER
REF	REFERENCE ONLY
RM	ROOM
SLD	SHIELD
SW	SWITCH
T	TRANSFORMER
TD	TIME DELAY
TERM	TERMINAL
TOC	TRUCK-OPERATED CELL
TP	TWISTER PAIR
TSP	TWISTED SHIELDED PAIR
TYP	TYPICAL
V	VOLTS
VAC	VOLTS ALTERNATING CURRENT
VDC	VOLTS DIRECT CURRENT
XFMR	TRANSFORMER

DEVICE FUNCTIONS:

1	MASTER CONTROL SWITCH
4	MASTER CONTACTOR
20	ELECTRICALLY-OPERATED VALVE
27	UNDERVOLTAGE RELAY
33	POSITION SWITCH
42	AC CONTACTOR
47	PHASE-SEQUENCE VOLTAGE RELAY
50	INSTANTANEOUS OVERCURRENT OR RATE-OF-RISE RELAY
52	AC CIRCUIT BREAKER
62	TIME-DELAY RELAY, STOPPING OR OPENING
63	LIQUID PRESSURE SWITCH
77	TELEMETERING DEVICE. G DEVICE
88	AUXILIARY MOTOR

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINLAY, P.E.
ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-00A3/1
SIZE: FILENAME: V1-LGP1.002-E-001.dgn

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WALLA WALLA DISTRICT
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HYDROELECTRIC DESIGN CENTER
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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

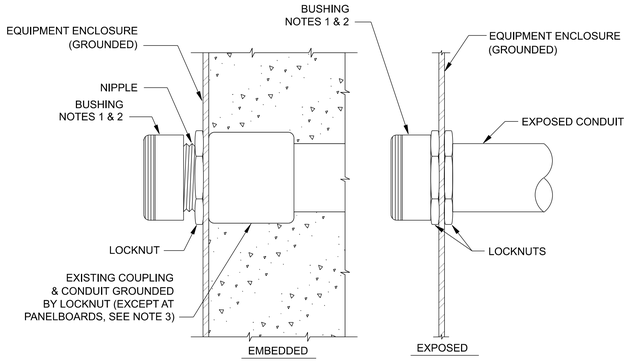
ELECTRICAL LEGEND ABBREVIATIONS AND GENERAL NOTES

SHEET ID
VOLUME 1
E-001

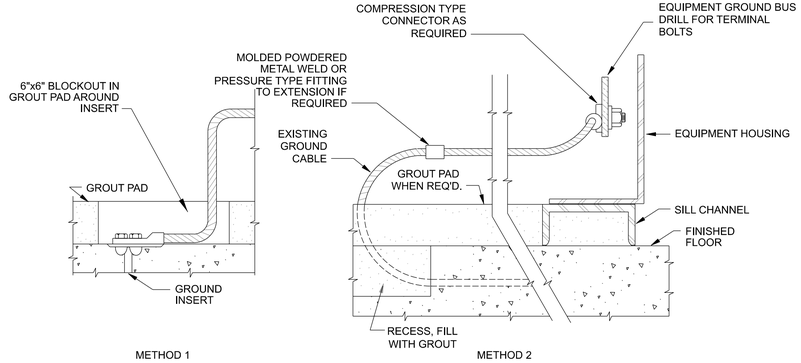
FINAL

GENERAL NOTES:

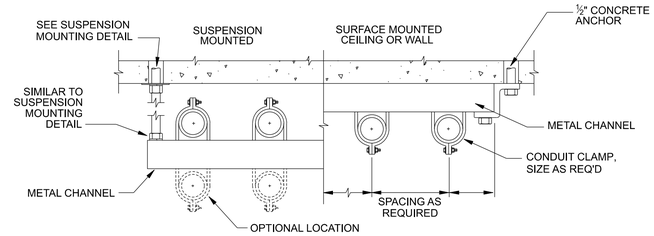
1. TYPICAL INSTALLATION DETAILS ARE SHOWN ON THESE DRAWINGS AND ARE NOT NECESSARILY REFERENCED ON INDIVIDUAL DRAWINGS.
2. FOR DESIGN REQUIREMENTS FOR SEISMIC ANCHORS, SEE SPECIFICATION 13 48 00.00 26.



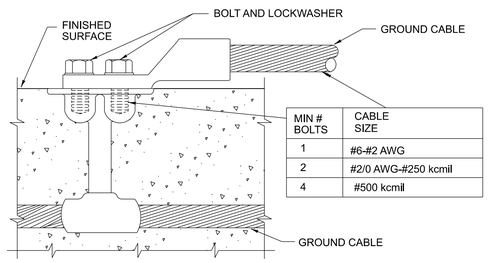
A CONDUIT CONNECTION TO EQUIPMENT
SCALE: NTS



B CONNECTION TO EQUIPMENT GROUND BUS
SCALE: NTS

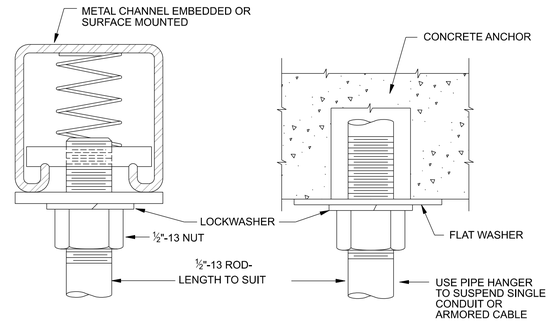


C SUPPORT FOR TWO OR MORE CONDUITS FOR SINGLE CONDUIT USE PIPE CLAMP WITH CLAMP BACK
SCALE: NTS

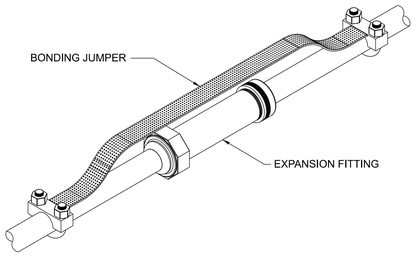


MIN # BOLTS	CABLE SIZE
1	#6-#2 AWG
2	#2/0 AWG-#250 kcmil
4	#500 kcmil

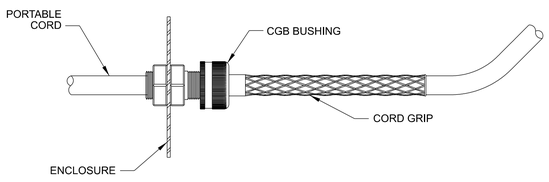
D CONNECTION TO GROUND INSERT
SCALE: NTS



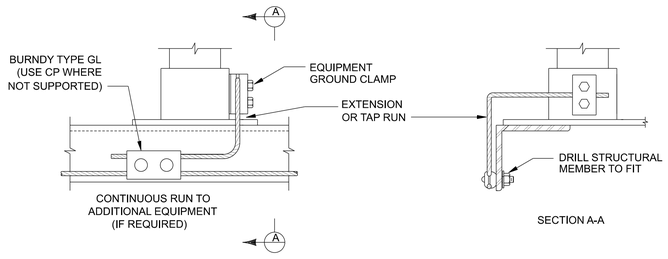
E SUSPENSION MOUNTING
SCALE: NTS



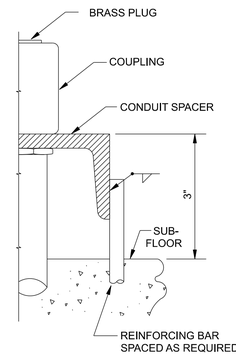
F CONDUIT EXPANSION FITTING
SCALE: NTS



G CABLE STRAIN RELIEF
SCALE: NTS



H EQUIPMENT CONNECTION TO EXPOSED GROUND CABLE
SCALE: NTS



I TERMINATION OF CONDUITS & GROUNDING AT SPACER IN FLOOR BENEATH EQUIPMENT PAD
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY:
JORDAN S. FINLAYSON, P.E.
ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-0A3/2
SIZE: FILENAME: V1-LGP1.002-E-002.dgn

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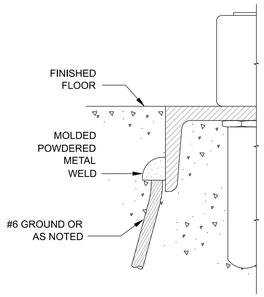
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

ELECTRICAL DETAILS
SHEET 1 OF 2

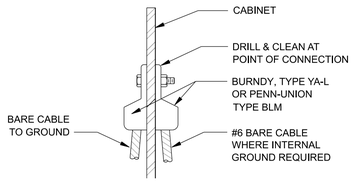
SHEET ID
VOLUME 1
E-002

FINAL



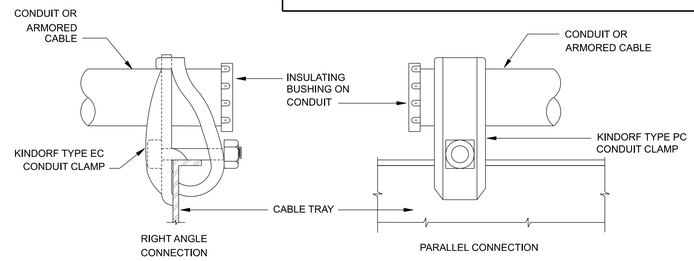
NOTES:

1. TYPICAL INSTALLATION DETAILS ARE SHOWN ON THESE DRAWINGS AND ARE NOT NECESSARILY REFERENCED ON INDIVIDUAL DRAWINGS.
2. FOR DESIGN REQUIREMENTS FOR SEISMIC ANCHORS, SEE SPECIFICATION 13 48 00.00 26.



GENERAL NOTES:

1. TYPICAL INSTALLATION DETAILS ARE SHOWN ON THESE DRAWINGS AND ARE NOT NECESSARILY REFERENCED ON INDIVIDUAL DRAWINGS.
2. FOR STEEL CHANNEL FOUNDATION REQUIREMENTS, SEE 03 60 00.00 26.
3. FOR DESIGN REQUIREMNETS FOR SEISMIC ANCHORS, SEE SPECIFICATION 13 48 00.00 26



J TERMINATION OF CONDUITS & GROUNDING AT SPACER IN FINISHED FLOOR

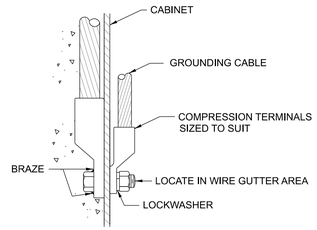
SCALE: NTS

K GROUND CONNECTION TO CABINET

SCALE: NTS

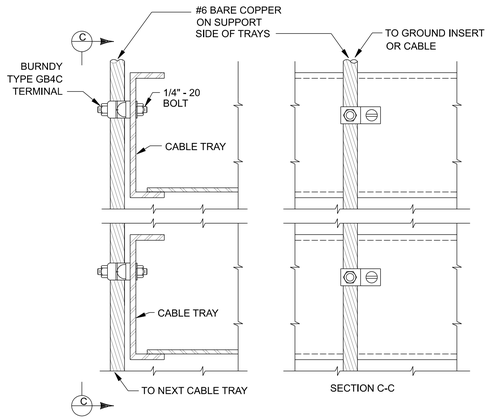
L CONDUIT OR ARMORED CABLE SECURED TO CABLE TRAY

SCALE: NTS



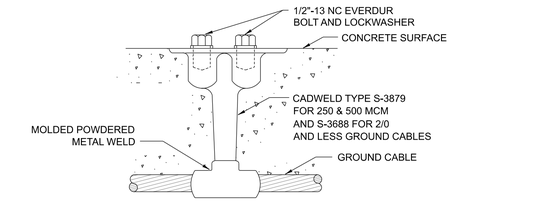
M CABINET GROUNDING

SCALE: NTS



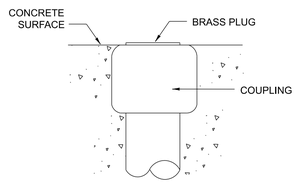
N GROUNDING INTERCONNECTION FOR STACKED CABLE TRAYS

SCALE: NTS



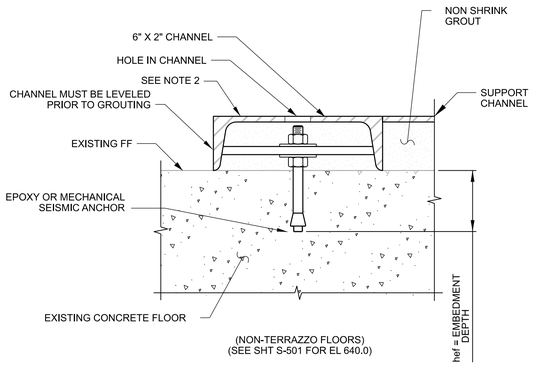
O GROUND INSERT

SCALE: NTS



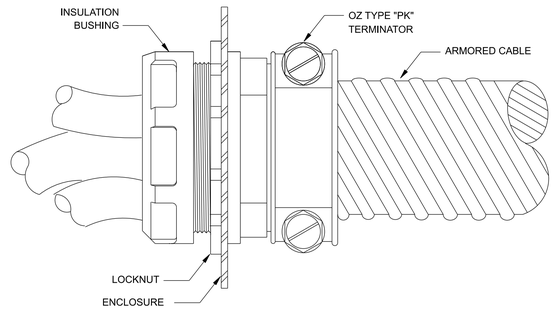
P TERMINATION OF CONDUIT AT CONCRETE SURFACE

SCALE: NTS



Q FLOOR MOUNTED EQUIPMENT STEEL CHANNEL FOUNDATION

SCALE: NTS



R ARMORED AND METAL-CLAD CABLE TERMNATION

SCALE: NTS

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MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-DA3/3
SIZE: FILE NAME: V1-LGP1.002-E-003.dgn

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

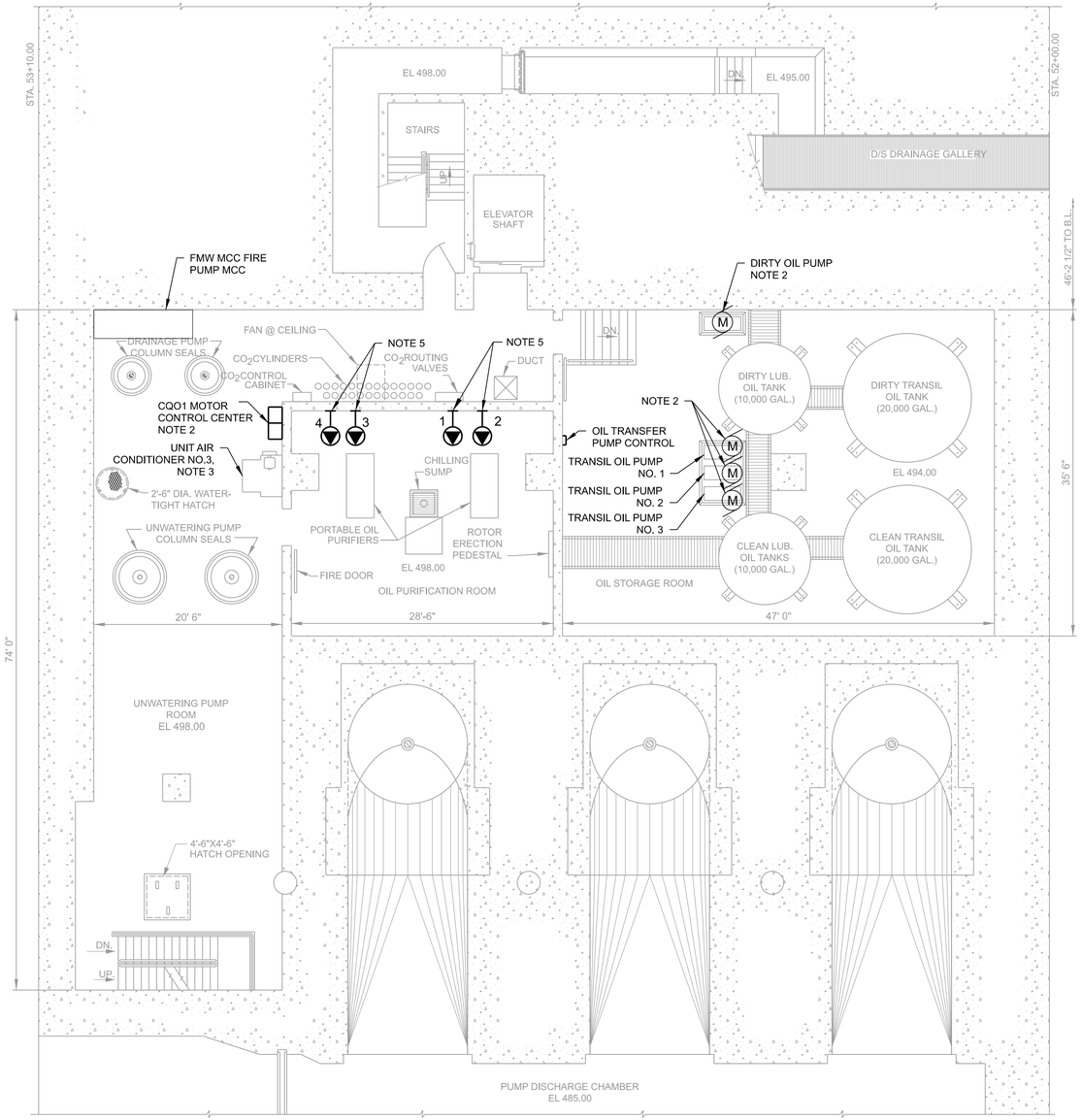
ELECTRICAL DETAILS
SHEET 2 OF 2

SHEET ID
VOLUME 1
E-003

FINAL

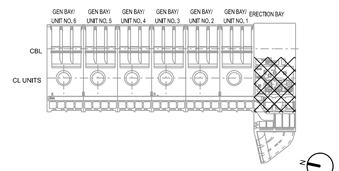
GENERAL NOTES:

1. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
2. REPLACE EXISTING FEEDERS AND CIRCUITS TO MCC CQO1 AND FROM MCC TO EQUIPMENT. MODIFY CONDUIT AS REQUIRED TO NEW MCC CQO1 INSTALLED IN EXISTING LOCATION. SEE SHEET ED101 FOR REMOVAL.
3. REPLACE EXISTING CIRCUIT FROM MCC CQO2, FROM MCC TO EQUIPMENT. MODIFY EXISTING CONDUIT AS REQUIRED. SEE SHEET ED101 FOR REMOVAL.
4. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
5. REPLACE EXISTING CIRCUIT FROM MCC CQO2 TO RECEPTACLES. REPLACE RECEPTACLES IN KIND UNLESS OTHERWISE NOTED.
6. ALL NEW CABLES NEED TO BE FIRESTOPPED IN ACCORDANCE WITH SPECIFICATION 07 84 00.00 28.



B5 PLAN VIEW, LEVEL 1 (EL 498.00)
SCALE: 1/8"=1'-0"

0 4' 8' 16'



1 KEY PLAN: LGA POWERHOUSE ELEVATION 498.00
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. TENNANT, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0024-0-0A402
FILE NAME: V1-LGP1.002-E-101.dgn

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

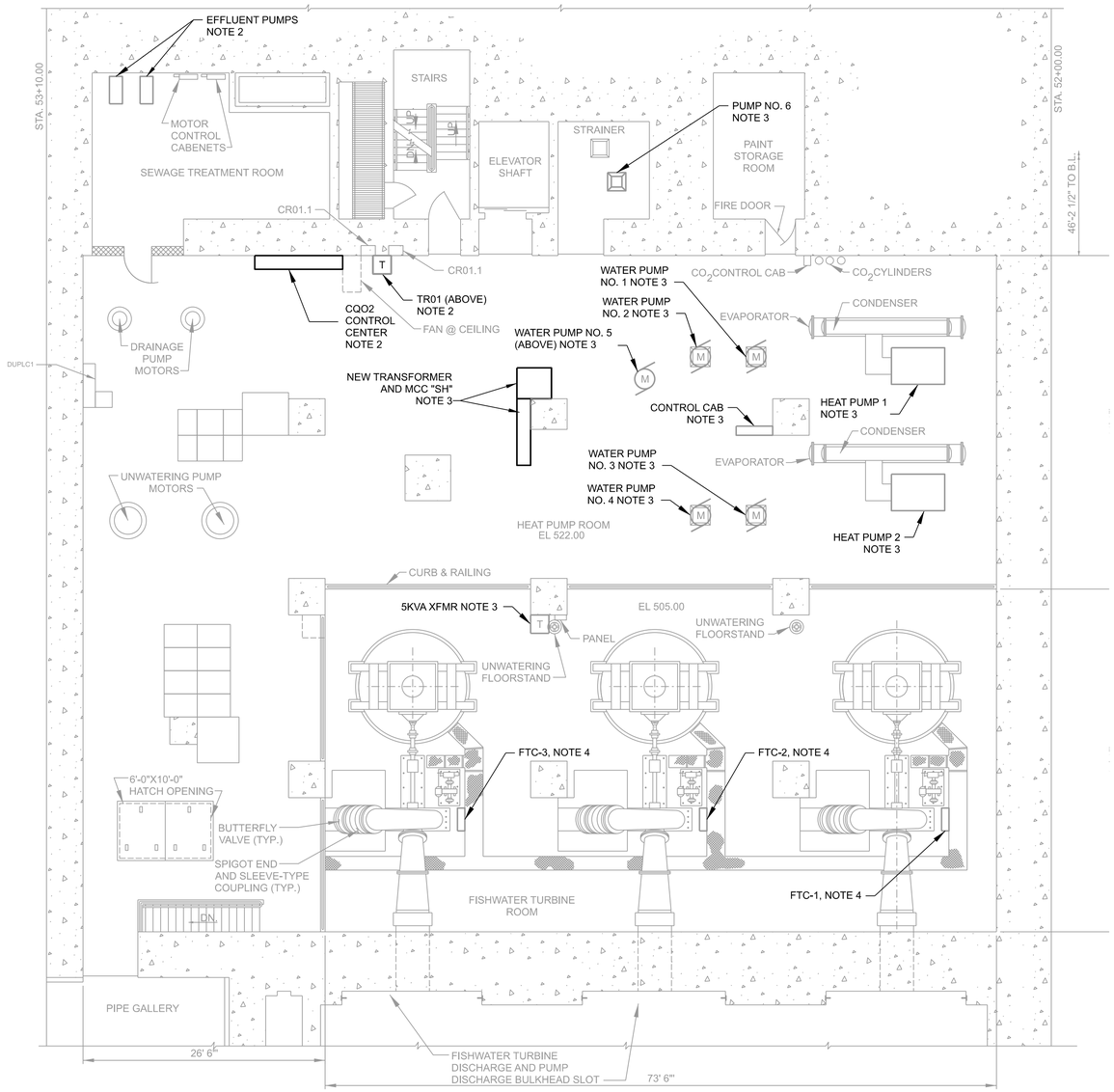
CQO1
PLAN VIEW, LEVEL 1, EL 498.00
INSTALL

SHEET ID
VOLUME 1
E-101

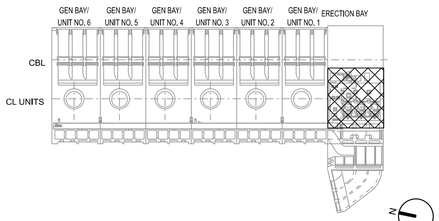
FINAL

GENERAL NOTES:

1. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
2. REPLACE EXISTING FEEDERS AND CIRCUITS TO NEW MCC CQO2 FROM MCC TO EQUIPMENT. MODIFY CONDUIT AS REQUIRED TO MCC CQO2 INSTALLED IN EXISTING LOCATION. SEE SHEET ED102 FOR REMOVAL
3. NEW MCC SH INSTALLED ADJACENT TO EXISTING. MODIFY AND EXTEND EXISTING CONDUIT TO NEW LOCATION. PROVIDE NEW CONDUCTORS FROM EQUIPMENT TO NEW MCC SH LOCATION. SEE SHEET ED102 FOR REMOVAL.
4. REPLACE EXISTING CIRCUIT TO NEW PANEL FCQ1. MODIFY EXISTING CONDUIT AS REQUIRED. SEE SHEET ED102 FOR REMOVAL.
5. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
6. ALL NEW CABLES NEED TO BE FIRESTOPPED IN ACCORDANCE WITH SPECIFICATION 07 84 00.00 28.



C6 ELECTRICAL PLAN VIEW LEVEL 2 (EL 522)
HEAT PUMP ROOM CQO2 & HVAC MCC SH
SCALE: 1/8"=1'-0"



1 KEY PLAN: LGA POWERHOUSE ELEVATION 522.00
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	L. SUPPAN
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. FINKLE, P.E.
SCALE:	ANSI D
ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-E-0A403
FILENAME:	V:\1-LGP\1.002-E-102.dgn

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

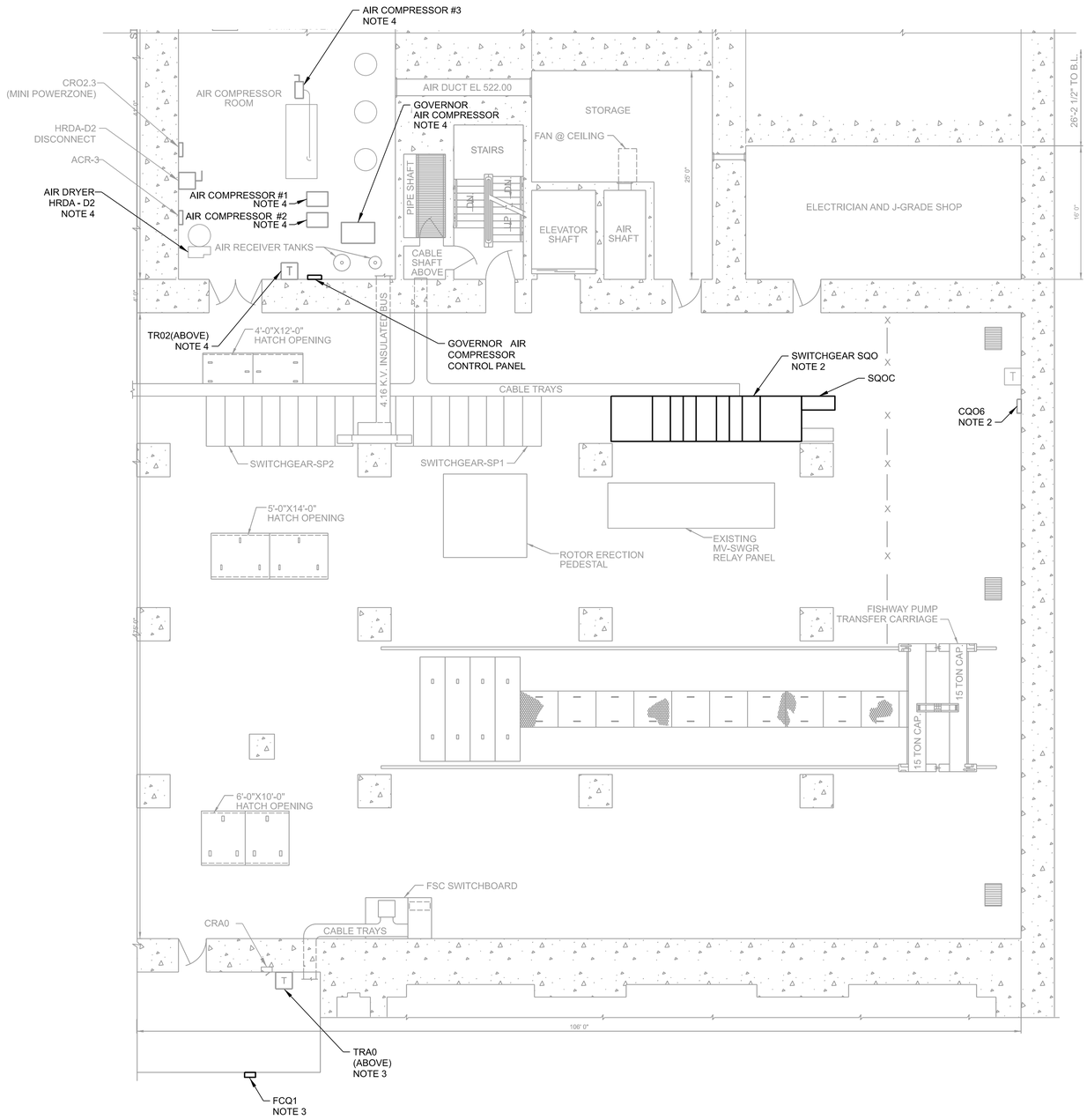
CQO2 & HVAC MCC SH
PLAN VIEW, LEVEL 2, EL 522.00
INSTALL

SHEET ID
VOLUME 1
E-102

FINAL

GENERAL NOTES:

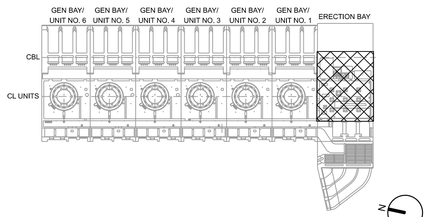
1. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
2. REPLACE EXISTING FEEDERS AND CIRCUITS TO SWITCHGEAR SQO. MODIFY CONDUIT AS REQUIRED TO NEW SQO INSTALLED IN EXISTING LOCATION. SEE SHEET ED103 FOR REMOVAL.
3. REPLACE EXISTING FEEDERS AND CIRCUITS TO NEW PANEL FCQ1. MODIFY CONDUIT AS REQUIRED TO NEW FCQ1 INSTALLED IN EXISTING LOCATION. SEE SHEET ED103 FOR REMOVAL.
4. REPLACE EXISTING FEEDERS AND CIRCUITS FROM CQO2 TO EXISTING EQUIPMENT. MODIFY EXISTING CONDUIT BASED ON NEW INSTALLATION OF CQO2.
5. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
6. ALL NEW CABLES NEED TO BE FIRESTOPPED IN ACCORDANCE WITH SPECIFICATION 07 84 00.00 28.



A6 SWITCHGEAR SQO, SQOC AND PANEL FCQ1 - PLAN VIEW, LEVEL 3 (EL 542.00)

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

0 4' 8' 16'



2 KEY PLAN: LGA POWERHOUSE ELEVATION 542.00

NOT TO SCALE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-D0401
SIZE: FILENAME: V1-LGP1.002-E-103.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

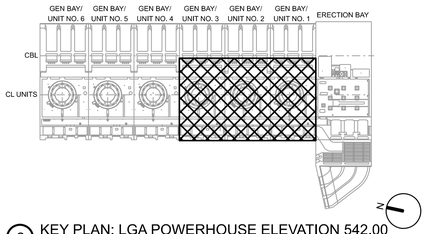
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQO SWITCHGEAR, SQOC AND PANEL FCQ1
PLAN VIEW, HEAT PUMP ROOM, LEVEL 3 EL 542.00
INSTALL

SHEET ID
VOLUME 1
E-103

FINAL



2 KEY PLAN: LGA POWERHOUSE ELEVATION 542.00
NOT TO SCALE

GENERAL NOTES:

1. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
2. REPLACE EXISTING FEEDERS AND CIRCUITS TO MCC'S SU1, SU2, AND SU3. MODIFY CONDUIT AS REQUIRED TO NEW SU MCCS IN EXISTING LOCATION. SEE SHEET ED104 FOR REMOVAL.
3. REPLACE EXISTING FEEDERS AND CIRCUITS TO SWITCHGEAR SQ1. MODIFY AS REQUIRED TO NEW SWITCHGEAR IN EXISTING LOCATION. SEE SHEET ED104 FOR REMOVAL.
4. REPLACE EXISTING CIRCUIT FROM PANEL FCQ1 TO EXISTING EQUIPMENT. MODIFY EXISTING CONDUIT AS REQUIRED BASED ON NEW INSTALLED PANEL.
5. REPLACE EXISTING CE PANELS WITH NEW COLUMNAR PANEL.
6. NEW 480V MOTOR FOR HEAD COVER SUMP PUMP. STARTER AND CONTROLS IN RESPECTIVE SU MCC.
7. REPLACE EXISTING CIRCUITS FROM SU MCC'S, FROM MCC TO EQUIPMENT OR DEVICE CONNECTION. RECEPTACLES TO BE REPLACED IN KIND UNLESS OTHERWISE NOTED.
8. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.

CL P-4
CL P-3
CL P-2
STA. 55+60.00
AIR INDUCTION PIPES
EQUIPMENT GALLERY
EL 542.00
NOTE 3
480V SWITCHGEAR SQ1
SQ1C
CABLE TRAY
STA. 53+10.00
23' 6"
41' 0"
31' 0"
44' 0"
4' 0"
12' 0"
2' 6"
17' 6"
9' 0"
TR31 (ABOVE) NOTE 7
GOC3
SU3 NOTE 2
480V WALL RECEPTACLE, TYP NOTE 7
TR 21 (ABOVE) NOTE 7
P.T. & SURGE PROTECTION EQUIP.
PANEL CE8
SU2 NOTE 2
GOC2
TR11 (ABOVE) NOTE 7
FROM SU1-1B1 (NOTE 7)
NOTE 7
PANEL
SU1 NOTE 2
GOC1
NEUT. COMP.
AIR DUCT
FAN
SERVICE PLATFORM EL 533.00
SPIRAL CASE ACCESS HATCH
SUMP TANK
NOTE 6
CE3 (NOTE 5)
CE2 (NOTE 5)
CE1 (NOTE 5)
U-3
U-2
U-1
SUMP OIL FILTER PUMP AND CONTROLLER NOTE 7
GEN HTRS NOTE 7
CONTROL SWITCHBOARD
ACTUATOR CABINET
B6
E-506
TEMPORARY END WALL
GREASE PUMP
PIPE TRENCHES
GENERATOR NOTE 5
FISHWAY GALLERY EL 542.00
CRA1.1
TRA1 (ABOVE) NOTE 4
CRA1
EF-3 DISCONNECT NOTE 4
PUMP P-1 DISCONNECT NOTE 4
TRANSVERSE BULKHEAD SLOT
FISH COLLECTION CHANNEL
EL. 532.0
FLOATING ORIFICE GATES
EL 532.00

SU UNITS 1, 2, & 3, SQ1 AND SQ1C-GENERATOR BAYS 1,2, & 3, PLAN VIEW LEVEL 3 (EL 542.00)
A1 SCALE: 1"=10'

0 5' 10' 20'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. TINNEA, P.E.
ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-E4101
SIZE: FILENAME: V1-LGP1.002-E-104.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

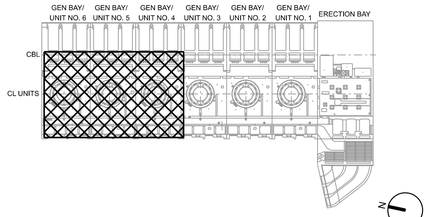
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SU UNITS 1, 2, & 3, SQ1 AND SQ1C
INSTALL
PLAN VIEW, GENERATOR BAYS 1,2, AND 3, LEVEL 3 EL 542.00

SHEET ID
VOLUME 1
E-104

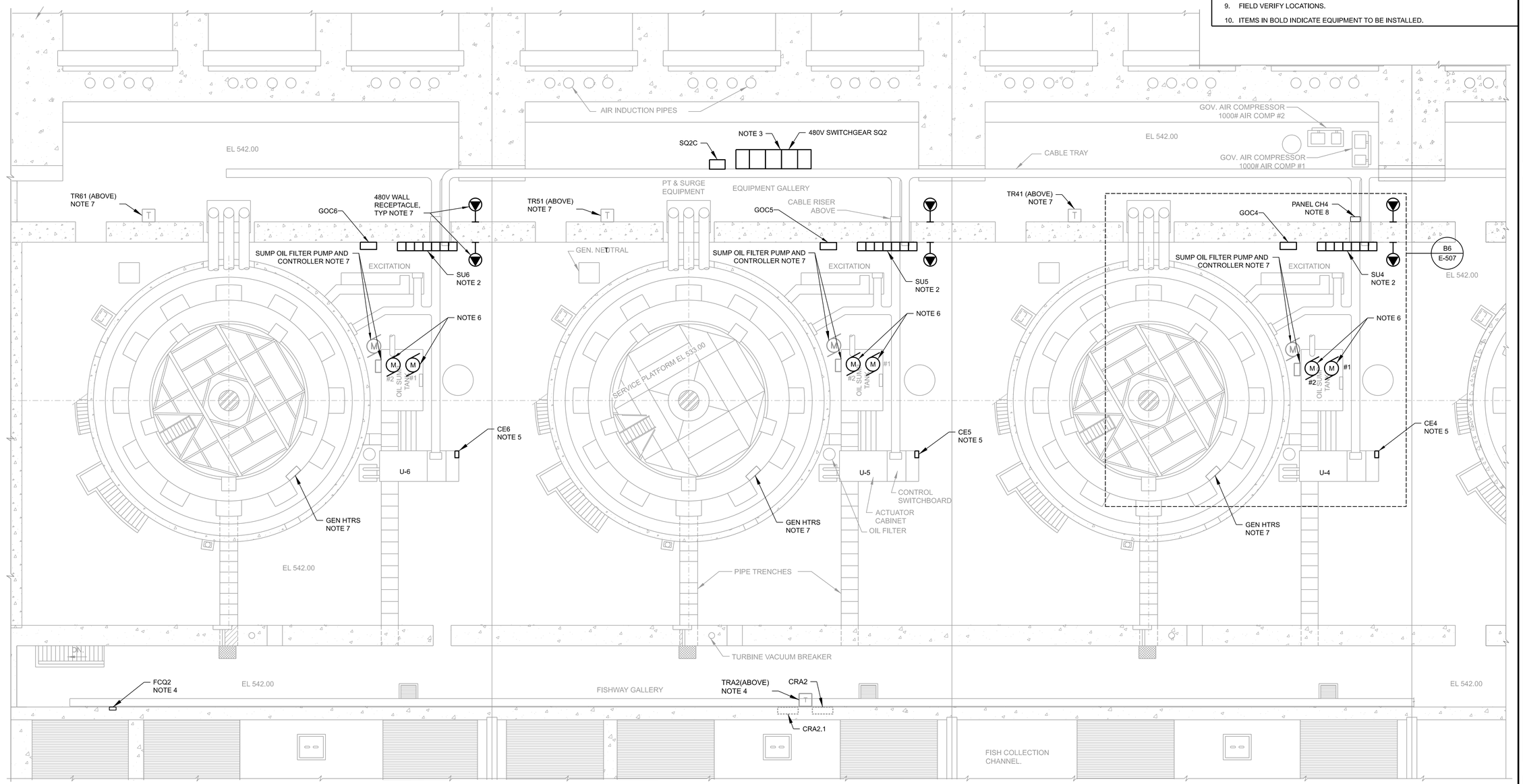
FINAL



2 KEY PLAN: LGA POWERHOUSE ELEVATION 542.00
NOT TO SCALE

GENERAL NOTES:

1. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
2. REPLACE EXISTING FEEDERS AND CIRCUITS TO MCC'S SU4, SU5, AND SU6. MODIFY AND CONDUIT AS REQUIRED TO NEW SU MCCS INSTALLED IN EXISTING LOCATION. SEE SHEET ED105 FOR REMOVAL.
3. REPLACE EXISTING FEEDERS AND CIRCUITS TO SWITCHGEAR SQ2. MODIFY CONDUIT AS REQUIRED TO NEW SWITCHGEAR INSTALLED IN EXISTING LOCATION. SEE SHEET ED105 FOR REMOVAL.
4. REPLACE EXISTING FEEDERS AND CIRCUITS TO NEW PANEL FCQ2. MODIFY CONDUIT AS REQUIRED TO NEW FCQ2 INSTALLED IN EXISTING LOCATION. SEE SHEET ED105 FOR REMOVAL.
5. REPLACE EXISTING CE PANELS WITH NEW COLUMNAR PANEL.
6. NEW 480V MOTOR FOR HEAD COVER SUMP PUMP. STARTER AND CONTROLS IN RESPECTIVE SU MCC.
7. REPLACE EXISTING CIRCUITS FROM SU MCC'S, FROM MCC TO EQUIPMENT OR DEVICE CONNECTION. RECEPTACLES TO BE REPLACED IN KIND UNLESS OTHERWISE NOTED.
8. REPLACE EXISTING CONDUCTORS FROM NEW MTS 4 ON LEVEL 5 TO EXISTING EQUIPMENT OR DEVICE CONNECTION. SEE DRAWING E-605 FOR ADDITIONAL INFORMATION. RENAME CH1 TO CH4.
9. FIELD VERIFY LOCATIONS.
10. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.



A1 SU UNITS 4, 5 , & 6, SQ2 AND SQ2C - GENERATOR BAYS 4, 5, 6, PLAN VIEW, LEVEL 3 (EL 542.00)
SCALE: 1"=10' 0"

0 5' 10' 20'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-E-DP40/1
DESIGNED BY:	L. SUPPAN
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. FINK, P.E.
SPEC. FILENAME:	
ANSI D	V1-LGP1.002-E-105.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

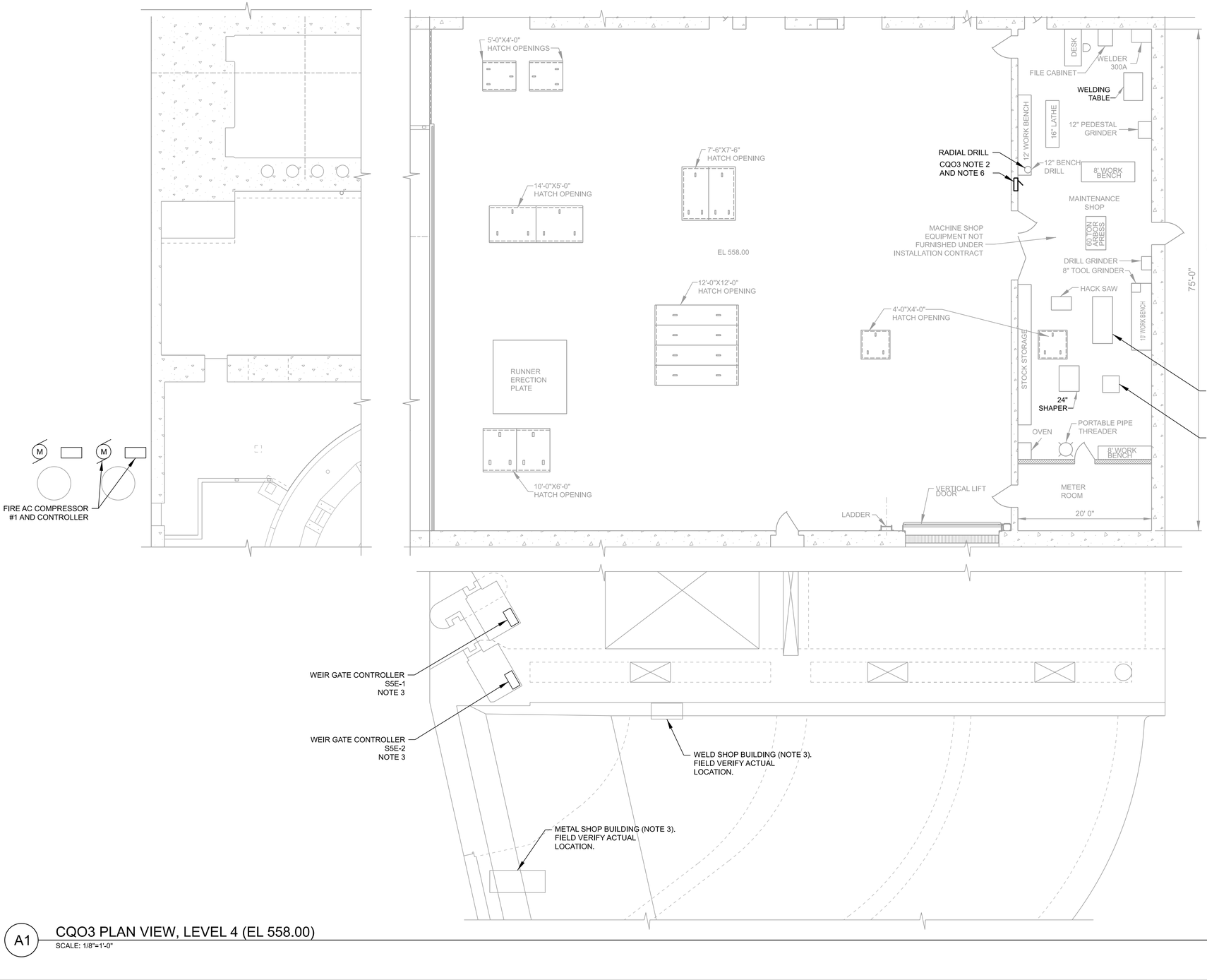
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR
SU UNITS 4, 5, & 6 AND SQ2
PLAN VIEW, GENERATOR BAYS 4, 5 AND 6, LEVEL 3 EL 542.00
INSTALL

SHEET ID
VOLUME 1
E-105

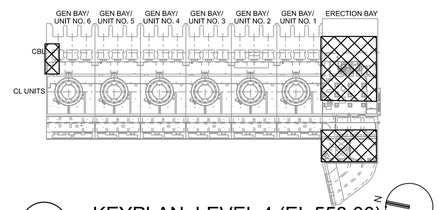
FINAL

GENERAL NOTES:

1. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
2. REPLACE EXISTING FEEDERS AND CIRCUITS TO PANEL CQO3. MODIFY CONDUIT AS REQUIRED TO NEW CQO3 IN EXISTING LOCATION. SEE SHEET ED106 FOR REMOVAL.
3. REPLACE EXISTING CIRCUITS FROM PANEL FCQ1 TO EXISTING EQUIPMENT. MODIFY EXISTING CONDUIT AS REQUIRED BASED ON NEW INSTALLATION OF PANEL.
4. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
5. ALL NEW CABLES NEED TO BE FIRESTOPPED IN ACCORDANCE WITH SPECIFICATION 07 84 00.00 28.
6. CONTRACTOR TO FIELD VERIFY ALL CQO3 EQUIPMENT LOCATIONS BEFORE ROUTING CONDUIT.



A1 CQO3 PLAN VIEW, LEVEL 4 (EL 558.00)
SCALE: 1/8"=1'-0"



B17 KEYPLAN, LEVEL 4 (EL 558.00)
SCALE: 1/8"=1'-0"

N
0 4' 8' 16'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. TINNEY, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0024-0-0404
FILENAME: V1-LGP1.0024-E-106.dgn

U.S. ARMY CORPS OF ENGINEERS
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HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

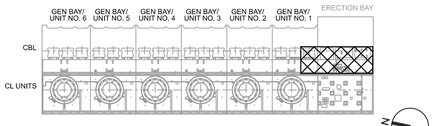
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CQO3

PLAN VIEW, MAINTENANCE SHOP, LEVEL 4, EL 558.00
INSTALL

SHEET ID
VOLUME 1
E-106

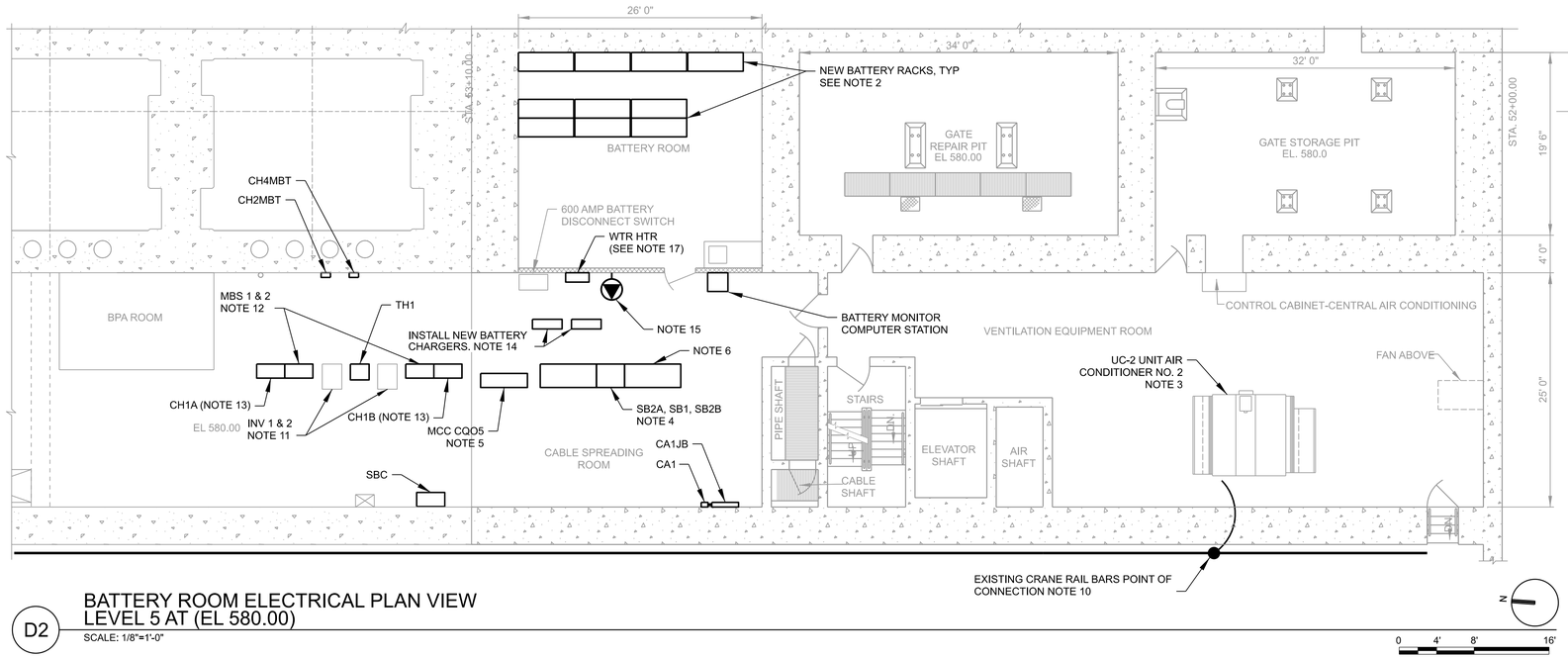
FINAL



1 KEY PLAN: LGA POWERHOUSE ELEVATION 580.00
NOT TO SCALE

GENERAL NOTES:

1. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
2. NEW BATTERY RACK. COORDINATE WITH ARCHITECTURAL DESIGN FOR RACK.
3. REPLACE EXISTING CIRCUIT FROM MCC CQO4 TO EXISTING EQUIPMENT. MODIFY CONDUIT AS REQUIRED BASED ON NEW MCC INSTALLATION.
4. ONCE NEW BATTERY SWITCH-BOARD IS INSTALLED, TEST EQUIPMENT AND OBTAIN APPROVAL FROM COR AND PROJECT STAFF BEFORE BEGINNING THE TRANSFER OF LOADS FROM THE EXISTING SB SWITCHBOARD TO THE NEW. HAVE ALL CONDUIT AND WIRE READY TO THE GREATEST EXTENT POSSIBLE.
5. ONCE NEW CQO5 IS INSTALLED, TEST EQUIPMENT AND OBTAIN APPROVAL FROM COR AND PROJECT STAFF BEFORE BEGINNING THE TRANSFER OF LOADS FROM THE EXISTING CQO5 TO THE NEW. HAVE ALL CONDUIT AND WIRE READY TO THE GREATEST EXTENT POSSIBLE.
6. ONCE NEW DC SYSTEM CONTROL PANEL IS INSTALLED, TEST EQUIPMENT AND OBTAIN APPROVAL FROM COR AND PROJECT STAFF BEFORE BEGINNING THE TRANSFER OF LOADS FROM THE EXISTING DC SYSTEM CONTROL PANEL TO THE NEW. HAVE ALL CONDUIT AND WIRE READY TO THE GREATEST EXTENT POSSIBLE.
7. PROVIDE NEW PENDANT MOUNTED FLUORESCENT FIXTURES. FEED FROM EXISTING LIGHTING CIRCUIT VIA NEW CEILING MOUNTED JUNCTION BOX.
8. EXISTING BATTERY RM LIGHT SWITCH AND INDICATOR LIGHT TO REMAIN.
9. ONLY THE BATTERY ROOM LIGHTING IS MODIFIED UNDER THIS CONTRACT. ALL OTHER EXISTING LIGHTING TO REMAIN.
10. REPLACE EXISTING CIRCUIT FROM SQO TO EXISTING EQUIPMENT. MODIFY CONDUIT AS REQUIRED BASED ON NEW SQO INSTALLATION.
11. EXISTING RELOCATED INVERTERS. SEE SHEET E-604 FOR ADDITIONAL INFORMATION.
12. NEW 3-POSITION MANUAL BYPASS SWITCH (MBS). SEE SHEET E-601 FOR ADDITIONAL INFORMATION.
13. NEW PREFERRED AC PANEL. SEE SHEET AND E-604 FOR ADDITIONAL DETAILS.
14. NEW BATTERY CHARGERS. BC1 & BC2 INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. SEE SHEET E-601 FOR ADDITIONAL INFORMATION.
15. PORTABLE LOAD BANK RECEPTACLE SEE SHEET E-601 FOR ADDITIONAL INFORMATION.
16. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
17. 72KW TANKLESS WATER HEATER MOUNTED TO WALL.
18. ALL NEW CABLES NEED TO BE FIRESTOPPED IN ACCORDANCE WITH SPECIFICATION 07 84 00.00 28.
19. CONTRACTOR SHALL PROVIDE NEW HYDROGEN AND SMOKE SENSORS IN THE BATTERY ROOM IN ACCORDANCE WITH SPECIFICATION 26 32 34.00 26.



D2 BATTERY ROOM ELECTRICAL PLAN VIEW
LEVEL 5 AT (EL 580.00)
SCALE: 1/8"=1'-0"

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-0A405
SIZE:
FILENAME: V1-LGP1.002-E-107.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

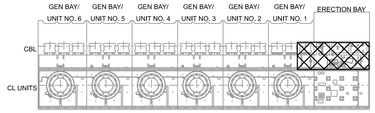
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CQO5

PLAN VIEW, BATTERY/CHARGING ROOMS, LEVEL 5, EL 580.00
INSTALL

SHEET ID
VOLUME 1
E-107

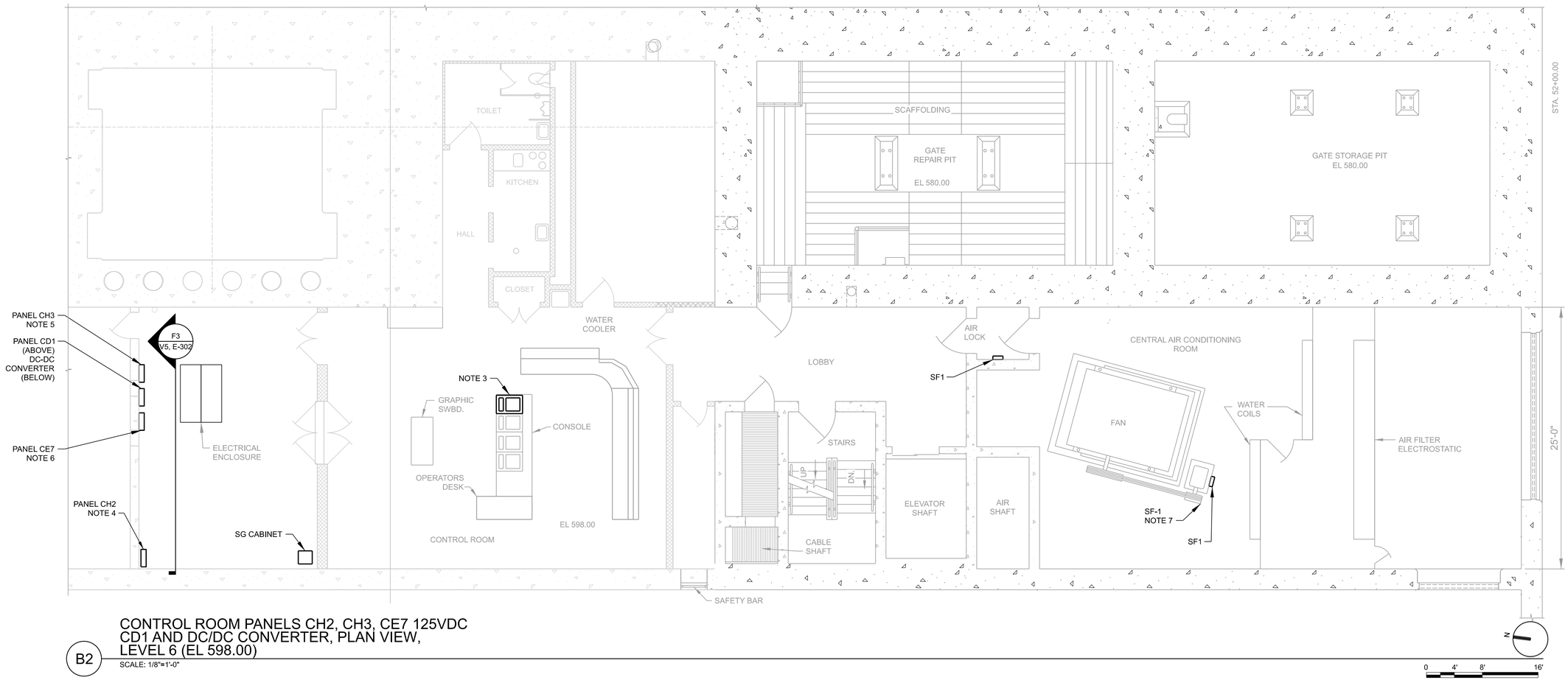
FINAL



4 KEY PLAN: LGA POWERHOUSE ELEVATION 598.00
NOT TO SCALE

GENERAL NOTES:

1. COORDINATE ALL WORK IN CONTROL ROOM WITH PROJECT STAFF, MINIMIZE DISTRUBANCES AND NOISE WHILE PERFORMING WORK.
2. RELOCATE EXISTING RADIO SYSTEM TO FACILITATE INSTALLATION OF NEW HMI CONTROL PANEL.
3. FABRICATE A PLATE, SIMILAR TO EXISTING, TO HOUSE THE NEW HMI SCREEN CONTROL PANEL.
4. EXISTING PANEL TO REMAIN. RENAME FROM CH1A TO CH2.
5. NEW PANEL CH3. REFEED EXISTING LOADS FROM EXISTING PANEL CH2A. SEE ONE-LINE DRAWING V5 E-605 FOR EXISTING PANEL LOAD INFORMATION.
6. NEW PANEL CE7 REFEED EXISTING LOADS FROM PANEL EXISTING 125V DC PANEL. SEE ONE-LINE DRAWING V5 E-603 FOR EXISTING PANEL LOAD INFORMATION.
7. REPLACE EXISTING CIRCUIT FROM MCC CQO4 TO EXISTING EQUIPMENT. MODIFY CONDUIT AS REQUIRED BASED ON NEW MCC INSTALLATION.
8. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
9. ALL NEW CABLES NEED TO BE FIRESTOPPED IN ACCORDANCE WITH SPECIFICATION 07 84 00.00 28.



B2 CONTROL ROOM PANELS CH2, CH3, CE7 125VDC CD1 AND DC/DC CONVERTER, PLAN VIEW, LEVEL 6 (EL 598.00)
SCALE: 1/8"=1'-0"

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-DA406
SIZE: FILENAME: V1-LGP1.002-E-108.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
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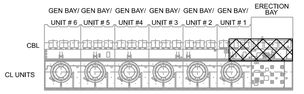
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

125VDC PANELS CH2, CH3, CD1 AND DC-DC CONVERTER
PLAN VIEW, CONTROL ROOM, LEVEL 6 EL 598.00
INSTALL

SHEET ID
VOLUME 1
E-108

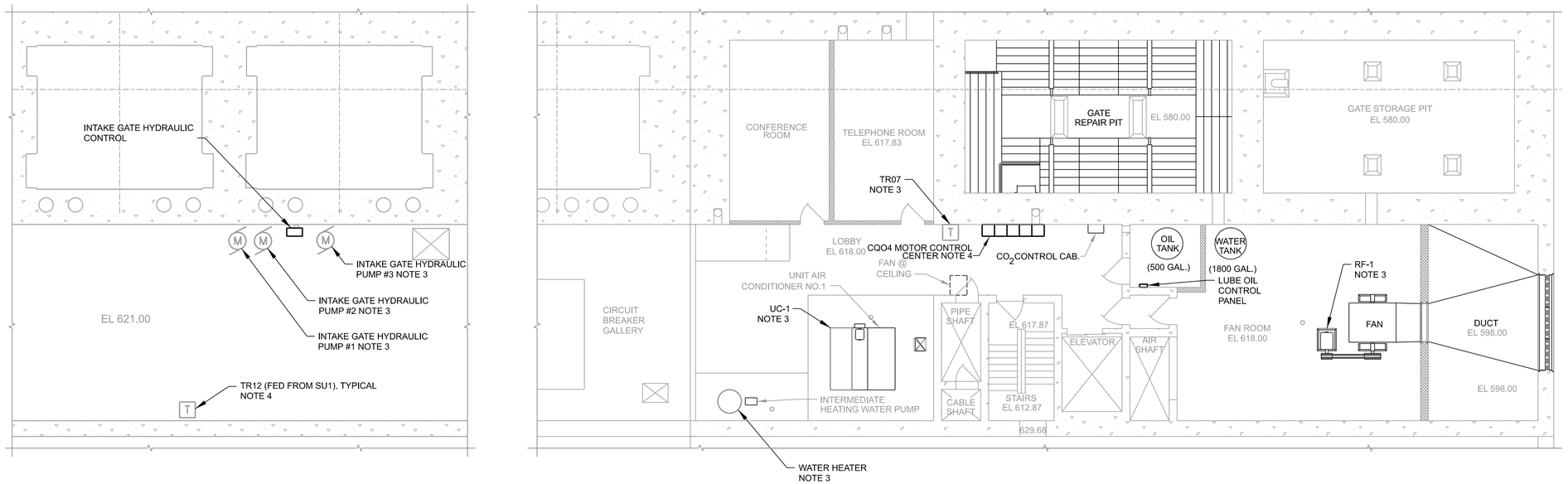
FINAL



5 KEY PLAN: LGA POWERHOUSE ELEVATION 618.00
NOT TO SCALE

GENERAL NOTES:

1. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
2. REPLACE EXISTING FEEDERS AND CIRCUITS TO NEW MCC CQO4 FROM MCC TO EQUIP. MODIFY CONDUIT AS REQUIRED TO NEW MCC INSTALLED IN EXISTING LOCATION. SEE SHEET ED109 FOR REMOVAL.
3. REPLACE EXISTING CIRCUIT FROM CQO4 TO EXISTING EQUIPMENT. MODIFY CONDUIT AS REQUIRED BASED ON NEW MCC INSTALLATION.
4. REPLACE EXISTING CIRCUIT FROM SU MCC TO EXISTING TRANSFORMERS. 6 LOCATIONS IN CIRCUIT BREAKER GALLERY, 1 TRANSFORMER PER SU MCC.
5. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
6. ALL NEW CABLES NEED TO BE FIRESTOPPED IN ACCORDANCE WITH SPECIFICATION 07 84 00.00 28.



D3 CQO4 - PLAN VIEW, LEVEL 7 (EL 618.00)
SCALE: 1/8"=1'-0"

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
SUBMITTED BY: JORDAN S. FINLEY, P.E.
SCALE: AS NOTED
DRAWING NUMBER: LGP-1.002-E-0A407
FILE NAME: V1-LGP1.002-E-109.dgn
ANSI D

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

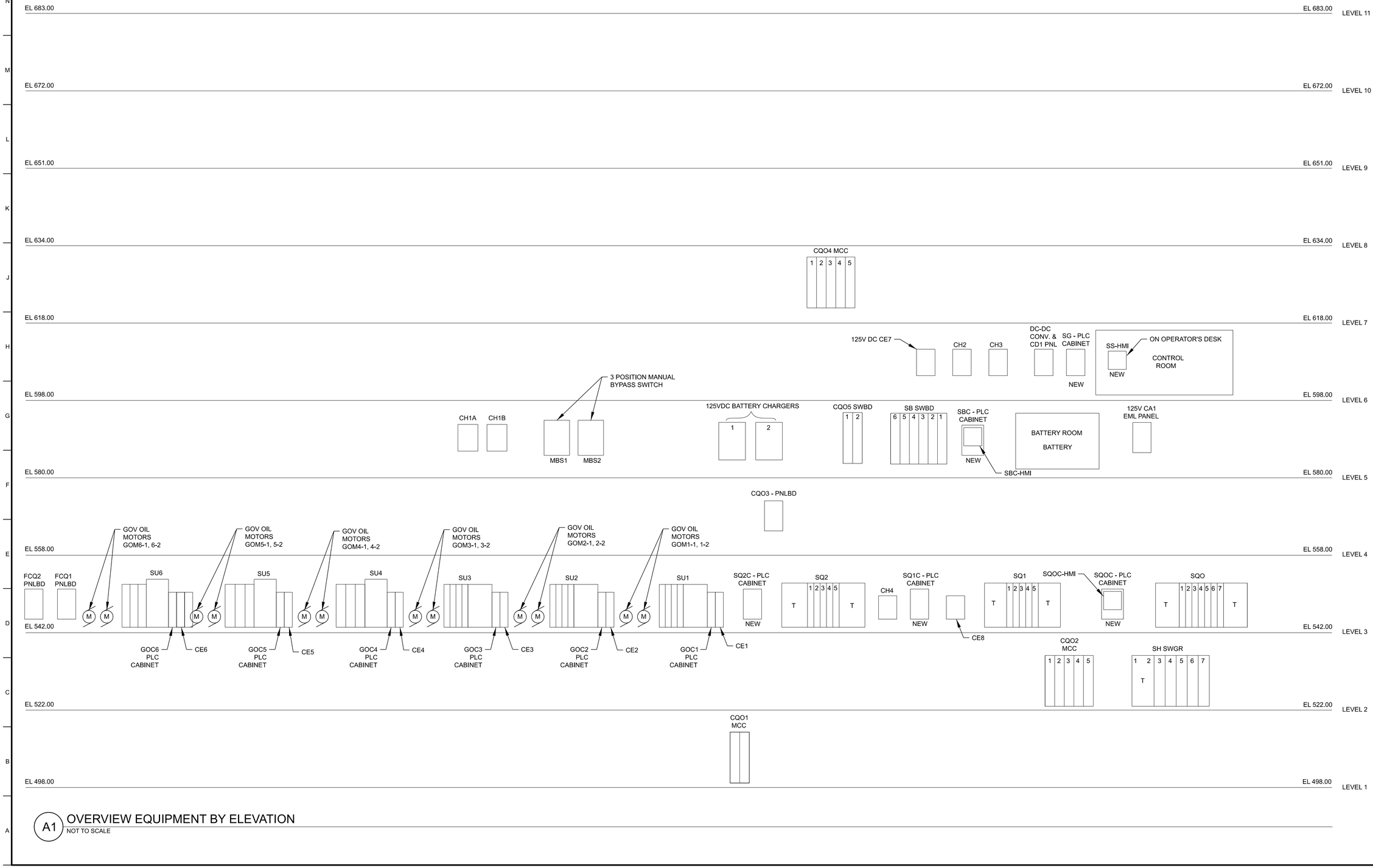
CQO4
PLAN VIEW, LEVEL 7, EL 618.00
INSTALL

SHEET ID
VOLUME 1
E-109

FINAL

GENERAL NOTES:

1. REFER TO PLAN DRAWINGS FOR LOCATIONS OF EQUIPMENT REPLACED UNDER THIS PROJECT AND SHOWN ON THESE LEVELS.
2. EQUIPMENT TO BE INSTALLED INDICATED ON THIS PLAN.



A1 OVERVIEW EQUIPMENT BY ELEVATION
NOT TO SCALE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
L. SUPPAN	AUGUST 2022
DRAWN BY:	SOLICITATION NO.:
B. MASOUMPANAH	W912EF22R0001
CHECKED BY:	CONTRACT NO.:
D. DINH	
SUBMITTED BY:	DRAWING NUMBER:
JORDAN S. FINK, P.E.	LGP-1.002-401
SIZE:	FILENAME:
ANSI D	V1-LGP1.002-E-200.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

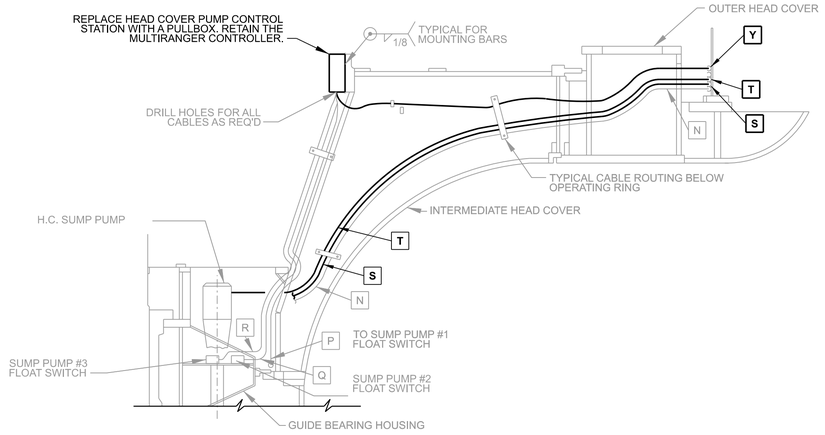
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

OVERVIEW EQUIPMENT ELEVATION INSTALL

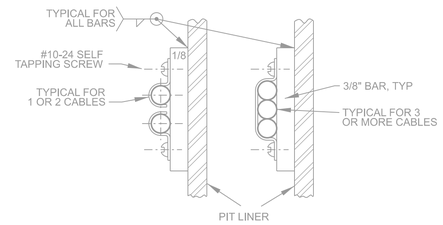
SHEET ID
VOLUME 1
E-200

FINAL



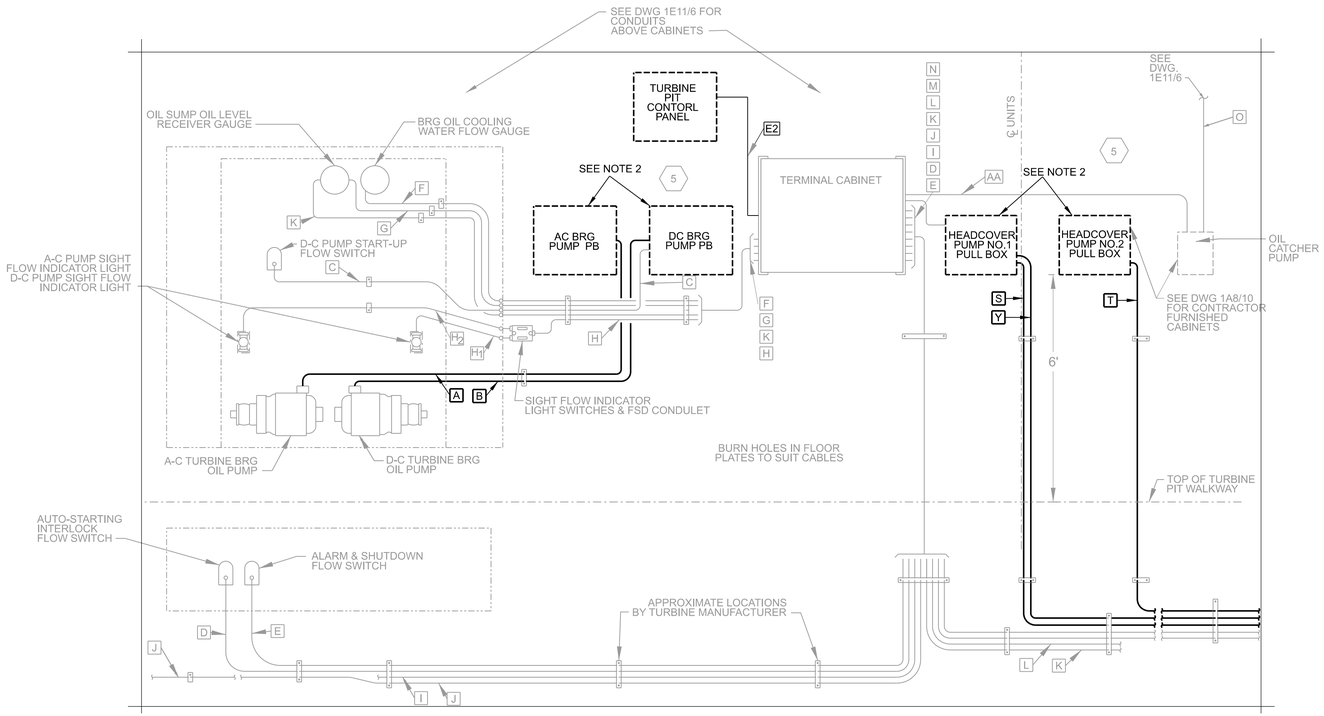
H6
E-501
K2
TYPICAL SECTION OF EQUIPMENT IN TURBINE PIT

0' 2' 4'



REF
E-501
K10
DETAIL CONDUIT MOUNT

NOT TO SCALE



M10
E-501
A2
TYPICAL SECTION OF EQUIPMENT IN TURBINE PIT

0' 1' 2'

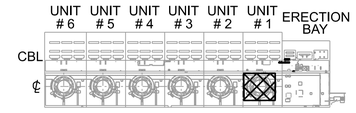
GENERAL NOTES:

1. THIS DRAWING SHOWING TYPICAL ROUTING AND INSTALLATION IS SIMILAR TO MANUFACTURER'S SHOP DRAWINGS AND IS ISSUED FOR BIDDING PURPOSES ONLY.
2. REMOVE EXISTING HEAD COVER PUMP CONTROLLERS AND AC & DC PUMP CONTROLLER. REPLACE THE CONTROLLERS WITH PULL BOXES. REUSE THE EXISTING CONDUIT IF POSSIBLE.
3. REFER TO THE LEGEND ON E-501 FOR ALPHABET IDENTIFIERS.
4. INSTALLED WIRE SHALL BE CONTINUOUS FROM THE CONTACTOR TO THE PUMP. REPLACE THE MI WIRE WITH HW 300 INTERLOCKED ARMOR CONTROL CABLE.
5. THIS SHEET IS USED TO CONVEY PANEL CONNECTIONS. ACTUAL PANEL LOCATIONS MAY DIFFER.
6. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.

REFERENCE DRAWINGS:

DRAWING NO.	TITLE
LGP-1.1-6-1E11/12	EQUIPMENT INSTALLATION TURBINE PIT MI WIRING
LGP-1.26-6-1E11/6	TURBINE PIT CONDUIT & CONTROL CABINETS

	APPROX LENGTH-FT		
A	118	**3 CONDUCTOR, #12 MC CABLE**	A-C TURBINE BRG OIL PUMP
B	145	**2 CONDUCTOR, #12 MC CABLE**	D-C TURBINE BRG OIL PUMP
C	15	4 CONDUCTOR, #12 MI CABLE	D-C PUMP START-UP FLOW SWITCH
D	25	2 CONDUCTOR, #12 MI CABLE	AUTO-STARTING INTERLOCK FLOW SWITCH
E	25	4 CONDUCTOR, #12 MI CABLE	ALARM & SHUTDOWN FLOW SWITCH
E2	15	24 CONDUCTOR, #12 MI CABLE	TURBINE PIT CONTROL PANEL
F	20	2 CONDUCTOR, #12 MI CABLE	BRG OIL COOLING WATER FLOW GAUGE
G	20	2	OIL SUMP OIL LEVEL RECEIVER GAUGE
H	10	2	SIGHT FLOW INDICATOR LIGHT SWITCHES
H_1	10	2	D-C PUMP SIGHT FLOW INDICATOR LIGHT
H_2	10	2	A-C PUMP SIGHT FLOW INDICATOR LIGHT
I	85	2	LIGHTS IN TOP PLATE AREA
J	65	4	BRG TEMP RELAY
K	70	2	OIL SUMP OIL LEVEL GAUGE SENDER & SUPPLY
L	35	2	OIL SUMP LOW OIL LEVEL ALARM
M	40	4	SERVOMOTOR GATE LOCK LIMIT SWITCH
N	60	7	TEMP DETECTOR
O	45	7	OIL LEAKAGE & DRAIN PUMP & FLOAT SWITCH
P	10	4	SUMP PUMP #1 FLOAT SWITCH
Q	15	4	SUMP PUMP #2 FLOAT SWITCH
R	15	2	SUMP PUMP #3 FLOAT SWITCH
S	138	**3 CONDUCTOR, #12 MC CABLE-**	SUMP PUMP #1
T	143	**3 CONDUCTOR, #12 MC CABLE-**	SUMP PUMP #2
U	30	6 CONDUCTOR, #16 AWG FLEXIBLE CABLE	-STOP NUT SELSYN
V	30	6	-SELSYN TRANS LIMIT SW (5)
W	30	6	-STOP NUT MOTOR
X	15	4 CONDUCTOR, #12 MI CABLE	-SERVOMOTOR LIMIT SWITCH
Y	170	**7 CONDUCTOR, #12 MC CABLE-**	-SUMP PUMP #1 AND #2 STARTER
AA	10	4 CONDUCTOR, #12 MI CABLE	-OIL CATCHER PUMP & CONTROL
AB	5	2	-OIL CATCHER PUMP CONTROL
AC	5	2 #12 CONDUCTORS IN ¾ FLEXIBLE CONDUIT	-OIL CATCHER PUMP (45) (52)
AD	30	2 CONDUCTOR, #12 MI CABLE-	GLAND WATER FLOW SWITCH
OIL HEAD	1	2	LOWER CHAMBER PRESSURE GAGE
	8	2	UPPER CHAMBER PRESSURE GAGE
	9	4	HIGH LEVEL LEAKAGE ALARM FLOAT SWITCH
	12	4	HIGH LEVEL LEAKAGE ALARM FLOAT SWITCH
	14	4	LOW LEVEL ALARM FLOAT SWITCH
	6	4	INTERM OIL PIPE TEMPERATURE RELAY
	6	4	INTERM OIL PIPE TEMPERATURE RELAY
	5	4 CONDUCTOR, #12 MI CABLE	OUTER OIL PIPE TEMPERATURE RELAY
			INTERM OIL PIPE TEMP DETECTOR
			INTERM OIL PIPE TEMP DETECTOR
			OUTER OIL PIPE TEMP DETECTOR



KEYPLAN: POWERHOUSE

A16
ELEVATION 542.00, 3RD FLOOR

NOT TO SCALE

N

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-2E1/1
FILE NAME: GP1.002-E-301.dgn

DESIGNED BY: S. SCHEIFF
DRAWN BY: E. HEDINE
CHECKED BY: K. SELLERS
SUBMITTED BY: L. VAN STEDUM, P.E.
APPROVED BY: ANSI D

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

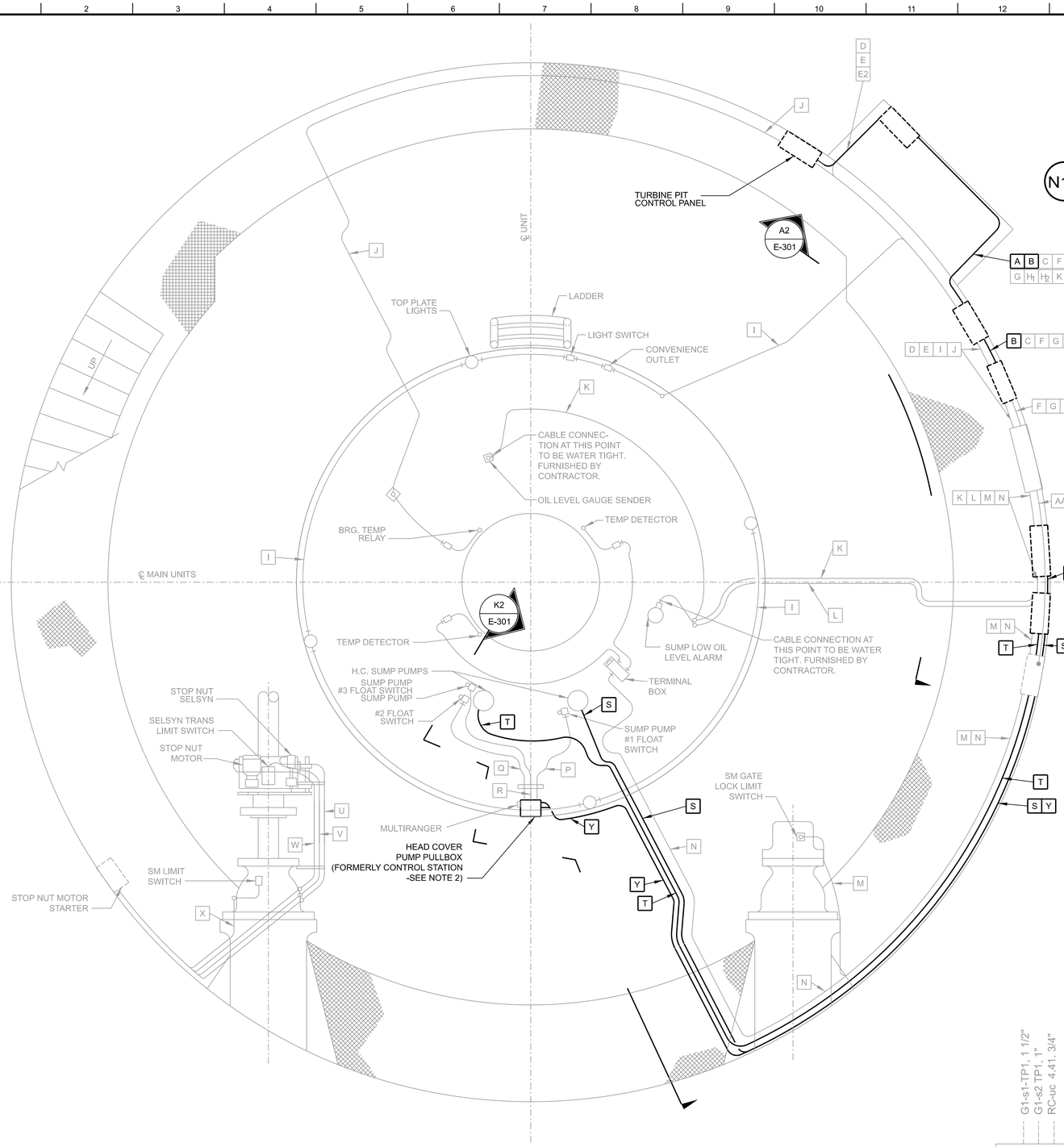
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

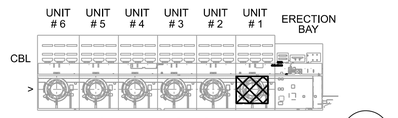
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

GENERATOR BAY
TURBINE CABLE ROUTING
SECTION VIEWS - INSTALL

SHEET ID
VOLUME 1
E-301

FINAL





KEY: POWERHOUSE PLAN ELEVATION 542.00, 3RD FLOOR

N13

GENERAL NOTES:

1. THIS DRAWING SHOWING TYPICAL ROUTING AND INSTALLATION IS SIMILAR TO MANUFACTURER'S SHOP DRAWINGS AND IS ISSUED FOR BIDDING PURPOSES ONLY.
2. REMOVE EXISTING HEAD COVER PUMP CONTROLLERS AND AC & DC PUMP CONTROLLER. REPLACE THE CONTROLLERS WITH PULL BOXES. REUSE THE EXISTING CONDUIT IF POSSIBLE. REPLACE HEADCOVER PUMP CONTROL STATION WITH A PULLBOX. RETAIN MULTIRANGER CONTROLLER.
3. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED.
4. INSTALLED WIRE SHALL BE CONTINUOUS FROM THE CONTACTOR TO THE PUMP. REFER TO E-301.

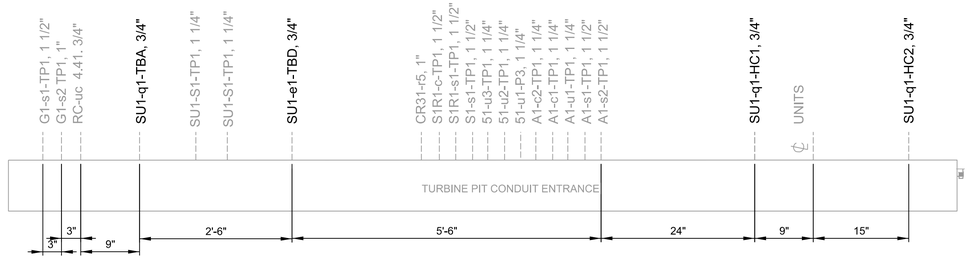
REFERENCE DRAWINGS:

DRAWING NO.:	TITLE:
LGP-1.1-6-1E11/12	EQUIPMENT INSTALLATION TURBINE PIT MI WIRING
68a80020	CTRL CABINETS
68a80021	CTRL CABINETS
LGP-1.9-6-1F11/6	TP CONDUIT & CTRL CABINETS
LGP-1.22-6-1E51/4	TERM CONN DIAGRAM TURBINE PIT

KEY	APPROX LENGTH-FT	393 EXCEPT AS NOTED (SEE NOTE 3)	CIRCUIT
A	15	**3 CONDUCTOR, #12 MC CABLE**	A-C TURBINE BRG OIL PUMP
B	15	**2 CONDUCTOR, #12 MC CABLE**	D-C TURBINE BRG OIL PUMP
C	15	4 CONDUCTOR, #12 MI CABLE	D-C PUMP START-UP FLOW SWITCH
D	25	2 CONDUCTOR, #12 MI CABLE	AUTO-STARTING INTERLOCK FLOW SWITCH
E	25	4 CONDUCTOR, #12 MI CABLE	ALARM & SHUTDOWN FLOW SWITCH
E2	15	24 CONDUCTOR, #12 MI CABLE	TURBIN PIT CONTROL PANEL
F	20	2 CONDUCTOR, #12 MI CABLE	BRG OIL COOLING WATER FLOW GAUGE
G	20	2	OIL SUMP OIL LEVEL RECEIVER GAUGE
H	10	2	SIGHT FLOW INDICATOR LIGHT SWITCHES
H_1	10	2	D-C PUMP SIGHT FLOW INDICATOR LIGHT
H_2	10	2	A-C PUMP SIGHT FLOW INDICATOR LIGHT
I	85	2	LIGHTS IN TOP PLATE AREA
J	65	4	BRG TEMP RELAY
K	70	2	OIL SUMP OIL LEVEL GAUGE SENDER & SUPPLY
L	35	2	OIL SUMP LOW OIL LEVEL ALARM
M	40	4	SERVOMOTOR GATE LOCK LIMIT SWITCH
N	60	7	TEMP DETECTOR
O	45	7	OIL LEAKAGE & DRAIN PUMP & FLOAT SWITCH
P	10	4	SUMP PUMP #1 FLOAT SWITCH
Q	15	4	SUMP PUMP #2 FLOAT SWITCH
R	15	2	SUMP PUMP #3 FLOAT SWITCH
S	175	**3 CONDUCTOR, #12 MC CABLE-**	SUMP PUMP #1
T	85	**3 CONDUCTOR, #12 MC CABLE-**	SUMP PUMP #2
U	30	6 CONDUCTOR, #16 AWG FLEXIBLE CABLE	-STOP NUT SELSYN
V	30	6	-SELSYN TRANS LIMIT SW
W	30	6	-STOP NUT MOTOR
X	15	4 CONDUCTOR, #12 MI CABLE	-SERVOMOTOR LIMIT SWITCH
Y	70	**7 CONDUCTOR, #12 MC CABLE-**	-SUMP PUMP #1 & 2 STARTER
AA	10	4 CONDUCTOR, #12 MI CABLE	-OIL CATCHER PUMP & CONTROL
AB	5	2	-OIL CATCHER PUMP CONTROL
AC	5	2 #12 CONDUCTORS IN ¾ FLEXIBLE CONDUIT	-OIL CATCHER PUMP
AD	55	2 CONDUCTOR, #12 MI CABLE-	GLAND WATER FLOW SWITCH
OIL HEAD	1	2	LOWER CHAMBER PRESSURE GAGE
	8	2	UPPER CHAMBER PRESSURE GAGE
	9	4	HIGH LEVEL LEAKAGE ALARM FLOAT SWITCH
	12	4	HIGH LEVEL LEAKAGE ALARM FLOAT SWITCH
	14	4	LOW LEVEL ALARM FLOAT SWITCH
	6	4	INTERM OIL PIPE TEMPERATURE RELAY
	6	4	INTERM OIL PIPE TEMPERATURE RELAY
	5	4 CONDUCTOR, #12 MI CABLE OUTER OIL PIPE TEMPERATURE RELAY	
			INTERM OIL PIPE TEMP DETECTOR
			INTERM OIL PIPE TEMP DETECTOR
			OUTER OIL PIPE TEMP DETECTOR

5

45 52



REF E-104 (A2) TYPICAL PLAN, DETAIL OF TURBINE PIT EL 542.00, 3RD FLOOR

SCALE: 0' 2' 4'

(A12) TURBINE CONDUIT ENTRANCE

SCALE: NOT TO SCALE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: E. HEDINE
CHECKED BY: K. SELLERS
SUBMITTED BY: J. VANSTERUM, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-2E172
FILE NAME: V1-LGP1.002-E-501.dgn

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

GENERATOR BAY, TURBINE CONDUIT
DETAIL PARTIAL PLAN EL 542.00
INSTALL

SHEET ID
VOLUME 1
E-501

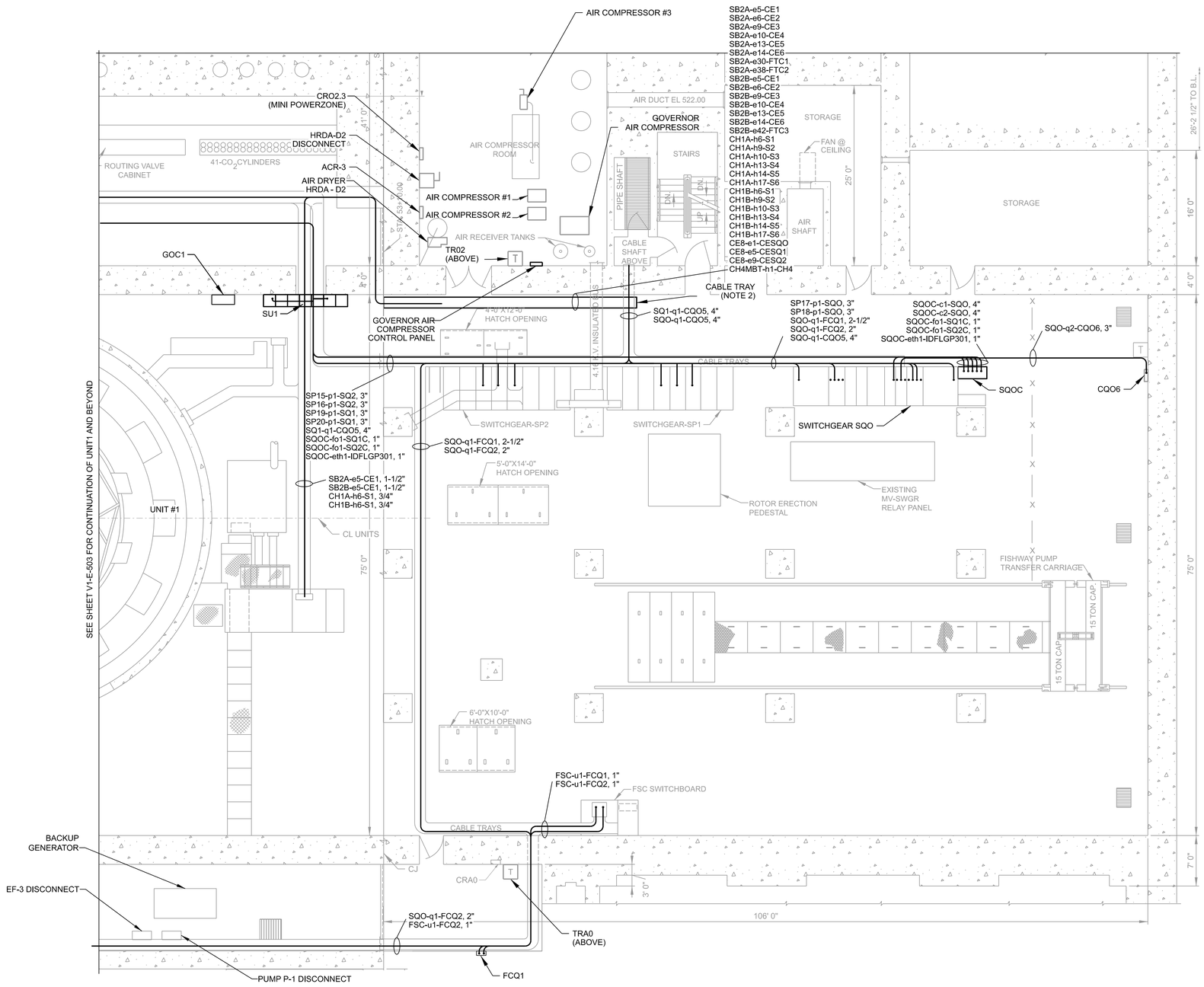
FINAL

GENERAL NOTES:

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. NEW CABLE TRAY FOR DC CABLES CE1 THRU CE6, CH1A, CH1B, CE8, AND ANY OTHER DC/PREF AC CABLES AT THIS ELEVATION.

REFERENCE DRAWINGS:

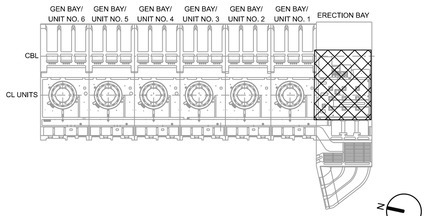
DRAWING	TITLE
LGF-1-6-5/21	CABLE ROUTE FROM FSC TO CABLE SHAFT AND FISHWAY GALLERY



SWITCHGEAR SQO, SQOC AND PANEL FCQ1 - PLAN VIEW OF ERECTION BAY, LEVEL 3 (EL 542.00)

A3

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



2 KEY PLAN: LGA POWERHOUSE ELEVATION 542.00

NOT TO SCALE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: E. HEDINE
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-D0402
FILE NAME: V1-LGP1.002-E-502.dgn

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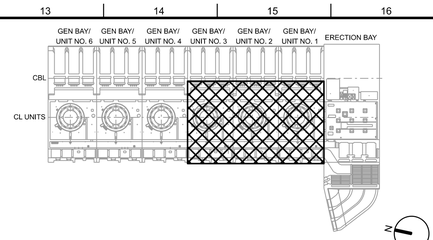
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQO SWITCHGEAR, SQOC AND PANEL FCQ1
PLAN VIEW, HEAT PUMP ROOM, LEVEL 3 EL 542.00
INSTALL

SHEET ID
VOLUME 1
E-502

FINAL



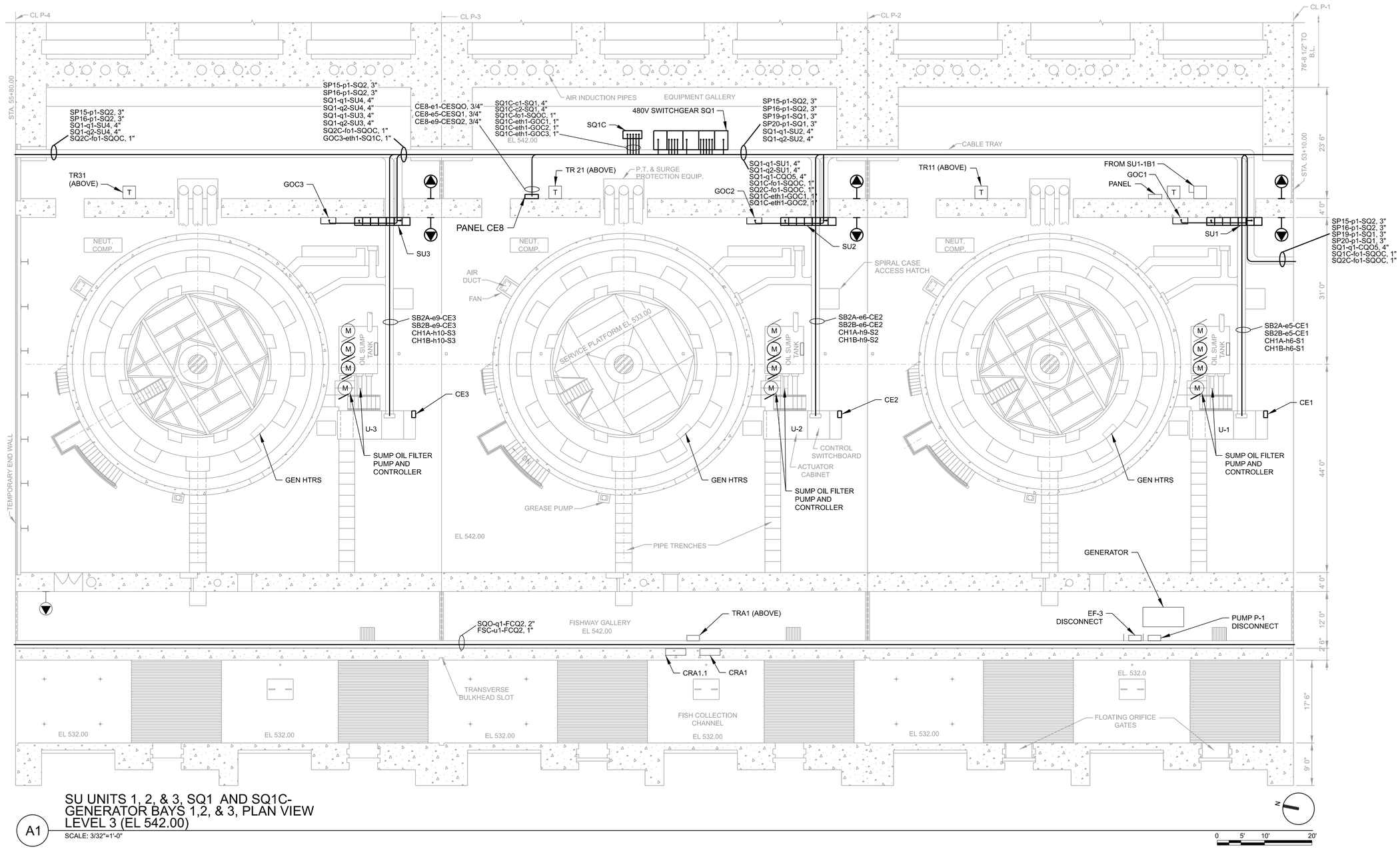
2 KEY PLAN: LGA POWERHOUSE ELEVATION 542.00
NOT TO SCALE

GENERAL NOTES:

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. CONTRACTOR TO VERIFY EXISTING CABLE TRAY FILL CAPACITY AFTER REMOVAL OF DISCONNECTED CONDUCTORS. SHOULD THE EXISTING CABLE TRAYS NOT HAVE SUFFICIENT CAPACITY TO SUPPORT THE NEW CONDUCTORS, CONTRACTOR IS TO SUPPLY AND INSTALL NEW CABLE TRAY

REFERENCE DRAWINGS:

DRAWING	TITLE
LGF-1-6-5/22	CABLE ROUTE FOR FISHWAY GALLERY BAY 6 AND BAY 1



SU UNITS 1, 2, & 3, SQ1 AND SQ1C-GENERATOR BAYS 1,2, & 3, PLAN VIEW
LEVEL 3 (EL 542.00)

A1 SCALE: 3/32"=1'-0"

0 5' 10' 20'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: E. HEDINE
CHECKED BY: K. SELLERS
SUBMITTED BY: JONATHAN STERUM, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0022-E-E402
SIZE:
FILE NAME: V1-LGP1.0022-E-503.dgn

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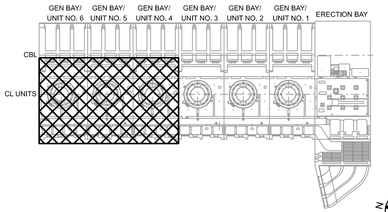
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CABLE TRAY AND CONDUIT ROUTING
PLAN VIEW, GENERATOR BAYS 1,2, AND 3, LEVEL 3 EL 542.00
INSTALL

SHEET ID
VOLUME 1
E-503

FINAL



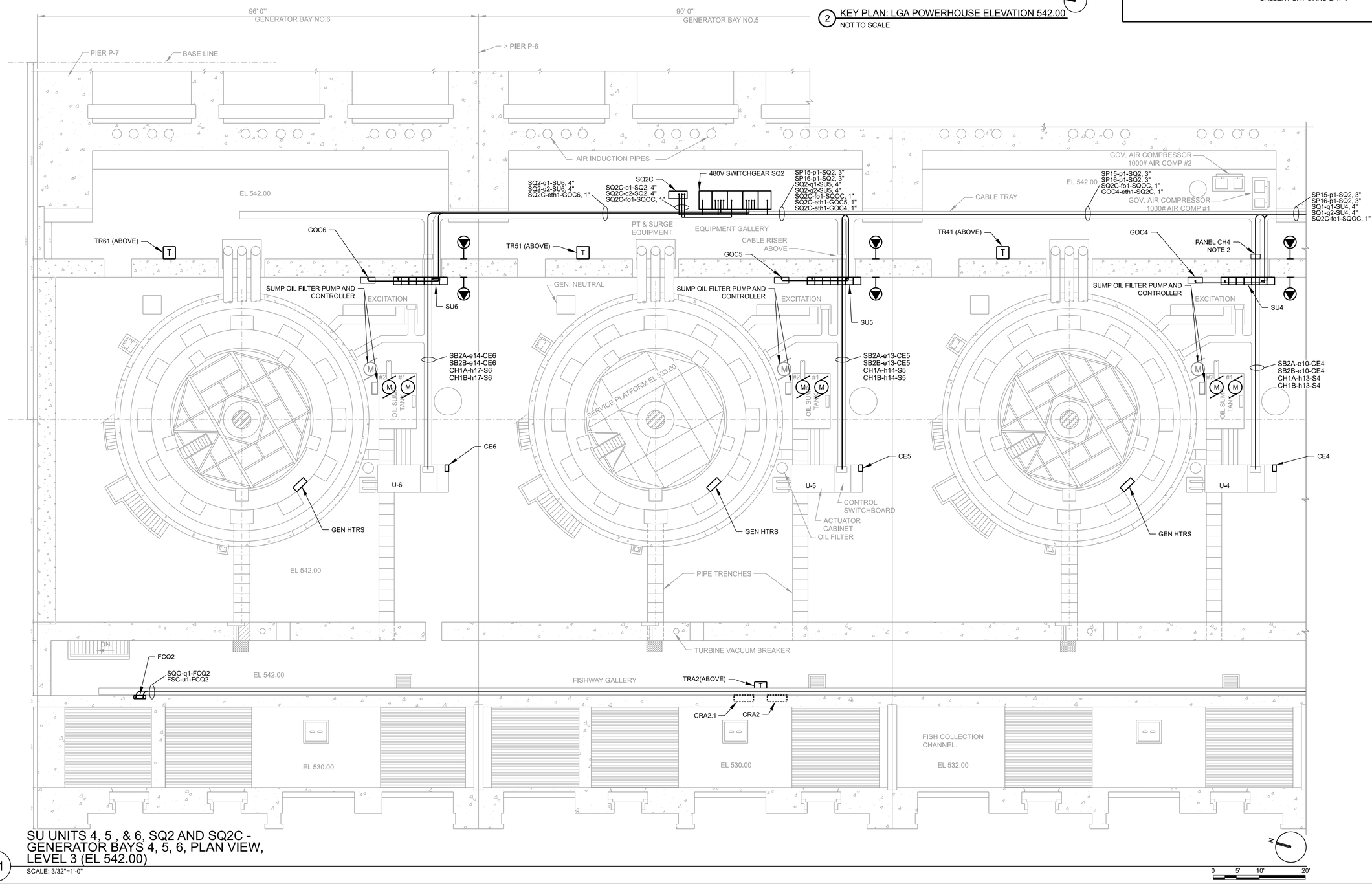
2 KEY PLAN: LGA POWERHOUSE ELEVATION 542.00
NOT TO SCALE

GENERAL NOTES:

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. REPLACE EXISTING CONDUCTORS FROM NEW MTS 4 ON LEVEL 5 TO EXISTING EQUIPMENT OR DEVICE CONNECTION. SEE DRAWING E-605 FOR ADDITIONAL INFORMATION. RENAME CH1 TO CH4.
3. CONTRACTOR TO VERIFY EXISTING CABLE TRAY FILL CAPACITY AFTER REMOVAL OF DISCONNECTED CONDUCTORS. SHOULD THE EXISTING CABLE TRAYS NOT HAVE SUFFICIENT CAPACITY TO SUPPORT THE NEW CONDUCTORS, CONTRACTOR IS TO SUPPLY AND INSTALL NEW CABLE TRAY

REFERENCE DRAWINGS:

DRAWING	TITLE
LGF-1-6-5/22	CABLE ROUTE FOR FISHWAY GALLERY BAY 6 AND BAY 1



A1 SU UNITS 4, 5 , & 6, SQ2 AND SQ2C - GENERATOR BAYS 4, 5, 6, PLAN VIEW, LEVEL 3 (EL 542.00)

SCALE: 3/32"=1'-0"

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0024-DF40/3
AS BUILT BY:
DATE:
SIGNATURE:
P.E.
FILE NAME: LGP1.002-E-504.dgn

DESIGNED BY: S. SCHEIFF
DRAWN BY: E. HEDINE
CHECKED BY: K. SELLERS
SUBMITTED BY: L. VAN STEDUM, P.E.
SIZE: ANSI D

U.S. ARMY CORPS OF ENGINEERS
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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CABLE TRAY AND CONDUIT ROUTING
PLAN VIEW, GENERATOR BAYS 4, 5 AND 6, LEVEL 3 EL 542.00
INSTALL

SHEET ID
VOLUME 1
E-504

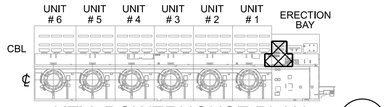
FINAL

GENERAL NOTES:

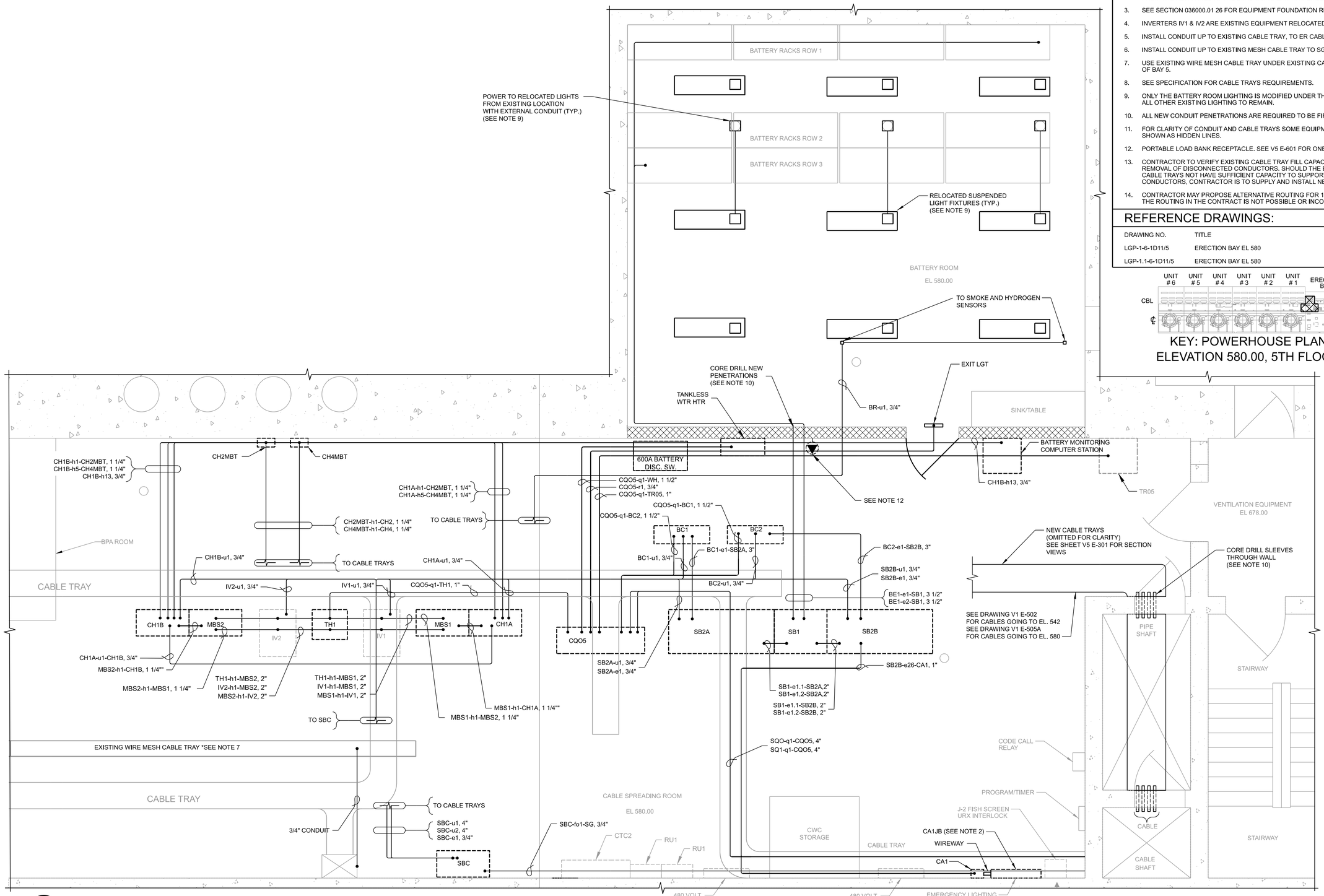
1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED.
2. PROVIDE NEW ENCLOSURE TO COVER THE EXISTING RECESSED PANELS. REMOVE ALL EXISTING CABLES TO THE LOAD AND INSTALL NEW CABLES FROM THE NEW PANEL TO THE LOAD USING EXISTING EMBEDDED CONDUITS.
3. SEE SECTION 036000.01 26 FOR EQUIPMENT FOUNDATION REQUIREMENTS.
4. INVERTERS IV1 & IV2 ARE EXISTING EQUIPMENT RELOCATED BY CONTRACTOR.
5. INSTALL CONDUIT UP TO EXISTING CABLE TRAY, TO ER CABLE ENTRANCE.
6. INSTALL CONDUIT UP TO EXISTING MESH CABLE TRAY TO SG CABLE ENTRANCE.
7. USE EXISTING WIRE MESH CABLE TRAY UNDER EXISTING CABLE TRAYS TO END OF BAY 5.
8. SEE SPECIFICATION FOR CABLE TRAYS REQUIREMENTS.
9. ONLY THE BATTERY ROOM LIGHTING IS MODIFIED UNDER THIS CONTRACT. ALL OTHER EXISTING LIGHTING TO REMAIN.
10. ALL NEW CONDUIT PENETRATIONS ARE REQUIRED TO BE FIRE-STOPPED.
11. FOR CLARITY OF CONDUIT AND CABLE TRAYS SOME EQUIPMENT HAS BEEN SHOWN AS HIDDEN LINES.
12. PORTABLE LOAD BANK RECEPTACLE. SEE V5 E-601 FOR ONE-LINE DIAGRAM.
13. CONTRACTOR TO VERIFY EXISTING CABLE TRAY FILL CAPACITY AFTER REMOVAL OF DISCONNECTED CONDUCTORS. SHOULD THE EXISTING CABLE TRAYS NOT HAVE SUFFICIENT CAPACITY TO SUPPORT THE NEW CONDUCTORS, CONTRACTOR IS TO SUPPLY AND INSTALL NEW CABLE TRAY
14. CONTRACTOR MAY PROPOSE ALTERNATIVE ROUTING FOR 125VDC WIRES IF THE ROUTING IN THE CONTRACT IS NOT POSSIBLE OR INCONVENIENT.

REFERENCE DRAWINGS:

DRAWING NO.	TITLE
LGP-1-6-1D11/5	ERECTION BAY EL 580
LGP-1.1-6-1D11/5	ERECTION BAY EL 580



KEY: POWERHOUSE PLAN
ELEVATION 580.00, 5TH FLOOR



N15
E-501B
A1
PARTIAL PLAN, ERECTION BAY EL 580.00, 5TH FLOOR

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. PINKHAM, P.E.
DES. FILENAME: V1-LGP1.002-E-505A.dgn
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-0A1/1
ANSI D

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201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

BATTERY ROOM & ERECTION BAY, CONDUIT ROUTING
PARTIAL PLAN EL 678.00
SHEET 1 OF 2 - INSTALL

SHEET ID
VOLUME 1
E-505A

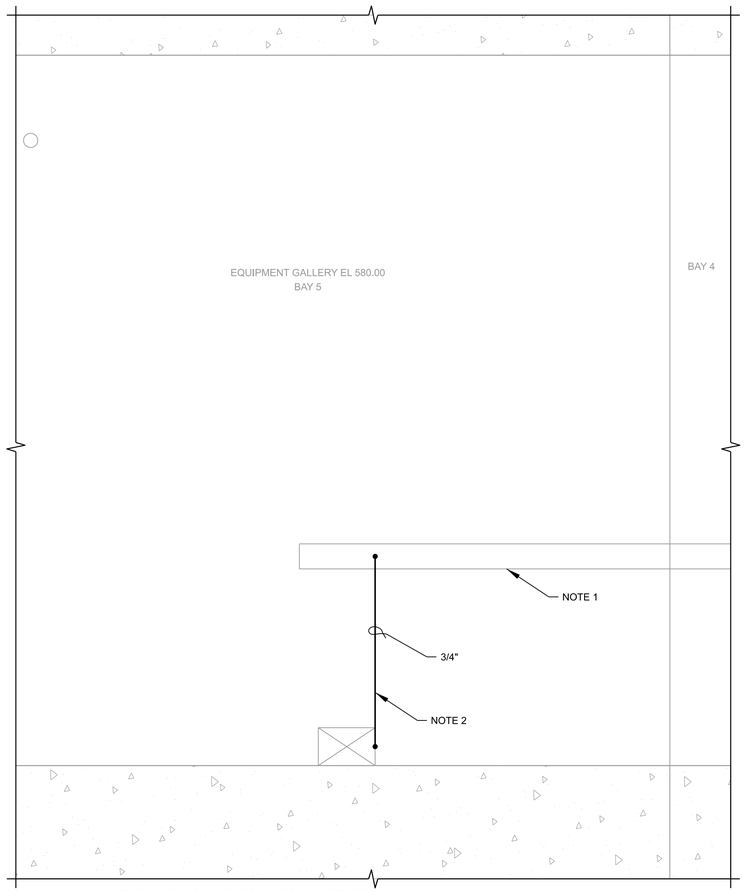
FINAL

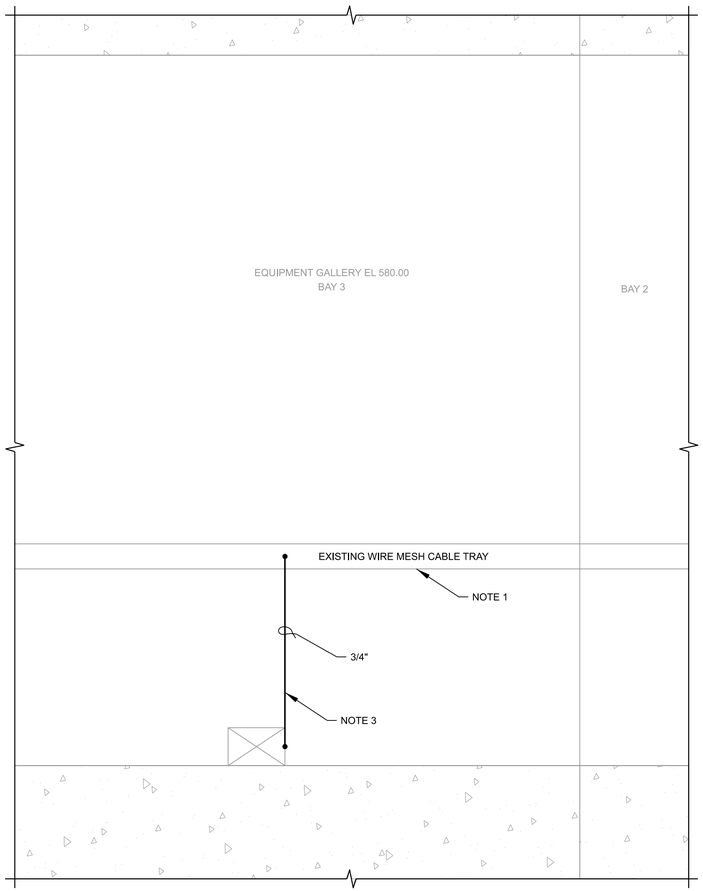
GENERAL NOTES:

1. INSTALL CONDUIT FROM EXISTING RISER TO EXISTING WIRE MESH CABLE TRAY .
2. FIBER OPTIC CABLE SQ2C-fo1-SG INSIDE.
3. FIBER OPTIC CABLE SQ1C-fo1-SG INSIDE.
4. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED.
5. CONTRACTOR TO VERIFY EXISTING CABLE TRAY FILL CAPACITY AFTER REMOVAL OF DISCONNECTED CONDUCTORS. SHOULD THE EXISTING CABLE TRAYS NOT HAVE SUFFICIENT CAPACITY TO SUPPORT THE NEW CONDUCTORS, CONTRACTOR IS TO SUPPLY AND INSTALL NEW CABLE TRAY

REFERENCE DRAWINGS:

DRAWING NO.	TITLE
LGP-1.1-6-1D11/5	ERECTION BAY EL 580

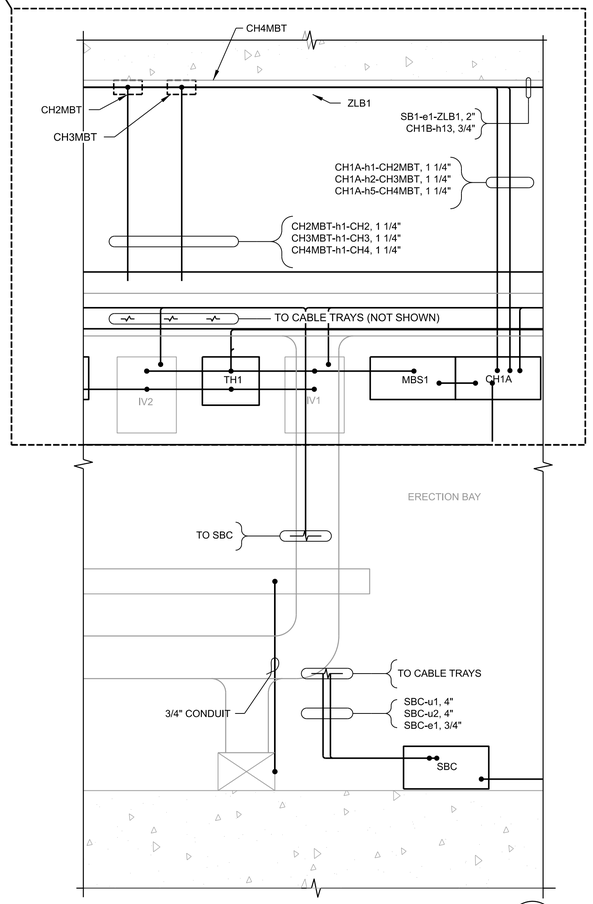


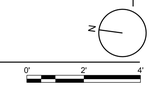


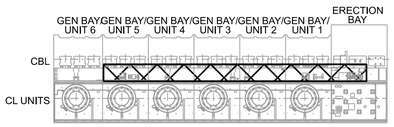
D2 PARTIAL PLAN, EQUIPMENT GALLERY EL 678.00, 5TH FLOOR

SCALE: NOT TO SCALE

1A / E-501A







7 KEY PLAN: LGA POWERHOUSE ELEVATION 678.00

NOT TO SCALE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SIPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-2A1/2
SIZE: FILENAME: V1-LGP1.002-E-505B.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

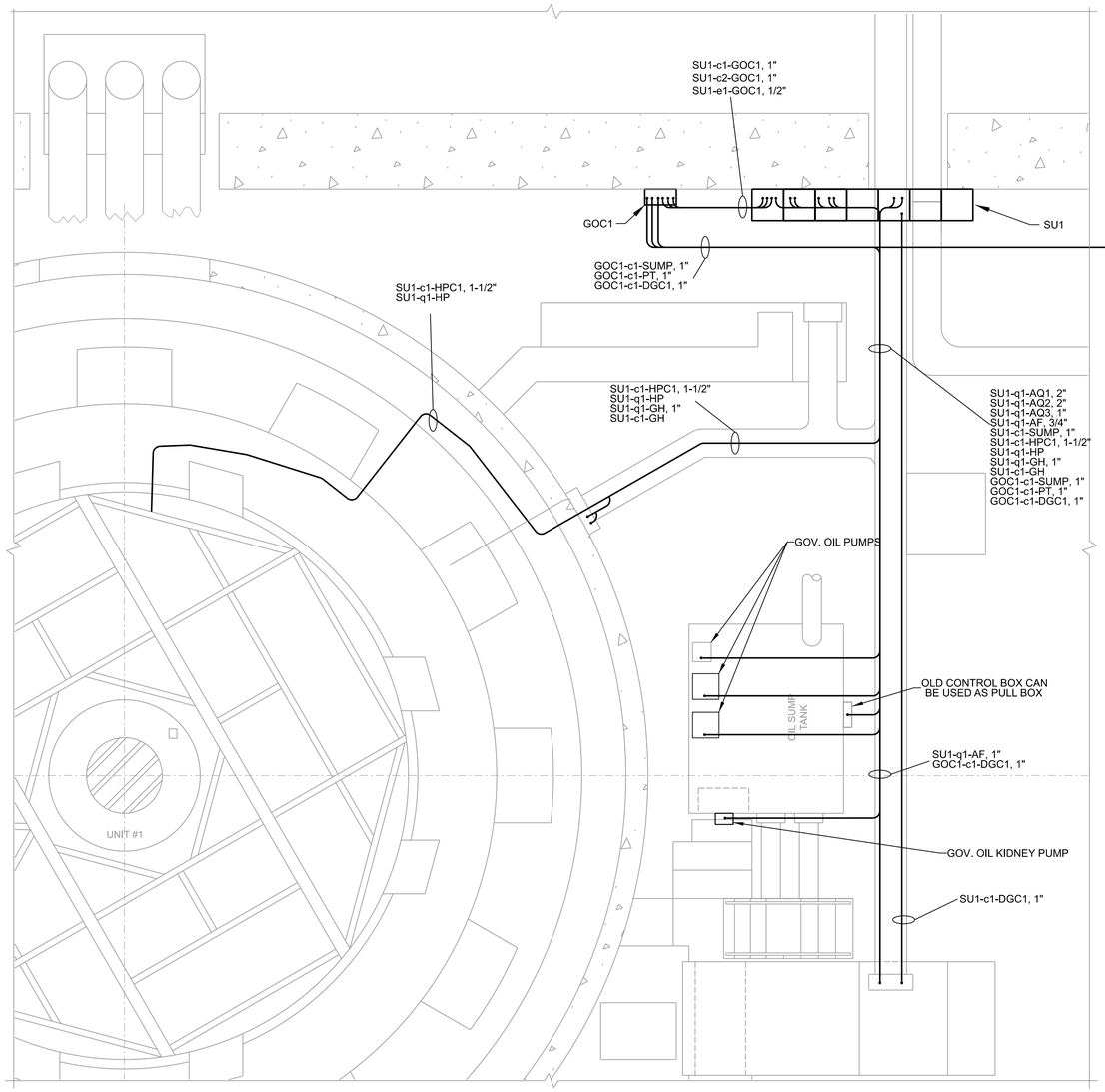
EQUIPMENT GALLERY
PARTIAL PLAN EL 678.00
SHEET 2 OF 2 - INSTALL

SHEET ID
VOLUME 1
E-505B

FINAL

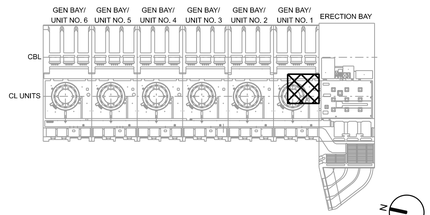
GENERAL NOTES:

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. CONTRACTOR TO VERIFY EXISTING CABLE TRAY FILL CAPACITY AFTER REMOVAL OF DISCONNECTED CONDUCTORS. SHOULD THE EXISTING CABLE TRAYS NOT HAVE SUFFICIENT CAPACITY TO SUPPORT THE NEW CONDUCTORS, CONTRACTOR IS TO SUPPLY AND INSTALL NEW CABLE TRAY



E17
E-104
B6

PARTIAL PLAN: GOVERNOROIL PUMPS AND KINDNEY PUMP (UNITS 2 & 3 ARE SIMILAR)
SCALE: 1/4" = 1'



2 KEY PLAN: LGA POWERHOUSE ELEVATION 542.00
NOT TO SCALE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	S. SCHEIFF
DRAWN BY:	E. HEDINE
CHECKED BY:	K. SELLERS
SUBMITTED BY:	NJAN STERUM, P.E., P.E.
SIZE:	ANSI D
ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-E-E4071
FILE NAME:	V1-LGP1.002-E-506.dgn

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

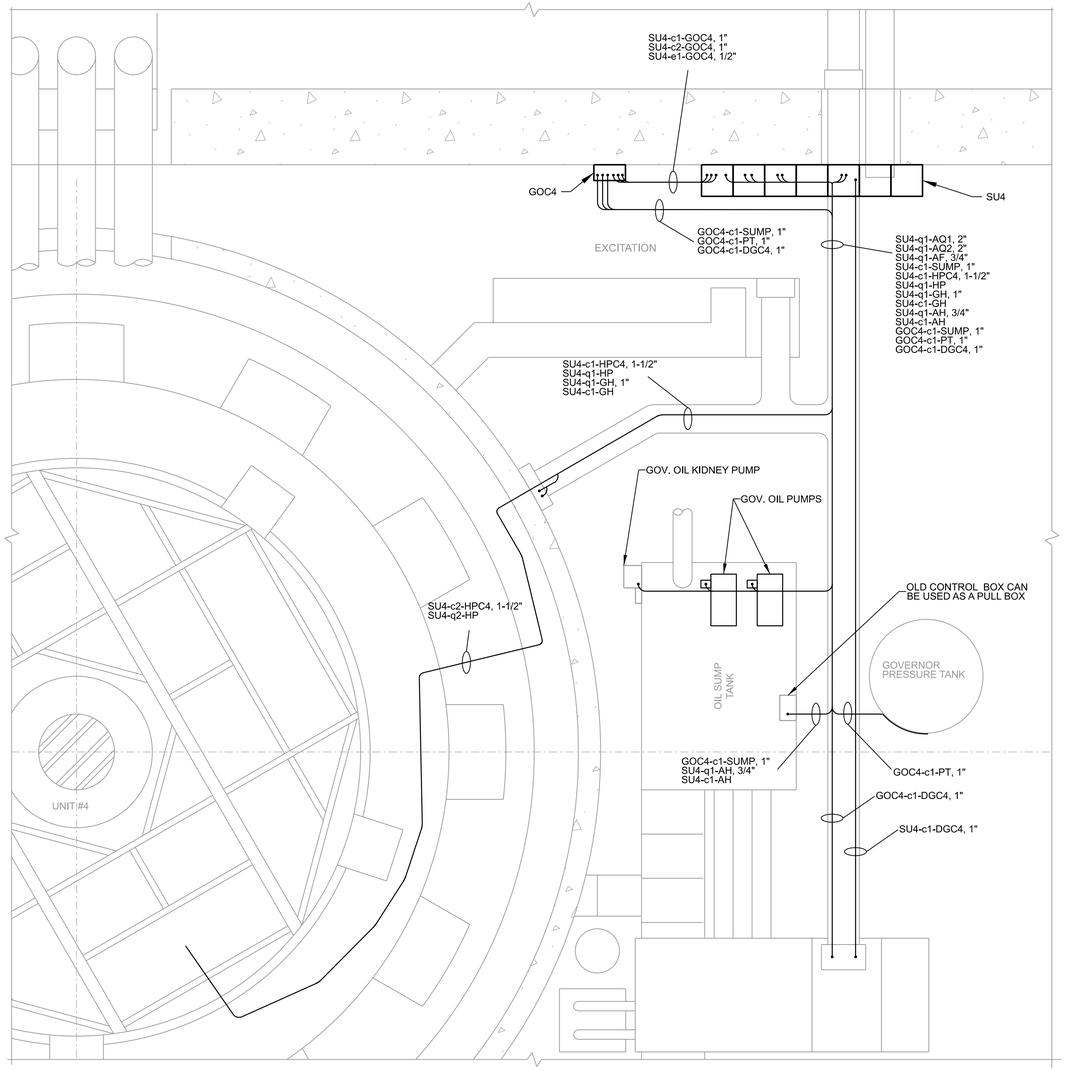
CABLE TRAY AND CONDUIT ROUTING
PLAN VIEW, SU1(SU2 AND SU3 ARE SIMILAR), EL 542.00
INSTALL

SHEET ID
VOLUME 1
E-506

FINAL

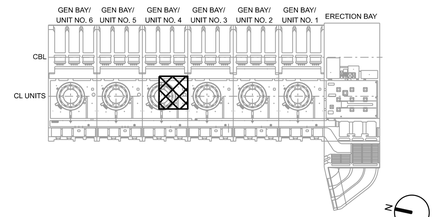
GENERAL NOTES:

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. CONTRACTOR TO VERIFY EXISTING CABLE TRAY FILL CAPACITY AFTER REMOVAL OF DISCONNECTED CONDUCTORS. SHOULD THE EXISTING CABLE TRAYS NOT HAVE SUFFICIENT CAPACITY TO SUPPORT THE NEW CONDUCTORS, CONTRACTOR IS TO SUPPLY AND INSTALL NEW CABLE TRAY



J19
E-105
B6

PARTIAL PLAN: GOVERNOROIL PUMPS AND KINDNEY PUMP (UNITS 5 & 6 ARE SIMILAR)
SCALE: 1/4" = 1'



2 KEY PLAN: LGA POWERHOUSE ELEVATION 542.00
NOT TO SCALE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF	ISSUE DATE: AUGUST 2022
DRAWN BY: E. HEDINE	SOLICITATION NO.: W912EF22R0001
CHECKED BY: K. SELLERS	CONTRACT NO.:
SUBMITTED BY: JUAN STERLING, P.E.	DRAWING NUMBER:
LV#	FILE NAME: ELGP-1.002-E-GP-40/2
SIZE: ANSI D	V1-LGP1.002-E-507.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

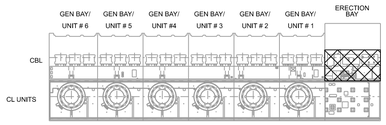
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CABLE TRAY AND CONDUIT ROUTING
PLAN VIEW, SU4 (SU5 AND SU6 ARE SIMILAR), EL 542.00
INSTALL

SHEET ID
VOLUME 1
E-507

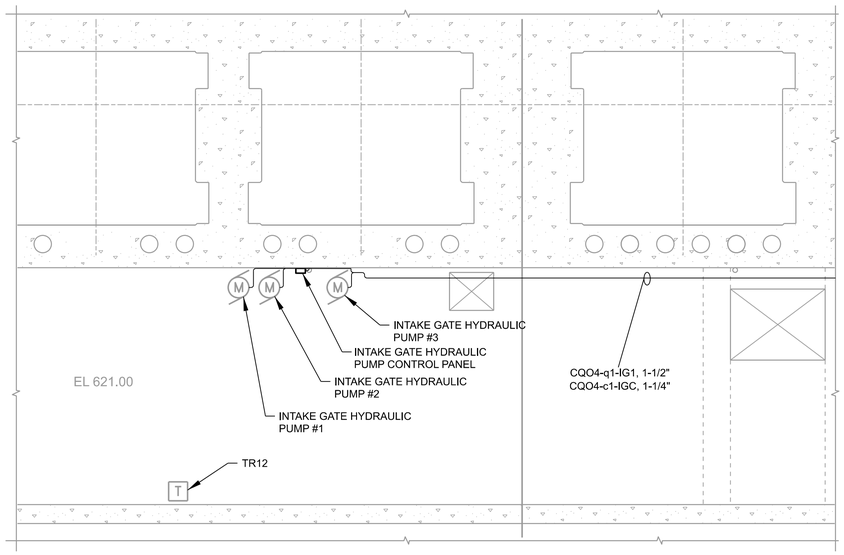
FINAL

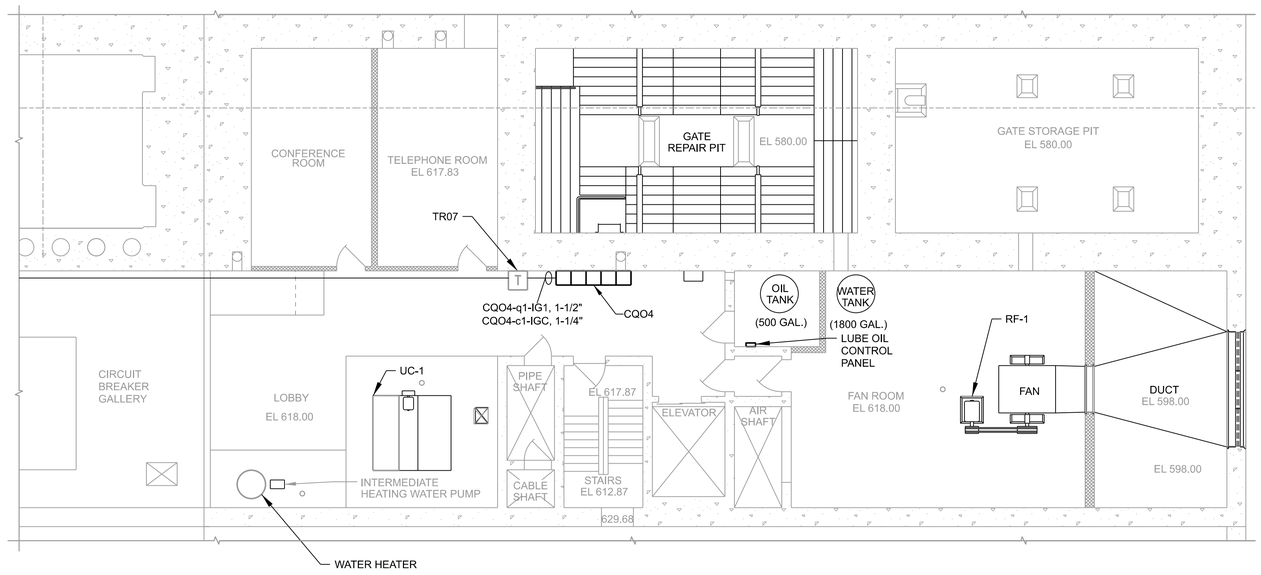


5 KEY PLAN: LGA POWERHOUSE ELEVATION 618.00
NOT TO SCALE

GENERAL NOTES:

1. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
2. REPLACE EXISTING FEEDERS AND CIRCUITS TO NEW MCC CQO4 FROM MCC TO EQUIP. MODIFY CONDUIT AS REQUIRED TO NEW MCC INSTALLED IN EXISTING LOCATION. SEE SHEET ED109 FOR REMOVAL.
3. REPLACE EXISTING CIRCUIT FROM CQO4 TO EXISTING EQUIPMENT. MODIFY CONDUIT AS REQUIRED BASED ON NEW MCC INSTALLATION.
4. REPLACE EXISTING CIRCUIT FROM SU MCC TO EXISTING TRANSFORMERS. 6 LOCATIONS IN CIRCUIT BREAKER GALLERY, 1 TRANSFORMER PER SU MCC.
5. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.





D1 CQO4 - ROUTING, LEVEL 7 (EL 618.00)
SCALE: 1/8"=1'-0"

0 4' 8' 16'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: E. HEDINE
CHECKED BY: K. SELLERS
SUBMITTED BY: S. VAN STERKENBURG, P.E., P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGA-ELGP-1-0022-E-DA1713
FILE NAME: V1-LGP1.0022-E-508.dgn

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WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

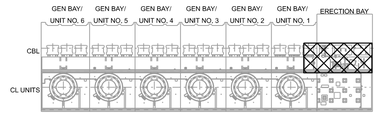
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CABLE TRAY AND CONDUIT ROUTING
PLAN VIEW, LEVEL 7, EL 618.00
INSTALL

SHEET ID
VOLUME 1
E-508

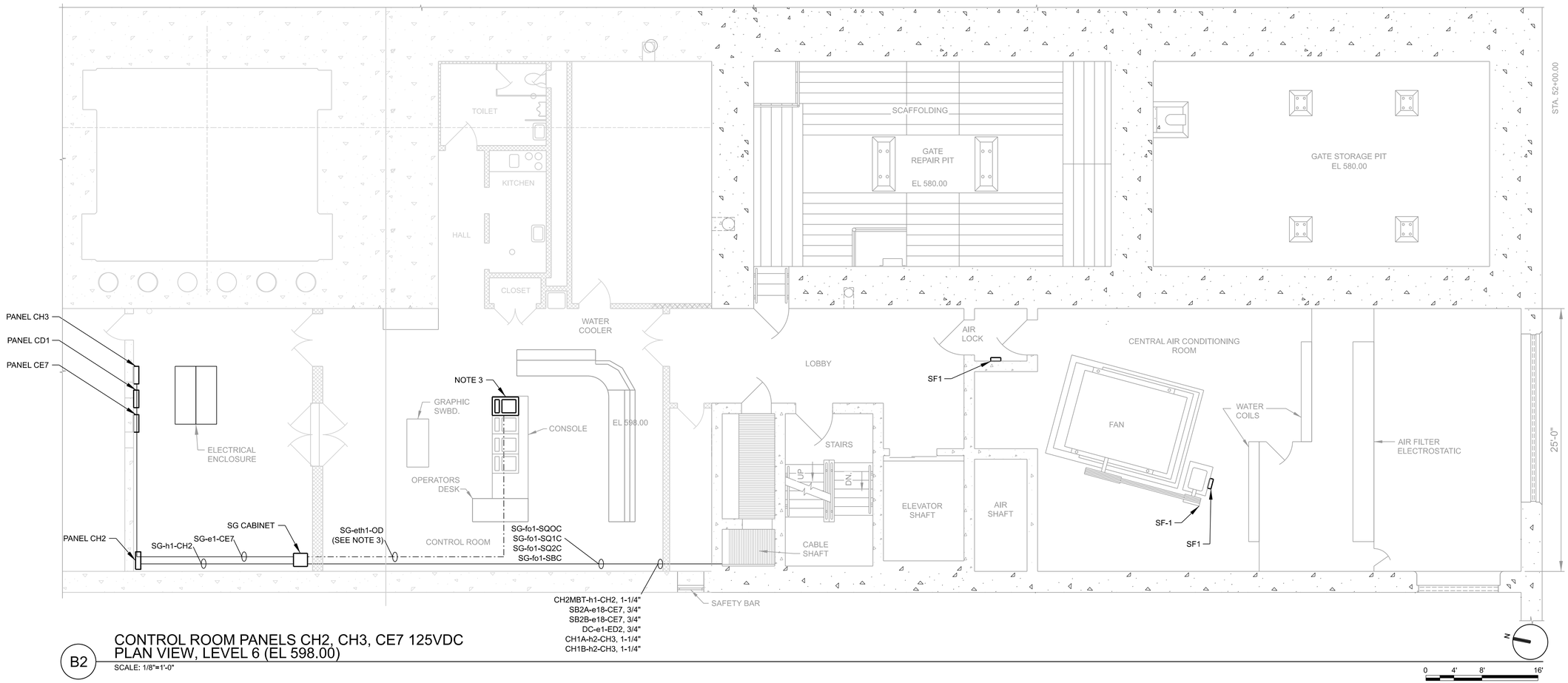
FINAL



4 KEY PLAN: LGA POWERHOUSE ELEVATION 598.00
NOT TO SCALE

GENERAL NOTES:

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. SEE DRAWING E-108 FOR ADDITIONAL NOTES.
3. ROUTE ETHERNET CABLE FROM SG CABINET TO OPERATOR DESK UNDER FLOOR. CONTRACTOR TO VERIFY EXACT ROUTING.



B2 CONTROL ROOM PANELS CH2, CH3, CE7 125VDC
PLAN VIEW, LEVEL 6 (EL 598.00)
SCALE: 1/8"=1'-0"

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0024-0-DA1/4
SIZE: FILENAME: V1-LGP1.0024-E-509.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

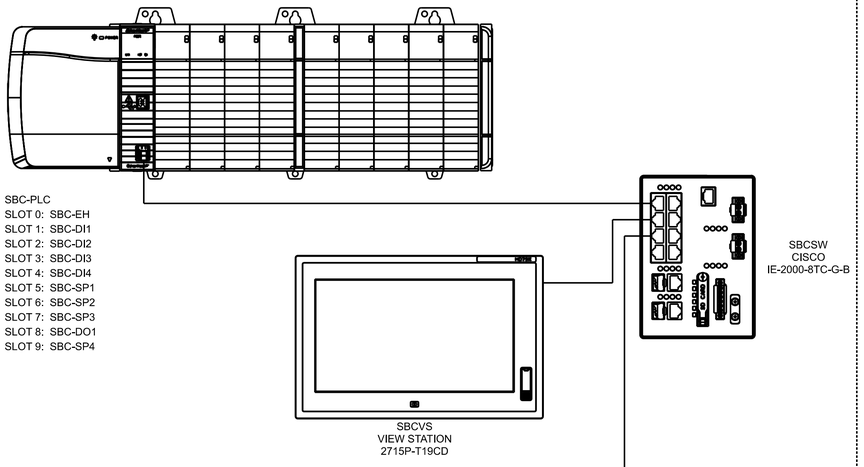
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

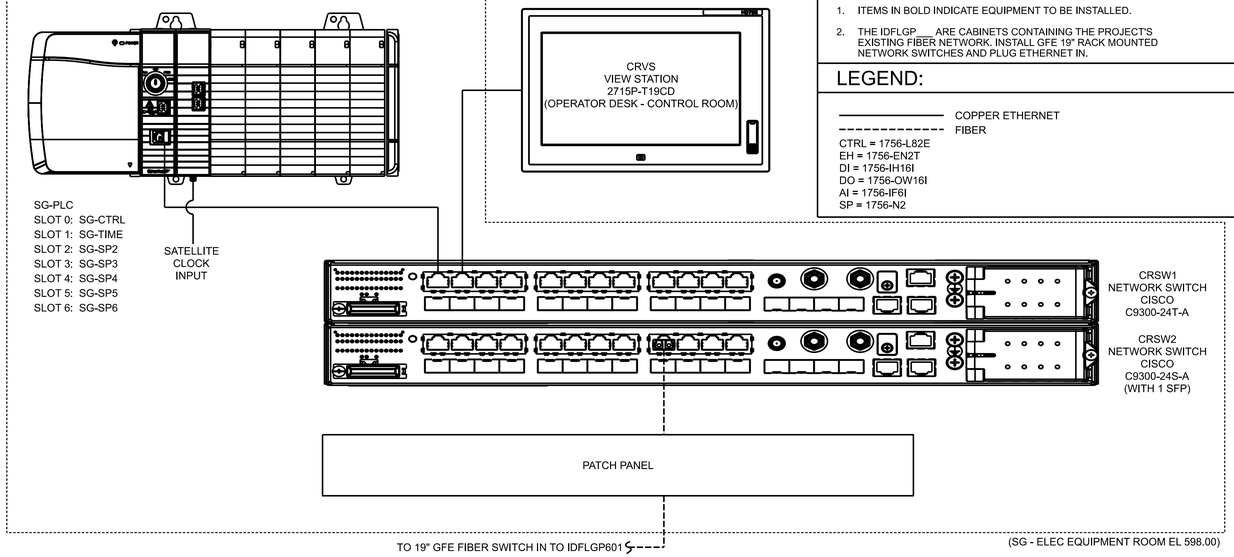
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

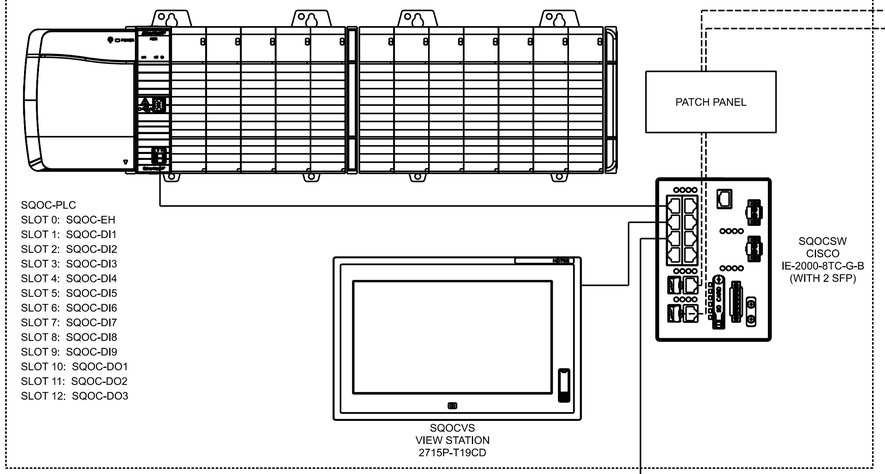
CABLE TRAY AND CONDUIT ROUTING PLAN VIEW
ELECTRICAL EQUIPMENT ROOM & CONTROL ROOM EL 598.00
INSTALL

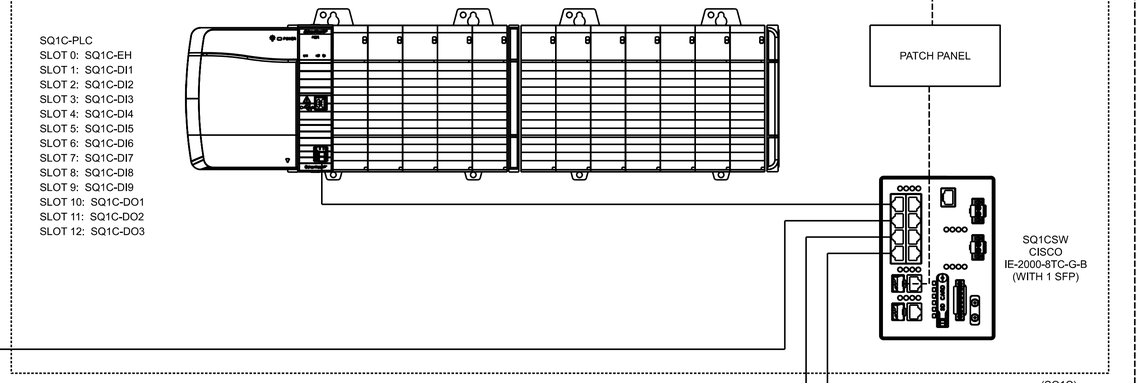
SHEET ID
VOLUME 1
E-509

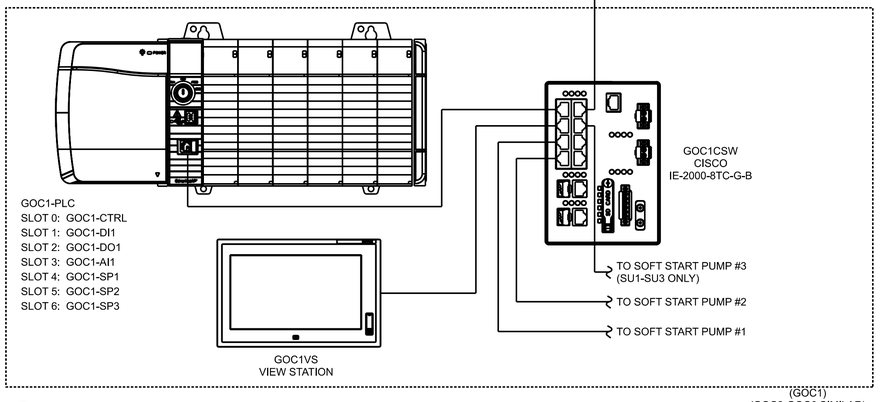
FINAL

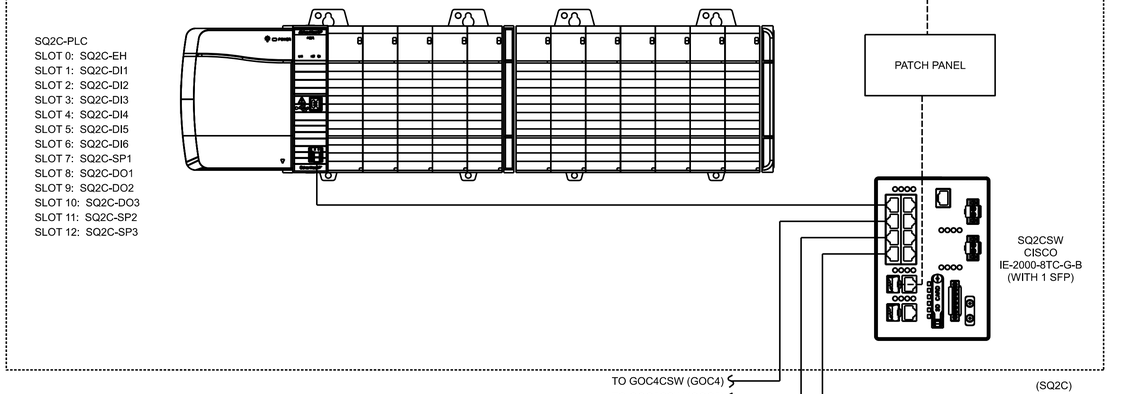












GENERAL NOTES:

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. THE IDFLGP___ ARE CABINETS CONTAINING THE PROJECT'S EXISTING FIBER NETWORK. INSTALL GFE 19" RACK MOUNTED NETWORK SWITCHES AND PLUG ETHERNET IN.

LEGEND:

———————— COPPER ETHERNET
- - - - - - - - FIBER

CTRL = 1756-L82E
EH = 1756-EN2T
DI = 1756-IH16I
DO = 1756-OW16I
AI = 1756-IF6I
SP = 1756-N2

A1 PLC NETWORK DIAGRAM
SCALE: NOT TO SCALE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SIRACUSA
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-3A3571
FILENAME: V1-LGP1.002-E-601.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

STATION SERVICE SCADA
NETWORK DIAGRAM
INSTALL

SHEET ID
VOLUME 1
E-601

FINAL

CONDUIT			CABLE						DESCRIPTION				REMARKS
NUMBER	SIZE	LENGTH	NUMBER	NO COND	SIZE	INS	RUN LENGTH	OPR VOLTAGE	FUNCTION	FROM	TO	ROUTING	
SP18-p1-SQ0	3"	50	SP18-p1-SQ0	3-1/C	#2/0 + #6G	5000V	55	4160V	SQO POWER	SP17	SQO	NEW CONDUIT/EXISTING CABLE TRAY	MC
SP17-p1-SQ0	3"	50	SP17-p1-SQ0	3-1/C	#2/0 + #6G	5000V	55	4160V	SQO POWER	SP18	SQO	NEW CONDUIT/EXISTING CABLE TRAY	MC
SQO-q1-CQO1	2"	185	SQO-q1-CQO1	3-1/C	#4/0 + #4G	600V	195	480VAC	CQO1	SQO	CQO1	EMBEDDED CONDUIT	
SQO-q1-CQO2	3 1/2"	145	SQO-q1-CQO2	6-1/C	#350KCMIL + #2G	600V	150	480VAC	CQO2	SQO	CQO2	NEW CONDUIT	
SQO-q1-CQO3	2"	25	SQO-q1-CQO3	3-1/C	#4/0 +#4G	600V	35	480VAC	CQO3	SQO	CQO3	EXISTING CONDUIT	
SQO-q1-CQO4	4"	195	SQO-q1-CQO4	6-1/C	#500 KCMIL + #1G	600V	200	480VAC	CQO4	SQO	CQO4	EMBEDDED CONDUIT	
SQO-q1-CQO5	4"	160	SQO-q1-CQO5	6-1/C	#500 KCMIL + #1G	600V	170	480VAC	CQO5	SQO	CQO5	NEW CONDUIT / CABLE TRAY	
SQO-q1-K	3"	115	SQO-q1-K	6-1/C	#250 KCMIL +#3G	600V	125	480VAC	600 TON BRIDGE CRANE	SQO	600 TON BRIDGE CRANE	EXISTING CONDUIT	
SQO-q1-FWM MCC	4"	185	SQO-q1-FWM MCC	6-1/C	#500KCMIL + #1G	600V	200	480VAC	FIRE PUMP PANEL	SQO	FWM MCC	NEW CONDUIT	
SQO-c1-CYO1	3/4"	200	SQO-c1-CYO1	1-3/C	#12	600V	220	120VAC	CQO1-CO2 TRIP	SQO	CY01	EMBEDDED CONDUIT	
SQO-q2-CQO1	2"	185	SQO-q2-CQO1	3-1/C	#4/0 + #4G	600V	195	480VAC	CQO1	SQO	CQO1	EMBEDDED CONDUIT	
SQO-q2-CQO2	3 1/2"	145	SQO-q2-CQO2	6-1/C	#350 KCMIL + #2G	600V	150	480VAC	CQO2	SQO	CQO2	NEW CONDUIT	
SQO-q1-WSCQ1	4"	190	SQO-q1-WSCQ1	6-1/C	#500 KCMIL + #1G	600V	200	480VAC	WELDING SHOP	SQO	WSCQ1	NEW CONDUIT	
SQO-q2-CQO4	4"	195	SQO-q2-CQO4	6-1/C	#500 KCMIL + #1G	600V	200	480VAC	CQO4	SQO	CQO4	EMBEDDED CONDUIT	
SQO-q2-FCQ5	2"	310	SQO-q2-FCQ5	3-1/C	#3/0 + #6G	600V	320	480VAC	FCQ5 (FISH SCREEN BAYS 1&2)	SQO	FCQ5 (FISH SCREEN BAYS 1&2)	NEW CONDUIT / CABLE TRAY	
SQO-q2-CQO6	3"	70	SQO-q2-CQO6	3-1/C	#350KCMIL + #4G	600V	80	480VAC	CQO6	SQO	CQO6	NEW CONDUIT	
SQO-q1-FCQ1	2 1/2"	245	SQO-q2-FCQ1	3-1/C	#4/0 + #4G	600V	260	480VAC	FCQ1	SQO	FCQ1	CABLE TRAY	
SQO-q1-FCQ2	2"	20	SQO-q2-FCQ2	3-1/C	#3/0+#4G	600V	820	480VAC	FCQ2	SQO	FCQ2	CABLE TRAY	
SP19-p1-SQ1	3"	250	SP19-p1-SQ1	3-1/C	#2/0 + #6G	5000V	260	4160V	SQ1 POWER	SP19	SQ1	NEW CONDUIT/EXISTING CABLE TRAY	MC
SP20-p1-SQ1	3"	250	SP20-p1-SQ1	3-1/C	#2/0 + #6G	5000V	260	4160V	SQ1 POWER	SP20	SQ1	NEW CONDUIT/EXISTING CABLE TRAY	MC
SQ1-q1-T1	1 1/2"	190	SQ1-q1-T1	3-1/C	#2 + #8G	600V	200	480VAC	TRANS T1 COOLING FEEDER #1	SQ1	T1	EXISTING CONDUIT	
SQ1-q1-SU1	4"	175	SQ1-q1-SU1	6-1/C	#500 KCMIL + #1G	600V	185	480VAC	SU1 FEEDER #1	SQ1	SU1	NEW CONDUIT / CABLE TRAY	
SQ1-q1-SU2	4"	70	SQ1-q1-SU2	6-1/C	#500 KCMIL + #1G	600V	80	480VAC	SU2 FEEDER #1	SQ1	SU2	NEW CONDUIT / CABLE TRAY	
SQ1-q1-SU3	4"	115	SQ1-q1-SU3	6-1/C	#500 KCMIL + #1G	600V	125	480VAC	SU3 FEEDER #1	SQ1	SU3	NEW CONDUIT / CABLE TRAY	
SQ1-q1-SU4	4"	205	SQ1-q1-SU4	6-1/C	#500 KCMIL + #1G	600V	215	480VAC	SU4 FEEDER #1	SQ1	SU4	NEW CONDUIT / CABLE TRAY	
SQ1-q2-T1	1 1/2"	190	SQ1-q2-T1	3-1/C	#2 + #8	600V	200	480VAC	TRANS T1 COOLING FEEDER #2	SQ1	T1	EXISTING CONDUIT	
SQ1-q1-CQO5	4"	390	SQ1-q1-CQO5	6-1/C	#500 KCMIL + #1G	600V	400	480VAC	CQ05 FEEDER	SQ1	CQ05	NEW CONDUIT / CABLE TRAY	
SQ1-q2-SU1	4"	175	SQ1-q2-SU1	6-1/C	#500 KCMIL + #1G	600V	185	480VAC	SU1 FEEDER #2	SQ1	SU1	NEW CONDUIT / CABLE TRAY	
SQ1-q2-SU2	4"	70	SQ1-q2-SU2	6-1/C	#500 KCMIL + #1G	600V	80	480VAC	SU2 FEEDER #2	SQ1	SU2	NEW CONDUIT / CABLE TRAY	
SQ1-q2-SU3	4"	115	SQ1-q2-SU3	6-1/C	#500 KCMIL + #1G	600V	125	480VAC	SU3 FEEDER #2	SQ1	SU3	NEW CONDUIT / CABLE TRAY	
SQ1-q2-SU4	4"	210	SQ1-q2-SU4	6-1/C	#500 KCMIL + #1G	600V	220	480VAC	SU4 FEEDER #2	SQ1	SU4	NEW CONDUIT / CABLE TRAY	
SQ1-q1-FUP	2"	310	SQ1-q1-FUP	3-1/C	#3/0 + #6G	600V	320	480VAC	FISH SCREEN BAYS 3 & 4	SQ1	FISH SCREEN BAYS 3 & 4	NEW CONDUIT	
SP15-p1-SQ2	3"	575	SP15-q1-SQ2	3-1/C	#1/0 + #6G	5000V	585	4160V	SQ2 POWER	SP15	SQ2	NEW CONDUIT/EXISTING CABLE TRAY	MC
SP16-p1-SQ2	3"	575	SP16-q1-SQ2	3-1/C	#1/0 + #6G	5000V	585	4160V	SQ2 POWER	SP16	SQ2	NEW CONDUIT/EXISTING CABLE TRAY	MC
SQ2-q1-SU5	4"	70	SQ2-q1-SU5	6-1/C	#500 KCMIL + #1G	600V	80	480VAC	SU5 FEEDER #1	SQ2	SU5	NEW CONDUIT / CABLE TRAY	
SQ2-q1-SU6	4"	115	SQ2-q1-SU6	6-1/C	#500 KCMIL + #1G	600V	125	480VAC	SU6 FEEDER #1	SQ2	SU6	NEW CONDUIT / CABLE TRAY	
SQ2-q1-T2	1 1/2"	190	SQ2-q1-T2	3-1/C	#2 + #8G	600V	200	480VAC	T2 COOLING FANS FEEDER #1	SQ2	T2	EXISTING CONDUIT	
SQ2-q1-FUP	2"	310	SQ2-q1-FUP	3-1/C	#3/0 + #6G	600V	320	480VAC	FISH SCREEN BAYS 5 & 6	SQ2	FISH SCREEN BAYS 5 & 6	NEW CONDUIT	
SQ2-q2-SU5	4"	70	SQ2-q2-SU5	6-1/C	#500 KCMIL + #1G	600V	80	480VAC	SU5 FEEDER #2	SQ2	SU5	NEW CONDUIT / CABLE TRAY	
SQ2-q2-SU6	4"	115	SQ2-q2-SU6	6-1/C	#500 KCMIL + #1G	600V	125	480VAC	SU6 FEEDER #2	SQ2	SU6	NEW CONDUIT / CABLE TRAY	
SQ2-q2-T2	1 1/2"	190	SQ2-q2-T2	3-1/C	#2 + #8G	600V	200	480VAC	T2 COOLING FANS FEEDER #2	SQ2	T2	EXISTING CONDUIT	
SQ2-q2-K	3"	130	SQ2-q2-K	6-1/C	#250 KCMIL + #2G	600V	300	480VAC	130 TON CRANE	SQ2	130 TON CRANE	NEW CONDUIT	
SP22-p1-SH	3"	75	SP22-p1-SH	3-1/C + G	#1, #6 GND	5000V	85	4160V	SH FEEDER	SP22	SH	NEW CONDUIT	MC
SH-q1-P6	3/4"	80	SH-q1-P6	3-1/C + G	#12, #12 GND	600V	90	480VAC	INTERMEDIATE COOLING WATER PUMP P6	SH	P6	NEW CONDUIT	
SH-c1-P6	3/4"	110	SH-c1-P6	1-4/C	#12 + #12G	600V	120	120VAC	CONTROL POWER TO PRESSURE SWITCH PS7	SH	PS7	NEW CONDUIT	
SH-q1-P4	1"	30	SH-q1-P4	3-1/C + G	#12, #12 GND	600V	55	480VAC	CIRCULATING WATER PUMP P4	SH	P4	NEW CONDUIT	
SH-q1-P3	1"	40	SH-q1-P3	3-1/C + G	#10, #10 GND	600V	65	480VAC	HEAT PUMP SUPPLY WATER PUMP P3	SH	P3	NEW CONDUIT	
SH-q1-HQ2	3"	110	SH-q1-HQ2	3-1/C + G	350 KCMIL, #4 GND	600V	120	480VAC	HEAT PUMP #2	SH	HQ2	NEW CONDUIT	
SH-c1-HQ2	1 1/4"	115	SH-c1-HQ2	1-2/C	#12	600V	125	120VAC	CONTROL POWER FOR HEAT PUMP NO. 2	SH	HEAT PUMP NO. 2 CONTROL PANEL	NEW CONDUIT	
			SH-c2-HQ2	1-2/C	#12	600V	140	120VAC	CTCV2 CONTROL POWER	SH	HEAT PUMP NO. 2 CONTROL PANEL	NEW CONDUIT	
			SH-c1-P3	1-2/C	#12	600V	140	120VAC	P3 CONTROL CIRCUIT	SH	HEAT PUMP NO. 2 CONTROL PANEL	NEW CONDUIT	
			SH-c1-P4	1-2/C	#12	600V	140	120VAC	P4 CONTROL CIRCUIT	SH	HEAT PUMP NO. 2 CONTROL PANEL	NEW CONDUIT	
SH-c1-CC	1 1/4"	55	SH-c1-CC	1-2/C	#12	600V	65	120VAC	CONTROL PANEL	SH	HEAT PUMP CONTROL PANEL	NEW CONDUIT	CONTRACTOR TO VERIFY
SH-q1-P5	3/4"	45	SH-q1-P5	3-1/C + G	#12, #12 GND	600V	40	480VAC	BOOSTER WATER PUMP P5	SH	P5	NEW CONDUIT	
SH-q1-HQ1	3"	140	SH-q1-HQ1	3-1/C + G	350 KCMIL, #4 GND	600V	150	480VAC	HEAT PUMP #1	SH	HQ1	NEW CONDUIT	
SH-c1-HQ1	1 1/4"	145	SH-c1-HQ1	1-2/C	#12	600V	155	120VAC	CONTROL POWER FOR HEAT PUMP NO. 1	SH	HEAT PUMP NO. 1 CONTROL PANEL	NEW CONDUIT	
		145	SH-c2-HQ1	1-2/C	#12	600V	155	120VAC	CTCV1 CONTROL POWER	SH	HEAT PUMP NO. 1 CONTROL PANEL	NEW CONDUIT	
		145	SH-c1-P1	1-2/C	#12	600V	155	120VAC	P1 CONTROL CIRCUIT	SH	HEAT PUMP NO. 1 CONTROL PANEL	NEW CONDUIT	
		145	SH-c1-P2	1-2/C	#12	600V	155	120VAC	P2 CONTROL CIRCUIT	SH	HEAT PUMP NO. 1 CONTROL PANEL	NEW CONDUIT	
		145	SH-c2-P5	1-2/C	#12	600V	155	120VAC	P5 CONTROL CIRCUIT	SH	P5	NEW CONDUIT	
SH-q1-P1	1"	110	SH-q1-P1	3-1/C + G	#10, #10 GND	600V	100	480VAC	HEAT PUMP SUPPLY WATER PUMP P1	SH	P1	NEW CONDUIT	
SH-q1-P2	1"	15	SH-q1-P2	3-1/C + G	#12, #12GND	600V	40	480VAC	CIRCULATING WATER PUMP P2	SH	P2	NEW CONDUIT	
SH-q1-UC3	3/4"	75	SH-q1-UC3	3-1/C + G	#12, #12 GND	600V	90	480VAC	UNIT CONDITIONER UC-3	SH	UC-3	NEW CONDUIT	
SH-c1-UC3	3/4"	85	SH-c1-UC3	1-3/C	#12, #12 GND	600V	100	120VAC	UC-3 CONTROL CIRCUIT	SH	UC-3	NEW CONDUIT	
CQO1-q1-QPT	1"	90	CQO1-q1-QPT	3-1/C + G	#12, #12 GND	600V	100	480VAC	TRANSIL OIL PUMP #1	CQO1	TRANSIL OIL PUMP #1	EXISTING CONDUIT	
CQO1-c1-QPT	1 1/2"	50	CQO1-c1-QPT	1-5/C	#12	600V	60	120VAC	TRANSIL OIL PUMP #1 CONTROL	CQO1	TRANSIL OIL PUMP #1 CONTROL	EMBEDDED CONDUIT	
			CQO1-c2-QPT	1-5/C	#12	600V	60	120VAC	TRANSIL OIL PUMP #2 CONTROL	CQO1	TRANSIL OIL PUMP #2 CONTROL	EXISTING CONDUIT	
CQO1-q2-QPT	1"	90	CQO1-q2-QPT	3-1/C + G	#12, #12 GND	600V	100	480VAC	TRANSIL OIL PUMP #2	CQO1	TRANSIL OIL PUMP #2	EXISTING CONDUIT	
CQO1-c2-QPL	1 1/2"	50	CQO1-c2-QPL	1-5/C	#12	600V	60	480VAC	LUBE OIL PUMP CONTROL	CQO1	LUBE OIL PUMP CONTROL	EMBEDDED CONDUIT	
			CQO1-c2-QPD	1-6/C	#12	600V	60	120VAC	DIRTY OIL PUMP CONTROL	CQO1	DIRTY OIL PUMP CONTROL	EXISTING CONDUIT	
CQO1-q1-QPL	1"	90	CQO1-q1-QPL	3-1/C + G	#12, #12 GND	600V	100	480VAC	LUBE OIL PUMP #3	CQO1	LUBE OIL PUMP #3	EXISTING CONDUIT	
CQO1-c1-QPL	1 1/4"	200	CQO1-c1-QPL	1-5/C	#12	600V	210	480VAC	LUBE OIL PUMP CONTROL	CQO1	LUBE OIL PUMP CONTROL	EXISTING CONDUIT	
CQO1-q1-OSCC	1"	165	CQO1-q1-OSCC	3-1/C + G	#12, #12 GND	600V	175	480VAC	OSCC PLC	CQO1	OSCC PLC	NEW CONDUIT	
CQO1-q1-QPD	1"	90	CQO1-q1-QPD	3-1/C + G	#12, #12 GND	600V	100	480VAC	DIRTY OIL PUMP #4	CQO1	DIRTY OIL PUMP #4	EXISTING CONDUIT	

GENERAL NOTES:

1. ALL CABLE AND CONDUIT LENGTHS PROVIDED ARE APPROXIMATIONS AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINN, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0022-E-001.dgn
SCALE: AS NOTED
FILENAME: V1-LGP1.0022-E-001.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CABLE & CONDUIT SCHEDULE
SHEET 1 OF 9
INSTALL

SHEET ID
VOLUME 1
E-801

FINAL

CONDUIT			CABLE					DESCRIPTION					REMARKS
NUMBER	SIZE	LENGTH	NUMBER	NO COND	SIZE	INS	RUN LENGTH	OPR VOLTAGE	FUNCTION	FROM	TO	ROUTING	
CQO1-c1-QPD	3/4"	90	CQO1-c1-QPD	1-2/C	#12	600V	100	480VAC	DIRTY OIL PUMP CONTROL	CQO1	DIRTY OIL PUMP CONTROL	EXISTING CONDUIT	
CQO1-q1-OP1	1 1/4"	25	CQO1-q1-OP1	3-1/C + G	#1, #8 GND	600V	35	480VAC	OIL PURIFICATION #1	CQO1	OIL PURIFICATION #1	EMBEDDED CONDUIT	
CQO1-q1-OP2	1 1/4"	25	CQO1-q1-OP2	3-1/C + G	#6, #10 GND	600V	35	480VAC	OIL PURIFICATION #2	CQO1	OIL PURIFICATION #2	EMBEDDED CONDUIT	
CQO1-q1-OP3	1 1/4"	10	CQO1-q1-OP3	3-1/C + G	#6, #10 GND	600V	20	480VAC	OIL PURIFICATION #3	CQO1	OIL PURIFICATION #3	EMBEDDED CONDUIT	
CQO1-q1-OP4	1 1/4"	10	CQO1-q1-OP4	3-1/C + G	#6, #10 GND	600V	20	480VAC	OIL PURIFICATION #4	CQO1	OIL PURIFICATION #4	EMBEDDED CONDUIT	
CQO2-q1-EC	1"	15	CQO2-q1-EA	3-1/C + G	#12, #12 GND	600v	25	480VAC	COMMINUTOR/MUFFIN MONSTER	CQO2	SEWAGE AIR COMPRESSOR	EMBEDDED CONDUIT	
CQO2-q1-TRO1	1 1/4"	20	CQO2-q1-TRO1	3-1/C + G	#6, #10 GND	600V	30	480VAC	TRO1	CQO2	TRO1	EMBEDDED CONDUIT	
CQO2-q1-PA1	1 1/2"	145	CQO2-q1-PA1	3-1/C + G	#1/0, #6GND	600V	155	480VAC	STATION AIR COMPRESSOR #1	CQO2	STATION AIR COMPRESSOR #1	EMBEDDED CONDUIT	
CQO2-q1-TLI	1"	120	CQO2-q1-TLI	3-1/C + G	#12, #12 GND	600V	130	480VAC	TAILRACE DECKLIGHTS	CQO2	TAILRACE DECKLIGHTS	EMBEDDED CONDUIT	
CQO2-c1-CQO4	1"	130	CQO2-c1-CQO4	1-2/C	#12	600V	140	120VAC	TAILRACE DECKLIGHTS CONTROL	CQO2	TAILRACE DECKLIGHTS CONTROL	EXISTING CONDUIT	
CRO1-R2	3/4"	15	CQO2-R2	1-2/C	#12	600V	25	120VAC	120VAC SOURCE	CQO2	TAILRACE DECKLIGHTS CONTROL	EXISTING CONDUIT	
CQO2-q1-RECEPT	1 1/4"	65	CQO2-q1-RECEPT	3-1/C + G	#6, #10 GND	600V	75	480VAC	480V OUTLET	CQO2	OUTLET	EMBEDDED CONDUIT	
CQO2-q1-TFPR1	1"		CQO2-q1-TFPR1	3-1/C + G	#12, #12 GND	600V		480VAC	TFPR1 - GFCI FISH PUMP ROOM RECEPTICAL	CQO2	TFPR1 - GFCI FISH PUMP ROOM RECEPTICAL	EXISTING CONDUIT	
CQO2-q1-CRO2.3	1"	138	CQO2-q1-CR02.3	3-1/C + G	#12, #12 GND	600V	145	480VAC	CRO2.3	CQO2	CRO2.3	EXISTING CONDUIT	
CQO2-q1-EP1	3/4"	60	CQO2-q1-EP1	3-1/C + G	#8, #10 GND	600V	65	480VAC	EFFLUENT PUMP #1	CQO2	EFFLUENT PUMP #1	EMBEDDED CONDUIT	
CQO2-q1-TQ	1"	125	CQO2-q1-TQ	3-1/C + G	#10, #10 GND	600V	135	480VAC	T01 TRANSFORMER OIL PUMP #1	CQO2	T01 TRANSFORMER OIL PUMP #1	EXISTING CONDUIT	
			CQO2-q3-TQ	3-1/C + G	#10, #10 GND	600V	135	480VAC	T01 TRANSFORMER OIL PUMP #2	CQO2	T01 TRANSFORMER OIL PUMP #2	EXISTING CONDUIT	
CQO2-q2-TQ	1"	165	CQO2-q2-TQ	3-1/C + G	#10, #10 GND	600V	175	480VAC	T02 TRANSFORMER OIL PUMP #1	CQO2	T02 TRANSFORMER OIL PUMP #1	EXISTING CONDUIT	
			CQO2-q4-TQ	3-1/C + G	#10, #10 GND	600V	175	480VAC	T02 TRANSFORMER OIL PUMP #2	CQO2	T02 TRANSFORMER OIL PUMP #2	EXISTING CONDUIT	
CQO2-q1-AA1	1"	35	CQO2-q1-AA	3-1/C + G	#4, #8 GND	600V	45	480VAC	500LBS AIR COMPRESSOR	CQO2	AA1 CONTROL PANEL	EMBEDDED CONDUIT	
AA1-q1	1"	20	AA1-q1	3-1/C + G	#4, #8 GND	600V	25	480VAC	500LBS AIR COMPRESSOR	AA1 CONTROL PANEL	500LBS AIR COMPRESSOR	EMBEDDED CONDUIT	
CQO2-q1-EP2	3/4"	65	CQO2-q1-EP2	3-1/C + G	#8, #10 GND	600V	75	480VAC	EFFLUENT PUMP #2	CQO2	EFFLUENT PUMP #2	EMBEDDED CONDUIT	
CQO2-q2-RECEPT	1 1/4"	40	CQO2-q2-RECEPT	3-1/C + G	#6, #10 GND	600V	50	480VAC	480V OUTLET	CQO2	480V OUTLET	EMBEDDED CONDUIT	
CQO2-q1-TRO2	1"	45	CQO2-q1-TRO2	3-1/C + G	#10, #10 GND	600V	55	480VAC	TRO2	CQO2	TRO2	EMBEDDED CONDUIT	
CQO2-q1-PA2	1 1/2"	145	CQO2-q1-PA2	3-1/C + G	#1/0, #6 GND	600V	155	480VAC	STATION AIR COMPRESSOR #2	CQO2	STATION AIR COMPRESSOR #2	EMBEDDED CONDUIT	
CQO2-q1-HRDA	1"	170	CQO2-q1-HRDA	3-1/C + G	#12, #12 GND	600V	180	480VAC	HRDA	CQO2	HRDA	EXISTING CONDUIT	
CQO2-q1-TK	1 1/2"	175	CQO2-q1-TK	3-1/C + G	#1, #8 GND	600V	185	480VAC	TAILRACE CRANE	CQO2	TAILRACE CRANE	EMBEDDED CONDUIT	
CQO2-q1-PA3	3"	70	CQO2-q1-PA3	3-1/C + G	350KCMIL, #3 GND	600V	80	480VAC	STATION AIR COMPRESSOR #3	CQO2	STATION AIR COMPRESSOR #3	EMBEDDED CONDUIT	
CQO3-q1-HST	3/4"	12	CQO3-q1-HST	3-1/C + G	#10, #10 GND	600V	20	480V	SHOP HOIST	CQO3	SHOP HOIST	EXISTING CONDUIT	
CQO3-q4	1 1/4"	35	CQO3-q4	3-1/C + G	#6, #10 GND	600V	45	480V	16" LATHE	CQO3	16" LATHE	EXISTING CONDUIT	
CQO3-q1-RECPT	3/4"	40	CQO3-q1-RECPT	3-1/C + G	#10, #10 GND	600V	50	480V	RADIAL DRILL	CQO3	RADIAL DRILL	EXISTING CONDUIT	
CQO3-q2-RECPT	3/4"	16	CQO3-q2-RECPT	3-1/C + G	#10, #10 GND	600V	25	480V	RECEPTACLES ELECTRICAL SHOP	CQO3	RECEPTACLES ELECTRICAL SHOP	EXISTING CONDUIT	
CQO3-q5	3/4"	35	CQO3-q5	3-1/C + G	#12, #12 GND	600V	45	480V	10" LATHE	CQO3	10" LATHE	EXISTING CONDUIT	
CQO3-q1-VLD	3/4"	80	CQO3-q1-VLD	3-1/C + G	#12, #12 GND	600V	90	480V	VERTICAL LIFT DOOR	CQO3	VERTICAL LIFT DOOR	EXISTING CONDUIT	
CQO3-q7	1 1/4"	145	CQO3-q7	3-1/C + G	#1, #8 GND	600V	155	480V	5TH FLOOR OFFICES	CQO3	5TH FLOOR OFFICES	EXISTING CONDUIT	
CQO3-q10	3/4"	45	CQO3-q10	3-1/C + G	#12, #12 GND	600V	55	480V	PRESS	CQO3	PRESS	EXISTING CONDUIT	
CQO3-q1-TR03	1"	60	CQO3-q1-TR03	3-1/C + G	#10, #10 GND	600V	70	480V	TR03 (LIGHTING)	CQO3	TR03 (LIGHTING)	EXISTING CONDUIT	
CQO3-q1-LTH	1"	65	CQO3-q1-LTH	3-1/C + G	#10, #10 GND	600V	75	480V	HI-BAY LIGHTS	CQO3	HI-BAY LIGHTS	EXISTING CONDUIT	
CQO3-q1-TR04	1 1/4"	90	CQO3-q1-TR04	3-1/C + G	#12, #12 GND	600V	100	480V	TR04 (LIGHTING)	CQO3	TR04 (LIGHTING)	EXISTING CONDUIT	
CQO3-q2-LTH	1"	80	CQO3-q2-LTH	3-1/C + G	#10, #10 GND	600V	90	480V	HI-BAY LIGHTS	CQO3	HI-BAY LIGHTS	EXISTING CONDUIT	
CQO4-q2-EL	1 1/2"	100	CQO4-q2-EL	3-1/C + G	#1, #8 GND	600V	110	480VAC	EVEVATOR	CQO4	EVEVATOR	EMBEDDED CONDUIT	
CQO4-q1-EL	1"	140	CQO4-q1-EL	3-1/C + G	#8, #10 GND	600V	150	480VAC	EVEVATOR EQUIPMENT ROOM HEAT PUMP	CQO4	EVEVATOR EQUIPMENT ROOM HEAT PUMP	EXISTING CONDUIT	
CQO4-q1-TR07	1 1/4"	25	CQO4-q1-TR07	3-1/C + G	#6, #10 GND	600V	35	480VAC	TR07	CQO4	TR07	EMBEDDED CONDUIT	
CQO4-q1-KT	1 1/4"	180	CQO4-q1-KT	3-1/C + G	#4, #8 GND	600V	190	480VAC	TRASH RAKE CRANE	CQO4	TRASH RAKE CRANE	EMBEDDED CONDUIT	
CQO4-q1-IG1	1 1/2"	190	CQO4-q1-IG1	3-1/C + G	#6, #10 GND	600V	200	480VAC	INTAKE GATE HYDRAULIC PUMP #1	CQO4	INTAKE GATE HYDRAULIC PUMP #1	NEW CONDUIT	
			CQO4-q1-IG2	3-1/C + G	#6, #10 GND	600V	185	480VAC	INTAKE GATE HYDRAULIC PUMP #2	CQO4	INTAKE GATE HYDRAULIC PUMP #2		
			CQO4-q1-IG3	3-1/C + G	#12 + #12 GND	600V	170	480VAC	INTAKE GATE HYDRAULICK PUMP #3	CQO4	INTAKE GATE HYDRAULICK PUMP #3		
CQO4-c1-IGC	1 1/4"	120	CQO4-c1-IGC	15-1/C	#12	600V	130	120VAC	INTAKE GATE HOIST CONTROL	CQO4	INTAKE GATE HOIST CONTROL	NEW CONDUIT	
			CQO4-c2-IGC	2-1/C	#12	600V	130	120VAC	ANNUNCIATION	CQO4	INTAKE GATE HOIST CONTROL		
CQO4-q1-ILI	3/4"	45	CQO4-q1-ILI	3-1/C + G	#12, #12 GND	600V	55	480VAC	INTAKE DECK LIGHTING	CQO4	INTAKE DECK LIGHTING	EMBEDDED CONDUIT	
CQO2-c1-CQO4	1"	135	CQO2-c1-CQO4	1-2/C + G	#12	600V	145	480VAC	INTAKE DECK LIGHTING CONTROL	CQO4	INTAKE DECK LIGHTING CONTROL	EMBEDDED CONDUIT	
CQO4-r1-CRO7.1	3/4"	25	CQO4-r1-CR07.1	1-2/C	#12	600V	35	120VAC	INTAKE DECK LIGHTING CONTROL	CQO4	INTAKE DECK LIGHTING CONTROL	EMBEDDED CONDUIT	
CQO4-q1-TR06	1 1/4"	20	CQO4-q1-TR06	3-1/C + G	#6, #10 GND	600V	30	480VAC	TR06	CQO4	TR06	EMBEDDED CONDUIT	
CQO4-q1-RECPT	1 1/4"	45	CQO4-q1-RECPT	3-1/C + G	#6, #10 GND	600V	55	480VAC	OUTLET - SCREEN REPAIR	CQO4	OUTLET - SCREEN REPAIR	EMBEDDED CONDUIT	
CQO4-q2-RECPT	1 1/4"	55	CQO4-q2-RECPT	3-1/C + G	#6, #10 GND	600V	65	480VAC	OUTLET - REPAIR PIT	CQO4	OUTLET - REPAIR PIT	EMBEDDED CONDUIT	
CQO4-q3-RECPT	1 1/4"	190	CQO4-q3-RECPT	3-1/C + G	#6, #10 GND	600V	200	480VAC	OUTLET - INTAKE DECK	CQO4	OUTLET - INTAKE DECK	EMBEDDED CONDUIT	
CQO4-q1-SF1	1 1/4"	70	CQO4-q1-SF1	3-1/C + G	#6, #10 GND	600V	80	480VAC	CENTRAL CONDITIONER FAN SF-1	CQO4	CENTRAL CONDITIONER FAN SF-1	EMBEDDED CONDUIT	
CQO4-c2-HVD	1 1/4"	95	CQO4-c2-HVD	10-1/C	#12	600V	110	480VAC	SF-1 CONTROL	CQO4	SF-1 CONTROL	EMBEDDED CONDUIT	
HF-C3	1"		HF-C3	2-1/C	#12	600V		120VAC	SF-1 CONTROL	SF-1 CONTROL	THERMOSTATS	EXISTING CONDUIT	
HF-C4	3/4"		HF-C4	3-1/C	#12	600V		120VAC	SF-1 CONTROL	SF-1 CONTROL	PB1	EXISTING CONDUIT	
HF-C5	3/4"		HF-C5	5-1/C	#12	600V		120VAC	SF-1 CONTROL	SF-1 CONTROL	PB2	EXISTING CONDUIT	
CQO4-q1-RF1	3/4"	40	CQO4-q1-RF1	3-1/C + G	#12, #12 GND	600V	50	480VAC	RECIRCULATING FAN RF-1	CQO4	RECIRCULATING FAN RF-1	EMBEDDED CONDUIT	
CQO4-c1-HVD	3/4"	30	CQO4-c1-HVD	1-3/C	#12	600V	40	480VAC	RF-1 CONTROL	CQO4	RF-1 CONTROL	EMBEDDED CONDUIT	
CQO4-q1-WH	1 1/4"	60	CQO4-q1-WH	3-1/C + G	#4 + #8 GND	600V	70	480VAC	WATER HEATER	CQO4	WATER HEATER	EMBEDDED CONDUIT	
CQO4-q1-ICH	1 1/4"	180	CQO4-q1-ICH	3-1/C + G	#6 + #10 GND	600V	190	480VAC	INTAKE CRANE HEATER	CQO4	INTAKE CRANE HEATER	EMBEDDED CONDUIT	
CQO4-q4-RECPT	1 1/4"	190	CQO4-q4-RECPT	3-1/C + G	#6 + #10G	600V	200	480VAC	OUTLET - INTAKE DECK	CQO4	OUTLET - INTAKE DECK	EMBEDDED CONDUIT	
CQO4-q1-UC1	3/4"	40	CQO4-q1-UC1	3-1/C + G	#12 + #12 GND	600V	50	480VAC	UC-1 CONTROL CABINENT PWR	CQO4	UC-1 CONTROL CABINENT PWR	EMBEDDED CONDUIT	
CQO4-c12	3/4"	40	CQO4-c12	1-4/C	#12	600V	50	120VAC	UC-1 CONTROL	CQO4	UC-1 CONTROL	EMBEDDED CONDUIT	
CQO4-c12.1	3/4"	45	CQO4-c12.1	1-2/C	#12	600V	55	120VAC	UC-1 CONTROL	CQO4	UC-1 CONTROL	EMBEDDED CONDUIT	
CQO4-q1-UC2	3/4"	100	CQO4-q1-UC2	3-1/C + G	#12 + #12 GND	600V	110	480VAC	UC-2 CONTROL CABINENT PWR	CQO4	UC-2 CONTROL CABINENT PWR	EMBEDDED CONDUIT	
CQO4-c13	3/4"	100	CQO4-c13	1-2/C	#12	600V	110	120VAC	UC-2 CONTROL	CQO4	UC-2 CONTROL	EMBEDDED CONDUIT	
CQO4-q5-RECPT	1 1/4"	190	CQO4-q5-RECPT	3-1/C + G	#6 + #10G	600V	200	480VAC	OUTLET - INTAKE DECK	CQO4	OUTLET - INTAKE DECK	EMBEDDED CONDUIT	
CQO4-q6-RECPT	1 1/4"	190	CQO4-q6-RECPT	3-1/C + G	#6 + #10G	600V	200	480VAC	OUTLET - INTAKE DECK	CQO4	OUTLET - INTAKE DECK	EMBEDDED CONDUIT	
CQO4-c1-EF	1 1/4"	175	CQO4-c1-EF	3-1/C	#10 + #10 GND	600V	180	120VAC	FEEDER PENTHOUSE LOUVER VENT FAN	CQO4	FEEDER PENTHOUSE LOUVER VENT FAN	EXISTING CONDUIT	
CQO4-c1-LT	3/4"	320	CQO4-c1-LT	3-1/C	#10 + #10 GND	600V	330	120VAC	480V PIPE CHASE LIGHTING	CQO4	480V PIPE CHASE LIGHTING	EMBEDDED CONDUIT	
CQO4-c1-LR	2 1/2"	165	CQO4-c1-LR	3-1/C	250KCMIL, + #6 GND	600V	175	120VAC	LUNCH ROOM	CQO4	LUNCH ROOM	EXISTING CONDUIT	
CQO4-q1-JB01	2"	25	CQO4-q1-LEFCC	3-1/C	#12 + #12 GND	600V	200	480VAC	LOCAL EXHAUS FAN	CQO4	LOCAL EXHAUS FAN	NEW CONDUIT	
			CQO4-q1-EF18	3-1/C	#12 + #12 GND	600V	300	480VAC	EF18 POWER	CQO4	EF18 POWER		
			CQO4-q1-RPR1	3-1/C	#10 + #10 GND	600V	300	480VAC	REPAIR PIT - WELDING RECEPTACLE #1	CQO4	REPAIR PIT - WELDING RECEPTACLE #1		
			CQO4-q1-RPR2	3-1/C	#10 + #10 GND	600V	300	480VAC	REPAIR PIT- WELDING RECEPTACLE #2	CQO4	REPAIR PIT- WELDING RECEPTACLE #2		

GENERAL NOTES:

1. ALL CABLE AND CONDUIT LENGTHS PROVIDED ARE APPROXIMATIONS AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	L. SUPPAN
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. TINKLE, P.E.
SIZE:	ANSI D
ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-6-DAT002
FILENAME:	V1-LGP1.002-E-802.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CABLE & CONDUIT SCHEDULE
SHEET 2 OF 9
INSTALL

SHEET ID
VOLUME 1
E-802

FINAL

CONDUIT			CABLE						DESCRIPTION				REMARKS
NUMBER	SIZE	LENGTH	NUMBER	NO COND	SIZE	INS	RUN LENGTH	OPR VOLTAGE	FUNCTION	FROM	TO	ROUTING	
			CQO4-q1-BC	3-1/C	#6 + #10 GND	600V	125	480VAC	BRIDGE CRANE POWER SUPPLY	CQO4	BRIDGE CRANE POWER SUPPLY		
			CQO4-q1-JIB	3-1/C	#12 + #12 GND	600V	125	480VAC	JIB CRANE	CQO4	JIB CRANE		
CQO4-q1-MAF1CC	1"	75	CQO4-q1-MAF1CC	3-1/C	#10 + #10 GND	600V	325	480VAC	MAF1CC POWER	CQO4	MAF1CC POWER	NEW CONDUIT	
CQO4-q1-VSR	3/4"	325	CQO4-q1-VSR	3-1/C	#10 + #10 GND	600V	75	480VAC	REPAIR PIT VACUUM SYSTEM POWER	CQO4	REPAIR PIT VACUUM SYSTEM POWER	EXISTING CONDUIT	
CQO5-q1-TR05	1"	55	CQO5-q1-TR05	3-1/C + G	#6, #10 GND	600V	65	480VAC	LIGHTING TRANSFORMER TR05	CQO5	TR05	NEW CONDUIT	
CQO5-q1-BC1	1 1/2"	20	CQO5-q1-BC1	3-1/C + G	#1/0, #6 GND	600V	30	480VAC	BATTERY CHARGER NO. 1	CQO5	BATTERY CHARGE NO.1	NEW CONDUIT	
CQO5-q1-BC2	1 1/2"	30	CQO5-q1-BC2	3-1/C + G	#1/0, #6 GND	600V	40	480VAC	BATTERY CHARGER NO.2	CQO5	BATTERY CHARGE NO.2	NEW CONDUIT	
CQO5-q5-TH1	1"	30	CQO5-q1-TH1	2-1/C + G	#4, #8 GND	600V	40	480VAC	TH1 TRANSFORMER	CQO5	TH1 TRANSFORMER	NEW CONDUIT	
CQO5-q1-WH	1 1/2"	35	CQO5-q1-WH	3-1/C + G	#1 + #8 GND	600V	45	480VAC	TANKLESS WATER HEATER	CQO5	TANKLESS WATER HEATER	NEW CONDUIT	
CQ05-r1	3/4"	50	CQ05-r1	1-2/C + G	#12 + #12 GND	600V	60	120V	EXIT SIGN	CQO5	EXIT SIGN	NEW CONDUIT	
FCQ1-q1-FSC	1"	35	FCQ1-q1-FSC	2-1/C + G	#12, #12 GND	600V	45	480VAC	FISHWAY TRANSFORMER	FCQ1	FISHWAY TRANSFORMER	EMBEDDED CONDUIT	
FCQ1-q5-FTC1	1"	140	FCQ1-q5-FTC1	3-1/C + G	#10, #10 GND	600V	150	480VAC	FISH PUMP AUX (FTC1)	FCQ1	FISH PUMP AUX (FTC1)	EMBEDDED CONDUIT	
FCQ1-q4-FTC2	1"	110	FCQ1-q4-FTC2	3-1/C + G	#12, #12 GND	600V	120	480VAC	FISH PUMP AUX (FTC2)	FCQ1	FISH PUMP AUX (FTC2)	EMBEDDED CONDUIT	
FCQ1-q3-FTC3	1"	85	FCQ1-q3-FTC3	3-1/C + G	#12, #12 GND	600V	95	480VAC	FISH PUMP AUX (FTC3)	FCQ1	FISH PUMP AUX (FTC3)	EMBEDDED CONDUIT	
FCQ1-q1-TRA0	1"	40	FCQ1-q1-TRA0	3-1/C + G	#10, #10 GND	600V	50	480VAC	TRA0	FCQ1	TRA0	EMBEDDED CONDUIT	
FCQ1-q1-TRA1	1"	180	FCQ1-q1-TRA1	3-1/C + G	#12, #12 GND	600V	190	480VAC	TRA1	FCQ1	TRA1	EMBEDDED CONDUIT	
FCQ1-q1-SPE1	1"	80	FCQ1-q1-SPE1	3-1/C + G	#12, #12 GND	600V	90	480VAC	WEIR GATE SPE1	FCQ1	WEIR GATE SPE1	EMBEDDED CONDUIT	
FCQ1-q1-SPE2	1"	90	FCQ1-q1-SPE2	3-1/C + G	#12, #12 GND	600V	100	480VAC	WEIR GATE SPE2	FCQ1	WEIR GATE SPE2	EMBEDDED CONDUIT	
FCQ1-q1-RECEPT	1"	140	FCQ1-q1-RECEPT	3-1/C + G	#10, #10 GND	600V	150	480VAC	480V OUTLET FISHPUMP ROOM	FCQ1	480V OUTLET FISHPUMP ROOM	EMBEDDED CONDUIT	
FCQ1-q1-GH	3/4"	60	FCQ1-q1-GH	3-1/C + G	#12, #12 GND	600V	70	480VAC	EMERG. GEN. ENGINE HEATER	FCQ1	EMERG. GEN. ENGINE HEATER	EXISTING CONDUIT	
FCQ1-q1-GW	3/4"	60	FCQ1-q1-GW	3-1/C + G	#12, #12 GND	600V	70	480VAC	EMERG. GEN. WATER PUMP & EX. FAN	FCQ1	EMERG. GEN. WATER PUMP & EX. FAN	EXISTING CONDUIT	
FCQ1-q1-EGWP	3/4"	60	FCQ1-q1-EGWP	3-1/C + G	#10, #10 GND	600V	70	480VAC	P-1 COOLING PUMP	FCQ1	P-1 COOLING PUMP	EXISTING CONDUIT	
FSC-u1-FCQ1	1"	45	FSC-u1-FCQ1	3-1/C + G	#12, #12 GND	600V	55	480VAC	BREAKER BELL ALARMS	FSC	FCQ1	EXISTING CABLE TRAY	
FCQ2-q1-TRA2	1"	62	FCQ2-q1-TRA2	3-1/C	#12, #12 GND	600V	67	480VAC	TRA2 - 9 KVA TRANSFORMER	FCQ2	TRA2	EMBEDDED CONDUIT	
FCQ2-q1-NPE1	1"	65	FCQ2-q1-NPE1	3-1/C	#12, #12 GND	600V	70	480VAC	WEIR GATE 1 CONTROL PANEL	FCQ2	WEIR GATE	EMBEDDED CONDUIT	
FCQ2-q1-NPE2	1"	60	FCQ2-q1-NPE2	3-1/C	#12, #12 GND	600V	65	480VAC	WEIR GATE 2 CONTROL PANEL	FCQ2	WEIR GATE	EMBEDDED CONDUIT	
FCQ2-q1-NPC	1"	75	FCQ2-q1-NPC	3-1/C	#12, #12 GND	600V	80	480VAC	WING GATE CONTROL PANEL	FCQ2	WING GATE	EMBEDDED CONDUIT	
FCQ2-q2	1 1/4"	110	FCQ2-q2	3-1/C	#10, #10 GND	600V	120	480VAC	OIL WATER SEPARATOR	FCQ2	OIL WATER SEPARATOR	SURFACE CONDUIT	
FSC-u1-FCQ2	1"	560	FCQ1_u1_FCQ2	3-1/C + G	#12, #12 GND	600V	570	480VAC	BREAKER BELL ALARMS	FSC	FCQ2	EXISTING CABLE TRAY	
SU1-q1-TR11	1 1/4"	90	SU1-q1-TR11	3-1/C	#6, #10 GND	600V	100	480VAC	TR11	SU1	TR11	EMBEDDED CONDUIT	
SU1-q1-TR12	1"	135	SU1-q1-TR12	3-1/C	#10, #10 GND	600V	145	480VAC	TR12	SU1	TR12	EMBEDDED CONDUIT	
SU1-q1-TBA	3/4"	110	SU1-q1-TBA	3-1/C	#12, #12 GND	600V	120	480VAC	AC TURBINE BRG OIL PUMP	SU1	AC TURBINE BRG OIL PUMP	EMBEDDED CONDUIT	MC Cable
SU1-c1-TP1	1 1/2"	160	SU1-c1-TP1	1-14/C	#12	600V	170	120VAC	HEAD COVER SUMP PUMP CONTROL	SU1	TURBINE PIT - MULTI RANGER	EXISTING CONDUIT	
			SU1-c2-TP1	1-5/C	#12	600V	165	125VDC	AC TURBINE BRG OIL PUMP CONTROL	SU1	TURBINE PIT	EXISTING CONDUIT	
			SU1-c3-TP1	1-8/C	#12	600V	165	120VAC	DC TURBINE BRG OIL PUMP CONTROL	SU1	TURBINE PIT	EXISTING CONDUIT	
SU1-c1-DGC1	1 1/2"	60	SU1-c1-DGC1	1-4/C	#12	600V	70	120VAC	HIGH PRESSURE THRUST BRG OIL PUMP CONTROL	SU1	DGC1	NEW CONDUIT	
			SU1-c2-DGC1	1-11/C	#12	600V	70	120VAC	AC & DC TURBINE BEARING OIL PUMP CONTROL	SU1	DGC1	NEW CONDUIT	
			SU1-c3-DGC1	1-2/C	#12	600V	70	120VAC	GENERATOR HEATER CONTROL	SU1	DGC1	NEW CONDUIT	
SU1-c1-HPC1	1-1/2"	165	SU1-c1-HPC1	1-7/C	#12	600V	175	120VAC	HP THRUST BRG OIL PUMP UPPER CONTROL PANEL	SU1	NEAR HI THRUST BRG OIL PUMP	NEW CONDUIT	
		165	SU1-q1-HP	3-1/C	#10, #10 GND	600V	175	480VAC	HIGH PRESSURE THRUST BRG OIL PUMP	SU1	HGH THRUST BRG OIL PUMP	EMBEDDED CONDUIT	
SU1-q1-HC1	3/4"	125	SU1-q1-HC1	3-1/C	#12, #12 GND	600V	135	480VAC	HEAD COVER SUMP PUMP 1	SU1	HEAD COVER SUMP PUMP 1	EMBEDDED CONDUIT	MC Cable
SU1-q1-HC2	3/4"	130	SU1-q1-HC2	3-1/C	#12, #12 GND	600V	140	480VAC	HEAD COVER SUMP PUMP 2	SU1	HEAD COVER SUMP PUMP 2	EMBEDDED CONDUIT	MC Cable
SU1-q1-RECPT	1 1/4"	130	SU1-q1-RECPT	3-1/C	#6, #10 GND	600V	140	480VAC	480V OUTLET	SU1	OUTLET	EMBEDDED CONDUIT	
SU1-q2-RECPT	1 1/4"	25	SU1-q2-RECPT	3-1/C	#1, #8 GND	600V	30	480VAC	480V OUTLET	SU1	100A OUTLET	NEW CONDUIT	
SU1-q3-RECPT	1 1/4"	30	SU1-q3-RECPT	3-1/C	#6, #10 GND	600V	35	480VAC	480V OUTLET	SU1	OUTLET	EMBEDDED CONDUIT	
SU1-q4-RECPT	1/2"	95	SU1-q4-RECPT	3-1/C	#12 + #12G	600V	105	480VAC	BANDSAW	SU1	BANDSAW	EXISTING CONDUIT	
SU1-q1	1 1/4"	25	SU1-q1	3-1/C	#6 + #10G	600V	30	480VAC	3RD FLOOR UPSTREAM GALLERY WORKSHOP	SU1	3RD FLOOR UPSTREAM GALLERY WORKSHOP	EXISTING CONDUIT	
SU1-q1-AF	3/4"	125	SU1-q1-AF	3-1/C	#8, #10 GND	600V	135	480VAC	GOV. OIL KIDNEY PUMP	SU1	GOV. OIL KIDNEY PUMP	NEW CONDUIT	
SU1-q1-XFA	1"	190	SU1-q1-XFA	3-1/C	#12 + #12G	600V	200	480VAC	XJ-1 FAN A	SU1	XFA	EMBEDDED CONDUIT	
SU1-q1-GH	1"	60	SU1-q1-GH	3-1/C	#6, #10 GND	600V	75	480VAC	GEN HEATER	SU1	GEN HEATER	EMBEDDED CONDUIT	
			SU1-c1-GH	1-2/C	#12	600V	55	120VAC	GENERATOR HEATER CONTROL	SU1	G1 TERMINAL CABINET	EMBEDDED CONDUIT	
SU1-q1-LTH	1"	115	SU1-q1-LTH	3-1/C	#10, #10 GND	600V	125	480VAC	HI-BAY LIGHTING	SU1	HI-BAY LIGHTING	EMBEDDED CONDUIT	
SU1-q1-AQ1	2"	45	SU1-q1-AQ1	3-1/C	#3/0 + #6G	600V	55	480VAC	GOV. OIL PUMP #1	SU1	GOV. OIL PUMP #1	NEW CONDUIT	
SU1-q1-AQ2	2"	50	SU1-q1-AQ2	3-1/C	#3/0 + #6G	600V	55	480VAC	GOV. OIL PUMP #2	SU1	GOV. OIL PUMP #2	NEW CONDUIT	
SU1-q1-AQ3	1"	55	SU1-q1-AQ3	3-1/C	#4, #8 GND	600V	65	480VAC	GOV. OIL PUMP #3	SU1	GOV. OIL PUMP #3	NEW CONDUIT	
SU1-c1-SUMP	1"	40	SU1-c1-SUMP	1-12/C	#12	600V	45	120VAC	CONTROL WIRING	SU1	SUMP TANK	NEW CONDUIT/CABLE TRAY	
SU1-c1-GOC1	1"	20	SU1-c1-GOC1	12-1/C	#12	600V	30	120VAC	CONTROL WIRING	SU1	GOVERNOR OIL PUMP PLC	NEW CONDUIT	
SU1-c2-GOC1	1"	20	SU1-c2-GOC1				30		ETHERNET COMM	SU1	GOVERNOR OIL PUMP PLC	NEW CONDUIT	
GOC1-c1-PT	1"	60	GOC1-c1-PT	1-4/C	#12	600V	65	125VDC	PLC PRESSURE TANK CONTROL	GOC1	FLOAT SWITCHES PRESSURE TANK	NEW CONDUIT	
			GOC1-c2-PT	1-2/C	#12	600V	65	125VDC	TEST BUTTON ON ACCUMULATOR	GOC1	PRESSURE TANK	NEW CONDUIT	
			GOC1-c3-PT	3-4C	#16 + Shield	600V	65	125VDC	PLC PRESSURE TANK CONTROL	GOC1	ANALOG TRANSDUCERS PRESSURE TANK	NEW CONDUIT	
GOC1-c1-SUMP	1"	40	GOC1-c2-SUMP	1-12/C	#12	600V	45	125VDC	PLC GOV. OIL PUMP CONTROL	GOC1	SUMP TANK	NEW CONDUIT/CABLE TRAY	
GOC1-c1-DGC1	1"	50	GOC1-c1-DGC1	1-6/C	#12	600V	55	24VDC	PLC GOV. OIL PUMP CONTROL	GOC1	DGC1	NEW CONDUIT/CABLE TRAY	
SU1-e1-TBD	3/4"	135	SU1-e1-TBD	2-1/C	#8, #8 GND	600V	145	125V DC	D.C. TURBINE BRG. OIL PUMP	SU1	D.C. TURBINE BRG. OIL PUMP	EMBEDDED CONDUIT	MC Cable
SU1-e1-EML	1"	65	SU1-e1-EML	4-1/C	#10, #10 GND	600V	75	125V DC	EMERGENCY LIGHTING	SU1	EMERGENCY LIGHTING	EMBEDDED CONDUIT	
SU1-e1-GOC1	1/2"	20	SU1-e1-GOC1	2-1/C	#12 + #12G	600V	30	125VDC	PLC POWER	SU1	GOVERNOR OIL PUMP PLC	NEW CONDUIT	
SU2-q1-TR21	1 1/4"	90	SU2-q1-TR21	3-1/C	#6, #10GND	600V	100	480V	TR21	SU2	TR21	EMBEDDED CONDUIT	
SU2-q1-TR22	1"	135	SU2-q1-TR22	3-1/C	#10, #10 GND	600V	145	480V	TR22	SU2	TR22	EMBEDDED CONDUIT	
SU2-q1-TBA	3/4"	110	SU2-q1-TBA	3-1/C	#12, #12 GND	600V	120	480V	AC TURBINE BRG OIL PUMP	SU2	TURBINE BRG OIL PUMP	EMBEDDED CONDUIT	MC Cable
SU2-c1-TP2	1 1/2"	160	SU2-c1-TP2	1-14/C	#12	600V	170	120VAC	HEAD COVER SUMP PUMP CONTROL	SU2	TURBINE PIT - MULTI RANGER	EXISTING CONDUIT	
			SU2-c2-TP2	1-5/C	#12	600V	165	125VDC	AC TURBINE BRG OIL PUMP CONTROL	SU2	TURBINE PIT	EXISTING CONDUIT	
			SU2-c3-TP2	1-8/C	#12	600V	165	120VAC	DC TURBINE BRG OIL PUMP CONTROL	SU2	TURBINE PIT	EXISTING CONDUIT	
SU2-c1-DGC2	1 1/2"	60	SU2-c1-DGC2	1-4/C	#12	600V	70	120VAC	HIGH PRESSURE THRUST BRG OIL PUMP CONTROL	SU2	DGC2	NEW CONDUIT	
			SU2-c2-DGC2	1-11/C	#12	600V	70	120VAC	AC & DC TURBINE BEARING OIL PUMP CONTROL	SU2	DGC2	NEW CONDUIT	
			SU2-c3-DGC2	1-2/C	#12	600V	70	120VAC	GENERATOR HEATER CONTROL	SU2	DGC2	NEW CONDUIT	
SU2-c1-HPC2	1-1/2"	165	SU2-c1-HPC2	1-7/C	#12	600V	175	120VAC	HP THRUST BRG OIL PUMP UPPER CONTROL PANEL	SU2	NEAR HI THRUST BRG OIL PUMP	NEW CONDUIT	
		165	SU2-q1-HP	3-1/C	#6, #10 GND	600V	175	480V	HIGH PRESSURE THRUST BRG OIL PUMP	SU2	HGH THURST BRG. OIL PUMP	EMBEDDED CONDUIT	

GENERAL NOTES:

1. ALL CABLE AND CONDUIT LENGTHS PROVIDED ARE APPROXIMATIONS AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001
SUBMITTED BY: JORDAN S. FINNEY, P.E.
SIZE: ANSI D
DRAWING NUMBER: LGP-1.002-6-DA7/03
FILENAME: V1-LGP1.002-E-803.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CABLE & CONDUIT SCHEDULE
SHEET 3 OF 9
INSTALL

SHEET ID
VOLUME 1
E-803

FINAL

CONDUIT			CABLE					DESCRIPTION				REMARKS
NUMBER	SIZE	LENGTH	NUMBER	NO COND	SIZE	INS	RUN LENGTH	OPR VOLTAGE	FUNCTION	FROM	TO	ROUTING	
SU2-q1-HC1	3/4"	125	SU2-q1-HC1	3-1/C	#10, #10 GND	600V	135	480V	HEAD COVER SUMP PUMP 1	SU2	HEAD COVER SUMP PUMP 1	EMBEDDED CONDUIT	MC Cable
SU2-q1-HC2	3/4"	130	SU2-q1-HC2	3-1/C	#12, #12 GND	600V	140	480V	HEAD COVER SUMP PUMP 2	SU2	HEAD COVER SUMP PUMP 2	EMBEDDED CONDUIT	MC Cable
SU2-q1-RECPT	1 1/4"	130	SU2-q1-RECPT	3-1/C	#6, #10 GND	600V	140	480V	480V OUTLET	SU2	OUTLET	EMBEDDED CONDUIT	
SU2-q2-RECPT	1 1/4"	25	SU2-q2-RECPT	3-1/C	#1, #8 GND	600V	30	480V	480V OUTLET	SU2	100A OUTLET	NEW CONDUIT	
SU2-q3-RECPT	1 1/4"	30	SU2-q3-RECPT	3-1/C	#6, #10 GND	600V	35	480VAC	480V OUTLET	SU2	OUTLET	EMBEDDED CONDUIT	
SU2-q1-AF	3/4"	155	SU2-q1-AF	3-1/C	#8, #10 GND	600V	165	480V	GOV. OIL KIDNEY PUMP	SU2	GOV. OIL KIDNEY PUMP	NEW CONDUIT	
SU2-q1-XFA	1"	180	SU2-q1-XFA	3-1/C	#12 + #12G	600V	190	480VAC	XJ-2 FAN A	SU2	XFA	EMBEDDED CONDUIT	
SU2-q1-GH	1"	60	SU2-q1-GH	3-1/C	#6, #10 GND	600V	70	480V	GEN HEATER	SU2	GEN HEATER	EMBEDDED CONDUIT	
			SU2-c1-GH	1-2/C	#12	600V	55	120VAC	GENERATOR HEATER CONTROL	SU2	G2 TERMINAL CABINET	EMBEDDED CONDUIT	
SU2-q1-LTH	1"	100	SU2-q1-LTH	3-1/C	#10, #10 GND	600V	110	480V	HI-BAY LIGHTING	SU2	HI-BAY LIGHTING	EMBEDDED CONDUIT	
SU2-q2-LTH	1"	175	SU2-q2-LTH	3-1/C	#10, #10 GND	600V	185	480V	HI-BAY LIGHTING	SU2	HI-BAY LIGHTING	EMBEDDED CONDUIT	
SU2-q1-AQ1	2"	45	SU2-q1-AQ1	6-1/C	#3/0 + #6G	600V	55	480VAC	GOV. OIL PUMP #1	SU2	GOV. OIL PUMP #1	NEW CONDUIT	
SU2-q1-AQ2	2"	50	SU2-q1-AQ2	6-1/C	#3/0 + #6G	600V	55	480VAC	GOV. OIL PUMP #2	SU2	GOV. OIL PUMP #2	NEW CONDUIT	
SU2-q1-AQ3	1"	55	SU2-q1-AQ3	3-1/C	#4, #8 GND	600V	65	480V	GOV. OIL PUMP #3	SU2	GOV. OIL PUMP #3	NEW CONDUIT	
SU2-c1-SUMP	1"	40	SU2-c1-SUMP	1-12/C	#12	600V	45	120VAC	CONTROL WIRING	SU2	SUMP TANK	NEW CONDUIT/CABLE TRAY	
SU2-c1-GOC2	1"	20	SU2-c1-GOC2	12-1/C	#12	600V	30	120VAC	CONTROL WIRING	SU2	GOVERNOR OIL PUMP PLC	NEW CONDUIT	
SU2-c2-GOC2	1"	20	SU2-c2-GOC2				30		ETHERNET COMM	SU2	GOVERNOR OIL PUMP PLC	NEW CONDUIT	
GOC2-c1-PT	1"	60	GOC2-c1-PT	1-4/C	#12	600V	65	125VDC	PLC PRESSURE TANK CONTROL	GOC2	FLOAT SWITCHES PRESSURE TANK	NEW CONDUIT	
			GOC2-c2-PT	1-2/C	#12	600V	65	125VDC	TEST BUTTON ON ACCUMULATOR	GOC2	PRESSURE TANK	NEW CONDUIT	
			GOC2-c3-PT	3-4C	#16 + Shield	600v	65	24VDC	PLC PRESSURE TANK CONTROL	GOC2	ANALOG TRANSDUCERS PRESSURE TANK	NEW CONDUIT	
GOC2-c1-SUMP	1"	40	GOC2-c2-SUMP	1-12/C	#12	600V	45	125VDC	PLC GOV. OIL PUMP CONTROL	GOC2	SUMP TANK	NEW CONDUIT/CABLE TRAY	
GOC2-c1-DGC2	1"	50	GOC2-c1-DGC2	1-6/C	#12	600V	55	125VDC	PLC GOV. OIL PUMP CONTROL	GOC2	DGC2	NEW CONDUIT/CABLE TRAY	
SU2-e1-TBD	3/4"	135	SU2-e1-TBD	2-1/C	#8, #8 GND	600V	145	125V DC	D.C. TURBINE BRG. OIL PUMP	SU2	D.C. TURBINE BRG. OIL PUMP	EMBEDDED CONDUIT	MC Cable
SU2-e1-EML	1"	65	SU2-e1-EML	4-1/C	#10, #10 GND	600V	75	125V DC	EMERGENCY LIGHTING	SU2	EMERGENCY LIGHTING	EMBEDDED CONDUIT	
SU2-e1-GOC2	1/2"	20	SU2-e1-GOC2	2-1/C	#12 + #12G	600V	30	125VDC	PLC POWER	SU2	GOVERNOR OIL PUMP PLC	NEW CONDUIT	
SU3-q1-TR31	1 1/4"	90	96.25	3-1/C	#6, #10GND	600V	100	480V	TR31	SU3	TR31	EMBEDDED CONDUIT	
SU3-q1-TR32	1"	135	SU3-q1-TR32	3-1/C	#10, #10 GND	600V	145	480V	TR32	SU3	TR32	EMBEDDED CONDUIT	
SU3-q1-TBA	3/4"	110	SU3-q1-TBA	3-1/C	#12, #12 GND	600V	120	480V	AC TURBINE BRG OIL PUMP	SU3	TURBINE BRG OIL PUMP	EMBEDDED CONDUIT	MC Cable
SU3-c1-TP3	1 1/2"	160	SU3-c1-TP3	1-14/C	#12	600V	170	120VAC	HEAD COVER SUMP PUMP CONTROL	SU3	TURBINE PIT - MULTI RANGER	EXISTING CONDUIT	
			SU3-c2-TP3	1-5/C	#12	600V	165	125VDC	AC TURBINE BRG OIL PUMP CONTROL	SU3	TURBINE PIT	EXISTING CONDUIT	
			SU3-c3-TP3	1-8/C	#12	600V	165	120VAC	DC TURBINE BRG OIL PUMP CONTROL	SU3	TURBINE PIT	EXISTING CONDUIT	
SU3-c1-DGC3	1 1/2"	60	SU3-c1-DGC3	1-4/C	#12	600V	70	120VAC	HIGH PRESSURE THRUST BRG OIL PUMP CONTROL	SU3	DGC3	NEW CONDUIT	
			SU3-c2-DGC3	1-11/C	#12	600V	70	120VAC	AC & DC TURBINE BEARING OIL PUMP CONTROL	SU3	DGC3	NEW CONDUIT	
			SU3-c3-DGC3	1-2/C	#12	600V	70	120VAC	GENERATOR HEATER CONTROL	SU3	DGC3	NEW CONDUIT	
SU3-c1-HPC3	1-1/2"	165	SU3-c1-HPC3	1-7/C	#12	600V	175	120VAC	HP THRUST BRG OIL PUMP UPPER CONTROL PANEL	SU3	NEAR HI THRUST BRG OIL PUMP	NEW CONDUIT	
		165	SU3-q1-HP	3-1/C	#6, #10 GND	600V	175	480V	HIGH PRESSURE THRUST BRG OIL PUMP	SU3	HGH THURST BRG. OIL PUMP	EMBEDDED CONDUIT	
SU3-q1-HC1	3/4"	125	SU3-q1-HC1	3-1/C	#10, #10 GND	600V	135	480V	HEAD COVER SUMP PUMP 1	SU3	HEAD COVER SUMP PUMP 1	EMBEDDED CONDUIT	MC Cable
SU3-q1-HC2	3/4"	130	SU3-q1-HC2	3-1/C	#12, #12 GND	600V	140	480V	HEAD COVER SUMP PUMP 2	SU3	HEAD COVER SUMP PUMP 2	EMBEDDED CONDUIT	MC Cable
SU3-q1-RECPT	1 1/4"	130	SU3-q1-RECPT	3-1/C	#6, #10 GND	600V	140	480V	480V OUTLET	SU3	OUTLET	EMBEDDED CONDUIT	
SU3-q2-RECPT	1 1/4"	25	SU3-q2-RECPT	3-1/C	#1, #8 GND	600V	30	480V	480V OUTLET	SU3	100A OUTLET	NEW CONDUIT	
SU3-q3-RECPT	1 1/4"	30	SU3-q3-RECPT	3-1/C	#6, #10 GND	600V	35	480VAC	480V OUTLET	SU3	OUTLET	EMBEDDED CONDUIT	
SU3-q1-AF	3/4"	155	SU3-q1-AF	3-1/C	#8, #10 GND	600V	165	480V	GOV. OIL KIDNEY PUMP	SU3	GOV. OIL KIDNEY PUMP	NEW CONDUIT	
SU3-q1-XFA	1"	160	SU3-q1-XFA	3-1/C	#12 + #12G	600V	170	480VAC	XJ-3 FAN A	SU3	XFA	EMBEDDED CONDUIT	
SU3-q1-GH	1"	60	SU3-q1-GH	3-1/C	#6, #10 GND	600V	75	480V	GEN HEATER	SU3	GEN HEATER	EMBEDDED CONDUIT	
			SU3-c1-GH	1-2/C	#12	600V	55	120VAC	GENERATOR HEATER CONTROL	SU3	G3 TERMINAL CABINET	EMBEDDED CONDUIT	
SU3-q1-LTH	1"	100	SU3-q1-LTH	3-1/C	#10, #10 GND	600V	110	480V	HI-BAY LIGHTING	SU3	HI-BAY LIGHTING	EMBEDDED CONDUIT	
SU3-q1-AQ1	2"	45	SU3-q1-AQ1	3-1/C	#3/0 + #6G	600V	50	480VAC	GOV. OIL PUMP #1	SU3	GOV. OIL PUMP #1	NEW CONDUIT	
SU3-q1-AQ2	2"	50	SU3-q1-AQ2	3-1/C	#3/0 + #6G	600V	50	480VAC	GOV. OIL PUMP #2	SU3	GOV. OIL PUMP #2	NEW CONDUIT	
SU3-q1-AQ3	1"	55	SU3-q1-AQ3	3-1/C	#4, #8 GND	600V	65	480V	GOV. OIL PUMP #3	SU3	GOV. OIL PUMP #3	NEW CONDUIT	
SU3-c1-SUMP	1"	40	SU3-c1-SUMP	1-12/C	#12	600V	45	120VAC	CONTROL WIRING	SU3	SUMP TANK	NEW CONDUIT/CABLE TRAY	
SU3-c1-GOC3	1"	20	SU3-q1-GOC3	12-1/C	#12	600V	30	120VAC	CONTROL WIRING	SU3	GOVERNOR OIL PUMP PLC	NEW CONDUIT	
SU3-c2-GOC3	1"	20	SU3-c2-GOC3				30		ETHERNET COMM	SU3	GOVERNOR OIL PUMP PLC	NEW CONDUIT	
GOC3-c1-PT	1"	60	GOC3-c1-PT	1-4/C	#12	600V	65	125VDC	PLC PRESSURE TANK CONTROL	GOC3	FLOAT SWITCHES PRESSURE TANK	NEW CONDUIT	
			GOC3-c2-PT	1-2/C	#12	600V	65	125VDC	TEST BUTTON ON ACCUMULATOR	GOC3	PRESSURE TANK	NEW CONDUIT	
			GOC3-c3-PT	3-4C	#16 + Shield	600v	65	24VDC	PLC PRESSURE TANK CONTROL	GOC3	ANALOG TRANSDUCERS PRESSURE TANK	NEW CONDUIT	
GOC3-c1-SUMP	1"	40	GOC3-c2-SUMP	1-12/C	#12	600V	45	24VDC	PLC GOV. OIL PUMP CONTROL	GOC3	SUMP TANK	NEW CONDUIT/CABLE TRAY	
GOC3-c1-DGC3	1"	50	GOC3-c1-DGC3	1-6/C	#12	600V	55	125VDC	PLC GOV. OIL PUMP CONTROL	GOC3	DGC3	NEW CONDUIT/CABLE TRAY	
SU3-e1-TBD	3/4"	135	SU3-e1-TBD	2-1/C	#8, #8 GND	600V	145	125V DC	D.C. TURBINE BRG. OIL PUMP	SU3	D.C. TURBINE BRG. OIL PUMP	EMBEDDED CONDUIT	MC Cable
SU3-e1-EML	1"	65	SU3-e1-EML	4-1/C	#10, #10 GND	600V	75	125V DC	EMERGENCY LIGHTING	SU3	EMERGENCY LIGHTING	EMBEDDED CONDUIT	
SU3-e1-GOC3	1/2"	20	SU3-e1-GOC3	2-1/C	#12 + #12G	600V	30	125VDC	PLC POWER	SU3	GOVERNOR OIL PUMP PLC	NEW CONDUIT	
SU4-q1-TR41	1 1/4"	90	SU4-q1-TR41	3-1/C	#6, #10 GND	600V	100	480VAC	TR41	SU4	TR41	EMBEDDED CONDUIT	
SU4-q1-TR42	1"	135	SU4-q1-TR42	3-1/C	#10, #10 GND	600V	145	480VAC	TR42	SU4	TR42	EMBEDDED CONDUIT	
SU4-q1-TBQ	3/4"	110	SU4-q1-TBA	3-1/C	#12, #12 GND	600V	120	480VAC	TURBINE BRG OIL SUMP PUMP	SU4	TURBINE BRG OIL PUMP	EMBEDDED CONDUIT	MC Cable.
SU4-c1-TP4	1 1/2"	160	SU4-c1-TP4	1-14/C	#12	600V	170	120VAC	HEAD COVER SUMP PUMPS CONTROL	SU4	TURBINE PIT	EXISTING CONDUIT	
		160	SU4-c2-TP4	1-5/C	#12	600V	170	120VAC	TURBINE GUIDE BRG OIL SUMP PUMP CONTROL	SU4	TURBINE PIT	EXISTING CONDUIT	
SU4-c1-DGC4	1"	60	SU4-c1-HPC4	1-4/C	#12	600V	70	120VAC	HIGH PRESSURE THRUST BRG OIL PUMP CONTROL	SU4	DGC4	NEW CONDUIT	
			SU4-c2-HPC4	1-2/C	#12	600V	70	120VAC	GENERATOR HEATER CONTROL	SU4		NEW CONDUIT	
SU4-c1-HPC4	1-1/2"	165	SU4-c1-HPC4	1-8/C	#12	600V	175	120VAC	HP THRUST BRG OIL PUMP UPPER CONTROL PANEL	SU4	NEAR HI THRUST BRG OIL PUMP	NEW CONDUIT	
		165	SU4-q1-HP	3-1/C	#10, #10 GND	600V	175	480VAC	HIGH PRESSURE THRUST BRG OIL PUMP	SU4	G4 TERMINAL CABINET	EMBEDDED CONDUIT	
SU4-q1-HC1	3/4"	125	SU4-q1-HC1	3-1/C	#12, #12 GND	600V	135	480VAC	HEAD COVER SUMP PUMP 1	SU4	HEAD COVER SUMP PUMP 1	EMBEDDED CONDUIT	MC Cable
SU4-q1-HC2	3/4"	155	SU4-q1-HC2	3-1/C	#12, #12 GND	600V	170	480VAC	HEAD COVER SUMP PUMP 2	SU4	HEAD COVER SUMP PUMP 2	EMBEDDED CONDUIT	MC Cable
SU4-q1-RECPT	1 1/4"	50	SU4-q1-RECPT	3-1/C	#6, #10 GND	600V	55	480VAC	OUTLET	SU4	OUTLET	EMBEDDED CONDUIT	
SU4-q2-RECPT	1 1/4"	25	SU4-q2-RECPT	3-1/C	#1, #8 GND	600V	35	480VAC	OUTLET	SU4	100A OUTLET	NEW CONDUIT	
SU4-q3-RECPT	1 1/4"	130	SU4-q3-RECPT	3-1/C	#6, #10 GND	600V	140	480VAC	OUTLET	SU4	OUTLET	EMBEDDED CONDUIT	
SU4-q4-RECPT	1 1/4"	40	SU4-q4-RECPT	3-1/C	#6, #10 GND	600V	45	480VAC	OUTLET	SU4	OUTLET	EMBEDDED CONDUIT	
SU4-q5-RECPT	1 1/4"	45	SU4-q5-RECPT	3-1/C	#6, #10 GND	600V	55	480VAC	OUTLET	SU4	OUTLET	EMBEDDED CONDUIT	
SU4-q6-RECEPT	1 1/4"	75	SU4-q6-RECEPT	3-1/C	#6, #10 GND	600V	85	480VAC	OUTLET	SU4	OUTLET	EMBEDDED CONDUIT	
SU4-q7-RECEPT	1 1/4"	20	SU4-q7-RECEPT	3-1/C	#6, #10 GND	600V	25	480VAC	OUTLET	SU4	OUTLET	EMBEDDED CONDUIT	
SU4-q1-AF	3/4"	80	SU4-q1-AF	3-1/C	#8, #10 GND	600V	90	480VAC	KIDNEY LOOP FILTER PUMP	SU4	KIDNEY LOOP FILTER PUMP	NEW CONDUIT	

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US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. TINNEA, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-DA7/04
FILENAME: V1-LGP1.002-E-804.dgn

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WALLA WALLA DISTRICT
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WALLA WALLA, WASHINGTON

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HYDROELECTRIC DESIGN CENTER
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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CABLE & CONDUIT SCHEDULE
SHEET 4 OF 9
INSTALL

SHEET ID
VOLUME 1
E-804

FINAL

CONDUIT			CABLE					DESCRIPTION							REMARKS
NUMBER	SIZE	LENGTH	NUMBER	NO COND	SIZE	INS	RUN LENGTH	OPR VOLTAGE	FUNCTION	FROM	TO	ROUTING			
SU4-q1-XFA	1"	150	SU4-q1-XFA	3-1/C	#12 + #12G	600V	165	480VAC	XJ-4 FAN A	SU4	XFA	EMBEDDED CONDUIT			
SU4-q1-XFB	1"	150	SU2-q1-XFB	3-1/C	#12 + #12G	600V	165	480VAC	XJ-4 FAN B	SU4	XFB	EMBEDDED CONDUIT			
SU4-q1-GH	1"	60	SU4-q1-GH	3-1/C	#6, #10 GND	600V	70	480VAC	GENERATOR HEATER	SU4	G4 TERMINAL CABINET	EMBEDDED CONDUIT			
			SU4-c1-GH	1-2/C	#12	600V	75	120VAC	GENERATOR HEATER CONTROL	SU4	G4 TERMINAL CABINET	EMBEDDED CONDUIT			
SU4-q1-LTH	1"	95	SU4-q1-LTH	3-1/C	#10, #10 GND	600V	105	480VAC	HI-BAY LIGHTING	SU4	JB EL. 682 BAY 4	EMBEDDED CONDUIT			
SU4-q1-AA1	1 1/2"	60	SU4-q1-AA1	1-3/C	#1/0, #6 GND	600V	70	480VAC	AIR COMPRESSOR #1 (1000LB)	SU4	ACB AIR COMPRESSOR	NEW CONDUIT			
SU4-q1-AH	3/4"	35	SU4-q1-AH	3-1/C	#12 + #12G	600V	45	480VAC	GOVERNOR SUMP HEATER	SU4	SUMP TANK	NEW CONDUIT			
			SU4-c1-AH	2-1/C	#12	600V	45	120VAC	GOVERNOR SUMP HEATER CONTROL	SU4	SUMP TANK	NEW CONDUIT			
SU4-q1-AQ1	2"	60	SU4-q1-AQ1	3-1/C	#4/0 + #1G	600V	70	480VAC	GOV OIL PUMP NO. 1	SU4	GOV OIL PUMP 1	NEW CONDUIT			
SU4-q1-AQ2	2"	70	SU4-q1-AQ2	3-1/C	#4/0 + #1G	600V	80	480VAC	GOV OIL PUMP NO. 2	SU4	GOV OIL PUMP 2	NEW CONDUIT			
SU4-c1-SUMP	1"	35	SU4-c1-SUMP	1-8/C	#12	600V	45	120VAC	CONTROL WIRING	SU4	SUMP TANK	NEW CONDUIT/CABLE TRAY			
SU4-c1-GOC4	1"	20	SU4-c1-GOC4	8-1/C	#12	600V	30	120VAC	CONTROL WIRING	SU4	GOVERNOR OIL PUMP PLC	NEW CONDUIT			
SU4-c2-GOC4	1"	20	SU4-c2-GOC4				30		ETHERNET COMM	SU4	GOVERNOR OIL PUMP PLC	NEW CONDUIT			
GOC4-c1-PT	1"	60	GOC4-c1-PT	1-4/C	#12	600V	70	125VDC	PLC PRESSURE TANK CONTROL	GOC4	FLOAT SWITCHES PRESSURE TANK	NEW CONDUIT/CABLE TRAY			
			GOC4-c2-PT	1-2/C	#12	600V	70	125VDC	TEST BUTTON ON ACCUMULATOR	GOC4	PRESSURE TANK	NEW CONDUIT/CABLE TRAY			
			GOC4-c3-PT	3-4C	#16 + Shield	600v	70	24VDC	PLC PRESSURE TANK CONTROL	GOC4	ANALOG TRANSDUCERS PRESSURE TANK	NEW CONDUIT/CABLE TRAY			
GOC4-c1-SUMP	1"	60	GOC4-c1-SUMP	1-10/C	#12	600V	70	120VAC	GOV OIL PUMP CONTROL	GOC4	SUMP TANK	NEW CONDUIT/CABLE TRAY			
GOC4-c1-DGC4	1"	50	GOC4-c1-DGC4	1-6/C	#12	600V	55	120VAC	GOV OIL PUMP CONTROL	GOC4	DGC4	NEW CONDUIT/CABLE TRAY			
SU4-e1-EML	1"	65	SU4-e1-EML	4-1/C	#10, #10 GND	600V	75	125VDC	EMERGENCY LIGHTING	SU4	EMERGENCY LIGHTING	EMBEDDED CONDUIT			
SU4-e1-GOC4	1/2"	65	SU4-e1-GOC4	2-1/C	#12 + #12G	600V	30	125VDC	PLC POWER	SU4	GOVERNOR OIL PUMP PLC	EMBEDDED CONDUIT			
SU5-q1-TR51	1 1/4"	90	SU5-q1-TR51	3-1/C	#6, #10 GND	600V	100	480V	TR51	SU5	TR51	EMBEDDED CONDUIT			
SU5-q1-TR52	1"	135	SU5-q1-TR52	3-1/C	#10, #10 GND	600V	145	480V	TR52	SU5	TR52	EMBEDDED CONDUIT			
SU5-q1-TBQ	3/4"	110	SU5-q1-TBA	3-1/C	#12, #12 GND	600V	120	480V	TURBINE BRG OIL SUMP PUMP	SU5	TURBINE BRG OIL SUMP PUMP	EMBEDDED CONDUIT			MC Cable
SU5-c1-TP5	1 1/2"	160	SU5-c1-TP5	1-14/C	#12	600V	170	120VAC	HEAD COVER SUMP PUMPS CONTROL	SU5	TURBINE PIT	EXISTING CONDUIT			
		160	SU5-c2-TP5	1-5/C	#12	600V	170	120VAC	TURBINE GUIDE BRG OIL SUMP PUMP CONTROL	SU5	TURBINE PIT	EXISTING CONDUIT			
SU5-c1-DGC5	1"	60	SU5-c1-DGC5	1-4/C	#12	600V	70	120VAC	HIGH PRESSURE THRUST BRG OIL PUMP CONTROL	SU5	DGC5	NEW CONDUIT			
			SU5-c2-DGC5	1-2/C	#12	600V	70	120VAC	GENERATOR HEATER CONTROL	SU5	DGC5	NEW CONDUIT			
SU5-c1-HPC5	1-1/2"	165	SU5-c1-HPC5	1-8/C	#12	600V	175	120VAC	HP THRUST BRG OIL PUMP UPPER CONTROL PANEL	SU5	NEAR HI THRUST BRG OIL PUMP	NEW CONDUIT			
		165	SU5-q1-HP	3-1/C	#10, #10 GND	600V	175	480VAC	HIGH PRESSURE THRUST BRG OIL PUMP	SU5	G5 TERMINAL CABINET	EMBEDDED CONDUIT			
SU5-q1-HC1	3/4"	125	SU5-q1-HC1	3-1/C	#12, #12 GND	600V	135	480VAC	HEAD COVER SUMP PUMP 1	SU5	HEAD COVER SUMP PUMP 1	EMBEDDED CONDUIT			MC Cable
SU5-q1-HC2	3/4"	155	SU5-q1-HC2	3-1/C	#12, #12 GND	600V	170	480VAC	HEAD COVER SUMP PUMP 2	SU5	HEAD COVER SUMP PUMP 2	EMBEDDED CONDUIT			MC Cable
SU5-q1-RECPT	1 1/4"	130	SU5-q1-RECPT	3-1/C	#6, #10 GND	600V	140	480V	OUTLET	SU5	OUTLET	EMBEDDED CONDUIT			
SU5-q2-RECPT	1 1/4"	40	SU5-q2-RECPT	3-1/C	#1, #8 GND	600V	45	480VAC	OUTLET	SU5	100A OUTLET	NEW CONDUIT			
SU5-q3-RECPT	1 1/4"	45	SU5-q3-RECPT	3-1/C	#6, #10 GND	600V	55	480VAC	OUTLET	SU5	OUTLET	EMBEDDED CONDUIT			
SU5-q4-RECPT	1 1/4"	50	SU5-q4-RECPT	3-1/C	#6, #10 GND	600V	60	480VAC	OUTLET	SU5	OUTLET	EMBEDDED CONDUIT			
SU5-q5-RECPT	1 1/4"	20	SU5-q5-RECPT	3-1/C	#6, #10 GND	600V	25	480V	OUTLET	SU5	OUTLET	EMBEDDED CONDUIT			
SU5-q6-RECPT	1 1/4"	75	SU5-q6-RECPT	3-1/C	#6, #10 GND	600V	85	480V	OUTLET	SU5	OUTLET	EMBEDDED CONDUIT			
SU5-q7-RECPT	1 1/4"	5	SU5-q7-RECPT	3-1/C	#6, #10 GND	600V	10	480V	OUTLET	SU5	OUTLET	EMBEDDED CONDUIT			
SU5-q1-AF	3/4"	80	SU5-q1-AF	3-1/C	#8, #10 GND	600V	90	480VAC	KIDNEY LOOP FILTER PUMP	SU5	KIDNEY LOOP FILTER PUMP	NEW CONDUIT			
SU5-q1-XFA	1"	160	SU5-q1-XFA	3-1/C	#12 + #12G	600V	170	480VAC	XJ-5 FAN A	SU5	XFA	EMBEDDED CONDUIT			
SU5-q1-XFB	1"	160	SU5-q1-XFB	3-1/C	#12 + #12G	600V	170	480VAC	XJ-5 FAN B	SU5	XFB	EMBEDDED CONDUIT			
SU5-q1-GH	1"	60	SU5-q1-GH	3-1/C	#6, #10 GND	600V	75	480VAC	GENERATOR HEATER	SU5	G5 TERMINAL CABINET	EMBEDDED CONDUIT			
			SU5-c1-GH	1-2/C	#12	600V	75	120VAC	GENERATOR HEATER CONTROL	SU5	G5 TERMINAL CABINET	EMBEDDED CONDUIT			
SU5-q1-LTH	1"	95	SU5-q1-LTH	3-1/C	#10, #10 GND	600V	105	480VAC	HI-BAY LIGHTING	SU5	HI-BAY LIGHTING	EMBEDDED CONDUIT			
SU5-q2-LTH	1"	85	SU5-q2-LTH	3-1/C	#10, #10 GND	600V	95	480VAC	HI-BAY LIGHTING	SU5	HI-BAY LIGHTING	EMBEDDED CONDUIT			
SU5-q1-AA2	1 1/2"	155	SU5-q1-AA6	1-3/C	#1/0, #6 GND	600V	165	480VAC	GOVERNOR AIR COPMRESSOR #2	SU5	AA2	NEW CONDUIT			
SU5-q1-AH	3/4"	35	SU5-q1-AH	3-1/C	#12 + #12G	600V	45	480VAC	GOVERNOR SUMP HEATER	SU5	SUMP TANK	NEW CONDUIT			
			SU5-c1-AH	2-1/C	#12	600V	45	120VAC	GOVERNOR SUMP HEATER	SU5	SUMP TANK	NEW CONDUIT			
SU5-q1-AQ1	2"	60	SU5-q1-AQ1	3-1/C	#4/0 + #3G	600V	70	480VAC	GOV OIL PUMP NO. 1	SU5	GOV OIL PUMP 1	NEW CONDUIT			
SU5-q1-AQ2	2"	70	SU5-q1-AQ2	3-1/C	#4/0 + #3G	600V	80	480VAC	GOV OIL PUMP NO. 2	SU5	GOV OIL PUMP 2	NEW CONDUIT			
SU5-c1-SUMP	1"	35	SU5-c1-SUMP	1-8/C	#12	600V	45	120VAC	CONTROL WIRING	SU5	SUMP TANK	NEW CONDUIT/CABLE TRAY			
SU5-c1-GOC5	1"	20	SU5-c1-GOC5	8-1/C	#12	600V	30	120VAC	CONTROL WIRING	SU5	GOVERNOR OIL PUMP PLC	NEW CONDUIT			
SU5-c2-GOC5	1"	20	SU5-c2-GOC5				30		ETHERNET COMM	SU5	GOVERNOR OIL PUMP PLC	NEW CONDUIT			
GOC5-c1-PT	1"	60	GOC5-c1-PT	1-4/C	#12	600V	70	125VDC	PLC PRESSURE TANK CONTROL	GOC5	FLOAT SWITCHES PRESSURE TANK	NEW CONDUIT/CABLE TRAY			
			GOC5-c2-PT	1-2/C	#12	600V	70	125VDC	TEST BUTTON ON ACCUMULATOR	GOC5	PRESSURE TANK	NEW CONDUIT/CABLE TRAY			
			GOC5-c3-PT	3-4C	#16 + Shield	600v	70	24VDC	PLC PRESSURE TANK CONTROL	GOC5	ANALOG TRANSDUCERS PRESSURE TANK	NEW CONDUIT/CABLE TRAY			
GOC5-c1-SUMP	1"	60	GOC5-c1-SUMP	1-10/C	#12	600V	70	120VAC	GOV OIL PUMP CONTROL	GOC5	SUMP TANK	NEW CONDUIT/CABLE TRAY			
GOC5-c1-DGC5	1"	50	GOC5-c1-DGC5	1-6/C	#12	600V	55	120VAC	GOV OIL PUMP CONTROL	GOC5	DGC5	NEW CONDUIT/CABLE TRAY			
GOC5-c1-SP22	1/2"	455	GOC5-c1-DGC5	1-4/C	#12	600V	465	120VAC	EG INTERLOCK	GOC5	SP22	NEW CONDUIT/CABLE TRAY			
SU5-e1-EML	1"	65	SU5-e1-EML	4-1/C	#10, #10 GND	600V	75	125VDC	EMERGENCY LIGHTING	SU5	EMERGENCY LIGHTING	EMBEDDED CONDUIT			
SU5-e1-GOC5	1/2"	65	SU5-e1-GOC5	2-1/C	#12 + #12G	600V	30	125VDC	PLC POWER	SU5	GOVERNOR OIL PUMP PLC	EMBEDDED CONDUIT			
SU6-q1-TR61	1 1/4"	90	SU6-q1-TR61	3-1/C	#6, #10 GND	600V	100	480V	TR61	SU6	TR61	EMBEDDED CONDUIT			
SU6-q1-TR62	1"	155	SU6-q1-TR62	3-1/C	#10, #10 GND	600V	165	480V	TR62	SU6	TR62	EMBEDDED CONDUIT			
SU6-q1-TR63	1"	50	SU6-q1-TR63	3-1/C	#12, #12 GND	600V	60	480V	TR63	SU6	TR63	EXISTING CONDUIT			
SU6-q1-TBQ	3/4"	110	SU6-q1-TBA	3-1/C	#12, #12 GND	600V	120	480V	TURBINE BRG OIL SUMP PUMP	SU6	TURBINE BRG OIL SUMP PUMP	EMBEDDED CONDUIT			MC Cable
SU6-c1-TP6	1 1/2"	165	SU6-c1-TP6	1-14/C	#12	600V	175	120VAC	HEAD COVER SUMP PUMPS CONTROL	SU6	TURBINE PIT	EXISTING CONDUIT			
		165	SU6-c2-TP6	1-5/C	#12	600V	175	120VAC	TURBINE GUIDE BRG OIL SUMP PUMP CONTROL	SU6	TURBINE PIT	EXISTING CONDUIT			
SU6-c1-DGC6	1"	60	SU6-c1-DGC6	1-4/C	#12	600V	70	120VAC	HIGH PRESSURE THRUST BRG OIL PUMP CONTROL	SU6	DGC6	NEW CONDUIT			
			SU6-c2-DGC6	1-2/C	#12	600V	70	120VAC	GENERATOR HEATER CONTROL	SU6	DGC6	NEW CONDUIT			
SU6-c1-HPC6	1 1/2"	165	SU6-c1-HPC6	1-8/C	#12	600V	175	120VAC	HP THRUST BRG OIL PUMP UPPER CONTROL PANEL	SU6	NEAR HI THRUST BRG OIL PUMP	NEW CONDUIT			
		165	SU6-q1-HP	3-1/C	#10, #10 GND	600V	175	480VAC	HIGH PRESSURE THRUST BRG OIL PUMP	SU6	G6 TERMINAL CABINET	EMBEDDED CONDUIT			
SU6-q1-HC1	3/4"	125	SU6-q1-HC1	3-1/C	#12, #12 GND	600V	135	480VAC	HEAD COVER SUMP PUMP 1	SU6	HEAD COVER SUMP PUMP 1	EMBEDDED CONDUIT			MC Cable
SU6-q1-HC2	3/4"	155	SU6-q1-HC2	3-1/C	#12, #12 GND	600V	165	480VAC	HEAD COVER SUMP PUMP 2	SU6	HEAD COVER SUMP PUMP 2	EMBEDDED CONDUIT			MC Cable
SU6-q1-RECPT	1 1/4"	40	SU6-q1-RECPT	3-1/C	#6, #10 GND	600V	45	480V	OUTLET	SU6	OUTLET	EMBEDDED CONDUIT			
SU6-q2-RECPT	1 1/4"	40	SU6-q2-RECPT	3-1/C	#1, #8 GND	600V	45	480VAC	OUTLET	SU6	100A OUTLET	NEW CONDUIT			
SU6-q3-RECPT	1 1/4"	45	SU6-q3-RECPT	3-1/C	#6, #10 GND	600V	55	480VAC	OUTLET	SU6	OUTLET	EMBEDDED CONDUIT			
SU6-q4-RECPT	1 1/4"	50	SU6-q4-RECPT	3-1/C	#6, #10 GND	600V	60	480VAC	OUTLET	SU6	OUTLET	EMBEDDED CONDUIT			
SU6-q5-RECPT	1 1/4"	130	SU6-q5-RECPT	3-1/C	#6, #10 GND	600V	140	480V	OUTLET	SU6	OUTLET	EMBEDDED CONDUIT			
SU6-q6-RECPT	1 1/4"	30	SU6-q6-RECPT	3-1/C	#6, #10 GND	600V	40	480V	OUTLET	SU6	OUTLET	EMBEDDED CONDUIT			

GENERAL NOTES:

1. ALL CABLE AND CONDUIT LENGTHS PROVIDED ARE APPROXIMATIONS AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. TINNEA, P.E.
ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-DA70.5
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WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CABLE & CONDUIT SCHEDULE
SHEET 5 OF 9
INSTALL

SHEET ID
VOLUME 1
E-805

FINAL

CONDUIT			CABLE					DESCRIPTION					REMARKS
NUMBER	SIZE	LENGTH	NUMBER	NO COND	SIZE	INS	RUN LENGTH	OPR VOLTAGE	FUNCTION	FROM	TO	ROUTING	
SU6-q7-RECPT	1 1/4"	75	SU6-q7-RECPT	3-1/C	#6, #10 GND	600V	85	480V	OUTLET	SU6	OUTLET	EMBEDDED CONDUIT	
SU6-q1-AF	3/4"	80	SU6-q1-AF	3-1/C	#8, #10 GND	600V	90	480VAC	KIDNEY LOOP FILTER PUMP	SU6	KIDNEY LOOP FILTER PUMP	NEW CONDUIT	
SU6-q1-XFA	1"	160	SU6-q1-XFA	3-1/C	#12 + #12G	600V	170	480VAC	XJ-6 FAN A	SU6	XFA	EXISTING CONDUIT	
SU6-q1-XFB	1"	160	SU6-q1-XFB	3-1/C	#12 + #12G	600V	170	480VAC	XJ-6 FAN B	SU6	XFB	EXISTING CONDUIT	
SU6-q1-GH	1"	60	SU6-q1-GH	3-1/C	#6, #10 GND	600V	75	480VAC	GENERATOR HEATER	SU6	G6 TERMINAL CABINET	EMBEDDED CONDUIT	
			SU6-c1-GH	1-2/C	#12	600V	75	120VAC	GENERATOR HEATER CONTROL	SU6	G6 TERMINAL CABINET	EMBEDDED CONDUIT	
SU6-q1-LTH	1"	85	SU6-q1-LTH	3-1/C	#10, #10 GND	600V	95	480VAC	HI-BAY LIGHTING	SU6	JB EL. 682 BAY 6	EMBEDDED CONDUIT	
SU6-q1-YA1	1 1/4"	180	SU6-q1-YA1	3-1/C	#10 + #10G	600V	190	480VAC	CO2 TANK COMPRESSOR #1	SU6	CO2 TANK COMPRESSOR #1	EXISTING CONDUIT	
SU6-q1-YA2	1 1/4"	180	SU6-q1-YA2	3-1/C	#10 + #10G	600V	190	480VAC	CO2 TANK COMPRESSOR #2	SU6	CO2 TANK COMPRESSOR #2	EXISTING CONDUIT	
SU6-q1-AH	3/4"	35	SU6-q1-AH	3-1/C	#12 + #12G	600V	45	480VAC	GOVERNOR SUMP HEATER	SU6	SUMP TANK	NEW CONDUIT	
			SU6-c1-AH	2-1/C	#12	600V	45	120VAC	GOVERNOR SUMP HEATER CONTROL	SU6	SUMP TANK	NEW CONDUIT	
SU6-q1-AQ1	2"	60	SU6-q1-AQ1	3-1/C	#4/0 + #3G	600V	70	480VAC	GOV OIL PUMP NO. 1	SU6	GOV OIL PUMP 1	NEW CONDUIT	
SU6-q1-AQ2	2"	70	SU6-q1-AQ2	3-1/C	#4/0 + #3	600V	80	480VAC	GOV OIL PUMP NO. 2	SU6	GOV OIL PUMP 2	NEW CONDUIT	
SU6-c1-SUMP	1"	35	SU6-c1-SUMP	1-8/C	#12	600V	45	120VAC	CONTROL WIRING	SU6	SUMP TANK	NEW CONDUIT/CABLE TRAY	
SU6-c1-GOC6	1"	20	SU6-c1-GOC6	8-1/C	#12	600V	30	120VAC	CONTROL WIRING	SU6	GOVERNOR OIL PUMP PLC	NEW CONDUIT	
SU6-c2-GOC6	1"	20	SU6-c2-GOC6				30		ETHERNET COMM	SU6	GOVERNOR OIL PUMP PLC	NEW CONDUIT	
GOC6-c1-PT	1"	60	GOC6-c1-PT	1-4/C	#12	600V	70	125VDC	PLC PRESSURE TANK CONTROL	GOC6	FLOAT SWITCHES PRESSURE TANK	NEW CONDUIT/CABLE TRAY	
			GOC6-c2-PT	1-2/C	#12	600V	70	125VDC	TEST BUTTON ON ACCUMULATOR	GOC6	PRESSURE TANK	NEW CONDUIT/CABLE TRAY	
			GOC6-c3-PT	3-4C	#16 + Shield	600v	70	24VDC	PLC PRESSURE TANK CONTROL	GOC6	ANALOG TRANSDUCERS PRESSURE TANK	NEW CONDUIT/CABLE TRAY	
GOC6-c1-SUMP	1"	60	GOC6-c1-SUMP	1-10/C	#12	600V	70	120VAC	GOV OIL PUMP CONTROL	GOC6	SUMP TANK	NEW CONDUIT/CABLE TRAY	
GOC6-c1-DGC6	1"	50	GOC6-c1-DGC6	1-6/C	#12	600V	55	120VAC	GOV OIL PUMP CONTROL	GOC6	DGC4	NEW CONDUIT/CABLE TRAY	
SU6-e1-EML	1"	65	SU6-e1-EML	4-1/C	#10, #10 GND	600V	75	125VDC	EMERGENCY LIGHTING	SU6	EMERGENCY LIGHTING	EMBEDDED CONDUIT	
SU6-e1-GOC6	1/2"	65	SU6-e1-GOC6	2-1/C	#12 + #12G	600V	30	125VDC	PLC POWER	SU6	GOVERNOR OIL PUMP PLC	EMBEDDED CONDUIT	
CH1A-h1-CH2MBT	1 1/4	30	CH1A-h1-CH2MBT	1-2/C	#1	600V	35	120VAC	CH2MBT FEEDER #1	CH1A	CH2MBT	NEW CONDUIT	
CH1A-h2-CH3	1 1/4	10	CH1A-h2-CH3	1-2/C	#1	600V	80	120VAC	CH3 FEEDER #1	CH1A	CH3	EXISTING CABLE TRAY	
CH1A-h5-CH4MBT	1 1/4	30	CH1A-h5-CH4MBT	1-2/C	#1	600V	35	120VAC	CH4MBT FEEDER #1	CH1A	CH4MBT	NEW CONDUIT	
CH1A-h6-S1	3/4	10	CH1A-h6-S1	1-2/C	#4	600V	150	120VAC	UNIT 1 SBOARD PREF AC	CH1A	UNIT 1 SBOARD	EXISTING CABLE TRAY	
CH1A-h9-S2	3/4	10	CH1A-h9-S2	1-2/C	#4	600V	230	120VAC	UNIT 2 SBOARD PREF AC	CH1A	UNIT 2 SBOARD	EXISTING CABLE TRAY	
CH1A-h10-S3	1	10	CH1A-h10-S3	1-2/C	#2	600V	330	120VAC	UNIT 3 SBOARD PREF AC	CH1A	UNIT 3 SBOARD	EXISTING CABLE TRAY	
CH1A-h13-S4	1	10	CH1A-h13-S4	1-2/C	#2	600V	400	120VAC	UNIT 4 SBOARD PREF AC	CH1A	UNIT 4 SBOARD	EXISTING CABLE TRAY	
CH1A-h14-S5	1	10	CH1A-h14-S5	1-2/C	#2	600V	500	120VAC	UNIT 5 SBOARD PREF AC	CH1A	UNIT 5 SBOARD	EXISTING CABLE TRAY	
CH1A-h17-S6	1	10	CH1A-h17-S6	1-2/C	#2	600V	590	120VAC	UNIT 6 SBOARD PREF AC	CH1A	UNIT 6 SBOARD	EXISTING CABLE TRAY	
CH1A-h21	3/4	10	CH1A-h21	1-2/C	#12	600V	100	120VAC	CONTROL RM RELAY	CH1A	CONTROL ROOM (6TH FL)	EXISTING CABLE TRAY	
CH1A-h22	3/4	10	CH1A-h22	1-2/C	#8	600V	175	120VAC	8TH FL OFC #1	CH1A	8TH FL OFFICE	EXISTING CABLE TRAY	
CH1A-h26	3/4	10	CH1A-h26	1-2/C	#8	600V	175	120VAC	8TH FL SOUTH (UPSTREAM)	CH1A	8TH FL S U/S	EXISTING CABLE TRAY	
CH1A-h29	3/4	10	CH1A-h29	1-2/C	#12	600V	50	120VAC	CODE CALL & TIME LOCK	CH1A	5TH FLOOR	EXISTING CABLE TRAY	
CH1A-h30	3/4	10	CH1A-h30	1-2/C	#8	600V	150	120VAC	MECH. SHOP	CH1A	MECH. SHOP	EXISTING CABLE TRAY	
CH1A-h33	3/4	10	CH1A-h33	1-2C	#8	600V	200	120VAC	SERVER/PHONE RM POWER	CH1A	SERVER/PHONE RM.	EXISTING CABLE TRAY	
CH1A-u1-CH1B	3/4	20	CH1A-u1-CH1B	1-3/C	#14	600V	50	120VAC	ANNUNCIATION	CH1A	CH1B	EXISTING CABLE TRAY	
CH1B-h1-CH2MBT	1 1/4	20	CH1B-h1-CH2MBT	1-2/C	#1	600V	45	120VAC	CH2MBT FEEDER #2	CH1B	CH2MBT	NEW CONDUIT	
CH1B-h2-CH3	1 1/4	20	CH1B-h2-CH3	1-2/C	#1	600V	90	120VAC	CH3 FEEDER #2	CH1B	CH3MBT	NEW CONDUIT	
CH1B-h5-CH4MBT	1 1/4	20	CH1B-h5-CH4MBT	1-2/C	#1	600V	35	120VAC	CH4MBT FEEDER #2	CH1B	CH4MBT	NEW CONDUIT	
CH1B-h6-S1	3/4	10	CH1B-h6-S1	1-2/C	#4	600V	150	120VAC	UNIT 1 SBOARD PREF AC	CH1B	UNIT 1 SBOARD	EXISTING CABLE TRAY	
CH1B-h9-S2	3/4	10	CH1B-h9-S2	1-2/C	#4	600V	230	120VAC	UNIT 2 SBOARD PREF AC	CH1B	UNIT 2 SBOARD	EXISTING CABLE TRAY	
CH1B-h10-S3	1	10	CH1B-h10-S3	1-2/C	#2	600V	330	120VAC	UNIT 3 SBOARD PREF AC	CH1B	UNIT 3 SBOARD	EXISTING CABLE TRAY	
CH1B-h13-S4	1	10	CH1B-h13-S4	1-2/C	#2	600V	400	120VAC	UNIT 4 SBOARD PREF AC	CH1B	UNIT 4 SBOARD	EXISTING CABLE TRAY	
CH1B-h14-S5	1	10	CH1B-h14-S5	1-2/C	#2	600V	500	120VAC	UNIT 5 SBOARD PREF AC	CH1B	UNIT 5 SBOARD	EXISTING CABLE TRAY	
CH1B-h17-S6	1	10	CH1B-h17-S6	1-2/C	#2	600V	590	120VAC	UNIT 6 SBOARD PREF AC	CH1B	UNIT 6 SBOARD	EXISTING CABLE TRAY	
CH1B-h18	3/4	10	CH1B-h18	1-2/C	#12	600V	60	120VAC	BATTERY VALIDATION SYSTEM	CH1B	BATTERY VALIDATION SYSTEM	NEW CONDUIT	
CH1B-h21	3/4	50	CH1B-h21	1-2/C	#10	600V	150	120VAC	WAREHOUSE ELECTRICAL SHOP (4TH FL BALC.)	CH1B	WAREHOUSE ELEC. SHOP	EXISTING CABLE TRAY	
CH1B-h22	3/4	10	CH1B-h22	1-2/C	#10	600V	100	120VAC	TELEPHONE SW	CH1B	TELEPH. SW (7TH FL)	EXISTING CABLE TRAY	
CH1B-h26	1	10	CH1B-h26	1-2/C	#2	600V	500	120VAC	S BOARDS (1R 14 1R NEU)	CH1B	S BOARDS	EXISTING CABLE TRAY	CONTRACTOR TO VERIFY
CH1B-h29	3/4	10	CH1B-h29	1-2/C	#8	600V	175	120VAC	8TH FL OFC	CH1B	8TH FL OFFICE	EXISTING CABLE TRAY	
CH1B-h30	3/4	10	CH1B-h30	1-2/C	#10	600V	100	120VAC	PHONE RM S WALL	CH1B	PHONE ROOM (7TH FL)	EXISTING CABLE TRAY	
CH1B-h33	3/4	10	CH1B-h33	1-2/C	#12	600V	50	120VAC	HYDROGEN & SMOKE SENSORS	CH1B	HYDROGEN & SMOKE SENSORS (BATTERY ROOM)	EXISTING CABLE TRAY	
SB2A-e5-CE1	1 1/2	10	SB2A-e5-CE1	1-2/C	#1/0	600V	255	125V DC	CE1 PANEL FDR #1	SB2A	CE1	EXISTING CABLE TRAY	
SB2A-e6-CE2	1 1/2	10	SB2A-e6-CE2	1-2/C	#1/0	600V	350	125V DC	CE2 PANEL FDR #1	SB2A	CE2	EXISTING CABLE TRAY	
SB2A-e9-CE3	1 1/2	10	SB2A-e9-CE3	1-2/C	#2/0	600V	445	125V DC	CE3 PANEL FDR #1	SB2A	CE3	EXISTING CABLE TRAY	
SB2A-e10-CE4	1 1/2	10	SB2A-e10-CE4	1-2/C	#4/0	600V	540	125V DC	CE4 PANEL FDR #1	SB2A	CE4	EXISTING CABLE TRAY	
SB2A-e13-CE5	1 1/2	10	SB2A-e13-CE5	1-2/C	#4/0	600V	635	125V DC	CE5 PANEL FDR #1	SB2A	CE5	EXISTING CABLE TRAY	
SB2A-e14-CE6	1 1/2	10	SB2A-e14-CE6	1-2/C	#4/0	600V	720	125V DC	CE6 PANEL FDR #1	SB2A	CE6	EXISTING CABLE TRAY	
SB2A-e17-IV1	1 1/2	10	SB2A-e17-IV1	1-2/C	#4/0	600V	35	125V DC	INVERTER IV1 FDR	SB2A	INVERTER IV1	EXISTING CABLE TRAY	
SB2A-e18-CE7	3/4	10	SB2A-e18-CE7	1-2/C	#4	600V	160	125V DC	CE7 FDR #1	SB2A	CE7	EXISTING CABLE TRAY	
SB2A-e21-CE8	1	10	SB2A-e21-CE8	1-2/C	#2	600V	260	125V DC	CE8 FDR #1	SB2A	CE8	EXISTING CABLE TRAY	
SB2A-e22-SP	3/4	10	SB2A-e22-SP	1-2/C	#8	600V	125	125V DC	SWGR BUS #1	SB2A	SP BUS #1	EXISTING CABLE TRAY	
SB2A-e25-TO1	3/4	10	SB2A-e25-TO1	1-2/C	#10	600V	145	125V DC	TRANS T01 RELAYS	SB2A	TRANS T01 RELAYS	EXISTING CABLE TRAY	
SB2A-e26	3/4	10	SB2A-e26	1-2/C	#10	600V	145	125V DC	STA SERV COMMON	SB2A	STA SERV COMMON	EXISTING CABLE TRAY	
SB2A-e29	3/4	10	SB2A-e29	1-2/C	#10	600V	145	125V DC	ANNUN SERV COM	SB2A	ANNUN SERV COM	EXISTING CABLE TRAY	
SB2A-e30	3/4	10	SB2A-e30-FTC1	1-2/C	#8	600V	390	125V DC	FISH PUMP #1 BUTTERFLY VALV. LIMIT.	SB2A	FISH PUMP #1	EXISTING CONDUIT/CABLE TRAY	
SB2A-e34	3/4	10	SB2A-e34	1-2/C	#10	600V	120	125V DC	TELEPHONE RM RECEPT	SB2A	TELEPHONE RM EL. 618	EXISTING CABLE TRAY	
SB2A-e37	3/4	10	SB2A-e37-MOD	1-2/C	#6	600V	160	125V DC	500KV MOD CONTROL POWER	SB2A	500KV MOD		CONTRACTOR TO VERIFY ROUTING
SB2A-e38	3/4	10	SB2A-e38-FTC2	1-2/C	#8	600V	370	125V DC	FISH PUMP #2 BUTTERFLY VALV. LIMIT.	SB2A	FISH PUMP #2	EXISTING CONDUIT/CABLE TRAY	
SB2A-e42-XPC	3/4	10	SB2A-e42-XPC	1-2/C	#10	600V	130	125V DC	REMOTE CONTROL XP BREAKERS	SB2A	XPC	EXISTING CABLE TRAY	
SB2A-e45-DC1	3/4	10	SB2A-e45-DC1	1-2/C	#10	600V	25	125V DC	DC-DC CONV. FDR #1	SB2A	DC-DC CONVERTER	EXISTING CABLE TRAY	
SB2A-e49-CY01	3/4	125	SB2A-e49-CY01	1-2/C	#12	600V	155	125V DC	CY01 - CO2 CONTROL SUPPLY	SB2A	CY01		CONTRACTOR TO VERIFY ROUTING
SB2A-e50-CY02	3/4	50	SB2A-e50-CY02	1-2/C	#12	600V	70	125V DC	CY02 - CO2 CONTROL SUPPLY	SB2A	CY02		CONTRACTOR TO VERIFY ROUTING
SB2A-e46-SBC	3/4	10	SB2A-e46-SBC	1-2/C	#12	600V	30	125V DC	SBC POWER	SB2A	SBC	EXISTING CABLE TRAY	
SB2A-u1-SB2B	3/4	10	SB2A-u1-SB2B	1-3/C	#14	600V	15	125VDC	ANNUNCIATION	SB2A	SB2B	EXISTING CABLE TRAY	

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MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
SUBMITTED BY:
JORDAN S. FINK, P.E.
ANSLD
DRAWING NUMBER: LGP-1.0022-6-DA7016
SIZE: F1 FILENAME: V1-LGP1.0022-E-806.dgn

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WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

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HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CABLE & CONDUIT SCHEDULE
SHEET 6 OF 9
INSTALL

SHEET ID
VOLUME 1
E-806

FINAL

CONDUIT			CABLE					DESCRIPTION				REMARKS
NUMBER	SIZE	LENGTH	NUMBER	NO COND	SIZE	INS	RUN LENGTH	OPR VOLTAGE	FUNCTION	FROM	TO	ROUTING	
SB2B-e5-CE1	1 1/2	10	SB2B-e5-CE1	1-2/C	#1/0	600V	265	125V DC	CE1 PANEL FDR #2	SB2B	CE1	EXISTING CABLE TRAY	
SB2B-e6-CE2	1 1/2	10	SB2B-e6-CE2	1-2/C	#1/0	600V	360	125V DC	CE2 PANEL FDR #2	SB2B	CE2	EXISTING CABLE TRAY	
SB2B-e9-CE3	1 1/2	10	SB2B-e9-CE3	1-2/C	#2/0	600V	455	125V DC	CE3 PANEL FDR #2	SB2B	CE3	EXISTING CABLE TRAY	
SB2B-e10-CE4	1 1/2	10	SB2B-e10-CE4	1-2/C	#4/0	600V	550	125V DC	CE4 PANEL FDR #2	SB2B	CE4	EXISTING CABLE TRAY	
SB2B-e13-CE5	1 1/2	10	SB2B-e13-CE5	1-2/C	#4/0	600V	645	125V DC	CE5 PANEL FDR #2	SB2B	CE5	EXISTING CABLE TRAY	
SB2B-e14-CE6	1 1/2	10	SB2B-e14-CE6	1-2/C	#4/0	600V	730	125V DC	CE6 PANEL FDR #2	SB2B	CE6	EXISTING CABLE TRAY	
SB2B-e17-IV2	1 1/2	10	SB2B-e17-IV2	1-2/C	#4/0	600V	40	125V DC	INVERTER IV2 FDR	SB2B	INVERTER IV2	EXISTING CABLE TRAY	
SB2B-e18-CE7	3/4	10	SB2B-e18-CE7	1-2/C	#4	600V	160	125V DC	CE7 FDR #2	SB2B	CE7	EXISTING CABLE TRAY	
SB2B-e21-CE8	1	10	SB2B-e21-CE8	1-2/C	#2	600V	260	125V DC	CE8 FDR #2	SB2B	CE8	EXISTING CABLE TRAY	
SB2B-e22-SP	3/4	10	SB2B-e22-SP	1-2/C	#8	600V	145	125V DC	SWGR BUS #2	SB2B	SWGR BUS #2	EXISTING CABLE TRAY	
SB2B-e25-TO2	3/4	10	SB2B-e25-TO2	1-2/C	#10	600V	165	125V DC	TRANS T02 RELAY	SB2B	TRANS T02	EXISTING CABLE TRAY	
SB2B-e26-CA1	3/4	10	SB2B-e26-CA1	1-2/C	#4	600V	55	125V DC	CA1 PANEL FDR	SB2B	CA1	NEW CONDUIT	
SB2B-e29	3/4	10	SB2B-e29-BPA	1-2/C	#4	600V	60	125V DC	BPA RM DC PANEL	SB2B	BPA ROOM EL 580	EXISTING CABLE TRAY	
SB2B-e33	3/4	10	SB2B-e33-EG	1-2/C	#6	600V	320	125V DC	EMERGENCY GEN.	SB2B	EMERG. GEN.	EXISTING CABLE TRAY	
SB2B-e34	3/4	10	SB2B-e34-SP	1-2/C	#10	600V	165	125V DC	SP SWGR TEST STATION	SB2B	SP SWGR	EXISTING CABLE TRAY	
SB2B-e42	3/4	10	SB2B-e42-FTC3	1-2/C	#8	600V	340	125V DC	FISH PUMP #3 BUTTERFLY VALV. LIMIT.	SB2B	FISH PUMP #3	EXISTING CABLE TRAY	
SB2B-e45-DC2	3/4	10	SB2B-e45-DC2	1-2/C	#10	600V	25	125V DC	DC-DC CONV. FDR #2	SB2B	DC-DC CONVERTER	EXISTING CABLE TRAY	
SB2B-e46-SBC	3/4	10	SB2B-e46-SBC	1-2/C	#12	600V	30	125V DC	SBC POWER	SB2A	SBC	EXISTING CABLE TRAY	
SB2B-e49-CY03	3/4	130	SB2B-e49-CY03	1-2/C	#12	600V	160	125V DC	CY03 - CO2 CONTROL SUPPLY	SB2B	CY03	EXISTING CONDUIT/CABLE TRAY	
SB2B-e50-CY04	3/4	75	SB2B-e50-CY04	1-2/C	#12	600V	100	125V DC	CY04 - CO2 CONTROL SUPPLY	SB2B	CY04	EXISTING CONDUIT/CABLE TRAY	
DC-e1-ED2	3/4	10	DC1-e1-ED2A	2-1/C	#10	600V	10	125V DC	DC-DC CONV. FDR #1	SB2A	DC-DC CONVERTER	NEW CONDUIT	
			DC2-e1-ED2B	2-1/C	#10	600V	10	125V DC	DC-DC CONV. FDR #2	SB2B	DC-DC CONVERTER	NEW CONDUIT	
ED2-d1-CD1	3/4	5	ED2-d1-CD1	1-2/C	#10	600V	5	48VDC	48V DC POWER	ED2	CD1	NEW CONDUIT	
CD1-d1	3/4	10	CD1-d2	1-2/C	#14	600V	40	48VDC	CODE CALL RELAY	ED2	CODE CALL RELAY	NEW CONDUIT	KTR TO VERIFY CABLE & ROUTING
			CD1-d5	1-2/C	#14	600V	40	48VDC	BPA BRKR INDICATION	ED2	BPA BRKR INDICATION		KTR TO VERIFY CABLE & ROUTING
			CD1-d9	1-2/C	#14	600V	40	48VDC	UNIT BRKR SELECTION	ED2	UNIT BRKR SELECTION		KTR TO VERIFY CABLE & ROUTING
CD1-d2	3/4	10	CD1-d10	1-2/C	#14	600V	40	48VDC	SUPERVISORY EQUIPMENT	ED2	SUPERVISORY EQUIPMENT	NEW CONDUIT	KTR TO VERIFY CABLE & ROUTING
			CD1-d13	1-2/C	#14	600V	40	48VDC	SPILLWAY GATE READOUT	ED2	SPILLWAY GATE READOUT		KTR TO VERIFY CABLE & ROUTING
			CD1-d14	1-2/C	#14	600V	40	48VDC	SAT TONE EQUIP.	ED2	SAT TONE EQUIP.		KTR TO VERIFY CABLE & ROUTING
CE1-e1-SX1	1 1/4	10	CE1-e1-SX1	1-2/C	#1	600V	50	125V DC	FIELD FLASH	CE1	SX1	NEW/EXISTING CABLE TRAYS	
CE1-e11-CESU1	1	10	CE1-e11-CESU1	1-2/C	#4	600V	60	125V DC	EMERGENCY LIGHTING	CE1	SU1	NEW/EXISTING CABLE TRAYS	
CE2-e1-SX2	1 1/4	10	CE2-e1-SX2	1-2/C	#1	600V	50	125V DC	FIELD FLASH	CE2	SX2	NEW/EXISTING CABLE TRAYS	
CE2-e11-CESU2	1	10	CE2-e11-CESU2	1-2/C	#4	600V	60	125V DC	EMERGENCY LIGHTING	CE2	SU2	NEW/EXISTING CABLE TRAYS	
CE3-e1-SX3	1 1/4	10	CE3-e1-SX3	1-2/C	#1	600V	50	125V DC	FIELD FLASH	CE3	SX3	NEW/EXISTING CABLE TRAYS	
CE3-e11-CESU3	1	10	CE3-e11-CESU3	1-2/C	#4	600V	60	125V DC	EMERGENCY LIGHTING	CE3	SU3	NEW/EXISTING CABLE TRAYS	
CE4-e1-SX4	1 1/4	10	CE4-e1-SX4	1-2/C	#1	600V	50	125V DC	FIELD FLASH	CE4	SX4	NEW/EXISTING CABLE TRAYS	
CE4-e11-CESU4	1	10	CE4-e11-CESU4	1-2/C	#4	600V	60	125V DC	EMERGENCY LIGHTING	CE4	SU4	NEW/EXISTING CABLE TRAYS	
CE5-e1-SX5	1 1/4	10	CE5-e1-SX5	1-2/C	#1	600V	50	125V DC	FIELD FLASH	CE5	SX5	NEW/EXISTING CABLE TRAYS	
CE5-e11-CESU5	1	10	CE5-e11-CESU5	1-2/C	#4	600V	60	125V DC	EMERGENCY LIGHTING	CE5	SU5	NEW/EXISTING CABLE TRAYS	
CE6-e1-SX6	1 1/4	10	CE6-e1-SX6	1-2/C	#1	600V	50	125V DC	FIELD FLASH	CE6	SX6	NEW/EXISTING CABLE TRAYS	
CE6-e11-CESU6	1	10	CE6-e11-CESU6	1-2/C	#4	600V	60	125V DC	EMERGENCY LIGHTING	CE6	SU6	NEW/EXISTING CABLE TRAYS	
			CE7-e1	1-2/C	#14	600V	40	125V DC	DC POWER	CE7	PSAT, NSAT DIGITAL DATA COLL. SYS.	EXISTING CABLE TRAY	KTR TO VERIFY CABLE & ROUTING
			CE7-e2	1-2/C	#14	600V	40	125V DC	DC POWER	CE7	PTT, NTT TRANSFER TRIP	EXISTING CABLE TRAY	KTR TO VERIFY CABLE & ROUTING
			CE7-e5	1-2/C	#14	600V	40	125V DC	DC POWER	CE7	DIGITAL GOV. HMI PWR	EXISTING CABLE TRAY	KTR TO VERIFY CABLE & ROUTING
			CE7-e6	1-2/C	#14	600V	40	125V DC	DC POWER	CE7	PVB, NVB VOLTAGE BALANCER	EXISTING CABLE TRAY	KTR TO VERIFY CABLE & ROUTING
			CE7-e9	1-2/C	#14	600V	40	125V DC	DC POWER	CE7	POD, NOD CONSOLE (TRANSFER TRIP)	EXISTING CABLE TRAY	KTR TO VERIFY CABLE & ROUTING
			CE7-e10	1-2/C	#14	600V	40	125V DC	DC POWER	CE7	PUS, NUS UNIT SELECTION RELAYS	EXISTING CABLE TRAY	KTR TO VERIFY CABLE & ROUTING
			CE7-e13	1-2/C	#14	600V	40	125V DC	DC POWER	CE7	PSX, NSX BRKR SELECTION RELAYS	EXISTING CABLE TRAY	KTR TO VERIFY CABLE & ROUTING
			CE7-e14	1-2/C	#14	600V	40	125V DC	DC POWER	CE7	PS, NS TO ER12	EXISTING CABLE TRAY	KTR TO VERIFY CABLE & ROUTING
			CE7-e17	1-2/C	#14	600V	40	125V DC	DC POWER	CE7	PA, NA COMMON ANNUN.	EXISTING CABLE TRAY	KTR TO VERIFY CABLE & ROUTING
			CE7-e18	1-2/C	#14	600V	40	125V DC	DC POWER	CE7	SER	EXISTING CABLE TRAY	KTR TO VERIFY CABLE & ROUTING
SG-e1-CE7	3/4"	40	SG-e21-CE7	1-2/C	#12	600V	50	125VDC	SG CABINET 125VDC POWER	SG	CE7	NEW CONDUIT	
CE8-e1-CESQO	3/4	300	CE8-e1-SQO	1-2/C	#10	600V	300	125V DC	SQ0 CNTRL PWR	CE8	SQ0	NEW CONDUIT	
CE8-e5-CESQ1	3/4	60	CE8-e5-SQ1	1-2/C	#10	600V	65	125V DC	SQ1 CNTRL PWR	CE8	SQ1	NEW CONDUIT	
CE8-e9-CESQ2	3/4	350	CE8-e9-SQ2	1-2/C	#10	600V	350	125V DC	SQ2 CNTRL PWR	CE8	SQ2	NEW CONDUIT	
			CA1-e1-CRO2.1	1-2/C	#10	600V	135	125V DC	POWER EB EL 522, OIL STORAGE & EB EL 498	CA1	CRO2.1	EXISTING CONDUITS/CABLE TRAY	
			CA1-e2-CRO4.1	1-2/C	#10	600V	25	125V DC	FIRST AID, SS XFMR VAULT, SHOP, BALCONY	CA1	CRO4.1	EXISTING CONDUITS	
			CA1-e3-CRO5.1	1-4/C	#10	600V	30	125V DC	CABLE SPRDG RM & STAIRWAY	CA1	CRO5.1	EXISTING CONDUITS	
			CA1-e5-CRO6.1	1-4/C	#10	600V	150	125V DC	OFFICES & STAIRWAY	CA1	CRO6.1	EXISTING CONDUITS	
BE1-e1-SB1	3 1/2	70	BE-e1-SB1	2-1/C	#444.4	2000	80	125VDC	POS BATTERY	BE	SB1	NEW CONDUIT	
BE1-e2-SB1	3 1/2	70	BE-e2-SB1	2-1/C	#444.4	2000	80	125VDC	NEG BATTERY	BE	SB1	NEW CONDUIT	
SB1-e1.1-SB2A	2	7	SB1-e1.1-SB2A	2-1/C	#250KCMIL	600	15	125VDC	POS BATTERY	SB1	SB2A	NEW CONDUIT	
SB1-e1.2-SB2A	2	7	SB1-e1.2-SB2A	2-1/C	#250KCMIL	600	15	125VDC	NEG BATTERY	SB1	SB2A	NEW CONDUIT	
SB1-e1.1-SB2B	2	7	SB1-e1.1-SB2B	2-1/C	#250KCMIL	600	15	125VDC	POS BATTERY	SB1	SB2B	NEW CONDUIT	
SB1-e1.2-SB2B	2	7	SB1-e1.2-SB2B	2-1/C	#250KCMIL	600	15	125VDC	NEG BATTERY	SB1	SB2B	NEW CONDUIT	
BC1-e1-SB2A	3	15	BC1-e1-SB2A	1-4/C	#350KCMIL	600	25	125VDC	BATTERY CHARGER	BC1	SB2A	NEW CONDUIT	
BC2-e1-SB2B	3	15	BC2-e1-SB2B	1-4/C	#350KCMIL	600	25	125VDC	BATTERY CHARGER	BC2	SB2B	NEW CONDUIT	
SB1-e1-ZLB1	2	110	SB1-e1-ZLB1	2-1/C	#250KCMIL	600	120	125VDC	LOAD BANK DISCONNECT	SB1	ZLB1	NEW CONDUIT	
TH1-h1-MBS1	2	20	TH1-h1-MBS1	2 -1/C	#2/0	600	25	120VAC	TH1 BYPASS FEEDER	TH1	MBS1 - M1 BREAKER	NEW CONDUIT	
MBS1-h1-IV1	2	20	MBS1-h1-IV1	2-1/C	#2/0	600	25	120VAC	IV1 BYPASS INPUT FEEDER	MBS1 - M1 BREAKER	IV1	NEW CONDUIT	

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DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. TINNEY, P.E.
SIZE:	ANSI D
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LITTLE GOOSE LOCK AND DAM
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DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CABLE & CONDUIT SCHEDULE
SHEET 7 OF 9
INSTALL

SHEET ID
VOLUME 1
E-807

FINAL

CONDUIT			CABLE						DESCRIPTION				REMARKS
NUMBER	SIZE	LENGTH	NUMBER	NO COND	SIZE	INS	RUN LENGTH	OPR VOLTAGE	FUNCTION	FROM	TO	ROUTING	
IV1-h1-MBS1	2	3	IV1-h1-MBS1	2-1/C	#2/0	600	25	120VAC	CH1A NORMAL FEEDER	IV1	MBS1 - BYPASS SWITCH - NORMAL POSITION	NEW CONDUIT	
MBS1-h1-CH1A	1 1/4	5	MBS1-h1-CH1A	2-1/C	#2/0	600	10	120VAC	CH1A FEEDER	MBS1	CH1A	NEW CONDUIT	
MBS1-h1-MBS2	1 1/4	10	MBS1-h1-MBS2	2-1/C	#2/0	600	10	120VAC	MBS1 BYPASS	MBS1	MBS2	NEW CONDUIT	
TH1-h1-MBS2	2	20	TH1-h1-MBS2	2 -1/C	#2/0	600	25	120VAC	TH1 BYPASS FEEDER	TH1	MBS2 - M1 BREAKER	NEW CONDUIT	
MBS2-h1-IV2	2	20	MBS2-h1-IV2	2-1/C	#2/0	600	25	120VAC	IV2 BYPASS INPUT FEEDER	MSB2 - M1 BREAKER	IV2	NEW CONDUIT	
IV2-h1-MBS2	2	3	IV2-h1-MBS2	2-1/C	#2/0	600	25	120VAC	CH1B NORMAL FEEDER	IV2	MBS2 - BYPASS SWITCH - NORMAL POSITION	NEW CONDUIT	
MBS2-h1-CH1B	1 1/4	5	MBS2-h1-CH1B	2-1/C	#2/0	600	10	120VAC	CH2A FEEDER	MBS2	CH1B	NEW CONDUIT	
MBS2-h1-MBS1	1 1/4	10	MBS2-h1-MBS1	2-1/C	#2/0	600	10	120VAC	MBS2 BYPASS	MBS2	MBS1	NEW CONDUIT	
CH2MBT-h1-CH2	1 1/4	90	CH2MBT-h1-CH2	2-1/C	#1	600	110	120VAC	CH2 FEEDER	CH2MBT	CH2	NEW CONDUIT	
CH4MBT-h1-CH4	1 1/4	50	CH4MBT-h1-CH4	2-1/C	#1	600	410	120VAC	CH4 FEEDER	CH4MBT	CH4	NEW CONDUIT	
			CH3-h1-ORW	2	#14	600V	50	120VAC	STA MW & SYS FREQ. REC.	CH3			KTR TO VERIFY CABLE & ROUTING
			CH3-h2-ST	2	#14	600V	50	120VAC	WATER LEVEL WR1 WR2	CH3			KTR TO VERIFY CABLE & ROUTING
			CH3-h6	2	#14	600V	50	120VAC	7TH FL BUZZER	CH3	7TH FL		KTR TO VERIFY CABLE & ROUTING
			CH3-h9-SOC	2	#14	600V	50	120VAC	SPILLWAY GATE CONTROL	CH3			KTR TO VERIFY CABLE & ROUTING
			CH3-h10	2	#14	600V	50	120VAC	D1, D2	CH3			KTR TO VERIFY CABLE & ROUTING
			CH3-h13	2	#14	600V	50	120VAC	HI GRD	CH3			KTR TO VERIFY CABLE & ROUTING
			CH3-h17	2	#14	600V	50	120VAC	PY , NY	CH3			KTR TO VERIFY CABLE & ROUTING
SBC-u1	3/4	10	SBC-u1-ER21	3	#14	600V	70	125VDC	ANNUNCIATION	SBC	ER21	NEW CONDUIT TO EXISTING WIRE TRAY	
SBC-u1	4	10	SBC-u1-IV1	1-9/C	#14	600V	35	125VDC	ANNUNCIATION	SBC	IV1	NEW CONDUIT TO CABLE TRAY	
IV1-u1	3/4	10										NEW CONDUIT TO CABLE TRAY	
SBC-u1	4	10	SBC-u1-IV2	1-9/C	#14	600V	28	125VDC	ANNUNCIATION	SBC	IV2	NEW CONDUIT TO CABLE TRAY	
IV1-u1	3/4	10										NEW CONDUIT TO CABLE TRAY	
SBC-u1	4	10	SBC-u1-CH1A	1-9/C	#14	600V	35	125VDC	ANNUNCIATION	SBC	CH1A	NEW CONDUIT TO CABLE TRAY	
CH1A-u1	3/4	10										NEW CONDUIT TO CABLE TRAY	
SBC-u1	4	10	SBC-u1-CH1B	1-9/C	#14	600V	40	125VDC	ANNUNCIATION	SBC	CH1B	NEW CONDUIT TO CABLE TRAY	
CH1B-u1	3/4	10										NEW CONDUIT TO CABLE TRAY	
SBC-u2	4	10	SBC-u1-SB2A	1-9/C	#14	600V	50	125VDC	ANNUNCIATION	SBC	SB2A	NEW CONDUIT TO CABLE TRAY	
SB2A-u1	3/4	10										NEW CONDUIT TO CABLE TRAY	
SBC-u2	4	10	SBC-u1-SB2B	1-9/C	#14	600V	55	125VDC	ANNUNCIATION	SBC	SB2B	NEW CONDUIT TO CABLE TRAY	
SB2B-u1	3/4	10										NEW CONDUIT TO CABLE TRAY	
SBC-e1	3/4	10	SB2A-e1-SBC	1-2/C	#12	600V	50	125VDC	POWER	SBC	SB2A	NEW CONDUIT TO CABLE TRAY	
SB2A-e1	3/4	10										NEW CONDUIT TO CABLE TRAY	
SBC-e1	3/4	10	SB2B-e1-SBC	1-2/C	#12	600V	55	125VDC	POWER	SBC	SB2B	NEW CONDUIT TO CABLE TRAY	
SB2B-e1	3/4	10										NEW CONDUIT TO CABLE TRAY	
SBC-u2	4	10	SBC-u1-BC1	1-9/C	#14	600V	45	125VDC	ANNUNCIATION	SBC	BC1	NEW CONDUIT TO CABLE TRAY	
BC1-u1	3/4	10										NEW CONDUIT TO CABLE TRAY	
SBC-u2	4	10	SBC-u1-BC2	1-9/C	#14	600V	50	125VDC	ANNUNCIATION	SBC	BC2	NEW CONDUIT TO CABLE TRAY	
BC2-u1	3/4	10										NEW CONDUIT TO CABLE TRAY	
SBC-u2	4	10	SBC-u1-BR	1-9/C	#14	600V	80	125VDC	ANNUNCIATION	SBC	BR	NEW CONDUIT TO CABLE TRAY	
BR-u1	3/4	50										NEW CONDUIT TO CABLE TRAY	
SCB-eth1-IDFLGP503	1	90	SCB-eth1-IDFLGP503	N/A	ETHERNET CABLE	N/A	100	N/A	COMMUNICATION	SBC	IDFLGP503	NEW CONDUIT	
SQOC-eth1-IDFLGP301	1	140	SQOC-eth1-IDFLGP301	N/A	ETHERNET CABLE	N/A	150	N/A	COMMUNICATION	SQOC	IDFLGP301	NEW CONDUIT	
SQOC-c1-SQO	4	35	SQO-c1-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c1-SQO	4	35	SQO-c2-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c1-SQO	4	35	SQO-c3-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c1-SQO	4	35	SQO-c4-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c1-SQO	4	35	SQO-c5-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c1-SQO	4	35	SQO-c6-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c1-SQO	4	35	SQO-c7-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c1-SQO	4	35	SQO-c8-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c1-SQO	4	35	SQO-c9-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c1-SQO	4	35	SQO-c10-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c1-SQO	4	35	SQO-c11-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c1-SQO	4	35	SQO-c12-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c2-SQO	4	35	SQO-c13-SQOC	1-9/C	#14	600V	45	125VDC	CONTROL AND ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c2-SQO	4	35	SQO-c14-SQOC	1-9/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c2-SQO	4	35	SQO-c15-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c2-SQO	4	35	SQO-c16-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c2-SQO	4	35	SQO-c17-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c2-SQO	4	35	SQO-c18-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c2-SQO	4	35	SQO-c19-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c2-SQO	4	35	SQO-c20-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c2-SQO	4	35	SQO-c21-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c2-SQO	4	35	SQO-c22-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c2-SQO	4	35	SQO-c23-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c2-SQO	4	35	SQO-c24-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c2-SQO	4	35	SQO-c25-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQOC-c2-SQO	4	35	SQO-c26-SQOC	1-12/C	#14	600V	45	125VDC	ANNUNCIATION	SQOC	SQO	NEW CONDUIT	
SQ1C-fo1-SQOC	1	300	SQ1C-fo1-SQOC	N/A	MULTIMODE FIBER OPTIC	N/A	310	N/A	COMMUNICATION	SQ1C	SQOC	NEW INNERDUCT	
SQ1C-c1-SQ1	4	20	SQ1-c1-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c1-SQ1	4	20	SQ1-c2-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c1-SQ1	4	20	SQ1-c3-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c1-SQ1	4	20	SQ1-c4-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c1-SQ1	4	20	SQ1-c5-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c1-SQ1	4	20	SQ1-c6-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c1-SQ1	4	20	SQ1-c7-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c1-SQ1	4	20	SQ1-c8-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	

GENERAL NOTES:

1. ALL CABLE AND CONDUIT LENGTHS PROVIDED ARE APPROXIMATIONS AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	L. SUPPAN
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. TENNANT, P.E.
SIZE:	ANSI D
ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-E-DA7/08
FILENAME:	V1-LGP1.002-E-808.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CABLE & CONDUIT SCHEDULE
SHEET 8 OF 9
INSTALL

SHEET ID
VOLUME 1
E-808

FINAL

CONDUIT			CABLE					DESCRIPTION				REMARKS
NUMBER	SIZE	LENGTH	NUMBER	NO COND	SIZE	INS	RUN LENGTH	OPR VOLTAGE	FUNCTION	FROM	TO	ROUTING	
SQ1C-c1-SQ1	4	20	SQ1-c9-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c1-SQ1	4	20	SQ1-c10-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c1-SQ1	4	20	SQ1-c11-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c1-SQ1	4	20	SQ1-c12-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c1-SQ1	4	20	SQ1-c13-SQ1C	1-9/C	#14	600V	30	125VDC	CONTROL AND ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c2-SQ1	4	20	SQ1-c14-SQ1C	1-9/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c2-SQ1	4	20	SQ1-c15-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c2-SQ1	4	20	SQ1-c16-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c2-SQ1	4	20	SQ1-c17-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c2-SQ1	4	20	SQ1-c18-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c2-SQ1	4	20	SQ1-c19-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c2-SQ1	4	20	SQ1-c20-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c2-SQ1	4	20	SQ1-c21-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c2-SQ1	4	20	SQ1-c22-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c2-SQ1	4	20	SQ1-c23-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c2-SQ1	4	20	SQ1-c24-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c2-SQ1	4	20	SQ1-c25-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-c2-SQ1	4	20	SQ1-c26-SQ1C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-eth1-GOC1	1	155	SQ1C-eth1-GOC1	N/A	ETHERNET CABLE	N/A	165	N/A	COMMUNICATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-eth1-GOC2	1	70	SQ1C-eth1-GOC2	N/A	ETHERNET CABLE	N/A	80	N/A	COMMUNICATION	SQ1C	SQ1	NEW CONDUIT	
SQ1C-eth1-GOC3	1	100	SQ1C-eth1-GOC3	N/A	ETHERNET CABLE	N/A	110	N/A	COMMUNICATION	SQ1C	SQ1	NEW CONDUIT	
SQ2C-fo1-SQOC	1	500	SQ1C-fo1-SQOC	N/A	MULTIMODE FIBER OPTIC	N/A	510	N/A	COMMUNICATION	SQ2C	SQOC	NEW INNERDUCT	
SQ2C-c1-SQ2	4	20	SQ2-c1-SQ2C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ2C	SQ2	NEW CONDUIT	
SQ2C-c1-SQ2	4	20	SQ2-c2-SQ2C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ2C	SQ2	NEW CONDUIT	
SQ2C-c1-SQ2	4	20	SQ2-c3-SQ2C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ2C	SQ2	NEW CONDUIT	
SQ2C-c1-SQ2	4	20	SQ2-c4-SQ2C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ2C	SQ2	NEW CONDUIT	
SQ2C-c1-SQ2	4	20	SQ2-c5-SQ2C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ2C	SQ2	NEW CONDUIT	
SQ2C-c1-SQ2	4	20	SQ2-c6-SQ2C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ2C	SQ2	NEW CONDUIT	
SQ2C-c1-SQ2	4	20	SQ2-c7-SQ2C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ2C	SQ2	NEW CONDUIT	
SQ2C-c1-SQ2	4	20	SQ2-c8-SQ2C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ2C	SQ2	NEW CONDUIT	
SQ2C-c2-SQ2	4	20	SQ2-c9-SQ2C	1-9/C	#14	600V	30	125VDC	CONTROL AND ANNUNCIATION	SQ2C	SQ2	NEW CONDUIT	
SQ2C-c2-SQ2	4	20	SQ2-c10-SQ2C	1-9/C	#14	600V	30	125VDC	ANNUNCIATION	SQ2C	SQ2	NEW CONDUIT	
SQ2C-c2-SQ2	4	20	SQ2-c11-SQ2C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ2C	SQ2	NEW CONDUIT	
SQ2C-c2-SQ2	4	20	SQ2-c12-SQ2C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ2C	SQ2	NEW CONDUIT	
SQ2C-c2-SQ2	4	20	SQ2-c13-SQ2C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ2C	SQ2	NEW CONDUIT	
SQ2C-c2-SQ2	4	20	SQ2-c14-SQ2C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ2C	SQ2	NEW CONDUIT	
SQ2C-c2-SQ2	4	20	SQ2-c15-SQ2C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ2C	SQ2	NEW CONDUIT	
SQ2C-c2-SQ2	4	20	SQ2-c16-SQ2C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ2C	SQ2	NEW CONDUIT	
SQ2C-c2-SQ2	4	20	SQ2-c17-SQ2C	1-12/C	#14	600V	30	125VDC	ANNUNCIATION	SQ2C	SQ2	NEW CONDUIT	
SQ2C-eth1-GOC4	1	155	SQ2C-eth1-GOC4	N/A	ETHERNET CABLE	N/A	165	N/A	COMMUNICATION	SQ2C	SQ2	NEW CONDUIT	
SQ2C-eth1-GOC5	1	70	SQ2C-eth1-GOC5	N/A	ETHERNET CABLE	N/A	80	N/A	COMMUNICATION	SQ2C	SQ2	NEW CONDUIT	
SQ2C-eth1-GOC6	1	100	SQ2C-eth1-GOC6	N/A	ETHERNET CABLE	N/A	110	N/A	COMMUNICATION	SQ2C	SQ2	NEW CONDUIT	
SG-h1-CH2	3/4	25	SG-h1-CH2	1-2/C	#1	600V	35	120VAC	SG CABINET 120VAC POWER	SG	CH2	NEW CONDUIT	
			SG-eth1-OD	N/A	ETHERNET CABLE	N/A	40	N/A	COMMUNICATION	SG	OPERATOR DESK	ROUTE UNDER FLOOR TO DESK	CONTRACTOR TO VERIFY
SG-eth1-IDFLGP601	1	20	SG-eth1-IDFLGP503	N/A	ETHERNET CABLE	N/A	30	N/A	COMMUNICATION	SG	IDFLGP601	NEW CONDUIT	

GENERAL NOTES:

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US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. TINKLE, P.E.
SIZE: ANSI D
FILE NAME: V1-LGP1.002-E-809.dgn
ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001
DRAWING NUMBER: LGP-1.002-E-DAT019

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

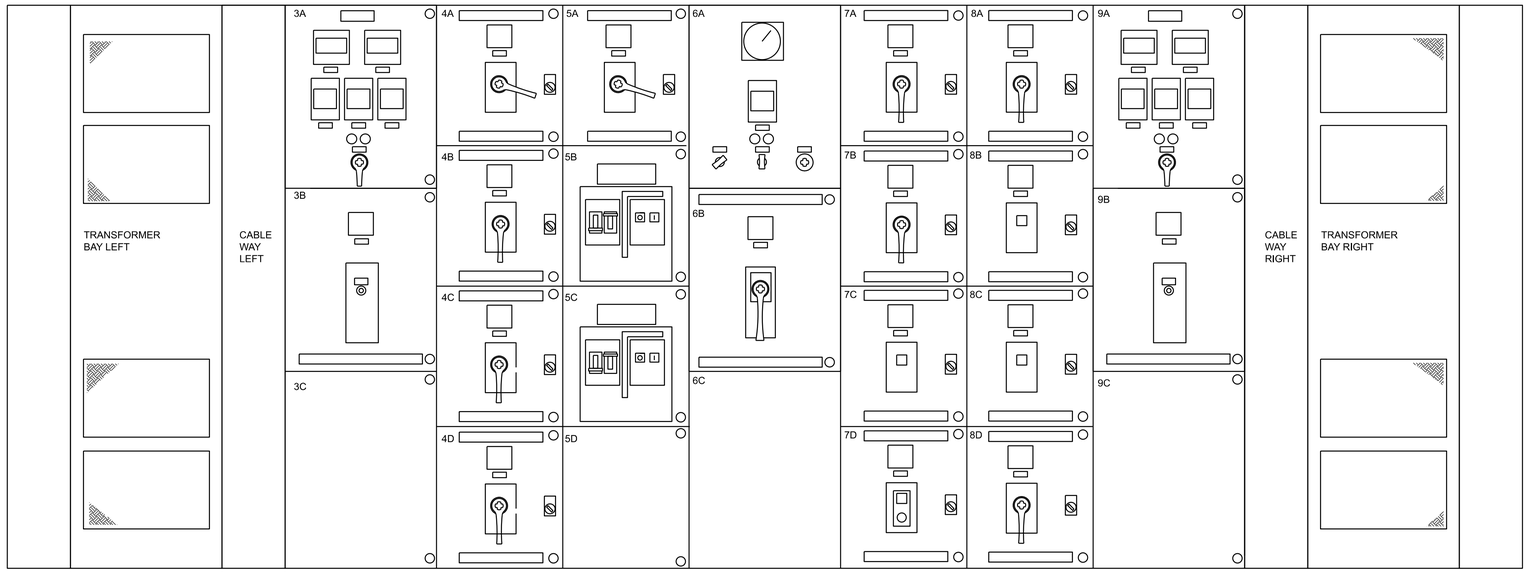
CABLE & CONDUIT SCHEDULE
SHEET 9 OF 9
INSTALL

SHEET ID
VOLUME 1
E-809

FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
3. 480V EQUIPMENT /LOADS TO REMAIN IN SERVICE DURING REPLACMENT, UNLESS OTHERWISE NOTED. FOR EXISTING LOADS TO REMAIN, PULL BACK CONDUIT AND WIRE AS REQUIRED TO FACILITATE REMOVAL OF EXISTING AND INSTALLATION OF NEW SWITCHGEAR.



G3 SQO 480V SUBSTATION ELEVATIONS - REMOVAL, EL 542

SCALE: 1" = 1'-0"

SWITCHGEAR SQO 480V SUBSTATION - NAMEPLATE AND EQUIPMENT SCHEDULE			
UNIT	**NAMEPLATE SCHEDULE**	**DESCRIPTION OF EQUIPMENT**	**CIRCUIT DESIGNATION**
CABLE WAY LEFT	4.16 KV FDR BUS 1		
CABLE WAY LEFT	TRANS BUS 1		
XFMR BAY LEFT	TRANS BUS 1		
XFMR BAY LEFT	TAP CHANGER INSIDE		
3A	POT TRANS RELAYS BUS 1	AUX. RELAY 27-1 X1	SQO-q1-PT3A
	VOLTAGE RELAY 27-1	AUX. RELAY 27-1 X2	
	GROUND RELAY 64-1	AUX RELAY 52-1Z	
	BUS 1 SUPPLY BREAKER		
3B	BUS 1 SUPPLY BREAKER		SQO-q1-XQB3
3C	EMPTY		SQO-q1-_?_1
4A	CQO1 480 V CONTROL CENTER	NEED TO RESET SOLENOID INSIDE AFTER BREAKER TRIP	SQO-q1-CQO1
4B	CQO2 480 V CONTROL CENTER	NEED TO RESET SOLENOID INSIDE AFTER BREAKER TRIP	SQO-q1-CQO2
4C	CQO3 480 V CONTORL CENTER	NEED TO RESET SOLENOID INSIDE AFTER BREAKER TRIP	SQO-q1-CQO3
4D	CQO4 480V CONTROL CENTER	NEED TO RESET SOLENOID INSIDE AFTER BREAKER TRIP	SQO-q1-CQO4
5A	CQO5 480 V CONTROL CENTER	NEED TO RESET SOLENOID INSIDE AFTER BREAKER TRIP	SQO-q1-CQO5
5B	CRANE MAIN FEED BREAKER 480 VOLT - 5B BRIDGE CRANE SUPPLY	CRAINE 5B MAIN FEEDER BREAKER 480V	SQO-q1-XQKC
5C	FWM MCC 480V FEEDER BREAKER	FWM MCC 480V FEEDER BREAKER	SQO-q1-MCC
5D	EMPTY		
6A	CONTROL BREAKERS		SQOA6-c1
	BUS VOLTMETER		
	AUX. RELAY 52-3 Z		
	TRANSFER CONTROL 43		
	BUS TIE BREAKER		
	VOLTMETER SWITCH		

SWITCHGEAR SH 480V SUBSTATION - NAMEPLATE AND EQUIPMENT SCHEDULE			
UNIT	**NAMEPLATE SCHEDULE**	**DESCRIPTION OF EQUIPMENT**	**CIRCUIT DESIGNATION**
6B	BUS TIE BREAKER	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQOB6-c1
6C	EMPTY		
7A	CQO1 480V CONTROL CENTER	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQO-q2-CQO1
7B	CQO2 480V CONTROL CENTER	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQO-q2-CQO2
7C	METAL STORAGE BLDG	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQO-q2-XQ7C
7D	CQO4 480V CONTROL CENTER	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQO-q2-CQO4
8A	CQO5 480V CONTROL CENTER	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQO-q2-CQO5
8B	480V OUTLETS TRAVELING BAYS 1 & 2	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQO-q2-XQ8B
8C	CQO6 480V CONTROL CENTER	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQO-q2-CQO6
8D	FISHWAY PANEL BOARDS/FCQ1 & FCQ2	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQO-q2-F8B
9A	POT TRANS RELAY BUS 2		SQO-q2-PT9A
	VOLTAGE RELAY 27-2		
	GROUND RELAY 63-2		
	AUX. RELAY 27-2 X1		
	AUX. RELAY 27-2 X2		
	AUX. RELAY 52 Z		
	BUS 2 SUPPLY BREAKER		
9B	BUS 2 SUPPLY BREAKER	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQO-q2-XQ9B
9C	EMPTY		
XFMR BAY RIGHT	TRANS BUS 1		
XFMR BAY RIGHT	TAP CHANGER INSIDE		
CABLE WAY RIGHT	4.16 KV FDR BUS 1		
CABLE WAY RIGHT	TRANS BUS 1		

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MARK	DESCRIPTION	DATE

DESIGNED BY: V. LE
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-1D411
FILENAME: V2-LGP1.002-ED201.dgn

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

480V SUBSTATION SQO
ELEVATION VIEW
REMOVAL

SHEET ID
VOLUME 2
ED201

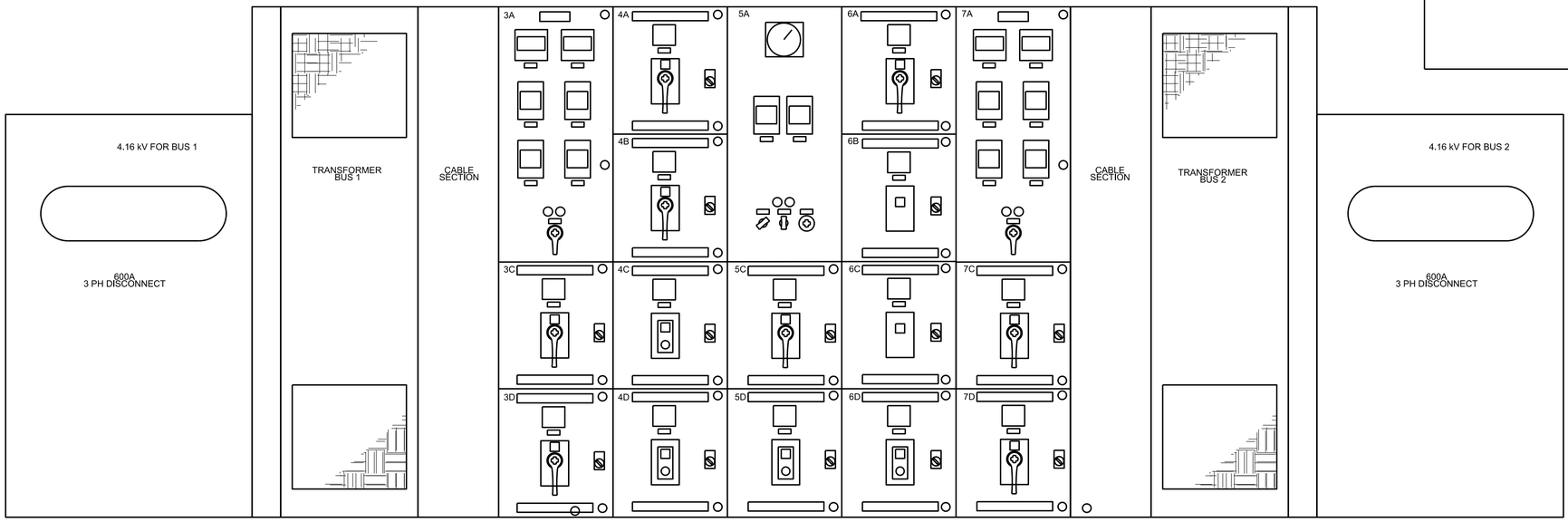
FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. PROVIDE TEMPORARY POWER TO ALL LOADS REQUIRED TO BE OPERATIONAL DURING EQUIPMENT REMOVAL AND REPLACEMENT.
3. 480V EQUIPMENT/LOADS TO REMAIN IN SERVICE DURING REPLACEMENT OF EQUIPMENT, UNLESS OTHERWISE NOTED. FOR EXISTING LOADS TO REMAIN, PULL BACK CONDUIT AND WIRE AS REQUIRED TO FACILITATE REMOVAL OF EXISTING AND INSTALLATION OF NEW SWITCHGEAR.

REFERENCE DRAWINGS

DRAWING NO	TITLE
575F382	SUBSTATION SQ1 - LOW VOLTAGE SWITCHGEAR 480 VOLT - SECTIONAL VIEWS & NP DATA, BARRIER PLATE LAYOUT



G3 SQ1 480V SUBSTATION ELEVATION - REMOVAL, EL 542

SCALE: 1" = 1'-0"

0 1' 2'

SWITCHGEAR SQ1 480V SUBSTATION - NAMEPLATE AND EQUIPMENT SCHEDULE			
UNIT	**NAMEPLATE SCHEDULE**	**NAMEPLATE SCHEDULE**	**CIRCUIT DESIGNATION**
XFMR BAY LEFT	4.16 KV FDR BUS 1	FED FROM XP19 - 600A 4160V	
CABLE WAY LEFT	TRANS BUS 1		
3A	POT. TRANS. RELAYS BUS 1		SQ1-q1-PT3A
	VOLTAGE RELAY 2701		
	GROUND RELAY 64-1		
	AUX. RELAY 27-1 X1		
	AUX. RELAY 27-1 X2		
	AUX. RELAY 52-1 Z		
	AUX. RELAY 52-1X		
	BUS 1 SUPPLY BREAKER		
3C	BUS 1 SUPPLY BREAKER	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ1-q1-XQ3C
3D	T1 TRANS COOLING FDR 1	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ1-q1-XQ3D
4A	SU1 480V CONTROL CENTER	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ1-q1-XQ4A
4B	SU2 480V CONTROL CENTER	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ1-q1-XQ4B
4C	SU3 480V CONTROL CENTER	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ1-q1-XQ4C
4D	SU4 CONTROL CENTER FEEDER 1	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ1-q1-XQ4D
5A	CONTROL BREAKERS	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ1-q1
	BUS VOLTMETER		
	AUX. RELAY 52-3 Z		
	AUX. RELAY 52-3 X		
	SQ1 480V SUBSTATION		
	TRANSFER CONTROL 43		
	BUS TIE BREAKER		
	VOLTMETER SWITCH		

SWITCHGEAR SQ1 480V SUBSTATION - NAMEPLATE AND EQUIPMENT SCHEDULE			
UNIT	**NAMEPLATE SCHEDULE**	**NAMEPLATE SCHEDULE**	**CIRCUIT DESIGNATION**
5C	BUS TIE BREAKER	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ1-q1-XQ5C
5D	480 V OUTLET FOR TRAVELING SCREENS BAY 3	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ1-q1-XQ5D
6A	SU1 480V CONTROL CENTER	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ1-q2-XQ6A
6B	SU2 480V CONTROL CENTER	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ1-q2-XQ6B
6C	SU3 480V CONTROL CENTER	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ1-q2-XQ6C
6D	SU4 CONTROL CENTER FEEDER 2	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ1-q2-XQ6D
7A	POT. TRANS. BUS 2	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ1-q2-XQ7A
	VOLTAGE RELAY 27-2		
	GROUND RELAY 64-2		
	AUX. RELAY 27-2 X1		
	AUX. RELAY 27-2 X2		
	AUX. RELAY 52-Z		
	AUX RELAY 52		
	BUS 2 SUPPLY BREAKER		
7C	BUS 2 SUPPLY BREAKER	THIS CELL IS EQUIPPED WITH KEY INTERLOCK NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ1-q2-XQ7C
7D	TRANS T1 COOLING FDR 2	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ1-q2-XQ7D
CABLE WAY RIGHT	TRANS BUS 2		
XFMR BAY RIGHT	4.16 KV FDR BUS 2	FED FROM XP20 - 600A 4160V	

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MARK	DESCRIPTION	DATE

DESIGNED BY: V. LE
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: SUZANNE STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-1D413
FILE NAME: V2-LGP1.002-ED202.dgn

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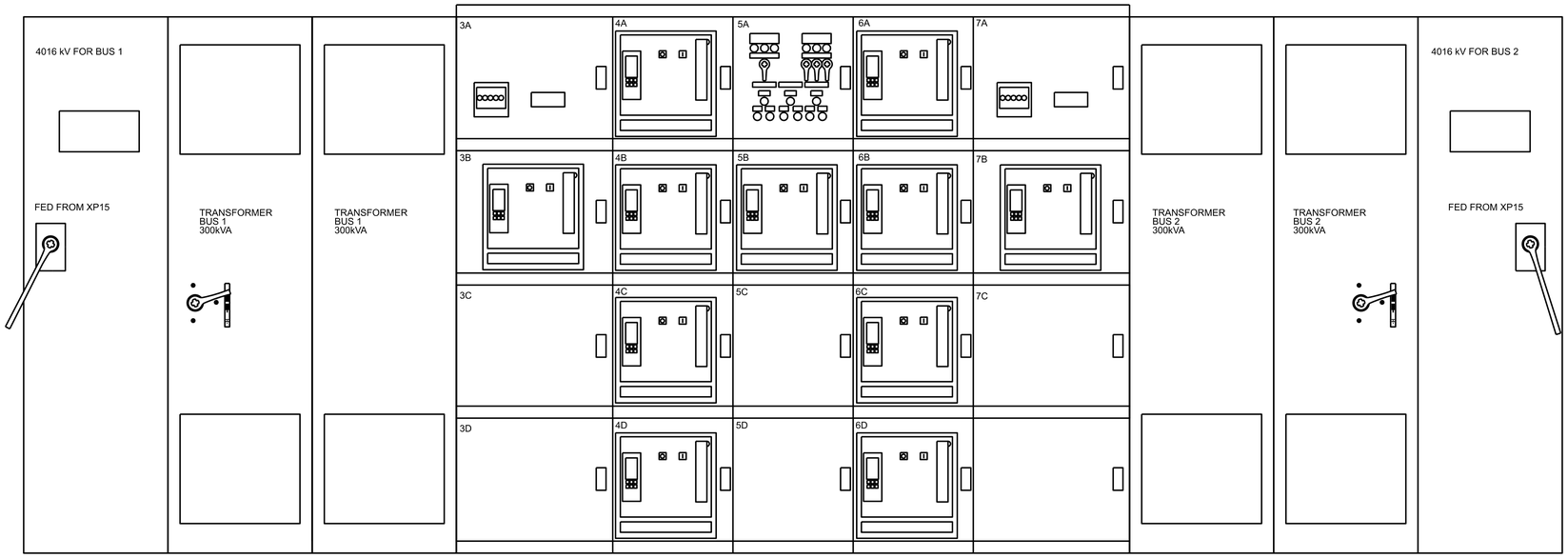
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

480V SUBSTATION SQ1
ELEVATION VIEW
REMOVAL

SHEET ID
VOLUME 2
ED202

FINAL



GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED BY CONTRACTOR
2. PROVIDE TEMPORARY POWER TO ALL LOADS REQUIRED TO BE OPERATIONAL DURING EQUIPMENT REMOVAL AND REPLACEMENT.
3. 480V EQUIPMENT/LOADS TO REMAIN IN SERVICE DURING REPLACEMENT OF EQUIPMENT, UNLESS OTHERWISE NOTED. FOR EXISTING LOADS TO REMAIN, PULL BACK CONDUIT AND WIRE AS REQUIRED TO FACILITATE REMOVAL OF EXISTING AND INSTALLATION OF NEW SWITCHGEAR.

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-9-6-13/22	SQ2 MOTOR CONTROL UPGRADE PROJECT INSTALLED QED6 SWITCHBOARD FRONT ELEVATION
LGP-9-6-13/23	SQ2 MOTOR CONTROL UPGRADE PROJECT INSTALLED QED6 SWITCHBOARD TOP VIEW & FLOOR PLAN
LGP-9-6-13/24	SQ2 MOTOR CONTROL UPGRADE PROJECT INSTALLED QED6 SWITCHBOARD SIDE VIEW
LGP-9-6-13/25	SQ2 MOTOR CONTROL UPGRADE PROJECT INSTALLED QED6 SWITCHBOARD GENERAL NOTES

G1 SQ2 480V SUBSTATION ELEVATION - REMOVAL, EL 542

SCALE: 1" = 1'-0"

0 1' 2'

SWITCHGEAR SQ2 480V SUBSTATION - NAMEPLATE AND EQUIPMENT SCHEDULE

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	CIRCUIT DESIGNATION
CABLE WAY LEFT	4.16 KV FDR BUS 1	FED FROM XP15 - 600A 4160V	
XFMR BAY LEFT	TRANS BUS 1		
XFMR BAY LEFT	TAP CHANGER INSIDE		
3A	POT. TRANS. RELAYS BUS 1 50/51 AMPS		SQ2-q1-PT3A
3B	MAIN PRINCIPAL	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ2-q1-XQ3B
3C	EMPTY	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ2-q1-XQ3C
3D	CONTROL TRANSFORMER	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ2-q1-XQ3D
4A	SU5	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ2-q1-XQ4A
4B	SU6	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ2-q1-XQ4B
4C	T2 FANS	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ2-q1-XQ4C
4D	FISH SCREENS	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ2-q1-XQ4D
5A	SQ 2	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ2-q2
	PLC OPERATION - AUTO MANUAL AUTO FIAL		
	TRANSFORMER TEST MORNAL TTL - TTR		
	MAIN AND CONTROL POWER LEFT SOURCE, CHK UPS OR PLC BATT, RIGHT SORCE		
	PREFERRED SOURCE OF LEFT - RIGHT		
	AUTO - MAN		
	TETRANSFER - OFF - ON		
	LEFT MAIN BREAKER		
	TIE BREAKER		
	RIGHT MAIN BREAKER		
	OPEN, FAULT, CLOSED	OPENx3, CLOSEDx3, FALUTx3 SMALLER NAME PLATES	

SWITCHGEAR SQ2 480V SUBSTATION - NAMEPLATE AND EQUIPMENT SCHEDULE

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	CIRCUIT DESIGNATION
5B	TIE BREKER	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ2-q2-XQ5B
5C	EMPTY	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ2-q2-XQ5C
5D	UPS	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ2-q2-XQ5D
6A	SU5	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ2-q2-XQ6A
6B	SU6	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ2-q2-XQ6B
6C	T2 FAN	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ2-q2-XQ6C
6D	100 TON CRANE	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ2-q2-XQ6D
7A	RELAYS 50/51 AMPS		SQ2-q2
7B	MAIN BREAKER - PRINCIPAL	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	SQ2-q2-XQ7B
7C	EMPTY	NEED TO RESET SOLENIOD INSIDE AFTER BREAKER TRIP	
7D	CONTROL TRANSFORMER		SQ2-q2-XQ7D
XFMR BAY RIGHT	TAP CHANGER INSIDE		
XFMR BAY RIGHT	TRANS BUS 2		
CABLE WAY RIGHT	4.16 KV FDR BUS 2	FED FROM XP16 - 600A 4160V	

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MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
V. LE	AUGUST 2022
DRAWN BY:	SOLICITATION NO.:
M. FLANAGAN	W912EF22R0001
CHECKED BY:	CONTRACT NO.:
K. SELLERS	
SUBMITTED BY:	DRAWING NUMBER:
VANT STERLING, P.E.	LGP-1.002-6-11D45
SIZE:	FILE NAME:
ANSI D	V2-LGP1.002-ED203.dgn

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POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

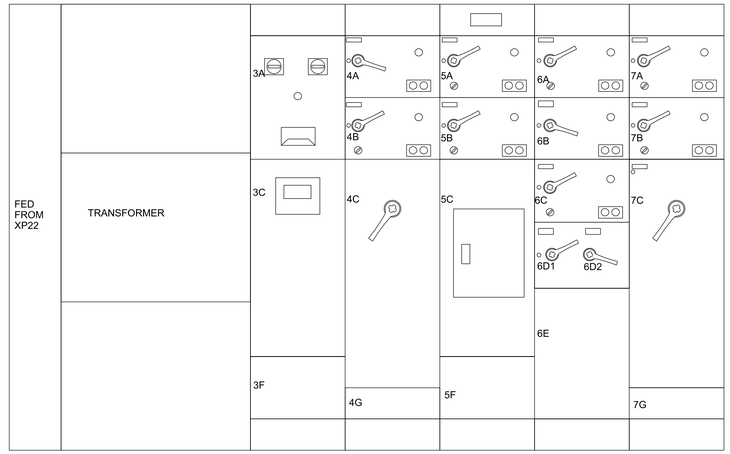
480V SUBSTATION SQ2
ELEVATION VIEW
REMOVAL

SHEET ID
VOLUME 2
ED203

FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. PROVIDE TEMPORARY POWER TO ALL LOADS REQUIRED TO BE OPERATIONAL DURING EQUIPMENT REMOVAL AND REPLACEMENT.
3. 480V EQUIPMENT/LOADS TO REMAIN IN SERVICE DURING REPLACEMENT OF EQUIPMENT, UNLESS OTHERWISE NOTED. FOR EXISTING LOADS TO REMAIN, PULL BACK CONDUIT AND WIRE AS REQUIRED TO FACILITATE REMOVAL OF EXISTING AND INSTALLATION OF NEW SWITCHGEAR.



F13 SH 480V SUBSTATION ELEVATION - REMOVAL, EL 542

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

120VAC PANEL BOARD		
UNIT	NAMEPLATE SCHEDULE	CIRCUIT DESIGNATOR
L1	UNIT #1	SH-C1
L2	UNIT #2	
L3	COMPRESSOR 2	
L4	COMPRESSOR 1	
L5	SPARE	
L6	SPARE	
L7	INTER COOLING PUMP	
L8	MASTER CONTROL	SH-C8
L9	UNIT CONDENSOER UC-3	
L10	SPARE	

SWITCHGEAR SH 480V SUBSTATION - NAMEPLATE AND EQUIPMENT SCHEDULE			
UNIT	**NAMEPLATE SCHEDULE**	**DESCRIPTION OF EQUIPMENT**	**CIRCUIT DESIGNATION**
3A	HEAT PUMP MASTER SWITCH	HEAT PUMP MASTER SWITCH, TIMER METER HEAT PUMP #2, PUMP#1	
3C	POT TRANS GROUND RELAY	POTENTIAL TRANSFORMER GROUND RELAY	
3F	EMPTY		
4A	SPARE		
4B	CIRCULATING WTR PMP P-4	CIRCULATING WATER PUMP P-4 BREAKER	SH-Q2
4C	COMPRESSOR UNIT #2	COMPRESSOR UNIT #2 BREAKER	SH-Q4
4G	SPACE		
5A	HEAT PMP SUPPLY, WATER PMP P-3	HEAT PUMP SUPPLY WATER PUMP P-3 BREAKER	SH-Q3
5B	UNIT CONDITIONER UC.3	UNIT CONDITIONER UC.3 BREAKER	SH-Q10
5C	CONTROL BREAKERS	CONTROL BREAKERS	
5F	SPACE		
6A	BOOSTER WATER PMP-5	BOOSTER WATER P-5 BREAKER	SH-Q11
6B	SPARE	BUS 2	
6C	CIRCULATING WTR PMP P-2	CIRCULATING WATER PUMP P-2 BREAKER	SH-Q9
6D1	CONTROL TRANS SUPPLY	CONTROL TRANSFORMER SUPPLY BREAKER	
6D2	SPARE		
6E	480-120V XFMR	480V-120V TRANSFORMER	
7A	HEAT PUMP SUPPLY WATER P-1	HEAT PUMP SUPPLY WATER PUMP P-1 BREAKER	SH-Q8
7B	INTER COOLING PMP P-6	INTER COOLING WATER PUMP P-6	SH-Q1
7C	COMPRESSOR UNIT #1	COMPRESSOR UNIT #1 STARTER AND BREAKER	SH-Q7
7G	SPACE		

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MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: LIAM STEDMAN, P.E.
SIZE: FILENAME: L8P-1.1002-6-1D417
ANSI D V24.GP1.1002-ED204.dgn
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EP22R0001
CONTRACT NO.:
DRAWING NUMBER: L8P-1.1002-6-1D417

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SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

480V SUBSTATION SH
ELEVATION VIEW
REMOVAL

SHEET ID
VOLUME 2
ED204

FINAL

GENERAL NOTES

1. BOLD ITEMS TO INDICATE EQUIPMENT TO BE REMOVED BY CONTRACTOR.

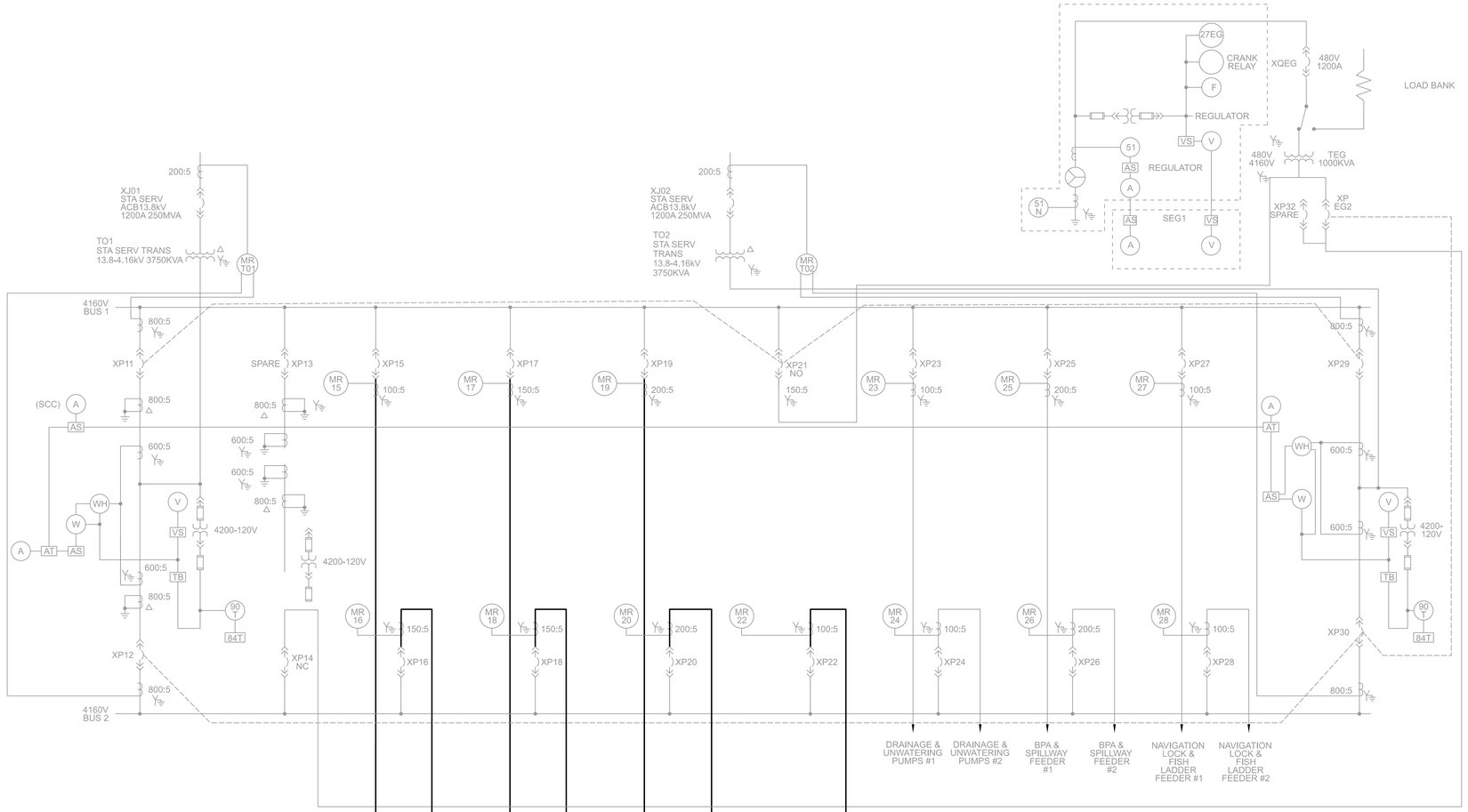
LEGEND

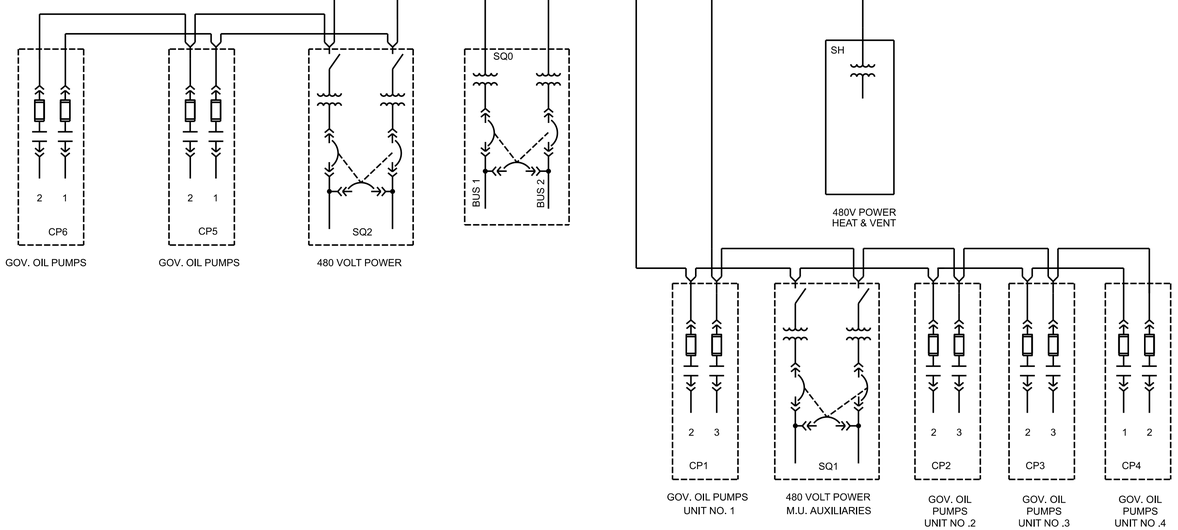
EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.9-6-1A21/1	ONE LINE DIAGRAM - STATION SERVICE





A1 STATION SERVICE 4160 VAC - REMOVAL

SCALE: NTS

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MARK	DESCRIPTION	DATE

DESIGNED BY: V. LE
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JOHN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-1D21/1
FILE NAME: V2-LGP1.002-ED601.dgn

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

STATION SERVICE - SP
ONE LINE DIAGRAM
REMOVAL

SHEET ID
VOLUME 2
ED601

FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
3. PULL BACK CONDUCTORS AND REMOVE CONDUIT SUFFICIENT TO REMOVE EQUIPMENT.
4. RETAIN EXISTING CONDUIT FOR RE-USE WHERE INDICATED.

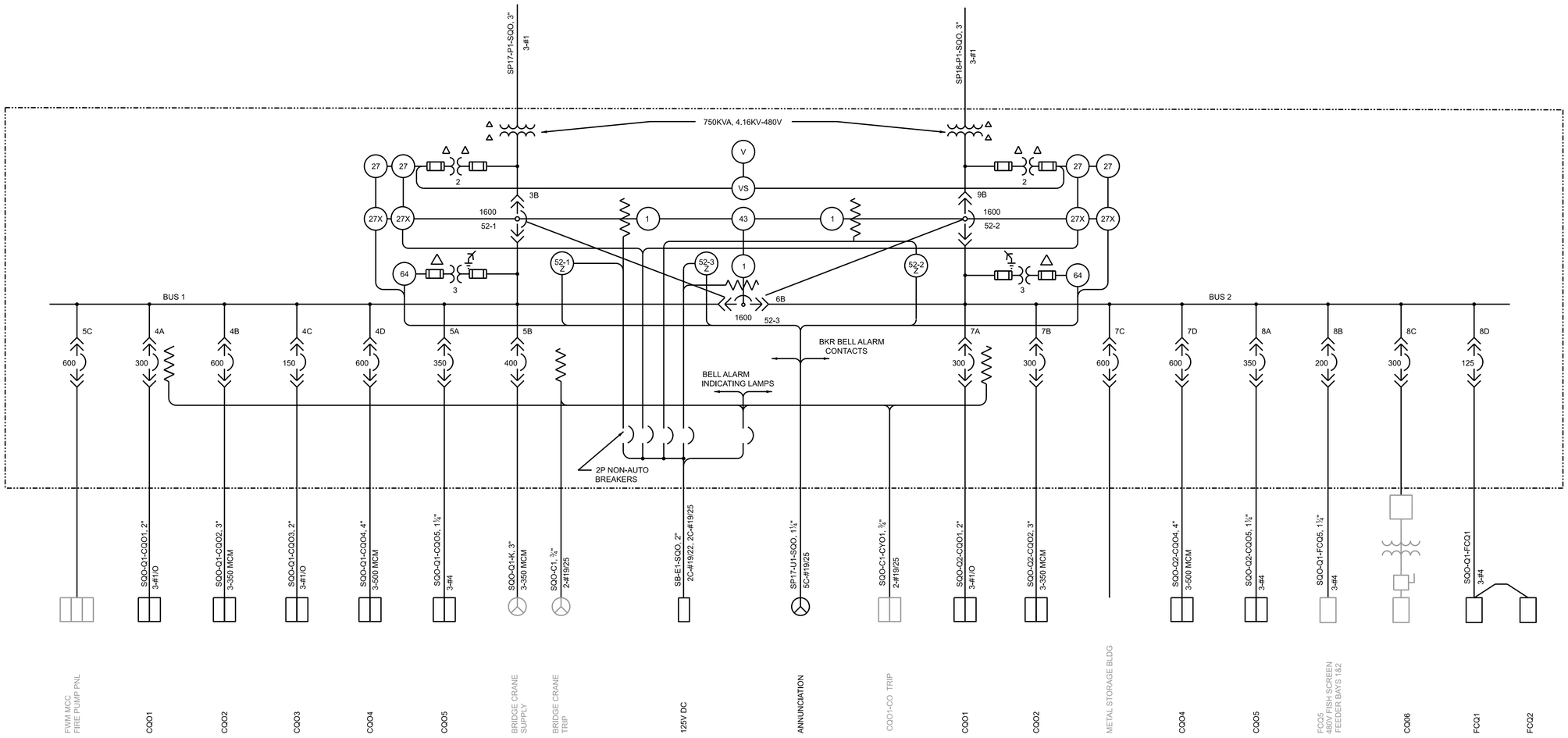
LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
575F378	SUBSTATION SQ0 - LOW VOLTAGE SWITCHGEAR 480 VOLT - ONE LINE DIAGRAM, FRONT VIEW, BILL OF MATERIAL
LGP-1.1-6-1D21/1	POWERHOUSE - ONE LINE DIAGRAM - SQ0, SQ1 & CPO



A1 EXISTING SWITCHBOARD SQO - REMOVAL

SCALE: 1"=1" FULL SIZE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-1D21/3

DESIGNED BY: V. LE
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: L. VAN STEDUM, P.E.
SIZE: ANSI D
FILE NAME: V2-LGP1.002-ED602.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQO
ONE LINE DIAGRAM
REMOVAL

SHEET ID
VOLUME 2
ED602

FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
3. PULL BACK CONDUCTORS AND REMOVE CONDUIT SUFFICIENT TO REMOVE EQUIPMENT
4. RETAIN EXISTING CONDUIT FOR RE-USE WHERE INDICATED.

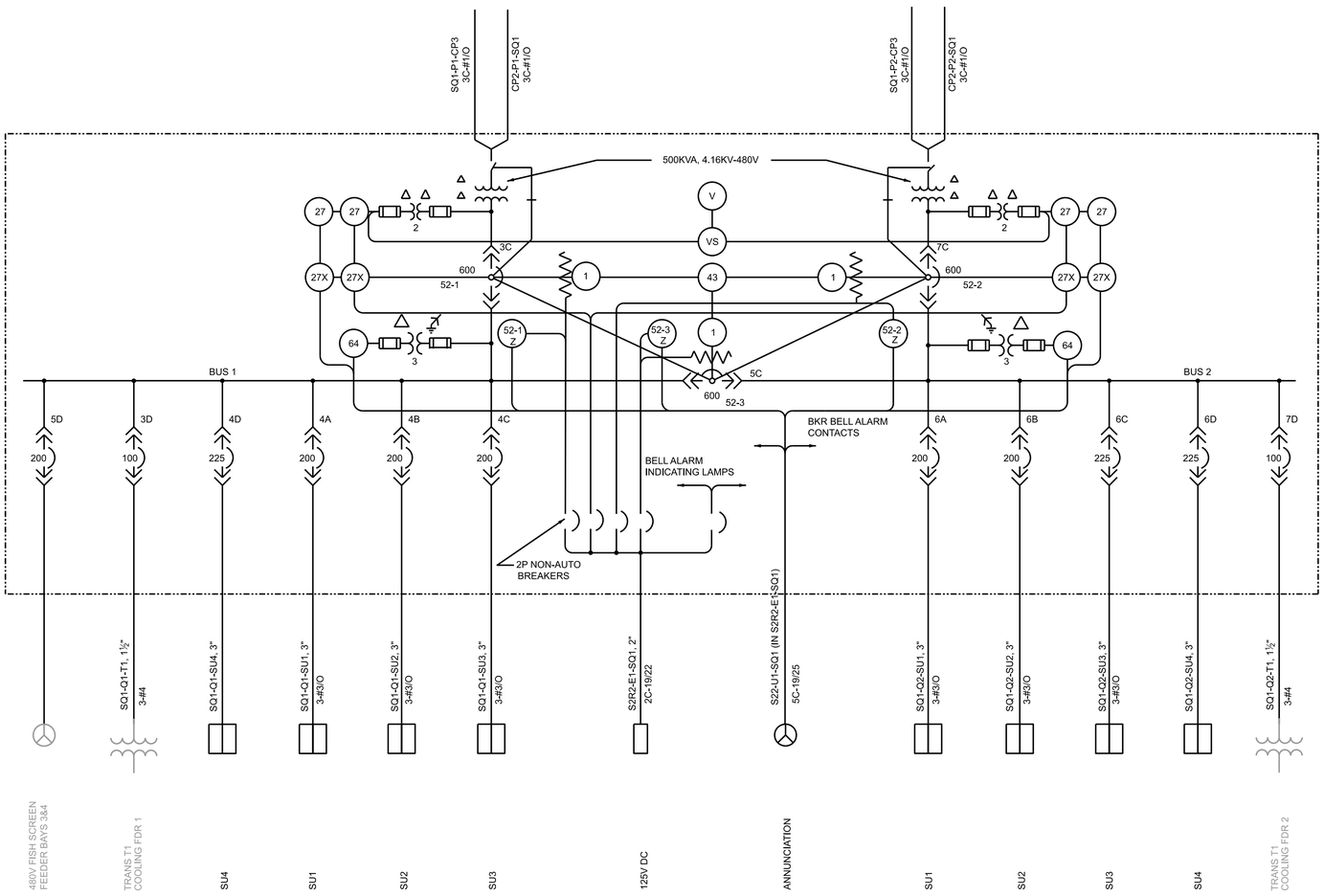
LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1D21/1	POWERHOUSE - ONE LINE DIAGRAM - SQ0, SQ1 & CPO
LGP-1.1-6-1A8/2	480 VOLT SUBSTATION SQ1, FRONT VIEW & ONE LINE DIAGRAM CONTROL SOURCE DISTRIBUTION
LGP-1.9-6-1G21/1	ONE LINE DIAGRAM SQ1 & SQ2
575F381	SUBSTATION SQ1 - LOW VOLTAGE SWITCHGEAR 480 VOLTS - ONE LINE DIAGRAM, FRONT VIEW, BILL OF MATERIAL



A7 EXISTING SWITCHBOARD SQ1 - REMOVAL

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-6-1D21/5
DESIGNED BY:	V. LE
DRAWN BY:	M. FLANAGAN
CHECKED BY:	K. SELLERS
SUBMITTED BY:	L. VAN STEDUM, P.E.
FILE NAME:	LGP1.002-ED603.dgn
SIZE:	ANSI D

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQ1
ONE LINE DIAGRAM
REMOVAL

SHEET ID
VOLUME 2
ED603

FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
3. PULL BACK CONDUCTORS AND REMOVE CONDUIT SUFFICIENT TO REMOVE EQUIPMENT
4. RETAIN EXISTING CONDUIT FOR RE-USE WHERE INDICATED.

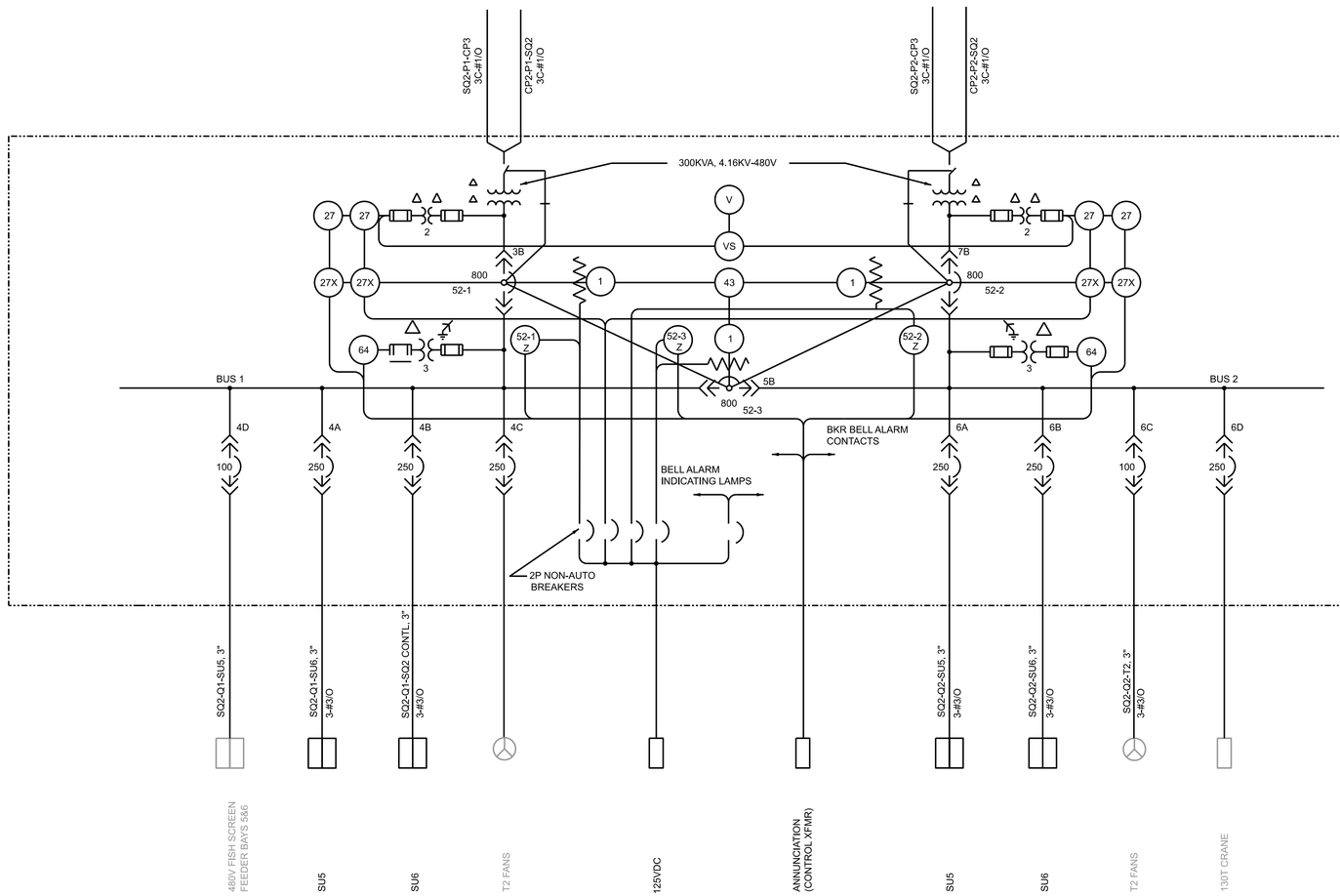
LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-9-6-13/28	SQ2 MOTOR CONTROL UPGRADE PROJECT INSTALLED QED6 SWITCHBOARD ONE LINE
LGP-1.9-6-1G21/1	ONE LINE DIAGRAM SQ1 & SQ2



A7 EXISTING SWITCHBOARD SQ2 - REMOVAL

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: V. LE
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0022-6-1D2.177
FILE NAME: V2-LGP1.0022-ED604.dgn

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQ2
ONE LINE DIAGRAM
REMOVAL

SHEET ID
VOLUME 2
ED604

FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
3. PULL BACK CONDUCTORS AND REMOVE CONDUIT SUFFICIENT TO REMOVE EQUIPMENT
4. RETAIN EXISTING CONDUIT FOR RE-USE WHERE INDICATED.

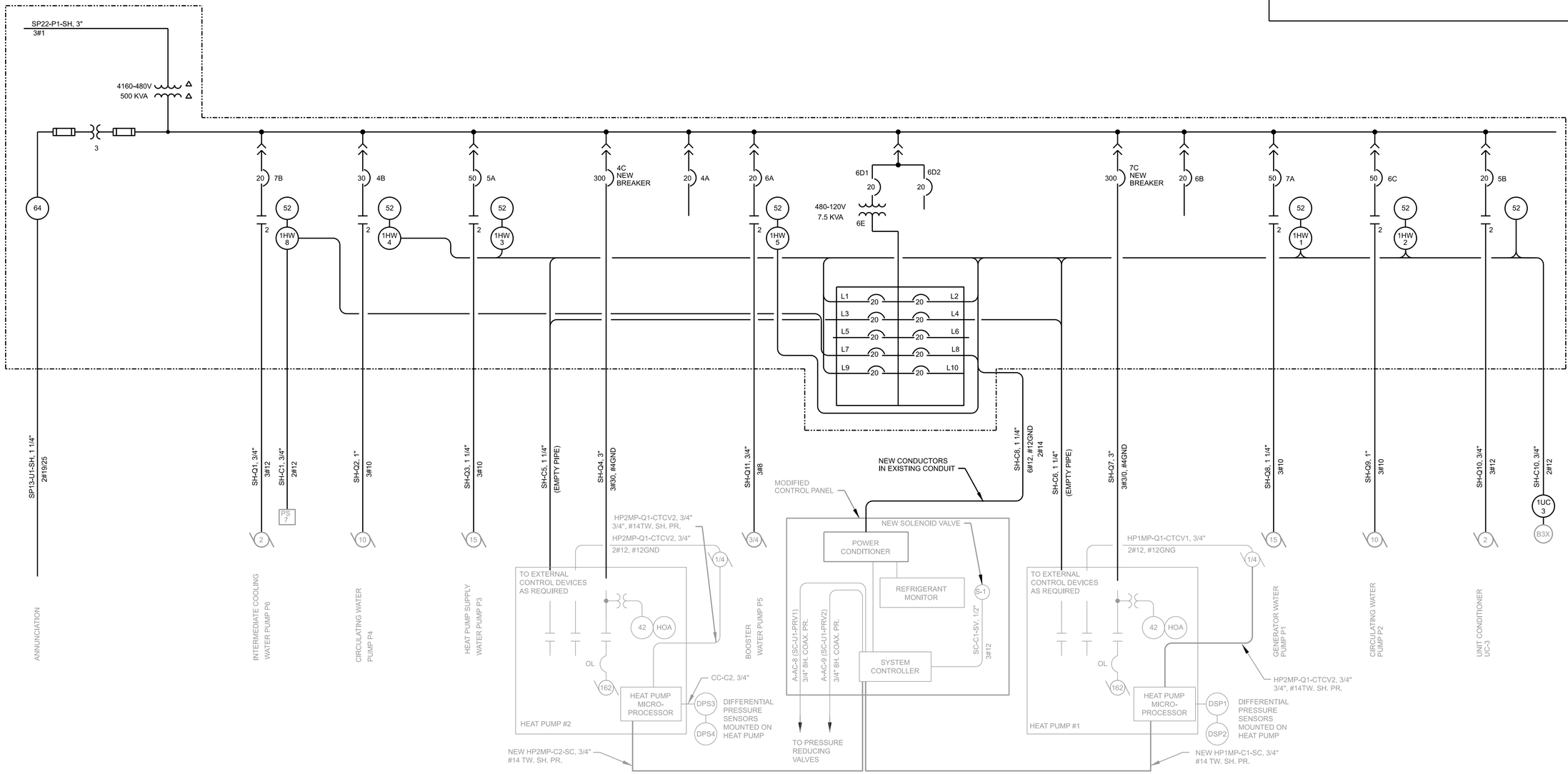
LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1-6-18/4	HEAT PUMPS REPLACEMENT MCC SH ONE-LINE DIAGRAM ELECTRICAL MODIFICATIONS



A1 MCC SH SINGLE LINE DIAGRAM - REMOVAL
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1-002-6-1D2-19
DESIGNED BY:	S. SCHEIFF
DRAWN BY:	M. FLANAGAN
CHECKED BY:	K. SELLERS
SUBMITTED BY:	LI VAN STEDUM, P.E.
SIZE:	D
ANSI D	V2-LGP1 002-ED605.dgn

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SH
ONE LINE DIAGRAM
REMOVAL

SHEET ID
VOLUME 2
ED605

FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
3. PULL BACK CONDUCTORS AND REMOVE CONDUIT SUFFICIENT TO REMOVE EQUIPMENT
4. RETAIN EXISTING CONDUIT FOR RE-USE WHERE INDICATED.

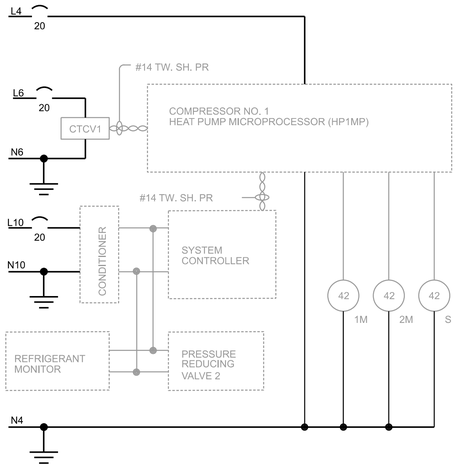
LEGEND

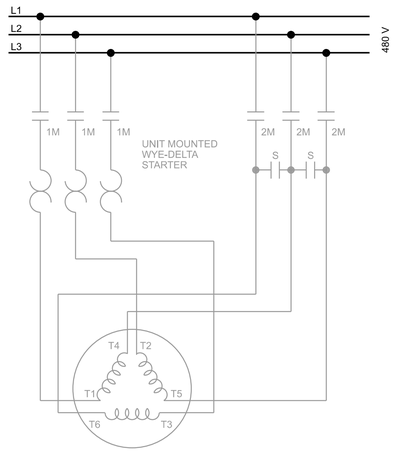
EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

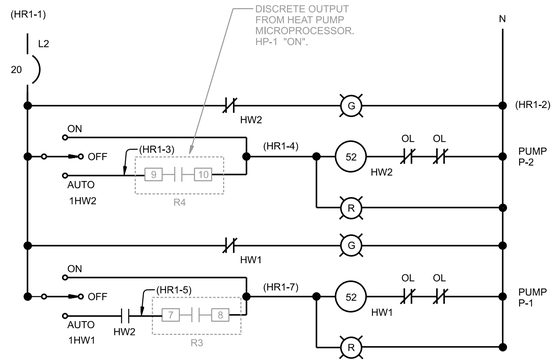
DRAWING NO	TITLE
LGP-1-6-18/4	HEAT PUMPS REPLACEMENT MCC SH ONE-LINE DIAGRAM ELECTRICAL MODIFICATIONS
LGP-1-6-18/5	HEAT PUMPS REPLACEMENT CONTROL WIRING DIAGRAMS I MODIFICATIONS
LGP-1-6-18/6	HEAT PUMPS REPLACEMENT CONTROL WIRING DIAGRAMS II MODIFICATIONS
LGP-1.1-6-1A24/1	AIR CONDITIONING SYSTEM CONTROL DIAGRAMS, PRECIPITRON, SF1, RF1&4, UC-1,2,3, P-6,8, EF2, 4, 11





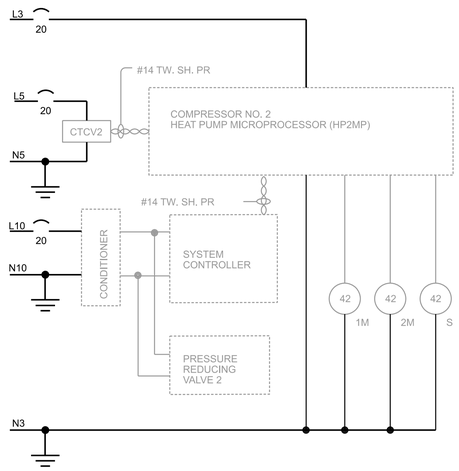
K1 HEAT PUMP NO. 1 (SH) - REMOVAL

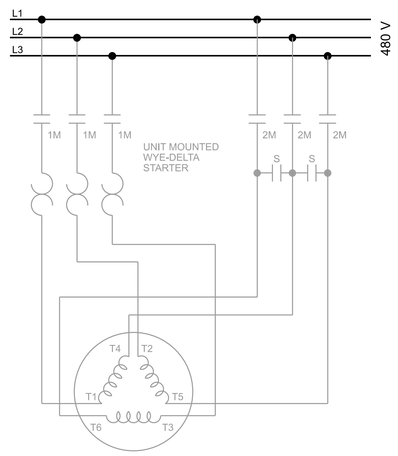
SCALE: NTS



K10 HEAT PUMP SYSTEM NO. 1, P-1, P-2 (SH) - REMOVAL

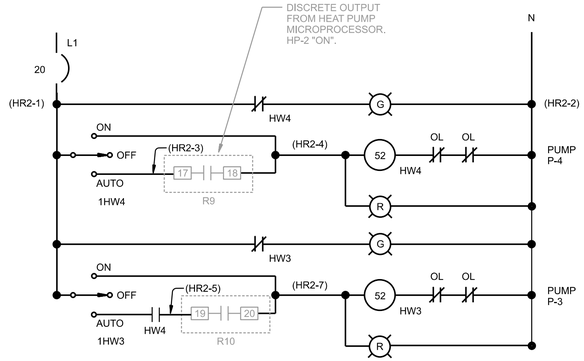
SCALE: NTS





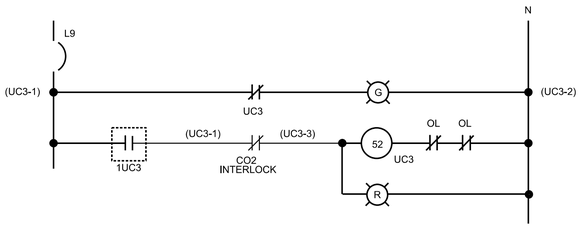
E1 HEAT PUMP NO. 2 (SH) - REMOVAL

SCALE: NTS



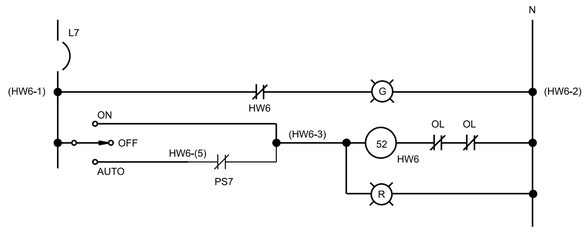
F14 HEAT PUMP SYSTEM NO. 2, P-3, P-4 (SH) - REMOVAL

SCALE: NTS



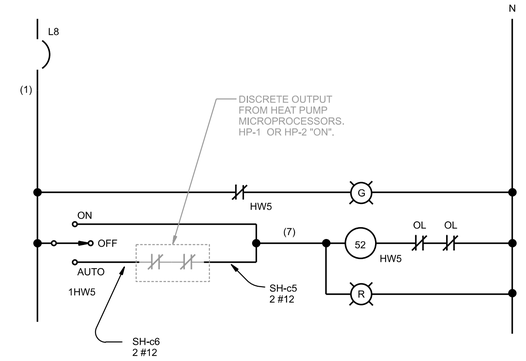
A1 UNIT CONDITIONER UC-3 (SH) - REMOVAL

SCALE: NTS



A7 INTERMEDIATE COOLING PUMP P-6 (SH) - REMOVAL

SCALE: NTS



A14 BOOSTER PUMP P-5 (SH) - REMOVAL

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: P. E.
JOINT STEERING: NAME:
SIZE: ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001

DRAWING NUMBER: LGP-1.0022-6-1D24/1
FILE NAME: V2-LGP1.0022-ED606.dgn

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SH MISC CONTROLS
CONTROL SCHEMATIC
REMOVAL

SHEET ID
VOLUME 2
ED606

FINAL

GENERAL NOTES

1. BOLD ITEMS TO INDICATE EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. THE STATION SERVICE ANNUNCIATION PANEL IS CURRENTLY NOT FUNCTIONAL.

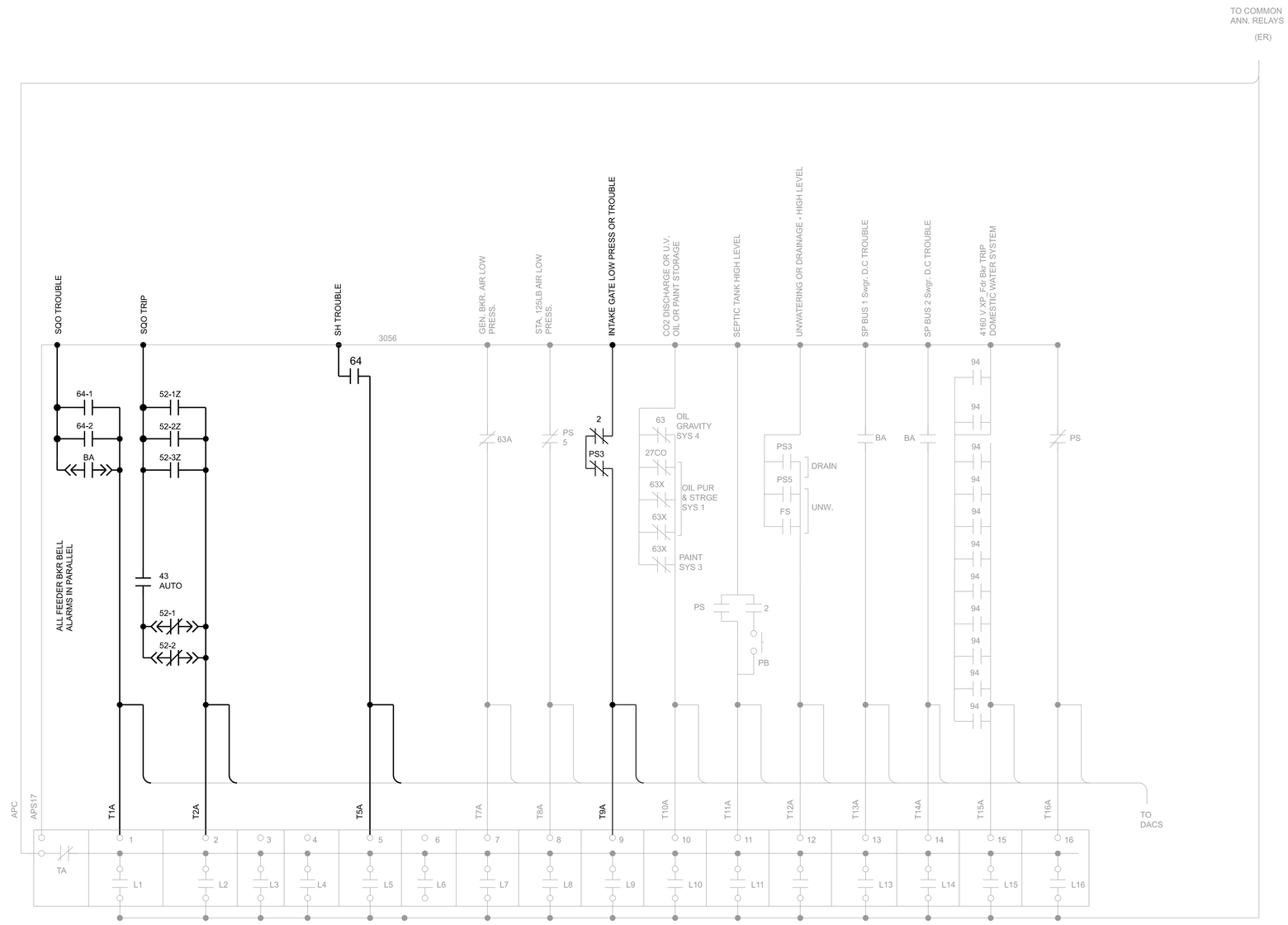
LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.22-6-9D31/1	SS ANN SCHEM DIAGRAM SH 1



A5 STATION SERVICE AUXILIARIES ANNUNCIATION (SP17) - REMOVAL

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	S. SCHEIFF
DRAWN BY:	E. HEDINE
CHECKED BY:	K. SELLERS
SUBMITTED BY:	
SUPV. STRUCT. ENGR.:	
SIZE:	
ANSI D	
ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.0022-6-1D31/1
FILE NAME:	V2-LGP1.0022-ED607.dgn

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

STATION SERVICE ANNUNCIATION
DEMO

SHEET ID
VOLUME 2
ED607

FINAL

NAMEPLATE LETTERING				
ITEM NO.	FIRST LINE	SECOND LINE	TRIP RATING (AMPS)	FRAME SIZE
1A	4.16KV SUPPLY, SURGE ARRESTOR	CABINET	X	X
2A	TQO.1 XFMR & HRG RESISTOR	BUS #1	X	X
3A	POT TRANS	BUS #1	X	X
3B	MAIN BREAKER	BUS #1	1600	2500
3C	SPARE		300	800
3D	SPARE		400	800
4A	CQO1	FEEDER #1	225	800
4B	CQO2	FEEDER #1	500	800
4C	CQO3	FEEDER	225	800
4D	CQO4	FEEDER #1	600	800
5A	CQO5	FEEDER #1	600	800
5B	600 TON BRIDGE CRANE	FEEDER	400	800
5C	FWM MCC	FEEDER	600	800
5D	SPARE		300	800

NAMEPLATE LETTERING				
ITEM NO.	FIRST LINE	SECOND LINE	TRIP RATING (AMPS)	FRAME SIZE
6A	BUS TIE	BREAKER	1600	2500
6B	CONTROL POWER BREAKERS, CESQO	METERING & RELAYING	X	X
A	BUS 1 VOLTMETER			
W	BUS 2 VOLTMETER			
D	BUS 1 MULTI-FUNCTION RELAY	TEST SWITCHES		
Z	BUS 2 MULTI-FUNCTION RELAY	TEST SWITCHES		
C	BUS 1 MULTI-FUNCTION RELAY	11SQO.1		
Y	BUS 2 MULTI-FUNCTION RELAY	11SQO.2		
6D	BUS TIE ISOLATION	BREAKER	1600	2500

NAMEPLATE LETTERING				
ITEM NO.	FIRST LINE	SECOND LINE	TRIP RATING (AMPS)	FRAME SIZE
7A	CQO1	FEEDER #2	225	800
7B	CQO2	FEEDER #2	500	800
7C	WSCQ1 (WELDING SHOP)	FEEDER	600	800
7D	CQO4	FEEDER #2	600	800
8A	SPARE		350	800
8B	FCQ5 (480V FISH SCREEN FEEDER BAYS 1&2)	FEEDER	200	800
8C	CQO6	FEEDER	300	800
8D	FCQ1	FEEDER	225	800
9A	POT TRANS	BUS #2	X	X
9B	MAIN BREAKER	BUS #2	1600	2500
9C	FCQ2	FEEDER	100	800
9D	SPARE		225	800
10A	TQO.2 XFMR & HRG RESISTOR	BUS #2	X	X
11A	4.16 KV SUPPLY, SURGE ARRESSTORS	CABINET	X	X

TS1 NAMEPLATE SCHEDULE

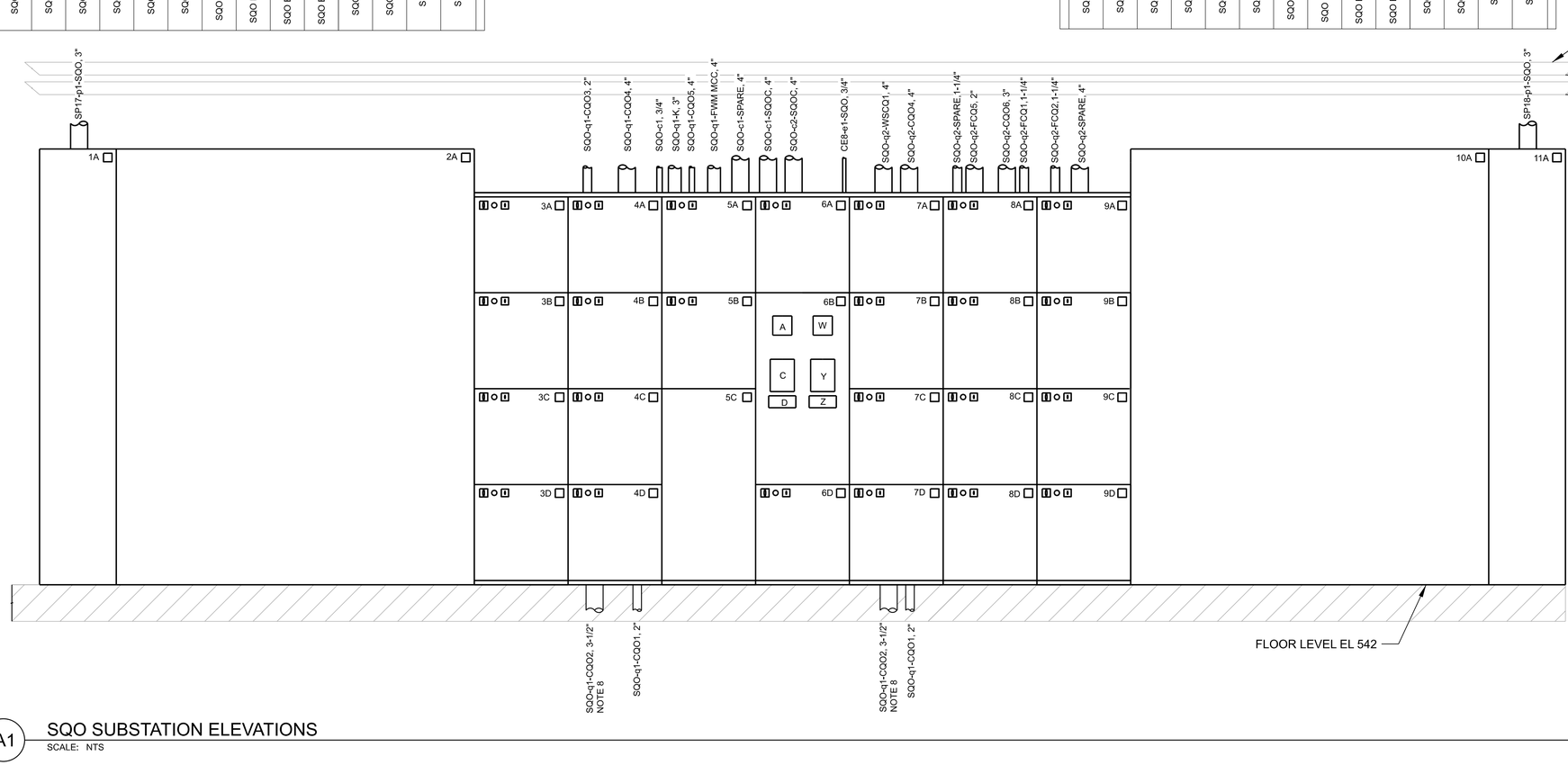
A	B	C	D	E	F	G	H	I	J	K	L	M	N
SQO.1_CT IA *	SQO.1_CT IA	SQO.1_CT IB *	SQO.1_CT IB	SQO.1_CT IC *	SQO.1_CT IC	SQO BUS 1 PT VA	SQO BUS 1 PT VB	SQO BUS 1 PT VC	SQO BUS 1 PT VN	SQO.1_CT N+	SQO.1_CT N-	SPARE	SPARE

TS2 NAMEPLATE SCHEDULE

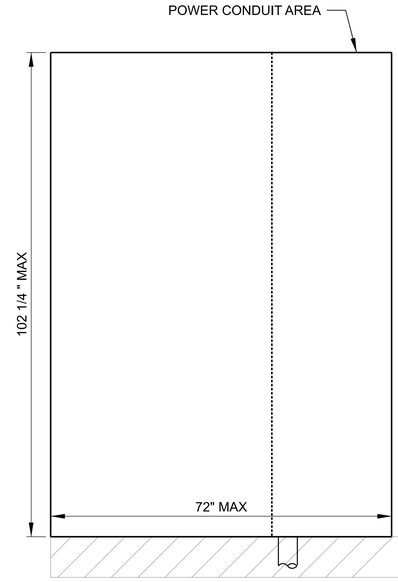
A	B	C	D	E	F	G	H	I	J	K	L	M	N
SQO.2_CT IA *	SQO.2_CT IA	SQO.2_CT IB *	SQO.2_CT IB	SQO.2_CT IC *	SQO.2_CT IC	SQO BUS 2 PT VA	SQO BUS 2 PT VB	SQO BUS 2 PT VC	SQO BUS 2 PT VN	SQO.2_CT N+	SQO.2_CT N-	SPARE	SPARE

GENERAL NOTES:

1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED.
2. REFER TO SHEET E-004 & E-005 FOR ELECTRICAL ABBREVIATIONS.
3. HRG RESISTORS TO BE LOCATED IN THE TRANSFORMER COMPARTMENT OR IN CELLS 3A & 9A.
4. BREAKERS 52-1, 52-T1, AND 52-2 SHALL BE ELECTRICALLY INTERLOCKED. ONLY TWO OUT OF THE THREE BREAKERS CAN BE RACKED IN AND CLOSED AT ANY TIME.
5. VARIATIONS IN EQUIPMENT ARRANGEMENT AND BREAKER CONTROL WILL BE ALLOWED TO FIT MANUFACTURER STANDARD CONSTRUCTION SUBJECT TO THE APPROVAL OF THE CONTRACTING OFFICER.
6. CUBICLE ID NAMEPLATES, EXAMPLE 3B, TO BE 3 INCH BY 3 INCH SQUARE NAMEPLATE WITH CENTERED 2 INCH LETTERING LOCATED ON UPPER RIGHT CORNER OF CUBICLE DOOR OR SECTION.
7. NAMEPLATES SHOW ONLY THE FIRST LINE AND SECOND LINE. NAMEPLATES SHALL USE CENTERED 1 INCH LETERING.
8. CONDUIT HAD TO BE UPSIZED DUE TO LARGER FEED AND PARRALLEL CONDUCTOR DE-RATING. CONTRACTOR TO CORE DRILL THROUGH THE FLOOR TO GET TO CQO2 ON FLOOR BELOW.



A1 SQO SUBSTATION ELEVATIONS
SCALE: NTS



A17 SQO SUBSTATION ELEVATIONS SIDE VIEW
SCALE: NTS

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MARK	DESCRIPTION	DATE

U.S. ARMY CORPS OF ENGINEERS
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WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

DESIGNED BY: S. SCHEIFF
DRAWN BY: E. HEDINE
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
SIZE: ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-1D4/2
FILE NAME: V2-LGP1.002-E-201.dgn

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

480V SUBSTATION SQO
ELEVATION VIEW
INSTALL

SHEET ID
VOLUME 2
E-201

FINAL

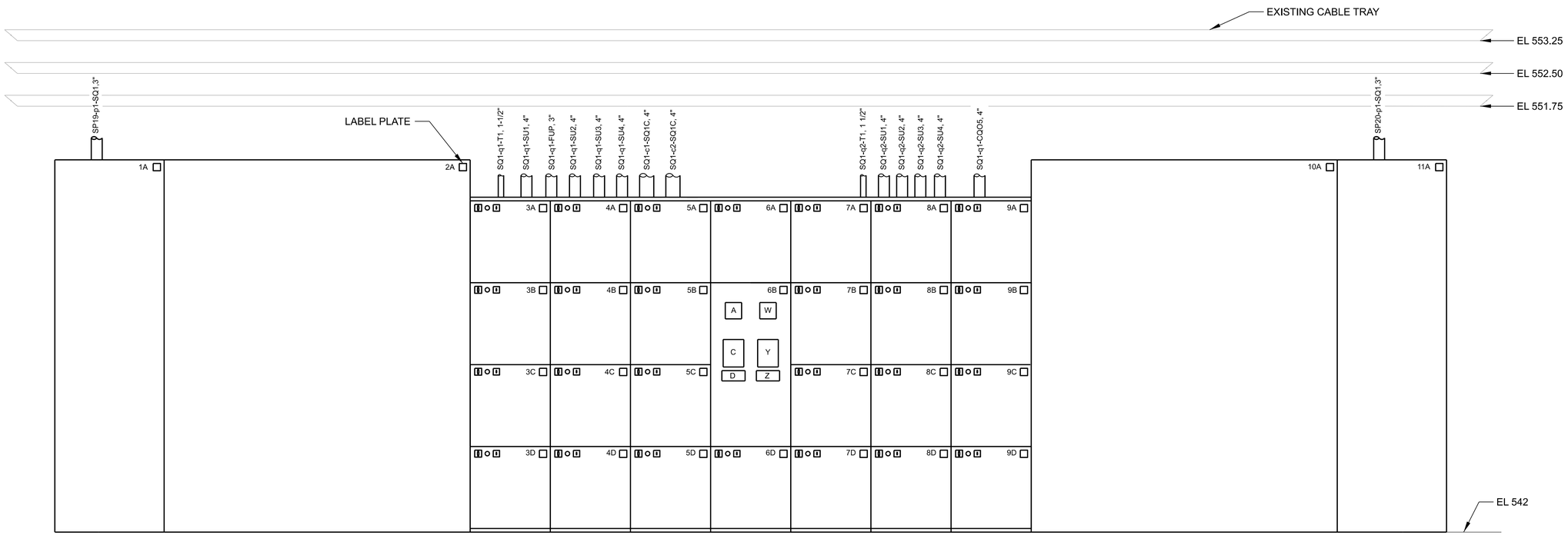
NAMEPLATE LETTERING					NAMEPLATE LETTERING					NAMEPLATE LETTERING				
ITEM NO.	FIRST LINE	SECOND LINE	TRIP RATING (AMPS)	FRAME SIZE	ITEM NO.	FIRST LINE	SECOND LINE	TRIP RATING (AMPS)	FRAME SIZE	ITEM NO.	FIRST LINE	SECOND LINE	TRIP RATING (AMPS)	FRAME SIZE
1A	4.16KV SUPPLY, SURGE ARRESTOR		X	X	6A	BUS TIE	BREAKER	1600	2500	7A	T1 COOLING FANS	FEEDER #2	100	800
2A	TRANS TQ1.1 & HRG RESISTOR	BUS #1	X	X	6B	CONTROL POWER BREAKERS, CESQ1	METERING & RELAYING	X	X	7B	CQO5	FEEDER	600	800
3A	POT TRANS	BUS #1	X	X	A	BUS 1 VOLTMETER				7C	SPARE		300	800
3B	MAIN BREAKER	BUS #1	1600	2500	W	BUS 2 VOLTMETER				7D	SPARE		100	800
3C	TRANS T1 COOLING FDR NO. 1		100	800	D	BUS 1 MULTI-FUNCTION RELAY	TEST SWITCHES			8A	SU1 CONTROL CENTER	FEEDER #2	600	800
3D	SPARE		100	800	Z	BUS S MULTI-FUNCTION RELAY	TEST SWITCHES			8B	SU2 CONTROL CENTER	FEEDER #2	600	800
4A	SU1 CONTROL CENTER	FEEDER #1	600	800	C	BUS 1 MULTI-FUNCTION RELAY	11SQ1.1			8C	SU3 CONTROL CENTER	FEEDER #2	600	800
4B	SU2 CONTROL CENTER	FEEDER #1	600	800	Y	BUS 2 MULTI-FUNCTION RELAY	11SQ1.2			8D	SU4 CONTROL CENTER	FEEDER #2	600	800
4C	SU3 CONTROL CENTER	FEEDER #1	600	800	6D	BUS TIE ISOLATION	BREAKER	1600	2500	9A	POT TRANS	BUS #2	X	X
4D	SU4 CONTROL CENTER	FEEDER #1	600	800						9B	MAIN BREAKER	BUS #2	1600	2500
5A	SPARE		100	800						9C	SPARE		200	800
5B	480V FISH SCREEN FEEDER BAYS 3&4	FEEDER #1	200	800						9D	SPARE		100	800
5C	SPARE		300	800						10A	TRANS TQ1.2 & HRG RESISTOR	BUS #2	X	X
5D	SPARE		200	800						11A	4.16KV SUPPLY, SURGE ARRESTOR		X	X

TS1 NAMEPLATE SCHEDULE

A	B	C	D	E	F	G	H	I	J	K	L	M	N
SQ1:1_CT IA *	SQ1:1_CT IA	SQ1:1_CT IB *	SQ1:1_CT IB	SQ1:1_CT IC *	SQ1:1_CT IC	SQ1 BUS 1 PT VA	SQ1 BUS 1 PT VB	SQ1 BUS 1 PT VC	SQ1 BUS 1 PT VN	SQ1:1_CT N+	SQ1:1_CT N-	SPARE	SPARE

TS2 NAMEPLATE SCHEDULE

A	B	C	D	E	F	G	H	I	J	K	L	M	N
SQ1:2_CT IA *	SQ1:2_CT IA	SQ1:2_CT IB *	SQ1:2_CT IB	SQ1:2_CT IC *	SQ1:2_CT IC	SQ1 BUS 2 PT VA	SQ1 BUS 2 PT VB	SQ1 BUS 2 PT VC	SQ1 BUS 2 PT VN	SQ1:2_CT N+	SQ1:2_CT N-	SPARE	SPARE



A1 SQ1 SUBSTATION ELEVATIONS

SCALE: NTS

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED.
2. REFER TO SHEET E-100 FOR ELECTRICAL ABBREVIATIONS.
3. HRG RESISTORS TO BE LOCATED IN TRANSFORMER COMPARTMENT.
4. BREAKERS 52-1, 52-T1, AND 52-2 SHALL BE ELECTRICALLY INTERLOCKED. ONLY TWO OUT OF THE THREE BREAKERS CAN BE RACKED IN AND CLOSED AT ANY TIME.
5. VARIATIONS IN EQUIPMENT ARRANGEMENT AND BREAKER CONTROL WILL BE ALLOWED TO FIT MANUFACTURER STANDARD CONSTRUCTION SUBJECT TO THE APPROVAL OF THE CONTRACTING OFFICER.
6. CUBICLE ID NAMEPLATES, EXAMPLE 3B, TO BE 3 INCH BY 3 INCH SQUARE NAMEPLATE WITH CENTERED 2 INCH LETTERING LOCATED ON UPPER RIGHT CORNER OF CUBICLE DOOR OR SECTION.
7. NAMEPLATES SHOW ONLY THE FIRST LINE AND SECOND LINE. NAMEPLATES SHALL USE CENTERED 1 INCH LETERING.

REFERENCE DRAWINGS

DRAWING NO	TITLE
575F382	SUBSTATION SQ1 - LOW VOLTAGE SWITCHGEAR 480 VOLT - SECTIONAL VIEWS & NP DATA, BARRIER PLATE LAYOUT

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: E. HEDINE
CHECKED BY: K. SELLERS
SUBMITTED BY: JOAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-10414
FILE NAME: V2-LGP1.002-E-202.dgn

U.S. ARMY CORPS OF ENGINEERS
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201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

480V SUBSTATION SQ1
ELEVATION VIEW
INSTALL

SHEET ID
VOLUME 2
E-202

FINAL

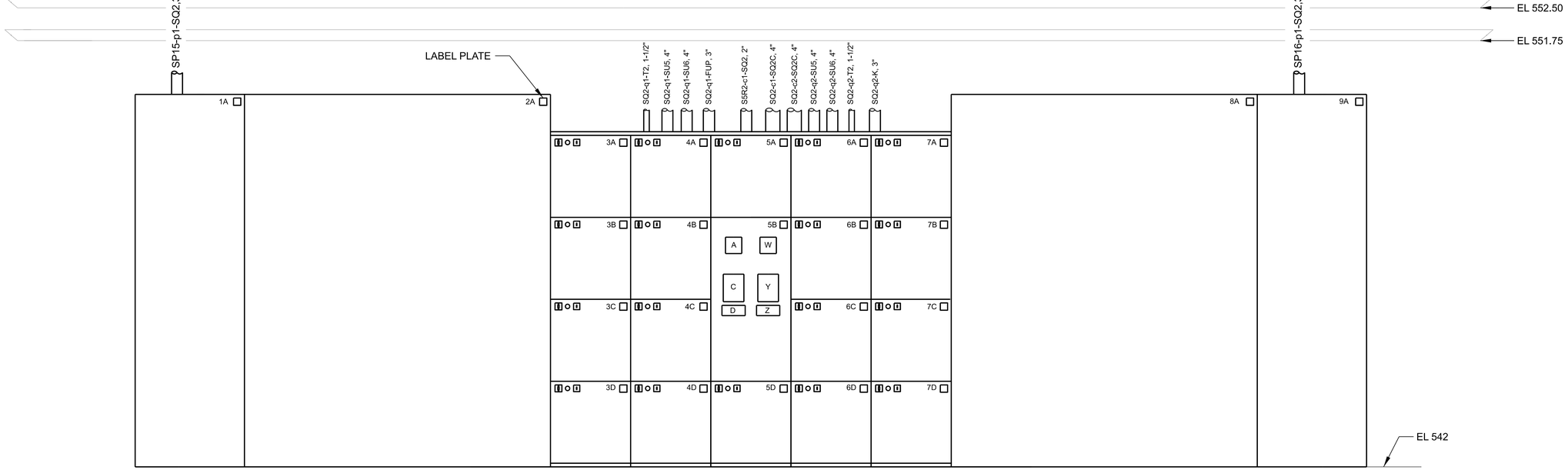
NAMEPLATE LETTERING					NAMEPLATE LETTERING					NAMEPLATE LETTERING				
ITEM NO.	FIRST LINE	SECOND LINE	TRIP RATING (AMPS)	FRAME SIZE	ITEM NO.	FIRST LINE	SECOND LINE	TRIP RATING (AMPS)	FRAME SIZE	ITEM NO.	FIRST LINE	SECOND LINE	TRIP RATING (AMPS)	FRAME SIZE
1A	4.16KV SUPPLY, SURGE ARRESTOR		X	X	5A	BUS TIE	BREAKER	1200	1600	6A	SU5	FEEDER #2	600	800
2A	TQ2.1 XFMR & HRG RESISTOR	BUS #1	X	X	5B	CONTROL POWER BREAKERS	METERING & RELAYING	X	X	6B	SU6	FEEDER #2	600	800
3A	POT XFMRS	BUS #1	X	X	A	BUS 1 VOLTMETER				6C	T2 COOLING FANS FDR 2	FEEDER #2	100	800
3B	MAIN BREAKER	BUS #1	1200	1600	W	BUS 2 VOLTMETER				6D	K (130 TON CRANE)	FEEDER	300	800
3C	SPARE		200	800	D	BUS 1 MULTI-FUNCTION RELAY	TEST SWITCHES			7A	POT XFMRS	BUS #2	X	X
3D	SPARE		200	800	Z	BUS 2 MULTI-FUNCTION RELAY	TEST SWITCHES			7B	MAIN BREAKER	BUS #2	1200	1600
4A	SU5	FEEDER #1	600	800	C	BUS 1 MULTI-FUNCTION RELAY	11SQ2.1			7C	SPARE		250	800
4B	SU6	FEEDER #1	600	800	Y	BUS 2 MULTI-FUNCTION RELAY	11SQ2.2			7D	SPARE		200	800
4C	T2 COOLING FANS FDR 1	FEEDER #1	100	800	5D	BUS TIE ISOLATION	BREAKER	1200	1600	8A	TQ2.2 XFMR & HRG RESISTOR	BUS #2	X	X
4D	480V FISH SCREEN FEEDER BAYS 5&6	FEEDER #1	200	800						9A	4.16KV SUPPLY, SURGE ARRESTOR		X	X

TS1 NAMEPLATE SCHEDULE

A	B	C	D	E	F	G	H	I	J	K	L	M	N
SQ2.1_CT IA *	SQ2.1_CT IA	SQ2.1_CT IB *	SQ2.1_CT IB	SQ2.1_CT IC *	SQ2.1_CT IC	SQ2 BUS 1 PT VA	SQ2 BUS 1 PT VB	SQ2 BUS 1 PT VC	SQ2 BUS 1 PT VN	SQ2.1_CT N+	SQ2.1_CT N-	SPARE	SPARE

TS2 NAMEPLATE SCHEDULE

A	B	C	D	E	F	G	H	I	J	K	L	M	N
SQ2.2_CT IA *	SQ2.2_CT IA	SQ2.2_CT IB *	SQ2.2_CT IB	SQ2.2_CT IC *	SQ2.2_CT IC	SQ2 BUS 2 PT VA	SQ2 BUS 2 PT VB	SQ2 BUS 2 PT VC	SQ2 BUS 2 PT VN	SQ2.2_CT N+	SQ2.2_CT N-	SPARE	SPARE



A1 SQ2 SUBSTATION ELEVATIONS

SCALE: NTS

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED.
2. REFER TO SHEET E-100 FOR ELECTRICAL ABBREVIATIONS.
3. HRG RESISTORS TO BE LOCATED IN TRANSFORMER COMPARTMENT.
4. BREAKERS 52-1, 52-T1, AND 52-2 SHALL BE ELECTRICALLY INTERLOCKED. ONLY TWO OUT OF THE THREE BREAKERS CAN BE RACKED IN AND CLOSED AT ANY TIME.
5. VARIATIONS IN EQUIPMENT ARRANGEMENT AND BREAKER CONTROL WILL BE ALLOWED TO FIT MANUFACTURER STANDARD CONSTRUCTION SUBJECT TO THE APPROVAL OF THE CONTRACTING OFFICER.
6. CUBICLE ID NAMEPLATES, EXAMPLE 3B, TO BE 3 INCH BY 3 INCH SQUARE NAMEPLATE WITH CENTERED 2 INCH LETTERING LOCATED ON UPPER RIGHT CORNER OF CUBICLE DOOR OR SECTION.
7. NAMEPLATES SHOW ONLY THE FIRST LINE AND SECOND LINE. NAMEPLATES SHALL USE CENTERED 1 INCH LETERING.

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-9-6-13/22	SQ2 MOTOR CONTROL UPGRADE PROJECT INSTALLED QED6 SWITCHBOARD FRONT ELEVATION
LGP-9-6-13/23	SQ2 MOTOR CONTROL UPGRADE PROJECT INSTALLED QED6 SWITCHBOARD TOP VIEW & FLOOR PLAN
LGP-9-6-13/24	SQ2 MOTOR CONTROL UPGRADE PROJECT INSTALLED QED6 SWITCHBOARD SIDE VIEW
LGP-9-6-13/25	SQ2 MOTOR CONTROL UPGRADE PROJECT INSTALLED QED6 SWITCHBOARD GENERAL NOTES

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: E. HEDINE
CHECKED BY: K. SELLERS
SUBMITTED BY: JANET STERUM, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001
DRAWING NUMBER: LGP-1.002-6-1D416
FILE NAME: V2-LGP1.002-E-203.dgn

U.S. ARMY CORPS OF ENGINEERS
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201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

480V SUBSTATION SQ2
ELEVATION VIEW
INSTALL

SHEET ID
VOLUME 2
E-203

FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED BY CONTRACTOR.

2. CONNECT THE NEW CONTINUOUS GROUND BUS TO THE EXISTING POWERHOUSE GROUND INSERTS.

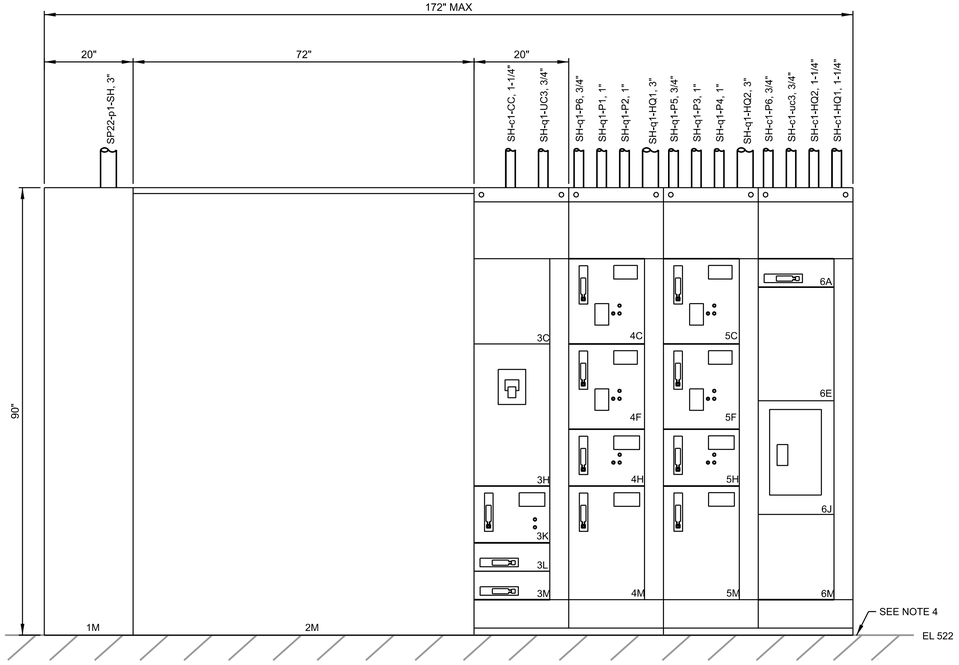
3. THE DETAIL SHOWN REPRESENTS A SUGGESTED DESIGN TO ILLUSTRATE THE INTENT AND DOES NOT LIMIT THE CONTRACTOR FROM SUBMITTING A DIFFERENT LAYOUT/ARRANGEMENT.

4. TWO INCH PAD REQUIRED, NOT SHOWN. SEE E-004 DETAIL Q. PROVIDE A BLOCKOUT FOR THE EMBEDDED CONDUIT SO IT CAN BE REUSED. MAY EXTEND THE CONDUIT ABOVE PAD WITH SUFFICIENT SPACE TO PROVIDE A BUSHING IF DESIRED.

120VAC PANEL BOARD
NAMEPLATE AND EQUIPMENT SCHEDULE

VOLTS: 120VAC PHASE: 1-PHASE AMPS: 100A AIC: 22KA

UNIT	NAMEPLATE SCHEDULE	CIRCUIT DESIGNATOR
L1	UNIT #1	SH-C1-HQ1
L2	UNIT #2	SH-C1-HQ2
L3	HEAT PUMP #1	SH-C2-HQ1
L4	HEAT PUMP #2	SH-C2-HQ2
L5	MASTER CONTROL	SH-1C-CC
L6	SPARE	
L7	SPARE	
L8	SPARE	
L9	SPARE	
L10	SPARE	



A1 MCC SH ELEVATIONS
SCALE: 3/4" = 1'-0"

SH 480V CONTROL CENTER
NAMEPLATE AND EQUIPMENT SCHEDULE

VOLTS: 480VAC PHASE: 3-PHASE AMPS: 800A AIC: 65KA

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	OLD CIRCUIT DESIGNATION	NEW CIRCUIT DESIGNATION
1M	4.16KV SUPPLY, SURGE ARRESTORS		--	--
2M	TRANSFORMER & HRG	500KVA, 4160 TO 480V TRANSFORMER, HRG	--	--
3C	POT TRANS & MULTI-FUNCTION RELAY		--	--
3H	MAIN BREAKER	800A, 3 POLE, 600V, LSI TRIP UNIT	SP22-p1-SH	SP22-p1-SH
3K	UNIT CONDITIONER UC3	COMBINATION STARTER NEMA SIZE 1, R/G LGTS	SH-q10	SH-q1-UC3
3L	SPARE	50A, 3 POLE, 600V	--	
3M	SPARE	50A, 3 POLE, 600V	--	
4C	HEAT PUMP SUPPLY WATER PUMP P1	SOFTSTART FOR 15HP MOTOR, R/G LGTS, CPT, ON/OFF/AUTO SW	SH-q8	SH-q1-P1
4F	CIRCULATING WATER PUMP P2	SOFTSTART FOR 10HP MOTOR, R/G LGTS, CPT, ON/OFF/AUTO SW	SH-q9	SH-q1-P2
4H	INTER COOLING WATER PUMP P6	COMBINATION STARTER NEMA SIZE 1, R/G LGTS, CPT, ON/OFF/AUTO SW	SH-q1	SH-q1-P6
4M	HEAT PUMP NO. 1	300A, 3 POLE, 600V	SH-q7	SH-q1-HQ1
5C	HEAT PUMP SUPPLY WATER PUMP P3	SOFTSTART FOR 15HP MOTOR, R/G LGTS, CPT, ON/OFF/AUTO SW	SH-q3	SH-q1-P3
5F	CIRCULATING WATER PUMP P4	SOFTSTART FOR 10HP MOTOR, R/G LGTS, CPT, ON/OFF/AUTO SW	SH-q2	SH-q1-P4
5H	BOOSTER WATER PUMP P5	COMBINATION STARTER NEMA SIZE 1, R/G LGTS, CPT, ON/OFF/AUTO SW	SH-q11	SH-q1-P5
5M	HEAT PUMP NO. 2	300A, 3 POLE, 600V	SH-q4	SH-q1-HQ2
6A	TRANSFORMER BREAKER	15A, 2 POLE, 600V	--	--
6F	CONTROL POWER TRANSFORMER	10KVA, 480-120V	--	--
6J	120VAC PANELBOARD	10-20A BREAKERS, 1 POLE, 120V	--	--
6M	SPACE	--	--	

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: E. HEDINE
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-ID418
FILE NAME: V2-LGP1.002-E-204.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

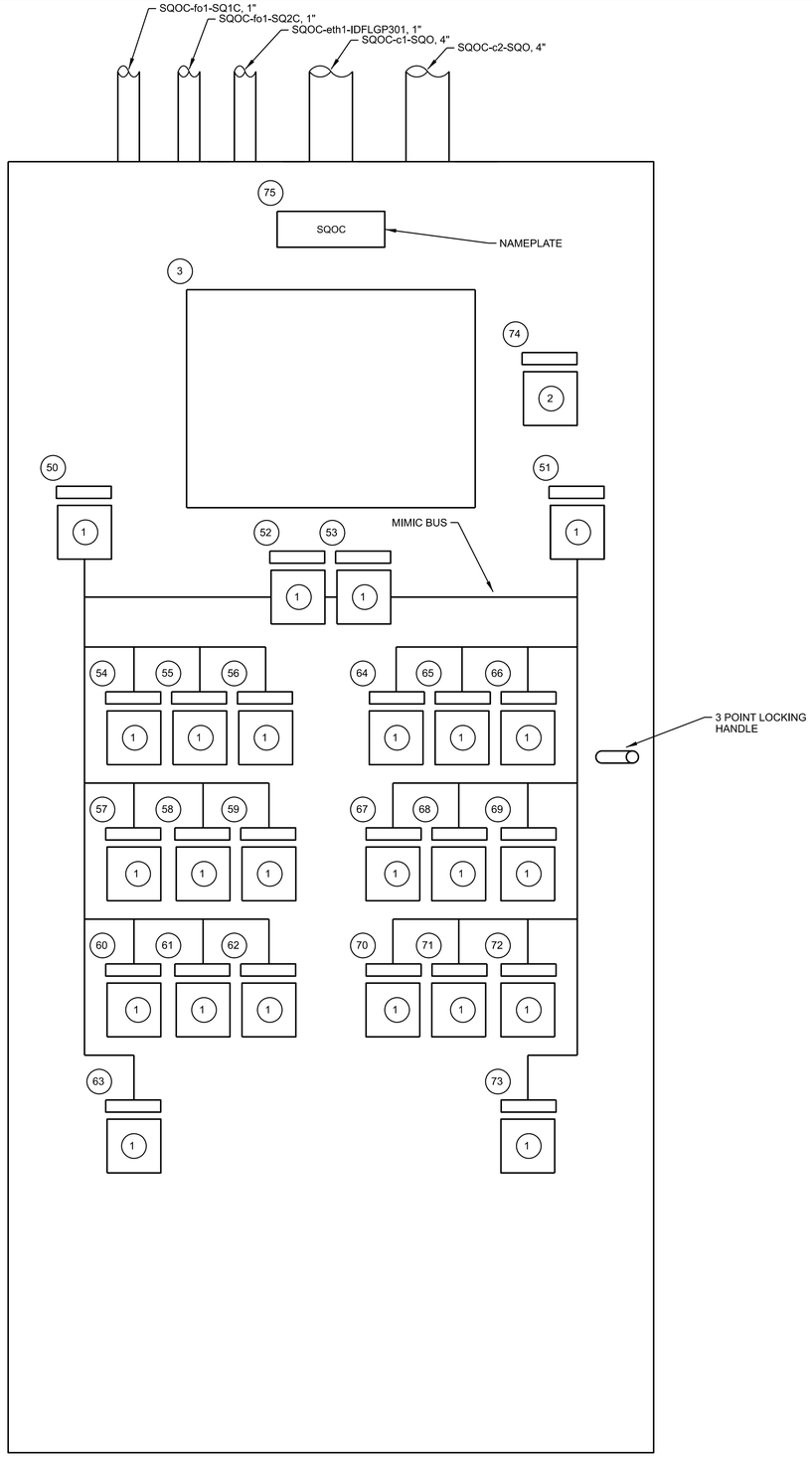
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

480V SUBSTATION SH
ELEVATION VIEW
INSTALL

SHEET ID
VOLUME 2
E-204

FINAL



GENERAL NOTES

1. ALL EQUIPMENT ON THIS DRAWING IS NEW.
2. BREAKER CONTROL SWITCH LAYOUT FOR FEEDER BREAKERS TO MIMIC SWITCHGEAR LAYOUT.
3. BREAKER CONTROL SWITCH 3B IS SHOWN. ALL OTHER SIMILAR.

3BCS	BKR CNTRL SW		
TRIP / OFF / CLOSE — SPRING RETURN TO OFF			
CONTACT	TRIP	OFF	CLOSE
11,18	X		
16,17			X
21,28	X		
26,27			X

(NOTE 3)

43D	PLC CONTROL SWITCH	
LOCAL / REMOTE		
CONTACT	LOCAL	REMOTE
12,11	X	
12,13		X
16,15	X	
16,17		X
22,21	X	
22,23		X
26,25	X	
26,27		X
32,31	X	
32,33		X
36,35	X	
36,37		X
42,41	X	
42,43		X
46,45	X	
46,47		X
52,51	X	
52,53		X
56,55	X	
56,57		X
62,61	X	
62,63		X
66,65	X	
66,67		X

MATERIALS LIST

ITEM	QTY	UNIT	DESCRIPTION
1	24	EA	2 WAY SPRING-RETURN PISTOL GRIP SWITCH WITH INTEGRATED RED AND GREEN INDICATING LIGHTS
2	1	EA	2 POSITION LOCAL-REMOTE PISTOL GRIP SWITCH
3	1	EA	ALLEN BRADLEY HMI 2715P-T19CD

NAMEPLATE SCHEDULE

NAME PLATE	DIMENSION (AS REQ'D)	FONT SIZE	LINE 1	LINE 2
50	1 X 4"	1/8" TEXT	52-1 MAIN	BUS #1
51	1 X 4"	1/8" TEXT	52-2 MAIN	BUS #2
52	1 X 4"	1/8" TEXT	52-T1 TIE	BUS #1
53	1 X 4"	1/8" TEXT	52-T2 ISOLATION TIE	BUS #2
54	1 X 4"	1/8" TEXT	SPARE	BUS #1
55	1 X 4"	1/8" TEXT	SPARE	BUS #1
56	1 X 4"	1/8" TEXT	CQO1	BUS #1
57	1 X 4"	1/8" TEXT	CQO2	BUS #1
58	1 X 4"	1/8" TEXT	CQO3	BUS #1
59	1 X 4"	1/8" TEXT	CQO4	BUS #1
60	1 X 4"	1/8" TEXT	CQO5	BUS #1
61	1 X 4"	1/8" TEXT	BRIDGE CRANE	BUS #1
62	1 X 4"	1/8" TEXT	FWM MCC	BUS #1
63	1 X 4"	1/8" TEXT	SPARE	BUS #1
64	1 X 4"	1/8" TEXT	CQO1	BUS #2
65	1 X 4"	1/8" TEXT	CQO2	BUS #2
66	1 X 4"	1/8" TEXT	WSCQ1	BUS #2
67	1 X 4"	1/8" TEXT	CQO4	BUS #2
68	1 X 4"	1/8" TEXT	SPARE	BUS #2
69	1 X 4"	1/8" TEXT	FCQ5	BUS #2
70	1 X 4"	1/8" TEXT	CQO6	BUS #2
71	1 X 4"	1/8" TEXT	FCQ1	BUS #2
72	1 X 4"	1/8" TEXT	FCQ2	BUS #2
73	1 X 4"	1/8" TEXT	SPARE	BUS #2
74	1 X 4"	1/8" TEXT	1ED: PLC ENABLE/DISABLE	
75	1 X 4"	1/8" TEXT	SQOC	

A2 SQOC PLC CABINET LAYOUT ELEVATION VIEW
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SIRACUSA
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-SQ411
SIZE:
FILENAME: V2-LGP1.002-E-205.dgn

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WALLA WALLA, WASHINGTON

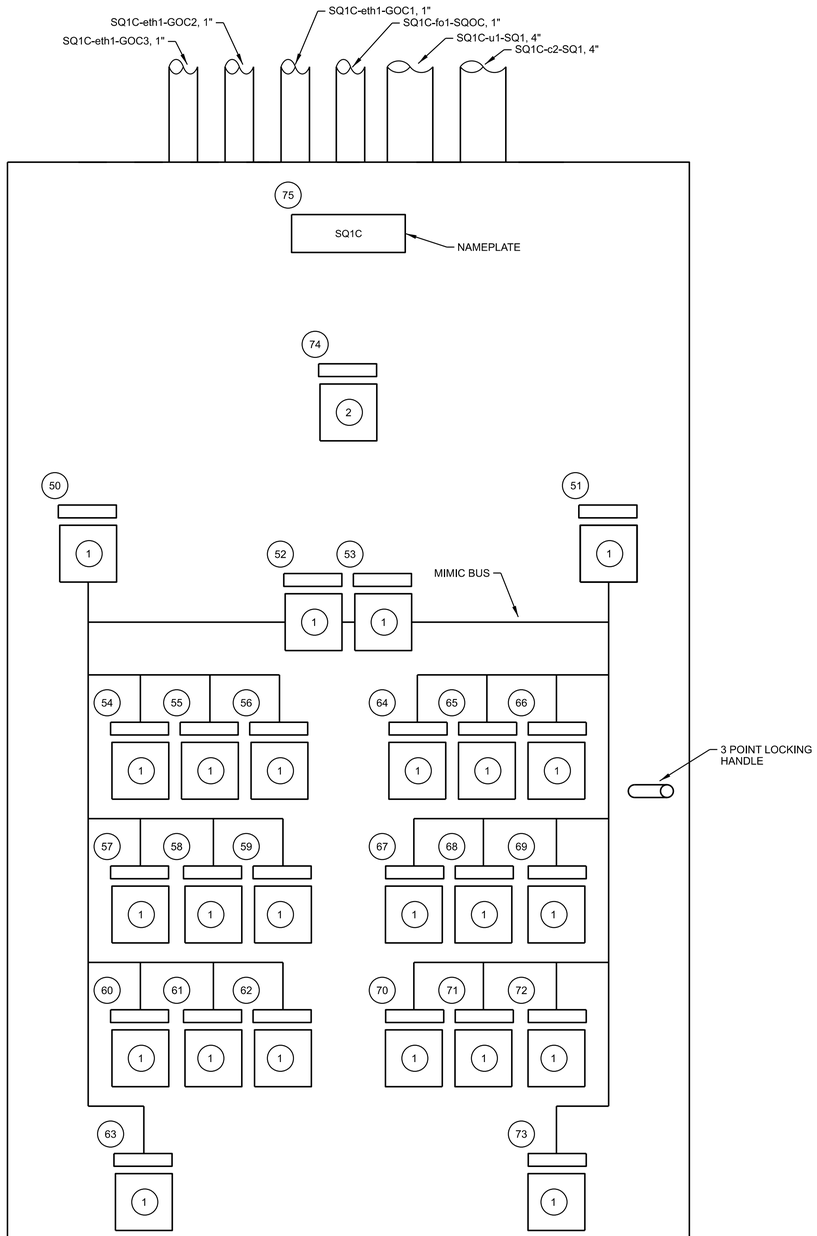
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQOC PLC CABINET LAYOUT
ELEVATION VIEW
INSTALL

SHEET ID
VOLUME 2
E-205

FINAL



A2 SQ1C PLC CABINET LAYOUT ELEVATION VIEW

SCALE: NTS

GENERAL NOTES

1. ALL EQUIPMENT ON THIS DRAWING IS NEW.
2. BREAKER CONTROL SWITCH LAYOUT FOR FEEDER BREAKERS TO MIMIC SWITCHGEAR LAYOUT.
3. BREAKER CONTROL SWITCH 3B IS SHOWN. ALL OTHER SIMILAR.

3BCS	BKR CNTRL SW

OFF
TRIP — CLOSE
SPRING RETURN TO OFF

CONTACT	TRIP	OFF	CLOSE
11,18	X		
16,17			X
21,28	X		
26,27			X

(NOTE 3)

43D	PLC CONTROL SWITCH

LOCAL
REMOTE

CONTACT	LOCAL	REMOTE
12,11	X	
12,13		X
16,15	X	
16,17		X
22,21	X	
22,23		X
26,25	X	
26,27		X
32,31	X	
32,33		X
36,35	X	
36,37		X
42,41	X	
42,43		X
46,45	X	
46,47		X
52,51	X	
52,53		X
56,55	X	
56,57		X
62,61	X	
62,63		X
66,65	X	
66,67		X

MATERIALS LIST

ITEM	QTY	UNIT	DESCRIPTION
1	24	EA	2 WAY SPRING-RETURN PISTOL GRIP SWITCH WITH INTEGRATED RED AND GREEN INDICATING LIGHTS
2	1	EA	2 POSITION LOCAL-REMOTE PISTOL GRIP SWITCH

NAMEPLATE SCHEDULE

NAME PLATE	DIMENSION (AS REQ'D)	FONT SIZE	LINE 1	LINE 2
50	1 X 4"	1/8" TEXT	52-1 MAIN	BUS #1
51	1 X 4"	1/8" TEXT	52-2 MAIN	BUS #2
52	1 X 4"	1/8" TEXT	52-T1 TIE	BUS #1
53	1 X 4"	1/8" TEXT	52-T2 ISOLATION TIE	BUS #2
54	1 X 4"	1/8" TEXT	T1 COOLING FEEDER #2	BUS #1
55	1 X 4"	1/8" TEXT	SPARE	BUS #1
56	1 X 4"	1/8" TEXT	SU1	BUS #1
57	1 X 4"	1/8" TEXT	SU2	BUS #1
58	1 X 4"	1/8" TEXT	SU3	BUS #1
59	1 X 4"	1/8" TEXT	SU4	BUS #1
60	1 X 4"	1/8" TEXT	SPARE	BUS #1
61	1 X 4"	1/8" TEXT	SPARE	BUS #1
62	1 X 4"	1/8" TEXT	SPARE	BUS #1
63	1 X 4"	1/8" TEXT	SPARE	BUS #1
64	1 X 4"	1/8" TEXT	T1 COOLING FEEDER #2	BUS #2
65	1 X 4"	1/8" TEXT	CQO5	BUS #2
66	1 X 4"	1/8" TEXT	SPARE	BUS #2
67	1 X 4"	1/8" TEXT	SPARE	BUS #2
68	1 X 4"	1/8" TEXT	SU1	BUS #2
69	1 X 4"	1/8" TEXT	SU2	BUS #2
70	1 X 4"	1/8" TEXT	SU3	BUS #2
71	1 X 4"	1/8" TEXT	SU4	BUS #2
72	1 X 4"	1/8" TEXT	SPARE	BUS #2
73	1 X 4"	1/8" TEXT	SPARE	BUS #2
74	1 X 4"	1/8" TEXT	1ED: PLC ENABLE/DISABLE	
75	1 X 4"	1/8" TEXT	SQ1C	

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SIRACUSA
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-D4/2
SIZE FILENAME: V2-LGP1.002-E-206.dgn

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WALLA WALLA DISTRICT
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WALLA WALLA, WASHINGTON

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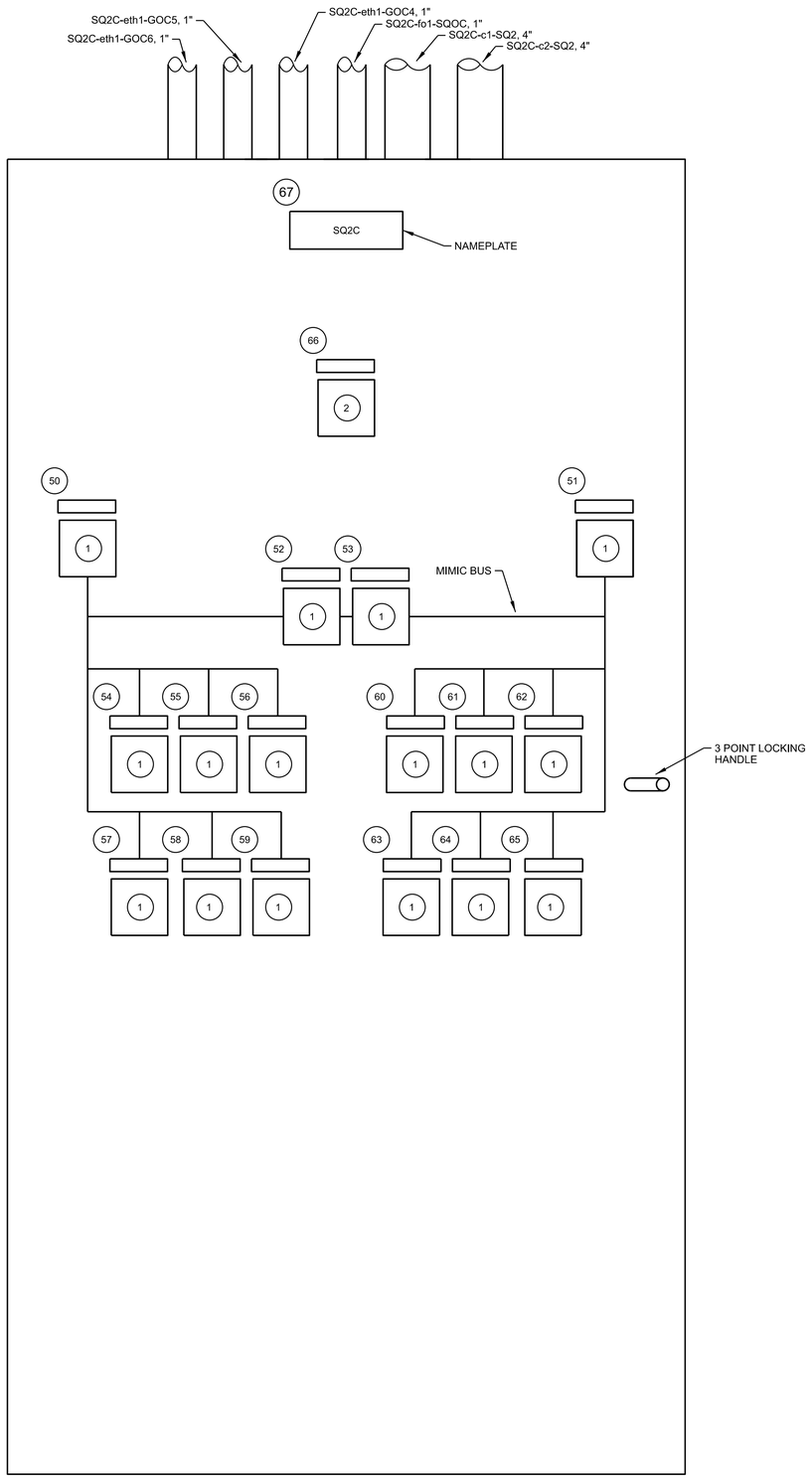
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQ1C PLC CABINET LAYOUT
ELEVATION VIEW
INSTALL

SHEET ID
VOLUME 2
E-206

FINAL



A2 SQ2C PLC CABINET LAYOUT ELEVATION VIEW

SCALE: NTS

GENERAL NOTES

1. ALL EQUIPMENT ON THIS DRAWING IS NEW.
2. BREAKER CONTROL SWITCH LAYOUT FOR FEEDER BREAKERS TO MIMIC SWITCHGEAR LAYOUT.
3. BREAKER CONTROL SWITCH 3B IS SHOWN. ALL OTHER SIMILAR.

3BCS	BKR CNTRL SW

OFF / TRIP / CLOSE — SPRING RETURN TO OFF

CONTACT	TRIP	OFF	CLOSE
11,18	X		
16,17			X
21,28	X		
26,27			X

(NOTE 3)

MATERIALS LIST

ITEM	QTY	UNIT	DESCRIPTION
1	20	EA	2 WAY SPRING-RETURN PISTOL GRIP SWITCH WITH INTEGRATED RED AND GREEN INDICATING LIGHTS
2	1	EA	2 POSITION LOCAL-REMOTE PISTOL GRIP SWITCH

43D	PLC CONTROL SWITCH

LOCAL / REMOTE

CONTACT	LOCAL	REMOTE
12,11	X	
12,13		X
16,15	X	
16,17		X
22,21	X	
22,23		X
26,25	X	
26,27		X
32,31	X	
32,33		X
36,35	X	
36,37		X
42,41	X	
42,43		X
46,45	X	
46,47		X
52,51	X	
52,53		X
56,55	X	
56,57		X
62,61	X	
62,63		X
66,65	X	
66,67		X

NAMEPLATE SCHEDULE

NAME PLATE	DIMENSION (AS REQ'D)	FONT SIZE	LINE 1	LINE 2
50	1 X 4"	1/8" TEXT	52-1 MAIN	BUS #1
51	1 X 4"	1/8" TEXT	52-2 MAIN	BUS #2
52	1 X 4"	1/8" TEXT	52-T1 TIE	BUS #1
53	1 X 4"	1/8" TEXT	52-T2 ISOLATION TIE	BUS #2
54	1 X 4"	1/8" TEXT	SPARE	BUS #1
55	1 X 4"	1/8" TEXT	SPARE	BUS #1
56	1 X 4"	1/8" TEXT	SU5	BUS #1
57	1 X 4"	1/8" TEXT	SU6	BUS #1
58	1 X 4"	1/8" TEXT	T2 COOLING FANS FDR1	BUS #1
59	1 X 4"	1/8" TEXT	480V FISHSCREEN	BUS #1
60	1 X 4"	1/8" TEXT	SU5	BUS #2
61	1 X 4"	1/8" TEXT	SU6	BUS #2
62	1 X 4"	1/8" TEXT	T2 COOLING FANS FDR2	BUS #2
63	1 X 4"	1/8" TEXT	130T CRANE	BUS #2
64	1 X 4"	1/8" TEXT	SPARE	BUS #2
65	1 X 4"	1/8" TEXT	SPARE	BUS #2
66	1 X 4"	1/8" TEXT	1ED: PLC ENABLE/DISABLE	
67	1 X 4"	1/8" TEXT	SQ2C	

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SIRACUSA
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001
DRAWING NUMBER: LGP-1.002-6-SQ4/3
FILENAME: V2-LGP1.002-E-207.dgn

U.S. ARMY CORPS OF ENGINEERS
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WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

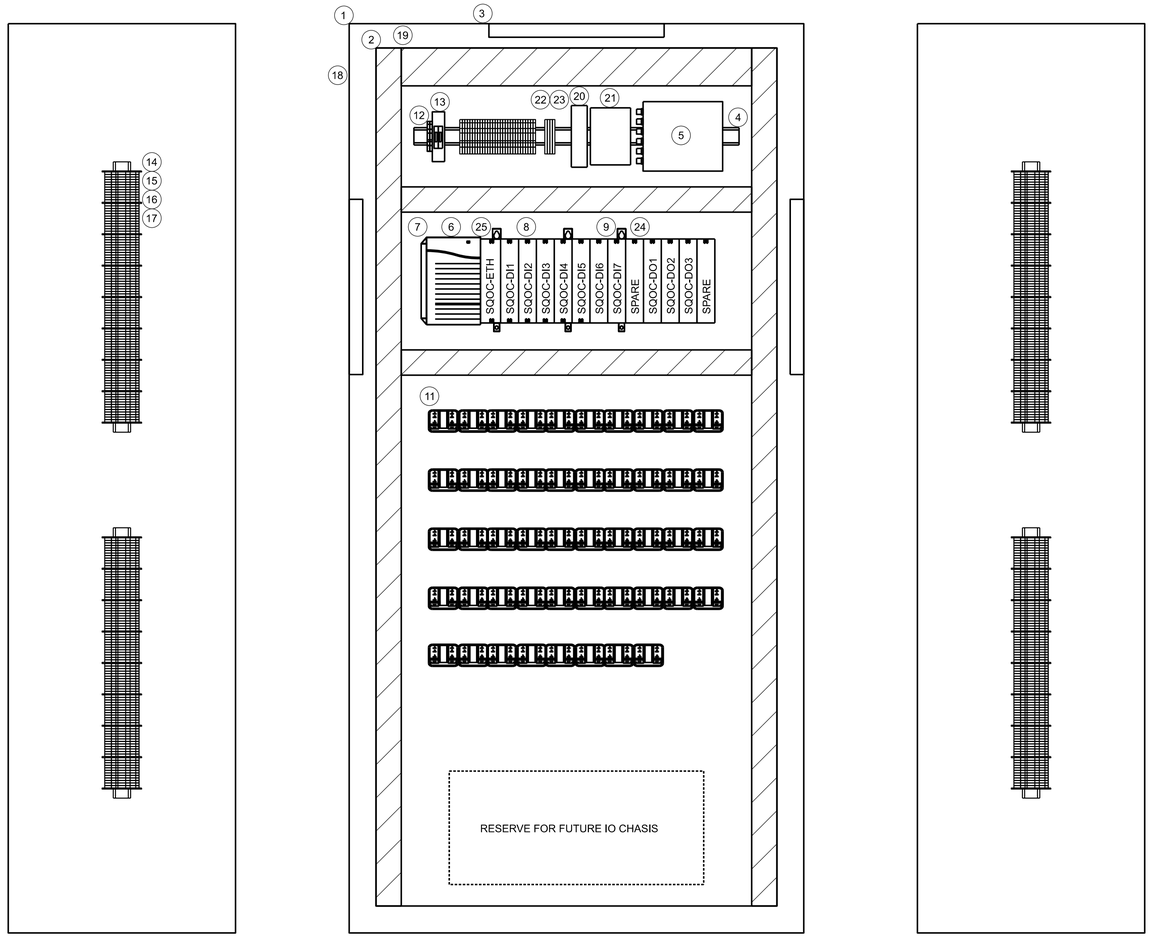
SQ2C PLC CABINET LAYOUT
ELEVATION VIEW
INSTALL

SHEET ID
VOLUME 2
E-207

FINAL

GENERAL NOTES

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. TO ENSURE PROPER THERMAL VENTILATION, NO EQUIPMENT MAY BE INSTALLED CLOSER THAN SIX INCHES FROM THE TOP OR THE BOTTOM OF THE PLC CHASSIS AND 4" FROM EITHER SIDE. A 2" GAP BETWEEN WIRE TRAYS AND PLC CHASSIS IS ALLOWED.
3. PANEL LAYOUT FOR REFERENCE ONLY. CONTRACTOR TO SUBMIT ENCLOSURE AND WIRING DETAILS.
4. PLC MODULES FOR SQ1C AND SQ2C ARE SLIGHTLY DIFFERENT THAN WHAT IS SHOWN FOR SQOC. SEE VOLUME 5 DRAWING E-607 PLC NETWORK DIAGRAM FOR EXACT MODULES



INSIDE LEFT PANEL WALL

INSIDE BACK PANEL

INSIDE RIGHT PANEL WALL

A1 SQOC PLC CABINET SUGGESTED INTERNAL LAYOUT (SQ1C AND SQ2C SIMILAR)

SCALE: NTS

MATERIALS LIST			
ITEM	QTY	UNIT	DESCRIPTION
1	1	EA	NEMA 12 72 X 36 X 18 SINGLE DOOR ENCLOSURE
2	1	EA	BACK PANEL
3	3	EA	120VDC LIGHT WITH DOOR SWITCHES
4	*	LF	DIN RAIL; ZINC PLATED, CHROMATED STEEL, 35 X 7.5MM OR AS REQUIRED
5	1	EA	FIBER PATCH PANEL HOUSING AND CONNECTOR PLATE
6	1	EA	ALLEN BRADLEY #1756-PH75 125VDC, 75W CHASSIS POWER SUPPLY
7	1	EA	ALLEN BRADLEY #1756-A13 13-SLOT PLC CHASSIS
8	7	EA	ALLEN BRADLEY #1756-IH16I 125VDC DISCRETE INPUT MODULE
9	3	EA	ALLEN BRADLEY #1756-OW16I DC OUTPUT MODULE
10	0	EA	ALLEN BRADLEY #1756-EN2T ETHERNET/IP MODULE
11	48	EA	CONTROL RELAY
12	2	EA	GROUND BLOCK
13	2	EA	CIRCUIT BREAKER
14	8	EA	TERMINAL BLOCK END ANCHOR
15	8	EA	TERMINAL BLOCK END BARRIER
16	36	EA	TERMINAL BLOCK PARTITION PLATE
17	*	EA	TERMINAL BLOCK
18	*	LF	WIRING DUCT & COVER 2"X 5"D
19	*	LF	WIRING DUCT & COVER 3"X 5"D
20	1	EA	125VDC TO 24VDC POWER SUPPLY
21	1	EA	CISCO IE-2000-8TC-G-B MANAGED SWITCH
22	4	EA	FUSES
23	4	EA	FUSE HOLDERS WITH BLOWN FUSE INDICATION
24	2	EA	ALLEN BRADLEY #1756-N2 SLOT FILLER
25	1	EA	ALLEN BRADLEY #1756-EN2T ETHERNET MODULE

CONTRACTOR TO VERIFY ALL QUANTITIES AND FURNISH/INSTALL AS REQUIRED FOR A COMPLETE SYSTEM, ENSURE ALL EQUIPMENT CAN EASILY BE REMOVED FROM CABINET.
*LENGTH OR QUANTITY AS NECESSARY

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SIRACUSA
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-SQ4I4
FILENAME: V2-LGP1.002-E-301.dgn

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQOC PLC CABINET LAYOUT
INTERNAL VIEW
INSTALL

SHEET ID
VOLUME 2
E-301

FINAL

GENERAL NOTES

1. BOLD ITEMS TO INDICATE EQUIPMENT TO BE INSTALLED.

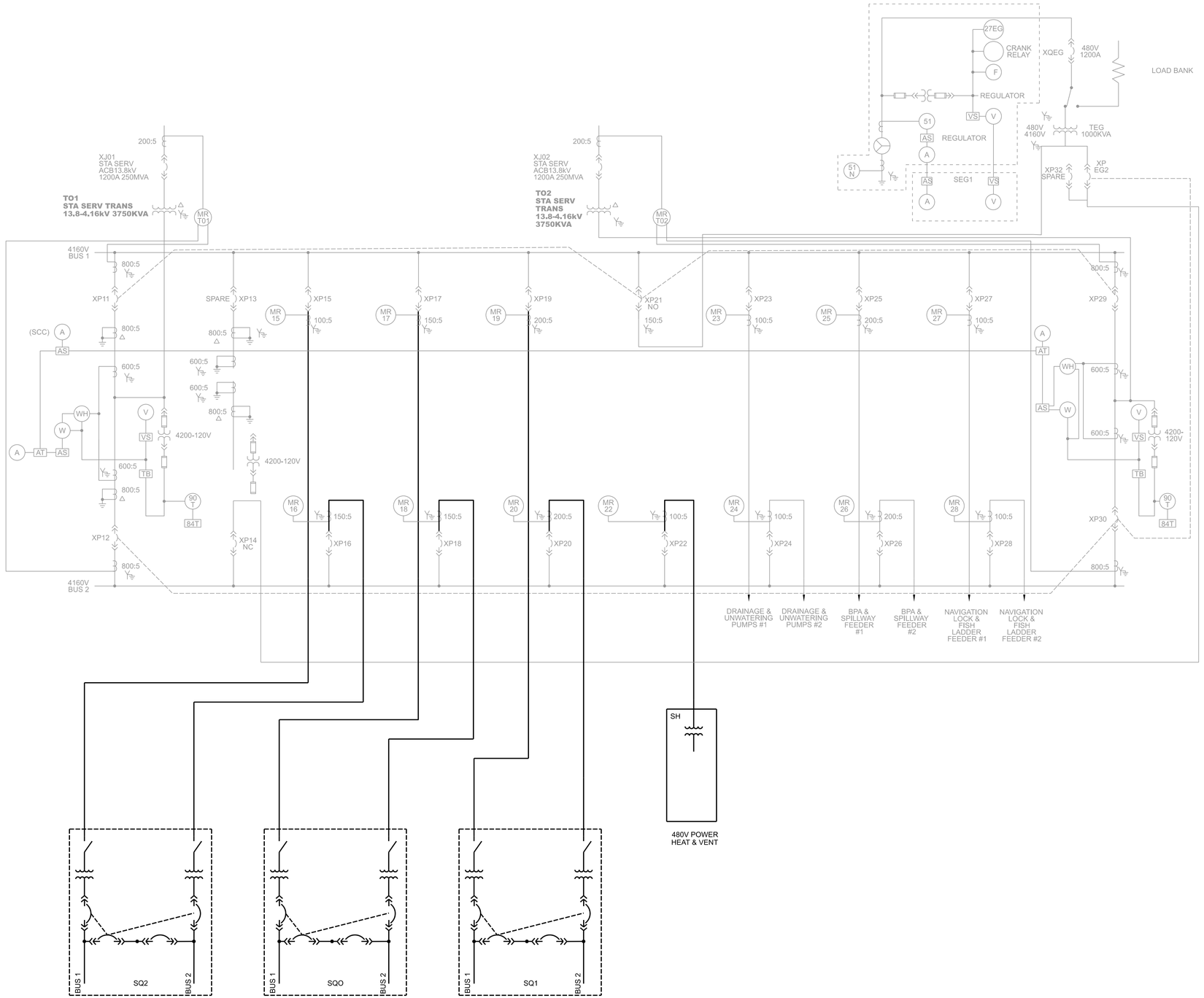
LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.9-6-1A21/1	ONE LINE DIAGRAM - STATION SERVICE



A1 4160V STATION SERVICE ONELINE

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: SUSAN STEDMAN, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-1D21/2
FILE NAME: V2-LGP1.002-E-601.dgn

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

STATION SERVICE - SP
ONE LINE DIAGRAM
INSTALL

SHEET ID
VOLUME 2
E-601

FINAL

GENERAL NOTES

1. ALL EQUIPMENT IS TO BE INSTALLED.
2. DRAWING DOES NOT SHOW FIBER CONNECTIONS.

LEGEND

——— EQUIPMENT TO BE INSTALLED

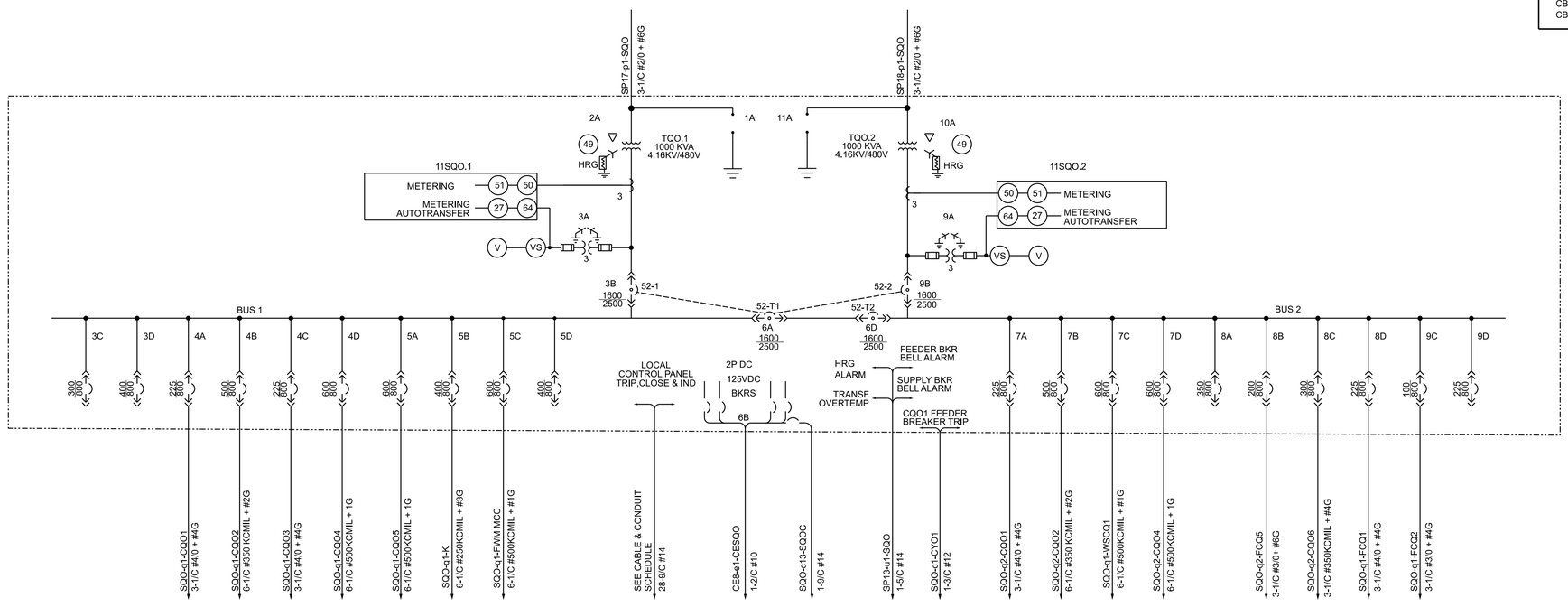
——— EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
575F378	SUBSTATION SQ0 - LOW VOLTAGE SWITCHGEAR 480 VOLT - ONE LINE DIAGRAM, FRONT VIEW, BILL OF MATERIAL
LGP-1.1-6-1D21/1	POWERHOUSE - ONE LINE DIAGRAM - SQ0, SQ1 & CPO

125 VDC CIRCUIT BREAKER SCHEDULE:

CB1 - P1,N1 - 49-1 TRANSFORMER OVERTEMP RELAY
CB2 - P2,N2 - 49-2 TRANSFORMER OVERTEMP RELAY
CB3 - P3,N3 - 52-1 BREAKER CONTROL & 11SQO.1 MULTI-FUNCTION RELAY
CB4 - P4,N4 - 52-T1 BREAKER CONTROL
CB5 - P5,N5 - 52-2 BREAKER CONTROL & 11SQO.2 MULTI-FUNCTION RELAY
CB6 - P6,N6 - 52-T2 BREAKER CONTROL
CB7 - P7,N7 - FEEDER BREAKERS CONTROL BUS 1
CB8 - P8,N8 - FEEDER BREAKERS CONTROL BUS 2



A1 SQO ONE LINE DIAGRAM
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001
DRAWING NUMBER: LGP-1.002-6-1D21/4
FILENAME: V2-LGP1.002-E-602.dgn

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQO
ONE LINE DIAGRAM
INSTALL

SHEET ID
VOLUME 2
E-602

FINAL

GENERAL NOTES

1. ALL EQUIPMENT IS TO BE INSTALLED.
2. DRAWING DOES NOT SHOW FIBER CONNECTIONS.

LEGEND

EQUIPMENT TO BE INSTALLED

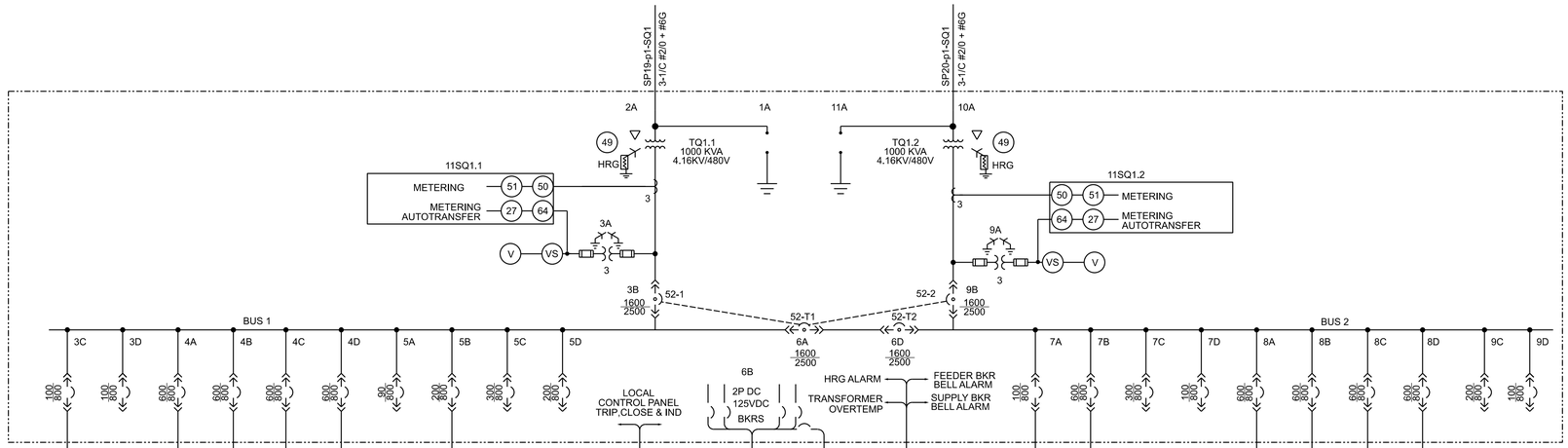
EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1D21/1	POWERHOUSE - ONE LINE DIAGRAM - SQ0, SQ1 & CPO
LGP-1.1-6-1A8/2	480 VOLT SUBSTATION SQ1, FRONT VIEW & ONE LINE DIAGRAM CONTROL SOURCE DISTRIBUTION
LGP-1.9-6-1G21/1	ONE LINE DIAGRAM SQ1 & SQ2
575F381	SUBSTATION SQ1 - LOW VOLTAGE SWITCHGEAR 480 VOLTS - ONE LINE DIAGRAM, FRONT VIEW, BILL OF MATERIAL

125 VDC CIRCUIT BREAKER SCHEDULE:

CB1 - P1,N1 - 49-1 TRANSFORMER OVERTEMP RELAY
CB2 - P2,N2 - 49-2 TRANSFORMER OVERTEMP RELAY
CB3 - P3,N3 - 52-1 BREAKER CONTROL & 11SQO.1 MULTI-FUNCTION RELAY
CB4 - P4,N4 - 52-T1 BREAKER CONTROL
CB5 - P5,N5 - 52-2 BREAKER CONTROL & 11SQO.2 MULTI-FUNCTION RELAY
CB6 - P6,N6 - 52-T2 BREAKER CONTROL
CB7 - P7,N7 - FEEDER BREAKERS CONTROL BUS 1
CB8 - P8,N8 - FEEDER BREAKERS CONTROL BUS 2



A2 SQ1 ONE LINE DIAGRAM
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: E. HEDINE
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-1D21/6
FILE NAME: V2-LGP1.002-E-603.dgn

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQ1
ONE LINE DIAGRAM
INSTALL

SHEET ID
VOLUME 2
E-603

FINAL

GENERAL NOTES

1. ALL EQUIPMENT IS TO BE INSTALLED BY CONTRACTOR.
2. DRAWING DOES NOT SHOW FIBER CONNECTIONS.

LEGEND

——— EQUIPMENT TO BE INSTALLED

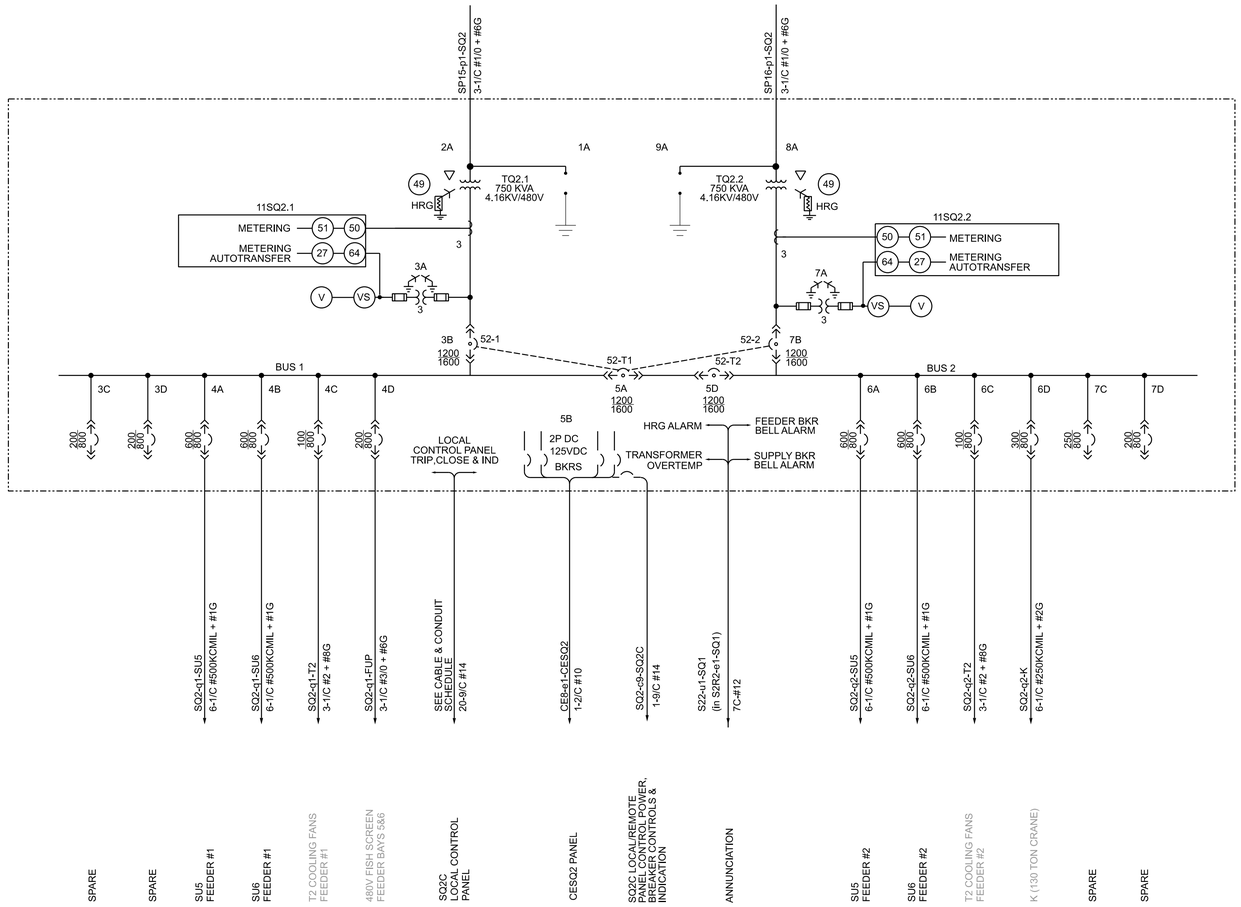
——— EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-9-6-13/28	SQ2 MOTOR CONTROL UPGRADE PROJECT INSTALLED QED6 SWITCHBOARD ONE LINE
LGP-1.9-6-1G21/1	ONE LINE DIAGRAM SQ1 & SQ2

125 VDC CIRCUIT BREAKER SCHEDULE:

CB1 - P1,N1 - 49-1 TRANSFORMER OVERTEMP RELAY
CB2 - P2,N2 - 49-2 TRANSFORMER OVERTEMP RELAY
CB3 - P3,N3 - 52-1 BREAKER CONTROL & 11SQO.1 MULTI-FUNCTION RELAY
CB4 - P4,N4 - 52-T1 BREAKER CONTROL
CB5 - P5,N5 - 52-2 BREAKER CONTROL & 11SQO.2 MULTI-FUNCTION RELAY
CB6 - P6,N6 - 52-T2 BREAKER CONTROL
CB7 - P7,N7 - FEEDER BREAKERS CONTROL BUS 1
CB8 - P8,N8 - FEEDER BREAKERS CONTROL BUS 2



A8 SQ2 ONE LINE DIAGRAM
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: E. HEDINE
CHECKED BY: K. SELLERS
SUBMITTED BY: JOANIE STERLING, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-1D21/8
SIZE:
FILE NAME: V2-LGP1.002-E-604.dgn

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQ2
ONE LINE DIAGRAM
INSTALL

SHEET ID
VOLUME 2
E-604

FINAL

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. 480V EQUIPMENT/LOADS TO REMAIN IN SERVICE FOLLOWINGREPLACEMENT OF EQUIPMENT, UNLESS OTHERWISE NOTED.
3. SP17 ANNUNCIATION IS NOT IN SERVICE. CONTRACTOR TO PROVIDE A SET OF TERMINAL BLOCKS INSIDE SH FOR FUTURE USE. TEST ALARM SIGNALS AT TERMINAL BLOCKS.

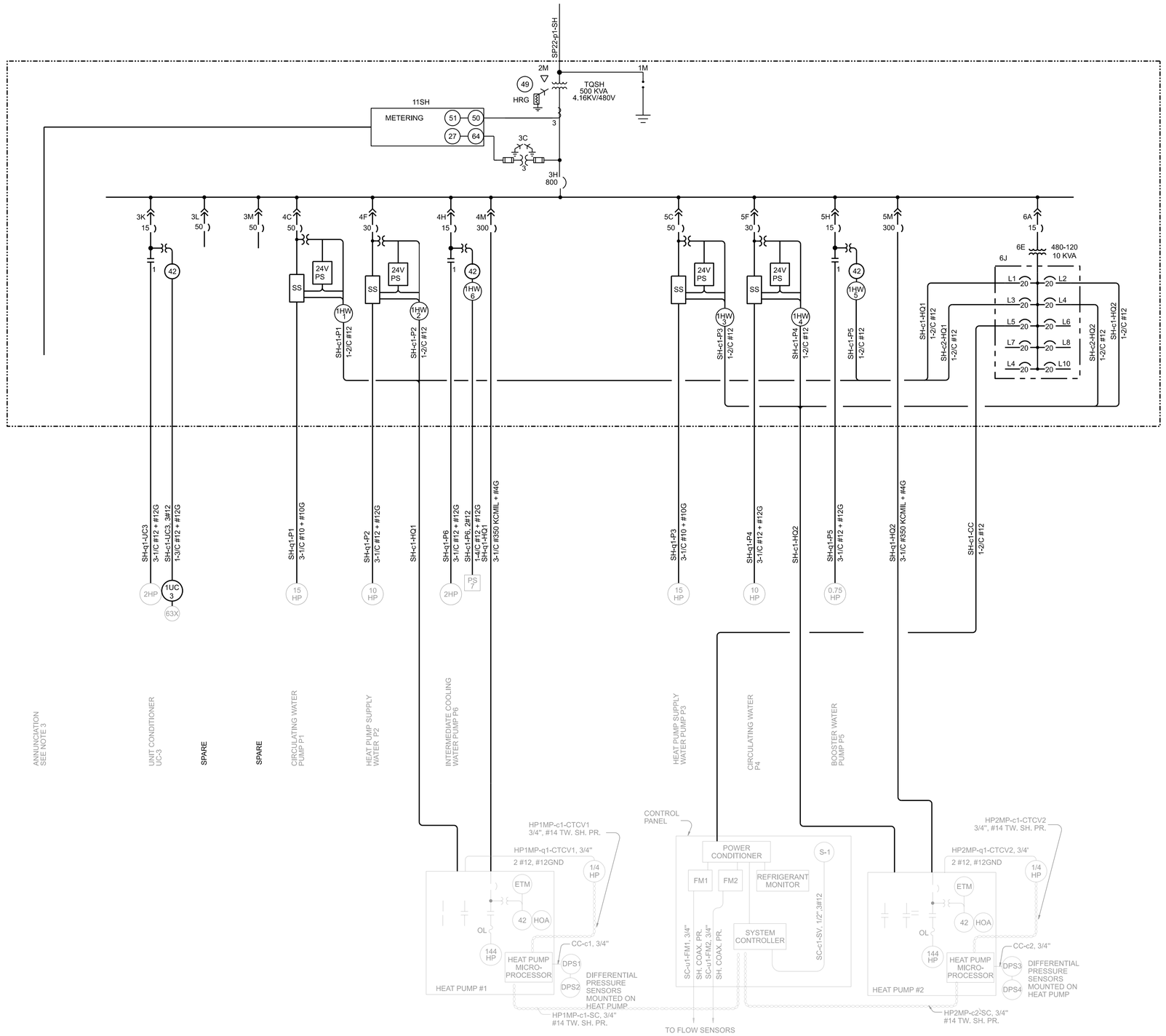
LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1-6-18/4	HEAT PUMPS REPLACEMENT MCC SH ONE-LINE DIAGRAM ELECTRICAL MODIFICATIONS



A1 MCC SH
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-6-1D21/10
FILE NAME:	LGP1.002-E-605.dgn

DESIGNED BY:	S. SCHEIFF
DRAWN BY:	M. FLANAGAN
CHECKED BY:	K. SELLERS
SUBMITTED BY:	L. VAN STEDUM, P.E.
SIZE	ANSI D

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WALLA WALLA, WASHINGTON

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HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

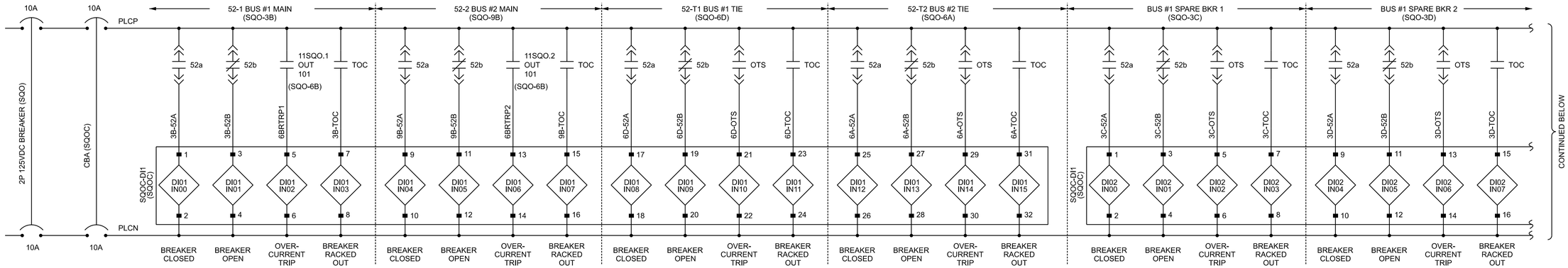
SH
ONE LINE DIAGRAM
INSTALL

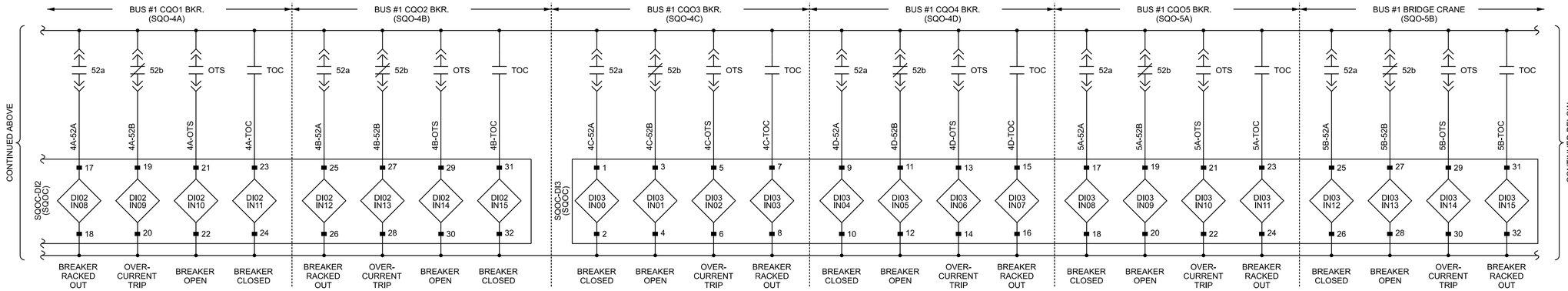
SHEET ID
VOLUME 2
E-605

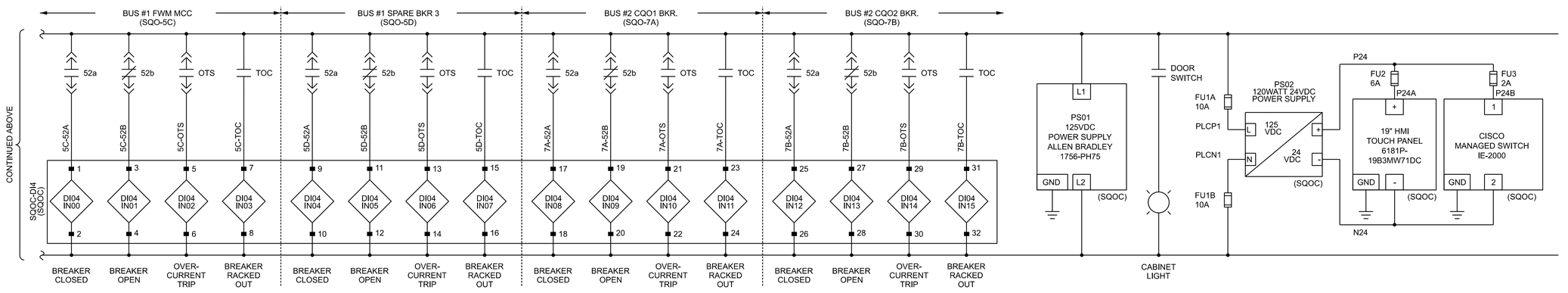
FINAL

GENERAL NOTES

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. SUGGESTED WIRE NAMES AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.
3. CONTRACTOR MUST INCLUDE UPDATED WIRE NAMES TO REFLECT THE CUBICLES NAMES OF THE SWITCHGEAR IF THEY HAVE CHANGED FROM THOSE SHOWN IN THE CONTRACT DRAWINGS.







A1 SQOC PLC INPUT CONTROL SCHEMATIC

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	K. SIRACUSA
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. PINK, P.E.
ANSI D	V2-LGP1 002-E-606.dgn

ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-606247
FILE NAME: LGP1 002-E-606.dgn

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WALLA WALLA, WASHINGTON

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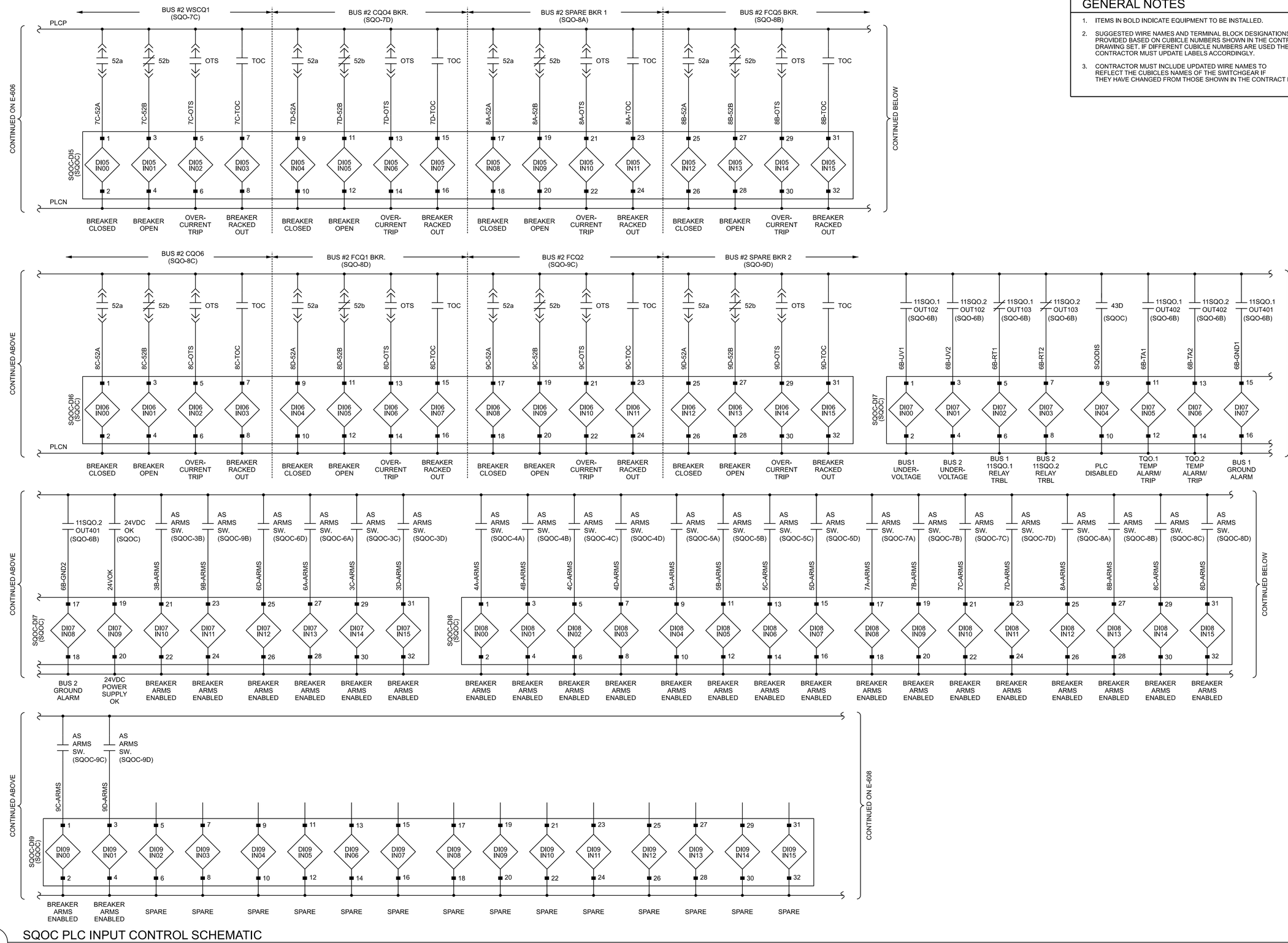
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQOC PLC INPUT
CONTROL SCHEMATIC
SHEET 1 OF 2 - INSTALL

SHEET ID
VOLUME 2
E-606

FINAL



GENERAL NOTES

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. SUGGESTED WIRE NAMES AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.
3. CONTRACTOR MUST INCLUDE UPDATED WIRE NAMES TO REFLECT THE CUBICLES NAMES OF THE SWITCHGEAR IF THEY HAVE CHANGED FROM THOSE SHOWN IN THE CONTRACT DRAWINGS.

A1 SQOC PLC INPUT CONTROL SCHEMATIC

NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	K. SIRACUSA
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. TINNIM, P.E.
SIZE:	ANSI D
ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-E-902422
FILE NAME:	V2-LGP1.002-E-607.dgn

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WALLA WALLA, WASHINGTON

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQOC PLC INPUT
CONTROL SCHEMATIC
SHEET 2 OF 2 - INSTALL

SHEET ID
VOLUME 2
E-607

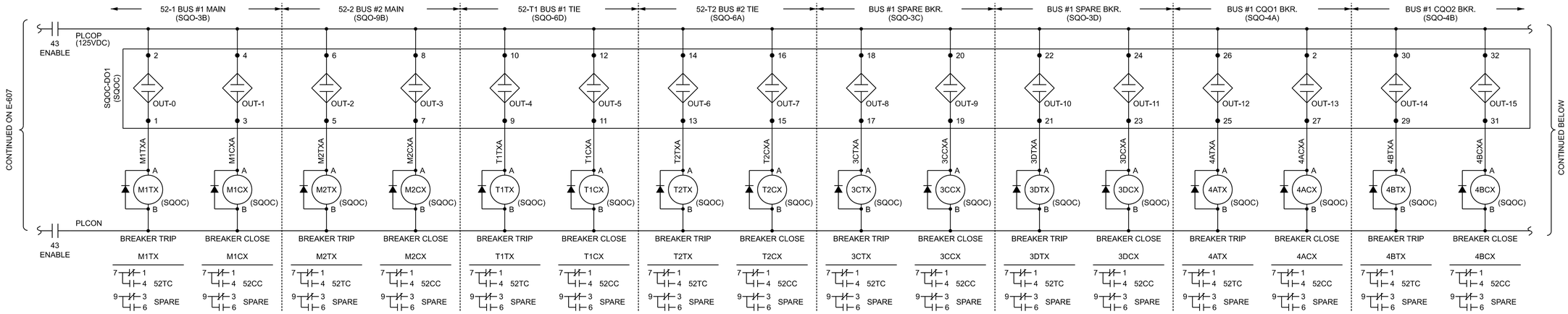
FINAL

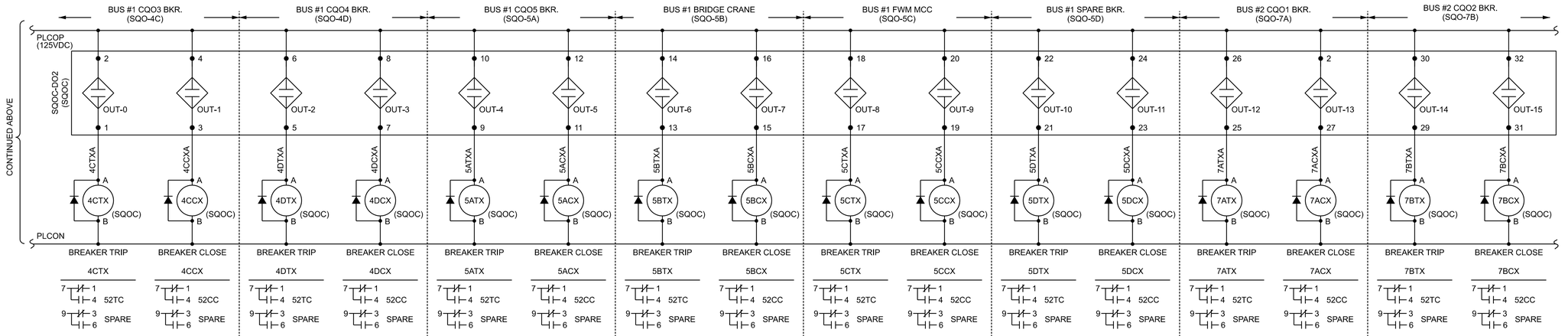
GENERAL NOTES

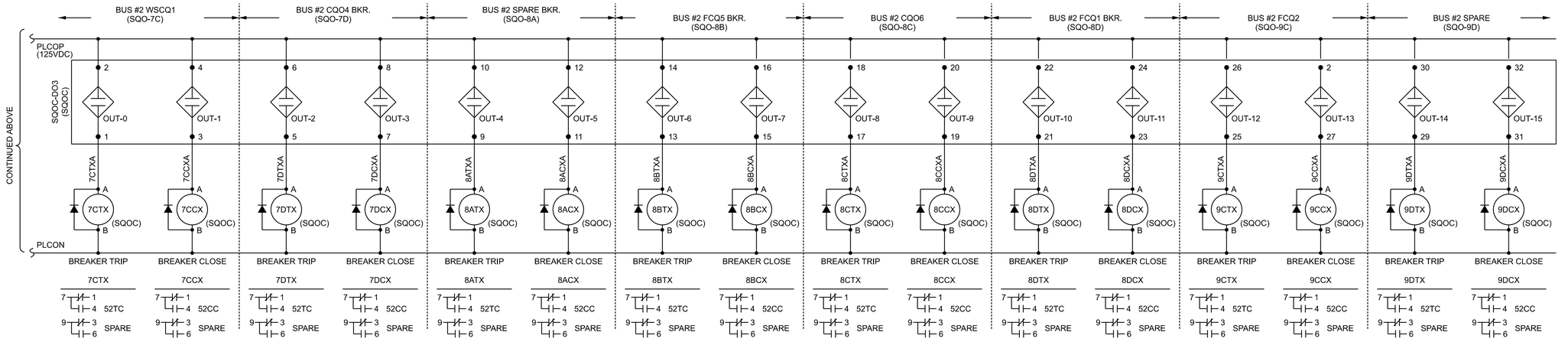
1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. SUGGESTED WIRE NAMES AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.

GENERAL NOTES (CONTINUED)

3. CONTRACTOR MUST INCLUDE UPDATED WIRE NAMES TO REFLECT THE CUBICLES NAMES OF THE SWITCHGEAR IF THEY HAVE CHANGED FROM THOSE SHOWN IN THE CONTRACT DRAWINGS.







A1 SQOC PLC OUTPUT CONTROL SCHEMATIC

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	K. SIRACUSA
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. FINK, P.E.
ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.0022-E-E608.dgn
SCALE:	FULL SCALE IF PLOTTED ON ANSI D
FILENAME:	V2-LGP1.0022-E-608.dgn

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WALLA WALLA, WASHINGTON

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

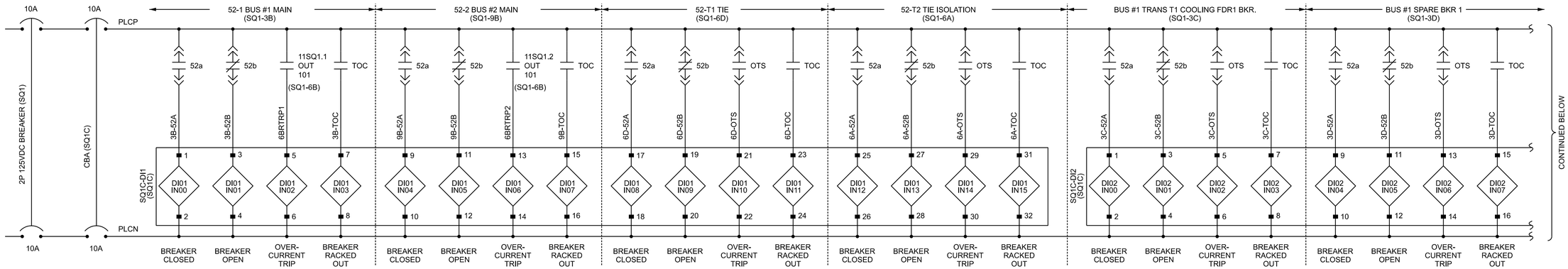
SQOC PLC OUTPUT
CONTROL SCHEMATIC
INSTALL

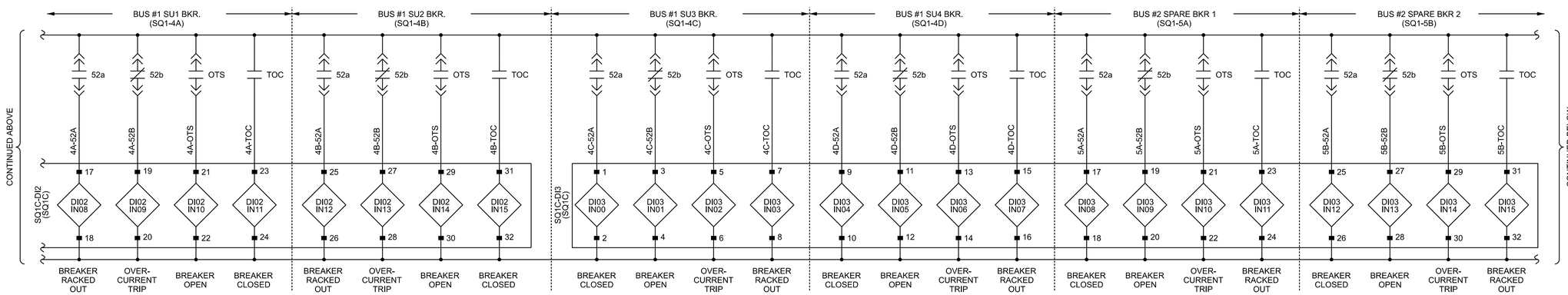
SHEET ID
VOLUME 2
E-608

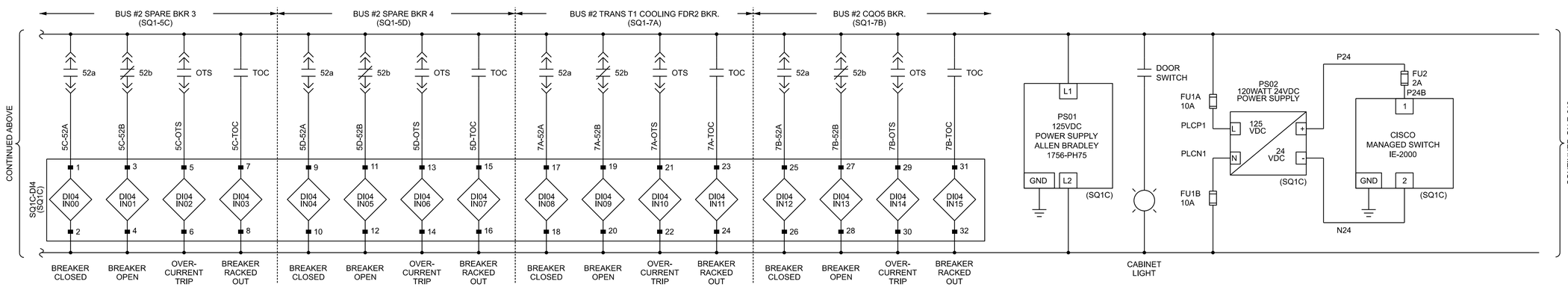
FINAL

GENERAL NOTES

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. SUGGESTED WIRE NAMES AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.
3. CONTRACTOR MUST INCLUDE UPDATED WIRE NAMES TO REFLECT THE CUBICLES NAMES OF THE SWITCHGEAR IF THEY HAVE CHANGED FROM THOSE SHOWN IN THE CONTRACT DRAWINGS.







A1 SQ1C PLC INPUT CONTROL SCHEMATIC

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	
CONTRACT NO.:	W912EF22R0001
DESIGNED BY:	K. SIRACUSA
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	C. DAVIS
D. DINH	
SUBMITTED BY:	D. DINH
JORDAN S. PINK, P.E.	
ANSI D	
DRAWING NUMBER:	LGP-1.002-E-609.dgn
FILENAME:	V2-LGP1.002-E-609.dgn

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQ1C PLC INPUT
CONTROL SCHEMATIC
SHEET 1 OF 2 - INSTALL

SHEET ID
VOLUME 2
E-609

FINAL

GENERAL NOTES

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. SUGGESTED WIRE NAMES AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.
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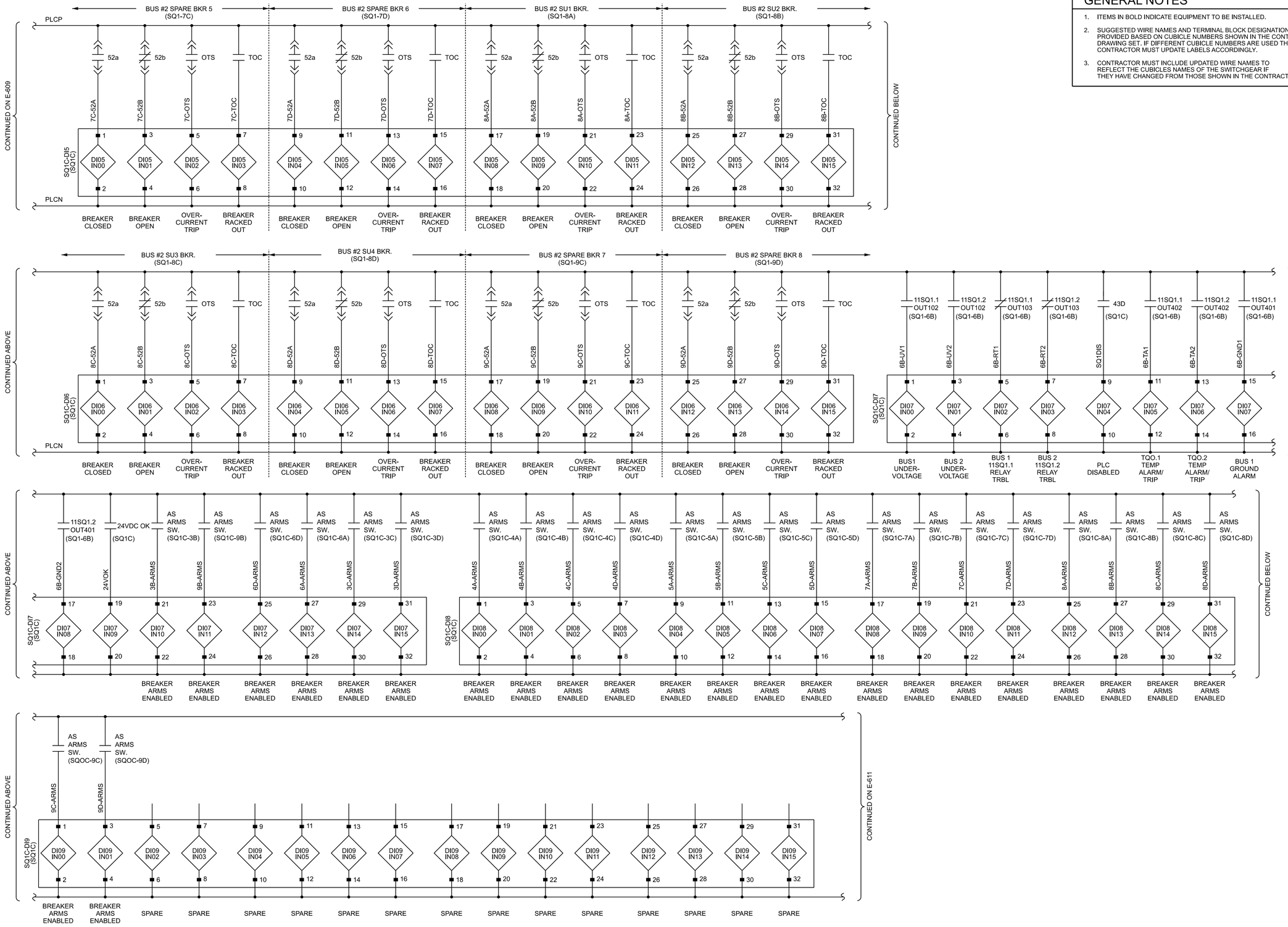

A1 SQ1C PLC INPUT CONTROL SCHEMATIC

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SIRACUSA	ISSUE DATE: AUGUST 2022
DRAWN BY: B. MASOUMPANAH	SOLICITATION NO.: W912EF22R0001
CHECKED BY: D. DINH	CONTRACT NO.:
SUBMITTED BY: JORDAN S. TINNIM, P.E.	DRAWING NUMBER: LGP-1.002-E-20245
SIZE: ANSI D	FILE NAME: V2-LGP1.002-E-610.dgn

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SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQ1C PLC INPUT
CONTROL SCHEMATIC
SHEET 1 OF 2 - INSTALL

SHEET ID
VOLUME 2
E-610

FINAL

GENERAL NOTES

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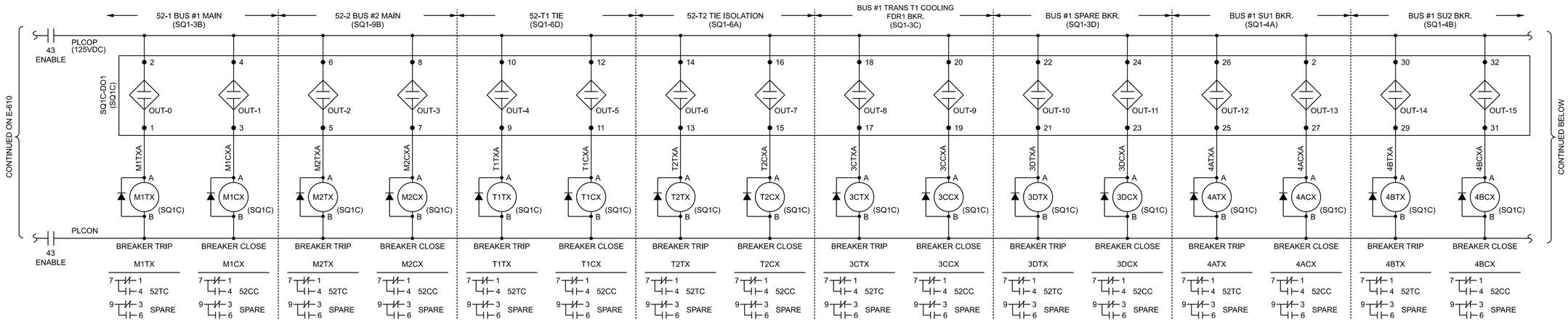
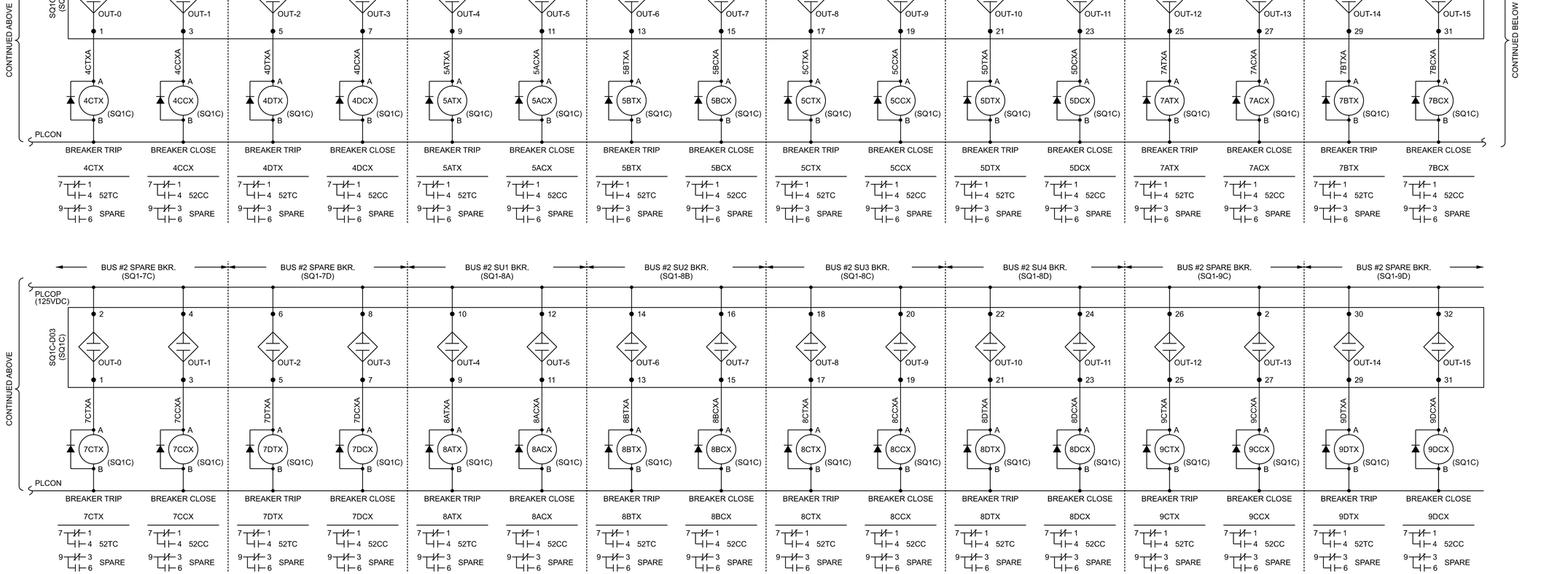
GENERAL NOTES (CONTINUED)

3. CONTRACTOR MUST INCLUDE UPDATED WIRE NAMES TO REFLECT THE CUBICLES NAMES OF THE SWITCHGEAR IF THEY HAVE CHANGED FROM THOSE SHOWN IN THE CONTRACT DRAWINGS.





A1 SQ1C PLC OUTPUT CONTROL SCHEMATIC

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SIRACUSA
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
DETAILED BY: ANSI D.
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0024-5-20240
FILENAME: V2-LGP1.0024-E-611.dgn

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SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQ1C PLC OUTPUT
CONTROL SCHEMATIC
INSTALL

SHEET ID
VOLUME 2
E-611

FINAL

GENERAL NOTES

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. SUGGESTED WIRE NAMES AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.
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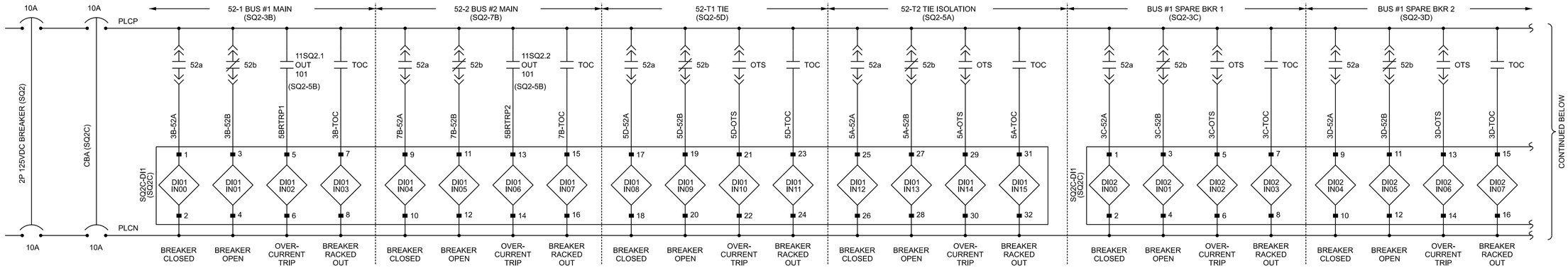

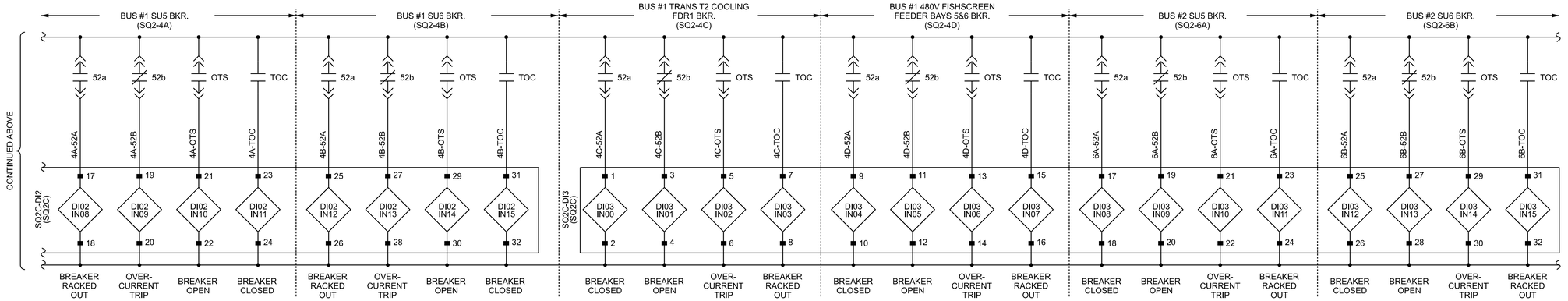

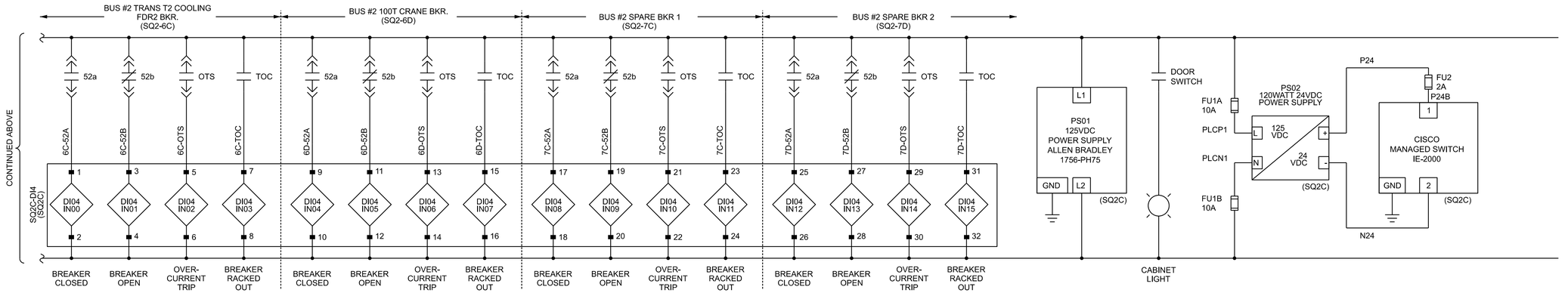

A1 SQ2C PLC INPUT CONTROL SCHEMATIC

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	K. SIRACUSA
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. PINK, P.E.
ANSI D	

ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001
DRAWING NUMBER: LGP-1.002-E-612.dgn
FILE NAME: V2-LGP1.002-E-612.dgn

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SNAKE RIVER
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DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQ2C PLC INPUT
CONTROL SCHEMATIC
SHEET 1 OF 2 - INSTALL

SHEET ID
VOLUME 2
E-612

FINAL

GENERAL NOTES

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. SUGGESTED WIRE NAMES AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.
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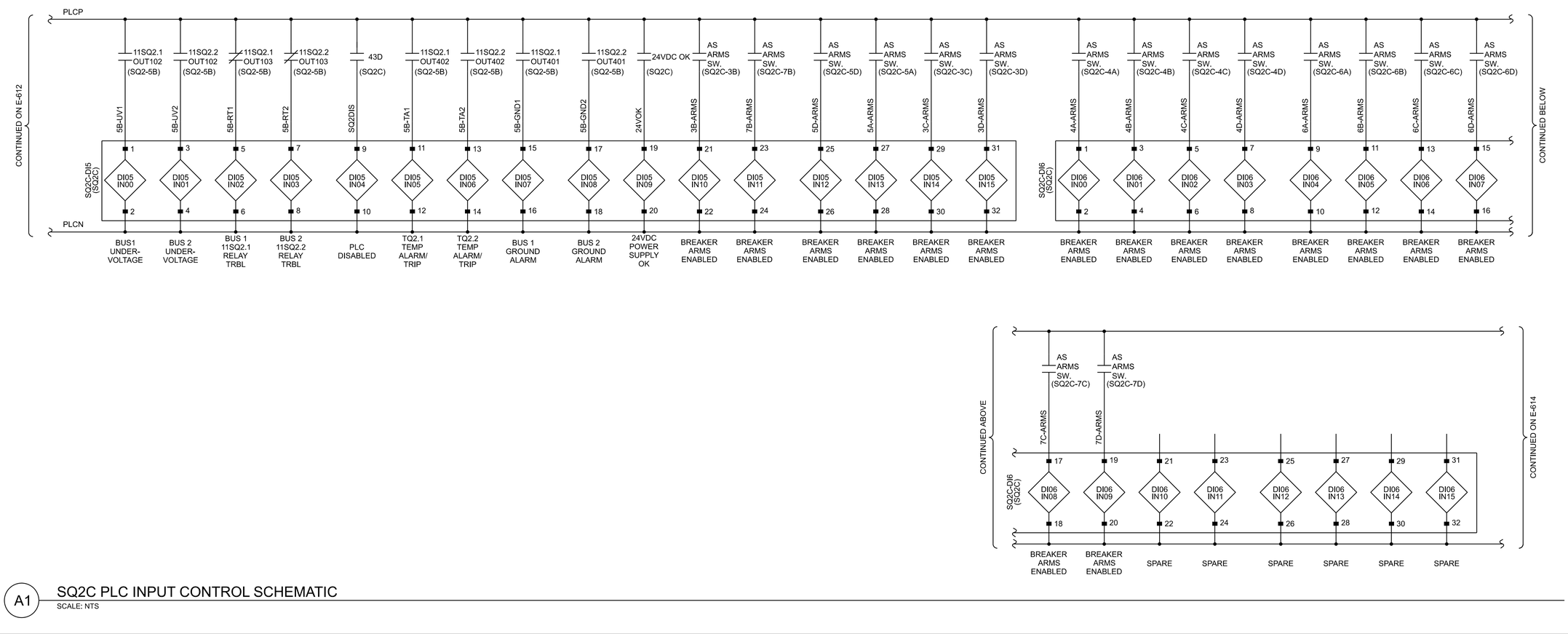

A1 SQ2C PLC INPUT CONTROL SCHEMATIC

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-6-D2248
DESIGNED BY:	K. SIRACUSA
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. PINK, P.E.
ANSI D	V2-LGP1.002-E-613.dgn

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SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQ2C PLC INPUT
CONTROL SCHEMATIC
SHEET 2 OF 2 - INSTALL

SHEET ID
VOLUME 2
E-613

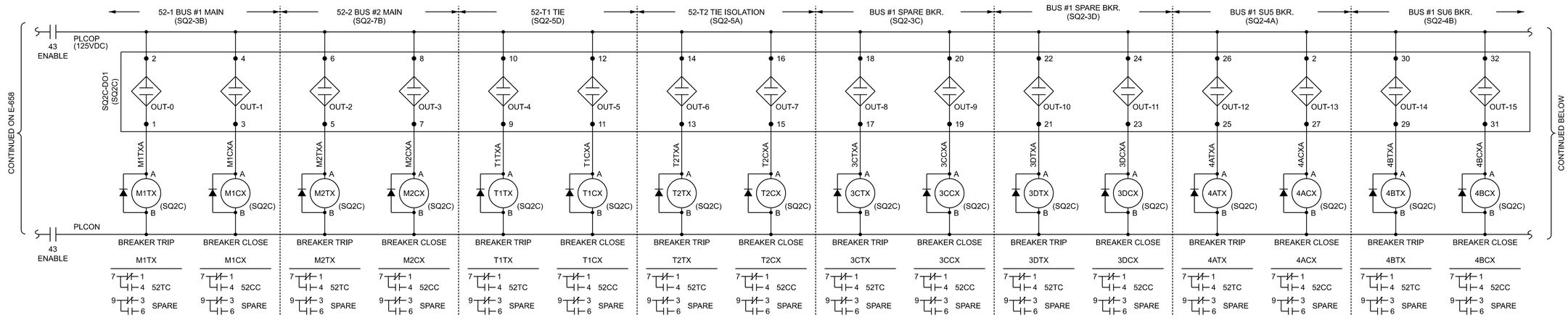
FINAL

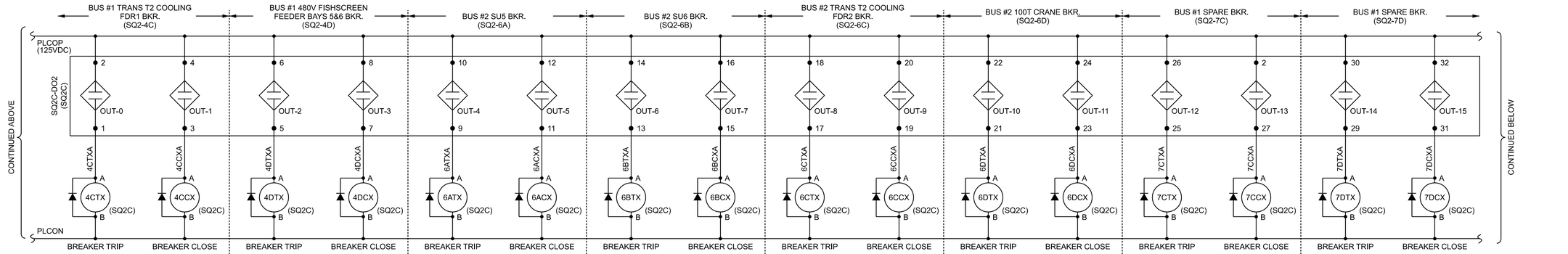
GENERAL NOTES

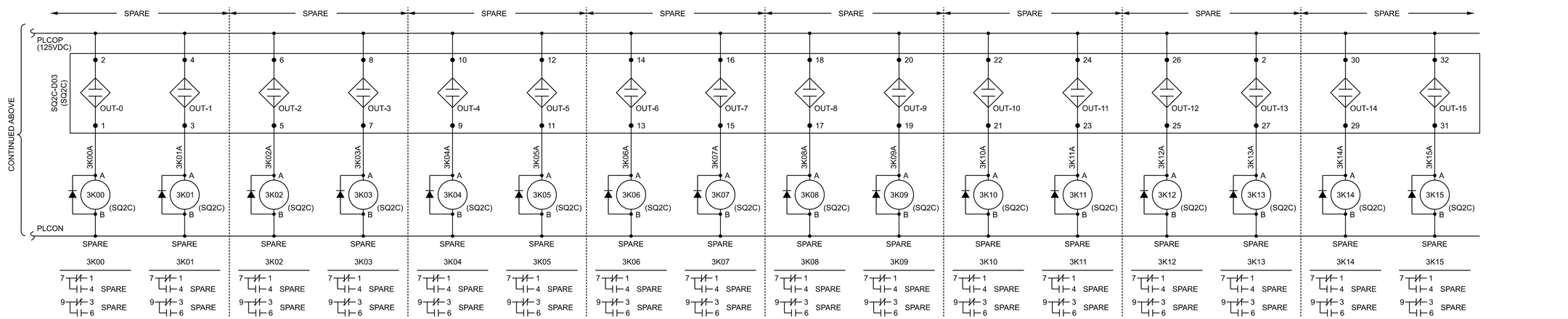
1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. SUGGESTED WIRE NAMES AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.

GENERAL NOTES (CONTINUED)

3. CONTRACTOR MUST INCLUDE UPDATED WIRE NAMES TO REFLECT THE CUBICLES NAMES OF THE SWITCHGEAR IF THEY HAVE CHANGED FROM THOSE SHOWN IN THE CONTRACT DRAWINGS.







A1 SQ2C PLC OUTPUT CONTROL SCHEMATIC

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SIRACUSA
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: [illegible] P.E.
ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001
DRAWING NUMBER: LGP-1.002-E-0624/9
SCALE: AS SHOWN
FILENAME: V2-LGP1.002-E-614.dgn
ANSI D

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQ2C PLC OUTPUT CONTROL SCHEMATIC INSTALL

SHEET ID
VOLUME 2
E-614

FINAL

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. CONTROL VOLTAGE DERIVED FROM 480V LINE SOURCE VIA CONTROL TRANSFORMER. PROVIDE A CONTROL TRANSFORMER FOR EACH CONTROL SOURCE AS SHOWN ON SH ONE LINE

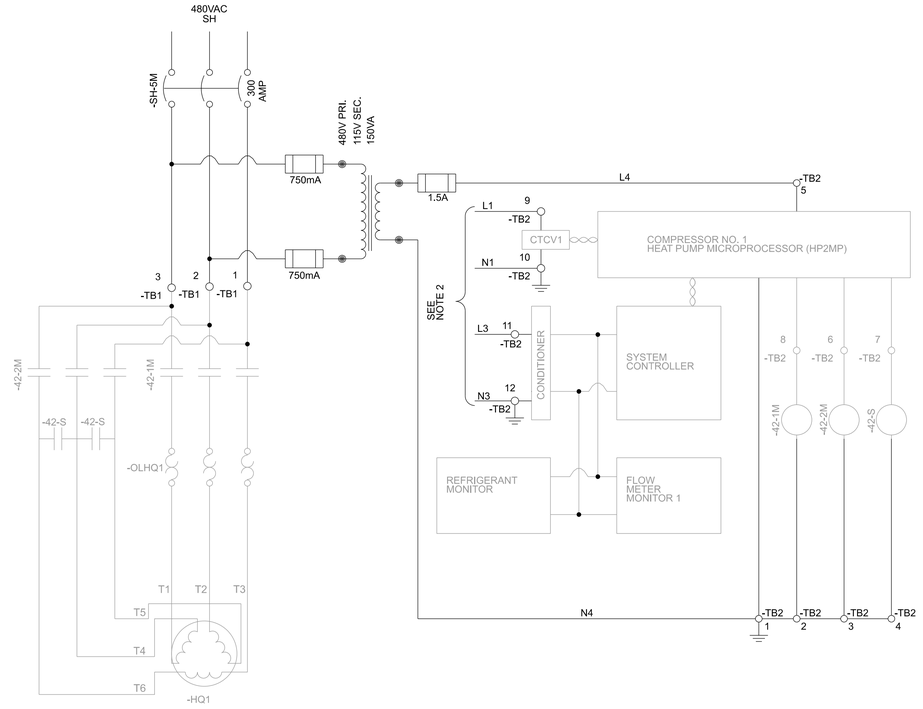
LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

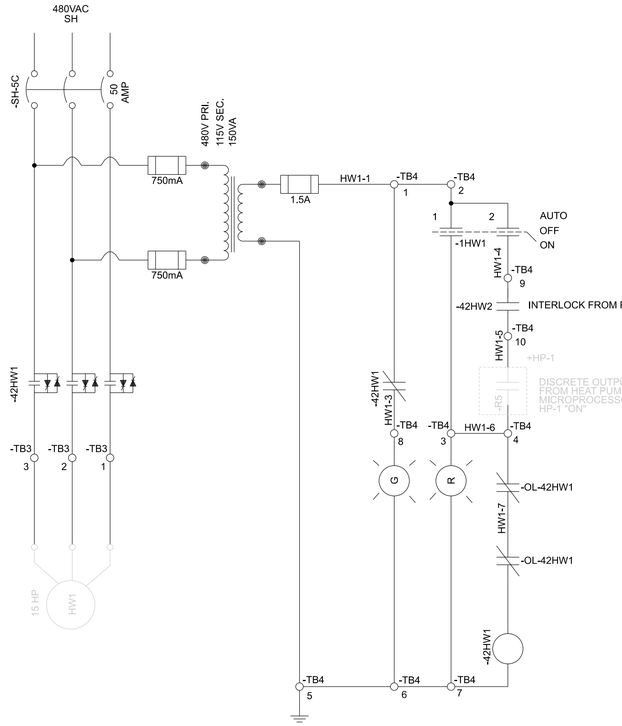
REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1-6-18/4	HEAT PUMPS REPLACEMENT MCC SH ONE-LINE DIAGRAM ELECTRICAL MODIFICATIONS
LGP-1-6-18/5	HEAT PUMPS REPLACEMENT CONTROL WIRING DIAGRAMS I MODIFICATIONS
LGP-1-6-18/6	HEAT PUMPS REPLACEMENT CONTROL WIRING DIAGRAMS II MODIFICATIONS



HEAT PUMP NO.1 HQ-1-SH (HEAT PUMP NO.2 SIMILAR)

A1 SCALE: NTS



1HW1	HEAT PUMP SUPPLY WATER PUMP P-1		
OFF / ON / AUTO			MAINTAIN CONTACTS
CONTACT	ON	OFF	AUTO
1	X		
2			X

HEAT PUMP SUPPLY WATER PUMP P-1 (P-3 IS SIMILAR)

A11 SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-6-#D24/10
DESIGNED BY:	S. SCHEIFF
DRAWN BY:	E. HEDINE
CHECKED BY:	K. SELLERS
SUBMITTED BY:	L. VAN STEDUM, P.E.
SIZE	FILE NAME:
ANSI D	V2-LGP1.002-E-615.dgn

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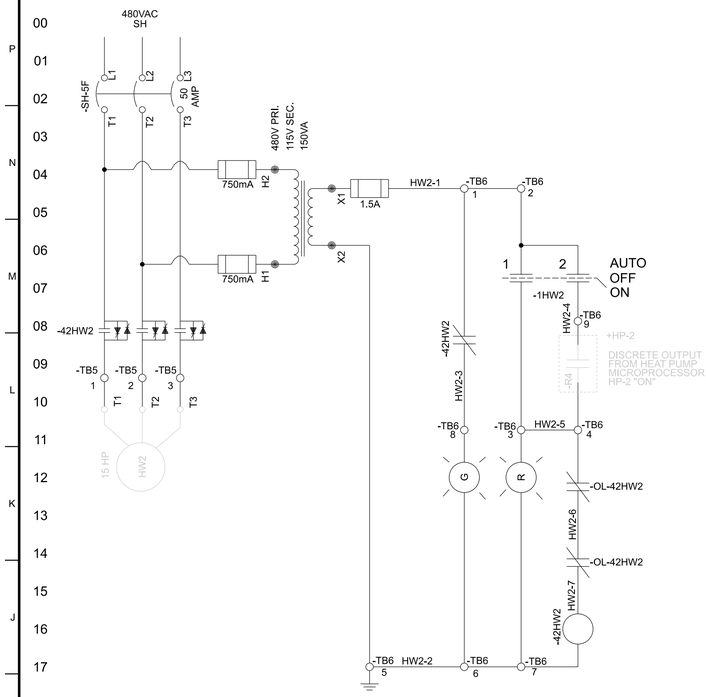
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

HEAT PUMP NO. 1 HQ-Q-SH
HEAT PUMP SUPPLY WATER PUMP P-1
CONTROL SCHEMATIC

SHEET ID
VOLUME 2
E-615

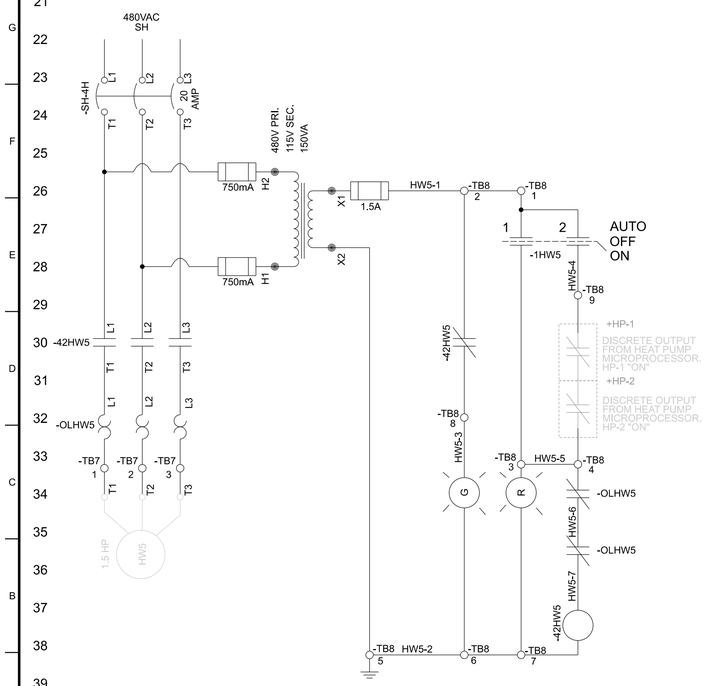
FINAL



1HW2	CIRCULATING WATER PUMP P-2		
OFF / ON / AUTO		MAINTAIN CONTACTS	
CONTACT	ON	OFF	AUTO
1	X		
2			X

H1 CIRCULATING WATER PUMP P-2
(P-4 IS SIMILAR)

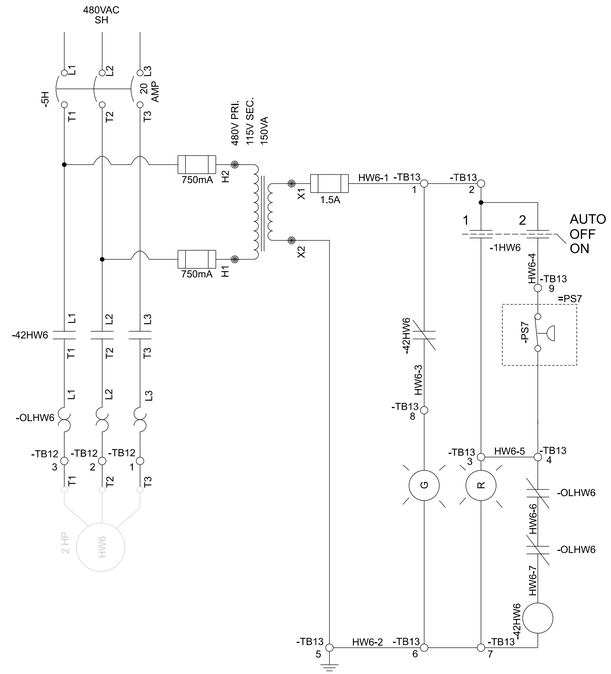
SCALE: NTS



1HW5	BOOSTER WATER PUMP P-5		
OFF / ON / AUTO		MAINTAIN CONTACTS	
CONTACT	ON	OFF	AUTO
1	X		
2			X

A1 BOOSTER WATER PUMP P-5

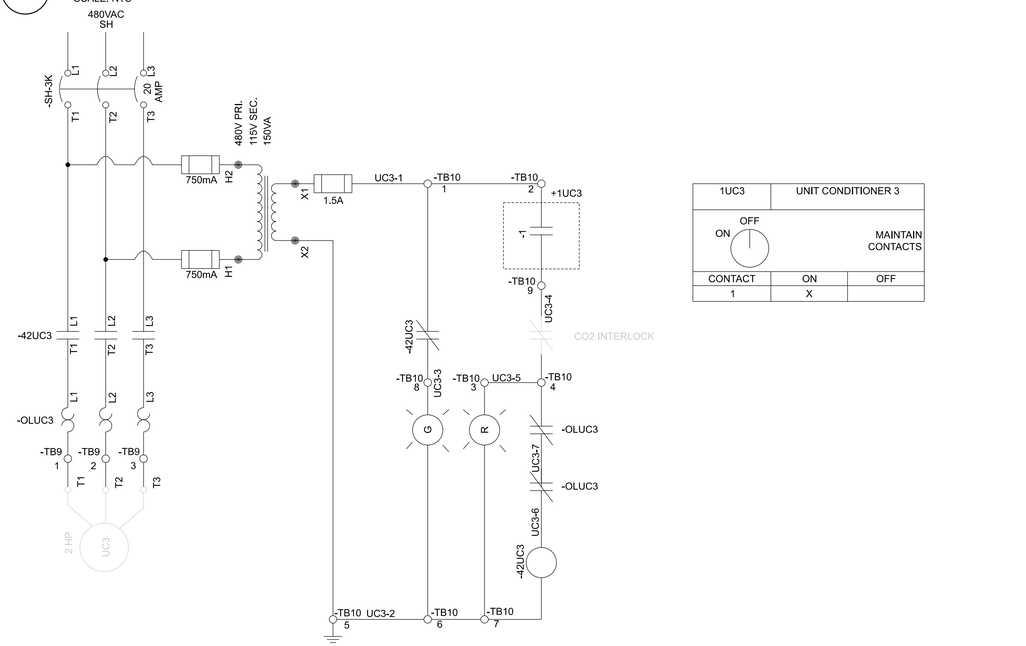
SCALE: NTS



1HW6	INTERMEDIATE COOLING WATER PUMP P-6		
OFF / ON / AUTO		MAINTAIN CONTACTS	
CONTACT	ON	OFF	AUTO
1	X		
2			X

G11 INTERMEDIATE COOLING WATER PUMP P-6

SCALE: NTS



1UC3	UNIT CONDITIONER 3	
OFF / ON	MAINTAIN CONTACTS	
CONTACT	ON	OFF
1	X	

A11 UNIT CONDITIONER UC-3

SCALE: NTS

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. CONTROL VOLTAGE DERIVED FROM 480V LINE SOURCE VIA CONTROL TRANSFORMER. PROVIDE A CONTROL TRANSFORMER FOR EACH CONTROL SOURCE AS SHOWN ON SH ONE LINE.

LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1-6-18/4	HEAT PUMPS REPLACEMENT MCC SH ONE-LINE DIAGRAM ELECTRICAL MODIFICATIONS
LGP-1-6-18/5	HEAT PUMPS REPLACEMENT CONTROL WIRING DIAGRAMS I MODIFICATIONS
LGP-1-6-18/6	HEAT PUMPS REPLACEMENT CONTROL WIRING DIAGRAMS II MODIFICATIONS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: E. HEDINE
CHECKED BY: K. SELLERS
SUBMITTED BY: M.A. STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-20241111
FILE NAME: V2-LGP.1.002-E-616.dgn

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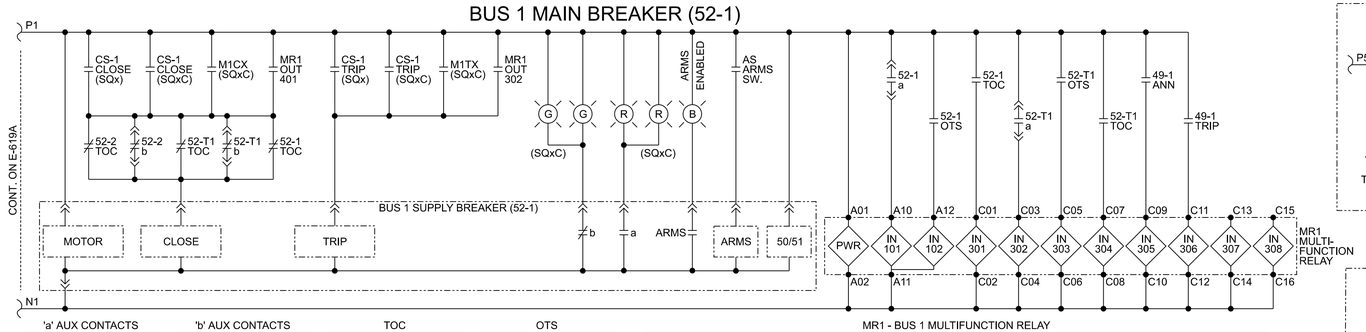
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CIRCULATING WATER PUMP P-2,
BOOSTER WATER PUMP P-5, UNIT CONDITIONER UC-3
CONTROL SCHEMATIC

SHEET ID
VOLUME 2
E-616

FINAL

BUS 1 MAIN BREAKER (52-1)

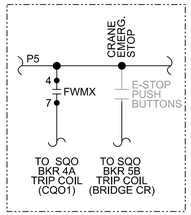


'a' AUX CONTACTS	'b' AUX CONTACTS	TOC	OTS
52-1 RED LT	52-1 GREEN LT	52-1 CLOSE	MR1 IN102
52-1 TRIP	52-T1 CLOSE	52-T1 CLOSE	SPARE
MR1 IN101	52-2 CLOSE	52-2 CLOSE	
PLC DI01-IN0	PLC DI01-IN1	MR1 IN301	
SPARE	SPARE	PLC DI01-IN3	
SPARE	SPARE	SPARE	

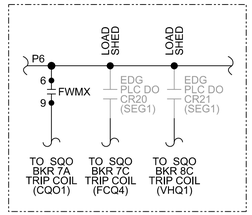
MR1 - BUS 1 MULTIFUNCTION RELAY

OUT101	PLC DI01-IN2 (52-1 TRIP ALARM)	OUT405	PLC DI07-IN7 (BUS 1 GROUND)
OUT102	PLC DI07-IN0 (BUS 1 LOW VOLT.)	OUT406	PLC DI07-IN5 (TQO.1 TEMP. TRBL)
OUT103	PLC DI07-IN2 (MR1 RELAY TRBL)	OUT407	SQx TRIP ANNUNCIATION
OUT401	52-1 CLOSE	OUT408	SQx TROUBLE ANNUNCIATION
OUT402	52-1 TRIP		
OUT403	52-T1 CLOSE		
OUT404	52-T1 TRIP		

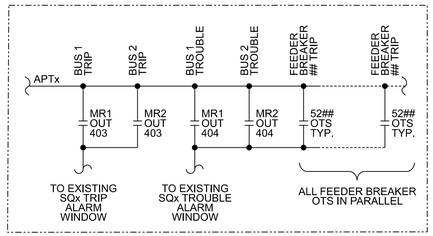
SQO BUS 1 DETAILS



SQO BUS 2 DETAILS



ANNUNCIATION DETAILS



GENERAL NOTES:

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED .
2. MR1 AND MR2 COMMUNICATION BY FIBER OPTIC CABLE CONNECTION.
3. LOAD SHEDDING, WATER MIST FIRE SUPPRESION, CRANE EMERGENCY STOP ARE FOR SQO ONLY. CONTRACTOR TO FIELD VERIFY WATER MIST FIRE SUPPRESSION FUNCTIONALITY.
4. K RELAYS DISABLED WHEN PLC ENABLE/DISABLE SWITCH IS DISABLED.
5. TOC CONTACTS ARE CLOSED WHEN THE BREAKER IS IN A RACKED OUT OR TEST POSITION. TOC CONTACTS ARE OPEN WHEN THE BREAKER IS RACKED TO OPERATE POSITION.
6. "##" REFERS TO BREAKER CUBICLE POSITION.
7. ALL BREAKERS ARE SHOWN IN RACKED OUT AND OPEN STATE.
8. MAIN AND TIE BREAKER CONTROL SCHEMATICS ARE DESIGNED SO THAT A MAXIMUM OF TWO BREAKERS ARE ALLOWED TO BE CLOSED ONTO THE BUS AT ANY TIME. IF ANY BREAKER IS IN TEST POSITION, THE OTHER BREAKERS CAN BE CLOSED REGARDLESS OF THE OPEN/CLOSE STATUS.

OPERATING INSTRUCTIONS:

MANUAL: NO AUTOMATIC TRANSFER OPERATION. AUTO NORMAL: SYSTEM TRANSFER TO ALTERNATE ROUTE UPON LOSS OF NORMAL SOURCE AND AUTOMATICALLY RETURNS TO NORMAL, WHEN NORMAL SOURCE IS RESTORED. AUTO LIVE: SYSTEM TRANSFERS ONLY WHEN ACTIVE SOURCE IS LOST. DOES NOT AUTOMATICALLY RETURN TO NORMAL.

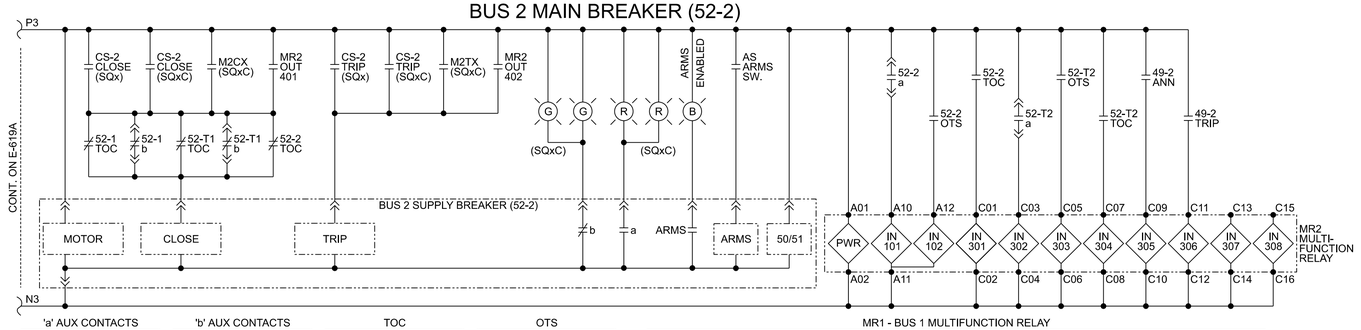
AUTOMATIC OPERATION IS DISABLED WHEN ANY OF THE FOLLOWING CONDITIONS EXISTS:

1. EITHER MAIN OR TIE BREAKERS TRIPS ON A FAULT.
2. OPERATOR MANUALLY TRIPS A MAIN OR TIE BREAKER.
3. GROUND FAULT OR TRANSFORMER HIGH TEMPERATURE TRIP.
4. ANY MAIN OR TIE BREAKER NOT IN THE CONNECTED POSITION.

REFERENCE DRAWINGS:

DRAWING NO.	TITLE
R32545	SQO CONTROL SCHEMATIC

BUS 2 MAIN BREAKER (52-2)

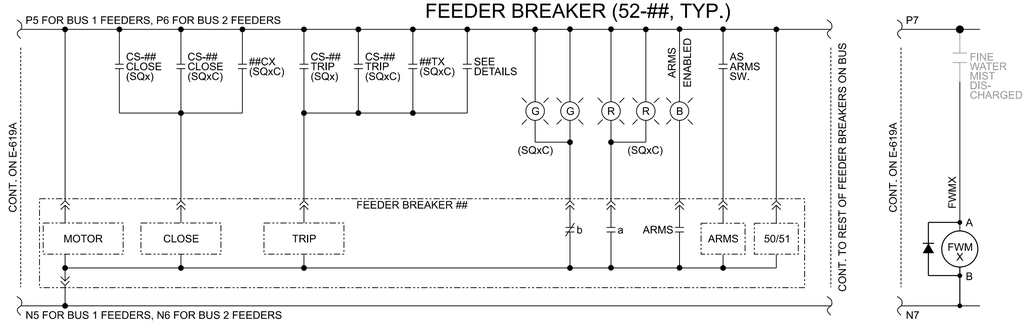


'a' AUX CONTACTS	'b' AUX CONTACTS	TOC	OTS
52-2 RED LT	52-2 GREEN LT	52-2 CLOSE	MR2 IN102
52-2 TRIP	52-1 CLOSE	52-1 CLOSE	SPARE
MR2 IN101	52-T1 CLOSE	52-T1 CLOSE	
PLC DI01-IN4	PLC DI01-IN5	MR2 IN301	
SPARE	SPARE	PLC DI01-IN7	
SPARE	SPARE	SPARE	

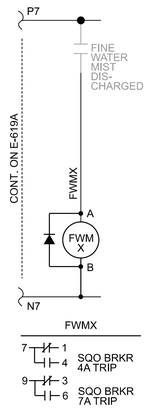
MR1 - BUS 1 MULTIFUNCTION RELAY

OUT101	PLC DI01-IN6 (52-2 TRIP ALARM)	OUT405	PLC DI07-IN8 (BUS 2 GROUND)
OUT102	PLC DI07-IN1 (BUS 2 LOW VOLT.)	OUT406	PLC DI07-IN6 (TQO.2 TEMP. TRBL)
OUT103	PLC DI07-IN3 (MR2 RELAY TRBL)	OUT407	SQx TRIP ANNUNCIATION
OUT401	52-2 CLOSE	OUT408	SQx TROUBLE ANNUNCIATION
OUT402	52-2 TRIP		
OUT403	52-T2 CLOSE		
OUT404	52-T2 TRIP		

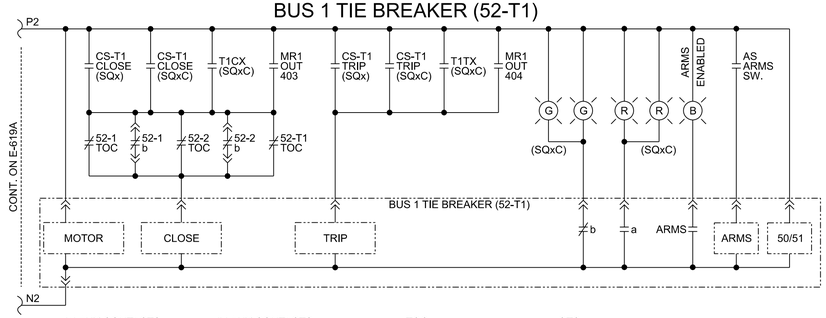
FEEDER BREAKER (52-##, TYP.)



'a' AUX CONTACTS	'b' AUX CONTACTS	TOC	OTS
52-## RED LT	52-## GREEN LT	SPARE	ANN
52-## TRIP	52-## CLOSE	SPARE	PLC DIxx-INx
PLCEG (VHQ1, FCQ4)	SPARE	SPARE	
PLC DIxx-INx	PLC DIxx-INx	PLC DIxx-INx	
SPARE	SPARE	SPARE	
SPARE	SPARE	SPARE	

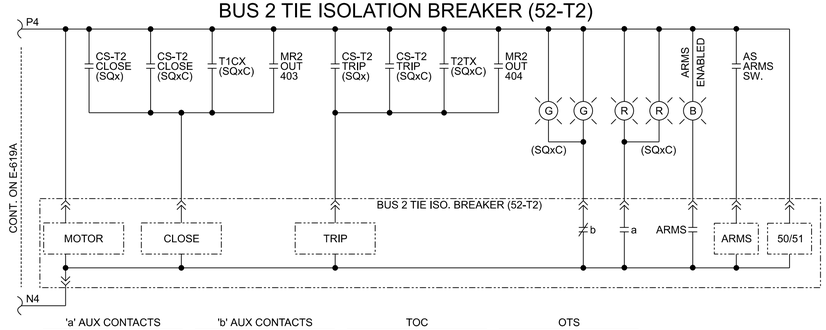


BUS 1 TIE BREAKER (52-T1)



'a' AUX CONTACTS	'b' AUX CONTACTS	TOC	OTS
52-T1 RED LT	52-T1 GREEN LT	52-T1 CLOSE	MR1 IN303
52-T1 TRIP	52-1 CLOSE	52-1 CLOSE	PLC DI01-IN10
MR1 IN302	52-2 CLOSE	52-2 CLOSE	
PLC DI01-IN8	PLC DI01-IN9	MR1 IN304	
SPARE	SPARE	PLC DI01-IN11	
SPARE	SPARE	SPARE	

BUS 2 TIE ISOLATION BREAKER (52-T2)



'a' AUX CONTACTS	'b' AUX CONTACTS	TOC	OTS
52-T2 RED LT	52-T2 GREEN LT	SPARE	MR2 IN303
52-T2 TRIP	SPARE	SPARE	PLC DI01-IN14
MR2 IN302	SPARE	SPARE	
PLC DI01-IN12	PLC DI01-IN13	MR2 IN304	
SPARE	SPARE	PLC DI01-IN15	
SPARE	SPARE	SPARE	

A1 SQO BREAKER CONTROL SCHEMATICS (SQ1, SQ2 SIMILAR)
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	S. SCHEIFF
DRAWN BY:	E. HEDINE
CHECKED BY:	K. SELLERS
SUBMITTED BY:	JOINT STERLING, P.E.
SIGNATURE:	
ANSI/D	

ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.0022-6-20241212
SIZE:	
FILENAME:	V2-LGP1.0022-E-617.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQO, SQ1 & SQ2 BREAKERS
CONTROL SCHEMATIC
INSTALL

SHEET ID
VOLUME 2
E-617

FINAL

GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1-6-18/4	HEAT PUMPS REPLACEMENT MCC SH ONE-LINE DIAGRAM ELECTRICAL MODIFICATIONS
LGP-1-6-18/5	HEAT PUMPS REPLACEMENT CONTROL WIRING DIAGRAMS I MODIFICATIONS
LGP-1-6-18/6	HEAT PUMPS REPLACEMENT CONTROL WIRING DIAGRAMS II MODIFICATIONS

SH-5M
(HEAT PUMP #1)

POWER HOUSE SH — TB1

Target	Wire Number	Jumper	Wire Number	Target
-OLHQ1		1		-HQ1:T3
-OLHQ1		2		-HQ1:T2
-OLHQ1		3		-HQ1:T1

SH-q1-HQ1, 3"
SH-c1-HQ1, 1 1/4"
SH-c1-CC, 1 1/4"

POWER HOUSE SH — TB2

Target	Wire Number		Jumper	Wire Number	Target
-XFMR:X2	N4	1		N4	-GND
-42-1M	N4	2			
-42-2M	N4	3			
-42-S	N4	4			
-FUSE	L4	5		L4	HP1MP
HP1MP		6			-42-2M
HP1MP		7			-42-S
HP1MP		8			-42-1M
7.5KVA PANEL	L1	9		L1	CTCV1
-GND	N1	10		N1	CTCV1
7.5KVA PANEL	L3	11		L3	CONDITIONER
-GND	N3	12		N3	CONDITIONER

SH-5F
(CIRCULATING WATER PUMP P2)

POWER HOUSE SH — TB5

Target	Wire Number	Jumper	Wire Number	Target
-42HW2		1		-HW2:T3
-42HW2		2		-HW2:T2
-42HW2		3		-HW2:T1

SH-q1-P2, 1"

POWER HOUSE SH — TB6

Target	Wire Number		Jumper	Wire Number	Target
FUSE	HW2-1	1		HW2-1	-42HW2-NC
		2		HW2-1	+1HW2-1
+1HW2-1	HW2-5	3		HW2-5	-LT-R
-OL-42HW2	HW2-5	4		HW2-5	+HP-2-R4
-XFMR:X2	HW2-2	5		HW2-2	-GND
		6		HW2-2	-LT-G
-42HW2:A2	HW2-2	7		HW2-2	-LT-R
-42HW2-NC	HW2-3	8		HW2-3	-LT-G
+1HW2-2	HW2-4	9		HW2-4	+HP-2-R4

SH-5C
(HEAT PUMP SUPPLY WATER P1)

POWER HOUSE SH — TB3

Target	Wire Number	Jumper	Wire Number	Target
-42HW1		1		-HW1:T3
-42HW1		2		-HW1:T2
-42HW1		3		-HW1:T1

SH-q1-P1, 1"

POWER HOUSE SH — TB4

Target	Wire Number		Jumper	Wire Number	Target
FUSE	HW1-1	1		HW1-1	-42HW1-NC
		2		HW1-1	+1HW1-1
+1HW1-1	HW1-6	3		HW1-6	-LT-R
-OL-42HW1	HW1-6	4		HW1-6	+HP-1-R5
-XFMR:X2	HW1-2	5		HW1-2	-GND
		6		HW1-2	-LT-G
-42HW1:A2	HW1-2	7		HW1-2	-LT-R
-42HW1-NC	HW1-3	8		HW1-3	-LT-G
+1HW1-2	HW1-4	9		HW1-4	42HW2-NO
-42HW2-NO	HW1-5	10		HW1-5	+HP-1-R5

SH-4H
(BOOSTER WATER PUMP P5)

POWER HOUSE SH — TB7

Target	Wire Number	Jumper	Wire Number	Target
-OLHW5		1		-HW5:T3
-OLHW5		2		-HW5:T2
-OLHW5		3		-HW5:T1

SH-q1-P5, 3/4"

POWER HOUSE SH — TB8

Target	Wire Number		Jumper	Wire Number	Target
		1		HW5-1	+1HW5-1
FUSE	HW5-1	2		HW5-1	-42HW5-NC
+1HW5-1	HW5-5	3		HW5-5	-LT-R
-OLHW5	HW5-5	4		HW5-5	+HP-2
-XFMR:X2	HW5-2	5		HW5-2	-GND
		6		HW5-2	-LT-G
-42HW5:A2	HW5-2	7		HW5-2	-LT-R
-42HW5-NC	HW5-3	8		HW5-3	-LT-G
+1HW5-2	HW5-4	9		HW5-4	+HP-1

A1 TERMINAL BLOCK LAYOUT
SCALE: NTS

A11 TERMINAL BLOCK LAYOUT
NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: E. HEDINE
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
SIZE: E
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9/5/11
FILE NAME: V2-LGP1.002-E-701.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SH MISC EQUIPMENT
TERMINAL BLOCK LAYOUT
SHEET 1 OF 3 - INSTALL

SHEET ID
VOLUME 2
E-701

FINAL

POWER HOUSE
SH
TB12

Target	Wire Number		Jumper	Wire Number	Target
-OLHW6		1			-HW6:T1
-OLHW6		2			-HW6:T2
-OLHW6		3			-HW6:T3

SH-q1-P6, 3/4"
SH-c1-P6, 3/4"

POWER HOUSE
SH
TB13

Target	Wire Number		Jumper	Wire Number	Target
-FUSE	HW6-1	1		HW6-1	-42HW6-NC
		2		HW6-1	+1HW6-1
+1HW6-1	HW6-5	3		HW6-5	-LT-R
-OLHW6	HW6-5	4		HW6-5	-PS7
-XFMR:X2	HW6-2	5		HW6-2	-GND
		6		HW6-2	-LT-G
-42HW6:A2	HW6-2	7		HW6-2	-LT-R
-42HW6-NC	HW6-3	8		HW6-3	-LT-G
+1HW6-2	HW6-4	9		HW6-4	-PS7

SH-5H
(INTERMEDIATE COOLING WATER PUMP P6)

POWER HOUSE
SH
TB16

Target	Wire Number		Jumper	Wire Number	Target
-42HW4		1			-HW4:T3
-42HW4		2			-HW4:T2
-42HW4		3			-HW4:T1

SH-q1-P4, 1"

POWER HOUSE
SH
TB17

Target	Wire Number		Jumper	Wire Number	Target
FUSE	HW4-1	1		HW4-1	-42HW4-NC
		2		HW4-1	+1HW4-1
+1HW4-1	HW4-5	3		HW4-5	-LT-R
-OL-42HW4	HW4-5	4		HW4-5	+HP-2-R4
-XFMR:X2	HW4-2	5		HW4-2	-GND
		6		HW4-2	-LT-G
-42HW4:A2	HW4-2	7		HW4-2	-LT-R
-42HW4-NC	HW4-3	8		HW4-3	-LT-G
+1HW4-2	HW4-4	9		HW4-4	+HP-2-R4

SH-4F
(CIRCULATING WATER PUMP P4)

POWER HOUSE
SH
TB18

Target	Wire Number		Jumper	Wire Number	Target
-OLHQ2		1			-HQ2:T3
-OLHQ2		2			-HQ2:T2
-OLHQ2		3			-HQ2:T1

SH-q1-HQ2, 3"
SH-c1-HQ2, 1 1/4"

POWER HOUSE
SH
TB19

Target	Wire Number		Jumper	Wire Number	Target
-XFMR:X2	N4	1		N4	-GND
-42-1M	N4	2			
-42-2M	N4	3			
-42-S	N4	4			
-FUSE	L4	5		L4	HP2MP
HP2MP		6			-42-2M
HP2MP		7			-42-S
HP2MP		8			-42-1M
7.5KVA PANEL	L2	9		L2	CTCV2
-GND	N1	10		N1	CTCV2
SPARE		11			SPARE
SPARE		12			SPARE

SH-4M
(HEAT PUMP #2)

POWER HOUSE
SH
TB14

Target	Wire Number		Jumper	Wire Number	Target
-42HW3		1			-HW3:T3
-42HW3		2			-HW3:T2
-42HW3		3			-HW3:T1

SH-q1-P3, 1"

POWER HOUSE
SH
TB15

Target	Wire Number		Jumper	Wire Number	Target
FUSE	HW3-1	1		HW3-1	-42HW3-NC
		2		HW3-1	+1HW3-1
+1HW3-1	HW3-6	3		HW3-6	-LT-R
-OL-42HW3	HW3-6	4		HW3-6	+HP-3-R3
-XFMR:X2	HW3-2	5		HW3-2	-GND
		6		HW3-2	-LT-G
-42HW3:A2	HW3-2	7		HW3-2	-LT-R
-42HW3-NC	HW3-3	8		HW3-3	-LT-G
+1HW3-2	HW3-4	9		HW3-4	42HW3-NO
-42HW3-NO	HW3-5	10		HW3-5	+HP-3-R3

SH-4C
(HEAT PUMP SUPPLY WATER P3)

GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1-6-18/4	HEAT PUMPS REPLACEMENT MCC SH ONE-LINE DIAGRAM ELECTRICAL MODIFICATIONS
LGP-1-6-18/5	HEAT PUMPS REPLACEMENT CONTROL WIRING DIAGRAMS I MODIFICATIONS
LGP-1-6-18/6	HEAT PUMPS REPLACEMENT CONTROL WIRING DIAGRAMS II MODIFICATIONS

A1 TERMINAL BLOCK LAYOUT
SCALE: NTS

A11 TERMINAL BLOCK LAYOUT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: E. HEDINE
CHECKED BY: K. SELLERS
SUBMITTED BY: LIAM STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9051/2
FILE NAME: V2-LGP1.002-E-702.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SH MISC EQUIPMENT
TERMINAL BLOCK LAYOUT
SHEET 2 OF 3 - INSTALL

SHEET ID
VOLUME 2
E-702

FINAL

GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1-6-18/4	HEAT PUMPS REPLACEMENT MCC SH ONE-LINE DIAGRAM ELECTRICAL MODIFICATIONS
LGP-1-6-18/5	HEAT PUMPS REPLACEMENT CONTROL WIRING DIAGRAMS I MODIFICATIONS
LGP-1-6-18/6	HEAT PUMPS REPLACEMENT CONTROL WIRING DIAGRAMS II MODIFICATIONS

POWER HOUSE
SH
TB9

Target	Wire Number		Jumper	Wire Number	Target	
-OLUC3:T1		1			-UC3:T1	1
-OLUC3:T2		2			-UC3:T2	2
-OLUC3:T3		3			-UC3:T3	3

SH-q1-UC3, 3/4"
SH-c1-UC3, 3/4"

POWER HOUSE
SH
TB10

Target	Wire Number		Jumper	Wire Number	Target	
-FUSE	UC3-1	1		UC3-1	-42UC3-NC	
		2		UC3-1	+1UC3-1	
		3		UC3-5	-LT-R	
CO2 INTERLOCK	UC3-5	4		UC3-5	-OLUC3	1
-XFMR:X2	UC3-2	5		UC3-2	-GND	
		6		UC3-2	-LT-G	
-42UC3-A2	UC3-2	7		UC3-2	-LT-R	
-LT-G	UC3-3	8		UC3-3	-42UC3-NC	
CO2 INTERLOCK	UC3-4	9		UC3-4	+1UC3-1	2

SH-3K
(UNIT CONDITIONER UC-3)

A11 TERMINAL BLOCK LAYOUT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: E. HEDINE
CHECKED BY: K. SELLERS
SUBMITTED BY: JOHN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9D513
FILE NAME: V2-LGP1.002-E-703.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

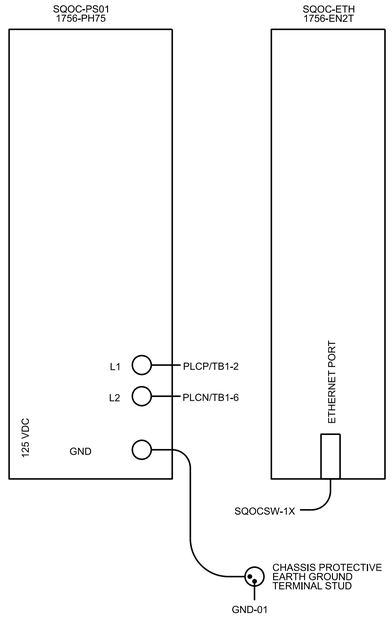
SH MISC EQUIPMENT
TERMINAL BLOCK LAYOUT
SHEET 3 OF 3 - INSTALL

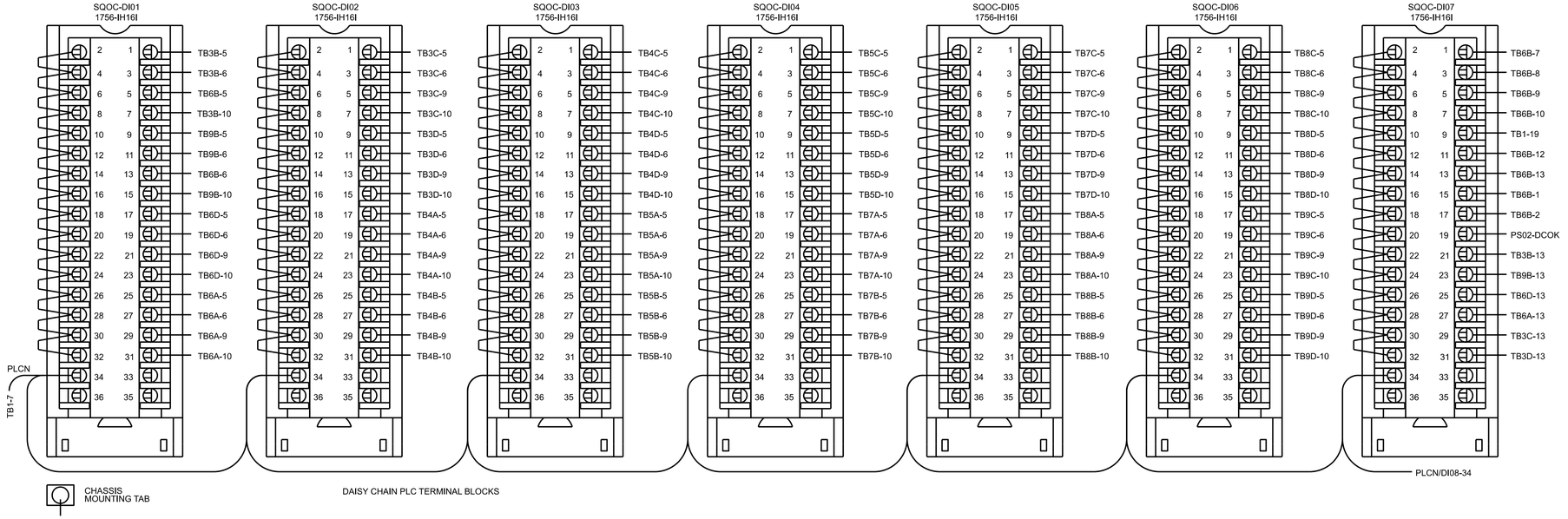
SHEET ID
VOLUME 2
E-703

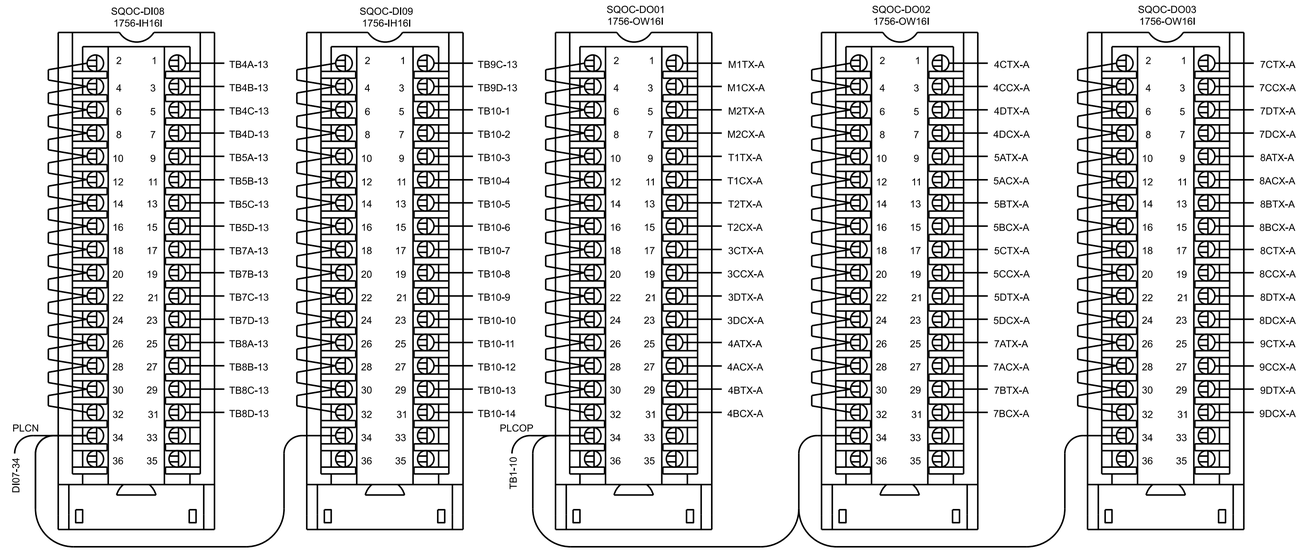
FINAL

GENERAL NOTES

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. USE #18 AWG FROM PLC MODULES TO TERMINAL BLOCKS.
3. USE #14 AWG FOR POWER AND GROUNDING CONNECTIONS.
4. CHASSIS WIRING AND GROUNDING MUST COMPLY WITH MANUFACTURER INSTRUCTIONS AND NATIONAL ELECTRIC CODE.
5. FOR MODULE JUMPERS, USE 1756-JMPR JUMPER BAR.
6. SUGGESTED WIRE NAMES AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.
7. CONTRACTOR MUST INCLUDE UPDATED WIRE NAMES TO REFLECT THE CUBICLES NAMES OF THE SWITCHGEAR IF THEY HAVE CHANGED FROM THOSE SHOWN IN THE CONTRACT DRAWINGS.







A1 SQOC PLC WIRING DIAGRAM
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SIRACUSA
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0022-6-3-D514
SIZE: FILENAME: V2-LGP1.0022-E-704.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQOC PLC MODULE
WIRING DIAGRAM
SHEET 1 OF 5 - INSTALL

SHEET ID
VOLUME 2
E-704

FINAL

GENERAL NOTES

1. ALL EQUIPMENT SHOWN ON THIS DRAWING IS NEW.
2. THIS DRAWING IS NOT A PHYSICAL REPRESENTATION OF TERMINAL BLOCK LAYOUT.
3. SUGGESTED WIRE NAMES AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.
4. CONTRACTOR MUST INCLUDE UPDATED WIRE NAMES TO REFLECT THE CUBICLES NAMES OF THE SWITCHGEAR IF THEY HAVE CHANGED FROM THOSE SHOWN IN THE CONTRACT DRAWINGS.

TB3B

12C #14 (SQO-3B) SQO-c1-SQOC — 2 SP

BLK	1	
WHT	2	P1 — 3BCS-11
RED	3	P1 — M1TX-7
GRN	4	P1 — 3BCS-E
ORN	5	3B-52A — DI01-1
BLU	6	3B-52B — DI01-3
WHT/BLK	7	3B-RR — 3BCS-F
RED/BLK	8	3B-RG — 3BCS-B
GRN/BLK	9	
ORN/BLK	10	3B-TOC — DI01-7
	11	3B-TC — M1TX-4, 3BCS-18
	12	3B-CC — M1CX-4, 3BCS-17
	13	3B-ARMS — DI07-21

TB4C

12C #14 (SQO-4C) SQO-c6-SQOC — 2 SP

BLK	1	
WHT	2	P5 — 4CCS-11
RED	3	P5
GRN	4	P5 — 4CCS-E
ORN	5	4C-52A — DI03-1
BLU	6	4C-52B — DI03-3
WHT/BLK	7	4C-RR — 4CCS-F
RED/BLK	8	4C-RG — 4CCS-B
GRN/BLK	9	4C-OTS — DI03-5
ORN/BLK	10	4C-TOC — DI03-7
	11	4C-TC — 4CTX-4, 4CCS-18
	12	4C-CC — 4CCX-4, 4CCS-17
	13	4C-ARMS — DI08-5

TB5D

12C #14 (SQO-5D) SQO-c11-SQOC — 2 SP

BLK	1	
WHT	2	P5 — 5DCS-11
RED	3	P5
GRN	4	P5 — 5DCS-E
ORN	5	5D-52A — DI04-9
BLU	6	5D-52B — DI04-11
WHT/BLK	7	5D-RR — 5DCS-F
RED/BLK	8	5D-RG — 5DCS-B
GRN/BLK	9	5D-OTS — DI04-13
ORN/BLK	10	5D-TOC — DI04-15
	11	5D-TC — 5DTX-4, 5DCS-18
	12	5D-CC — 5DCX-4, 5DCS-17
	13	5D-ARMS — DI08-15

TB3C

12C #14 (SQO-3C) SQO-c2-SQOC — 2 SP

BLK	1	
WHT	2	P5 — 3CCS-11
RED	3	P5 — 3CTX-7
GRN	4	P5 — 3CCS-E
ORN	5	3C-52A — DI02-1
BLU	6	3C-52B — DI02-3
WHT/BLK	7	3C-RR — 3CCS-F
RED/BLK	8	3C-RG — 3CCS-B
GRN/BLK	9	3C-OTS — DI02-5
ORN/BLK	10	3C-TOC — DI02-7
	11	3C-TC — 3CTX-4, 3CCS-18
	12	3C-CC — 3CCX-4, 3CCS-17
	13	3C-ARMS — DI07-29

TB4D

12C #14 (SQO-4D) SQO-c7-SQOC — 2 SP

BLK	1	
WHT	2	P5 — 4DCS-11
RED	3	P5
GRN	4	P5 — 4DCS-E
ORN	5	4D-52A — DI03-9
BLU	6	4D-52B — DI03-11
WHT/BLK	7	4D-RR — 4DCS-F
RED/BLK	8	4D-RG — 4DCS-B
GRN/BLK	9	4D-OTS — DI03-13
ORN/BLK	10	4D-TOC — DI03-15
	11	4D-TC — 4DTX-4, 4DCS-18
	12	4D-CC — 4DCX-4, 4DCS-17
	13	4D-ARMS — DI08-7

TB6A

12C #14 (SQO-6A) SQO-c12-SQOC — 2 SP

BLK	1	
WHT	2	P4 — 6ACS-11
RED	3	P4 — T2TX-7
GRN	4	P4 — 6ACS-E
ORN	5	6A-52A — DI01-25
BLU	6	6A-52B — DI01-27
WHT/BLK	7	6A-RR — 6ACS-F
RED/BLK	8	6A-RG — 6ACS-B
GRN/BLK	9	6A-OTS — DI01-29
ORN/BLK	10	6A-TOC — DI01-31
	11	6A-TC — T2TX-4, 6ACS-18
	12	6A-CC — T2CX-4, 6ACS-17
	13	6A-ARMS — DI07-27

TB3D

12C #14 (SQO-3D) SQO-c3-SQOC — 2 SP

BLK	1	
WHT	2	P5 — 3DCS-11
RED	3	P5
GRN	4	P5 — 3DCS-E
ORN	5	3D-52A — DI02-9
BLU	6	3D-52B — DI02-11
WHT/BLK	7	3D-RR — 3DCS-F
RED/BLK	8	3D-RG — 3DCS-B
GRN/BLK	9	3D-OTS — DI02-13
ORN/BLK	10	3D-TOC — DI02-15
	11	3D-TC — 3DTX-4, 3DCS-18
	12	3D-CC — 3DCX-4, 3DCS-17
	13	3D-ARMS — DI07-31

TB5A

12C #14 (SQO-5A) SQO-c8-SQOC — 2 SP

BLK	1	
WHT	2	P5 — 5ACS-11
RED	3	P5
GRN	4	P5 — 5ACS-E
ORN	5	5A-52A — DI03-17
BLU	6	5A-52B — DI03-19
WHT/BLK	7	5A-RR — 5ACS-F
RED/BLK	8	5A-RG — 5ACS-B
GRN/BLK	9	5A-OTS — DI03-21
ORN/BLK	10	5A-TOC — DI03-23
	11	5A-TC — 5ATX-4, 5ACS-18
	12	5A-CC — 5ACX-4, 5ACS-17
	13	5A-ARMS — DI08-9

TB4A

12C #14 (SQO-4A) SQO-c4-SQOC — 2 SP

BLK	1	
WHT	2	P5 — 4ACS-11
RED	3	P5
GRN	4	P5 — 4ACS-E
ORN	5	4A-52A — DI02-17
BLU	6	4A-52B — DI02-19
WHT/BLK	7	4A-RR — 4ACS-F
RED/BLK	8	4A-RG — 4ACS-B
GRN/BLK	9	4A-OTS — DI02-21
ORN/BLK	10	4A-TOC — DI02-23
	11	4A-TC — 4ATX-4, 4ACS-18
	12	4A-CC — 4ACX-4, 4ACS-17
	13	4A-ARMS — DI08-1

TB5B

12C #14 (SQO-5B) SQO-c9-SQOC — 2 SP

BLK	1	
WHT	2	P5 — 5BCS-11
RED	3	P5
GRN	4	P5 — 5BCS-E
ORN	5	5B-52A — DI03-25
BLU	6	5B-52B — DI03-27
WHT/BLK	7	5B-RR — 5BCS-F
RED/BLK	8	5B-RG — 5BCS-B
GRN/BLK	9	5B-OTS — DI03-29
ORN/BLK	10	5B-TOC — DI03-31
	11	5B-TC — 5BTX-4, 5BCS-18
	12	5B-CC — 5BCX-4, 5BCS-17
	13	5B-ARMS — DI08-11

TB6B

9C #14 (SQO-6B) SQO-c13-SQOC — 5 SP

BLK	1	6B-GND1 — DI07-15
WHT	2	6B-GND2 — DI07-17
RED	3	125VDC+ — TB1-1
GRN	4	125VDC- — TB1-3
ORN	5	6BRTRP1 — DI01-5
BLU	6	6BRTRP2 — DI01-13
WHT/BLK	7	6B-UV1 — DI07-1
RED/BLK	8	6B-UV2 — DI07-3
GRN/BLK	9	6B-RT1 — DI07-5
BLK	10	6B-RT2 — DI07-7
WHT	11	PLCP — TB1-4
RED	12	6B-TA1 — DI07-11
GRN	13	6B-TA2 — DI07-13

TB4B

12C #14 (SQO-4B) SQO-c5-SQOC — 2 SP

BLK	1	
WHT	2	P5 — 4BCS-11
RED	3	P5
GRN	4	P5 — 4BCS-E
ORN	5	4B-52A — DI02-25
BLU	6	4B-52B — DI02-27
WHT/BLK	7	4B-RR — 4BCS-F
RED/BLK	8	4B-RG — 4BCS-B
GRN/BLK	9	4B-OTS — DI02-29
ORN/BLK	10	4B-TOC — DI02-31
	11	4B-TC — 4BTX-4, 4BCS-18
	12	4B-CC — 4BCX-4, 4BCS-17
	13	4B-ARMS — DI08-3

TB5C

12C #14 (SQO-5C) SQO-c10-SQOC — 2 SP

BLK	1	
WHT	2	P5 — 5CCS-11
RED	3	P5
GRN	4	P5 — 5CCS-E
ORN	5	5C-52A — DI04-1
BLU	6	5C-52B — DI04-3
WHT/BLK	7	*5C-RR* — 5CCS-F
RED/BLK	8	5C-RG — 5CCS-B
GRN/BLK	9	5C-OTS — DI04-5
ORN/BLK	10	5C-TOC — DI04-7
	11	5C-TC — 5CTX-4, 5CCS-18
	12	5C-CC — 5CCX-4, 5CCS-17
	13	5C-ARMS — DI08-13

A1 SQOC TERMINAL BLOCKS
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	K. SIRACUSA
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. FINK, P.E.
SIZE:	ANSI D
ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-6-#0912
FILENAME:	V2-LGP1.002-E-705.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQOC TERMINAL BLOCKS
WIRING DIAGRAM
SHEET 2 OF 5 - INSTALL

SHEET ID
VOLUME 2
E-705

FINAL

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SQO-<15-SQOC (SQOC-6D)
12C #14
2 SP

TB6D

1		
2	P2	6DCS-11
3	P2	T1TX-7
4	P2	6DCS-E
5	6D-52A	DI01-17
6	6D-52B	DI01-19
7	6D-RR	6DCS-F
8	6D-RG	6DCS-B
9	6D-OTS	DI01-21
10	6D-TOC	DI01-23
11	6D-TC	T1TX-4, 6DCS-18
12	6D-CC	T1CX-4, 6DCS-17
13	6D-ARMS	DI07-25

BLK, WHT, RED, GRN, ORN, BLU, WHT/BLK, RED/BLK, GRN/BLK, ORN/BLK

SQO-<20-SQOC (SQOC-8A)
12C #14
2 SP

TB8A

1		
2	P6	8ACS-11
3	P6	
4	P6	8ACS-E
5	8A-52A	DI05-17
6	8A-52B	DI05-19
7	8A-RR	8ACS-F
8	8A-RG	8ACS-B
9	8A-OTS	DI05-21
10	8A-TOC	DI05-23
11	8A-TC	8ATX-4, 8ACS-18
12	8A-CC	8ACX-4, 8ACS-17
13	8A-ARMS	DI08-25

BLK, WHT, RED, GRN, ORN, BLU, WHT/BLK, RED/BLK, GRN/BLK, ORN/BLK

SQO-<25-SQOC (SQOC-9C)
12C #14
2 SP

TB9C

1		
2	P6	9CCS-11
3	P6	
4	P6	9CCS-E
5	9C-52A	DI06-17
6	9C-52B	DI06-19
7	9C-RR	9CCS-F
8	9C-RG	9CCS-B
9	9C-OTS	DI06-21
10	9C-TOC	DI06-23
11	9C-TC	9CTX-4, 9CCS-18
12	9C-CC	9CCX-4, 9CCS-17
13	9C-ARMS	DI09-1

BLK, WHT, RED, GRN, ORN, BLU, WHT/BLK, RED/BLK, GRN/BLK, ORN/BLK

SQO-<10-SQOC (SQOC-7A)
12C #14
2 SP

TB7A

1		
2	P6	7ACS-11
3	P6	7ATX-7
4	P6	7ACS-E
5	7A-52A	DI04-17
6	7A-52B	DI04-19
7	7A-RR	7ACS-F
8	7A-RG	7ACS-B
9	7A-OTS	DI04-21
10	7A-TOC	DI04-23
11	7A-TC	7ATX-4, 7ACS-18
12	7A-CC	7ACX-4, 7ACS-17
13	7A-ARMS	DI08-17

BLK, WHT, RED, GRN, ORN, BLU, WHT/BLK, RED/BLK, GRN/BLK, ORN/BLK

SQO-<21-SQOC (SQOC-8B)
12C #14
2 SP

TB8B

1		
2	P6	8BCS-11
3	P6	
4	P6	8BCS-E
5	8B-52A	DI05-25
6	8B-52B	DI05-27
7	8B-RR	8BCS-F
8	8B-RG	8BCS-B
9	8B-OTS	DI05-29
10	8B-TOC	DI05-23
11	8B-TC	8BTX-4, 8BCS-18
12	8B-CC	8BCX-4, 8BCS-17
13	8B-ARMS	DI08-27

BLK, WHT, RED, GRN, ORN, BLU, WHT/BLK, RED/BLK, GRN/BLK, ORN/BLK

SQO-<26-SQOC (SQOC-9D)
12C #14
2 SP

TB9D

1		
2	P6	9DCS-11
3	P6	
4	P6	9DCS-E
5	9D-52A	DI06-25
6	9D-52B	DI06-27
7	9D-RR	9DCS-F
8	9D-RG	9DCS-B
9	9D-OTS	DI06-29
10	9D-TOC	DI06-31
11	9D-TC	9DTX-4, 9DCS-18
12	9D-CC	9DCX-4, 9DCS-17
13	9D-ARMS	DI09-3

BLK, WHT, RED, GRN, ORN, BLU, WHT/BLK, RED/BLK, GRN/BLK, ORN/BLK

SQO-<17-SQOC (SQOC-7B)
12C #14
2 SP

TB7B

1		
2	P6	7BCS-11
3	P6	
4	P6	7BCS-E
5	7B-52A	DI04-25
6	7B-52B	DI04-27
7	7B-RR	7BCS-F
8	7B-RG	7BCS-B
9	7B-OTS	DI04-29
10	7B-TOC	DI04-31
11	7B-TC	7BTX-4, 7BCS-18
12	7B-CC	7BCX-4, 7BCS-17
13	7B-ARMS	DI08-19

BLK, WHT, RED, GRN, ORN, BLU, WHT/BLK, RED/BLK, GRN/BLK, ORN/BLK

SQO-<22-SQOC (SQOC-8C)
12C #14
2 SP

TB8C

1		
2	P6	8CCS-11
3	P6	
4	P6	8CCS-E
5	8C-52A	DI06-1
6	8C-52B	DI06-3
7	8C-RR	8CCS-F
8	8C-RG	8CCS-B
9	8C-OTS	DI06-5
10	8C-TOC	DI06-7
11	8C-TC	8CTX-4, 8CCS-18
12	8C-CC	8CCX-4, 8CCS-17
13	8C-ARMS	DI08-29

BLK, WHT, RED, GRN, ORN, BLU, WHT/BLK, RED/BLK, GRN/BLK, ORN/BLK

TB10

1	SPARE	DI09-5
2	SPARE	DI09-7
3	SPARE	DI09-9
4	SPARE	DI09-11
5	SPARE	DI09-13
6	SPARE	DI09-15
7	SPARE	DI09-17
8	SPARE	DI09-19
9	SPARE	DI09-21
10	SPARE	DI09-23
11	SPARE	DI09-25
12	SPARE	DI09-27
13	SPARE	DI09-29
14	SPARE	DI09-31

SQO-<18-SQOC (SQOC-7C)
12C #14
2 SP

TB7C

1		
2	P6	7CCS-11
3	P6	
4	P6	7CCS-E
5	7C-52A	DI05-1
6	7C-52B	DI05-3
7	7C-RR	7CCS-F
8	7C-RG	7CCS-B
9	7C-OTS	DI05-5
10	7C-TOC	DI05-7
11	7C-TC	7CTX-4, 7CCS-18
12	7C-CC	7CCX-4, 7CCS-17
13	7C-ARMS	DI08-21

BLK, WHT, RED, GRN, ORN, BLU, WHT/BLK, RED/BLK, GRN/BLK, ORN/BLK

SQO-<23-SQOC (SQOC-8D)
12C #14
2 SP

TB8D

1		
2	P6	8DCS-11
3	P6	
4	P6	8DCS-E
5	8D-52A	DI06-9
6	8D-52B	DI06-11
7	8D-RR	8DCS-F
8	8D-RG	8DCS-B
9	8D-OTS	DI06-13
10	8D-TOC	DI06-15
11	8D-TC	8DTX-4, 8DCS-18
12	8D-CC	8DCX-4, 8DCS-17
13	8D-ARMS	DI08-31

BLK, WHT, RED, GRN, ORN, BLU, WHT/BLK, RED/BLK, GRN/BLK, ORN/BLK

SQO-<19-SQOC (SQOC-7D)
12C #14
2 SP

TB7D

1		
2	P6	7DCS-11
3	P6	
4	P6	7DCS-E
5	7D-52A	DI05-9
6	7D-52B	DI05-11
7	7D-RR	7DCS-F
8	7D-RG	7DCS-B
9	7D-OTS	DI05-13
10	7D-TOC	DI05-15
11	7D-TC	7DTX-4, 7DCS-18
12	7D-CC	7DCX-4, 7DCS-17
13	7D-ARMS	DI08-23

BLK, WHT, RED, GRN, ORN, BLU, WHT/BLK, RED/BLK, GRN/BLK, ORN/BLK

SQO-<24-SQOC (SQOC-9B)
12C #14
2 SP

TB9B

1		
2	P3	9BCS-11
3	P3	M2TX-7
4	P3	9BCS-E
5	9B-52A	DI01-9
6	9B-52B	DI01-11
7	9B-RR	9BCS-F
8	9B-RG	9BCS-B
9		
10	9B-TOC	DI01-15
11	9B-TC	M2TX-4, 9BCS-18
12	9B-CC	M2CX-4, 9BCS-17
13	9B-ARMS	DI07-23

BLK, WHT, RED, GRN, ORN, BLU, WHT/BLK, RED/BLK, GRN/BLK, ORN/BLK

A1 SQOC TERMINAL BLOCKS
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SIRACUSA
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. TINNEA, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
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DRAWING NUMBER: LGP-1.002-E-#D9#3
SIZE: FILENAME: V2-LGP1.002-E-706.dgn

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SQOC TERMINAL BLOCKS
WIRING DIAGRAM
SHEET 3 OF 5 - INSTALL

SHEET ID
VOLUME 2
E-706

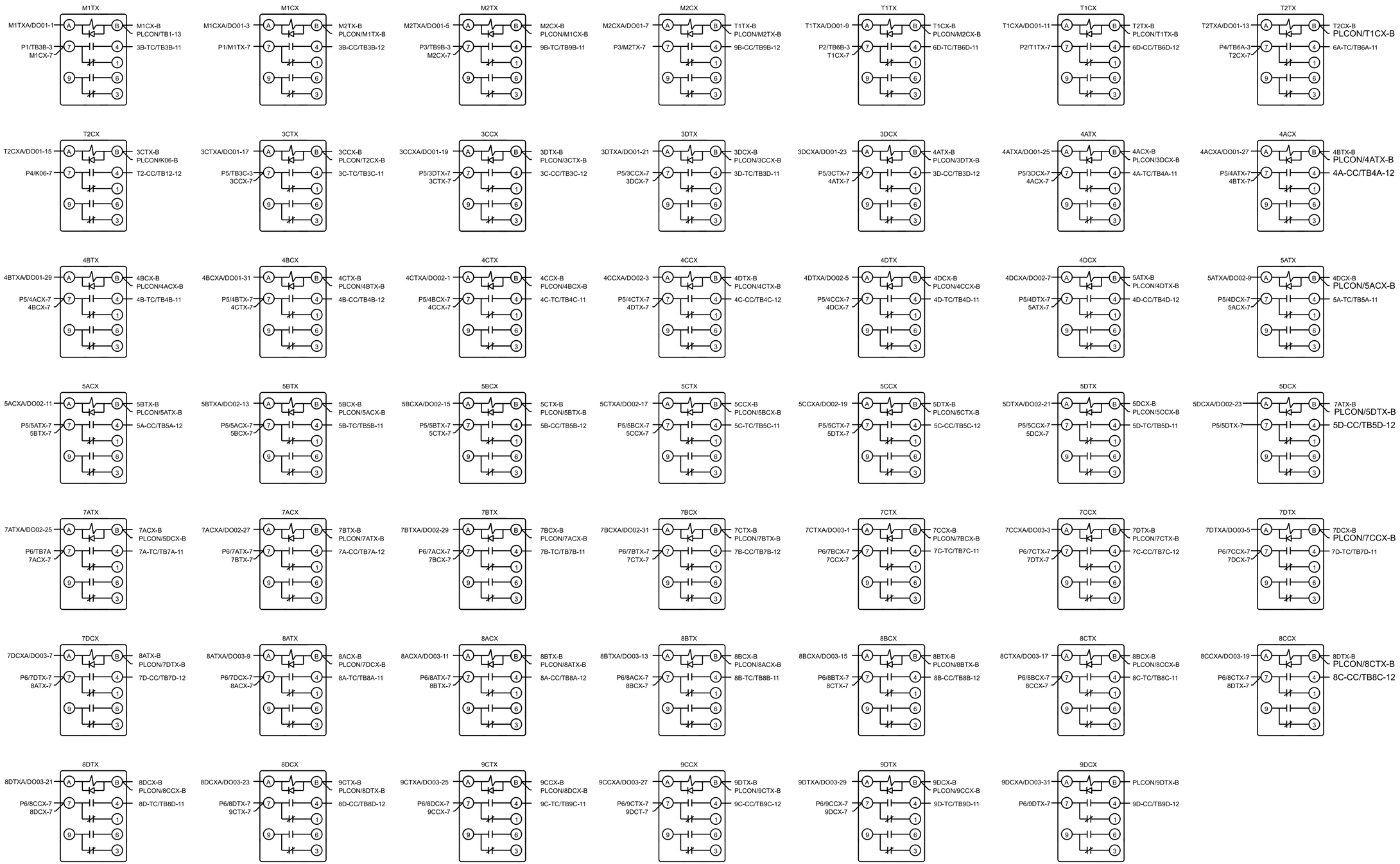
FINAL

GENERAL NOTES

1. ALL EQUIPMENT SHOWN ON THIS DRAWING IS NEW.
2. SUGGESTED WIRE NAMES AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.

GENERAL NOTES (CONTINUED)

3. CONTRACTOR MUST INCLUDE UPDATED WIRE NAMES TO REFLECT THE CUBICLES NAMES OF THE SWITCHGEAR IF THEY HAVE CHANGED FROM THOSE SHOWN IN THE CONTRACT DRAWINGS.



A1 SQOC AUXILIARY RELAYS

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	K. SIRACUSA
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. RINKUS, P.E.
SPEC. WRITER:	LINDA K.
ANSI D	V2-LGP1 002-E-707.dgn

ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER:
LGP-1 002-E-#0361

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

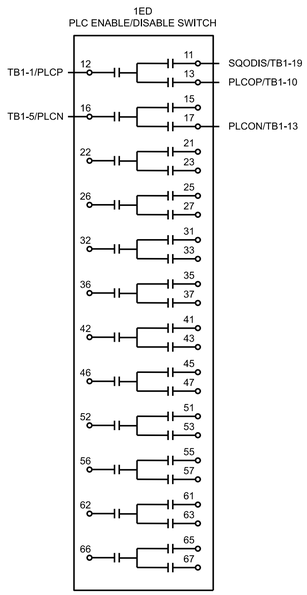
SQOC AUXILIARY RELAYS
WIRING DIAGRAM
SHEET 4 OF 5 - INSTALL

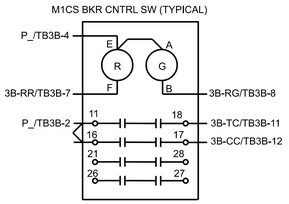
SHEET ID
VOLUME 2
E-707

FINAL

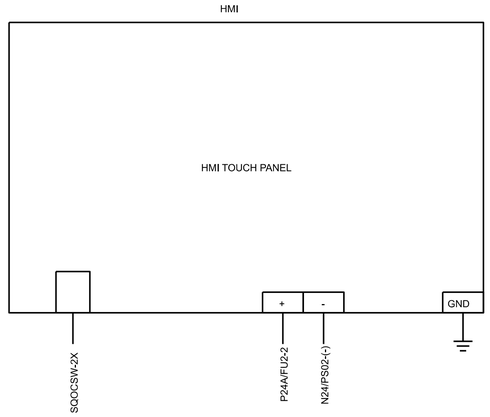
GENERAL NOTES

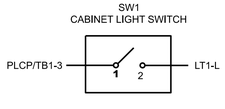
1. ALL EQUIPMENT SHOWN ON THIS DRAWING IS NEW.
2. P_ SHALL BE DIFFERENT NUMBER DEPENDING ON BREAKER TYPE AS FOLLOWS: MAIN BREAKER BUS 1: P1; TIE BREAKER BUS 1: 2; MAIN BREAKER BUS 2: P3; TIE BREAKER BUS 2: P4; FEEDER BREAKER BUS 1: P4; FEEDER BREAKER BUS 2: P5.
3. SUGGESTED WIRE NAMES, SWITCH LABELS, AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.
4. CONTRACTOR MUST INCLUDE UPDATED WIRE NAMES TO REFLECT THE CUBICLES NAMES OF THE SWITCHGEAR IF THEY HAVE CHANGED FROM THOSE SHOWN IN THE CONTRACT DRAWINGS.

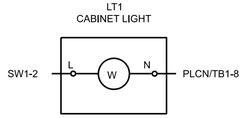


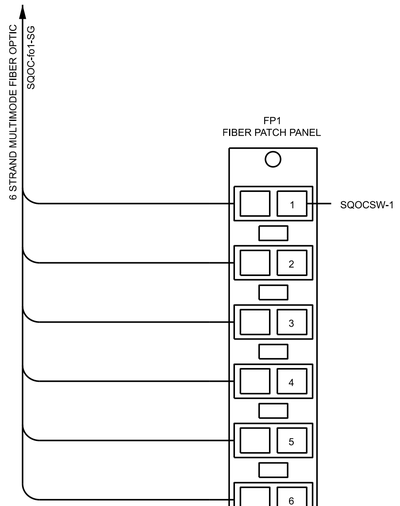


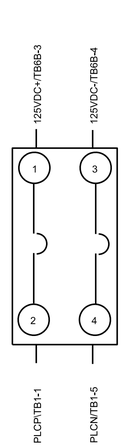
BREAKER CONTROL SWITCH
SQO-3B SHOWN
(TYPICAL ALL BREAKERS)

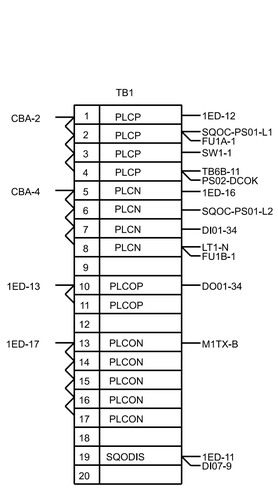


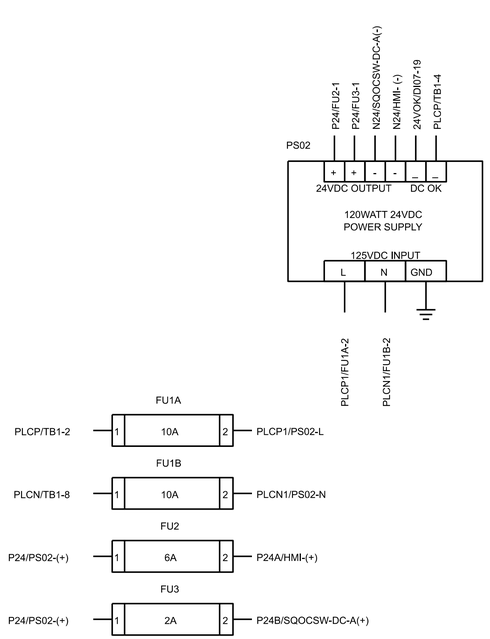


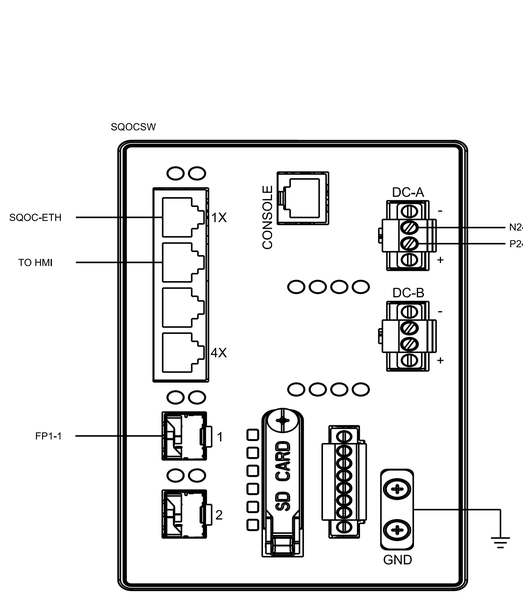












A1 SQOC MISC EQUIPMENT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	K. SIRACUSA
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. FRINK, P.E.
SIZE	ANSI D
ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-E-P0305
FILENAME:	V2-LGP1.002-E-708.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQOC MISC EQUIPMENT
WIRING DIAGRAM
SHEET 5 OF 5 - INSTALL

SHEET ID
VOLUME 2
E-708

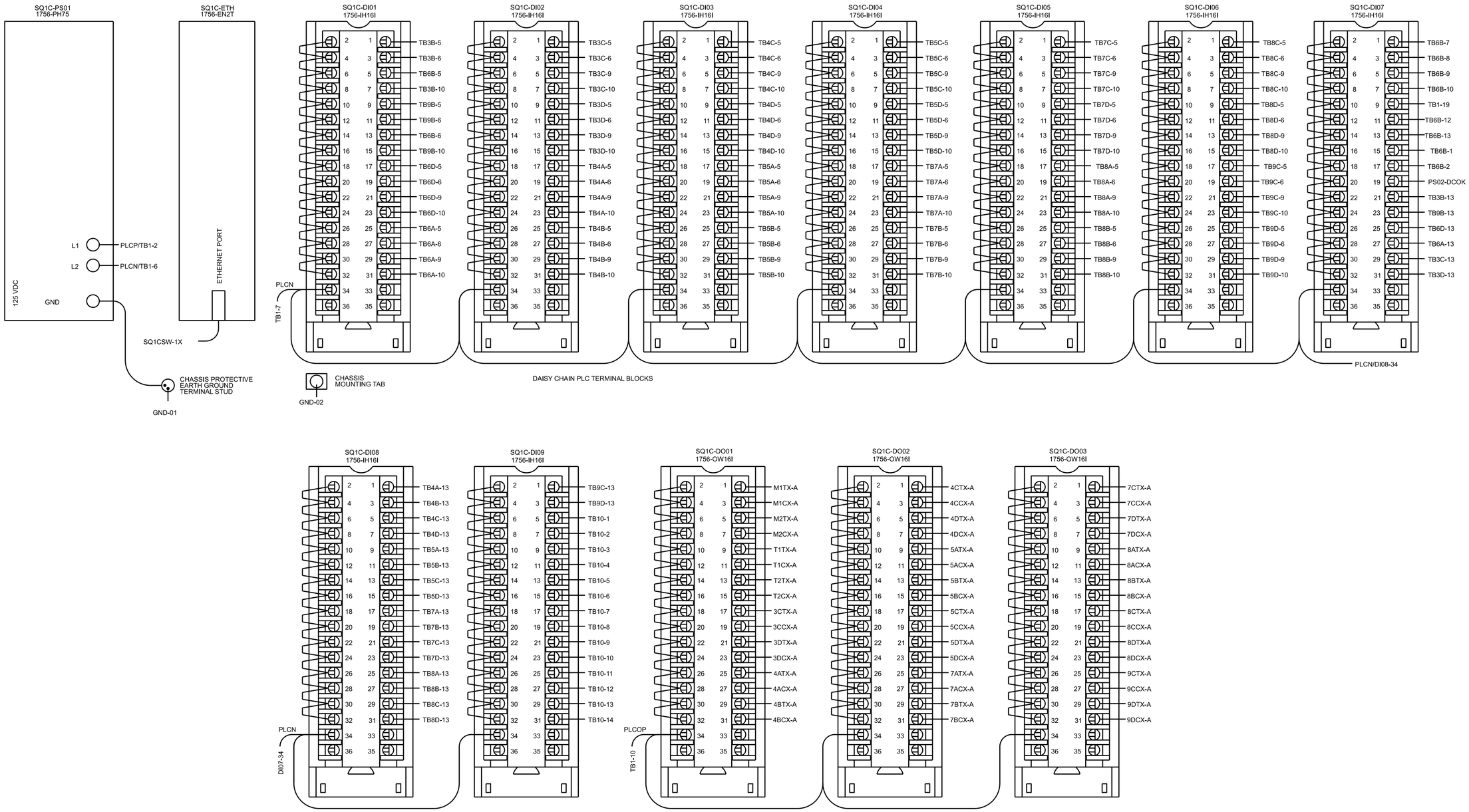
FINAL

GENERAL NOTES

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. USE #18 AWG FROM PLC MODULES TO TERMINAL BLOCKS.
3. USE #14 AWG FOR POWER AND GROUNDING CONNECTIONS.
4. CHASSIS WIRING AND GROUNDING MUST COMPLY WITH MANUFACTURER INSTRUCTIONS AND NATIONAL ELECTRIC CODE.
5. FOR MODULE JUMPERS, USE 1756-JMPR JUMPER BAR.
6. SUGGESTED WIRE NAMES AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.

GENERAL NOTES (CONTINUED)

7. CONTRACTOR MUST INCLUDE UPDATED WIRE NAMES TO REFLECT THE CUBICLES NAMES OF THE SWITCHGEAR IF THEY HAVE CHANGED FROM THOSE SHOWN IN THE CONTRACT DRAWINGS.



A1 SQ1C PLC WIRING DIAGRAM
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	K. SIRACUSA
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. FINLAY, P.E.
SIZE:	ANSI D
ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-6-P0916
FILENAME:	V2-LGP1.002-E-709.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQ1C PLC MODULE
WIRING DIAGRAM
SHEET 1 OF 5 - INSTALL

SHEET ID
VOLUME 2
E-709

FINAL

GENERAL NOTES

1. ALL EQUIPMENT SHOWN ON THIS DRAWING IS NEW.
2. THIS DRAWING IS NOT A PHYSICAL REPRESENTATION OF TERMINAL BLOCK LAYOUT.
3. SUGGESTED WIRE NAMES AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.
4. CONTRACTOR MUST INCLUDE UPDATED WIRE NAMES TO REFLECT THE CUBICLES NAMES OF THE SWITCHGEAR IF THEY HAVE CHANGED FROM THOSE SHOWN IN THE CONTRACT DRAWINGS.

TB3B

12C #14 (SQ1-c1-SQ1C) — 2 SP

BLK	1		
	2	P1	3BCS-11
	3	P1	M1TX-7
	4	P1	3BCS-E
WHT	5	3B-52A	DI01-1
RED	6	3B-52B	DI01-3
GRN	7	3B-RR	3BCS-F
ORN	8	3B-RG	3BCS-B
BLU	9		
WHT/BLK	10	3B-TOC	DI01-7
RED/BLK	11	3B-TC	M1TX-4, 3BCS-18
GRN/BLK	12	3B-CC	M1CX-4, 3BCS-17
ORN/BLK	13	3B-ARMS	DI07-21

TB4C

12C #14 (SQ1-c6-SQ1C) — 2 SP

BLK	1		
	2	P5	4CCS-11
	3	P5	
	4	P5	4CCS-E
WHT	5	4C-52A	DI03-1
RED	6	4C-52B	DI03-3
GRN	7	4C-RR	4CCS-F
ORN	8	4C-RG	4CCS-B
BLU	9	4C-OTS	DI03-5
WHT/BLK	10	4C-TOC	DI03-7
RED/BLK	11	4C-TC	4CTX-4, 4CCS-18
GRN/BLK	12	4C-CC	4CCX-4, 4CCS-17
ORN/BLK	13	4C-ARMS	DI08-5

TB5D

12C #14 (SQ1-c11-SQ1C) — 2 SP

BLK	1		
	2	P5	5DCS-11
	3	P5	
	4	P5	5DCS-E
WHT	5	5D-52A	DI04-9
RED	6	5D-52B	DI04-11
GRN	7	5D-RR	5DCS-F
ORN	8	5D-RG	5DCS-B
BLU	9	5D-OTS	DI04-13
WHT/BLK	10	5D-TOC	DI04-15
RED/BLK	11	5D-TC	5DTX-4, 5DCS-18
GRN/BLK	12	5D-CC	5DCX-4, 5DCS-17
ORN/BLK	13	5D-ARMS	DI08-15

TB3C

12C #14 (SQ1-c2-SQ1C) — 2 SP

BLK	1		
	2	P5	3CCS-11
	3	P5	3CTX-7
	4	P5	3CCS-E
WHT	5	3C-52A	DI02-1
RED	6	3C-52B	DI02-3
GRN	7	3C-RR	3CCS-F
ORN	8	3C-RG	3CCS-B
BLU	9	3C-OTS	DI02-5
WHT/BLK	10	3C-TOC	DI02-7
RED/BLK	11	3C-TC	3CTX-4, 3CCS-18
GRN/BLK	12	3C-CC	3CCX-4, 3CCS-17
ORN/BLK	13	3C-ARMS	DI07-29

TB4D

12C #14 (SQ1-c7-SQ1C) — 2 SP

BLK	1		
	2	P5	4DCS-11
	3	P5	
	4	P5	4DCS-E
WHT	5	4D-52A	DI03-9
RED	6	4D-52B	DI03-11
GRN	7	4D-RR	4DCS-F
ORN	8	4D-RG	4DCS-B
BLU	9	4D-OTS	DI03-13
WHT/BLK	10	4D-TOC	DI03-15
RED/BLK	11	4D-TC	4DTX-4, 4DCS-18
GRN/BLK	12	4D-CC	4DCX-4, 4DCS-17
ORN/BLK	13	4D-ARMS	DI08-7

TB6A

12C #14 (SQ1-c12-SQ1C) — 2 SP

BLK	1		
	2	P4	6ACS-11
	3	P4	T2TX-7
	4	P4	6ACS-E
WHT	5	6A-52A	DI01-25
RED	6	6A-52B	DI01-27
GRN	7	6A-RR	6ACS-F
ORN	8	6A-RG	6ACS-B
BLU	9	6A-OTS	DI01-29
WHT/BLK	10	6A-TOC	DI01-31
RED/BLK	11	6A-TC	T2TX-4, 6ACS-18
GRN/BLK	12	6A-CC	T2CX-4, 6ACS-17
ORN/BLK	13	6A-ARMS	DI07-27

TB3D

12C #14 (SQ1-c3-SQ1C) — 2 SP

BLK	1		
	2	P5	3DCS-11
	3	P5	
	4	P5	3DCS-E
WHT	5	3D-52A	DI02-9
RED	6	3D-52B	DI02-11
GRN	7	3D-RR	3DCS-F
ORN	8	3D-RG	3DCS-B
BLU	9	3D-OTS	DI02-13
WHT/BLK	10	3D-TOC	DI02-15
RED/BLK	11	3D-TC	3DTX-4, 3DCS-18
GRN/BLK	12	3D-CC	3DCX-4, 3DCS-17
ORN/BLK	13	3D-ARMS	DI07-31

TB5A

12C #14 (SQ1-c8-SQ1C) — 2 SP

BLK	1		
	2	P5	5ACS-11
	3	P5	
	4	P5	5ACS-E
WHT	5	5A-52A	DI03-17
RED	6	5A-52B	DI03-19
GRN	7	5A-RR	5ACS-F
ORN	8	5A-RG	5ACS-B
BLU	9	5A-OTS	DI03-21
WHT/BLK	10	5A-TOC	DI03-23
RED/BLK	11	5A-TC	5ATX-4, 5ACS-18
GRN/BLK	12	5A-CC	5ACX-4, 5ACS-17
ORN/BLK	13	5A-ARMS	DI08-9

TB4A

12C #14 (SQ1-c4-SQ1C) — 2 SP

BLK	1		
	2	P5	4ACS-11
	3	P5	
	4	P5	4ACS-E
WHT	5	4A-52A	DI02-17
RED	6	4A-52B	DI02-19
GRN	7	4A-RR	4ACS-F
ORN	8	4A-RG	4ACS-B
BLU	9	4A-OTS	DI02-21
WHT/BLK	10	4A-TOC	DI02-23
RED/BLK	11	4A-TC	4ATX-4, 4ACS-18
GRN/BLK	12	4A-CC	4ACX-4, 4ACS-17
ORN/BLK	13	4A-ARMS	DI08-1

TB5B

12C #14 (SQ1-c9-SQ1C) — 2 SP

BLK	1		
	2	P5	5BCS-11
	3	P5	
	4	P5	5BCS-E
WHT	5	5B-52A	DI03-25
RED	6	5B-52B	DI03-27
GRN	7	5B-RR	5BCS-F
ORN	8	5B-RG	5BCS-B
BLU	9	5B-OTS	DI03-29
WHT/BLK	10	5B-TOC	DI03-31
RED/BLK	11	5B-TC	5BTX-4, 5BCS-18
GRN/BLK	12	5B-CC	5BCX-4, 5BCS-17
ORN/BLK	13	5B-ARMS	DI08-11

TB6B

9C #14 (SQ1-c14-SQ1C) (SQ1-c13-SQ1C) (SQ1-c15-SQ1C) (SQ1-c16-SQ1C) — 5 SP

BLK	1	6B-GND1	DI07-15
WHT	2	6B-GND2	DI07-17
RED	3	125VDC+	TB1-1
GRN	4	125VDC-	TB1-3
ORN	5	6BRTRP1	DI01-5
BLU	6	6BRTRP2	DI01-13
WHT/BLK	7	6B-UV1	DI07-1
RED/BLK	8	6B-UV2	DI07-3
GRN/BLK	9	6B-RT1	DI07-5
BLK	10	6B-RT2	DI07-7
WHT	11	PLCP	TB1-4
RED	12	6B-TA1	DI07-11
GRN	13	6B-TA2	DI07-13

TB4B

12C #14 (SQ1-c5-SQ1C) — 2 SP

BLK	1		
	2	P5	4BCS-11
	3	P5	
	4	P5	4BCS-E
WHT	5	4B-52A	DI02-25
RED	6	4B-52B	DI02-27
GRN	7	4B-RR	4BCS-F
ORN	8	4B-RG	4BCS-B
BLU	9	4B-OTS	DI02-29
WHT/BLK	10	4B-TOC	DI02-31
RED/BLK	11	4B-TC	4BTX-4, 4BCS-18
GRN/BLK	12	4B-CC	4BCX-4, 4BCS-17
ORN/BLK	13	4B-ARMS	DI08-3

TB5C

12C #14 (SQ1-c10-SQ1C) — 2 SP

BLK	1		
	2	P5	5CCS-11
	3	P5	
	4	P5	5CCS-E
WHT	5	5C-52A	DI04-1
RED	6	5C-52B	DI04-3
GRN	7	*5C-RR*	5CCS-F
ORN	8	5C-RG	5CCS-B
BLU	9	5C-OTS	DI04-5
WHT/BLK	10	5C-TOC	DI04-7
RED/BLK	11	5C-TC	5CTX-4, 5CCS-18
GRN/BLK	12	5C-CC	5CCX-4, 5CCS-17
ORN/BLK	13	5C-ARMS	DI08-13

A1 SQ1C TERMINAL BLOCKS

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	K. SIRACUSA
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. FINK, P.E.
SIZE:	ANSI D
ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-E-#0997
FILENAME:	V2-LGP1.002-E-710.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQ1C TERMINAL BLOCKS
WIRING DIAGRAM
SHEET 2 OF 5 - INSTALL

SHEET ID
VOLUME 2
E-710

FINAL

GENERAL NOTES

1. ALL EQUIPMENT SHOWN ON THIS DRAWING IS NEW.
2. THIS DRAWING IS NOT A PHYSICAL REPRESENTATION OF TERMINAL BLOCK LAYOUT.
3. SUGGESTED WIRE NAMES AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.
4. CONTRACTOR MUST INCLUDE UPDATED WIRE NAMES TO REFLECT THE CUBICLES NAMES OF THE SWITCHGEAR IF THEY HAVE CHANGED FROM THOSE SHOWN IN THE CONTRACT DRAWINGS.

SQ1-c15-SQ1C (SQ1-6D) — 12C #14 — 2 SP

TB6D

BLK	1	
WHT	2	P2 — 6DCS-11
RED	3	P2 — T1TX-7
GRN	4	P2 — 6DCS-E
ORN	5	6D-52A — DI01-17
BLU	6	6D-52B — DI01-19
WHT/BLK	7	6D-RR — 6DCS-F
RED/BLK	8	6D-RG — 6DCS-B
GRN/BLK	9	6D-OTS — DI01-21
ORN/BLK	10	6D-TOC — DI01-23
	11	6D-TC — T1TX-4, 6DCS-18
	12	6D-CC — T1CX-4, 6DCS-17
	13	6D-ARMS — DI07-25

SQ1-c16-SQ1C (SQ1-7A) — 12C #14 — 2 SP

TB7A

BLK	1	
WHT	2	P6 — 7ACS-11
RED	3	P6 — 7ATX-7
GRN	4	P6 — 7ACS-E
ORN	5	7A-52A — DI04-17
BLU	6	7A-52B — DI04-19
WHT/BLK	7	7A-RR — 7ACS-F
RED/BLK	8	7A-RG — 7ACS-B
GRN/BLK	9	7A-OTS — DI04-21
ORN/BLK	10	7A-TOC — DI04-23
	11	7A-TC — 7ATX-4, 7ACS-18
	12	7A-CC — 7ACX-4, 7ACS-17
	13	7A-ARMS — DI08-17

SQ1-c17-SQ1C (SQ1-7B) — 12C #14 — 2 SP

TB7B

BLK	1	
WHT	2	P6 — 7BCS-11
RED	3	P6
GRN	4	P6 — 7BCS-E
ORN	5	7B-52A — DI04-25
BLU	6	7B-52B — DI04-27
WHT/BLK	7	7B-RR — 7BCS-F
RED/BLK	8	7B-RG — 7BCS-B
GRN/BLK	9	7B-OTS — DI04-29
ORN/BLK	10	7B-TOC — DI04-31
	11	7B-TC — 7BTX-4, 7BCS-18
	12	7B-CC — 7BCX-4, 7BCS-17
	13	7B-ARMS — DI08-19

SQ1-c18-SQ1C (SQ1-7C) — 12C #14 — 2 SP

TB7C

BLK	1	
WHT	2	P6 — 7CCS-11
RED	3	P6
GRN	4	P6 — 7CCS-E
ORN	5	7C-52A — DI05-1
BLU	6	7C-52B — DI05-3
WHT/BLK	7	7C-RR — 7CCS-F
RED/BLK	8	7C-RG — 7CCS-B
GRN/BLK	9	7C-OTS — DI05-5
ORN/BLK	10	7C-TOC — DI05-7
	11	7C-TC — 7CTX-4, 7CCS-18
	12	7C-CC — 7CCX-4, 7CCS-17
	13	7C-ARMS — DI08-21

SQ1-c19-SQ1C (SQ1-7D) — 12C #14 — 2 SP

TB7D

BLK	1	
WHT	2	P6 — 7DCS-11
RED	3	P6
GRN	4	P6 — 7DCS-E
ORN	5	7D-52A — DI05-9
BLU	6	7D-52B — DI05-11
WHT/BLK	7	7D-RR — 7DCS-F
RED/BLK	8	7D-RG — 7DCS-B
GRN/BLK	9	7D-OTS — DI05-13
ORN/BLK	10	7D-TOC — DI05-15
	11	7D-TC — 7DTX-4, 7DCS-18
	12	7D-CC — 7DCX-4, 7DCS-17
	13	7D-ARMS — DI08-23

SQ1-c20-SQ1C (SQ1-8A) — 12C #14 — 2 SP

TB8A

BLK	1	
WHT	2	P6 — 8ACS-11
RED	3	P6
GRN	4	P6 — 8ACS-E
ORN	5	8A-52A — DI05-17
BLU	6	8A-52B — DI05-19
WHT/BLK	7	8A-RR — 8ACS-F
RED/BLK	8	8A-RG — 8ACS-B
GRN/BLK	9	8A-OTS — DI05-21
ORN/BLK	10	8A-TOC — DI05-23
	11	8A-TC — 8ATX-4, 8ACS-18
	12	8A-CC — 8ACX-4, 8ACS-17
	13	8A-ARMS — DI08-25

SQ1-c21-SQ1C (SQ1-8B) — 12C #14 — 2 SP

TB8B

BLK	1	
WHT	2	P6 — 8BCS-11
RED	3	P6
GRN	4	P6 — 8BCS-E
ORN	5	8B-52A — DI05-25
BLU	6	8B-52B — DI05-27
WHT/BLK	7	8B-RR — 8BCS-F
RED/BLK	8	8B-RG — 8BCS-B
GRN/BLK	9	8B-OTS — DI05-29
ORN/BLK	10	8B-TOC — DI05-23
	11	8B-TC — 8BTX-4, 8BCS-18
	12	8B-CC — 8BCX-4, 8BCS-17
	13	8B-ARMS — DI08-27

SQ1-c22-SQ1C (SQ1-8C) — 12C #14 — 2 SP

TB8C

BLK	1	
WHT	2	P6 — 8CCS-11
RED	3	P6
GRN	4	P6 — 8CCS-E
ORN	5	8C-52A — DI06-1
BLU	6	8C-52B — DI06-3
WHT/BLK	7	8C-RR — 8CCS-F
RED/BLK	8	8C-RG — 8CCS-B
GRN/BLK	9	8C-OTS — DI06-5
ORN/BLK	10	8C-TOC — DI06-7
	11	8C-TC — 8CTX-4, 8CCS-18
	12	8C-CC — 8CCX-4, 8CCS-17
	13	8C-ARMS — DI08-29

SQ1-c23-SQ1C (SQ1-8D) — 12C #14 — 2 SP

TB8D

BLK	1	
WHT	2	P6 — 8DCS-11
RED	3	P6
GRN	4	P6 — 8DCS-E
ORN	5	8D-52A — DI06-9
BLU	6	8D-52B — DI06-11
WHT/BLK	7	8D-RR — 8DCS-F
RED/BLK	8	8D-RG — 8DCS-B
GRN/BLK	9	8D-OTS — DI06-13
ORN/BLK	10	8D-TOC — DI06-15
	11	8D-TC — 8DTX-4, 8DCS-18
	12	8D-CC — 8DCX-4, 8DCS-17
	13	8D-ARMS — DI08-31

SQ1-c24-SQ1C (SQ1-9B) — 12C #14 — 2 SP

TB9B

BLK	1	
WHT	2	P3 — 9BCS-11
RED	3	P3 — M2TX-7
GRN	4	P3 — 9BCS-E
ORN	5	9B-52A — DI01-9
BLU	6	9B-52B — DI01-11
WHT/BLK	7	9B-RR — 9BCS-F
RED/BLK	8	9B-RG — 9BCS-B
GRN/BLK	9	
ORN/BLK	10	9B-TOC — DI01-15
	11	9B-TC — M2TX-4, 9BCS-18
	12	9B-CC — M2CX-4, 9BCS-17
	13	9B-ARMS — DI07-23

SQ1-c25-SQ1C (SQ1-9C) — 12C #14 — 2 SP

TB9C

BLK	1	
WHT	2	P6 — 9CCS-11
RED	3	P6
GRN	4	P6 — 9CCS-E
ORN	5	9C-52A — DI06-17
BLU	6	9C-52B — DI06-19
WHT/BLK	7	9C-RR — 9CCS-F
RED/BLK	8	9C-RG — 9CCS-B
GRN/BLK	9	9C-OTS — DI06-21
ORN/BLK	10	9C-TOC — DI06-23
	11	9C-TC — 9CTX-4, 9CCS-18
	12	9C-CC — 9CCX-4, 9CCS-17
	13	9C-ARMS — DI09-1

SQ1-c26-SQ1C (SQ1-9D) — 12C #14 — 2 SP

TB9D

BLK	1	
WHT	2	P6 — 9DCS-11
RED	3	P6
GRN	4	P6 — 9DCS-E
ORN	5	9D-52A — DI06-25
BLU	6	9D-52B — DI06-27
WHT/BLK	7	9D-RR — 9DCS-F
RED/BLK	8	9D-RG — 9DCS-B
GRN/BLK	9	9D-OTS — DI06-29
ORN/BLK	10	9D-TOC — DI06-31
	11	9D-TC — 9DTX-4, 9DCS-18
	12	9D-CC — 9DCX-4, 9DCS-17
	13	9D-ARMS — DI09-3

TB10

1	SPARE	DI09-5
2	SPARE	DI09-7
3	SPARE	DI09-9
4	SPARE	DI09-11
5	SPARE	DI09-13
6	SPARE	DI09-15
7	SPARE	DI09-17
8	SPARE	DI09-19
9	SPARE	DI09-21
10	SPARE	DI09-23
11	SPARE	DI09-25
12	SPARE	DI09-27
13	SPARE	DI09-29
14	SPARE	DI09-31

A1 SQ1C TERMINAL BLOCKS
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SIRACUSA
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. TINNEA, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-#0308
SIZE: FILENAME: V2-LGP1.002-E-711.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQ1C TERMINAL BLOCKS
WIRING DIAGRAM
SHEET 3 OF 5 - INSTALL

SHEET ID
VOLUME 2
E-711

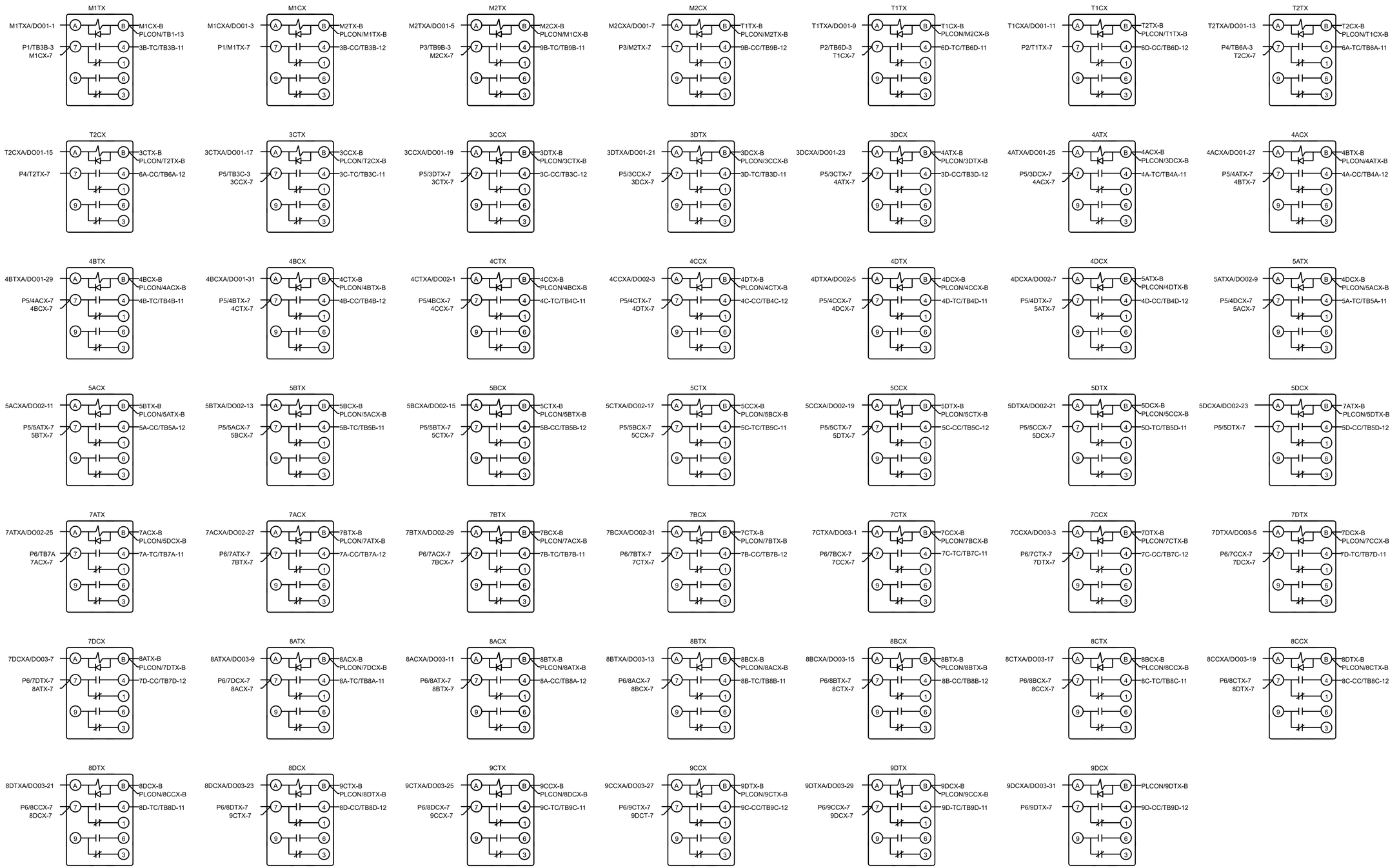
FINAL

GENERAL NOTES

1. ALL EQUIPMENT SHOWN ON THIS DRAWING IS NEW.
2. SUGGESTED WIRE NAMES AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.

GENERAL NOTES (CONTINUED)

3. CONTRACTOR MUST INCLUDE UPDATED WIRE NAMES TO REFLECT THE CUBICLES NAMES OF THE SWITCHGEAR IF THEY HAVE CHANGED FROM THOSE SHOWN IN THE CONTRACT DRAWINGS.



A1 SQ1C AUXILIARY RELAYS

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	K. SIRACUSA
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. TINKLE, P.E.
SPEC. WRITER:	LINDA K.
ANSI D	V2-LGP1 002-E-712.dgn

ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001
DRAWING NUMBER: LGP-1 002-E-712
DRAWING NAME: V2-LGP1 002-E-712.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQ1C AUXILIARY RELAYS
WIRING DIAGRAM
SHEET 4 OF 5 - INSTALL

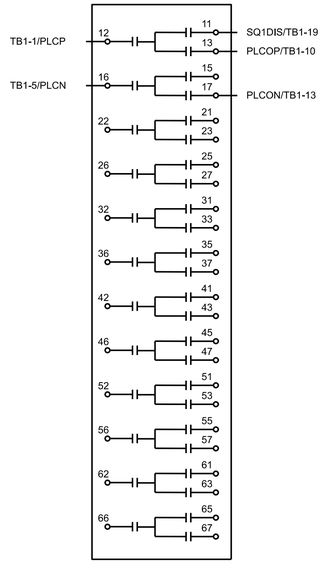
SHEET ID
VOLUME 2
E-712

FINAL

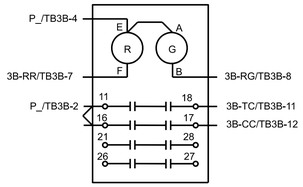
GENERAL NOTES

1. ALL EQUIPMENT SHOWN ON THIS DRAWING IS NEW.
2. P_ SHALL BE DIFFERENT NUMBER DEPENDING ON BREAKER TYPE AS FOLLOWS: MAIN BREAKER BUS 1: P1; TIE BREAKER BUS 1: 2; MAIN BREAKER BUS 2: P3; TIE BREAKER BUS 2: P4; FEEDER BREAKER BUS 1: P4; FEEDER BREAKER BUS 2: P5.
3. SUGGESTED WIRE NAMES, SWITCH LABELS, AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.
4. CONTRACTOR MUST INCLUDE UPDATED WIRE NAMES TO REFLECT THE CUBICLES NAMES OF THE SWITCHGEAR IF THEY HAVE CHANGED FROM THOSE SHOWN IN THE CONTRACT DRAWINGS.

1ED
PLC ENABLE/DISABLE SWITCH

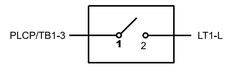


3BCS BKR CNTRL SW (TYPICAL)

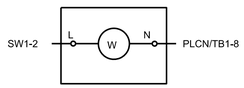


BREAKER CONTROL SWITCH
SQ1-3B SHOWN
(TYPICAL ALL BREAKERS)

SW1
CABINET LIGHT SWITCH

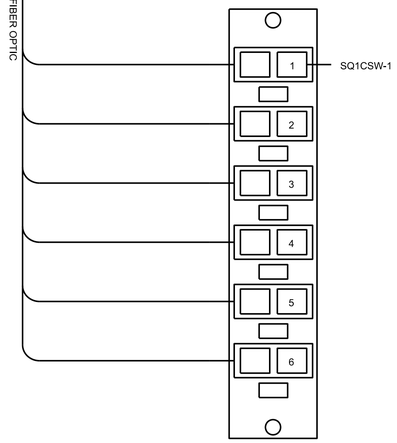


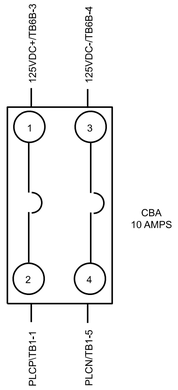
LT1
CABINET LIGHT



SQ1C-fo1-SG
6 STRAND MULTIMODE FIBER OPTIC

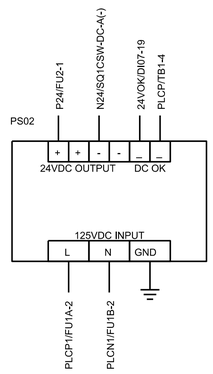
FP1
FIBER PATCH PANEL

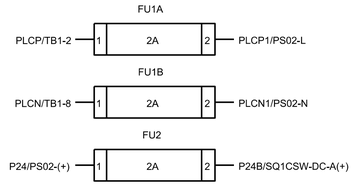


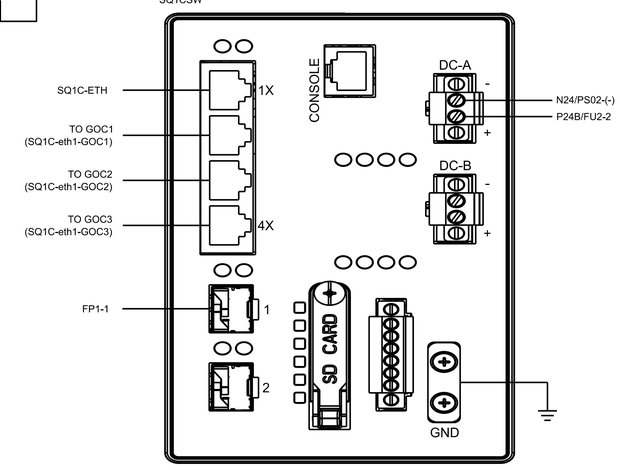


TB1

CBA-2	1	PLCP	1ED-12
	2	PLCP	PS01-L1, FU1A-1
	3	PLCP	SW1-1
	4	PLCP	TB6B-11, PS02-DCOK
CBA-4	5	PLCN	1ED-16
	6	PLCN	PS01-L2
	7	PLCN	DI01-34
	8	PLCN	LT1-N, FU1B-1
	9		
1ED-13	10	PLCOP	DO01-34
	11	PLCOP	
	12		
1ED-17	13	PLCON	M1TX-B
	14	PLCON	
	15	PLCON	
	16	PLCON	
	17	PLCON	
	18		
	19	SQ1DIS	1ED-11, DI07-9
	20		







A1 SQ1C MISC EQUIPMENT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	K. SIRACUSA
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. PINK, P.E.
SIZE:	ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-P09/10
FILE NAME: V2-LGP1.002-E-713.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQ1C MISC EQUIPMENT
WIRING DIAGRAM
SHEET 5 OF 5 - INSTALL

SHEET ID
VOLUME 2
E-713

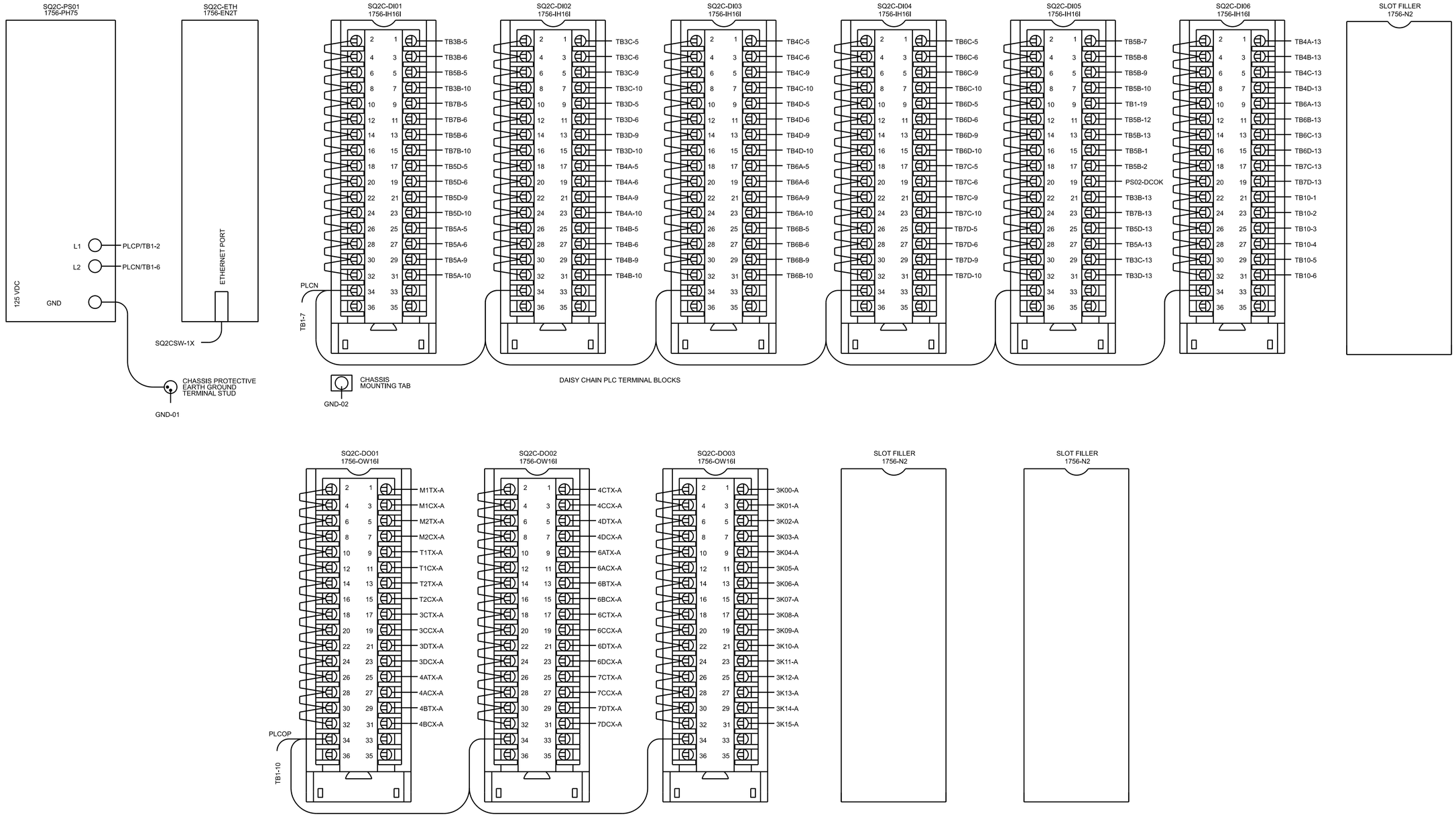
FINAL

GENERAL NOTES

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. USE #18 AWG FROM PLC MODULES TO TERMINAL BLOCKS.
3. USE #14 AWG FOR POWER AND GROUNDING CONNECTIONS.
4. CHASSIS WIRING AND GROUNDING MUST COMPLY WITH MANUFACTURER INSTRUCTIONS AND NATIONAL ELECTRIC CODE.
5. FOR MODULE JUMPERS, USE 1756-JMPR JUMPER BAR.
6. SUGGESTED WIRE NAMES AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.

GENERAL NOTES (CONTINUED)

7. CONTRACTOR MUST INCLUDE UPDATED WIRE NAMES TO REFLECT THE CUBICLES NAMES OF THE SWITCHGEAR IF THEY HAVE CHANGED FROM THOSE SHOWN IN THE CONTRACT DRAWINGS.



A1 SQ2C PLC WIRING DIAGRAM
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SIRACUSA
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. EVANS, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-20911
FILE NAME: V2-LGP1.002-E-714.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQ2C PLC MODULE
WIRING DIAGRAM
SHEET 1 OF 5 - INSTALL

SHEET ID
VOLUME 2
E-714

FINAL

GENERAL NOTES

1. ALL EQUIPMENT SHOWN ON THIS DRAWING IS NEW.
2. THIS DRAWING IS NOT A PHYSICAL REPRESENTATION OF TERMINAL BLOCK LAYOUT.
3. SUGGESTED WIRE NAMES AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.
4. CONTRACTOR MUST INCLUDE UPDATED WIRE NAMES TO REFLECT THE CUBICLES NAMES OF THE SWITCHGEAR IF THEY HAVE CHANGED FROM THOSE SHOWN IN THE CONTRACT DRAWINGS.

12C #14 (SQ2-3B) SQ2-c1-SQ2C — 2 SP

TB3B

BLK	1		
WHT	2	P1	3BCS-11
RED	3	P1	M1TX-7
GRN	4	P1	3BCS-E
ORN	5	3B-52A	DI01-1
BLU	6	3B-52B	DI01-3
WHT/BLK	7	3B-RR	3BCS-F
RED/BLK	8	3B-RG	3BCS-B
GRN/BLK	9		
ORN/BLK	10	3B-TOC	DI01-7
	11	3B-TC	M1TX-4, 3BCS-18
	12	3B-CC	M1CX-4, 3BCS-17
	13	3B-ARMS	DI05-21

12C #14 (SQ2-4C) SQ2-c6-SQ2C — 2 SP

TB4C

BLK	1		
WHT	2	P5	4CCS-11
RED	3	P5	
GRN	4	P5	4CCS-E
ORN	5	4C-52A	DI03-1
BLU	6	4C-52B	DI03-3
WHT/BLK	7	4C-RR	4CCS-F
RED/BLK	8	4C-RG	4CCS-B
GRN/BLK	9	4C-OTS	DI03-5
ORN/BLK	10	4C-TOC	DI03-7
	11	4C-TC	4CTX-4, 4CCS-18
	12	4C-CC	4CCX-4, 4CCS-17
	13	4C-ARMS	DI06-5

12C #14 (SQ2-5A) SQ2-c8-SQ2C — 2 SP

TB5A

BLK	1		
WHT	2	P2	5ACS-11
RED	3	P2	T1TX-7
GRN	4	P2	5ACS-E
ORN	5	5A-52A	DI01-25
BLU	6	5A-52B	DI01-27
WHT/BLK	7	5A-RR	5ACS-F
RED/BLK	8	5A-RG	5ACS-B
GRN/BLK	9	5A-OTS	DI01-29
ORN/BLK	10	5A-TOC	DI01-31
	11	5A-TC	5ATX-4, 5ACS-18
	12	5A-CC	5ACX-4, 5ACS-17
	13	5A-ARMS	DI05-27

12C #14 (SQ2-3C) SQ2-c2-SQ2C — 2 SP

TB3C

BLK	1		
WHT	2	P5	3CCS-11
RED	3	P5	3CTX-7
GRN	4	P5	3CCS-E
ORN	5	3C-52A	DI02-1
BLU	6	3C-52B	DI02-3
WHT/BLK	7	3C-RR	3CCS-F
RED/BLK	8	3C-RG	3CCS-B
GRN/BLK	9	3C-OTS	DI02-5
ORN/BLK	10	3C-TOC	DI02-7
	11	3C-TC	3CTX-4, 3CCS-18
	12	3C-CC	3CCX-4, 3CCS-17
	13	3C-ARMS	DI05-29

12C #14 (SQ2-4D) SQ2-c7-SQ2C — 2 SP

TB4D

BLK	1		
WHT	2	P5	4DCS-11
RED	3	P5	
GRN	4	P5	4DCS-E
ORN	5	4D-52A	DI03-9
BLU	6	4D-52B	DI03-11
WHT/BLK	7	4D-RR	4DCS-F
RED/BLK	8	4D-RG	4DCS-B
GRN/BLK	9	4D-OTS	DI03-13
ORN/BLK	10	4D-TOC	DI03-15
	11	4D-TC	4DTX-4, 4DCS-18
	12	4D-CC	4DCX-4, 4DCS-17
	13	4D-ARMS	DI06-7

9C #14 (SQ2-5C) SQ2-c9-SQ2C — 5 SP

9C #14 (SQ2-5B) SQ2-c9-SQ2C

TB5B

BLK	1	5B-GND1	DI05-15
WHT	2	5B-GND2	DI05-17
RED	3	125VDC+	CBA-1
GRN	4	125VDC-	CBA-3
ORN	5	5B-RTRP1	DI01-5
BLU	6	5B-RTRP2	DI01-13
WHT/BLK	7	5B-UV1	DI05-1
RED/BLK	8	5B-UV2	DI05-3
GRN/BLK	9	5B-RT1	DI05-5
BLK	10	5B-RT2	DI05-7
WHT	11	PLCP	TB1-4
RED	12	5B-TA1	DI05-11
GRN	13	5B-TA2	DI05-13

12C #14 (SQ2-3D) SQ2-c3-SQ2C — 2 SP

TB3D

BLK	1		
WHT	2	P5	3DCS-11
RED	3	P5	
GRN	4	P5	3DCS-E
ORN	5	3D-52A	DI02-9
BLU	6	3D-52B	DI02-11
WHT/BLK	7	3D-RR	3DCS-F
RED/BLK	8	3D-RG	3DCS-B
GRN/BLK	9	3D-OTS	DI02-13
ORN/BLK	10	3D-TOC	DI02-15
	11	3D-TC	3DTX-4, 3DCS-18
	12	3D-CC	3DCX-4, 3DCS-17
	13	3D-ARMS	DI05-31

12C #14 (SQ2-5D) SQ2-c11-SQ2C — 2 SP

TB5D

BLK	1		
WHT	2	P4	5DCS-11
RED	3	P4	T2TX-7
GRN	4	P4	5DCS-E
ORN	5	5D-52A	DI01-17
BLU	6	5D-52B	DI01-19
WHT/BLK	7	5D-RR	5DCS-F
RED/BLK	8	5D-RG	5DCS-B
GRN/BLK	9	5D-OTS	DI01-21
ORN/BLK	10	5D-TOC	DI01-23
	11	5D-TC	5DTX-4, 5DCS-18
	12	5D-CC	5DCX-4, 5DCS-17
	13	5D-ARMS	DI05-25

12C #14 (SQ2-4A) SQ2-c4-SQ2C — 2 SP

TB4A

BLK	1		
WHT	2	P5	4ACS-11
RED	3	P5	
GRN	4	P5	4ACS-E
ORN	5	4A-52A	DI02-17
BLU	6	4A-52B	DI02-19
WHT/BLK	7	4A-RR	4ACS-F
RED/BLK	8	4A-RG	4ACS-B
GRN/BLK	9	4A-OTS	DI02-21
ORN/BLK	10	4A-TOC	DI02-23
	11	4A-TC	4ATX-4, 4ACS-18
	12	4A-CC	4ACX-4, 4ACS-17
	13	4A-ARMS	DI06-1

12C #14 (SQ2-4B) SQ2-c5-SQ2C — 2 SP

TB4B

BLK	1		
WHT	2	P5	4BCS-11
RED	3	P5	
GRN	4	P5	4BCS-E
ORN	5	4B-52A	DI02-25
BLU	6	4B-52B	DI02-27
WHT/BLK	7	4B-RR	4BCS-F
RED/BLK	8	4B-RG	4BCS-B
GRN/BLK	9	4B-OTS	DI02-29
ORN/BLK	10	4B-TOC	DI02-31
	11	4B-TC	4BTX-4, 4BCS-18
	12	4B-CC	4BCX-4, 4BCS-17
	13	4B-ARMS	DI06-3

A1 SQ2C TERMINAL BLOCKS
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SIRACUSA
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
SCALE: FILENAME: V2-L-GP1.002-E-715.dgn
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001
DRAWING NUMBER: LGP-1.002-E-SQ2#12

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

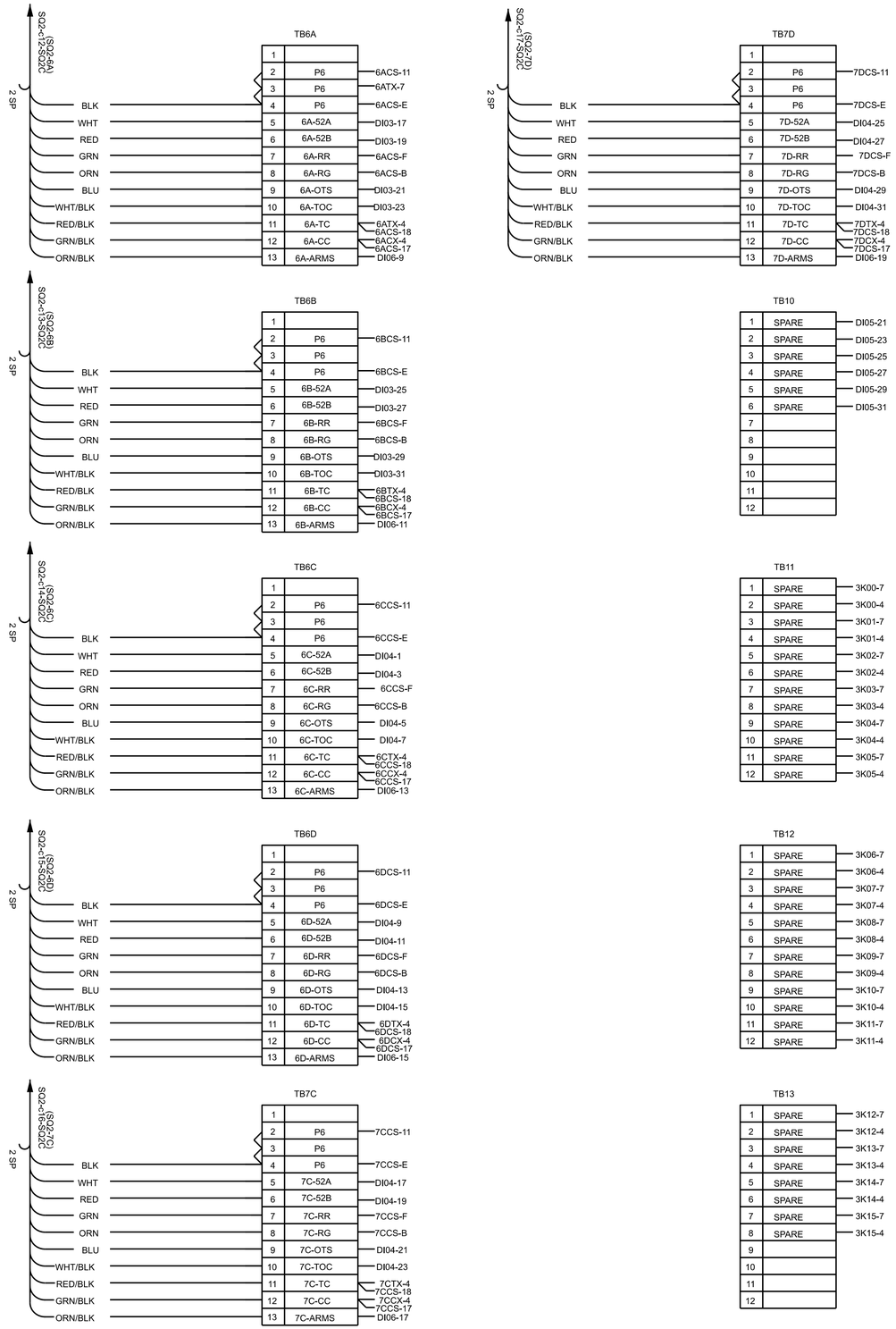
SQ2C TERMINAL BLOCKS
WIRING DIAGRAM
SHEET 2 OF 5 - INSTALL

SHEET ID
VOLUME 2
E-715

FINAL

GENERAL NOTES

1. ALL EQUIPMENT SHOWN ON THIS DRAWING IS NEW.
2. THIS DRAWING IS NOT A PHYSICAL REPRESENTATION OF TERMINAL BLOCK LAYOUT.
3. SUGGESTED WIRE NAMES AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.
4. CONTRACTOR MUST INCLUDE UPDATED WIRE NAMES TO REFLECT THE CUBICLES NAMES OF THE SWITCHGEAR IF THEY HAVE CHANGED FROM THOSE SHOWN IN THE CONTRACT DRAWINGS.



A7 SQ2C TERMINAL BLOCKS
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SIRACUSA
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-#09#13
SIZE: FILENAME: V2-LGP1.002-E-716.dgn

U.S. ARMY CORPS OF ENGINEERS
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WALLA WALLA, WASHINGTON

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HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQ2C TERMINAL BLOCKS
WIRING DIAGRAM
SHEET 3 OF 5 - INSTALL

SHEET ID
VOLUME 2
E-716

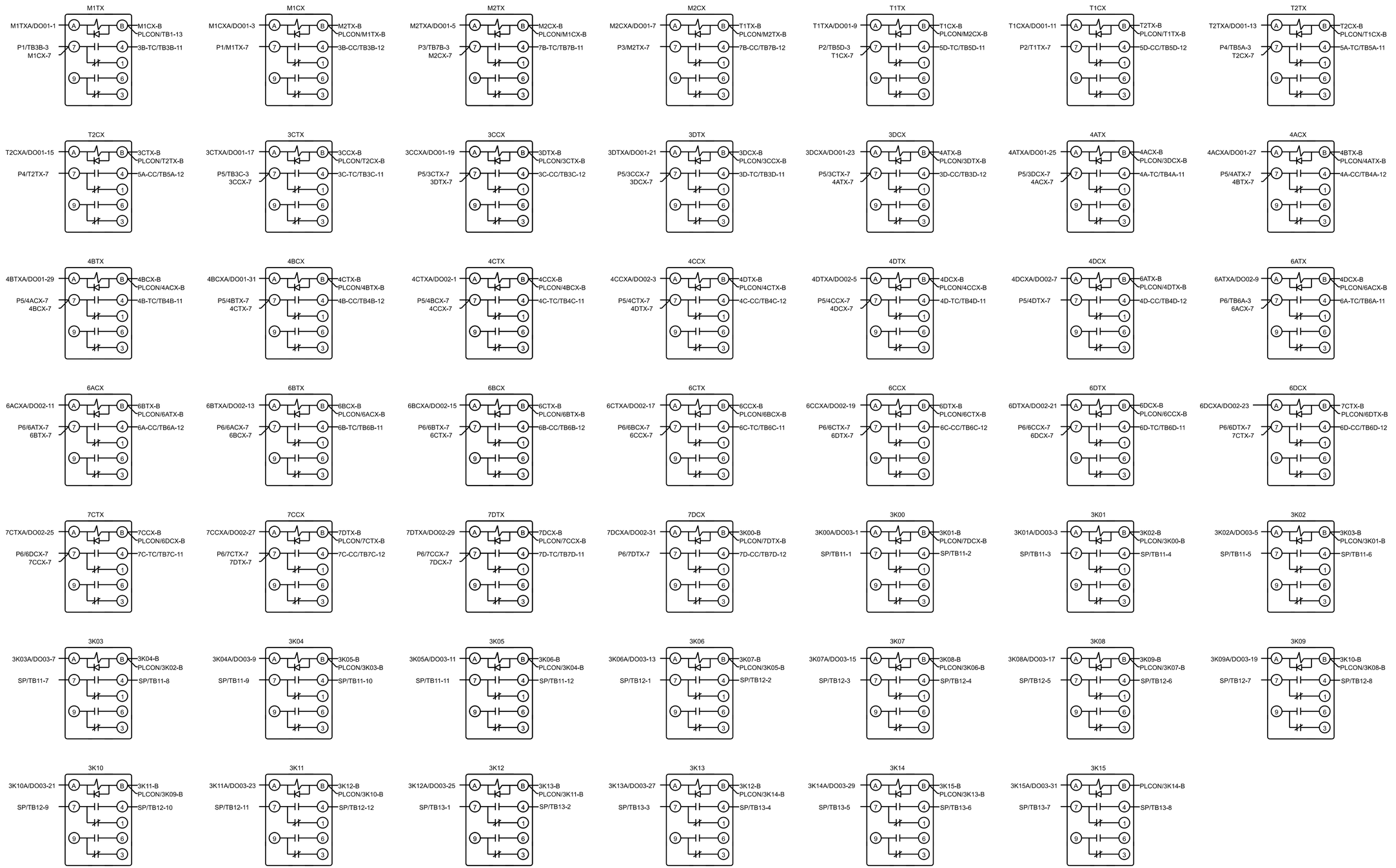
FINAL

GENERAL NOTES

1. ALL EQUIPMENT SHOWN ON THIS DRAWING IS NEW.
2. SUGGESTED WIRE NAMES AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.

GENERAL NOTES (CONTINUED)

3. CONTRACTOR MUST INCLUDE UPDATED WIRE NAMES TO REFLECT THE CUBICLES NAMES OF THE SWITCHGEAR IF THEY HAVE CHANGED FROM THOSE SHOWN IN THE CONTRACT DRAWINGS.



A1 SQ1C AUXILIARY RELAYS

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	K. SIRACUSA
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. TINKLE, P.E.
SPEC. WRITER:	ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-SQ3/14
FILENAME: V2-LGP1.002-E-717.dgn

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WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQ2C AUXILIARY RELAYS WIRING DIAGRAM

SHEET 4 OF 5 - INSTALL

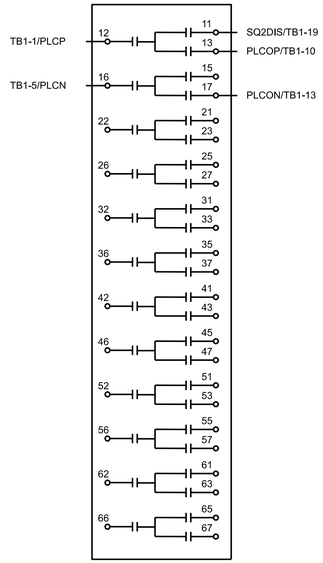
SHEET ID
VOLUME 2
E-717

FINAL

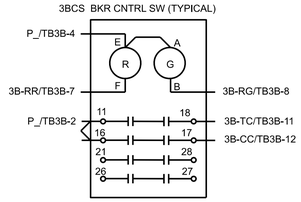
GENERAL NOTES

1. ALL EQUIPMENT SHOWN ON THIS DRAWING IS NEW.
2. P_ SHALL BE DIFFERENT NUMBER DEPENDING ON BREAKER TYPE AS FOLLOWS: MAIN BREAKER BUS 1: P1; TIE BREAKER BUS 1: 2; MAIN BREAKER BUS 2: P3; TIE BREAKER BUS 2: P4; FEEDER BREAKER BUS 1: P4; FEEDER BREAKER BUS 2: P5.
3. SUGGESTED WIRE NAMES, SWITCH LABELS, AND TERMINAL BLOCK DESIGNATIONS ARE PROVIDED BASED ON CUBICLE NUMBERS SHOWN IN THE CONTRACT DRAWING SET. IF DIFFERENT CUBICLE NUMBERS ARE USED THEN CONTRACTOR MUST UPDATE LABELS ACCORDINGLY.
4. CONTRACTOR MUST INCLUDE UPDATED WIRE NAMES TO REFLECT THE CUBICLES NAMES OF THE SWITCHGEAR IF THEY HAVE CHANGED FROM THOSE SHOWN IN THE CONTRACT DRAWINGS.

1ED
PLC ENABLE/DISABLE SWITCH

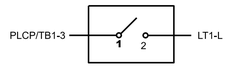


3BCS BKR CNTRL SW (TYPICAL)

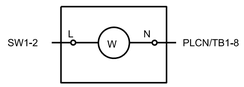


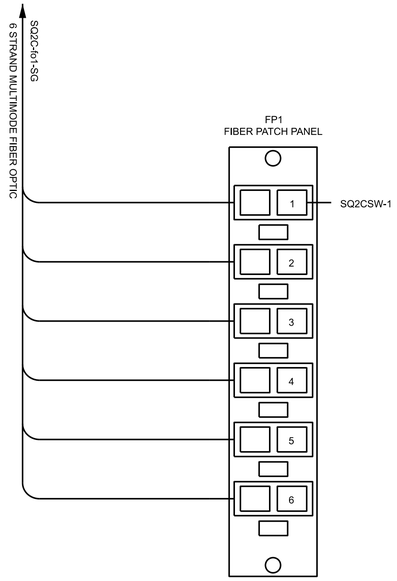
BREAKER CONTROL SWITCH
SQ2-3B SHOWN
(TYPICAL ALL BREAKERS)

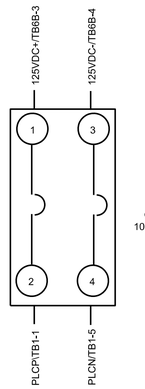
SW1
CABINET LIGHT SWITCH

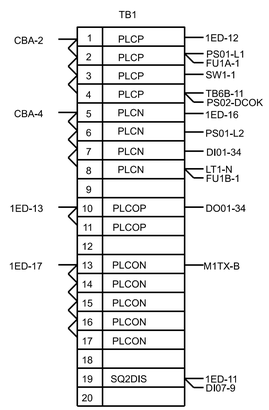


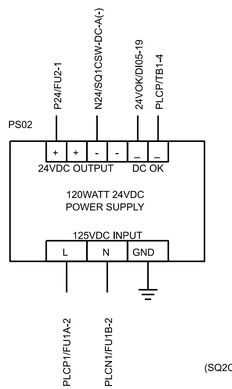
LT1
CABINET LIGHT

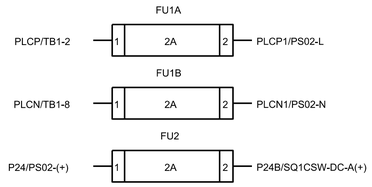


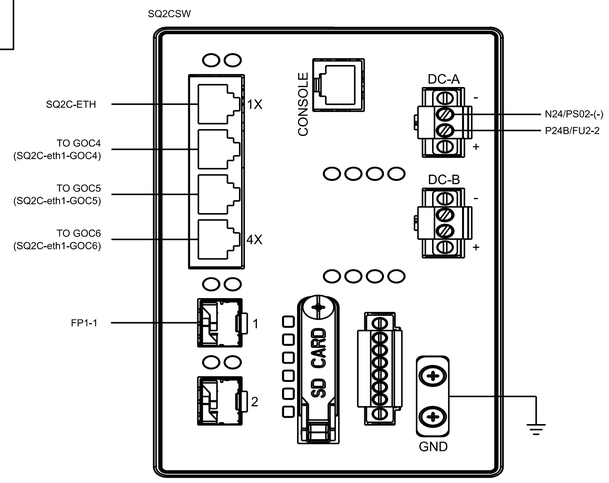












A1 SQ2C MISC EQUIPMENT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-6-#09#15
FILE NAME:	LGP1.002-E-718.dgn

DESIGNED BY:	K. SIRACUSA
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	C. DINH
SUBMITTED BY:	D. DINH
SIZE:	ANSI D

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SQ2C MISC EQUIPMENT
WIRING DIAGRAM
SHEET 5 OF 5 - INSTALL

SHEET ID
VOLUME 2
E-718

FINAL

GENERAL NOTES

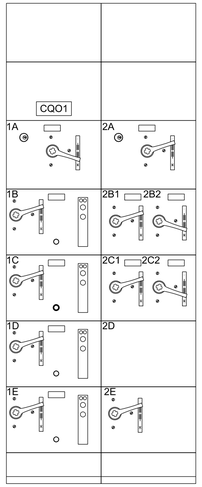
1. BOLD ITEMS INDICATED EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. 480V EQUIPMENT/LOADS TO REMAIN IN SERVICE DURING REPLACEMENT OF EQUIPMENT, UNLESS OTHERWISE NOTED.
3. BOTH INTAKE AND TAILRACE LIGHTING CONTROLS MUST BE IN THE SAME CONTROL POSITION, I.E. IF ONE IS IN MANUAL, THEN THE OTHER MUST BE IN MANUAL. REFER TO ED-608 FOR DETAILS.

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LGP-1-6-1D1/1	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 498 & AREAS BELOW
LGP-1-6-1D1/2	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 522
LGP-1-6-1D1/3	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 542
LGP-1-6-1D1/4	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 558

MCC CQO1, 480V - NAMEPLATE AND EQUIPMENT SCHEDULE

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	CIRCUIT DESIGNATOR
1A	MAIN BREAKER BUS 1		SQO-q1-CQO1
1B	TRANSIL OIL PUMP NO. 1		CQO1-q1
1C	TRANSIL OIL PUMP NO. 2		CQO1-q2
1D	LUBE OIL PUMP NO. 3		CQO1-q3
1E	DIRTY OIL PUMP NO. 4		CQO1-q4
2A	MAIN BREAKER BUS 2		SQO-q2-CQO1
2B1	OIL PURIFIER OUTLET NO. 1	OUTLET IN	CQO1-q5
2B2	OIL PURIFIER OUTLET NO. 2	OIL PURIFIER BKR	CQO1-q6
2C1	OIL PURIFIER OUTLET NO. 3		CQO1-q7
2C2	OIL PURIFIER OUTLET NO. 4		CQO1-q8
2D	SPACE		
2E	OSCC PLC	OIL SKIMMER CONTROL CABINET	CQO1-q10



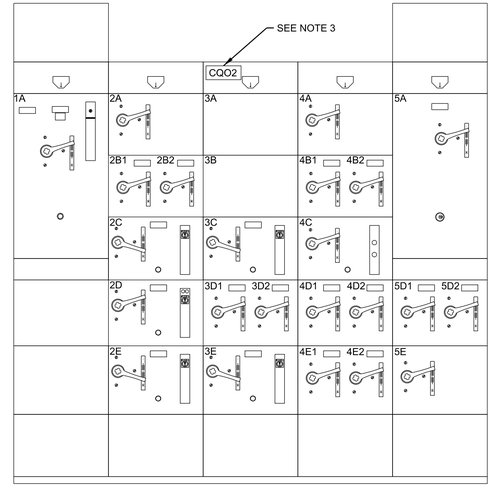
A5 ELEVATION: 480V MCC CQO1 - REMOVAL. EL 498

SCALE: 3/4" = 1'

0 1' 2' 4'

MCC CQO2, 480V - NAMEPLATE AND EQUIPMENT SCHEDULE

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	CIRCUIT DESIGNATOR
1A	DISCONNECT/PANEL COMPRESSOR ROOM	NO LONGER NEEDED	CQO2-q7
1D	EMPTY		
1E	EMPTY		
2A	EP-1		
2B1	TO1 TRANSFORMER OIL PUMP #1 EL 558		
2B2	TO2 TRANSFORMER OIL PUMP #1 EL 558		
2C	STATION AIR COMPRESSOR #1		
2D	TAIL RACE DECK LIGHTS	NOTE 3	CQO2-q3
2E	SPARE		CQO2-q15
3A	SPACE		
3B	SPACE		
3C	500 LB GOVERNOR AIR COMPRESSOR		CQO2-q8
3D1	LIGHT TRANS. TR01	TRANSFORMER TR01 - LEVEL 2	CQO2-q1
3D2	480 VOLT OUTLETS		CQO2-q2
3E	CRO2.3	PNL - LEVEL 3 AIR COMPRESSOR RM	CQO2-c15
4A	EP-2		CQO2-q10
4B1	TO1 TRANSFORMER OIL PUMP #2 EL 558		
4B2	TO2 TRANSFORMER OIL PUMP #2 EL 558		
4C	STATION AIR COMPRESSOR #2		
4D1	LIGHT TRANS. TR02	TRANSFORMER TR02 - LEVEL 3 AIR COMPRESSOR RM	CQO2-q12
4D2	480 VOLT OUTLETS		CQO2-q13
4E1	TAIL RACE CRANE		CQO2-q14
4E2	SEWAGE AIR COMPRESSOR	COMMINUTOR/MUFFIN MONSTER	CQO2-q16
5A	STATION AIR COMPRESSOR #3		CQO2-q9
5D1	SPARE		
5D2	HRDA-D2	AIR DRYER - LEVEL 3 AIR COMPRESSOR RM	
5E	5KVA XFMR - FISH WATER TURBINE RM	120V RECEPTACLES FISH PUMP ROOM. 480V-120V TRANSFORMER GFCI PROTECTED	



A14 ELEVATION: 480V MCC CQO2 - REMOVAL. EL 522

SCALE: 3/4" = 1'

0 1' 2' 4'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-1D411
FILE NAME: V3-LGP1.002-ED201.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CONTROL CENTER CQO1, CQO2
ELEVATION VIEW
REMOVAL

SHEET ID
VOLUME 3
ED201

FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATED EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. 480V EQUIPMENT/LOADS TO REMAIN IN SERVICE DURING REPLACEMENT OF EQUIPMENT, UNLESS OTHERWISE NOTED.
3. BOTH INTAKE AND TAILRACE LIGHTING CONTROLS MUST BE IN THE SAME CONTROL POSITION. I.E. IF ONE IS IN MANUAL, THEN THE OTHER MUST BE IN MANUAL. REFER TO ED-608 FOR DETAILS.

REFERENCE DRAWINGS

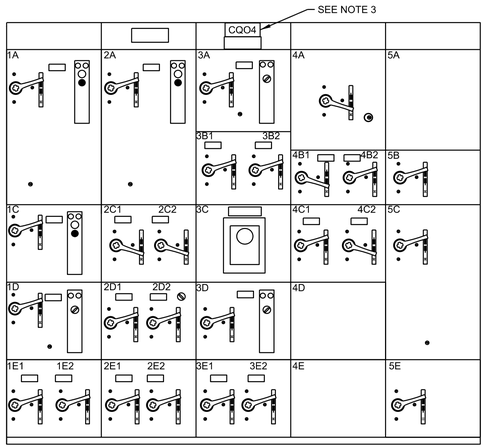
DRAWING NO	TITLE
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LGP-1-6-1D1/6	EMBEDDED CONDUIT& GROUNDING - INTAKE ELEVATION 580 & 598
LGP-1-6-1D1/7	EMBEDDED CONDUIT& GROUNDING - INTAKE ELEVATION 618 & 634
LGP-1-6-1D1/8	EMBEDDED CONDUIT & GROUNDING - INTAKE ELEVATION 651 & MISC DETAIL

MCC CQO4, 480V - NAMEPLATE AND EQUIPMENT SCHEDULE

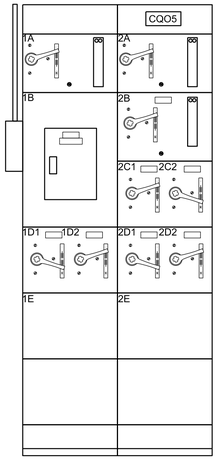
UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	CIRCUIT DESIGNATOR
1A	INTAKE GATE HYD. PUMP NO. 1	HYDRAULIC PUMP LEVEL 6	CQO4-q5
1C	INTAKE GATE HYD. PUMP NO. 3	HYDRAULIC PUMP LEVEL 6	CQO4-q6
1D	UNIT CONDITIONER UC-2	LEVEL 5	CQO4-q16
1E1	INTAKE DECK OUTLETS		
1E2	INTAKE DECK OUTLETS		
2A	INTAKE GATE HYD. PUMP NO. 2	CAUTION - MULTIPLE SOURCES OF 480V POWER IN THIS PANEL. PIPE CHASE LIGHTING CONTACTOR 2D2	CQO4-q7
2C1	ELEVATOR		CQO4-q2
2C2	SPARE		
2D1	TRASH RACK CRANE		CQO4-q4
2D2	480V PIPE CHASE LIGHTING		CQO4-q3
2E1	INTAKE DECK OUTLETS	TRANSFORMER BETWEEN T1 & T2 USGS TRAILER	
2E2	INTAKE DECK OUTLETS	ALSO FEEDS INTAKE DECK LIGHTING T-1 & T-2	
3A	UNIT CONDITIONER UC-1	LEVEL 7	CQO4-q12
3B1	LIGHT TRANS. TR06	8TH FLOOR LTS	CQO4-q10
3B2	480 VOLT OUTLETS	5TH FLOOR SCREEN REPAIR ROOM	CQO4-q11
3C	INTAKE GATE HYD. PUMP RELAY		
3D	INTAKE DECK LIGHTS	NOTE 2	CQO4-q8
3E1	LIGHT TRANS. TR07	TRANSFORMER LEVEL 7?	CQO4-q18
3E2	REPAIR PIT FAN MAF-1		CQO4-q17
4A	MAIN BREAKER BUS-1		
4B1	SPARE		
4B2	ELEVATOR EQUIP. RM HEAT PUMP		
4C1	WATER HEATER	LEVEL 7	CQO4-q13
4C2	INTAKE CRANE HEATER		CQO4-q14
4D	DISCONNECT SWITCH/LUNCH ROOM		CQO4-s2
4E1	REPAIR PIT VACUUM SYSTEM OUTLET		
4E2	CQO7 FEEDER		
5A	MAIN BREAKER	BUS-2	
5B1	FEEDER FOR PENTHOUSE LOUVER VENT FAN		CQO4-q22
5B2	SPARE		
5C	CENTRAL COND. FAN SF-1	CAUTION AUXILIARY CONTACTS HAVE POWER FROM CR05 BREAKER #10	CQO4-q19
5E	RECIRCULATING FAN RF-1		CQO4-q20

MCC CQO5, 480V - NAMEPLATE AND EQUIPMENT SCHEDULE

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	CIRCUIT DESIGNATOR
1A	125VDC BATTERY CHARGER NO. 3		CQO5-q1
1B	DOOR DISCONTINUED OPEN FULL PANEL ONLY		
1D1	SPARE		
1D2	LIGHT TRANS TR05		CQO5-q3
1E	SPACE		
2A	125VDC BATTERY CHARGER NO. 2		CQO5-q4
2B	125VDC BATTERY CHARGER NO. 1		CQO5-q5
2C1	PREFERRED AC INV		
2C2	SPARE		
2D1	SPARE		
2D2	48VDC CHARGER		
2E	SPARE		



A5 ELEVATION: 480V MCC CQO4 - REMOVAL. EL 618
SCALE: 3/4" = 1'



A14 ELEVATION: 480V MCC CQO5 - REMOVAL. EL 580
SCALE: 3/4" = 1'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
SUBMITTED BY: DANIEL P. E.
LEAD STERLING: FILE NAME: V3-LGP1 002-ED202.dgn
SIZE: ANSI D
DRAWING NUMBER: LGP-1 002-6-1D4/2

U.S. ARMY CORPS OF ENGINEERS
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201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CONTROL CENTER CQO4, CQO5
ELEVATION VIEW
REMOVAL

SHEET ID
VOLUME 3
ED202

FINAL

(FCQ1) 480V, 225A FED FROM SQO - NAMEPLATE AND EQUIPMENT SCHEDULE			
UNIT	**NAMEPLATE SCHEDULE**	**DESCRIPTION OF EQUIPMENT**	**CIRCUIT DESIGNATOR**
1	FISHWAY TRANSFORMER		FCQ1-q1-FSC
2	TRA0		FCQ1-q1-TRA0
3	480V OUTLET FISH PUMP RUN		FCQ1-q2
4	TRA1		FCQ1-q1-TRA1
5	WEIR GATE (SPEC 2)		FCQ1-q1-SPEC2
6	WEIR GATE (SPEC 1)		FCQ1-q1-SPEC1
7	FTC 3		FCQ1-q3
8	FTC 2		FCQ1-q4
9	FTC 1		FCQ1-q5
10	DIESEL ENGING GENERATOR HEATER		FCQ1-q10-BH
11	P1 COOLING WATER		FCQ1-q11-P1
12	ENGINE GENERATOR EX FAN & COOLING WATER		FCQ1-q12-EF3
13			
14			
15			
16	MAIN BREAKER		

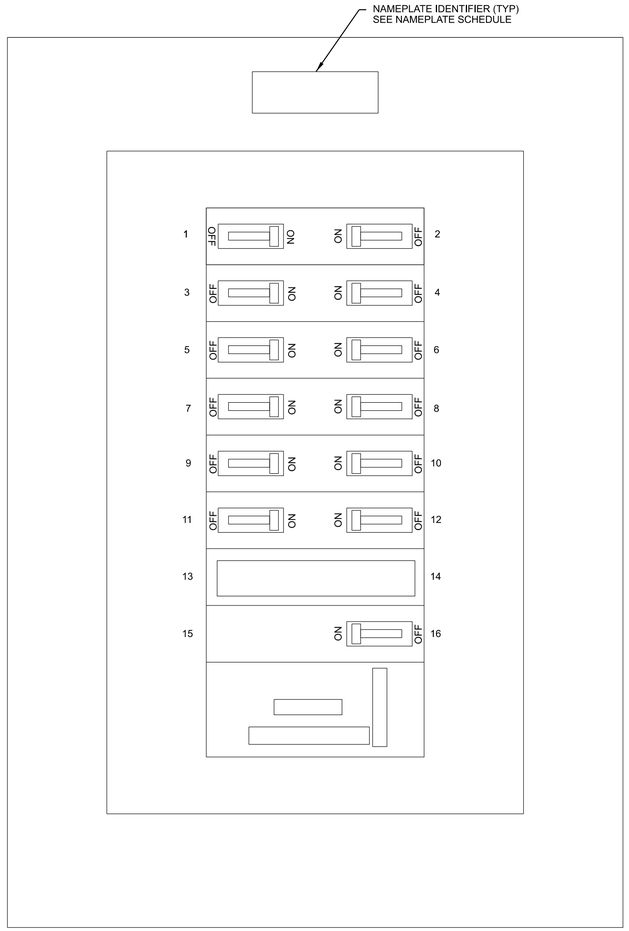
(CQO) 480V, 225A FED FROM SQO - NAMEPLATE AND EQUIPMENT SCHEDULE			
UNIT	**NAMEPLATE SCHEDULE**	**DESCRIPTION OF EQUIPMENT**	**UNIT**
1	SHOP HOIST	VERTICAL LIFT DOOR	2
3	RADIAL DRILL	16" LATHE	4
5	10" LATHE		6
7	5TH FLOOR OFFICES	RECEPTACLES ELECT SHOP	8
9		PRESS	10
11	LIGHTING TRANS TR03	HI-BAY LIGHTSW	12
13	HI-BAY LIGHTS	LIGHTING TRANS TR04	14

GENERAL NOTES

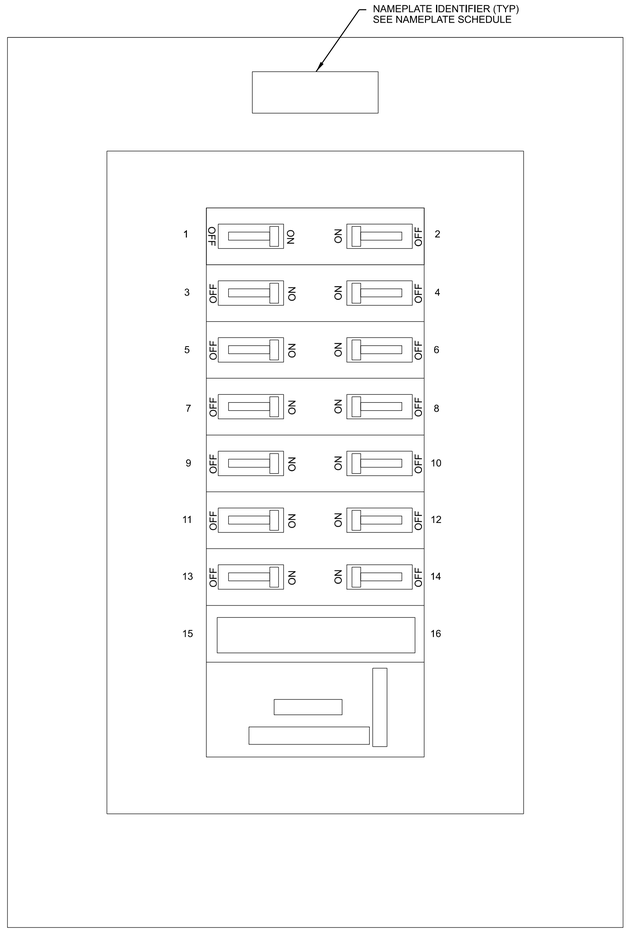
1. BOLD ITEMS INDICATED EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. 480V EQUIPMENT/LOADS TO REMAIN IN SERVICE DURING REPLACEMENT OF EQUIPMENT, UNLESS OTHERWISE NOTED.

REFERENCE DRAWINGS

DRAWING NO	TITLE
ST487508 SE-1	MAIN CONTRACT PANELBOARDS 480-VOLT CQ03 FCQ1 & FCQ2 WIRING DIAGRAMS BID ITEM 244
LGP-1.1-6-1D21/3	ONE LINE DIAGRAM - CQ03 CQ04 & CQ05
LGP-1-6-1D1/3	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 542
LGP-1-6-1D1/4	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 558
LGP-1-6-1E1/10	EMBEDDED CONDUIT & GROUNDING - FISHWAY GALLERY ELEVATION 542, BAYS 1 THRU 3
SEES-LGA-E-101A	EMERGENCY DIESEL GENERATOR - MODIFIED EMERGENCY LAYOUT
SEES-LGA-E-602	EMERGENCY DIESEL GENERATOR - AC PANEL SCHEDULES
SEES-LGA-E-617	EMERGENCY DIESEL GENERATOR - CONDUIT AND CABLE SCHEDULE - MODIFIED



A5 ELEVATION: FCQ1 PANEL - REMOVAL EL 542
SCALE: NTS



A13 ELEVATION: 480V MCC CQO3 - REMOVAL EL 558
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0024-6-1D4/3
SUBMITTED BY: LIJIAN STERLING, P.E.
SIZE: ANSI D
FILE NAME: V3-LGP1.0024-ED203.dgn

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SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

PANELBOARD FCQ1, CQO3
ELEVATION VIEW
REMOVAL

SHEET ID
VOLUME 3
ED203

FINAL

GENERAL NOTES

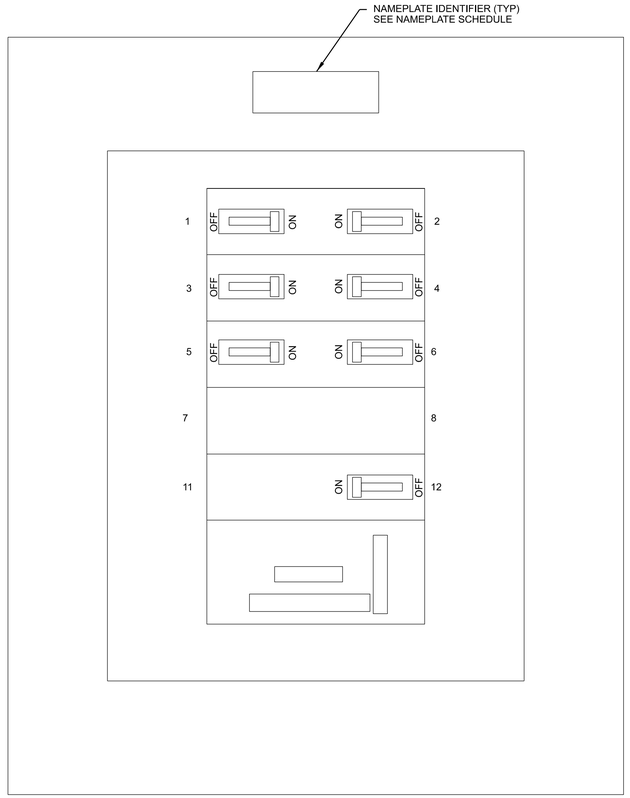
1. BOLD ITEMS INDICATED EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. 480V EQUIPMENT/LOADS TO REMAIN IN SERVICE DURING REPLACEMENT OF EQUIPMENT, UNLESS OTHERWISE NOTED.
3. CQO7 WILL BE INSTALLED AS PART OF THE REPAIR PIT UPGRADE. CONTRACTOR TO VERIFY LOADS.

REFERENCE DRAWINGS

DRAWING NO	TITLE
ST487508 SE-1	MAIN CONTRACT PANELBOARDS 480-VOLT CQ03 FCQ1 & FCQ2 WIRING DIAGRAMS BID ITEM 244
LGP-1-6-1D1/3	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 542
LGP-1-6-1D1/4	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 558
LGP-1-6-1E1/10	EMBEDDED CONDUIT & GROUNDING - FISHWAY GALLERY ELEVATION 542, BAYS 1 THRU 3

(FCQ2) 480V, 100A FED FROM SQO - NAMEPLATE AND EQUIPMENT SCHEDULE

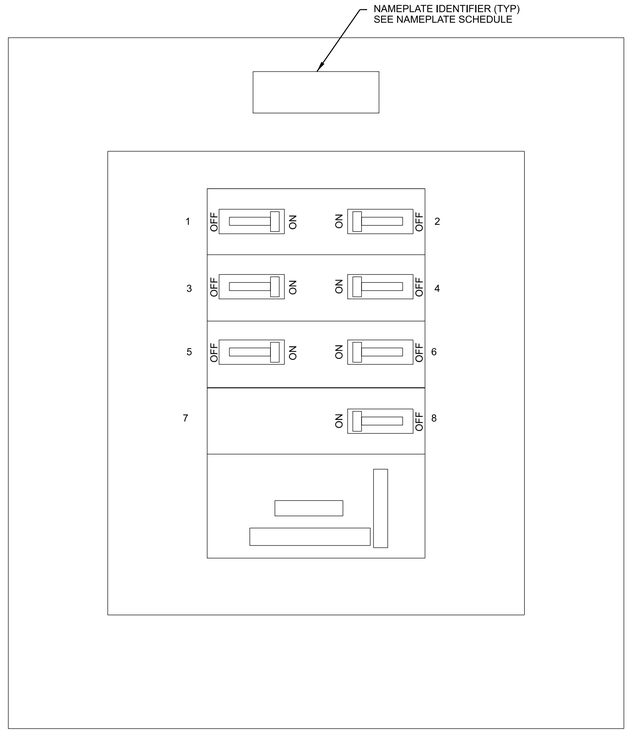
UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	CIRCUIT DESIGNATOR
1	TRA		FCQ2-q1-TRA
2	WEIR GATE (NPE1)		FCQ2-q1-NPE1
3	SPARE		FCQ2-q1
4	WEIR GATE (NPE2)		FCQ2-q1-NPE2
5	HYDROCARBON OIL WATER SEPARATOR		FCQ2-q2
6	WING GATE		FCQ2-q1-NPC
7	SPARE		FCQ2-s2
8	SPARE		FCQ2-s4
9	MAIN BREAKER		



A2 ELEVATION: FCQ2 PANEL - REMOVAL EL 542
SCALE: NTS

(CQO7) 480V, 150A FED FROM CQO4 - NAMEPLATE AND EQUIPMENT SCHEDULE

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	CIRCUIT DESIGNATOR
1	LOCAL EXHAUST FAN		CQO7-q1-LEFCC
2	EF-18 POWER		CQO7-q1-EF18
3	REPAIR PIT RECEPTACLE 1		CQO7-q1-RPR1
4	REPAIR PIT RECEPTACLE 2		CQO7-q1-RPR2
5	BRIDGE CRANE		CQO7-q1-BC
6	JIB CRANE		CQO7-q1-JIB
8	MAIN BREAKER		



A11 ELEVATION: CQO7 PANEL - REMOVAL EL 618
SCALE: NTS

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MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: LIAM STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1-0022-6-SHZ1/1
FILE NAME: V3-LGP1.0022-ED204.dgn

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SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

PANELBOARD FCQ2, CQO7 ELEVATION VIEW REMOVAL

SHEET ID
VOLUME 3
ED204

FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
3. PULL BACK CONDUCTORS AND REMOVE CONDUIT SUFFICIENT TO REMOVE EQUIPMENT
4. RETAIN EXISTING CONDUIT FOR RE-USE WHERE INDICATED.

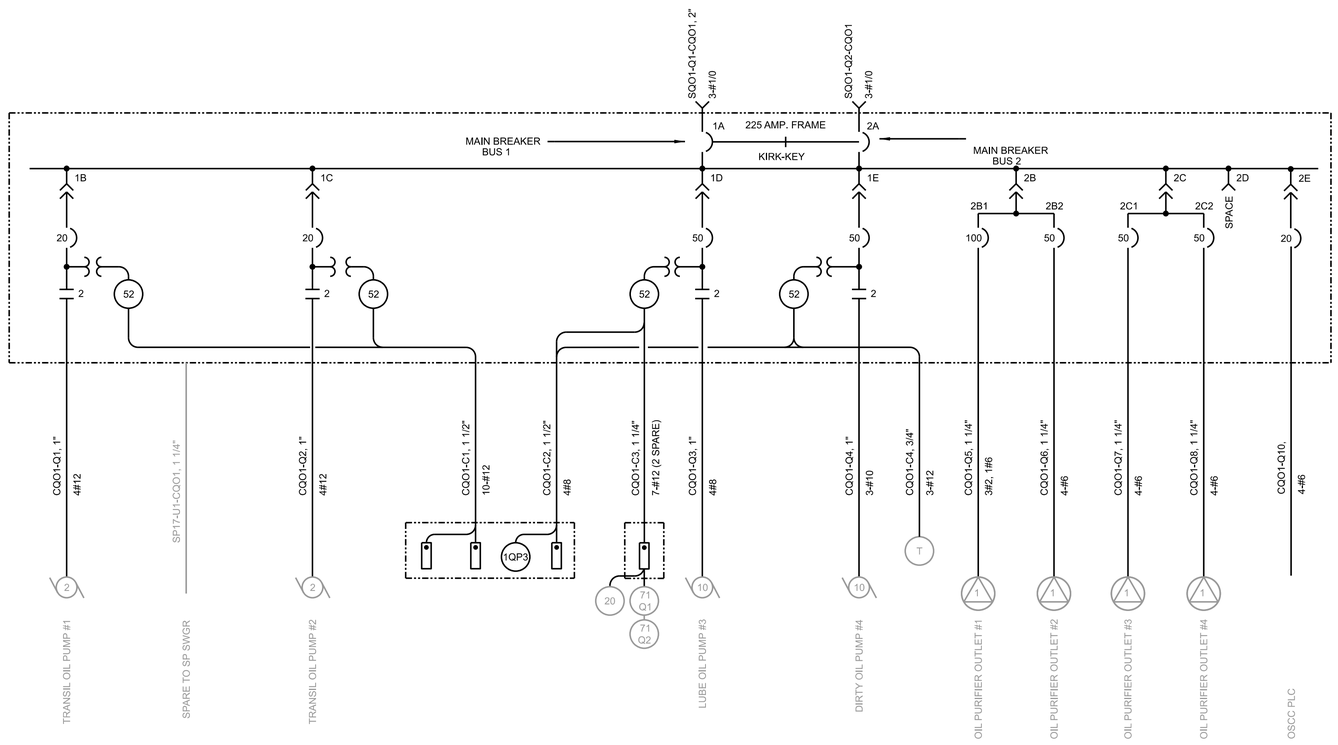
LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1D21/2	ONE LINE DIAGRAM - CQ01 CQ02 FCQ1 & FCQ2
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LGP-1-6-1D1/1	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 498 & AREAS BELOW
LGP-1-6-1D1/2	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 522
LGP-1-6-1D1/3	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 542



A6 ONE LINE DIAGRAM: MCC CQO1 - REMOVAL
SCALE: NTS

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MARK	DESCRIPTION	DATE

DESIGNED BY:	S. SCHEIFF
DRAWN BY:	M. FLANAGAN
CHECKED BY:	K. SELLERS
SUBMITTED BY:	L. VAN STEDUM, P.E.
SIZE	FILE NAME:
ANSI D	V3-LGP1.002-ED601.dgn

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ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	
	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-6-SHZ1/2

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MCC CQO1
ONE LINE DIAGRAM
REMOVAL

SHEET ID
VOLUME 3
ED601

FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
3. PULL BACK CONDUCTORS AND REMOVE CONDUIT SUFFICIENT TO REMOVE EQUIPMENT
4. RETAIN EXISTING CONDUIT FOR RE-USE WHERE INDICATED.
5. THE DISCONNECT AND PANEL LOCATED IN THE COMPRESSOR ROOM WERE REPURPOSED FROM A COMPRESSOR THAT NO LONGER EXISTS. BOTH ITEMS ARE NO LONGER USED AND WILL NOT BE REPLACED.

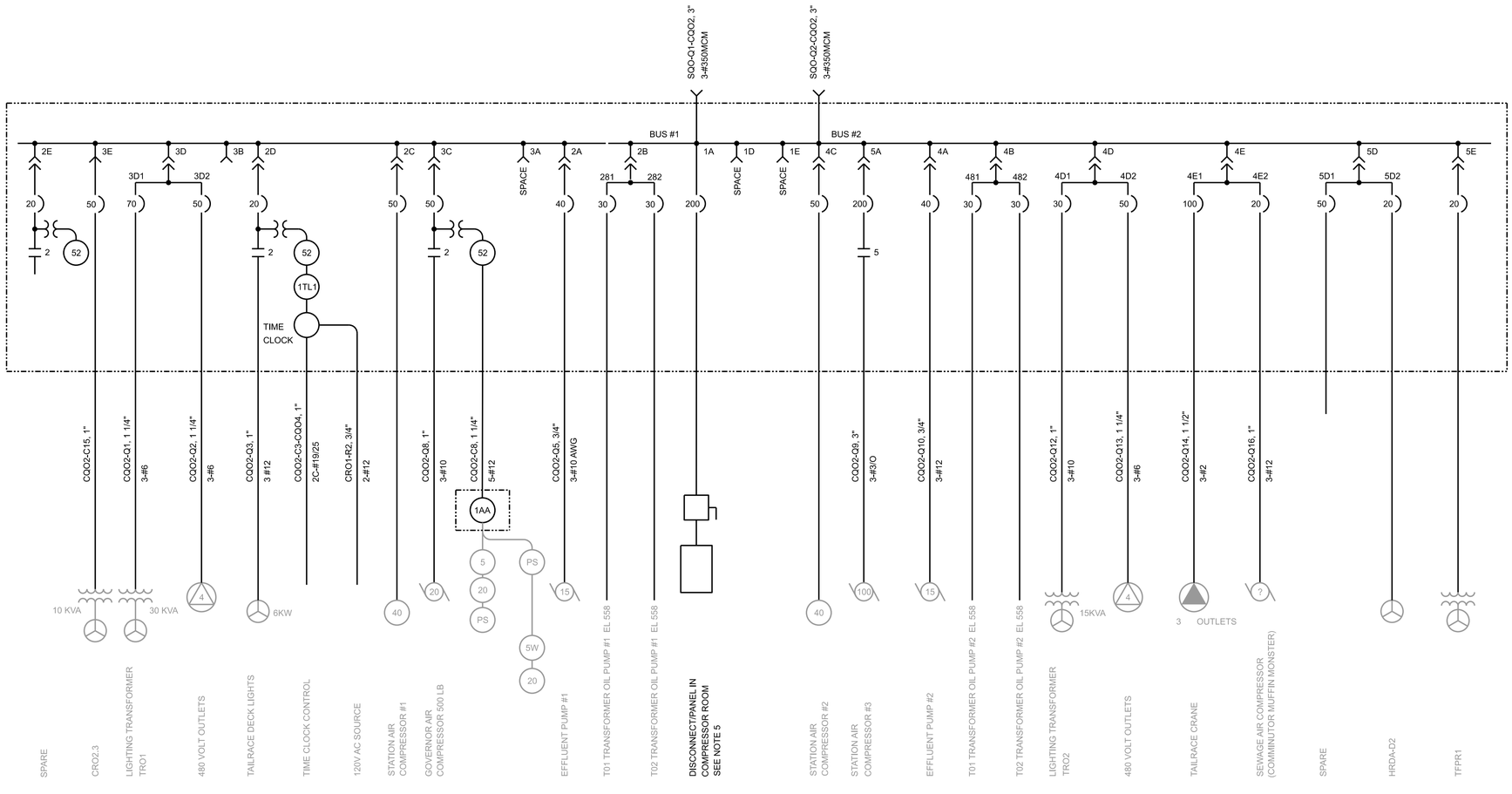
LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1D21/2	ONE LINE DIAGRAM - CQ01 CQ02 FCQ1 & FCQ2
LGP-1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LGP-1-6-1D1/2	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 522
LGP-1-6-1D1/3	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 542
LGP-1-6-1D1/4	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 558
LGP-1.1-6-1D24/1	CONTROL DIAGRAM STATION SERVICE AUXILIARIES - SHEET 1



A3 ONE LINE DIAGRAM: EXISTING MCC CQO2 - REMOVAL

SCALE: NTS

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MARK	DESCRIPTION	DATE

ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-6-9A21/2
FILE NAME:	LGP1.002-ED602.dgn
DESIGNED BY:	S. SCHEIFF
DRAWN BY:	M. FLANAGAN
CHECKED BY:	K. SELLERS
SUBMITTED BY:	L. VAN STEDUM, P.E.
SIZE	ANSI D

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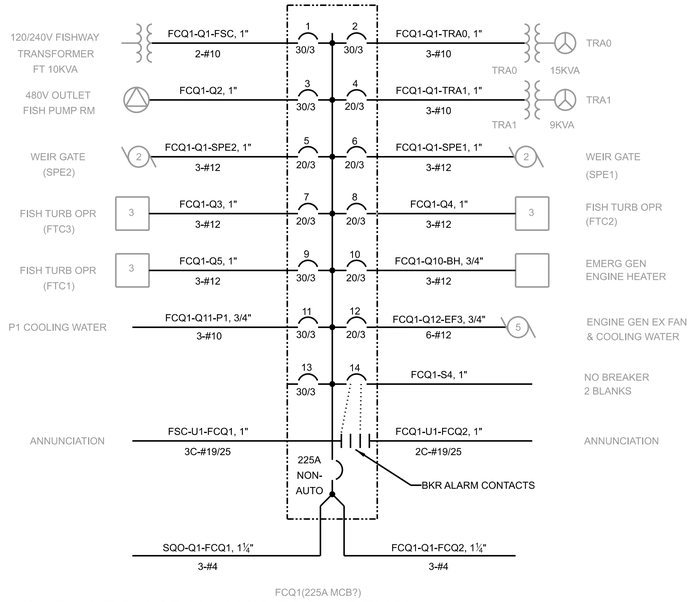
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MCC CQO2
ONE LINE DIAGRAM
REMOVAL

SHEET ID
VOLUME 3
ED602

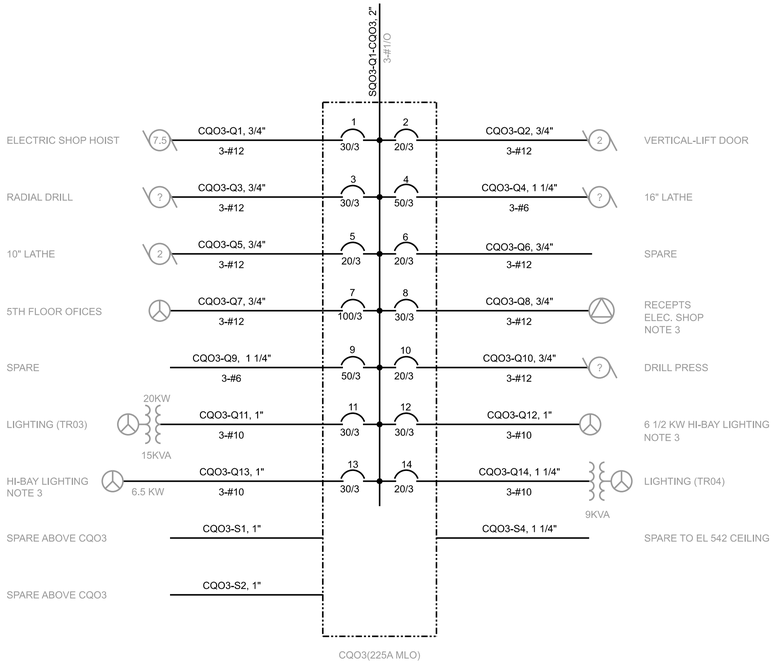
FINAL



FCQ1(225A MCB?)

H1 ONE LINE DIAGRAM: MCC FCQ1 - REMOVAL

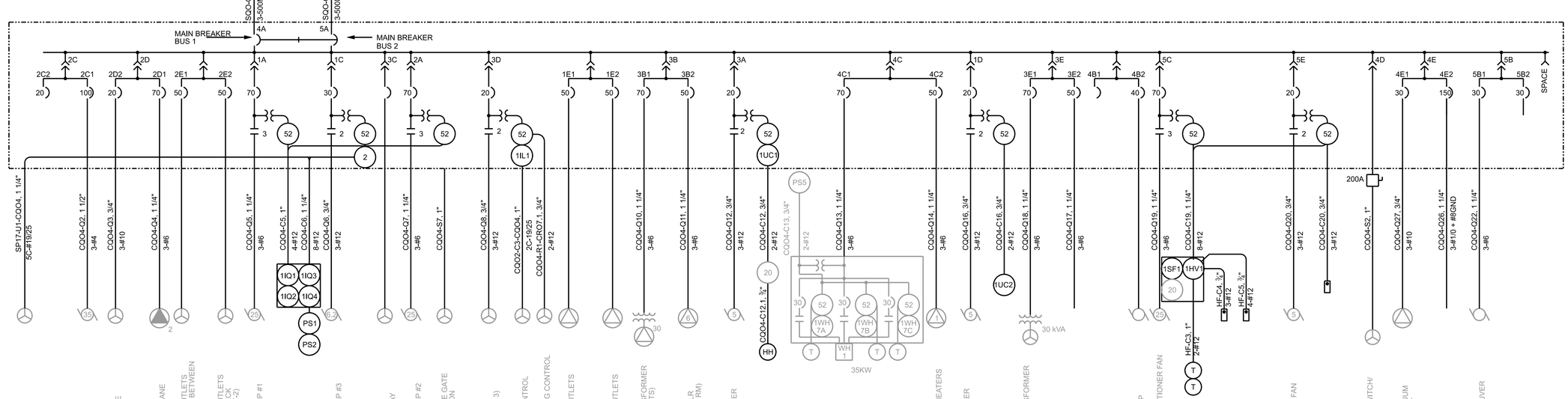
SCALE: NTS



CQO3(225A MLO)

H9 ONE LINE DIAGRAM: MCC CQO3 - REMOVAL

SCALE: NTS



A1 ONE LINE DIAGRAM: EXISTING MCC CQO4 - REMOVAL

SCALE: NTS

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED CONTRACTOR
2. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
3. PULL BACK CONDUCTORS AND REMOVE CONDUIT SUFFICIENT TO REMOVE EQUIPMENT
4. RETAIN EXISTING CONDUIT FOR RE-USE WHERE INDICATED.
5. BOTH INTAKE AND TAIL RACE LIGHTING CONTROLS MUST BE IN THE SAME CONTROL POSITION, I.E. IF ONE IS IN MANUAL THE OTHER MUST BE IN MANUAL.
6. THESE LOADS ARE BEING INSTALLED AS PART OF THE REPAIR PIT UPGRADE PROJECT. LOADS MAY CHANGE. CONTRACTOR TO VERIFY LOADS.

LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1D21/2	ONE LINE DIAGRAM - CQ01 CQ02 FCQ1 & FCQ2
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LGP-1.1-6-1D21/3	ONE LINE DIAGRAM - CQ03 CQ04 & CQ05
LGP-1-6-1D1/3	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 542
LGP-1-6-1D1/4	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 558
LGP-1-6-1D1/7	EMBEDDED CONDUIT& GROUNDING - INTAKE ELEVATION 618 & 634
LGP-1-6-1D1/8	EMBEDDED CONDUIT & GROUNDING - INTAKE ELEVATION 651 & MISC DETAIL
LGP-1-6-1E1/10	EMBEDDED CONDUIT & GROUNDING - FISHWAY GALLERY ELEVATION 542, BAYS 1 THRU 3
SEES-LGA-E-101A	EMERGENCY DIESEL GENERATOR - MODIFIED EMERGENCY LAYOUT
SEES-LGA-E-602	EMERGENCY DIESEL GENERATOR - AC PANEL SCHEDULES
SEES-LGA-E-617	EMERGENCY DIESEL GENERATOR - CONDUIT AND CABLE SCHEDULE - MODIFIED

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001
DRAWING NUMBER: LGP-1.0024-6-9A21/3
FILE NAME: V3-LGP1.0024-ED603.dgn

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SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MCC CQO4 FCQ1, PANELBOARDS CQO3 & FCQ1
ONE LINE DIAGRAM
REMOVAL

SHEET ID
VOLUME 3
ED603

FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
3. PULL BACK CONDUCTORS AND REMOVE CONDUIT SUFFICIENT TO REMOVE EQUIPMENT
4. RETAIN EXISTING CONDUIT FOR RE-USE WHERE INDICATED.

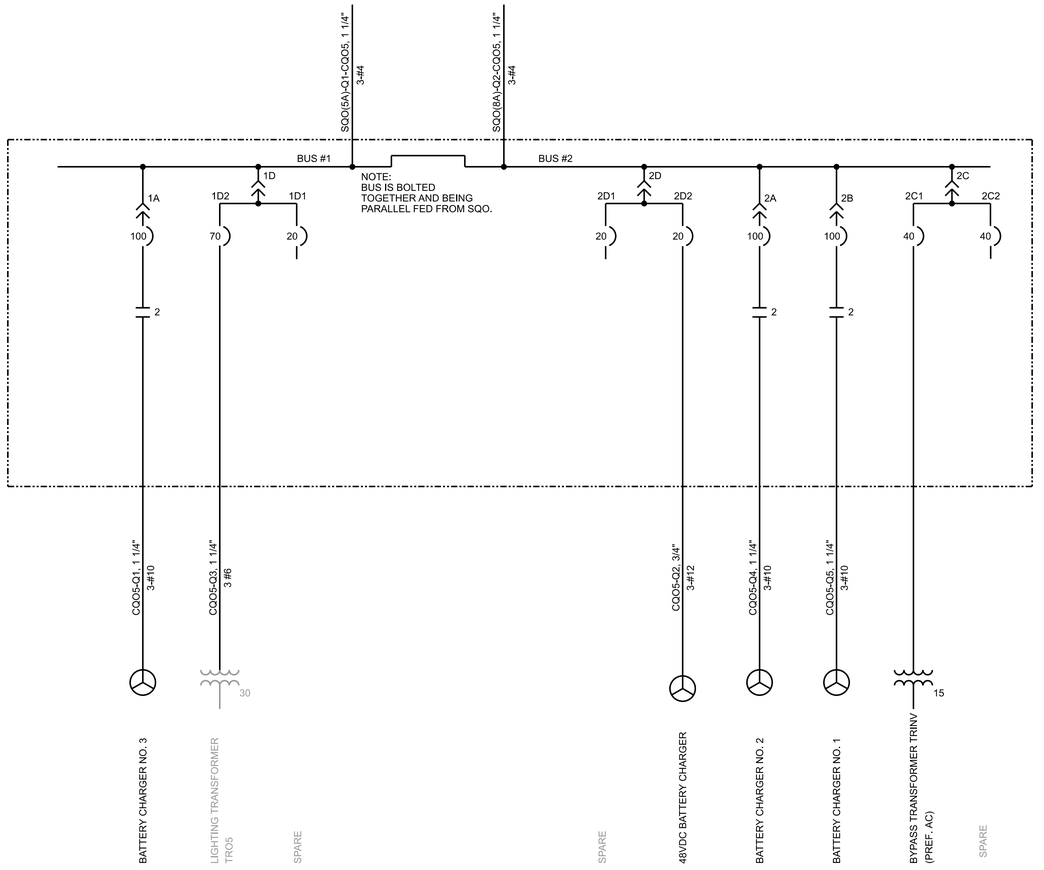
LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LGP-1.1-6-1D21/3	ONE LINE DIAGRAM - CQ03 CQ04 & CQ05
LGP-1-6-1D1/6	EMBEDDED CONDUIT & GROUNDING - INTAKE ELEVATION 580 & 598



A10 EXISTING MCC CQO5 - REMOVAL
SCALE: NTS

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MARK	DESCRIPTION	DATE

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9A21/4
FILE NAME: LGP1.002-ED604.dgn

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: L. VAN STEDUM, P.E.
SIZE: ANSI D

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MCC CQO5
ONE LINE DIAGRAM
REMOVAL

SHEET ID
VOLUME 3
ED604

FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED CONTRACTOR
2. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
3. PULL BACK CONDUCTORS AND REMOVE CONDUIT SUFFICIENT TO REMOVE EQUIPMENT
4. RETAIN EXISTING CONDUIT FOR RE-USE WHERE INDICATED.
5. CQO7 WILL BE INSTALLED AS PART OF THE REPAIR PIT UPGRADE. CONTRACTOR TO VERIFY LOADS.

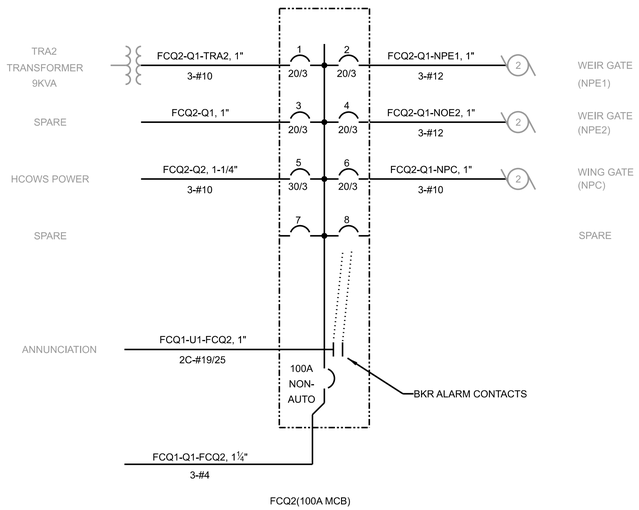
LEGEND

EQUIPMENT TO BE REMOVED

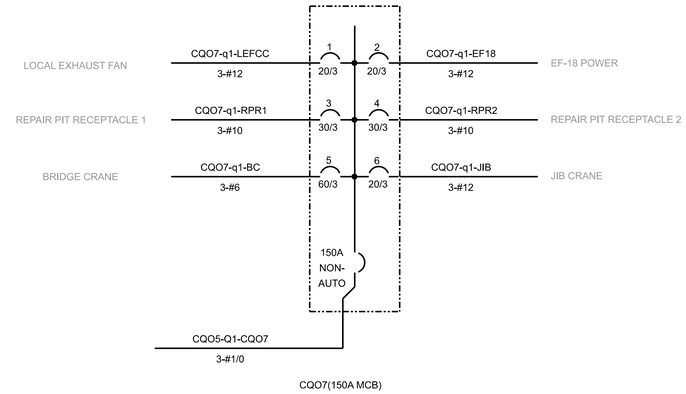
EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1D21/2	ONE LINE DIAGRAM - CQ01 CQ02 FCQ1 & FCQ2
LGP-1-6-1D1/3	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 542
LGP-1-6-1D1/4	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 558
LGP-1-6-1E1/10	EMBEDDED CONDUIT & GROUNDING - FISHWAY GALLERY ELEVATION 542, BAYS 1 THRU 3



A5 ONE LINE DIAGRAM: PANEL BOARD FCQ2 - REMOVAL
SCALE: NTS



A13 ONE LINE DIAGRAM: PANEL BOARD CQO7 - REMOVAL
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9A215
FILE NAME: V3-LGP1.002-ED605.dgn

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

PANELBOARD FCQ2, CQO7
ONE LINE DIAGRAM
REMOVAL

SHEET ID
VOLUME 3
ED605

FINAL

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE REMOVED BY CONTRACTOR.

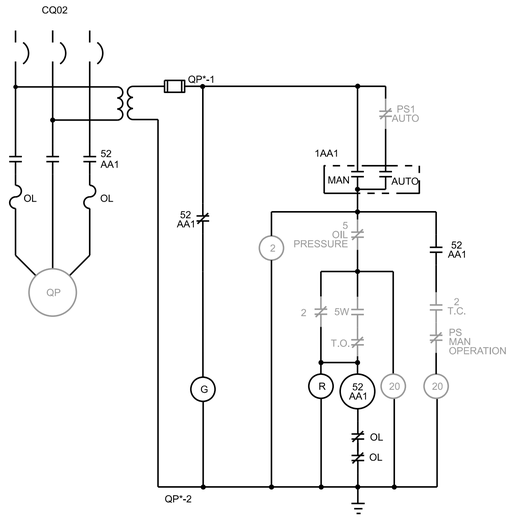
LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

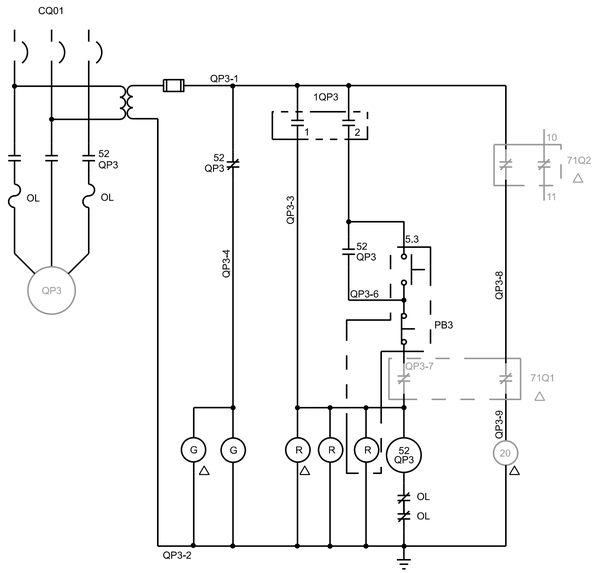
REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
8FP-020-3	OIL TRANSFER PUMP & LUBE OIL PUMP ELECTRICAL SCHEMATIC
8FP-020	OIL TRANSFER PUMP & LUBE OIL PUMP CONTROL PANEL
LGP-1.1-6-1D24/1	CONTROL DIAGRAMS STATION SERVICE AUXILIARIES - SHEET 1
LGP-1.1-3-9/71	ERECTION BAY EXPOSED PIPING - SECTIONS AND DETAILS
LGP-1.1-3-9/80	ERECTION BAY EXPOSED PIPING - AIR COMPRESSOR ROOM
LGP-1.1-3-9/81	ERECTION BAY EXPOSED PIPING - AIR COMPRESSOR SECTIONS & DETAILS



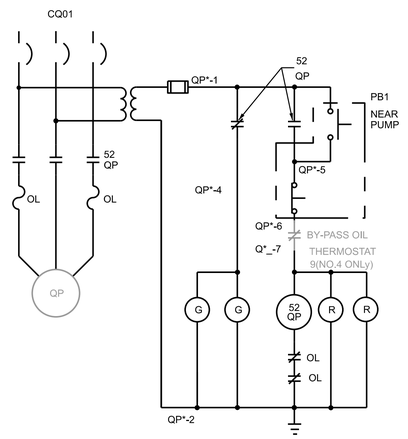
A2 500LBS GOVERNOR AIR COMPRESSOR - REMOVAL

SCALE: NTS



A8 LUBE OIL PUMP NO. 3 - REMOVAL

SCALE: NTS



A15 TRANSIL OIL PUMP NO. 1 & NO. 2- REMOVAL
DIRTY OIL PUMP NO. 4 - REMOVAL

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
S. SCHEIFF	AUGUST 2022
DRAWN BY:	SOLICITATION NO.:
M. FLANAGAN	W912EF22R0001
CHECKED BY:	CONTRACT NO.:
K. SELLERS	
SUBMITTED BY:	DRAWING NUMBER:
JUAN STERLING, P.E.	LGP-1.002-6-9A24/1
SIZE:	FILE NAME:
ANSI D	V3-LGP1.002-ED606.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

LUBE OIL PUMP NO. 3, TRANSIL OIL PUMP NO. 1 & NO. 2
DIRTY OIL PUMP NO. 4, 500LBS GOV AIR COMPRESSOR
CONTROL SCHEMATIC, REMOVAL

SHEET ID
VOLUME 3
ED606

FINAL

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE REMOVED BY CONTRACTOR.

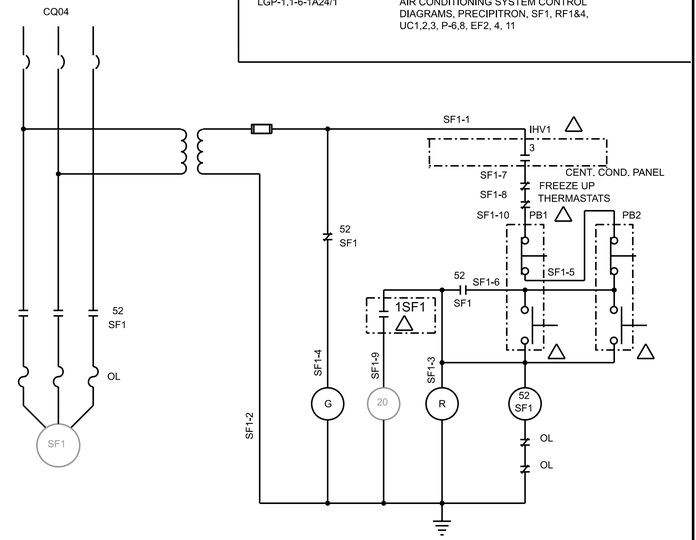
LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

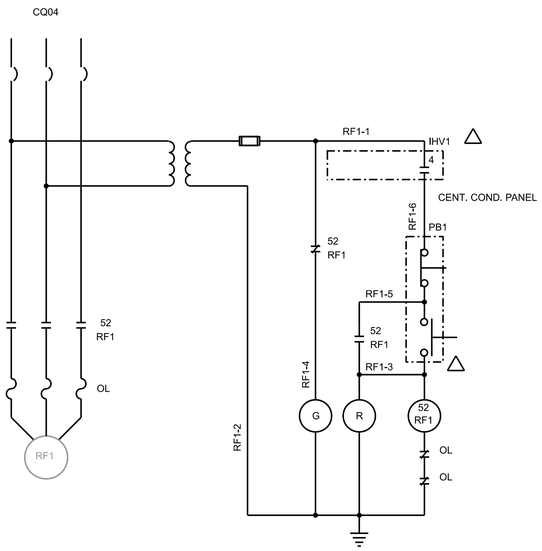
REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1,1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LGP-1,1-6-1A24/1	AIR CONDITIONING SYSTEM CONTROL DIAGRAMS, PRECIPITRON, SF1, RF1&4, UC1,2,3, P-6,8, EF2, 4, 11



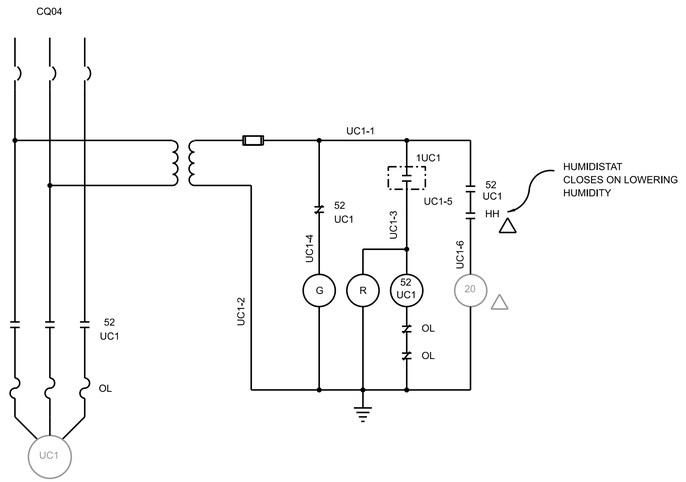
F14 CENTRAL CONDITIONER FAN SF1 - REMOVAL

SCALE: NTS



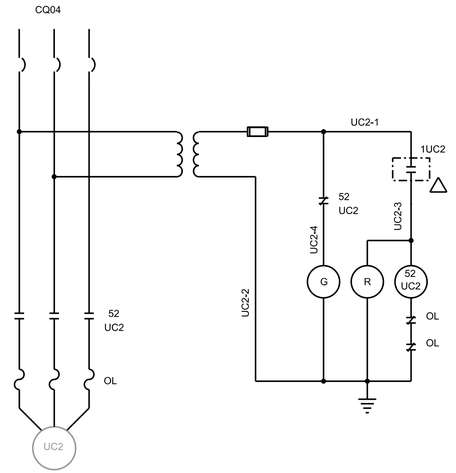
A1 RECIRCULATING FAN RF1 - REMOVAL

SCALE: NTS



A7 UNIT CONDITIONER UC-1 - REMOVAL

SCALE: NTS



A15 UNIT CONDITIONER UC-2 - REMOVAL

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
SUBMITTED BY: JOAN STERUM, P.E.
SIZE: ANSI D
DRAWING NUMBER: LGP-1.002-6-9A24/2
FILE NAME: V3-LGP1.002-ED607.dgn

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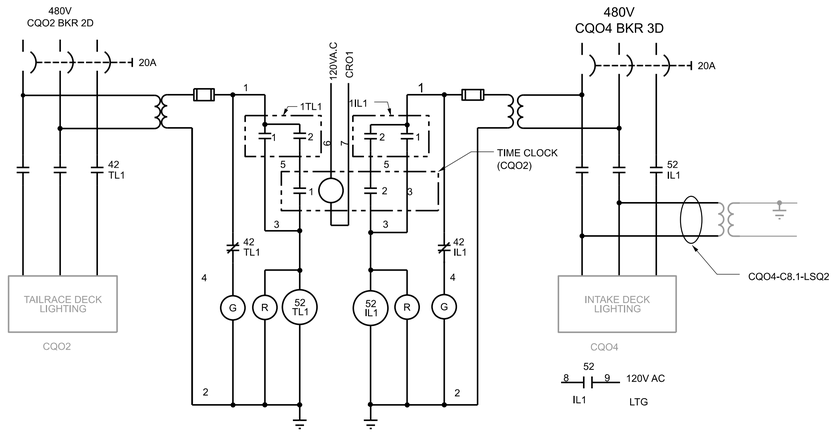
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

UNIT CONDITIONER UC-1 & UC-2, CENTRAL CONDITIONER FAN SF1, CENTRAL CONDITIONER FAN SF1 AND RECIRCULATING FAN RF1, CONTROL SCHEMATIC, REMOVAL

SHEET ID
VOLUME 3
ED607

FINAL



1IL1	INTAKE DECK LIGHT
1TL1	TAILRACE DECK LIGHT

OFF / ON / AUTO — MAINTAINED CONTACTS

CONTACT	ON	OFF	AUTO
1	X		
2			X

J2 INTAKE DECK - CQO4
TAILRACE DECK LIGHTS - CQO2 - REMOVAL
SCALE: NTS

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. BOTH INTAKE AND TAILRACE LIGHTING CONTROLS MUST BE IN THE SAME CONTROL POSITION. I.E. IF ONE IS IN MANUAL, THEN THE OTHER MUST BE IN MANUAL.

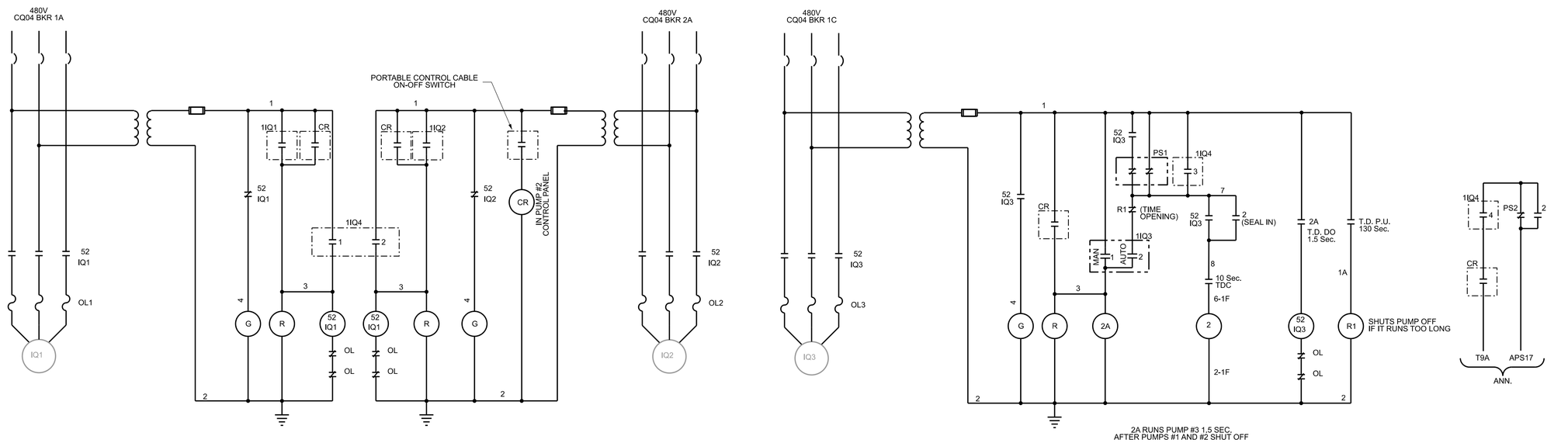
LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LGP-1.1-6-1D24/1	CONTROL DIAGRAMS STATION SERVICE AUXILARIES SHEET 1
LGP-1.1-6-1D21/3	ONE LINE DIAGRAM CQO3, CQO4 & CQO5



2A RUNS PUMP #3 1.5 SEC.
AFTER PUMPS #1 AND #2 SHUT OFF

A1 INTAKE GATE HYDRAULIC PUMPS - REMOVAL
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF	ISSUE DATE: AUGUST 2022
DRAWN BY: M. FLANAGAN	SOLICITATION NO.: W912EF22R0001
CHECKED BY: K. SELLERS	CONTRACT NO.:
SUBMITTED BY: JOHN STERLING, P.E.	DRAWING NUMBER: LGP-1.002-6-9A24/3
SIZE: ANSI D	FILENAME: V3-LGP1.002-ED608.dgn

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WALLA WALLA, WASHINGTON

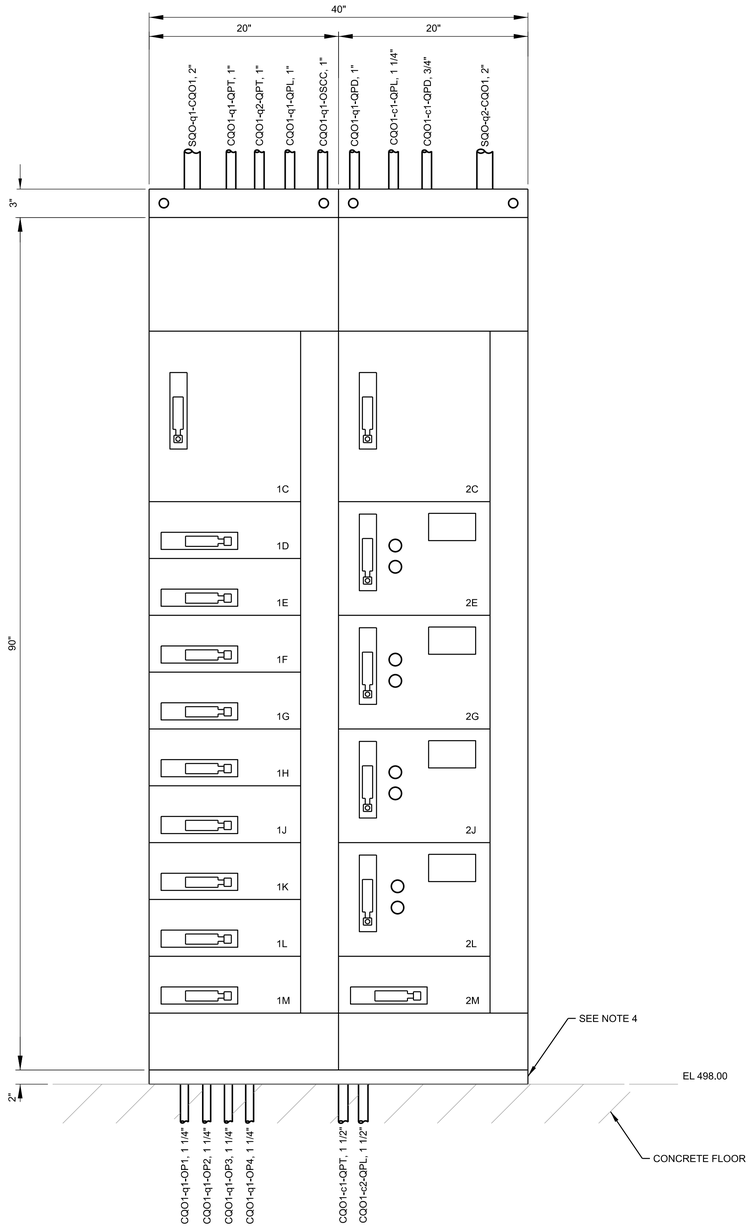
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

INTAKE DECK & TAILRACE DECK LIGHTS ONE LINE
INTAKE GATE HYDRAULIC PUMPS CONTROL SCHEMATIC
REMOVAL

SHEET ID
VOLUME 3
ED608

FINAL



A1 CONTROL CENTER CQO1 LAYOUT

SCALE: NTS

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. CONNECT THE NEW CONTINUOUS GROUND BUS TO THE EXISTING POWERHOUSE GROUND INSERTS. CONTRACTOR TO REFER TO THE REFERENCE DRAWINGS TO LOCATED NEAREST CONNECTION POINT.
3. THE DETAIL SHOWN REPRESENTS A SUGGESTED DESIGN TO ILLUSTRATE THE INTENT AND DOES NOT LIMIT THE CONTRACTOR FROM SUBMITTING A DIFFERENT LAYOUT/ARRANGEMENT.
4. TWO INCH PAD REQUIRED, SEE E-005 DETAIL Q. PROVIDE A BLOCKOUT FOR THE EMBEDDED CONDUIT SO IT CAN BE REUSED. MAY EXTEND THE CONDUIT ABOVE THE PAD WITH SUFFICIENT SPACE TO PROVIDE A BUSHING IF DESIRED.

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LGP-1-6-1D1/1	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 498 & AREAS BELOW
LGP-1-6-1D1/2	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 522
LGP-1-6-1D1/3	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 542

CQO1 480V CONTROL CENTER
NAMEPLATE AND EQUIPMENT SCHEDULE

VOLTS: 480V PHASE: 3-PHASE AMPS: 600A AIC: 65KA

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	OLD CIRCUIT DESIGNATION	NEW CIRCUIT DESIGNATION
1C	CQ01 MAIN BKR (BUS 1)	225A, 3 POLE, 600V (BUS 1), KEY INTLK, LSI TRIP UNIT	SQO-q1-CQO1	SQO-q1-CQO1
1D	OIL PURIFIER RECEPT #1	100A, 3 POLE, 600V	CQ01-q5	CQ01-q1-OP1
1E	OIL PURIFIER RECEPT #2	50A, 3 POLE, 600V	CQ01-q6	CQ01-q1-OP2
1F	SPARE	50A, 3 POLE, 600V	--	--
1G	OIL PURIFIER RECEPT #3	50A, 3 POLE, 600V	CQ01-q7	CQ01-q1-OP3
1H	OIL PURIFIER RECEPT #4	50A, 3 POLE, 600V	CQ01-q8	CQ01-q1-OP4
1J	OIL SKIMMER CONTROL CABINET	20A, 3 POLE, 600V	--	CQO1-q1-OSCC
1K	SPARE	20A, 3 POLE, 600V	--	--
1L	SPARE	50A, 3 POLE, 600V	--	--
1M	SPARE	50A, 3 POLE, 600V	--	--
2C	CQ01 MAIN BKR (BUS 2)	225A, 3 POLE, 600V (BUS 2), KEY INTLK, LSI TRIP UNIT	SQO-q2-CQO1	SQO-q2-CQO1
2E	TRANSIL OIL PUMP #1	COMBINATION STARTER NEMA SIZE 1, R/G LGTS, CPT	CQ01-q1	CQ01-q1-QPT
2G	TRANSIL OIL PUMP #2	COMBINATION STARTER NEMA SIZE 1, R/G LGTS, CPT	CQ01-q2	CQ01-q2-QPT
2J	LUBE OIL PUMP #3	COMBINATION STARTER NEMA SIZE 1, R/G LGTS, CPT	CQ01-q3	CQ01-q1-QPL
2K	DIRTY OIL PUMP #4	COMBINATION STARTER NEMA SIZE 1, R/G LGTS, CPT	CQ01-q4	CQ01-q1-QPD
2M	SPARE	50A, 3 POLE, 600V	--	--

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: V912EP22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-1D4/4
FILE NAME: V3-LGP1.002-E-201.dgn

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WALLA WALLA, WASHINGTON

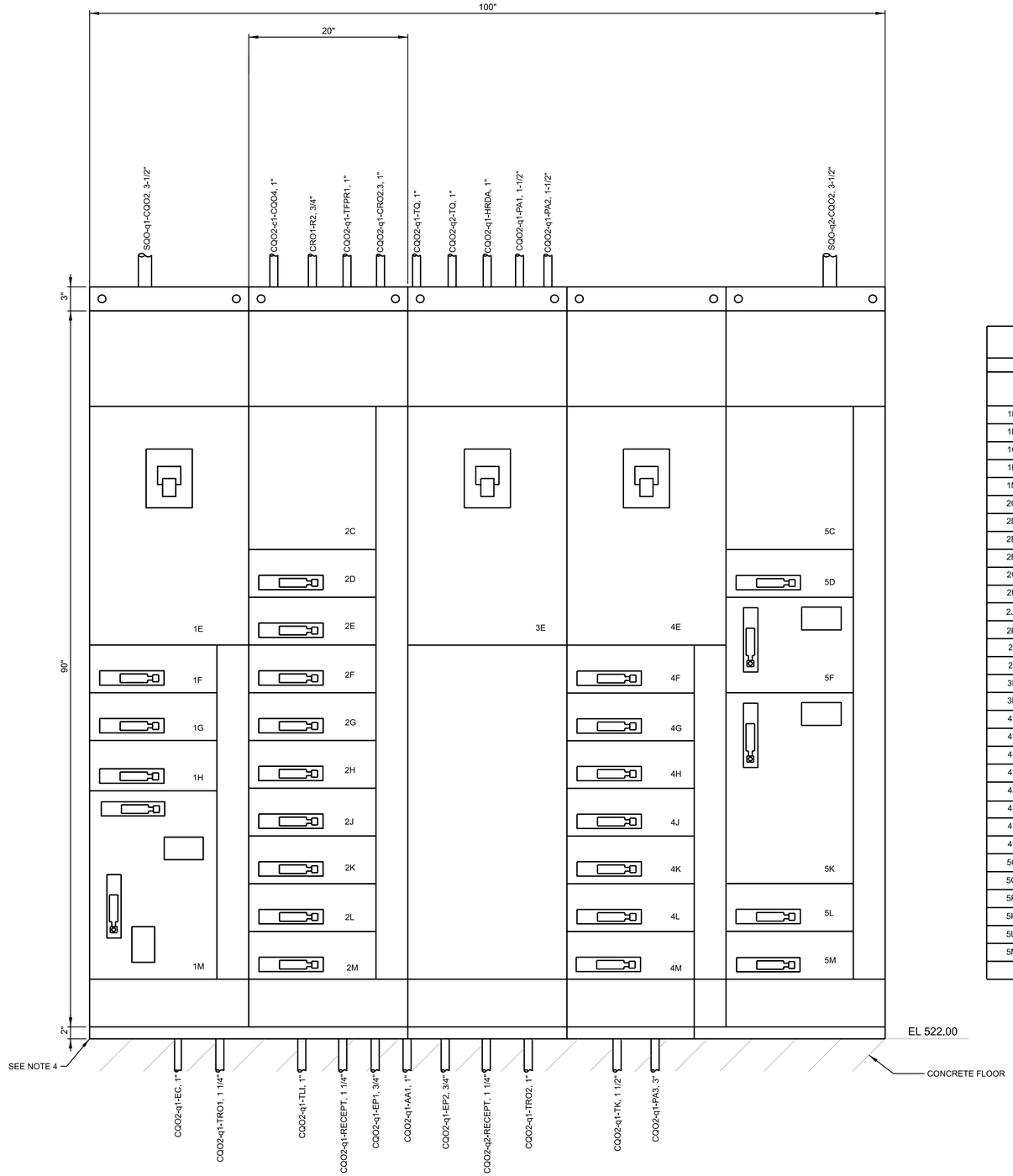
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CONTROL CENTER CQO1
ELEVATION VIEW
INSTALL

SHEET ID
VOLUME 3
E-201

FINAL



A1 CONTROL CENTER CQO2 LAYOUT

SCALE: NTS

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. CONNECT THE NEW CONTINUOUS GROUND BUS TO THE EXISTING POWERHOUSE GROUND INSERTS. CONTRACTOR TO REFER TO THE REFERENCE DRAWINGS TO LOCATED NEAREST CONNECTION POINT.
3. THE DETAIL SHOWN REPRESENTS A SUGGESTED DESIGN TO ILLUSTRATE THE INTENT AND DOES NOT LIMIT THE CONTRACTOR FROM SUBMITTING A DIFFERENT LAYOUT/ARRANGEMENT.
4. TWO INCH PAD REQUIRED, SEE E-005 DETAIL Q. PROVIDE A BLOCKOUT FOR THE EMBEDDED CONDUIT SO IT CAN BE REUSED. MAY EXTEND THE CONDUIT ABOVE THE PAD WITH SUFFICIENT SPACE TO PROVIDE A BUSHING IF DESIRED.

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LGP-1-6-1D1/2	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 522
LGP-1-6-1D1/3	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 542
LGP-1-6-1D1/4	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 558

CQO2 480V CONTROL CENTER
NAMEPLATE AND EQUIPMENT SCHEDULE

VOLTS: 480VAC PHASE: 3-PHASE AMPS: 600A AIC:65KA

	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	OLD CIRCUIT DESIGNATION	NEW CIRCUIT DESIGNATION
1E	CQ02 MAIN BKR (BUS 1)	500A, 3 POLE, 600V (BUS 1), KEY INTERLOCK, LSI TRIP UNIT	SQO-q1-CQO2	SQO-q1-CQO2
1F	COMMINUTOR/MUFFIN MONSTER	20A, 3 POLE, 600V	CQO2 - q16	CQO2 - q1-EC
1G	CRO2.3	15A, 3 POLE, 600V--	--	CQO2-q1-CRO2.3
1H	SPARE	50A, 3 POLE, 600V	--	--
1M	TAILRACE DECK LIGHTS	CONTACTOR NEMA SIZE 2, R/G LGTS, CPT, ON/OFF/AUTO SW, PROG. TIMER	CQO2-q3	CQ02-q1-TLI
2C	SPACE	--	--	--
2D	SPARE	50A, 3 POLE, 600V	--	--
2E	TFPR1	15A, 3 POLE, 600V	--	CQO2-q1-TFPR1
2F	EFFLUENT PUMP #1	40A, 3 POLE, 600V	CQ02-q5	CQO2-q1-EP1
2G	STATION AIR COMPRESSOR #1	120A, 3 POLE, 600V		CQO2-q1-PA1
2H	500 LB AIR COMPRESSOR	60A, 3 POLE, 600V	CQ02-q8	CQO2-q1-AA
2J	480V OUTLETS	50A, 3 POLE, 600V	CQ02-q2	CQO2-q1-RECPT
2K	TR01	50A, 3 POLE, 600V	CQ02-q1	CQO2-q1-TR01
2L	TO1 TRANSFORMER OIL PUMP #1	30A, 3 POLE, 600V , EL. 5581	--	CQO2-q1-TQ
2M	TO2 TRANSFORMER OIL PUMP #1	30A, 3 POLE, 600V , EL. 5581	--	CQO2-q2-TQ
3E	CQO2 TIE BREAKER	500A, 3 POLE, 600V (BUS 1), KEY INTERLOCK, LSI TRIP UNIT		
3M	SPACE	--	--	--
4E	CQ02 MAIN BKR (BUS 2)	500A, 3 POLE, 600V (BUS 1), KEY INTERLOCK, LSI TRIP UNIT	SQO-q2-CQO2	SQO-q2-CQO2
4F	EFFLUENT PUMP #2	40A, 3 POLE, 600V	CQ02-q10	CQO2-q1-EP2
4G	STATION AIR COMPRESSOR #2	120A, 3 POLE, 600V	--	CQO2-q1-PA2
4H	HRDA-D2	20A, 3 POLE, 600V	--	CQO2-q1-HRDA
4J	480V OUTLETS	50A, 3 POLE, 600V	CQ02-q13	CQO2-q2-RECEPT
4K	TR02	25A, 3 POLE, 600V	CQ02-q12	CQO2-q1-TR02
4L	TO1 TRANSFORMER OIL PUMP #2	30A, 3 POLE, 600V	--	CQO2-q3-TQ
4M	T02 TRANSFORMER OIL PUMP #2	30A, 3 POLE, 600V	--	CQO2-q4-TQ
5C	SPACE	--	--	--
5G	TAILRACE CRANE	100A, 3 POLE, 600V	CQ02-Q14	CQO2-q1-TK
5F	SPARE STARTER	COMBINATION STARTER NEMA SIZE 2, R/G LGTS, CPT, ON/OFF/AUTO SW	--	--
5K	STATION AIR COMPRESSOR #3	300A, 3 POLE, 600V	CQ02-q9	CQO2-q1-PA3
5L	SPARE	50A, 3 POLE, 600V	--	--
5M	SPARE	50A, 3 POLE, 600V	--	--

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
SUBMITTED BY:
SIZE: ANSI D
DRAWING NUMBER: LGP-1.002-6-1D4/5
FILE NAME: V3-LGP1.002-E-202.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

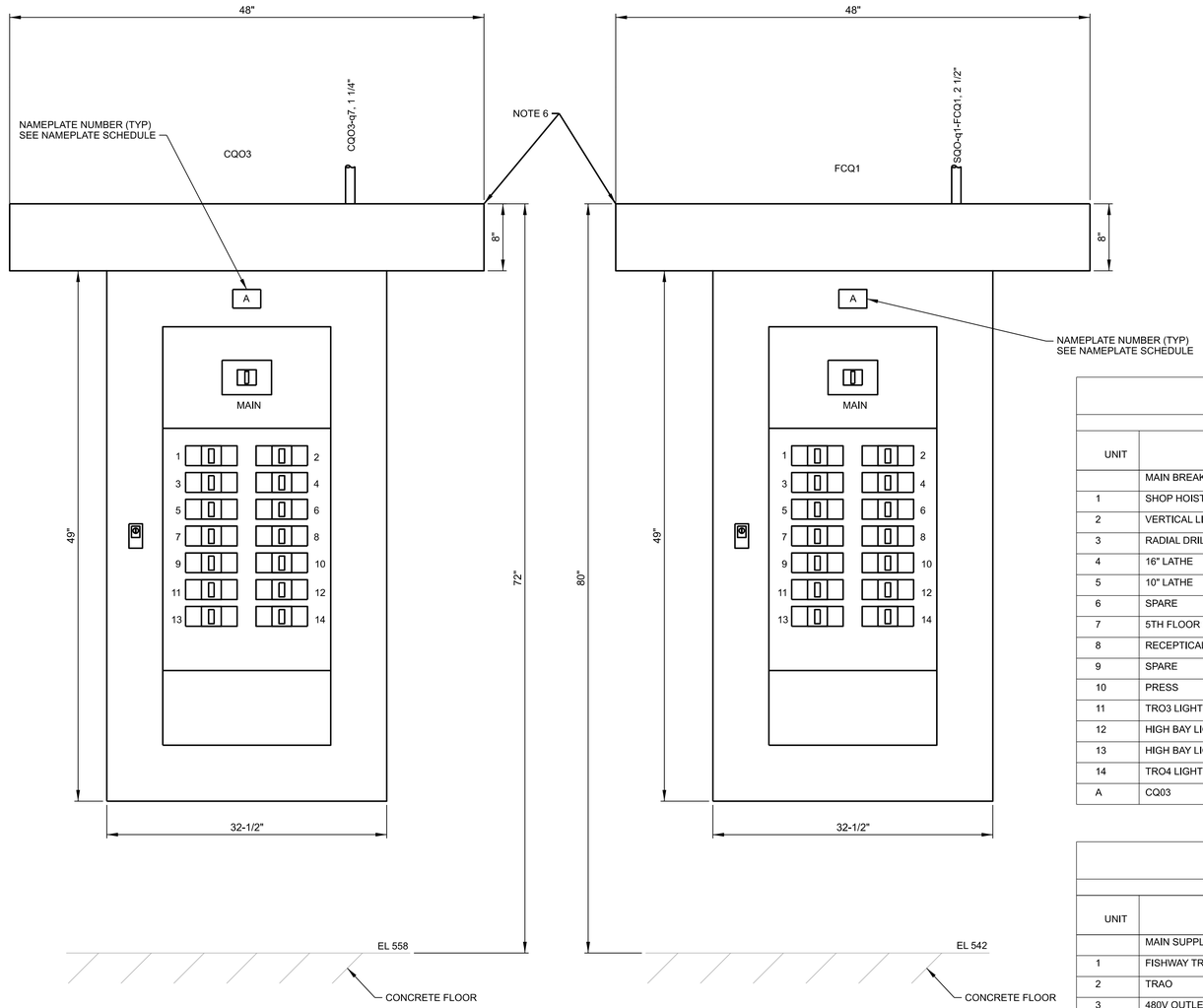
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CONTROL CENTER CQO2
ELEVATION VIEW
INSTALL

SHEET ID
VOLUME 3
E-202

FINAL



C1 PANELBOARD CQO3 LAYOUT
SCALE: NTS

C6 PANELBOARD FCQ1 LAYOUT
SCALE: NTS

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. PROVIDE BELL ALARM CONTACTS FOR ALL FCQ1 BREAKERS. ALL FEEDER BREAKER BELL ALARM CONTACTS SHALL BE ROUTED TO THE FSC ANNUNCIATION BOARD.
3. CONNECT THE NEW CONTINUOUS GROUND BUS TO THE EXISTING POWERHOUSE GROUND INSERTS. CONTRACTOR TO REFER TO THE REFERENCE DRAWINGS TO BE LOCATED NEAREST CONNECTION POINT.
4. THE DETAIL SHOWN REPRESENTS A SUGGESTED DESIGN TO ILLUSTRATE THE INTENT AND DOES NOT LIMIT THE CONTRACTOR FROM SUBMITTING A DIFFERENT LAYOUT/ARRANGEMENT.
5. THE CONTRACTOR IS TO RETROFIT THE EXISTING PANELS BY REMOVING AND REPLACING ALL INTERNAL COMPONENTS WITH THE EXCEPTION OF THE EMBEDDED ENCLOSURE AND CONDUIT.
6. A WIREWAY IS TO BE INSTALLED ABOVE FCQ1 THAT PARTIALLY COVERS THE OLD EMBEDDED ENCLOSURE TO ALLOW NEW SURFACE MOUNTED CONDUIT TO ENTER THE ENCLOSURE. THE COVER/TRIM SHALL COVER ANY REMAINING PORTIONS OF THE EMBEDDED ENCLSURE.

REFERENCE DRAWINGS

DRAWING NO	TITLE
ST487508 SE-1	MAIN CONTRACT PANELBOARDS 480-VOLT CQ03 FCQ1 & FCQ2 WIRING DIAGRAMS BID ITEM 244
LGP-1-6-1D1/3	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 542
LGP-1-6-1D1/4	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 558
LGP-1-6-1E1/10	EMBEDDED CONDUIT & GROUNDING - FISHWAY GALLERY ELEVATION 542, BAYS 1 THRU 3
SEES-LGA-E-101A	EMERGENCY DIESEL GENERATOR - MODIFIED EMERGENCY LAYOUT
SEES-LGA-E-602	EMERGENCY DIESEL GENERATOR - AC PANEL SCHEDULES
SEES-LGA-E-617	EMERGENCY DIESEL GENERATOR - CONDUIT AND CABLE SCHEDULE - MODIFIED

NAMEPLATE AND EQUIPMENT SCHEDULE (CQO3)

VOLTS: 480VAC PHASE: 3-PHASE AMPS: 225A AIC: 65KA

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	OLD CIRCUIT DESIGNATION	NEW CIRCUIT DESIGNATION
	MAIN BREAKER	225A, 3 POLE, 600V	SQO-q1-CQO3	SQO-q1-CQO3
1	SHOP HOIST	30A, 3 POLE, 600V	CQO3-q1	CQO3-q1-HST
2	VERTICAL LIFT DOOR	20A, 3 POLE, 600V	CQO3-q2	CQO3-q1-VLD
3	RADIAL DRILL	30A, 3 POLE, 600V	CQO3-q3	CQO3-q1-RECPT
4	16" LATHE	50A, 3 POLE, 600V	CQO3-q4	CQO3-q4
5	10" LATHE	20A, 3 POLE, 600V	CQO3-q5	CQO3-q5
6	SPARE	20A, 3 POLE, 600V	--	--
7	5TH FLOOR OFFICES	100A, 3 POLE, 600V	CQO3-q7	CQO3-q7
8	RECEPTICALS ELECTRICAL SHOP	30A, 3 POLE, 600V	CQO3-q8	CQO3-q2-RECEPT
9	SPARE	50A, 3 POLE, 600V	--	--
10	PRESS	20A, 3 POLE, 600V	CQO3-q10	CQO3-q10
11	TRO3 LIGHTING TRANSFORMER	25A, 3 POLE, 600V	CQO3-q11	CQO3-q1-TRO3
12	HIGH BAY LIGHTS	30A, 3 POLE, 600V	CQO3-q12	CQO3-q1-LTH
13	HIGH BAY LIGHTS	30A, 3 POLE, 600V	CQO3-q13	CQO3-q2-LTH
14	TRO4 LIGHTING TRANSFORMER	15A, 3 POLE, 600V	CQO3-q14	CQO3-q2-TRO4
A	CQ03	--	--	--

NAMEPLATE AND EQUIPMENT SCHEDULE (FCQ1)

VOLTS: 480VAC PHASE: 3-PHASE AMPS: 225A AIC: 65KA

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	OLD CIRCUIT DESIGNATION	NEW CIRCUIT DESIGNATION
	MAIN SUPPLY BKR FOR PANEL	225A, 3 POLE, 600V		SQO-q1-FCQ1
1	FISHWAY TRANSFORMER	15A, 3 POLE, 600V	FCQ1-q1-FSC	FCQ1-q1-FSC
2	TRAO	25A, 3 POLE, 600V	FCQ1-q1-TRAO	FCQ1-q1-TRAO
3	480V OUTLET FISH PUMP ROOM	30A, 3 POLE, 600V	FCQ1-q2	FCQ1-q1-RECEPT
4	TRA1	15A, 3 POLE, 600V	FCQ1-q1-TRA1	FCQ1-q1-TRA1
5	WEIR GATE (SPE2)	20A, 3 POLE, 600V	FCQ1-q1-SPE2	FCQ1-q1-SPE2
6	WEIR GATE (SPE1)	20A, 3 POLE, 600V	FCQ1-q1-SPE1	FCQ1-q1-SPE1
7	FTC 3 PANEL (FISH PUMP AUX)	20A, 3 POLE, 600V	FCQ1-q3	FCQ1-q1-FTC3
8	FTC 2 PANEL (FISH PUMP AUX)	20A, 3 POLE, 600V	FCQ1-q4	FCQ1-q1-FTC2
9	FTC 1 PANEL (FISH PUMP AUX)	30A, 3 POLE, 600V	FCQ1-q5	FCQ1-q1-FTC1
10	DIESEL ENGINE GENERATOR HEATER	20A, 3 POLE, 600V	FCQ1-q10-BH	FCQ1-q1-GH
11	P-1 COOLING WATER	30A, 3 POLE, 600V	FCQ1-q11-P1	FCQ1-q1-EGWP
12	ENGINE GENERATOR EX FAN & COOLING WATER	20A, 3 POLE, 600V	FCQ1-q12-EF3	FCQ1-q1-GW
13	SPARE	20A, 3 POLE, 600V	--	--
14	SPARE	20A, 3 POLE, 600V	--	--
A	FCQ1	--	--	--

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-1D416
SIZE:
FILE NAME: V3-LGP1.002-E-203.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

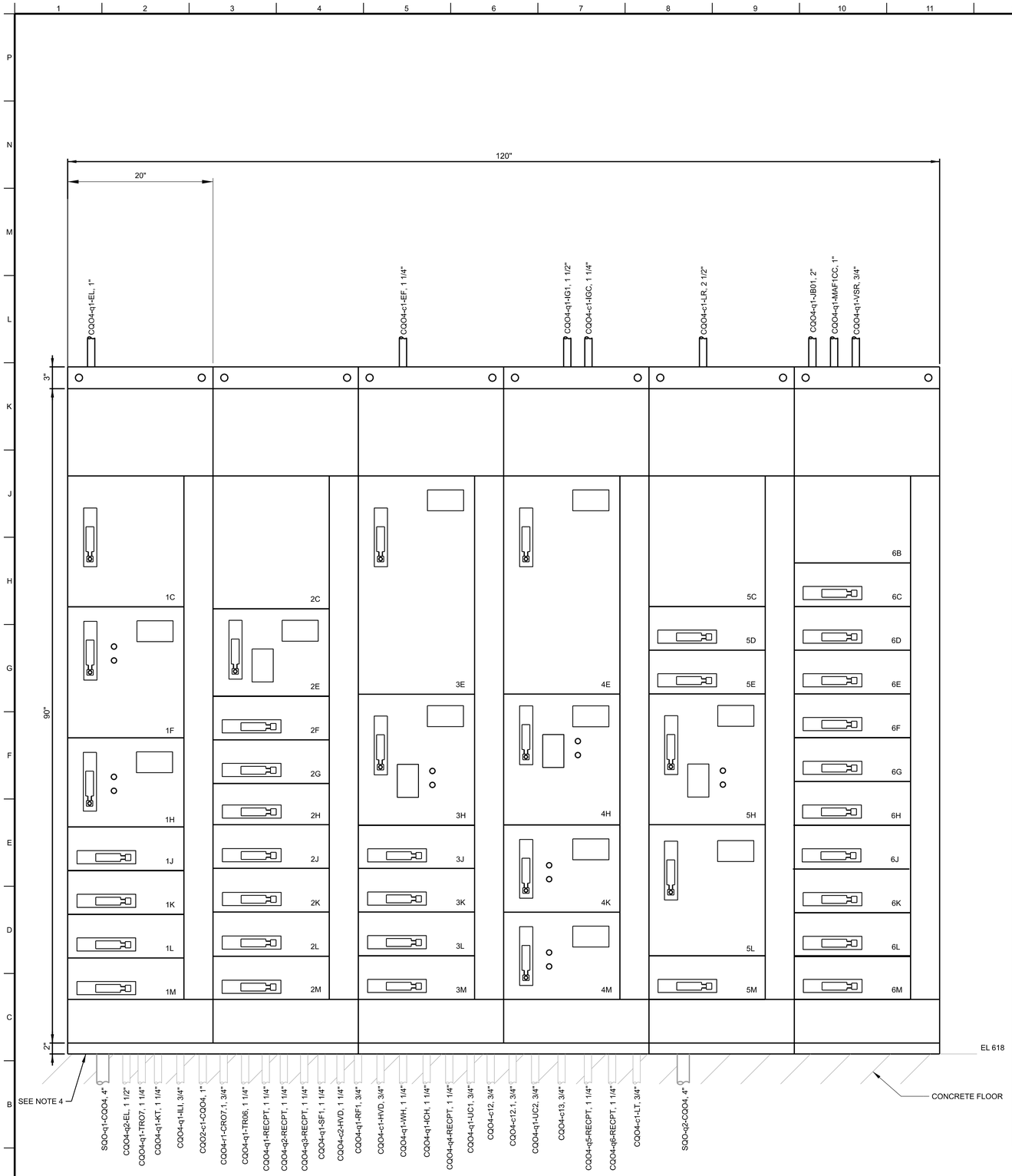
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

PANELBOARD CQO3 & FCQ1
ELEVATION VIEW
INSTALL

SHEET ID
VOLUME 3
E-203

FINAL



A1 CONTROL CENTER CQO4 LAYOUT

SCALE: NTS

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. CONNECT THE NEW CONTINUOUS GROUND BUS TO THE EXISTING POWERHOUSE GROUND INSERTS. CONTRACTOR TO REFER TO THE REFERENCE DRAWINGS TO LOCATED NEAREST CONNECTION POINT.
3. THE DETAIL SHOWN REPRESENTS A SUGGESTED DESIGN TO ILLUSTRATE THE INTENT AND DOES NOT LIMIT THE CONTRACTOR FROM SUBMITTING A DIFFERENT LAYOUT/ARRANGEMENT.
4. TWO INCH PAD REQUIRED, SEE E-005 DETAIL Q. PROVIDE A BLOCKOUT FOR THE EMBEDDED CONDUIT SO IT CAN BE REUSED. MAY EXTEND THE CNDUIT ABOVE THE PAD WITH SUFFICIENT SPACE TO PROVIDE A BUSHING IF DESIRED.

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LGP-1-6-1D1/7	EMBEDDED CONDUIT& GROUNDING - INTAKE ELEVATION 618 & 634
LGP-1-6-1D1/8	EMBEDDED CONDUIT & GROUNDING - INTAKE ELEVATION 651 & MISC DETAIL

CQO4 480V CONTROL CENTER
NAMEPLATE AND EQUIPMENT SCHEDULE

VOLTS: 480VAC PHASE: 3-PHASE AMPS: 600A AIC: 65KA

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	OLD CIRCUIT DESIGNATION	NEW CIRCUIT DESIGNATION
1C	SPARE	200A, 3 POLE, 600V	--	--
1F	CENTRAL CONDITIONER FAN SF-1	SOFTSTARTER NEMA SIZE 3 FOR 25HP MOTOR, R/G LGTS, CPT	CQO4-q19	CQO4-q1-SF1
1H	RECIRCULATING FAN RF-1	COMBINATION STARTER NEMA SIZE 1, R/G LGTS, CPT,	CQO4-q20	CQO4-q1-RF1
1J	TRASH RACK CRANE	70A, 3 POLE, 600V	CQ04-q4	CQO4-q1-KT
1K	INTAKE CRANE HEATER	50A, 3 POLE, 600V	CQO4-q14	CQO4-q1-ICH
1L	ELEVATOR	100A, 3 POLE, 600V	CQO4-q2	CQO4-q2-EL
1M	ELEVATOR EQUIPMENT ROOM HEAT PUMP	40A, 3 POLE, 600V	--	CQO4-q1-EL
2C	SPACE	--	--	--
2E	LIGHTS, INTAKE DECK	CONTACTOR NEMA SIZE 1, R/G LGTS, CPT, ON/OFF/AUTO SW	CQO4-q8	CQO4-q1-ILI
2F	480V OUTLET - SCREEN REPAIR ROOM	50A, 3 POLE, 600V	CQO4-q11	CQO4-q1-RECPT
2G	INTAKE DECK OUTLETS	50A, 3 POLE, 600V	--	CQO4-q2-RECPT
2H	INTAKE DECK OUTLETS	50A, 3 POLE, 600V	--	CQO4-q3-RECPT
2J	INTAKE DECK OUTLETS	50A, 3 POLE, 600V	--	CQO4-q4-RECPT
2K	INTAKE DECK OUTLETS	50A, 3 POLE, 600V	--	CQO4-q5-RECPT
2L	SPARE	50A, 3 POLE, 600V	--	--
2M	SPARE	50A, 3 POLE, 600V	--	--
3E	CQO4 MAIN BKR (BUS 1)	600A, 3 POLE, 600V (BUS 1), KEY INTLK, LSI TRIP UNIT	--	SQO-q1-CQO4
3H	INTAKE GATE HYDRAULIC PUMP #1	SOFTSTARTER NEMA SIZE 3 FOR 25HP MOTOR, R/G LGTS, CPT	CQO4-q5	CQO4-q1-IG1
3J	TR06, LIGHTING TRANSFORMER	50A, 3 POLE, 600V	CQO4-R10	CQO4-q1-TR06
3K	TR07, LIGHTING TRANSFORMER	50A, 3 POLE, 600V	CQ04-q18	CQO4-q1-TR07
3L	FEEDER PENTHOUSE LOUVER VENT FAN	30A, 3 POLE, 600V	CQO4-q22	CQO4-q1-EF
3M	480V PIPE CHASE LIGHTING	20A, 3 POLE, 600V	CQO4-q3	CQO4-q1-LT
4E	CQO4 MAIN BKR (BUS 2)	600A, 3 POLE, 600V (BUS 1), KEY INTLK, LSI TRIP UNIT	--	SQO-q2-CQO4
4H	INTAKE GATE HYDRAULIC PUMP #2	SOFTSTARTER NEMA SIZE 3 FOR 25HP MOTOR, R/G LGTS, CPT	CQO4-q7	CQO4-q1-IG2
4K	UNIT CONDITIONER UC-1	COMBINATION STARTER NEMA SIZE 1, R/G LGTS, CPT	CQO4-q12	CQO4-q1-UC-1
4M	UNIT CONDITIONER UC-2	COMBINATION STARTER NEMA SIZE 1, R/G LGTS, CPT	CQO4-q16	CQO4-q1-UC-2
5C	SPACE	--	--	--
5D	WATER HEATER	70A, 3 POLE, 600V	CQO4-q13	CQO4-q1-WH
5E	SPARE	70A, 3 POLE, 600V	--	--
5H	INTAKE GATE HYDRAULIC PUMP #3	SOFTSTARTER NEMA SIZE 2 FOR 6.25HP MOTOR, R/G LGTS, CPT	CQO4-q6	CQO4-q1-IG3
5L	LUNCH ROOM	200A, 3 POLE, 600V	CQO4-S2	CQO4-q1-LR
5M	SPARE	20A, 3 POLE, 600V	--	--
6B	SPACE	--	--	--
6C	SPARE	20A, 3 POLE, 600V	--	--
6D	SPARE	70A, 3 POLE, 600V	--	--
6E	REPAIR PIT - LOCAL EXHAUST FAN	20A, 3 POLE, 600V	--	CQO4-q1-LEFCC
6F	REPAIR PIT - EF18 POWER	20A, 3 POLE, 600V	--	CQO4-q1-EF18
6G	REPAIR PIT - WELDING RECEPTACLE #1	30A, 3 POLE, 600V	--	CQO4-q1-RPR1
6H	REPAIR PIT - WELDING RECEPTACLE #2	30A, 3 POLE, 600V	--	CQO4-q1-RPR2
6J	REPAIR PIT - BRIDGE CRANE	60A, 3 POLE, 600V	--	CQO4-q1-BC
6K	REPAIR PIT - JIB CRANE	20A, 3 POLE, 600V	--	CQO4-q1-JIB
6L	REPAIR PIT - FAN MAF-1	30A, 3 POLE, 600V	--	CQO4-q1-MAF1CC
6M	REPAIR PIT - VACUUM SYSTEM OUTLET	30A, 3 POLE, 600V	--	CQO4-q1-VSR

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: J. VAN STEEN, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-1D4/7
FILENAME: V3-LGP1.002-E-204.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

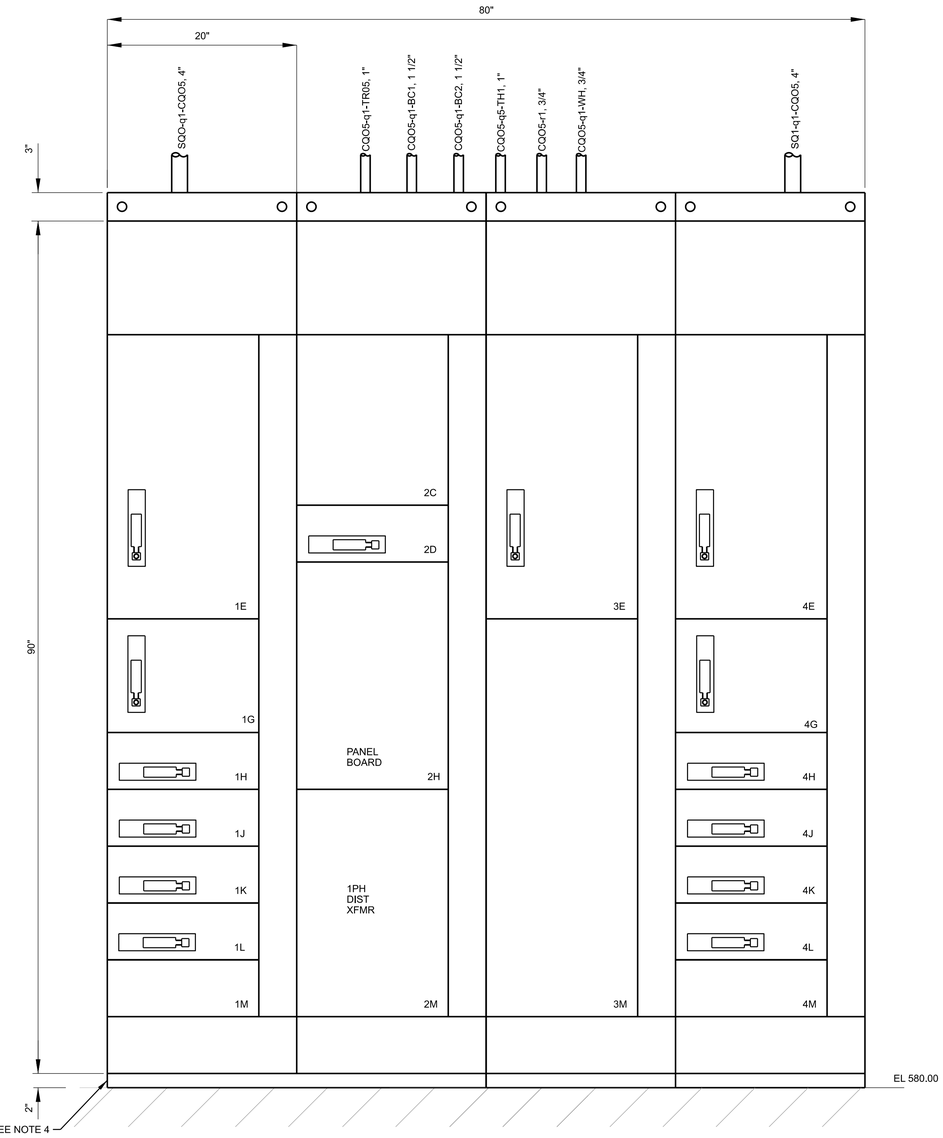
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CONTROL CENTER CQO4
ELEVATION VIEW
INSTALL

SHEET ID
VOLUME 3
E-204

FINAL



A1 CONTROL CENTER CQO5 LAYOUT

SCALE: NTS

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. CONNECT THE NEW CONTINUOUS GROUND BUS TO THE EXISTING POWERHOUSE GROUND INSERTS. CONTRACTOR TO REFER TO THE REFERENCE DRAWINGS TO LOCATED NEAREST CONNECTION POINT.
3. THE DETAIL SHOWN REPRESENTS A SUGGESTED DESIGN TO ILLUSTRATE THE INTENT AND DOES NOT LIMIT THE CONTRACTOR FROM SUBMITTING A DIFFERENT LAYOUT/ARRANGEMENT.
4. TWO INCH PAD REQUIRED, SEE E-005 DETAIL Q. PROVIDE A BLOCKOUT FOR THE EMBEDDED CONDUIT SO IT CAN BE REUSED. MAY EXTEND THE CNDUIT ABOVE THE PAD WITH SUFFICIENT SPACE TO PROVIDE A BUSHING IF DESIRED.

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LGP-1-6-1D1/6	EMBEDDED CONDUIT& GROUNDING - INTAKE ELEVATION 580 & 598

CQO5 480V CONTROL CENTER
NAMEPLATE AND EQUIPMENT SCHEDULE

VOLTS: 480VAC PHASE: 3-PHASE AMPS: 600A AIC: 65KA

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	OLD CIRCUIT DESIGNATION	NEW CIRCUIT DESIGNATION
1E	CQ05 MAIN BREAKER (BUS 1)	600A, 3 POLE, 600V, LSI TRIP UNIT, KEY INT.	SQO-q1-CQO5	SQO-q1-CQO5
1G	BATTERY CHARGER BC1	150A, 3 POLE, 600V	CQO5-q5	CQO5-q1-BC1
1H	WATER HEATER	100A, 3 POLE, 600V	---	CQO5-q1-WH
1J	TRO5	50A, 3 POLE, 600V	CQO5-q3	CQO5-q1-TRO5
1K	SPARE	70A, 3 POLE, 600V	---	---
1L	SPARE	50A, 3 POLE, 600V	---	---
1M	SPACE	---	---	---
2C	SPACE	---	---	---
2D	TR11A TRANSFORMER	15A, 3 POLE, 600V	---	---
2H	CR11A PANELBOARD	120V PANELBOARD 100A MAIN	---	---
2M	1 PH TRANSFORMER TR11A	10KVA XFMR 480/120	---	---
3E	TIE BREAKER	600A, 3 POLE, 600V, LSI TRIP UNIT, KEY INT.	---	---
3M	SPACE	---	---	---
4E	CQ05 MAIN BREAKER (BUS 2)	600A, 3 POLE, 600V, LSI TRIP UNIT, KEY INT.	SQO-q2-CQO5	SQ1-q1-CQO5
4G	BATTERY CHARGER BC2	150A, 3 POLE, 600V	CQO5-q4	CQO5-q1-BC2
4H	SPARE	70A, 3 POLE, 600V	--	---
4J	INVERTER TRANSFORMER TH1	40A, 3 POLE, 600V	--	CQO5-q1-TH1
4K	SPARE	60A, 3 POLE, 600V	---	---
4L	SPARE	100A, 3 POLE, 600V	---	---
4M	SPACE	---	---	---

CR11 120V PANELBOARD
NAMEPLATE AND EQUIPMENT SCHEDULE

VOLTS: 120VAC PHASE: 1-PHASE AMPS: 100A AIC: 22KA

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	OLD CIRCUIT DESIGNATION	NEW CIRCUIT DESIGNATION
1	BATTERY ROOM EXIT SIGN	20A, 1 POLE, 120V	---	CQO5-r1
2	SPARE	20A, 1 POLE, 120V	---	---
3	SPARE	20A, 1 POLE, 120V	---	---
4	SPARE	20A, 1 POLE, 120V	---	---
5	SPARE	20A, 1 POLE, 120V	---	---
6	SPARE	20A, 1 POLE, 120V	---	---
7	SPARE	20A, 1 POLE, 120V	---	---
8	SPARE	20A, 1 POLE, 120V	---	---
9	SPARE	30A, 1 POLE, 120V	---	---
10	SPARE	30A, 1 POLE, 120V	---	---
11	SPARE	30A, 1 POLE, 120V	---	---
12	SPARE	30A, 1 POLE, 120V	---	---

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
SIZE: ANSI D FILE NAME: V3-LGP1.002-E-205.dgn
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-1D4/8

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

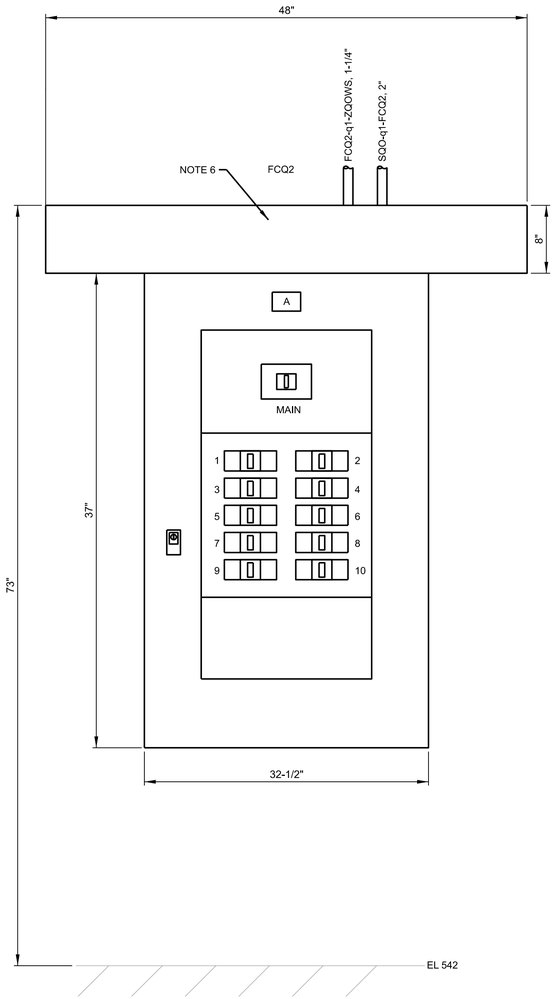
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CONTROL CENTER CQO5
ELEVATION VIEW
INSTALL

SHEET ID
VOLUME 3
E-205

FINAL



A2 PANELBOARD FCQ2 LAYOUT

SCALE: NTS

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. PROVIDE BELL ALARM CONTACTS FOR ALL FCQ1 BREAKERS. ALL FEEDER BREAKER BELL ALARM CONTACTS SHALL BE ROUTED TO THE FSC ANNUNCIATION BOARD.
3. CONNECT THE NEW CONTINUOUS GROUND BUS TO THE EXISTING POWERHOUSE GROUND INSERTS. CONTRACTOR TO REFER TO THE REFERENCE DRAWINGS TO LOCATED NEAREST CONNECTION POINT.
4. THE DETAIL SHOWN REPRESENTS A SUGGESTED DESIGN TO ILLUSTRATE THE INTENT AND DOES NOT LIMIT THE CONTRACTOR FROM SUBMITTING A DIFFERENT LAYOUT/ARRANGEMENT.
5. THE CONTRACTOR IS TO RETROFIT THE EXISTING PANELS BY REMOVING AND REPLACING ALL INTERNAL COMPONENTS WITH THE EXCEPTION OF THE EMBEDDED ENCLOSURE AND CONDUIT.
6. A WIREWAY IS TO BE INSTALLED ABOVE FCQ1 THAT PARTIALLY COVERS THE OLD EMBEDDED ENCLOSURE TO ALLOW NEW SURFACE MOUNTED CONDUIT TO ENTER THE ENCLOSURE. THE COVER/TRIM SHALL COVER ANY REMAINING PORTIONS OF THE EMBEDDED ENCLSURE.

REFERENCE DRAWINGS

DRAWING NO	TITLE
ST487508 SE-1	MAIN CONTRACT PANELBOARDS 480-VOLT CQ03 FCQ1 & FCQ2 WIRING DIAGRAMS BID ITEM 244
LGP-1-6-1D1/3	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 542
LGP-1-6-1D1/4	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 558
LGP-1-6-1E1/10	EMBEDDED CONDUIT & GROUNDING - FISHWAY GALLERY ELEVATION 542, BAYS 1 THRU 3

NAMEPLATE AND EQUIPMENT SCHEDULE (FCQ2)

VOLTS: 480VAC PHASE: 3-PHASE AMPS: 100A AIC: 65KA

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	OLD CIRCUIT DESIGNATION	NEW CIRCUIT DESIGNATION
	MAIN SUPPLY BKR FOR PANEL	100A, 3 POLE, 600V		SQO-q1-FCQ1
1	TRA2	15A, 3 POLE, 600V	FCQ2-q1-TRA2	FCQ2-q1-TRA2
2	WEIR GATE 1	20A, 3 POLE, 600V	FCQ2-q1-NPE1	FCQ2-q1-NPE1
3	SPARE	20A, 3 POLE, 600V	--	--
4	WEIR GATE 2	20A, 3 POLE, 600V	FCQ2-q1-NPE2	FCQ2-q1-NPE2
5	HYDROCARBON OIL WATER SEPARATOR	30A, 3 POLE, 600V	FCQ2-q2	FCQ2-q2
6	WING GATE	20A, 3 POLE, 600V	FCQ2-q1-NPC	FCQ2-q1-NPC
7	SPARE	20A, 3 POLE, 600V	--	--
8	SPARE	20A, 3 POLE, 600V	--	--
9	SPARE	30A, 3 POLE, 600V	--	--
10	SPARE	30A, 3 POLE, 600V	--	--
A	FCQ2	--	--	--

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: LIAM STERUM, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1-0024-6-1/4#1
FILENAME: V3-LGP1.0024-E-206.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

PANELBOARD FCQ2
ELEVATION VIEW
INSTALL

SHEET ID
VOLUME 3
E-206

FINAL

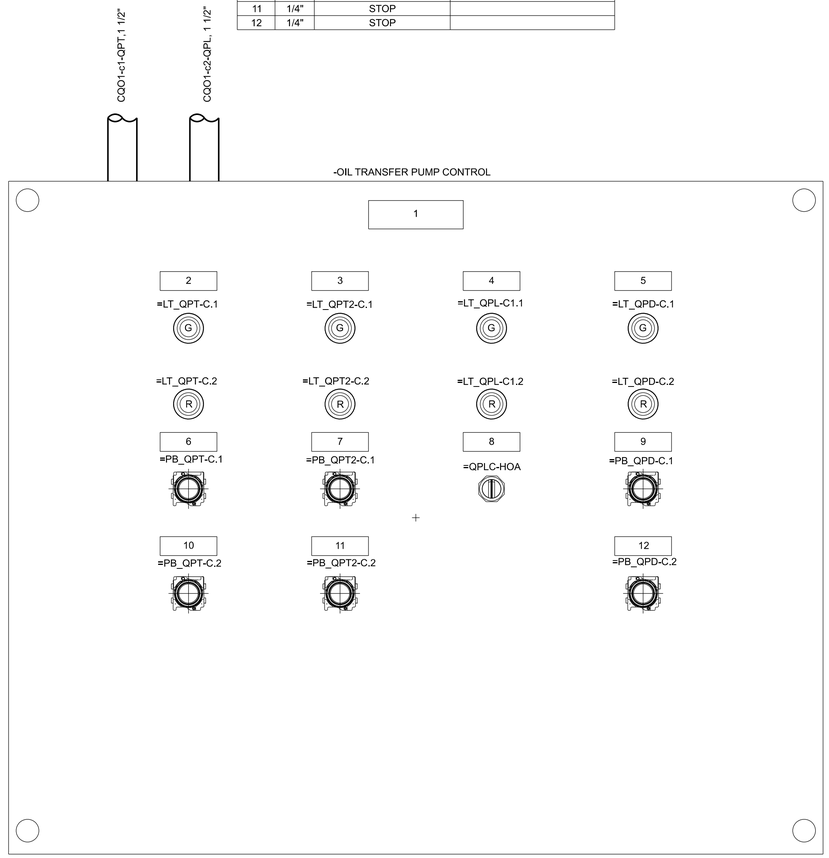
GENERAL NOTES

1. LUBE OIL PUMP CONTROL PANEL IS LOCATED ON 7TH FLOOR
2. OIL TRANSFER PUMP CONTROL PANEL IS LOCATED IN OIL STORAGE ROOM.

REFERENCE DRAWINGS

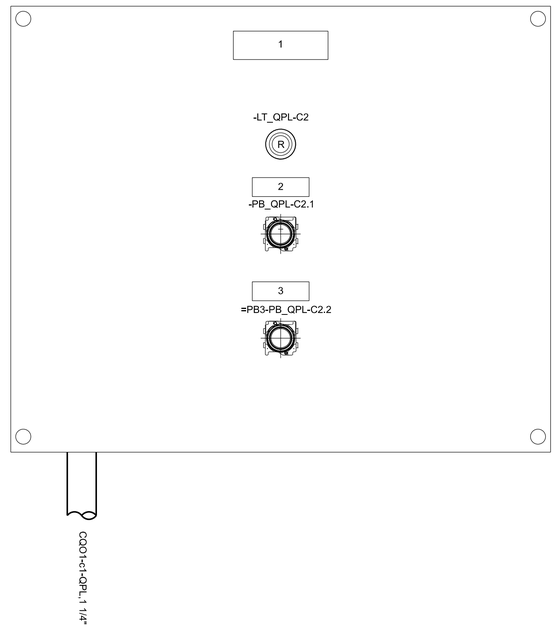
DRAWING NO	TITLE
LGP-1.1-3-9/71	ERECTION BAY EXPOSED PIPING - SECTION AND DETAILS
LGP-1-6-1D1/7	EMBEDDED CONDUIT AND GROUNDING - ERECTION BAY INTAKE EL 618 & 634
LGP-1-6-1D1/1	EMBEDDED CONDUIT AND GROUNDING - ERECTION BAY INTAKE EL 498 & AREAS BELOW
8FP-020	OIL TRANSFER PUMP & LUBE OIL PUMP CONTROL PANEL

OIL TRANSFER PUMP CONTROL NAMEPLATE SCHEDULE			
NP NUM.	CHAR. SIZE	FIRST LINE	SECOND LINE
1	1/2"	OIL TRANSFER	CONTROL PANEL
2	1/4"	TRANSIL OIL	PUMP #1
3	1/4"	TRANSIL OIL	PUMP #2
4	1/4"	LUBE OIL	PUMP #3
5	1/4"	DIRTY OIL	PUMP #4
6	1/4"	START	
7	1/4"	START	
8	1/4"	ON/OFF/REMOTE	
9	1/4"	START	
10	1/4"	STOP	
11	1/4"	STOP	
12	1/4"	STOP	



A1 OIL TRANSFER PUMP CONTROL
SCALE: NTS

LUBE OIL PUMP CONTROL NAMEPLATE SCHEDULE			
NP NUM.	CHAR. SIZE	FIRST LINE	SECOND LINE
1	1/2"	LUBE OIL	PUMP CONTROL
2	1/4"	START	
3	1/4"	STOP	



A11 LUBE OIL PUMP CONTROL
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001
DRAWING NUMBER: LGP-1.002-6-1A4/2
FILE NAME: V3-LGP1.002-E-207.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

OIL TRANSFER PUMP AND LUBE OIL PUMP CONTROL PANELS INSTALL

SHEET ID
VOLUME 3
E-207

FINAL

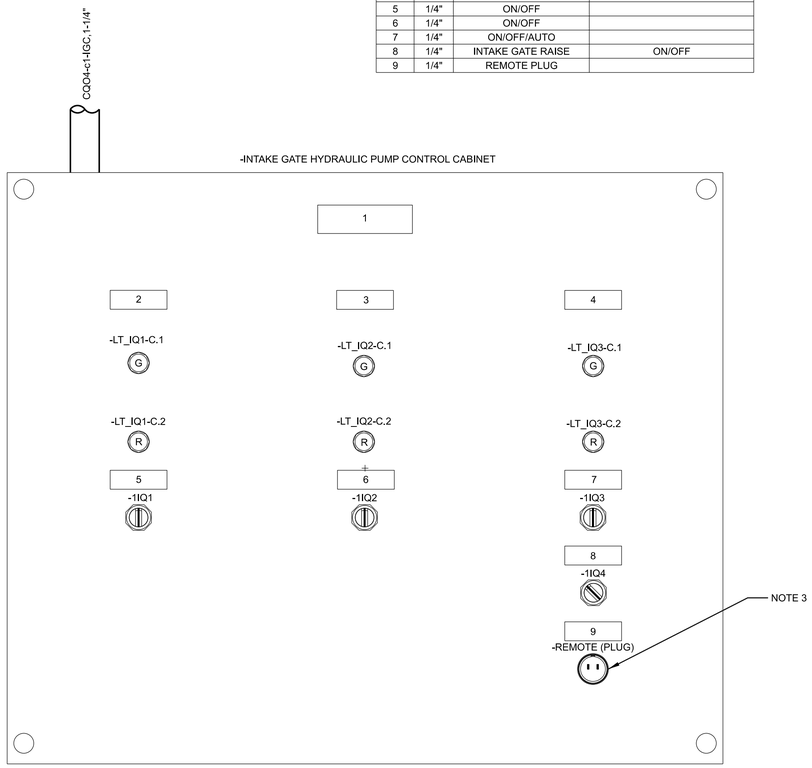
GENERAL NOTES

1. INTAKE GATE HYDRAULIC PUMP CONTROL CABINET IS LOCATED NEAR THE HYDRAULIC PUMPS. CONTRACTOR TO INSTALL NEW SURFACE CONDUIT AND ABANDON THE EXISTING EMBEDDED CONDUIT.
2. THE SF1 MOTOR CONTROL CONSOL "PB1" LOCATED NEAR THE AIR LOCK DOOR AND "PB2" LOCATED NEAR THE MOTOR SHALL HAVE A LOCK OUT/TAG OUT MECHANISM ON THE "STOP" BUTTON TO ALLOW AN OPERATOR TO LOCK OUT THE FAN BEFORE ENTERING THE ROOM.
3. CONTRACTOR TO INSTALL COMPATIBLE PLUG FOR EXISTING REMOTE CONTROL.

REFERENCE DRAWINGS

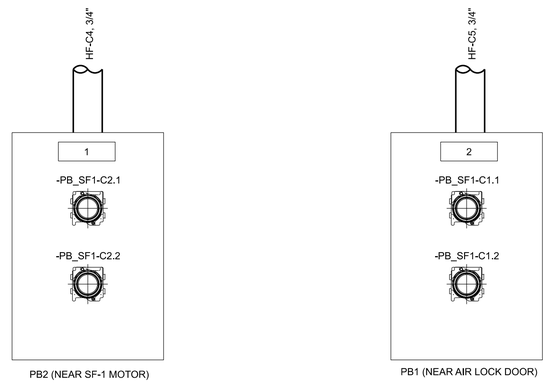
DRAWING NO	TITLE
LGP-1-6-1D1/7	EMBEDDED CONDUIT & GROUNDING - INTAKE ELEVATION 618 & 634
LGP-1-6-1D1/8	EMBEDDED CONDUIT & GROUNDING - INTAKE ELEVATION 651 & MISC DETAIL

INTAKE GATE HYDRAULIC PUMP CONTROL NAMEPLATE SCHEDULE			
NP NUM.	CHAR. SIZE	FIRST LINE	SECOND LINE
1	1/2"	INTAKE GATE	HYDRAULIC CONTROL PANEL
2	1/4"	PUMP #1	
3	1/4"	PUMP #2	
4	1/4"	PUMP #3	HIGH PRESSURE
5	1/4"	ON/OFF	
6	1/4"	ON/OFF	
7	1/4"	ON/OFF/AUTO	
8	1/4"	INTAKE GATE RAISE	ON/OFF
9	1/4"	REMOTE PLUG	



A1 INTAKE GATE HYDRAULIC PUMP CONTROL
SCALE: NTS

SUPPLY FAN SF-1 CONTROL NAMEPLATE SCHEDULE			
NP NUM.	CHAR. SIZE	FIRST LINE	SECOND LINE
1	1/2"	SUPPLY FAN SF-1	START/STOP
2	1/2"	SUPPLY FAN SF-1	START/STOP



A13 SUPPLY FAN CONTROLS - SF1
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0024-6-1A4/3
FILE NAME: V3-LGP1.0024-E-208.dgn

U.S. ARMY CORPS OF ENGINEERS
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WALLA WALLA, WASHINGTON

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

INTAKE GATE HYDRAULIC PUMP & SUPPLY FAN CONTROL PANELS INSTALL

SHEET ID
VOLUME 3
E-208

FINAL

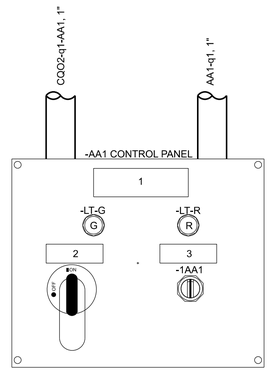
GENERAL NOTES

1. ALL 500LBS AIR COMPRESSOR CONTROLS ARE CONTAINED IN THE CONTROL BOX, INCLUDING STARTER/CONTACTOR AND CONTROL TRANSFORMER.
2. A DISCONNECT SWITCH WILL REMOVE POWER FROM ALL CONTROLS AND COMPRESSOR MOTOR.

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LGP-1-6-1D1/2	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 522
LGP-1-6-1D1/3	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 542
LGP-1-6-1D1/4	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 558

INTAKE GATE HYDRAULIC PUMP CONTROL NAMEPLATE SCHEDULE			
NP NUM.	CHAR. SIZE	FIRST LINE	SECOND LINE
1	1/2"	500LBS GOVERNOR	AIR COMPRESSOR
2	1/4"	DISCONNECT	
3	1/4"	ON/OFF/AUTO	



A11 500LB AIR COMPRESSOR CONTROL PANEL
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF	ISSUE DATE: AUGUST 2022
DRAWN BY: M. FLANAGAN	SOLICITATION NO.: W912EF22R0001
CHECKED BY: K. SELLERS	CONTRACT NO.:
SUBMITTED BY: IVAN STEDEM, P.E.	DRAWING NUMBER: LGP-1.002A6-1A4/4
SIZE: ANSI D	FILENAME: V3-LGP1.002-E-209.dgn

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SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

500 LB AIR COMPRESSOR CONTROL PANEL INSTALL

SHEET ID
VOLUME 3
E-209

FINAL

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY THE CONTRACTOR.
2. LUBE OIL PUMP CONTROL, FLOAT SWITCHES, AND SOLENOID ARE LOCATED ON THE 7TH FLOOR (EL 618)

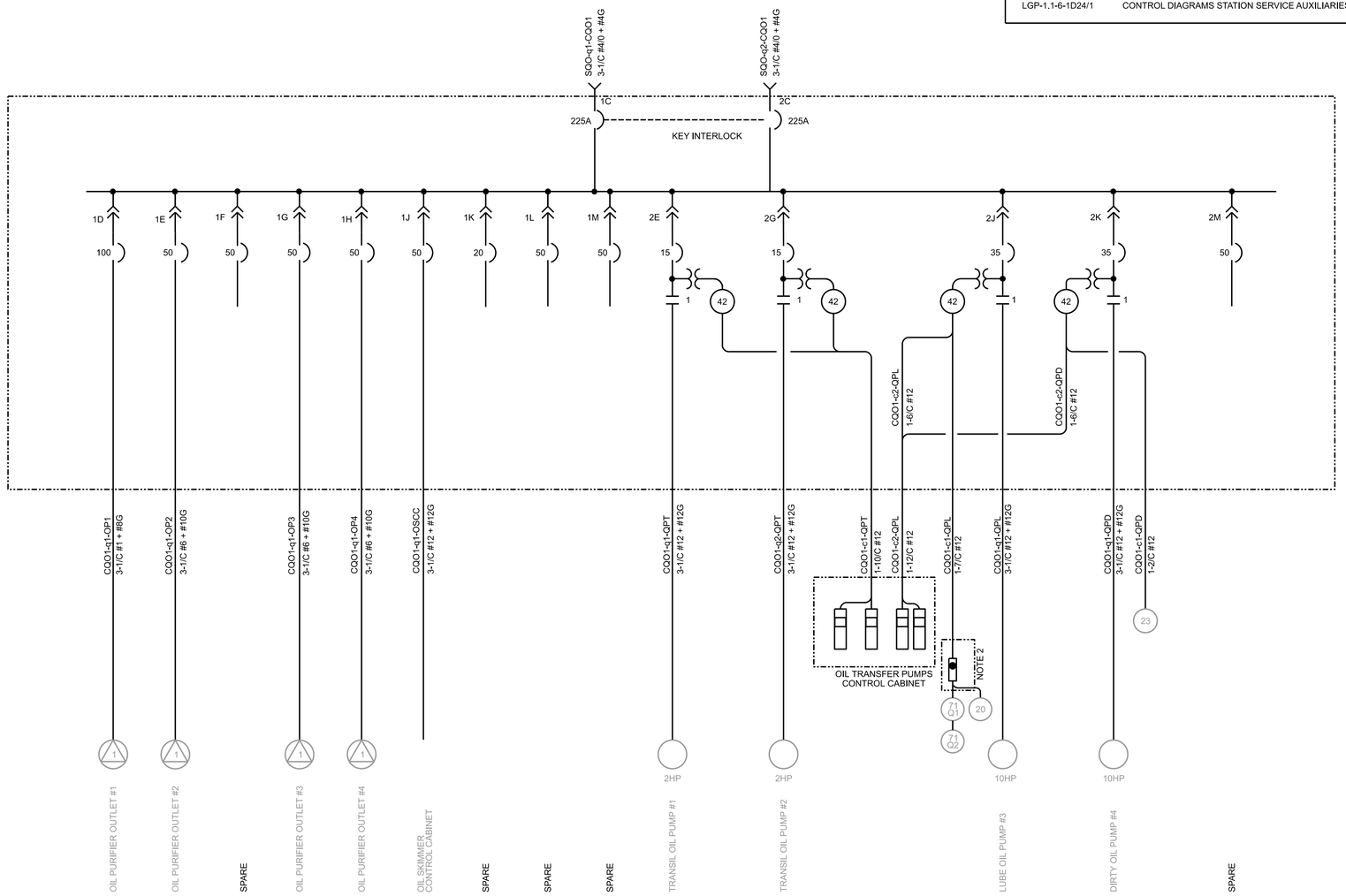
LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1D21/2	ONE LINE DIAGRAM - CQ01 CQ02 FCQ1 & FCQ2
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LGP-1-6-1D1/1	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 498 & AREAS BELOW
LGP-1-6-1D1/2	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 522
LGP-1-6-1D1/3	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 542
LGP-1-6-1D1/4	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY INTAKE EL 618 & 634
LGP-1.1-6-1D24/1	CONTROL DIAGRAMS STATION SERVICE AUXILIARIES - SHEET 1



A6 CQO1 ONE LINE
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF	ISSUE DATE: AUGUST 2022
DRAWN BY: M. FLANAGAN	SOLICITATION NO.: W912EF22R0001
CHECKED BY: K. SELLERS	CONTRACT NO.:
SUBMITTED BY: JUAN STERLING, P.E.	DRAWING NUMBER: LGP-1.002-6-9A2116
SIZE: ANSI D	FILE NAME: V3-L-GP1.002-E-601.dgn

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SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

480 VOLT CONTROL CENTER CQO1
ONE LINE DIAGRAM
INSTALL

SHEET ID
VOLUME 3
E-601

FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. CONTRACTOR TO INSTALL 10 AMP FUSED DISCONNECT NEAR TRANSFORMER TFPR1.

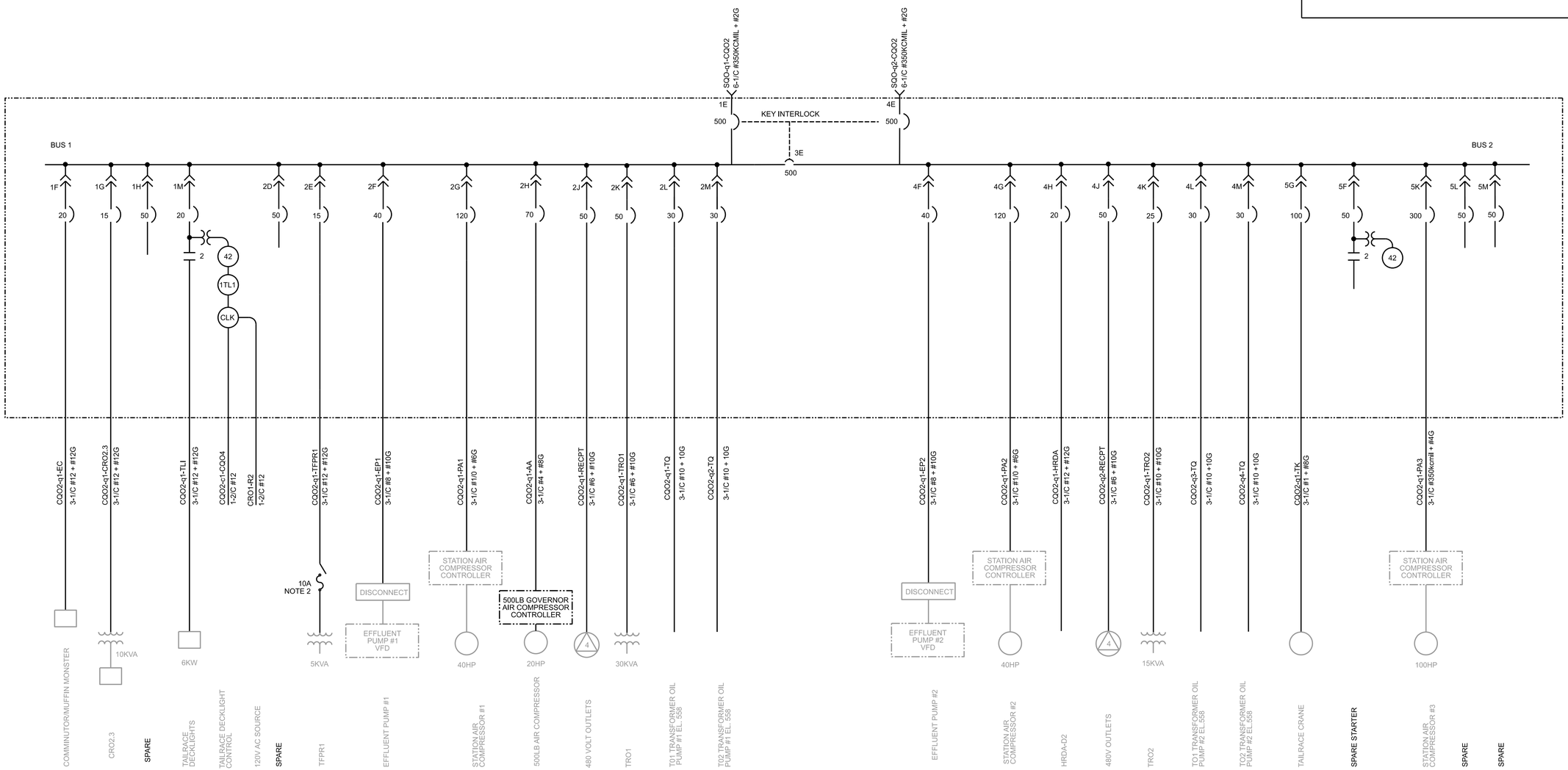
LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1D21/2	ONE LINE DIAGRAM - CQ01 CQ02 FCQ1 & FCQ2
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LGP-1-6-1D1/2	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 522
LGP-1-6-1D1/3	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 542
LGP-1-6-1D1/4	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 558
LGP-1.1-6-1D24/1	CONTROL DIAGRAMS STATION SERVICE AUXILIARIES - SHEET 1
LGP-1.1-6-1D24/2	CONTROL DIAGRAMS STATION SERVICE AUXILIARIES - SHEET 2



A1 CQO2 ONE LINE DIAGRAM

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: A. E.
SIGNATURE:
ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001
DRAWING NUMBER: LGP-1.002-6-SHZ177
FILE NAME: V3-LGP1.002-E-602.dgn

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SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

480 VOLT CONTROL CENTER CQO2
ONE LINE DIAGRAM
INSTALL

SHEET ID
VOLUME 3
E-602

FINAL

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. THE CONTRACTOR IS TO RETROFIT THE EXISTING PANELS BY REMOVING AND REPLACING ALL INTERNAL COMPONENTS WITH THE EXCEPTION OF THE EMBEDDED ENCLOSURE AND CONDUIT.
3. A WIREWAY IS TO BE INSTALLED ABOVE FCQ1 AND CQO3 THAT PARTIALLY COVERS THE OLD EMBEDDED ENCLOSURE TO ALLOW NEW SURFACE MOUNTED CONDUIT TO ENTER THE ENCLOSURE. THE COVER/TRIM SHALL COVER ANY REMAINING PORTIONS OF THE EMBEDDED ENCLSURE.
4. PROVIDE BELL ALARM CONTACTS FOR ALL BREAKERS IN FCQ1. ALL FEEDER BREAKER BELL ALARM CONTACTS SHALL BE ROUTEED TO THE FSC ANNUNCIATION BOARD. BELL ALARM CONTACTS COMING FROM FCQ2 SHALL BE ROUTED THROUGH FCQ1 TO THE FSC ANNUNCIATION BOARD.

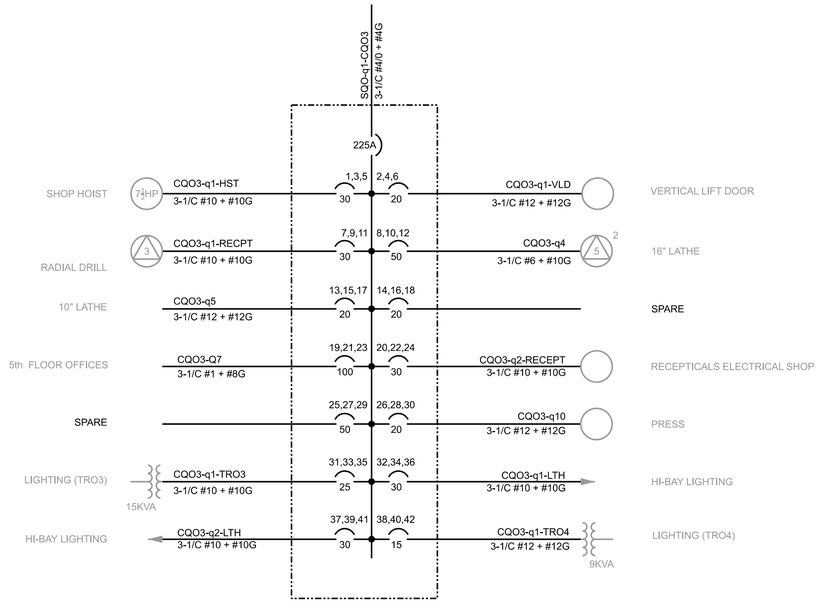
LEGEND

EQUIPMENT TO BE INSTALLED

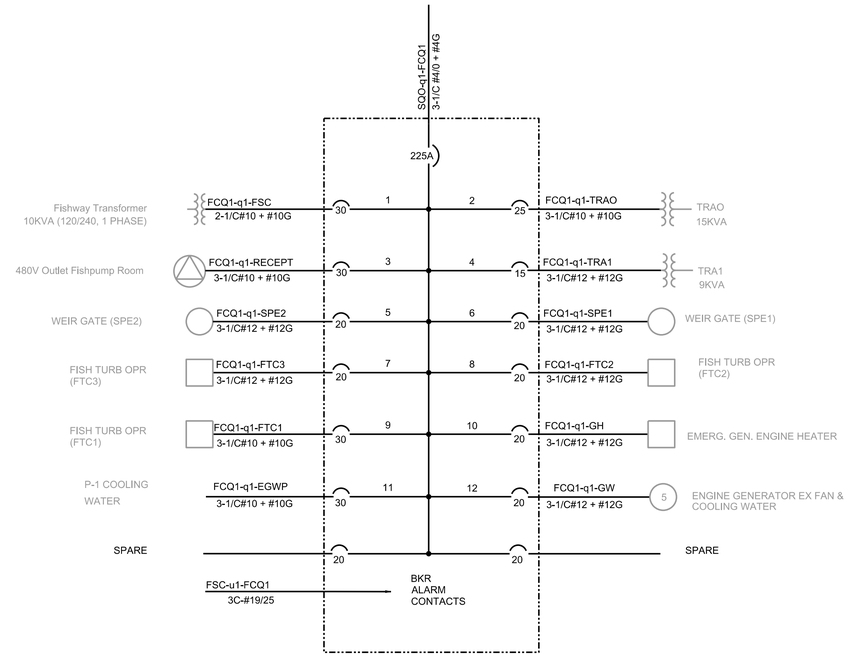
EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1D21/2	ONE LINE DIAGRAM - CQ01 CQ02 FCQ1 & FCQ2
LGP-1.22-6-1D21/3	ONE LINE DIAGRAM - CQ03 CQ04 & CQ05
LGP-1-6-1D1/3	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 542
LGP-1-6-1D1/4	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 558
LGP-1-6-1E1/10	EMBEDDED CONDUIT & GROUNDING - FISHWAY GALLERY ELEVATION 542, BAYS 1 THRU 3
SEES-LGA-E-101A	EMERGENCY DIESEL GENERATOR - MODIFIED EMERGENCY LAYOUT
SEES-LGA-E-602	EMERGENCY DIESEL GENERATOR - AC PANEL SCHEDULES
SEES-LGA-E-617	EMERGENCY DIESEL GENERATOR - CONDUIT AND CABLE SCHEDULE - MODIFIED



A1 CQO3 ONE LINE
SCALE: NTS



A12 FCQ1 ONE LINE
SCALE: NTS

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MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STEDUTO, P.E.
SIZE: ANSI D
FILE NAME: V3-L-GP1.002-E-603.dgn
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9A218

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

PANELBOARD CQO3 & FCQ1
ONE LINE DIAGRAM
INSTALL

SHEET ID
VOLUME 3
E-603

FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. SP17 ANNUNCIATION IS NOT IN SERVICE. CONTRACTOR SHALL PROVIDE A SET OF TERMINAL BLOCKS INSIDE CQ04 TO ALLOW FOR FUTURE HOOKUP. TEST ALARM SIGNALS AT TERMINAL BLOCKS.

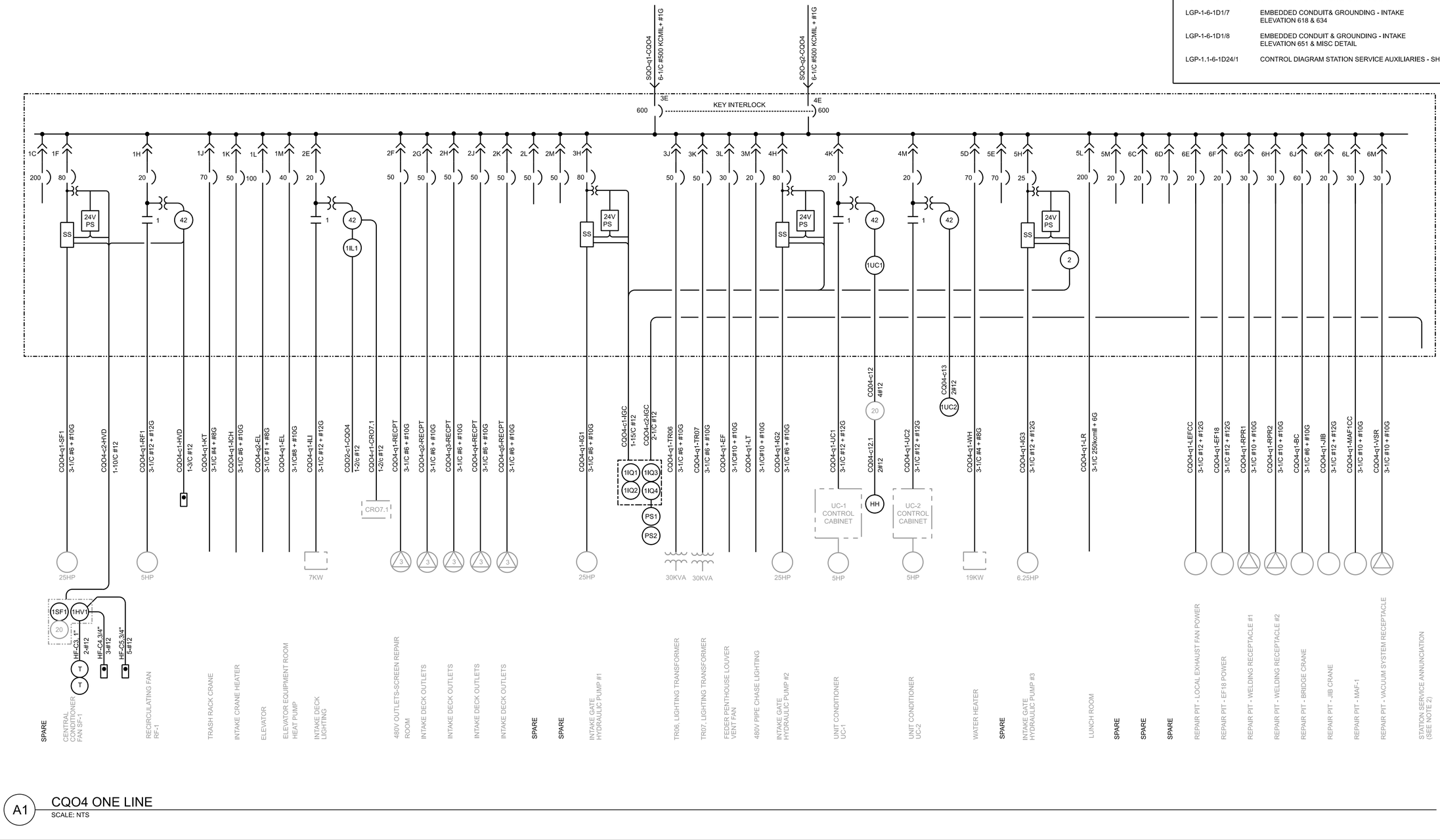
LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LGP-1.22-6-1D21/3	ONE LINE DIAGRAM - CQ03 CQ04 & CQ05
LGP-1-6-1D1/7	EMBEDDED CONDUIT& GROUNDING - INTAKE ELEVATION 618 & 634
LGP-1-6-1D1/8	EMBEDDED CONDUIT & GROUNDING - INTAKE ELEVATION 651 & MISC DETAIL
LGP-1.1-6-1D24/1	CONTROL DIAGRAM STATION SERVICE AUXILIARIES - SHEET 1



A1 CQO4 ONE LINE

SCALE: NTS

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MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: P. E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9A2119
FILE NAME: V3-L GP1.002-E-604.dgn

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

480 VOLT CONTROL CENTER CQO4
ONE LINE DIAGRAM
INSTALL

SHEET ID
VOLUME 3
E-604

FINAL

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. EXISTING TRANSFORMER TO BE UPGRADED BY CONTRACTOR TO 25KVA AND MOUNTED IN NEW LOCATION.

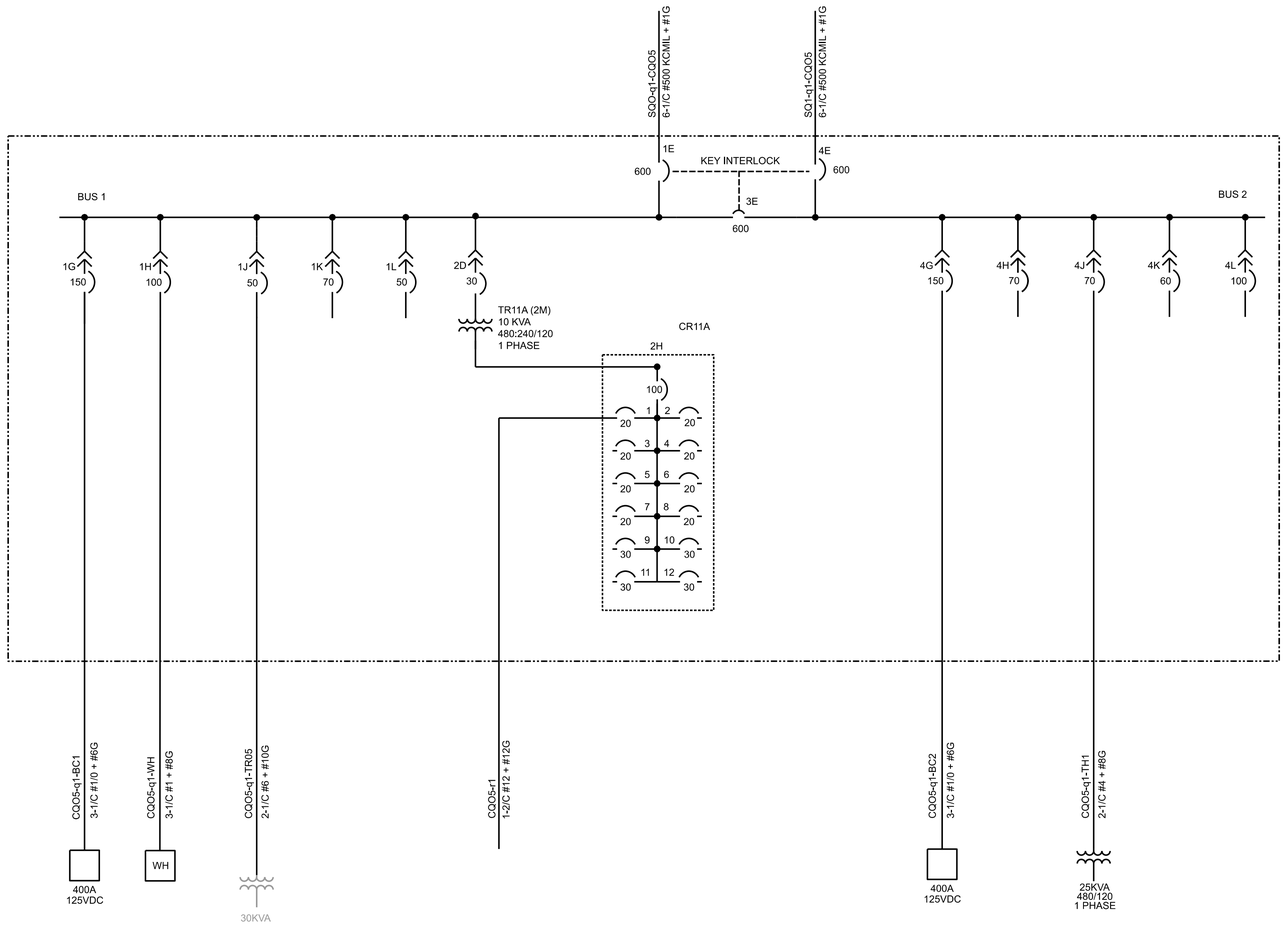
LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LGP-1.22-6-1D21/3	ONE LINE DIAGRAM - CQ03 CQ04 & CQ05
LGP-1-6-1D1/6	EMBEDDED CONDUIT & GROUNDING - INTAKE ELEVATION 580 & 598



A4 CQO5 ONE LINE
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
S. SCHEIFF	AUGUST 2022
DRAWN BY:	SOLICITATION NO.:
M. FLANAGAN	W912EF22R0001
CHECKED BY:	CONTRACT NO.:
K. SELLERS	
SUBMITTED BY:	DRAWING NUMBER:
JUAN STERLING, P.E.	LGP-1.002-6-9A21/10
SIZE:	FILE NAME:
ANSI D	V3-LGP1.002-E-605.dgn

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

480 VOLT CONTROL CENTER CQO5
ONE LINE DIAGRAM
INSTALL

SHEET ID
VOLUME 3
E-605

FINAL

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. THE CONTRACTOR IS TO RETROFIT THE EXISTING PANELS BY REMOVING AND REPLACING ALL INTERNAL COMPONENTS WITH THE EXCEPTION OF THE EMBEDDED ENCLOSURE AND CONDUIT.
3. A WIREWAY IS TO BE INSTALLED ABOVE FCQ1 THAT PARTIALLY COVERS THE OLD EMBEDDED ENCLOSURE TO ALLOW NEW SURFACE MOUNTED CONDUIT TO ENTER THE ENCLOSURE. THE COVER/TRIM SHALL COVER ANY REMAINING PORTIONS OF THE EMBEDDED ENCLSURE.
4. PROVIDE BELL ALARM CONTACTS FOR ALL BREAKERS IN FCQ1. ALL FEEDER BREAKER BELL ALARM CONTACTS SHALL BE ROUTEED TO THE FSC ANNUNCIATION BOARD. BELL ALARM CONTACTS COMING FROM FCQ2 SHALL BE ROUTED THROUGH FCQ1 TO THE FSC ANNUNCIATION BOARD.

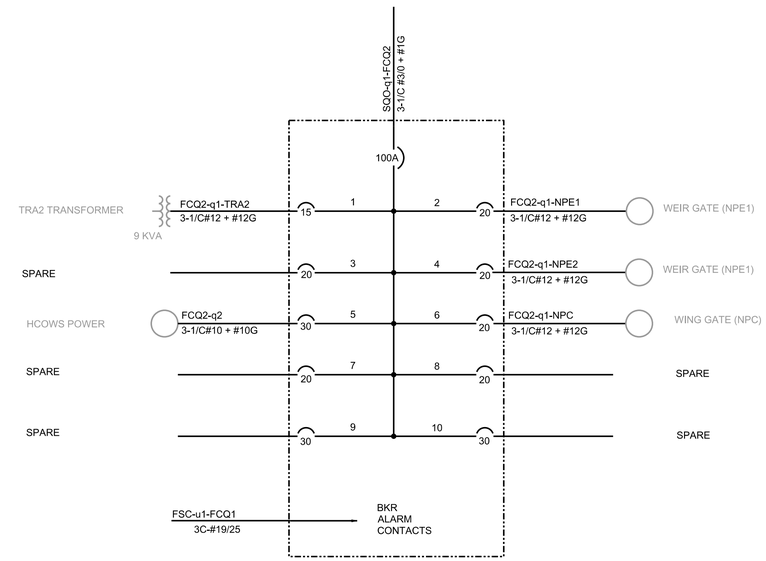
LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1D21/2	ONE LINE DIAGRAM - CQ01 CQ02 FCQ1 & FCQ2
LGP-1.22-6-1D21/3	ONE LINE DIAGRAM - CQ03 CQ04 & CQ05
LGP-1-6-1D1/3	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 542
LGP-1-6-1D1/4	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 558
LGP-1-6-1E1/10	EMBEDDED CONDUIT & GROUNDING - FISHWAY GALLERY ELEVATION 542, BAYS 1 THRU 3



A11 FCQ2 ONE LINE

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: J. VAN STERUM, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9A21/11
FILE NAME: V3-L GP1.002-E-606.dgn

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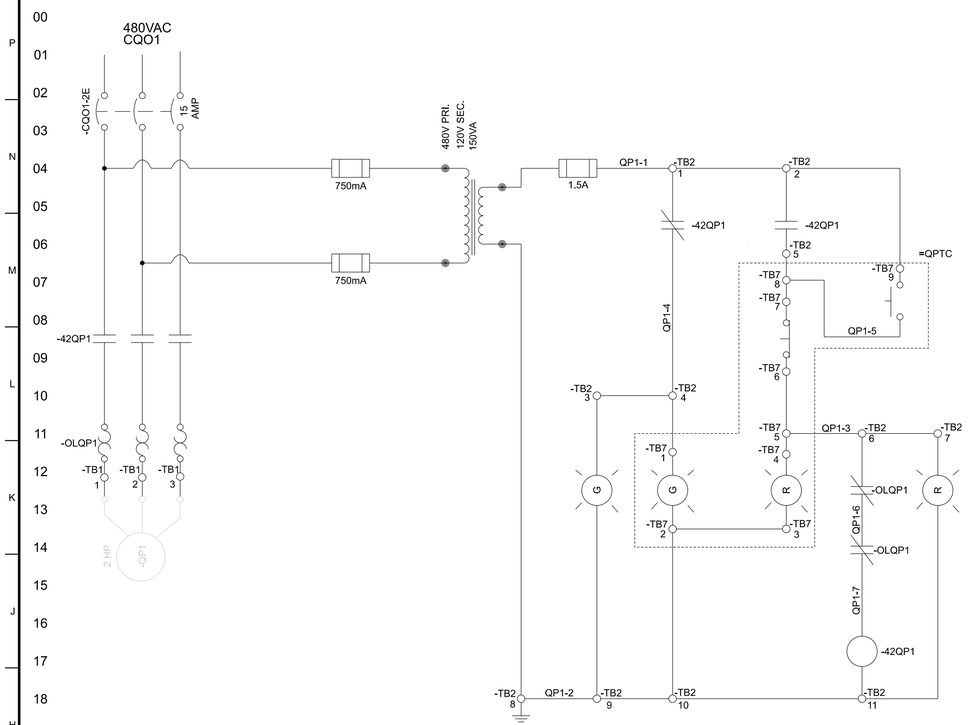
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

PANELBOARD FCQ2
ONE LINE DIAGRAM
INSTALL

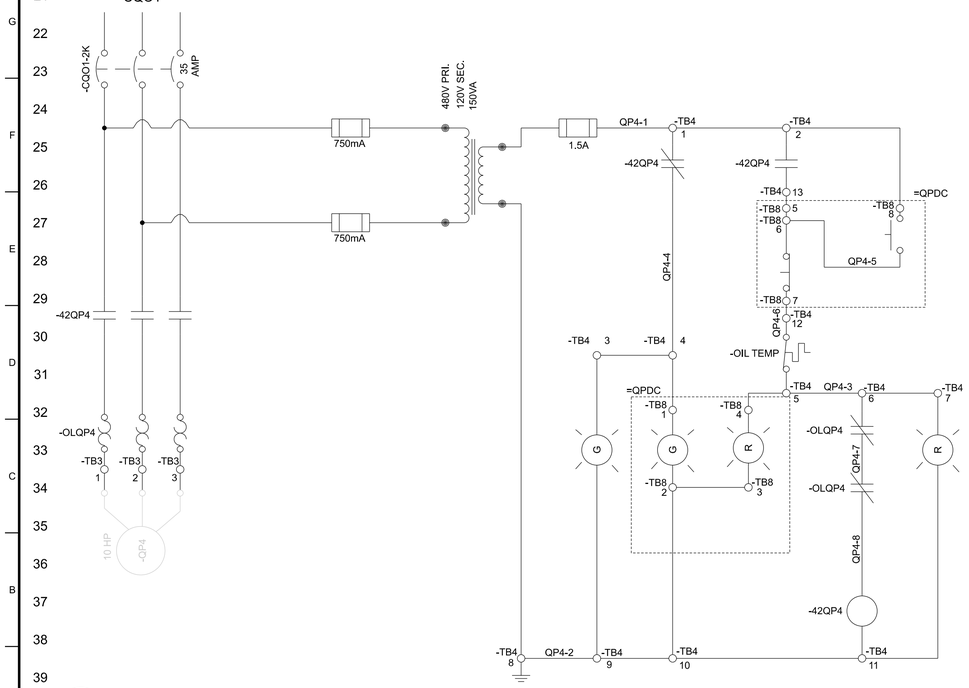
SHEET ID
VOLUME 3
E-606

FINAL



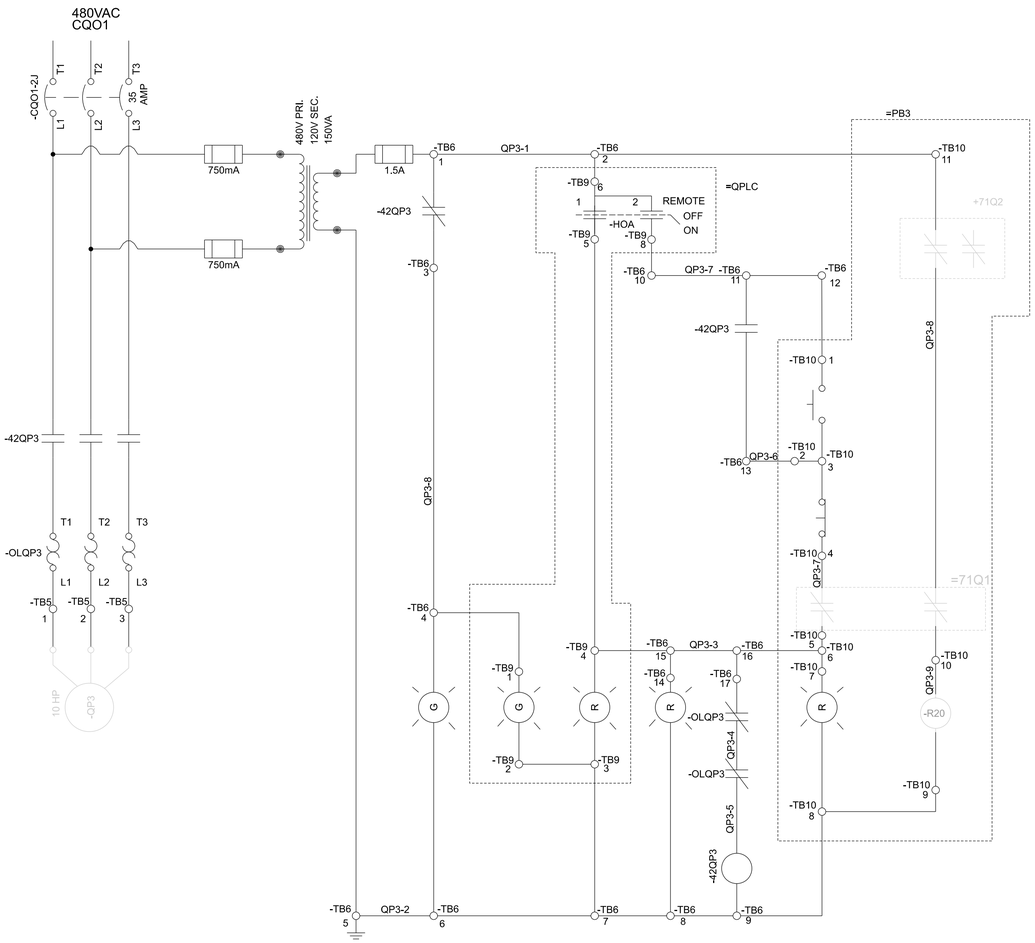
G2 TRANSIL OIL PUMP NO.1 - CQO1 (OIL PUMP NO.2 SIMILAR)

SCALE: NTS



A2 DIRTY OIL PUMP NO.4 - CQO1

SCALE: NTS



A12 LUBE OIL PUMP NO.3 -CQO1

SCALE: NTS

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. LUBE OIL PUMP CONTROL, FLOAT SWITCHES, AND SOLENOID ARE LOCATED ON THE 7TH FLOOR (EL 618)

LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
GDP-1-6-1D21/1	ONE LINE DIAGRAM SQ0, SQ1 & CP0
8FP-020-3	OIL TRANSFER PUMP & LUBE OIL PUMP ELECTRICAL SCHEMATIC
8FP-020	OIL TRANSFER PUMP & LUBE OIL PUMP PANEL CONSTRUCTION
LGP-1.1-6-1D24/1	CONTROL DIAGRAMS STATION SERVICE AUXILIARIES - SHEET 1
LGP-1.1-3-9/71	ERECTION BAY EXPOSED PIPING - SECTIONS AND DETAILS

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MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: J. VAN STEENBURG, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9A24/4
FILE NAME: V3-LGP1.002-E-607.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

TRANSIL OIL, DIRTY OIL, LUBE OIL PUMPS
CONTROL SCHEMATIC
INSTALL

SHEET ID
VOLUME 3
E-607

FINAL

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.

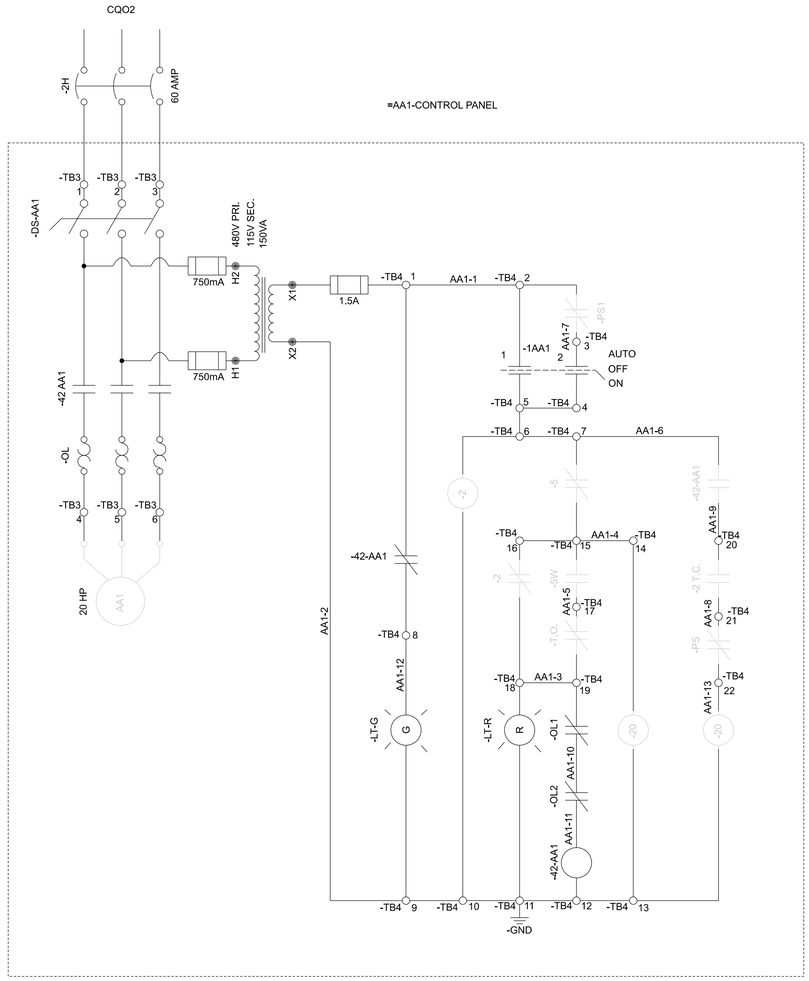
LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1D24/1	CONTROL DIAGRAMS STATION SERVICE AUXILIARIES SHEET 1



1AA1	500LBS GOV. AIR COMPRESSOR
CONT / OFF / AUTO	MAINTAIN CONTACTS

CONTACT	CONT	OFF	AUTO
1	X		
2			X

E1 500 LB AIR COMPRESSOR
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SICHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: LIAM STEELE, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9A245
FILENAME: V3-LGP1.002-E-608.dgn

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WALLA WALLA, WASHINGTON

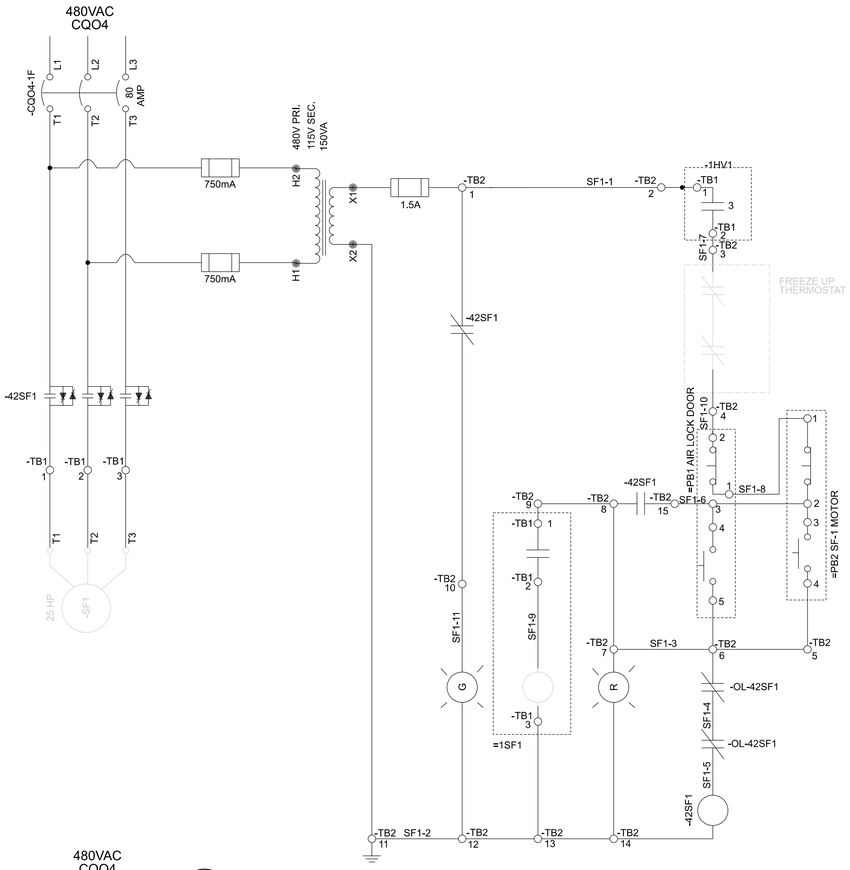
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

500 LB AIR COMPRESSOR
CONTROL SCHEMATIC
INSTALL

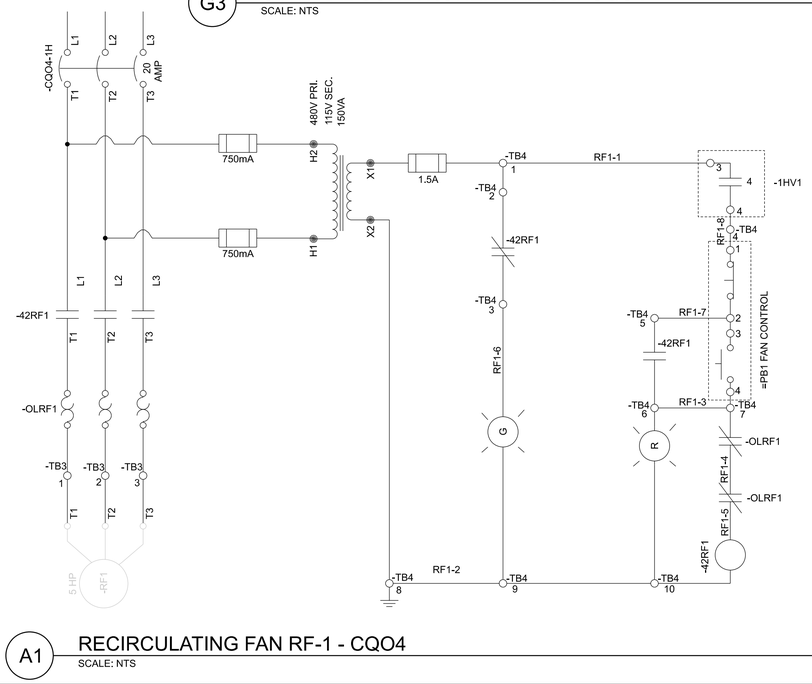
SHEET ID
VOLUME 3
E-608

FINAL



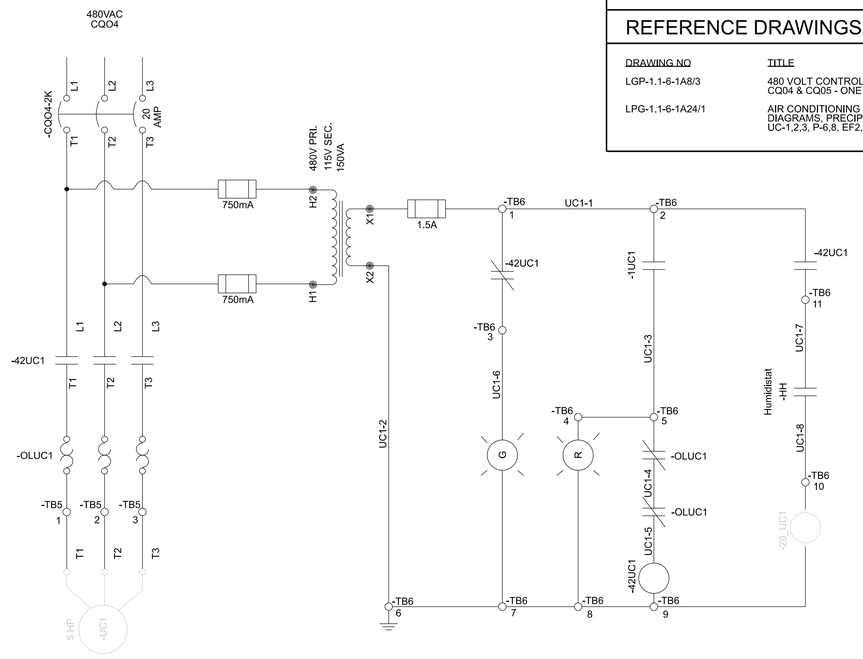
G3 CENTRAL CONDITIONER FAN SF1-CQO4

SCALE: NTS



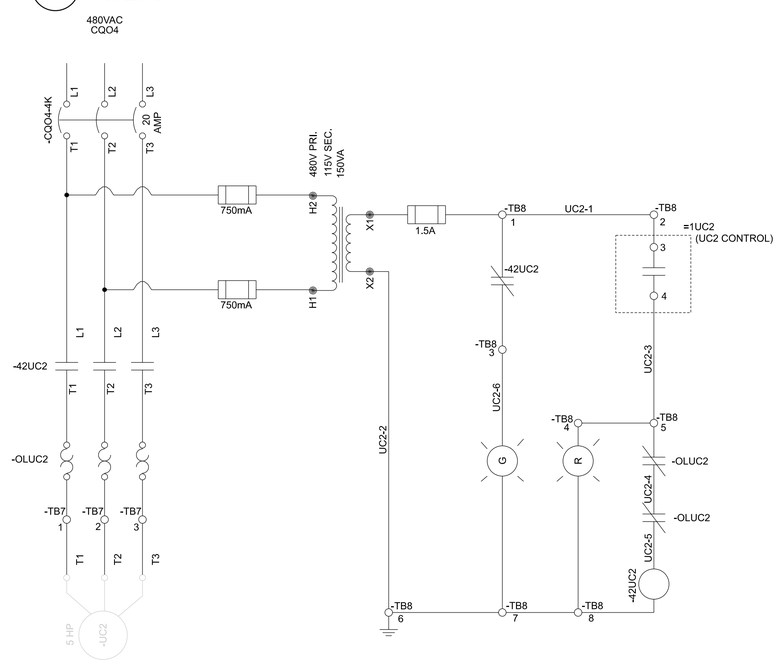
A1 RECIRCULATING FAN RF-1 - CQO4

SCALE: NTS



G12 UNIT CONDITIONER UC-1 - CQO4

SCALE: NTS



A11 UNIT CONDITIONER UC-2 - CQO4

SCALE: NTS

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.

LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LPG-1.1-6-1A24/1	AIR CONDITIONING SYSTEM CONTROL DIAGRAMS, PRECIPITRON, SF1, RF1&4, UC-1,2,3, P-6,8, EF2, 4, 11

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JOHN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9A24/6
FILE NAME: V3-LGP1.002-E-609.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SF1, UC-1, RF-1, UC-2
CONTROL SCHEMATIC
INSTALL

SHEET ID
VOLUME 3
E-609

FINAL

GENERAL NOTES

1. EQUIPMENT IN BOLD TO BE INSTALLED BY CONTRACTOR
2. PRESSURE SWITCHES FOR THE INTAKE GATE HYDRAULICS TO BE REPLACED BY CONTRACTOR. ONE OF THE EXISTING PRESSURE SWITCHES HAS 2 SETPOINTS WITH SEPARATE CONTACTS. CONTRACTOR TO VERIFY CURRENT PRESSURE SETTINGS FOR ALL THREE CONTACTS AND ADJUST NEW PRESSURE SWITCHES TO SAME SETTINGS.

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LGP-1.1-6-1D21/3	ONE LINE DIAGRAM - CQ03 CQ04 & CQ05
LGP-1.1-6-1D24/1	CONTROL DIAGRAM STATION SERVICE AUXILIARIES - SHEET 1

1IL1	INTAKE DECK LIGHT
1TL1	TAILRACE DECK LIGHT

CONT / OFF / AUTO — MAINTAIN CONTACTS

CONTACT	CONT	OFF	AUTO
1	X		
2			X

1IQ4	CR1 & TR2 POWER

ON / OFF — MAINTAIN CONTACTS

CONTACT	ON	OFF
1	X	

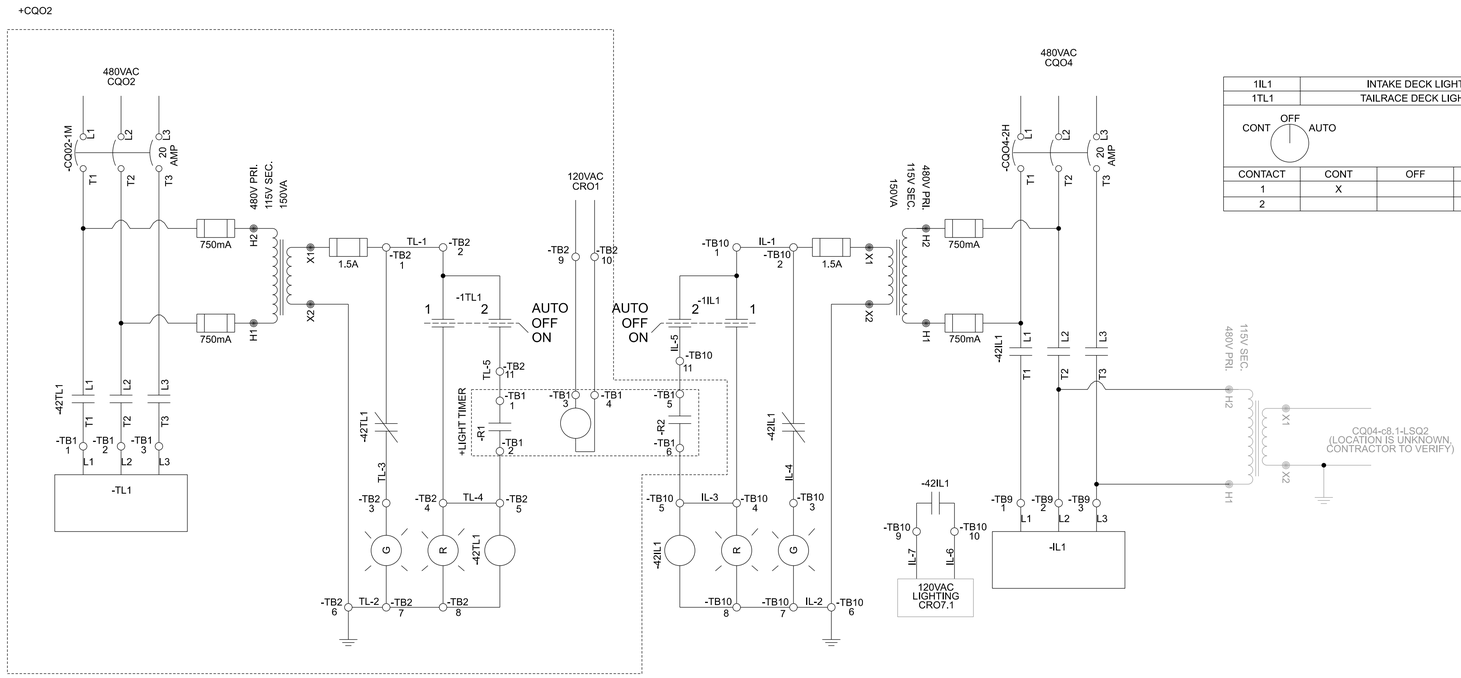
1IQ1	INTAKE GATE HYDRAULIC PUMP #1
1IQ2	INTAKE GATE HYDRAULIC PUMP #2
1IQ3	INTAKE GATE HYDRAULIC PUMP #3

CONT / OFF / AUTO — MAINTAIN CONTACTS

CONTACT	CONT	OFF	AUTO
1	X		
2			X

PS1	LOW PRESSURE SWITCH CLOSES BELOW [TBD]
PS2	ANNUNCIATION LOW PRESSURE OPENS ABOVE [TBD]
PS3	HIGH PRESSURE SWITCH OPENS ABOVE [TBD]

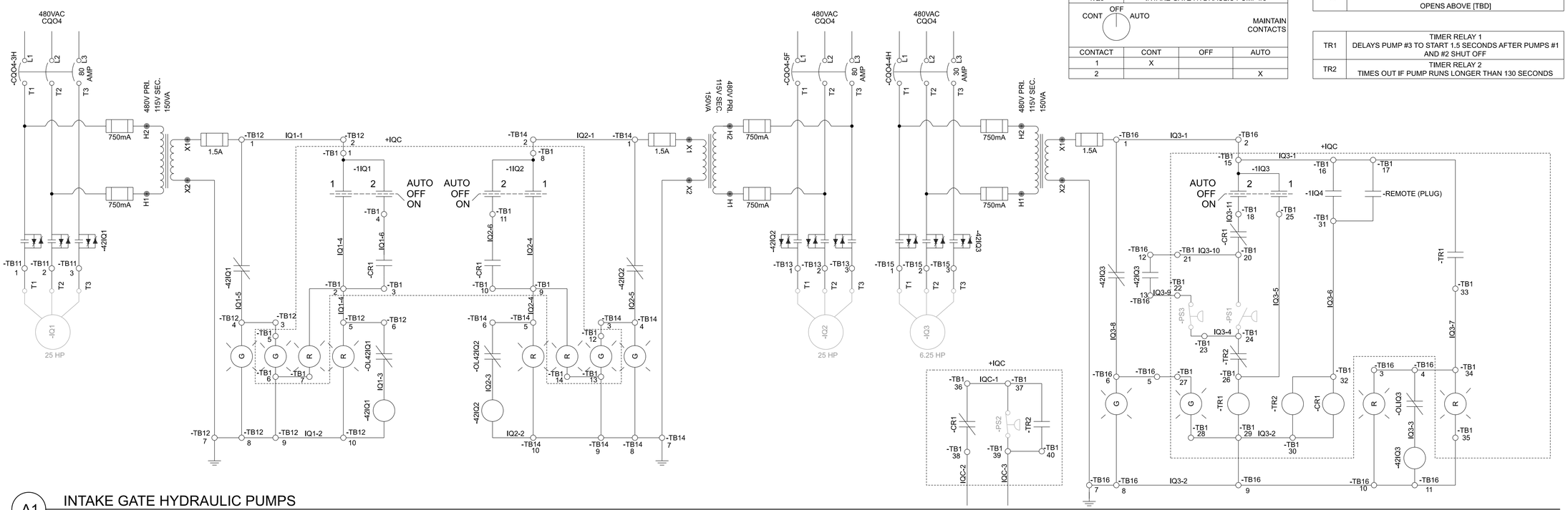
TR1	TIMER RELAY 1 DELAYS PUMP #3 TO START 1.5 SECONDS AFTER PUMPS #1 AND #2 SHUT OFF
TR2	TIMER RELAY 2 TIMES OUT IF PUMP RUNS LONGER THAN 130 SECONDS



INTAKE DECK AND TAILRACE LIGHTING

G1 INTAKE DECK AND TAILRACE LIGHTING ONELINE

SCALE: NTS



A1 INTAKE GATE HYDRAULIC PUMPS

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUANITA STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9A2427
FILE NAME: V3-LGP1.002-E-610.dgn

U.S. ARMY CORPS OF ENGINEERS
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WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

INTAKE DECK LIGHTING AND INTAKE GATE HYDRAULICS CONTROL SCHEMATIC INSTALL

SHEET ID
VOLUME 3
E-610

FINAL

POWER HOUSE
CQO1

TB1

Target	Wire Number		Jumper	Wire Number	Target	
-OLQP1:L1		1			QP1:T1	1
-OLQP1:L2		2			QP1:T2	2
-OLQP1:L3		3			QP1:T3	3

CQO1-q1-QPT, 1"
CQO1-c1-QPT, 1 1/2"

POWER HOUSE
CQO1

TB2

Target	Wire Number		Jumper	Wire Number	Target	
-FUSE	QP1-1	1		QP1-1	-42QP1-NC	
-42QP1-NO	QP1-1	2		QP1-1	=QPTC-TB7:9	1
		3		QP1-4	-LT-G	
-42QP1-NC	QP1-4	4		QP1-4	=QPTC-TB7:1	2
-42QP1-NO	QP1-5	5		QP1-5	=QPTC-TB7:8	3
-OLQP1	QP1-3	6		QP1-3	=QPTC-TB7:5	4
		7		QP1-3	-LT-R	
-GND	QP1-2	8		QP1-2	-XFMR:X2	
-LT-G	QP1-2	9				
		10		QP1-2	-QPTC-TB7:2	5
-LT-R	QP1-2	11		QP1-2	-42QP1:A2	

CQO1-2E
(TRANSIL OIL PUMP #1)

POWER HOUSE
CQO1

TB11

Target	Wire Number		Jumper	Wire Number	Target	
-OLQP2:L1		1			QP2:T1	1
-OLQP2:L2		2			QP2:T2	2
-OLQP2:L3		3			QP2:T3	3

CQO1-q2-QPT, 1"

POWER HOUSE
CQO1

TB12

Target	Wire Number		Jumper	Wire Number	Target	
-FUSE	QP2-1	1		QP2-1	-42QP2-NC	
-42QP2-NO	QP2-1	2		QP2-1	=QPTC-TB10:9	1
		3		QP2-4	-LT-G	
-42QP2-NC	QP2-4	4		QP2-4	=QPTC-TB10:1	2
-42QP2-NO	QP2-5	5		QP2-5	=QPTC-TB10:8	3
-OLQP2	QP2-3	6		QP2-3	=QPTC-TB10:5	4
		7		QP2-3	-LT-R	
-GND	QP2-2	8		QP2-2	-XFMR:X2	
-LT-G	QP2-2	9				
		10		QP2-2	-QPTC-TB10:2	5
-LT-R	QP2-2	11		QP2-2	-42QP2:A2	

CQO1-2G
(TRANSIL OIL PUMP #2)

POWER HOUSE
CQO1

TB3

Target	Wire Number		Jumper	Wire Number	Target	
-OLQP4:L1		1			-QP4:T1	1
-OLQP4:L2		2			-QP4:T2	2
-OLQP4:L3		3			-QP4:T3	3

CQO1-q1-QPD, 1"
CQO1-c2-QPL, 1 1/2"
CQO1-c1-QPD, 3/4"

POWER HOUSE
CQO1

TB4

Target	Wire Number		Jumper	Wire Number	Target	
FUSE	QP4-1	1		QP4-1	-42QP4-NC	
-42QP4-NO	QP4-1	2		QP4-1	=QPDC-TB8:8	1
-LT-G	QP4-4	3				
-42QP4-NC	QP4-4	4		QP4-4	=QPDC-TB8:1	3
=QPDC-TB8:2	QP4-3	5		QP4-3	-OIL TEMP:1	4
		6		QP4-3	-OLQP4	1
-LT-R	QP4-3	7				
-XFMR:X2	QP4-2	8		QP4-2	-GND	
		9		QP4-2	-LT-G	
		10		QP4-2	=QPDC-TB8:3	2
-42QP4:A2	QP4-2	11		QP4-2	-LT-R	
-OIL TEMP:2	QP4-6	12		QP4-6	=QPDC-TB8:7	6
-42QP4-NO	QP4-5	13		QP4-5	=QPDC-TB8:5	5

CQO1-2K
(DIRTY OIL PUMP #4)

POWER HOUSE
CQO1

TB5

Target	Wire Number		Jumper	Wire Number	Target	
-OLQP3:L1		1			-QP3:T1	1
-OLQP3:L2		2			-QP3:T2	2
-OLQP3:L3		3			-QP3:T3	3

CQO1-q1-QPD, 1"
CQO1-c1-QPL, 1 1/4"

POWER HOUSE
CQO1

TB6

Target	Wire Number		Jumper	Wire Number	Target	
FUSE	QP3-1	1		QP3-1	-42QP3-NC	
=PB3-TB10:11	QP3-1	2		QP3-1	=QPLC-TB9:1	1
-42QP3-NC	QP3-8	3				
-LT-G	QP3-8	4		QP3-8	=QPLC-TB9:1	2
-XFMR:X2	QP3-2	5		QP3-2	-GND	
		6		QP3-2	-LT-G	
		7		QP3-2	=QPLC-TB9:3	4
-LT-R	QP3-2	8				
-42QP3:A2	QP3-2	9		QP3-2	=PB3-TB10:8	2
		10		QP3-7	=QPLC-TB9:8	3
		11		QP3-7	-42QP3-NO	
		12		QP3-7	=PB3-TB10:1	3
-42QP3-NO	QP3-6	13		QP3-6	=PB3-TB10:2	4
LT-R	QP3-3	14				
		15		QP3-3	=QPLC-TB9:4	5
		16		QP3-3	=PB3-TB10:6	5
		17		QP3-3	-OLQP3	

CQO1-2J
(LUBE OIL PUMP #3)

GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR

REFERENCE DRAWINGS

DRAWING NO	TITLE
GDP-1-6-1D21/1	ONE LINE DIAGRAM SQ0, SQ1 & CP0
8FP-020-3	OIL TRANSFER PUMP & LUBE OIL PUMP ELECTRICAL SCHEMATIC
8FP-020	OIL TRANSFER PUMP & LUBE OIL PUMP PANEL CONSTRUCTION
LGP-1.1-6-1D24/1	CONTROL DIAGRAMS STATION SERVICE AUXILIARIES - SHEET 1
LGP-1.1-3-9/71	ERECTION BAY EXPOSED PIPING - SECTIONS AND DETAILS

A1 TERMINAL BLOCK LAYOUT
SCALE: NTS

A11 TERMINAL BLOCK LAYOUT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0024-6-9A5111
FILE NAME: V3-LGP1.0024-E-701.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CQO1 MISC EQUIPMENT
TERMINAL BLOCK LAYOUT
INSTALL

SHEET ID
VOLUME 3
E-701

FINAL

QPTC1
CQO1

Target	Wire Number		Jumper	Wire Number	Target	
-LT_G	QP1-4	1		QP1-4	-TB2:4	1
-LT_G	QP1-2	2	+	QP1-2	-TB2:9	2
-LT_R	QP1-2	3	+			
-LT_R	QP1-3	4	+			
		5	+	QP1-3	-TB2:6	3
-PB_QPT-C.2:2	QP1-3	6	+			
-PB_QPT-C.2:1	QP1-5	7	+			
-PB_QPT-C.1:3	QP1-5	8	+	QP1-5	-TB2:5	4
-PB_QPT-C.1:4	QP1-1	9		QP1-1	-TB2:2	5

CQO1-c1-QPT, 1 1/2"

QPTC2
CQO1

Target	Wire Number		Jumper	Wire Number	Target	
-LT_G	QP2-4	1		QP2-4	-TB12:4	1
-LT_G	QP2-2	2	+	QP2-2	-TB12:9	2
-LT_R	QP2-2	3	+			
-LT_R	QP2-3	4	+			
		5	+	QP2-3	-TB12:6	3
-PB_QPT-C.2:2	QP2-3	6	+			
-PB_QPT-C.2:1	QP2-5	7	+			
-PB_QPT-C.1:3	QP2-5	8	+	QP2-5	-TB12:5	4
-PB_QPT-C.1:4	QP2-1	9		QP2-1	-TB12:2	5

QPDC
CQO1

Target	Wire Number		Jumper	Wire Number	Target	
-LT_G	QP4-4	1		QP4-4	-TB4:4	1
-LT_G	QP4-2	2	+	QP4-2	-TB4:9	2
-LT_R	QP4-2	3	+			
-LT_R	QP4-3	4		QP4-3	-TB4:5	3
		5	+	QP4-5	-TB4:12	4
PB-NC	QP4-5	6	+	QP4-5	PB-NO	
PB-NC	QP4-6	7		QP4-6	-TB4:11	5
PB-NO	QP4-1	8		QP4-1	-TB4:2	6

CQO1-c2-QPL, 1 1/2"

QPLC
CQO1

Target	Wire Number		Jumper	Wire Number	Target	
-LT_G	QP3-4	1		QP3-4	-TB6:4	1
-LT_G	QP3-2	2	+			
-LT_R	QP3-2	3	+	QP3-2	-TB6:6	2
-LT_R	QP3-3	4	+	QP3-3	-TB6:15	3
-HOA:1	QP3-3	5	+			
-HOA:1	QP3-1	6		QP3-1	-TB6:2	4
-HOA:2	QP3-15	7		QP3-15	-TB6:10	5

OIL TRANSFER PUMPS CONTROL CABINET
(LEVEL 1 - EL.498 - OIL STORAGE ROOM)

A1 TERMINAL BLOCK LAYOUT
SCALE: NTS

GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR

REFERENCE DRAWINGS

DRAWING NO	TITLE
GDP-1-6-1D21/1	ONE LINE DIAGRAM SQ0, SQ1 & CP0
8FP-020-3	OIL TRANSFER PUMP & LUBE OIL PUMP ELECTRICAL SCHEMATIC
8FP-020	OIL TRANSFER PUMP & LUBE OIL PUMP PANEL CONSTRUCTION
LGP-1.1-6-1D24/1	CONTROL DIAGRAMS STATION SERVICE AUXILIARIES - SHEET 1
LGP-1.1-3-9/71	ERECTION BAY EXPOSED PIPING - SECTIONS AND DETAILS

PB3
CQO1
TB10

Target	Wire Number		Jumper	Wire Number	Target	
-PB_QPL-NO	QP3-14	1		QP3-14	-TB6:12	1
		2	+	QP3-6	-TB6:13	2
-PB_NC	QP3-6	3	+	QP3-6	-PB_QPL-NO	
-PB_NC	QP3-7	4		QP3-7	-71Q1-1	
-71Q1	QP3-3	5	+			
		6	+	QP3-3	-TB6:16	3
-LT_R	QP3-3	7	+			
-LT_R	QP3-2	8	+	QP3-2	-TB6:9	4
		9	+	QP3-2	-R20	
-R20	QP3-9	10		QP3-9	-71Q1-2	
-71Q2	QP3-1	11		QP3-1	-TB6:2	5

CQO1-c1-QPL, 1 1/4"

LUBE OIL PUMP CONTROL
(LEVEL 7 - EL.618)

A11 TERMINAL BLOCK LAYOUT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JOAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9A51/2
FILE NAME: V3-LGP1.002-E-702.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

OIL TRANSFER PUMP AND LUBE OIL PUMP CONTROLS TERMINAL BLOCK LAYOUT INSTALL

SHEET ID
VOLUME 3
E-702

FINAL

POWER HOUSE
CQO4
TB1

CQO4-q1-SF1, 1 1/4"
CQO4-c2-HVD, 1 1/4"

Target	Wire Number		Jumper	Wire Number	Target	
-42SF1		1			-SF1:T1	1
-42SF1		2			-SF1:T2	2
-42SF1		3			-SF1:T3	3

POWER HOUSE
CQO4
TB2

Target	Wire Number		Jumper	Wire Number	Target	
FUSE	SF1-1	1		SF1-1	-42SF1-NC	
		2		SF1-1	=1HV1-TB1:1	1
FREEZ UP THRMST	SF1-7	3		SF1-7	=1HV1-TB1:2	2
FREEZ UP THRMST	SF1-10	4		SF1-10	=PB1-TB1:2	3
		5		SF1-3	=PB2-TB1:4	4
-OL-42SF1	SF1-3	6		SF1-3	=PB1-TB1:5	5
-LT-R	SF1-3	7				
-42SF1-NO	SF1-3	8				
		9		SF1-3	=1SF1-TB1:1	6
-42SF1-NC	SF1-11	10		SF1-11	-LT-G	
-XFMR:X2	SF1-2	11		SF1-2	-GND	
		12		SF1-2	-LT-G	
		13		SF1-2	=1SF1-TB1:3	7
-42SF1:A2	SF1-2	14		SF1-2	-LT-R	
-42SF1-NO	SF1-6	15		SF1-6	=PB1-TB1:3	8

CQO4-1F
(CENTRAL CONDITIONER FAN SF-1)

POWER HOUSE
CQO4
TB3

CQO4-q1-RF1, 3/4"
CQO4-c1-HVD, 3/4"

Target	Wire Number		Jumper	Wire Number	Target	
-OLRF1		1			-RF1:T1	1
-OLRF1		2			-RF1:T2	2
-OLRF1		3			-RF1:T3	3

POWER HOUSE
CQO4
TB4

Target	Wire Number		Jumper	Wire Number	Target	
-FUSE	RF1-1	1		RF1-1	=1HV1-TB1:3	1
		2		RF1-1	-42RF1-NC	
-42RF1-NC	RF1-6	3		RF1-6	-LT-G	
=1HV1-TB1:4	RF1-8	4		RF1-8	=PB1-PB_RF1:1	1
-42RF1-NO	RF1-7	5		RF1-7	=PB1-PB_RF1:2	2
-42RF1-NO	RF1-3	6		RF1-3	-LT-R	
-42RF1:A1	RF1-3	7		RF1-3	=PB1-PB_RF1:4	3
-XFMR:X2	RF1-2	8		RF1-2	-GND	
-LT-G	RF1-2	9				
-42RF1:A2	RF1-2	10		RF1-2	-LT-R	

CQO4-1H
(RECIRCULATING FAN RF-1)

A1 TERMINAL BLOCK LAYOUT
SCALE: NTS

POWER HOUSE
CQO4
TB5

CQO4-q1-UC1, 3/4"
CQO4-c12, 3/4"

Target	Wire Number		Jumper	Wire Number	Target	
-OLUC1		1			-UC1:T1	1
-OLUC1		2			-UC1:T2	2
-OLUC1		3			-UC1:T3	3

POWER HOUSE
CQO4
TB6

Target	Wire Number		Jumper	Wire Number	Target	
-FUSE	UC1-1	1		UC1-1	-42UC1-NC	
-1UC1-NO	UC1-1	2		UC1-1	-42UC1-NO	
-LT-G	UC1-6	3		UC1-6	-42UC1-NC	
		4		UC1-3	-LT-R	
-OLUC1	UC1-3	5		UC1-3	-1UC1-NO	
-XFMR:X2	UC1-2	6		UC1-2	-GND	
-LT-G	UC1-2	7				
		8		UC1-2	-LT-R	
-42UC1:A2	UC1-2	9		UC1-2	-20_UC1	1
-20_UC1	UC1-8	10		UC1-8	-HH	2
-42UC1-NO	UC1-7	11		UC1-7	-HH	1
						2

CQO4-2K
(UNIT CONDITIONER UC-1)

POWER HOUSE
CQO4
TB7

CQO4-q1-UC2, 3/4"
CQO4-c13, 3/4"

Target	Wire Number		Jumper	Wire Number	Target	
-OLUC2		1			-UC2:T1	1
-OLUC2		2			-UC2:T2	2
-OLUC2		3			-UC2:T3	3

POWER HOUSE
CQO4
TB8

Target	Wire Number		Jumper	Wire Number	Target	
-FUSE	UC2-1	1		UC2-1	-42UC2-NC	
		2		UC2-1	=1UC2-TB1:3	1
-42UC2-NC	UC2-6	3		UC2-6	LT-G	
		4		UC2-3	-LT-R	
-OLUC2	UC2-3	5		UC2-3	=1UC2-TB1:4	2
-XFMR:X2	UC2-2	6		UC2-2	-GND	
-LT-G	UC2-2	7				
-42UC2:A2	UC2-2	8		UC2-2	-LT-R	

CQO4-4K
(UNIT CONDITIONER UC-2)

A11 TERMINAL BLOCK LAYOUT
SCALE: NTS

GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LPG-1.1-6-1A24/1	AIR CONDITIONING SYSTEM CONTROL DIAGRAMS, PRECIPITRON, SF1, RF1&4, UC-1,2,3, P-6,8, EF2, 4, 11

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
SIZE: ANSI D
FILE NAME: V3-LGP1.002-E-703.dgn
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-9A5113

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CQO4 MISC EQUIPMENT
TERMINAL BLOCK LAYOUT
INSTALL

SHEET ID
VOLUME 3
E-703

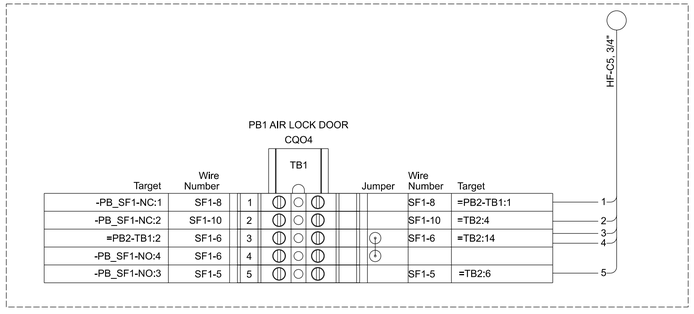
FINAL

GENERAL NOTES

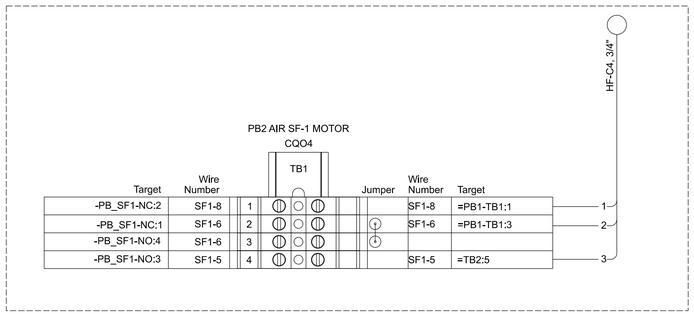
1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LPG-1.1-6-1A24/1	AIR CONDITIONING SYSTEM CONTROL DIAGRAMS, PRECIPITRON, SF1, RF1&4, UC-1,2,3, P-6,8, EF2, 4, 11

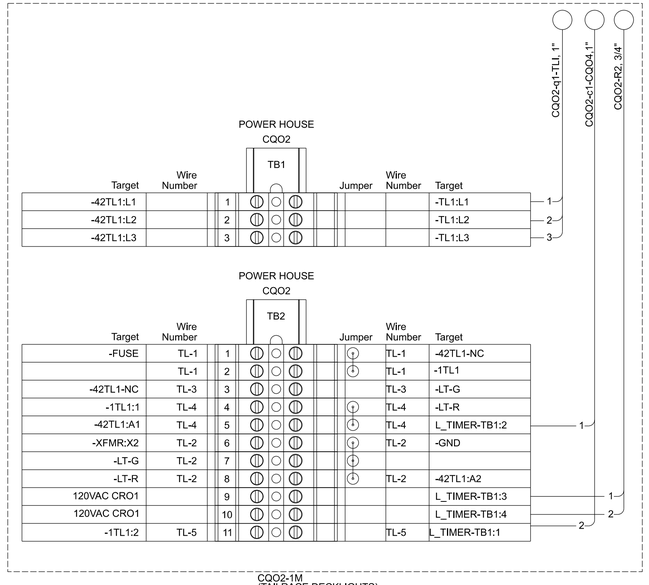


PB-1 LOCATED AT AIR LOCK DOOR



PB-2 LOCATED AT SF-1 MOTOR

A1 TERMINAL BLOCK LAYOUT
SCALE: NTS



CQO2-1M
(TAILRACE DECKLIGHTS)

A11 TERMINAL BLOCK LAYOUT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: J.VAN STEENBURG, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9A5114
FILE NAME: V3-LGP1.002-E-704.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CQO2 AND CQO4 MISC EQUIPMENT TERMINAL BLOCK LAYOUT INSTALL

SHEET ID
VOLUME 3
E-704

FINAL

GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LGP-1.22-6-1D21/3	ONE LINE DIAGRAM - CQ03 CQ04 & CQ05
LGP-1.1-6-1D24/1	CONTROL DIAGRAM STATION SERVICE AUXILIARIES - SHEET 1

POWER HOUSE
CQO4
TB9

Target	Wire Number		Jumper	Wire Number	Target
-42IL1:T1		1			-IL1:T1
-42IL1 :T2		2			-IL1:T2
-42IL1:T3		3			-IL1:T3

CQO4-q1-IL1, 3/4"
CQO2-c1-CQO4, 1"
CQO4-r1-CR07.1, 3/4"

POWER HOUSE
CQO4
TB10

Target	Wire Number		Jumper	Wire Number	Target
		1		IL-1	-1IL1:1
-FUSE	IL-1	2		IL-1	-42IL1-NC
-42IL1-NC	IL-4	3		IL-4	-LT-G
-1IL1:1	IL-3	4		IL-3	-LT-R
-42IL1:A1	IL-3	5		IL-3	L_TIMER-TB1:6
-GND	IL-2	6		IL-2	-XFMR:X2
		7		IL-2	-LT-G
-42IL1:A2	IL-2	8		IL-2	-LT-R
-42IL1-NO	IL-7	9		IL-7	-CR07.1
-42IL1-NO	IL-6	10		IL-6	-CR07.1
-1IL1:2	IL-5	11		IL-5	L_TIMER-TB1:5

CQO4-2H
(INTAKE DECK LIGHTING)

POWER HOUSE
CQO4
TB11

Target	Wire Number		Jumper	Wire Number	Target
-42IQ1:T1		1			-IQ1:T1
-42IQ1:T2		2			-IQ1:T2
-42IQ1:T3		3			-IQ1:T3

POWER HOUSE
CQO4
TB12

Target	Wire Number		Jumper	Wire Number	Target
-FUSE	IQ1-1	1		IQ1-1	-42IQ1-NC
		2		IQ1-1	+IQC-TB1:1
		3		IQ1-5	+IQC-TB1:5
-LT-G	IQ1-5	4		IQ1-5	-42IQ1-NC
-LT-R	IQ1-4	5		IQ1-4	+IQC-TB1:2
-OL42IQ1	IQ1-4	6			
-XFMR:X2	IQ1-2	7		IQ1-2	-GND
		8		IQ1-2	-LT-G
		9		IQ1-2	+IQC-TB1:6
-LT-R	IQ1-2	10		IQ1-2	-42IQ1:A2

CQO4-3H
(INTAKE GATE HYDRAULIC PUMP #1)

POWER HOUSE
CQO4
TB13

Target	Wire Number		Jumper	Wire Number	Target
-42IQ2:T1		1			-IQ2:T1
-42IQ2:T2		2			-IQ2:T2
-42IQ2:T3		3			-IQ2:T3

CQO4-q1-IG2, 1 1/4"
CQO4-c1-IGC, 1"

POWER HOUSE
CQO4
TB14

Target	Wire Number		Jumper	Wire Number	Target
-FUSE	IQ2-1	1		IQ2-1	-42IQ2-NC
		2		IQ2-1	+IQC-TB1:8
		3		IQ2-5	+IQC-TB1:12
-42IQ2-NC	IQ2-5	4		IQ2-5	-LT-G
-LT-R	IQ2-4	5		IQ2-4	+IQC-TB1:9
		6		IQ2-4	-OL42IQ2
-GND	IQ2-2	7		IQ2-2	-XFMR:X2
		8		IQ2-2	-LT-G
		9		IQ2-2	+IQC-TB1:13
-LT-R	IQ2-4	10		IQ2-4	-42IQ2:A2

CQO4-5F
(INTAKE GATE HYDRAULIC PUMP #2)

POWER HOUSE
CQO4
TB15

Target	Wire Number		Jumper	Wire Number	Target
-42IQ3:T1		1			-IQ3:T1
-42IQ3:T2		2			-IQ3:T2
-42IQ3:T3		3			-IQ3:T3

POWER HOUSE
CQO4
TB16

Target	Wire Number		Jumper	Wire Number	Target
-FUSE	IQ3-1	1		IQ3-1	-42IQ3-NC
		2		IQ3-1	+IQC-TB1:15
-LT-R	IQ3-7	3			
-OLIQ3	IQ3-7	4		IQ3-7	+IQC-TB1:34
		5		IQ3-8	+IQC-TB1:27
-LT-G	IQ3-8	6		IQ3-8	-42IQ3-NC
-XFMR:X2	IQ3-2	7		IQ3-2	-GND
-LT-G	IQ3-2	8			
		9		IQ3-2	+IQC-TB1:29
-LT-R	IQ3-2	10			
-42IQ3:A2	IQ3-2	11		IQ3-2	+IQC-TB1:35
-42IQ3-NO	IQ3-10	12		IQ3-10	+IQC-TB1:21
-42IQ3-NO	IQ3-9	13		IQ3-9	+IQC-TB1:22

CQO4-4H
(INTAKE GATE HYDRAULIC PUMP #3)

A1 TERMINAL BLOCK LAYOUT
SCALE: NTS

A11 TERMINAL BLOCK LAYOUT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9A51/5
FILE NAME: V3-LGP1.002-E-705.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CQO4 MISC EQUIPMENT
TERMINAL BLOCK LAYOUT
INSTALL

SHEET ID
VOLUME 3
E-705

FINAL

GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LGP-1.22-6-1D21/3	ONE LINE DIAGRAM - CQ03 CQ04 & CQ05
LGP-1.1-6-1D24/1	CONTROL DIAGRAM STATION SERVICE AUXILIARIES - SHEET 1

POWER HOUSE
IQC
TB1

Target	Wire Number		Jumper	Wire Number	Target	
-1IQ1	IQ1-1	1		IQ1-1	+CQO4-TB12:2	
-LT_R, -1IQ1:1	IQ1-4	2		IQ1-4	+CQO4-TB12:5	
-CR1-NO	IQ1-4	3				
-CR1-NO	IQ1-6	4		IQ1-6	-1IQ1:2	
-LT_G	IQ1-5	5		IQ1-5	+CQO4-TB12:3	
-LT_G	IQ1-2	6		IQ1-2	+CQO4-TB12:9	
-LT_R	IQ1-3	7				
-1IQ2	IQ2-1	8		IQ2-1	+CQO4-TB14:2	
1QI2:1 ,-LT_R	IQ2-4	9		IQ2-4	+CQO4-TB14:5	
-CR1-NO	IQ2-4	10				
-CR1-NO	IQ2-6	11		IQ2-6	-1IQ2:2	
-LT_G	IQ2-5	12		IQ2-5	+CQO4-TB14:3	
-LT_G	IQ2-2	13		IQ2-2	+CQO4-TB14:9	
-LT_R	IQ2-2	14				
-1IQ3	IQ3-1	15		IQ3-1	+CQO4-TB16:2	
-1IQ4-NO	IQ3-1	16				
-REMOTE (PLUG)	IQ3-1	17		IQ3-1	-TR1	
-CR1-NC	IQ3-11	18		IQ3-11	-1IQ3:2	
SPARE		19			SPARE	
-CR1-NC	IQ3-10	20		IQ3-10	-PS1:4	
		21		IQ3-10	+CQO4-TB16:12	
-PS3:2	IQ3-9	22		IQ3-9	+CQO4-TB16:13	
-PS3:1	IQ3-4	23				
-PS1:3	IQ3-4	24		IQ3-4	-TR2-NC	
-1IQ3:1	IQ3-5	25				
-TR2-NC	IQ3-5	26		IQ3-5	-TR1:A1	
-LT_G	IQ3-8	27		IQ3-8	+CQO4-TB16:5	
-LT_G	IQ3-2	28				
-TR1:A2	IQ3-2	29		IQ3-2	+CQO4-TB16:9	
-TR2:A2	IQ3-2	30		IQ3-2	CR1:A2	
-1IQ4-NO	IQ3-6	31		IQ3-6	REMOTE(PLUG)	
-TR2:A1	IQ3-6	32		IQ3-6	-CR1:A1	
-TR1-NO	IQ3-7	33				
-LT_R	IQ3-7	34		IQ3-7	+CQO4-TB16:4	
-LT_R	IQ3-3	35		IQ3-3	+CQO4-TB16:11	
		36		IQC-1	-CR1-NC	
-PS2:2	IQC-1	37		IQC-1	-TR2-NO	
-CR1-NC	IQC-2	38		IQC-2	-ANN.	
-PS2:1	IQC-3	39		IQC-3	-ANN.	
		40		IQC-3	-TR2-NO	

CQO4-C1-IGC, 1-1/4"
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
1
2

INTAKE GATE HYDRAULIC PUMP CONTROL CABINET
(LEVEL 7 - EL. 618)

A11 TERMINAL BLOCK LAYOUT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: J. VAN STERKUM, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9A5116
FILE NAME: V3-LGP1.002-E-706.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

INTAKE GATE HYDRAULIC PUMP CONTROL CABINET
TERMINAL BLOCK LAYOUT
INSTALL

SHEET ID
VOLUME 3
E-706

FINAL

GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1A8/3	480 VOLT CONTROL CENTER - CQ01 CQ02 CQ04 & CQ05 - ONE LINE DIAGRAM
LGP-1-6-1D1/2	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 522
LGP-1-6-1D1/3	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 542
LGP-1-6-1D1/4	EMBEDDED CONDUIT& GROUNDING - ERECTION BAY ELEVATION 558

CQO2-q1-AA1 , 1"

AA1-q1 , 1"

AA1-CONTROL PANEL
CQO2
TB3

Target	Wire Number		Jumper	Wire Number	Target
DS-AA1-1		1			CQO2-2H - 1
DS-AA1-2		2			-CQO2-2H-2
DS-AA1-3		3			-CQO2-2H-3
OL-1		4			AA1-1
OL-2		5			AA1-2
OL-3		6			AA1-3

AA1-CONTROL PANEL
CQO2
TB4

Target	Wire Number		Jumper	Wire Number	Target
-42-AA1-NC	AA1-1	1	●	AA1-1	FUSE
-1AA1:1	AA1-1	2	●	AA1-1	-PS1
-1AA1:2	AA1-7	3		AA1-7	-PS1
		4	●	AA1-6	-1AA1:2
-1AA1:1	AA1-6	5	●		
		6	●	AA1-6	-2
-5	AA1-6	7	●	AA1-6	-42-AA1-NO
LT-G	AA1-12	8		AA1-12	-42-AA1-NC
-XFMR:X2	AA1-2	9	●	AA1-2	LT-G
		10	●	AA1-2	-2
LT-R	AA1-2	11	●	AA1-2	-GND
-42-AA1:A2	AA1-2	12	●		
-20	AA1-2	13	●	AA1-2	-20
		14	●	AA1-4	-20
-5W	AA1-4	15	●	AA1-4	-5
		16	●	AA1-4	-2
-T.O.	AA1-5	17		AA1-5	-5W
-2	AA1-3	18	●	AA1-3	LT-R
-T.O.	AA1-3	19	●	AA1-3	-OL1
-2 T.C.	AA1-9	20		AA1-9	-42-AA1-NO
-PS	AA1-8	21		AA1-8	-2 T.C.
-20	AA1-13	22		AA1-13	-PS

CQO2-2H
(500LB AIR COMPRESSOR)

A12 TERMINAL BLOCK LAYOUT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: IVAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9A5177
FILE NAME: V3-LGP1.002-E-707.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

500LBS AIR COMPRESSOR CONTROL CABINET
TERMINAL BLOCK LAYOUT
INSTALL

SHEET ID
VOLUME 3
E-707

FINAL

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. 480V EQUIPMENT/LOADS TO REMAIN IN SERVICE DURING REPLACEMENT OF EQUIPMENT, UNLESS OTHERWISE NOTED.
3. 480V, 60A, 3W, 4P OUTLET

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1A8/4	480 VOLT CONTROL CENTERS SU1 THRU SU3 ONE LINE DIAGRAM CONTROL CONNECTIONS, SCHEMATIC

SWITCH SU1 480V SUBSTATION - NAMEPLATE AND EQUIPMENT SCHEDULE

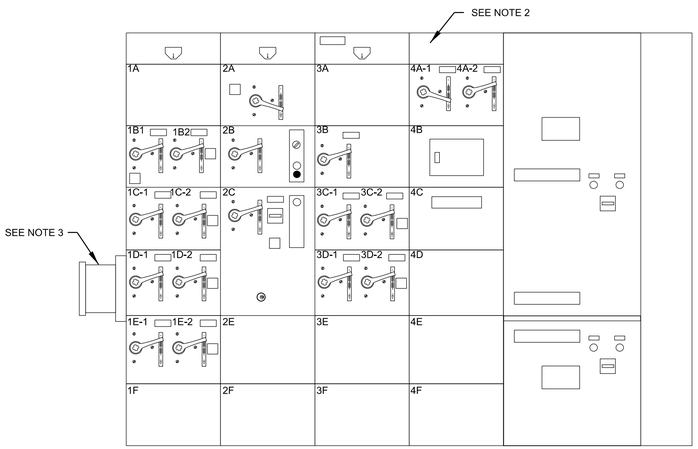
UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	CIRCUIT DESIGNATOR
1A	EMPTY	BUS 1	
1B1	3rd FLOOR UPSTREAM GALLERY WORKSHOP	BUS 1	SU1-q1-XQ1B1
1B2	GEN SBKR, COOLER NO 1	BUS 1	SSU1-q1-XQ1B2
1C1	HEAD COVER PUMP NO 1	BUS 1	SSU1-q1-XQ1C1
1C2	480 VOLT OUTLETS	BUS 1	SU1-q1-XQ1D1
1D1	AC TURBINE BRG OIL PUMP	BUS 1	SU1-q1-XQ1D1
1D2	LIGHT TRANS TR 12	BUS 1	SSU1-q1-XQ1D2
1E1	LIGHT TRANS TR 11	BUS 1	SSU1-q1-XQ1E1
1E2	BAND SAW	ON SIDE OF SWITCH SQ1	SU1-q1-XQ1E2
1F	EMPTY		
2A	60 AMP OUTLET		SU1-q1-XQ2A
2B	GENERATOR HEATERS	BUS 1	SU1-q1-XQ2B
2C	GOVERNOR OIL PUMP NO 1	BUS 1	SU1-q1-XQ2C
2E	EMPTY	BUS 1	
2F	EMPTY		
3A	EMPTY	BUS 2	
3B	GOVERNOR OIL FILTER PUMP 10 HP, 480 VOLT 20 AMP BREAKER	BUS 2	SU1-q2-XQ3B1
3C1	HEAD COVER PUMP NO 2	BUS 2	SU1-q2-XQ2C1
3C2	HIGH BAY LIGHTS	BUS 2	SU1-q2-XQ2C2
3D1	THRUST BRG. OIL PUMP	BUS 2	SU1-q2-XQ3D1
3D2	480 VOLT OUTLETS	BUS 2	SU1-q2-XQ3D2
3E	EMPTY	BUS 2	
3F	EMPTY		
4A1	125V DC SUPPLY NO 1	BUS 2	JBE-1-E2-SU1
4A2	125V DC SUPPLY NO 2	BUS 2	JBE-1-E2-SU2
4B	125V DC PANEL	BUS 2	SU1-e3-XR4B
4C	EMERG. LTG. CONTACTOR "CAUTION - EXPOSED LIVE PARTS INSIDE DOOR"	BUS 2	SU1-e3-R4B
4D	EMPTY	BUS 2	
4E	EMPTY	BUS 2	
4F	EMPTY		
	GOV. OIL PUMP NO 2	FED FROM XP19	CP1-P1
	GOV. OIL PUMP NO 3	FED FROM XP20	CP1-P2
	125V DC PANEL SCHEDULE - 4B		
1	DC TURBINE BRG. OIL PUMP	BAD BRAKER - DO NOT USE	2
3	BAD BRAKER - DO NOT USE	125V EMERGENCY LTG.	4

SWITCH SU2 480V SUBSTATION - NAMEPLATE AND EQUIPMENT SCHEDULE

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	CIRCUIT DESIGNATOR
1A	EMPTY	BUS 1	BUS 1
1B	GOVERNOR OIL FILTER PUMP 10 HP 480 VOLT 20 AMP BREAKER	BUS 1	SU2-q6
1C1	HEAD COVER PUMP NO 1	BUS 1	SU2-q7
1C2	480 VOLT OUTLETS	BUS 1	SU2-q7
1D1	AC TURBINE BRG OIL PUMP	BUS 1	SU2-q8
1D2	LIGHT TRANS TR 22	BUS 1	SU2-q3
1E1	LIGHT TRANS TR 21	BUS 1	SU2-q4
1E2	SPARE	BUS 1	SU2-q1
1F	EMPTY		
2A	60 AMP OUTLET	BUS 2	
2B	GENERATOR HEATERS	BUS 2	
2C	GOVERNOR OIL PUMP NO 1	HOURS TIMER	SU2-q11
2E	EMPTY	BUS 2	SU2-q9
2F	EMPTY		
3A	EMPTY	BUS 2	
3B1	HIGH BAY LIGHTS	BUS 2	
3B2	GEN. BKR_COOLER NO 2	BUS 2	SU2-q18
3C1	HEAD COVER PUMP NO 2	BUS 2	SU2-q13
3C2	HIGH BAY LIGHTS	BUS 2	SU2-q14
3D1	THRUST BRG. OIL PUMP	BUS 2	SU2-q15
3D2	480 VOLT OUTLETS 4th FLOOR BAND SAW	BUS 2	SU2-q16
3E	EMPTY	BUS 2	SU2-q17
3F	EMPTY		
4A1	125V DC SUPPLY NO 1	BUS 2	
4A2	125V DC SUPPLY NO 2	BUS 2	
4B	125V DC PANEL	BUS 2	JBE2-E2-SU2
4C	EMERG. LTG. CONTACTOR "CAUTION - EXPOSED LIVE PARTS INSIDE DOOR"	BUS 2	JBE2-E3-SU2
4D	EMPTY	BUS 2	
4E	EMPTY	BUS 2	
4F	EMPTY		
	GOV. OIL PUMP NO 2	FED FROM XP19	CP2-P1
	GOV. OIL PUMP NO 3	FED FROM XP20	CP2-P2
	125V DC PANEL SCHEDULE - 4B		
1	SPARE	SPARE	2
3	DC TURBINE BRG. OIL PUMP	125V EMERGENCY LTG.	4

SWITCH SU3 480V SUBSTATION - NAMEPLATE AND EQUIPMENT SCHEDULE

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	CIRCUIT DESIGNATOR
1A	EMPTY	BUS 1	BUS 1
1B1	SPARE		
1B2	GEN. BKR_COOLER NO 2	BUS 1	SU3-q6
1C1	HEAD COVER PUMP NO 1	BUS 1	SU3-q7
1C2	480 VOLT OUTLETS	BUS 1	SU3-q8
1D1	AC TURBINE BRG OIL PUMP	BUS 1	SU3-q3
1D2	LIGHT TRANS TR 32	BUS 1	SU3-q4
1E1	LIGHT TRANS TR 31	BUS 1	SU3-q1
1E2	SPARE	BUS 1	
2A	60 AMP OUTLET	BUS 1	
2B	GENERATOR HEATERS	BUS 1	SU3-q11
2C	GOVERNOR OIL PUMP NO 1	HOURS RUNNING TIMER	SU3-q9
2E	EMPTY	BUS 1	
2F	EMPTY		
3A	EMPTY	BUS 2	BUS 2
3B	GOVERNOR OIL FILTER PUMP 10 HP 480 VOLT 20 AMP BREAKER	BUS 2	
3C1	HEAD COVER PUMP NO 2	BUS 2	SU3-q14
3C2	HIGH BAY LIGHTS	BUS 2	SU3-q15
3D1	THRUST BRG. OIL PUMP	BUS 2	SU3-q16
3D2	480 VOLT OUTLETS	BUS 2	SU3-q17
3E1	EMPTY	BUS 2	
3F	EMPTY		
4A1	125V DC SUPPLY NO 1	BUS 2	JBE3-E2-SU3
4A2	125V DC SUPPLY NO 2	BUS 2	JBE3-E2-SU3
4B	125V DC PANEL	BUS 2	
4C	EMERG. LTG. CONTACTOR "CAUTION - EXPOSED LIVE PARTS INSIDE DOOR"	BUS 2	
4D	EMPTY	BUS 2	
4E		BUS 2	
4F	EMPTY		
	GOV. OIL PUMP NO 2	FED FROM XP19	CP3-P1
	GOV. OIL PUMP NO 3	FED FROM XP20	CP3-P2
	125V DC PANEL SCHEDULE - 4B		
1	SPARE	SPARE	2
3	DC TURBINE BRG. OIL PUMP	125V EMERGENCY LTG.	4



A1 ELEVATION SU1 480V MCC - REMOVAL, EL542
SCALE: 3/4" = 1'-0"
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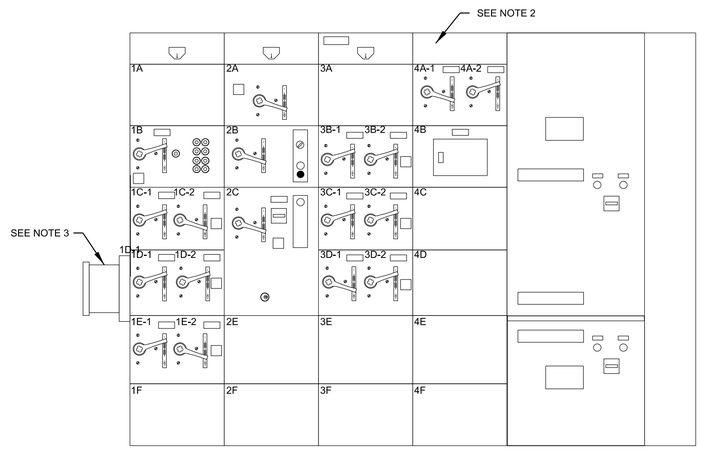

A8 ELEVATION SU2 480V MCC - REMOVAL, EL542
SCALE: 3/4" = 1'-0"
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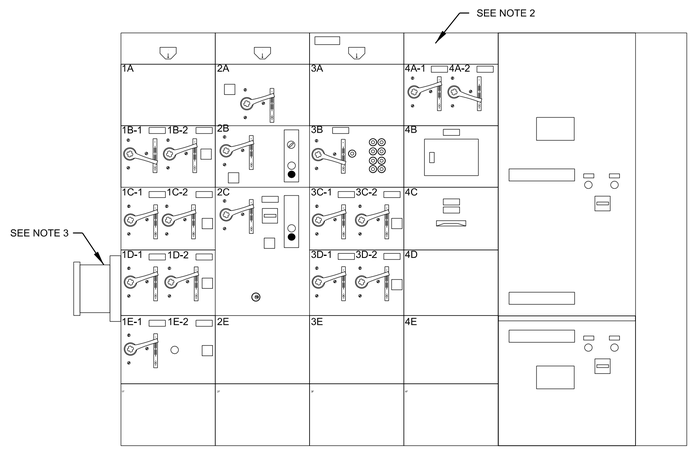

A14 ELEVATION SU3 480V MCC - REMOVAL, EL542
SCALE: 3/4" = 1'-0"
0 1' 2' 4'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
SUBMITTED BY: SUZANNE STERLING, P.E.
SIZE: ANSI D
DRAWING NUMBER: LGP-1.002-6-1E4/1
FILE NAME: V4-LGP1.002-ED201.dgn

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WALLA WALLA, WASHINGTON

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SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

480 VOLT CONTROL CENTERS SU1-SU3
ELEVATION VIEW
REMOVAL

SHEET ID
VOLUME 4
ED201

FINAL

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. 480V EQUIPMENT/LOADS TO REMAIN IN SERVICE DURING REPLACEMENT OF EQUIPMENT, UNLESS OTHERWISE NOTED.
3. 480V, 60A, 3W, 4P OUTLET

SWITCH SU4 480V SUBSTATION - NAMEPLATE AND EQUIPMENT SCHEDULE

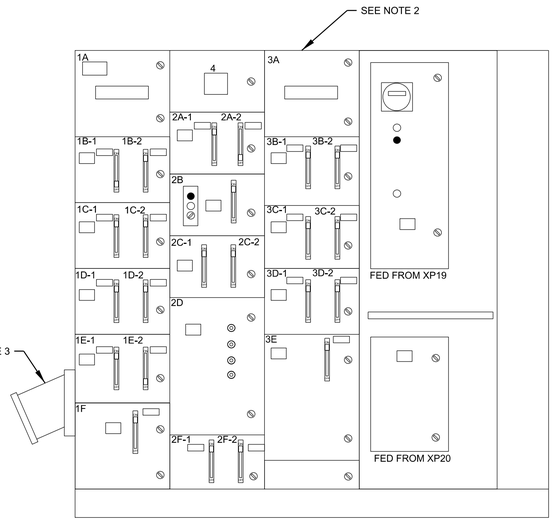
UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	CIRCUIT DESIGNATOR
1A	SU4 480V CONTROL CENTER	BUS - PREFERED AC SUPPLY	
1B1	SPARE		
1B2	GEN BKR COOLER A		SU4-q6
1C1	HEAD COVER PUMP NO. 1		SU4-q7
1C2	480 VOLT OUTLETS & PAINT BOOTH		SU4-q8
1D1	TURBINE BRG OIL SUMP PUMP		SU4-q2
1D2	LIGHT TRANS TR42		SU4-q4
1E1	LIGHT TRANS TR41		SU4-q1
1E2	60 AMP OUTLET		
1F	GOVERNOR AIR COMPRESSOR		SU4-qAA
2A1	GOVERNOR SUMP HEATERS		SU4-q9
2A2	SPARE		
2B	GENERATOR HEATERS		SU4-q11
2C1	480 VOLT OUTLETS		SU4-q3
2C2	480 VOLT OUTLETS		SU4-q5
2D	EMPTY		
2F1	480 VOLT OUTLETS		SU4-q18
2F2	480 VOLT OUTLETS		SSU4-q10
3A	EMPTY		
3B1	GOVENOR OIL FILTER PUMP FEEDER		
3B2	GEN BRK COOLER B		SSU4-q13
3C1	HEAD COVER PUMP NO. 2		SU4-q14
3C2	HIGH BAY LIGHTS	BREAKER HANDLE WILL NOT OPERATE ACTUAL BREAKER MUST OPEN COVER	SU4-q15
3D1	THRUST BRG OIL PUMP		SU4-q16
3D2	480 VOLT OUTLETS		SU4-q7
3E	125VDC EMERG LIGHTING		SU4-e1
	GOV OIL PUMP NO. 1	FED FROM XP19	CP4-P2
	GOV OIL PUMP NO. 2	FED FROM XP20	CP4-P2
SIDE	FED FROM IE2 SU-4	60 AMP 480 VOLT OUTLET	

SWITCH SU5 480V SUBSTATION - NAMEPLATE AND EQUIPMENT SCHEDULE

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	CIRCUIT DESIGNATOR
1A	SU5 480V CONTROL CENTER		
1B1	SPARE		
1B2	GEN COOLER A		SU5-q6
1C1	HEAD COVER PUMP NO. 1		SSU5-q7
1C2	480 VOLT OUTLETS		SU5-q8
1D1	TURBINE BRG OIL SUMP PUMP		SU5-q2
1D2	LIGHT TRANS TR52		SU5-q4
1E1	LIGHT TRANS TR51		SU5-q1
1E2	60 AMP 480V OUTLET		
1F	GOV. OIL FILTER PUMP		
2A1	GOVERNOR SUMP HEATERS		SU5-q9
2A2	HIGH BAY LIGHTS		SU5-q15
2B	GENERATOR HEATERS	TAGGED OUT IN PIC	SU5-q11
2C1	480 VOLT OUTLETS		SU5-q3
2C2	480 VOLT OUTLETS		SU5-q5
2D	EMPTY		
2F1	480 VOLT OUTLETS		SU5-q18
2F2	480 VOLT OUTLETS		SU5-q10
3A	EMPTY		
3B1	HIGH BAY LIGHTS		SU5-q12
3B2	GEN BKR COOLER B		SU5-q13
3C1	HEAD COVER PUMP NO. 2		SU5-q14
3C2	1000LB AIR COMPRESSOR NO. 2		SU5-q15
3D1	THRUST BRG OIL PUMP		SU5-q16
3D2	480 V OUTLETS	TAGGED OUT IN PIC	SU5-q17
3E	125VDC LIGHTING		SU5-E1
	GOV. OIL PUMP NO. 1	FED FROM XP15	CS5-P1
	GOV. OIL PUMP NO. 2	FED FROM XP16	CS5-P2
SIDE	FED FROM IE2 SU-5	60 AMP 480 VOLT OUTLET	
SIDE	FED FROM IE2 SU-6	60 AMP 480 VOLT OUTLET	

SWITCH SU6 480V SUBSTATION - NAMEPLATE AND EQUIPMENT SCHEDULE

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	CIRCUIT DESIGNATOR
1A	SU6 480V CONTORL CENTER		
1B1	SPARE		
1B2	GEN BKR COOLER A		SU3-q6
1C1	HEAD COVER P0MP NO. 1		SU3-q7
1C2	480V OUTLETS		SU6-q8
1D1	TURBINE BEARING OIL SUMP PUMP		SU6-q2
1D2	LIGHT TRANS TR62		SU6-q4
1E1	LIGHT TRANS TR61		SU6-q1
1E2	60 AMP OUTLET		
1F	GOV OIL FILTER PUMP		
2A1	GOVERNOR SUMP HEATERS		SU6-q9
2A2	SPARE		
2B	GENERATOR HEATERS		SU6-q11
2C1	480 VOLT OUTLETS		SU6-q3
2C2	480 VOLT OUTLETS		SU6-q5
2D1	CO2 TANK COMPRESSOR NO. 1		
2D2	CO2 TANK COMPRESSOR NO. 2		
2E1	TRANS TR63		
2E2	SPARE		
2F1	480 VOLT OUTLETS		SU6-q18
2F2	480 VOLT OUTLETS		SU6-q10
3A	EMPTY		
3B1	SPARE		
3B2	GEN BKR		SU6-q13
3C1	HEAD COVER PUMP NO. 2		SU6-q14
3C2	HIGH BAY LIGHTS		SU6-q15
3D1	THRUST BRG OIL PUMP		SU6-q16
3D2	480 VOLT OUTLETS		SU6-q17
3E	125VDC EMERG LIGHTING		SU6-e2
	GOVE OIL PUMP NO. 1	FED FROM XP15	CP6-P1
	GOVE OIL PUMP NO. 2	FED FROM XP16	CP6-P2
SIDE	FED FROM IE2 SU-6	60 AMP 480 VOLT OUTLET	



A1 ELEVATION SU4 480V MCC - REMOVAL, EL542

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

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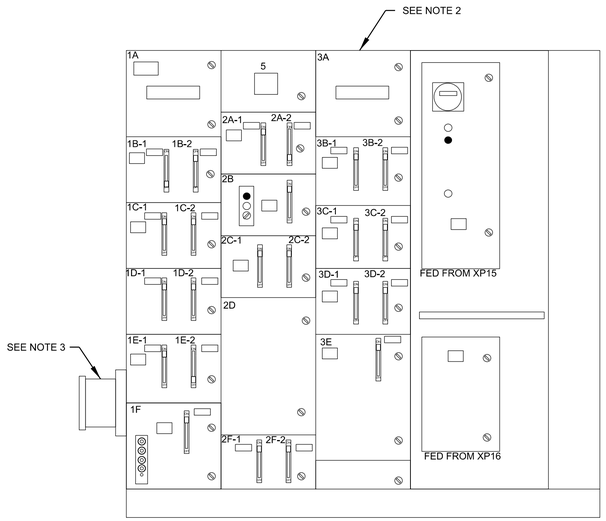

A8 ELEVATION SU5 480V MCC - REMOVAL, EL542

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

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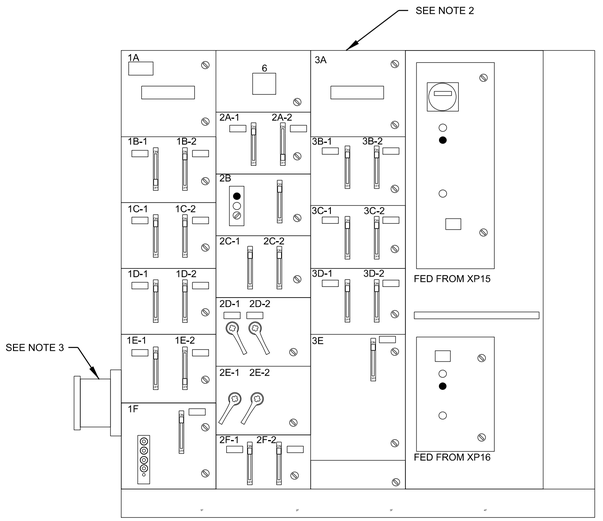

A14 ELEVATION SU6 480V MCC - REMOVAL, EL542

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

0 1' 2' 4'

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MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: SIGNATURE, P.E.
SIGNATURE NAME: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001
DRAWING NUMBER: LGP-1.002-6-1G4/1
SIZE: FILE NAME: V4-LGP1.002-ED202.dgn

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DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

480 VOLT CONTROL CENTERS SU4-SU6
ELEVATION VIEW
REMOVAL

SHEET ID
VOLUME 4
ED202

FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
3. PULL BACK CONDUCTORS AND REMOVE CONDUIT SUFFICIENT TO REMOVE EQUIPMENT
4. RETAIN EXISTING CONDUIT FOR RE-USE WHERE INDICATED.

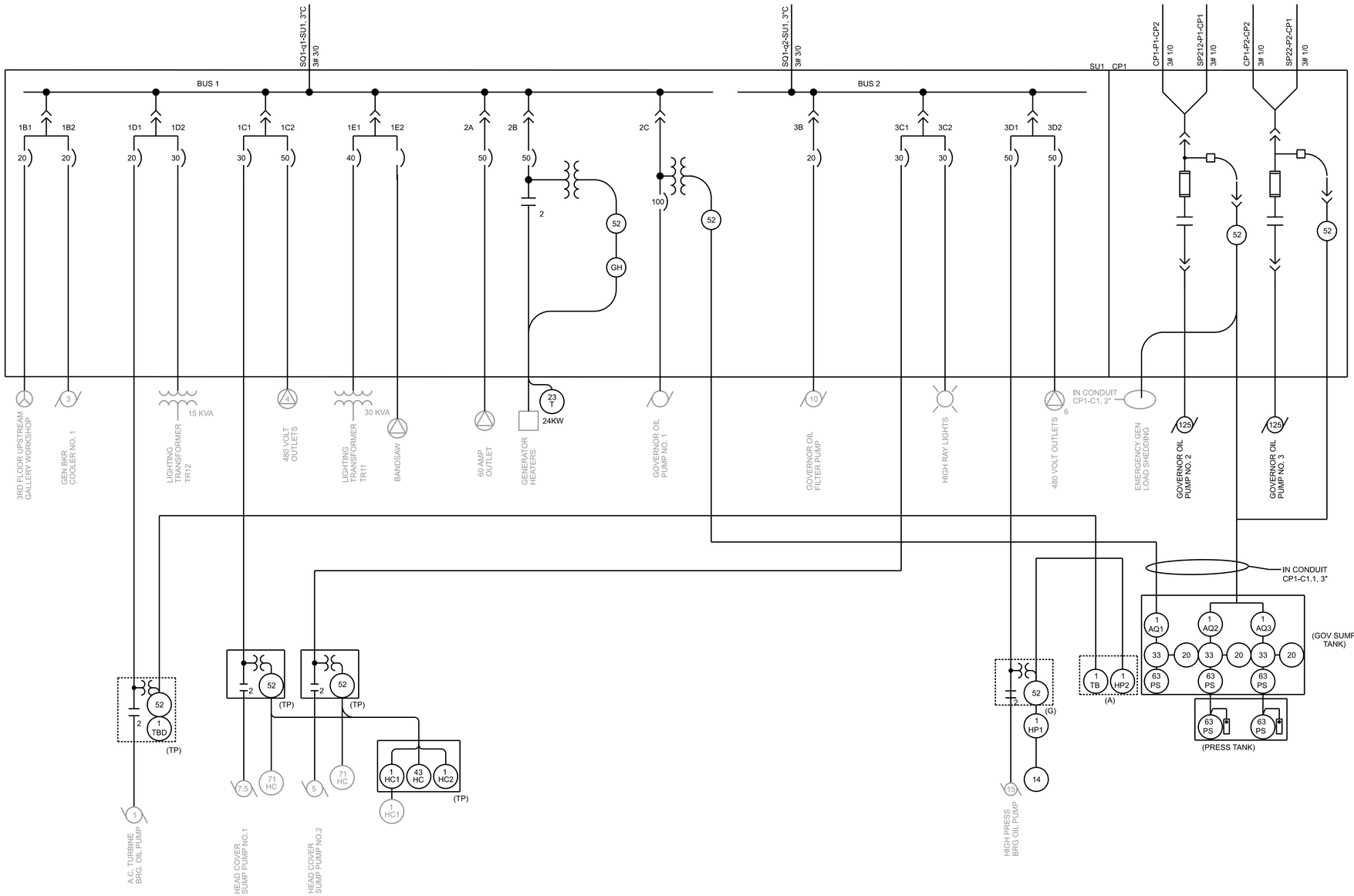
LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1E21/1	ONE LINE DIAGRAM SU1 & CP1



EXISTING MCC SU1/CP1 ONE LINE DIAGRAM - REMOVAL

A1 SCALE: NTS

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DESIGNED BY: S. SCHEIFF	ISSUE DATE: AUGUST 2022
DRAWN BY: M. FLANAGAN	SOLICITATION NO.: W912EF22R0001
CHECKED BY: K. SELLERS	CONTRACT NO.:
SUBMITTED BY: JONATHAN STERUM, P.E.	DRAWING NUMBER: LGP-1.002-6-ED21/1
ANSI D	SIZE: FILE NAME: V4-LGP1.002-ED601.dgn

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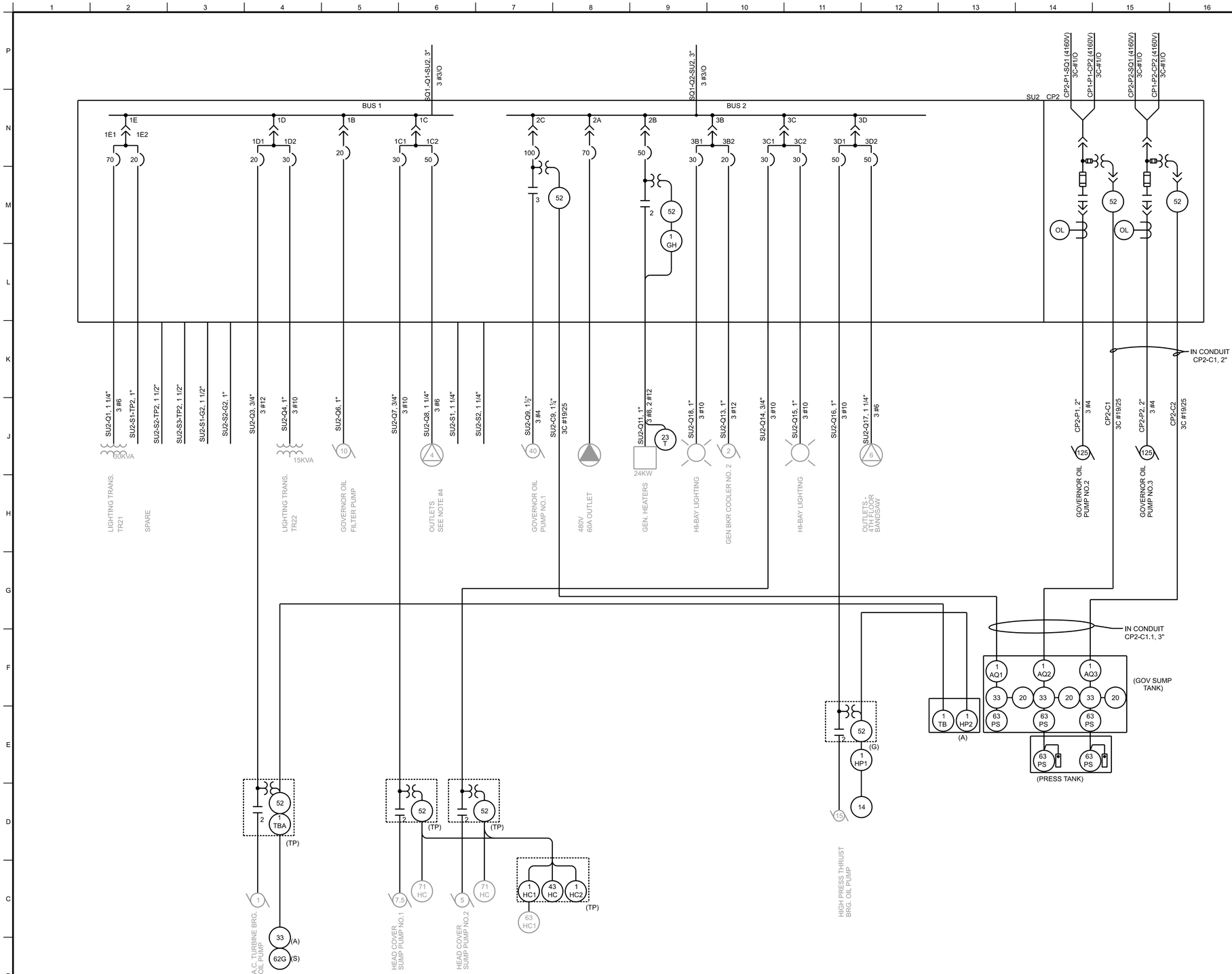
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MCC SU1/CP1
ONE LINE DIAGRAM
REMOVAL

SHEET ID
VOLUME 4
ED601

FINAL



GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
3. PULL BACK CONDUCTORS AND REMOVE CONDUIT SUFFICIENT TO REMOVE EQUIPMENT
4. RETAIN EXISTING CONDUIT FOR RE-USE WHERE INDICATED.

LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1E21/2	ONE LINE SU2 & CP2

EXISTING MCC SU2/CP2 ONE LINE DIAGRAM - REMOVAL

A1 SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF	ISSUE DATE: AUGUST 2022
DRAWN BY: M. FLANAGAN	SOLICITATION NO.: W912EF22R0001
CHECKED BY: K. SELLERS	CONTRACT NO.:
SUBMITTED BY: JUAN STERLING, P.E.	DRAWING NUMBER: LGP-1.0022-6-ED602.dgn
SIZE: ANSI D	FILE NAME: V4-LGP1.0022-ED602.dgn

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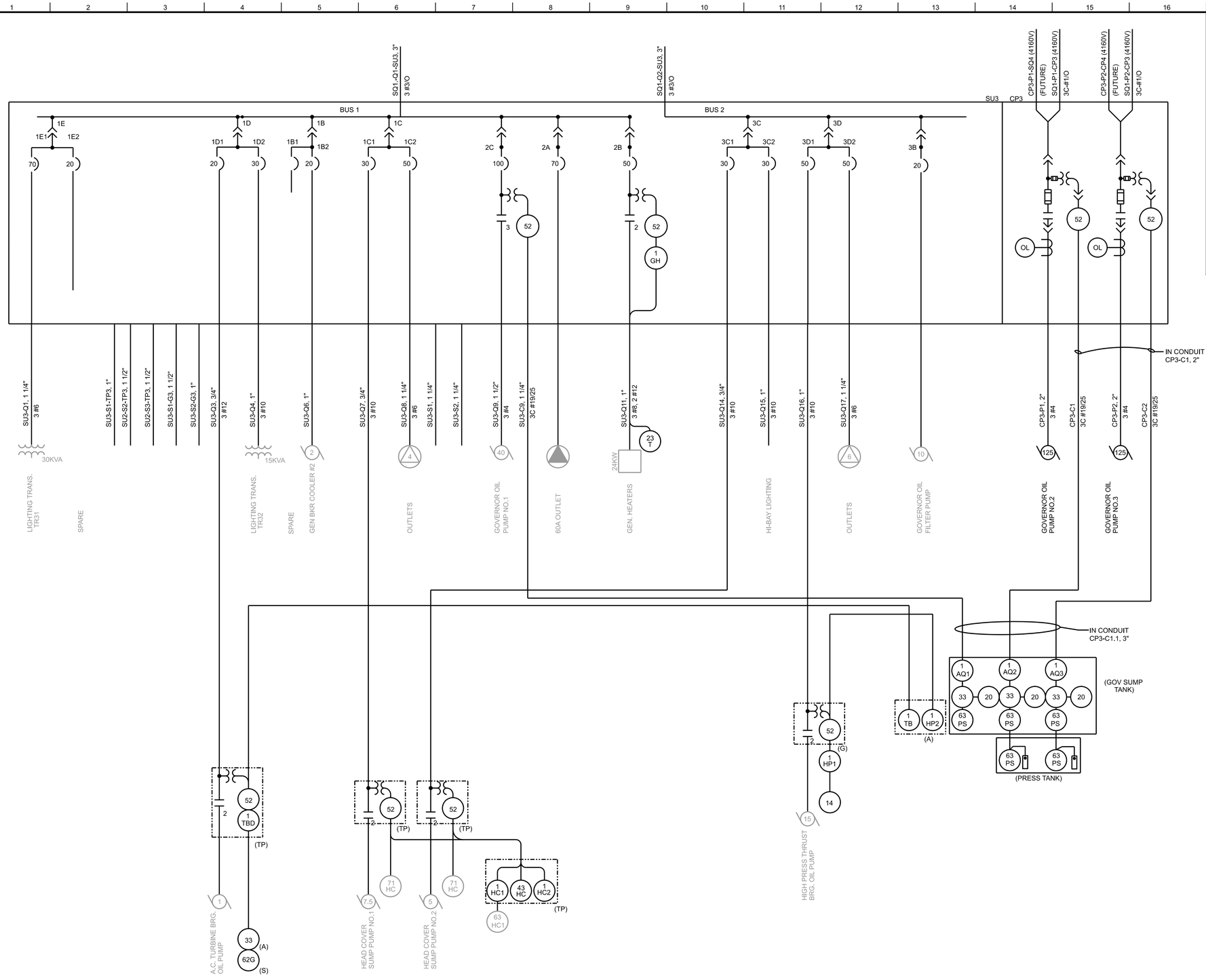
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MCC SU2/CP2
ONE LINE DIAGRAM
REMOVAL

SHEET ID
VOLUME 4
ED602

FINAL



GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
3. PULL BACK CONDUCTORS AND REMOVE CONDUIT SUFFICIENT TO REMOVE EQUIPMENT
4. RETAIN EXISTING CONDUIT FOR RE-USE WHERE INDICATED.

LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1F21/1	ONE LINE SU3 & CP3

MARK	DESCRIPTION	DATE

US Army Corps of Engineers®

DESIGNED BY:	S. SCHEIFF
DRAWN BY:	M. FLANAGAN
CHECKED BY:	K. SELLERS
SUBMITTED BY:	JUAN STERLING, P.E.
SIZE:	ANSI D
ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.0022-6-9F21/1
FILE NAME:	V4-LGP1.0022-ED603.dgn

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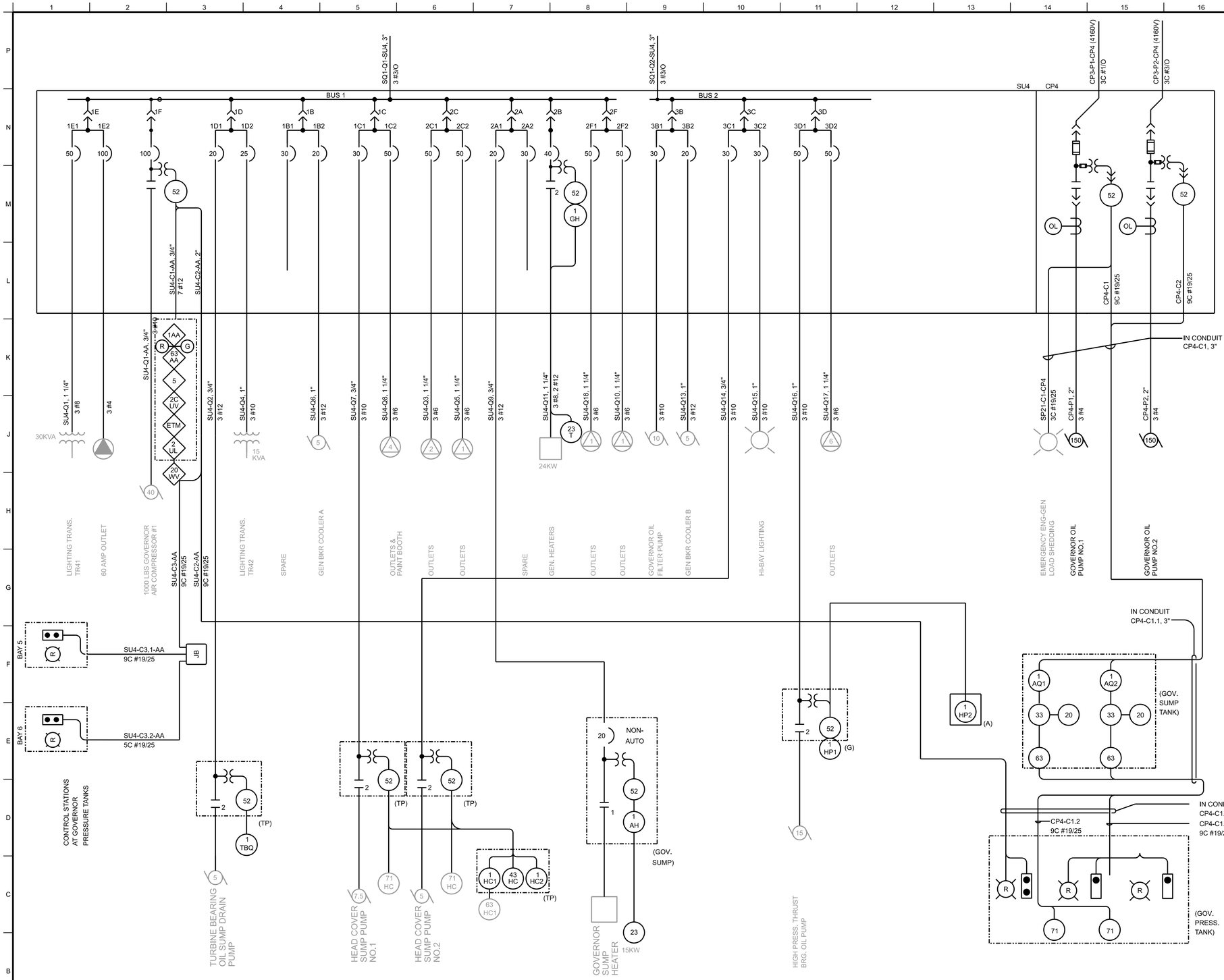
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MCC SU3/CP3
ONE LINE DIAGRAM
REMOVAL

SHEET ID
VOLUME 4
ED603

FINAL

A1 EXISTING MCC SU3/CP3 ONE LINE DIAGRAM - REMOVAL
SCALE: NTS



GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
3. PULL BACK CONDUCTORS AND REMOVE CONDUIT SUFFICIENT TO REMOVE EQUIPMENT
4. RETAIN EXISTING CONDUIT FOR RE-USE WHERE INDICATED.

LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.9-6-1F21/1	ONE LINE SU4 & CP4

A1 EXISTING MCC SU4/CP4 ONE LINE DIAGRAM - REMOVAL

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JONATHAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001
DRAWING NUMBER: LGP-1.002-6-9F21/2
FILE NAME: V4-LGP1.002-ED604.dgn

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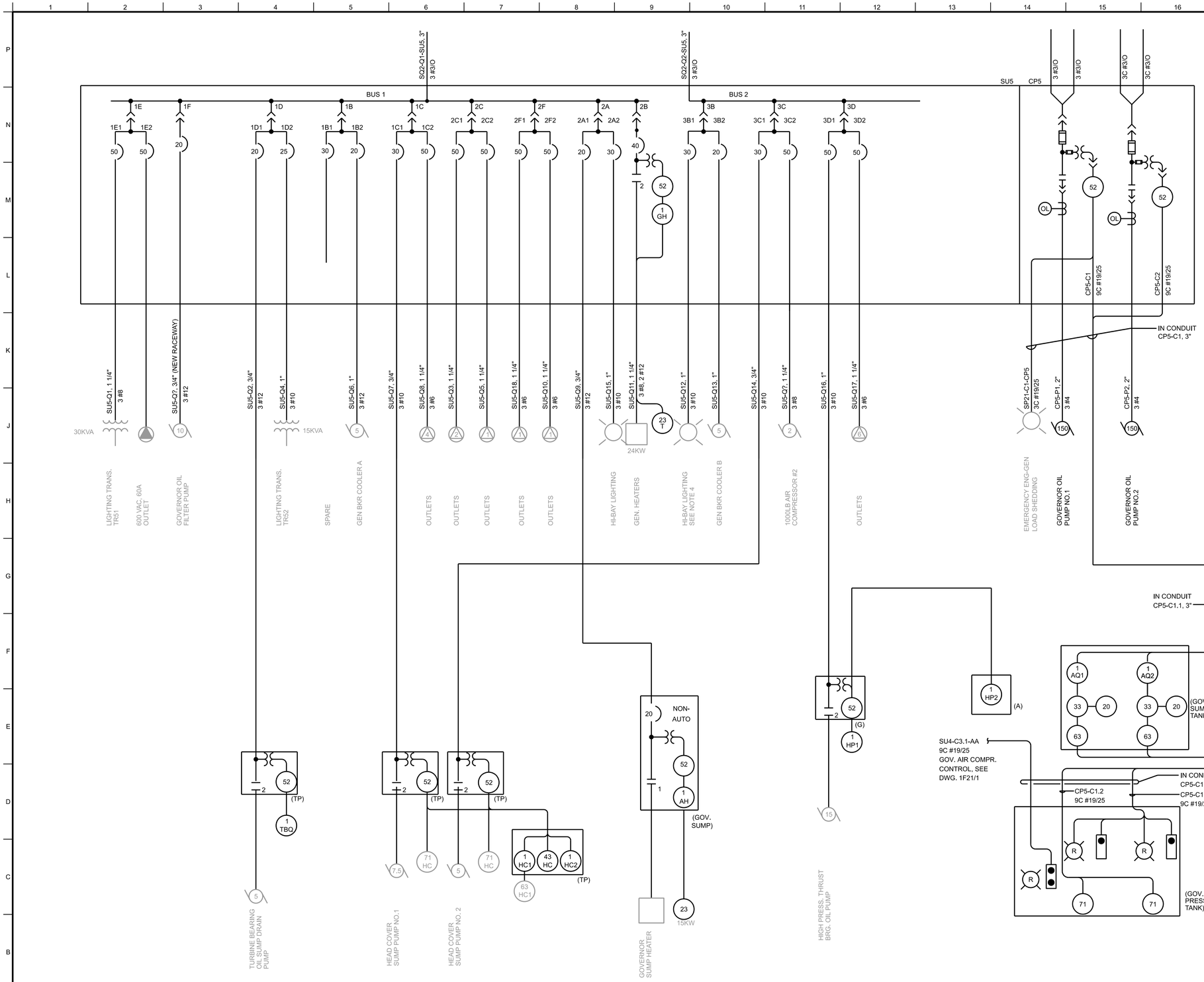
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MCC SU4/CP4
ONE LINE DIAGRAM
REMOVAL

SHEET ID
VOLUME 4
ED604

FINAL



GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
3. PULL BACK CONDUCTORS AND REMOVE CONDUIT SUFFICIENT TO REMOVE EQUIPMENT
4. RETAIN EXISTING CONDUIT FOR RE-USE WHERE INDICATED.

LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.9-6-1G21/2	ONE LINE SU5 & CP5

EXISTING MCC SU5/CP5 ONE LINE DIAGRAM - REMOVAL

A1 SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF	ISSUE DATE: AUGUST 2022
DRAWN BY: M. FLANAGAN	SOLICITATION NO.: W912EF22R0001
CHECKED BY: K. SELLERS	CONTRACT NO.:
SUBMITTED BY: JONATHAN STERLING, P.E.	DRAWING NUMBER: LGP-1.0024-5-RG21/1
SIZE: ANSI D	FILE NAME: V4-LGP1.0024-ED605.dgn

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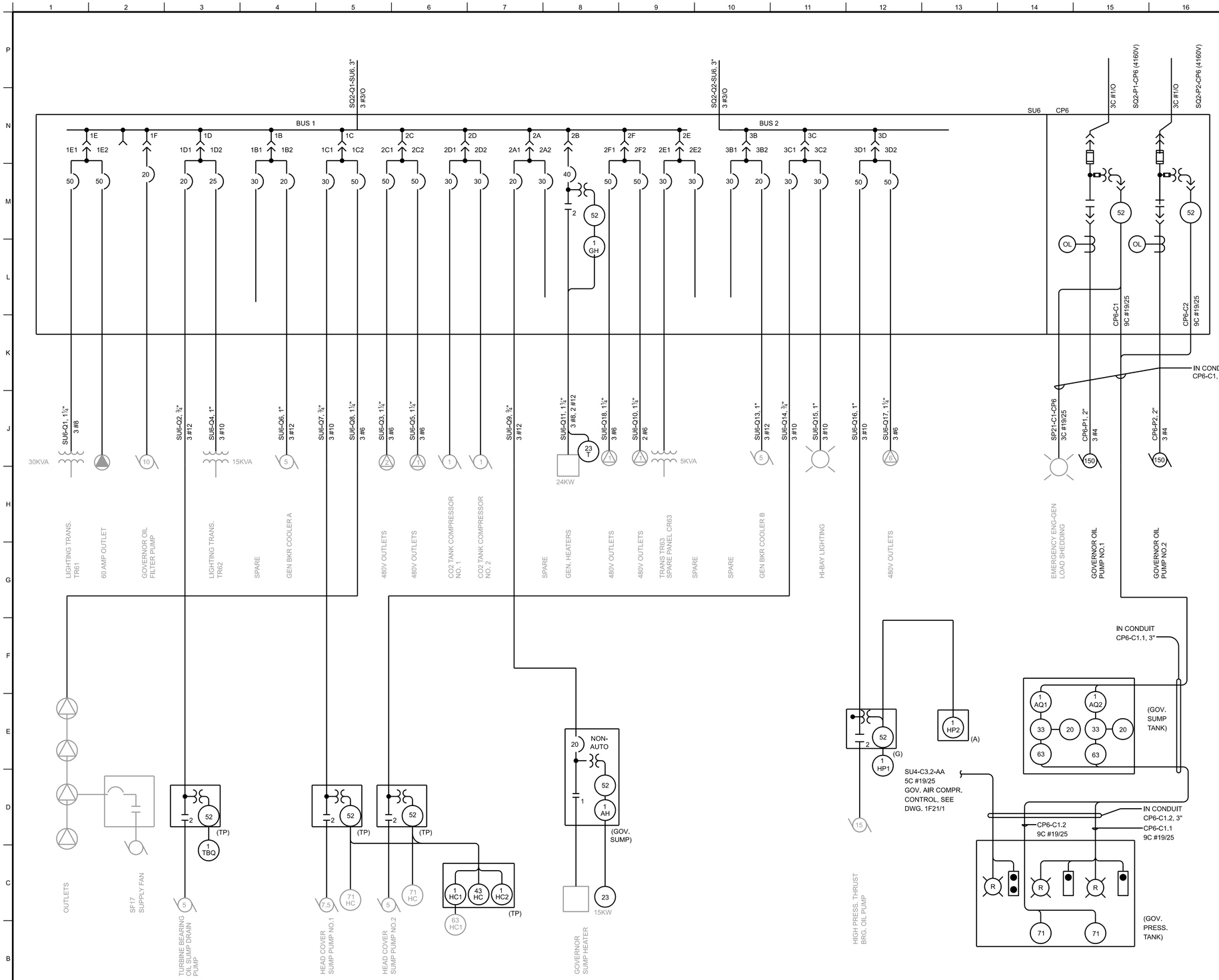
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MCC SU5/CP5
ONE LINE DIAGRAM
REMOVAL

SHEET ID
VOLUME 4
ED605

FINAL



GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
3. PULL BACK CONDUCTORS AND REMOVE CONDUIT SUFFICIENT TO REMOVE EQUIPMENT
4. RETAIN EXISTING CONDUIT FOR RE-USE WHERE INDICATED.

LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
GDP-9-6-13_25	ONE LINE SU6 & CP6

A1 EXISTING MCC SU6/CP6 ONE LINE DIAGRAM - REMOVAL

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF	ISSUE DATE: AUGUST 2022
DRAWN BY: M. FLANAGAN	SOLICITATION NO.: W912EF22R0001
CHECKED BY: K. SELLERS	CONTRACT NO.:
SUBMITTED BY: JONATHAN STERUM, P.E.	DRAWING NUMBER: LGP-1.0024-S-RG21/2
SIZE: ANSI D	FILE NAME: V4-LGP1.0024-ED606.dgn

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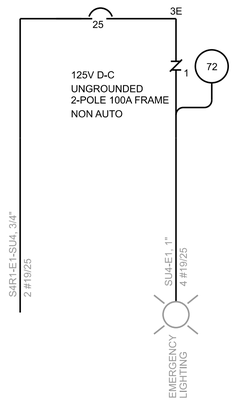
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

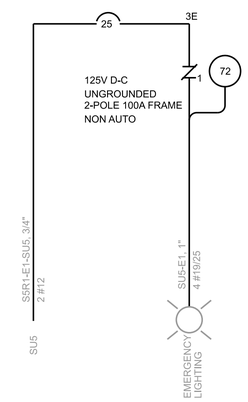
MCC SU6/CP6
ONE LINE DIAGRAM
REMOVAL

SHEET ID
VOLUME 4
ED606

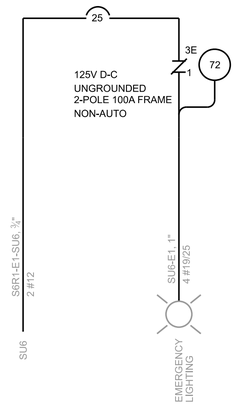
FINAL



K3 MCC SU4/CP4 - REMOVAL
SCALE: NTS



K8 MCC SU5/CP5 - REMOVAL
SCALE: NTS



K13 MCC SU6/CP6 - REMOVAL
SCALE: NTS

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. PROVIDE TEMPORARY POWER TO ALL CIRCUITS IN EQUIPMENT TO BE REMOVED AND REPLACED WITH NEW IN EXISTING LOCATION.
3. PULL BACK CONDUCTORS AND REMOVE CONDUIT SUFFICIENT TO REMOVE EQUIPMENT.
4. RETAIN EXISTING CONDUIT FOR RE-USE WHERE INDICATED.

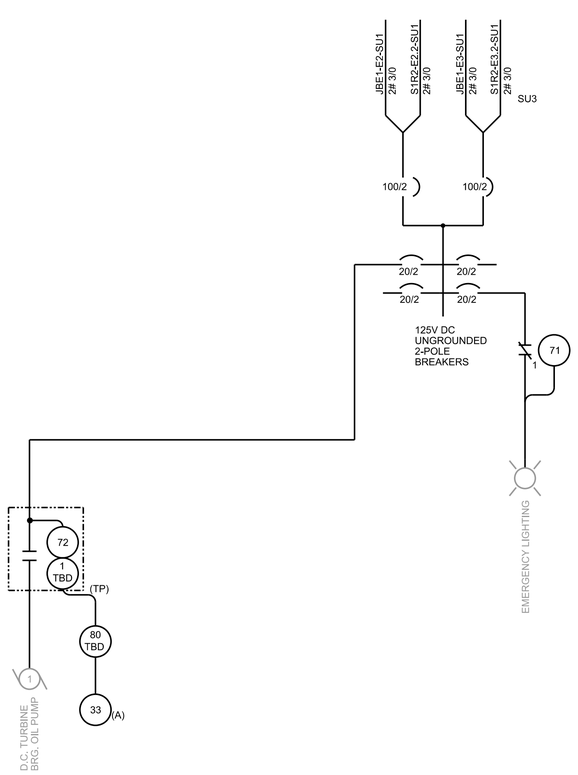
LEGEND

EQUIPMENT TO BE REMOVED

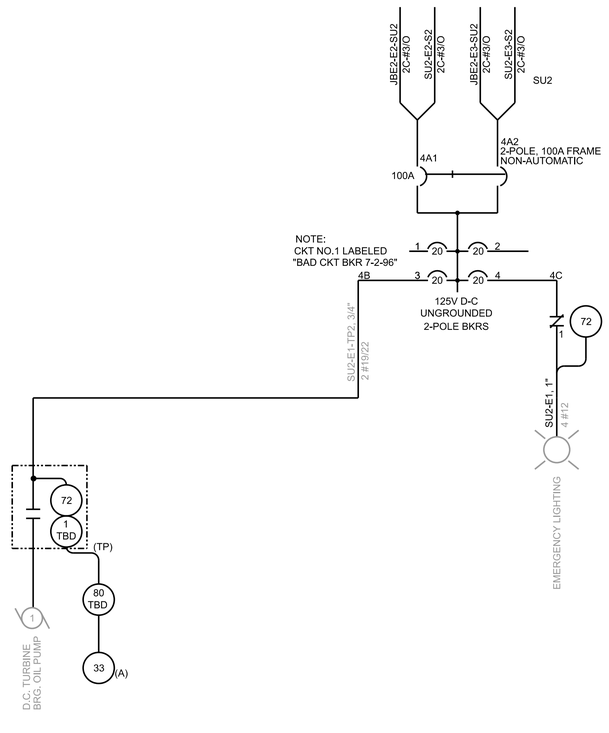
EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

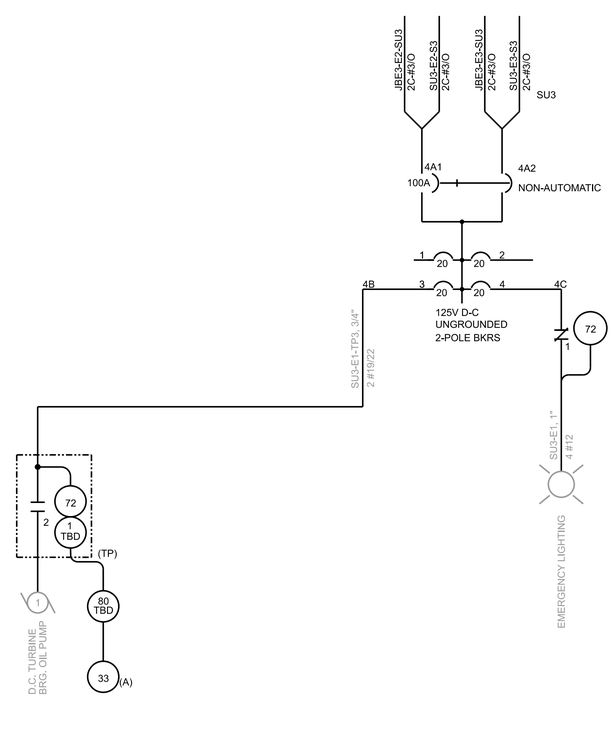
DRAWING NO	TITLE
LGP-1.9-6-1G21/3	ONE LINE SU6 & CP6
LGP-1.9-6-1G21/2	ONE LINE SU5 & CP5
LGP-1.9-6-1F21/1	ONE LINE SU4 & CP4
LGP-1.1-6-1F21/1	ONE LINE SU3 & CP3
LGP-1.1-6-1E21/2	ONE LINE SU2 & CP2
LGP-1.1-6-1E21/1	ONE LINE SU1 & CP1



A1 SU1/CP1 - REMOVAL
SCALE: NTS



A8 SU2/CP2 - REMOVAL
SCALE: NTS



A15 SU3/CP3 - REMOVAL
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-6-ED607.dgn
DESIGNED BY:	S. SCHEIFF
DRAWN BY:	M. FLANAGAN
CHECKED BY:	K. SELLERS
SUBMITTED BY:	L. VAN STEDUM, P.E.
FILE NAME:	LGP-1.002-6-ED607.dgn
SIZE:	ANSI D

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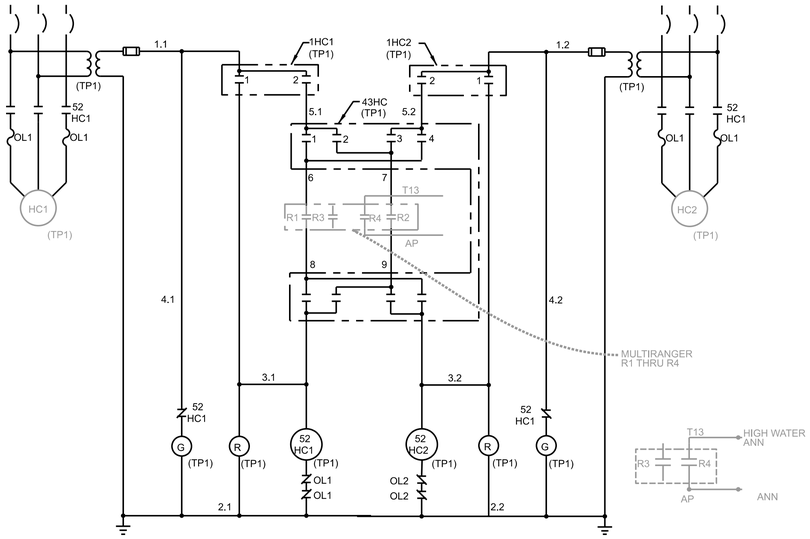
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SU1 CP1, SU2 CP2, SU3 CP3 (DC)
SU4 CP4, SU5 CP5, SU6 CP6 (DC)
ONE LINE DIAGRAMS, REMOVAL

SHEET ID
VOLUME 4
ED607

FINAL

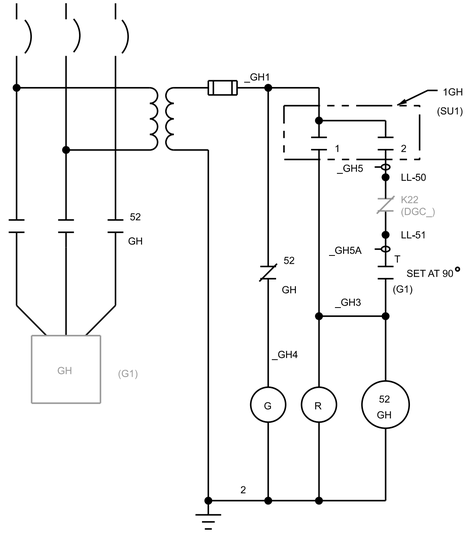


1HC1	HD COVER SUMP PUMP 1		
1HC2	HD COVER SUMP PUMP 2		
OFF / ON / AUTO	MAINTAINED CONTACTS		
CONTACT	ON	OFF	AUTO
1	X		
2			X

43HC	HD COVER SUMP PUMP SEL	
NO. 1 LEAD / NO. 2 LEAD	MAINTAINED CONTACTS	
CONTACT	NO. 1 LEAD	NO. 2 LEAD
1	X	
2		X
3	X	
4		X
5	X	
6		X
7	X	
8		X

H1 HEAD COVER SUMP PUMPS (SU1) - REMOVAL

SCALE: NTS



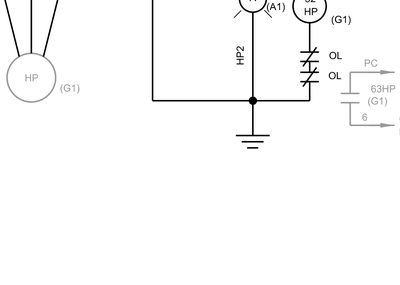
1GH	GENERATOR HEATER		
OFF / ON / AUTO	MAINTAINED CONTACTS		
CONTACT	ON	OFF	AUTO
1	X		
2			X

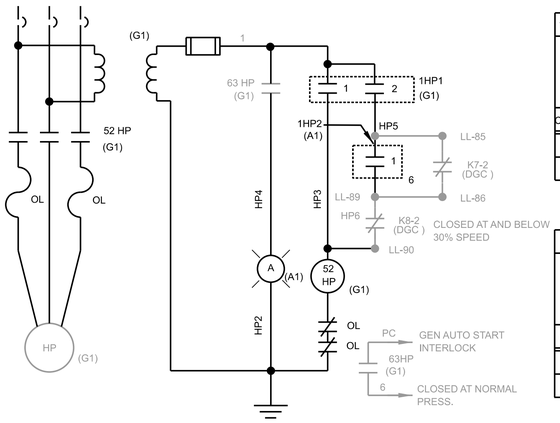
A1 GENERATOR HEATER (SU1) - REMOVAL

SCALE: NTS

1IG2	INTAKE GATE EMERGENCY	
RESET / LOWER	MAINTAINED CONTACTS PULL TO TURN RED HANDLE	
CONTACT	RESET	LOWER
1		X
2	X	

OPERATED FROM RESET TO LOWER BY COIL OR HANDLE-FROM LOWER TO RESET BY HANDLE





1HP1	THRUST BRG OIL PUMP		
ON / OFF / REMOTE	MAINTAINED CONTACTS		
CONTACTS	ON	OFF	REMOTE
1	X		
2			X

IHP2	THRUST BRG OIL PUMP	
OFF-CNTRL / AUTO	MAINTAINED CONTACTS	
CONTACTS	OFF-CENTRAL	AUTO
1		X

A12 HI-PRESS THRUST BRG OIL PUMP (SU1) - REMOVAL

SCALE: NTS

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. SCHEMATIC DIAGRAMS ARE SHOWN FOR UNIT 1. SCHEMATIC DIAGRAMS FOR UNITS 2 AND 3 ARE SIMILAR.

LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1-6-1A8/4	POWERHOUSE 480 - VOLT CONTROL CENTERS SU1 THRU SU3
LPG-1.1-1A8/6	CONTROL CABINETS - TURBINE PIT, AC & DC TURBINE BEARING OIL PUMP STARTER, HEAD COVER SUMP PUMP START
8FP-020-8	CONTROL CABINETS - TURBINE PIT - SHT. 2
LGP-1.1-6-1E24/1	CONTROL DIAGRAMS - MAIN UNIT AUXILARIES
LGP-1.37-6-9A24/12	DIGITAL GOVERNOR UPGRADE - MAIN UNITS 1-3

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JONATHAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9E2/14
FILE NAME: V4-LGP1.002-ED608.dgn

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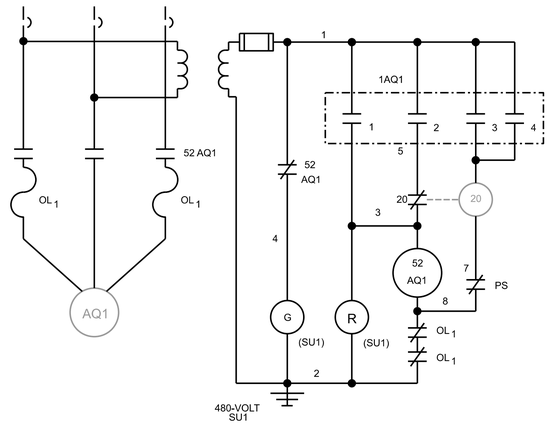
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

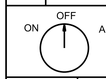
PUMPS AND HEATER SU1-SU3
ONE LINE DIAGRAMS
REMOVAL

SHEET ID
VOLUME 4
ED608

FINAL



1AQ1	GOV OIL PUMP NO. 1
1AQ2	GOV OIL PUMP NO. 2
1AQ3	GOV OIL PUMP NO. 3

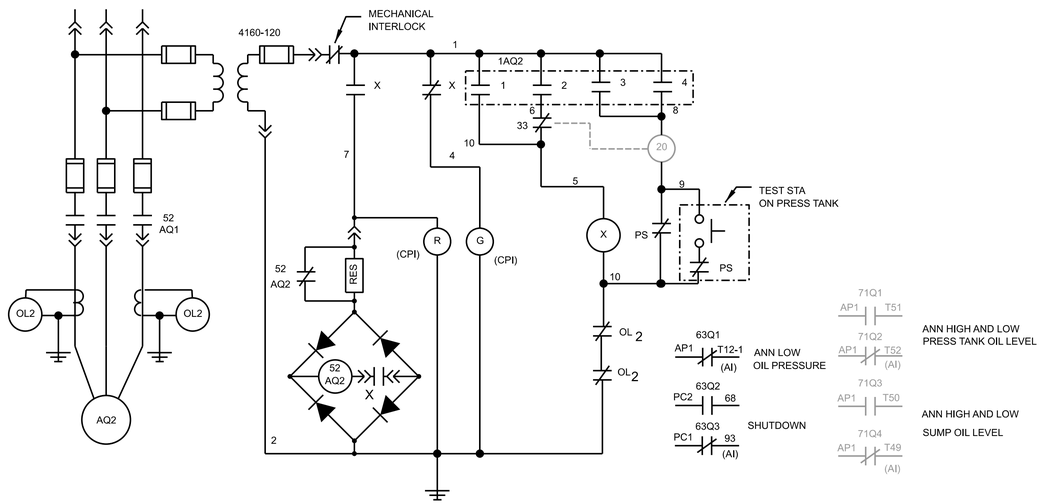


MAINTANED CONTACTS

CONTACTS	ON	OFF	AUTO
1	X		
2			X
3	X		
4			X

H8 GOVERNOR OIL PUMP NO. 1 - SU1 - REMOVAL

SCALE: NTS



A8 GOVERNOR OIL PUMP NO. 2 - SU1 (OIL PUMP NO. 3 SIMILAR) - REMOVAL

SCALE: NTS

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. SCHEMATIC DIAGRAMS ARE SHOWN FOR UNIT 1. SCHEMATIC DIAGRAMS FOR UNITS 2 AND 3 ARE SIMILAR.

LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1-6-1A8/4	POWERHOUSE 480 - VOLT CONTROL CENTERS SU1 THRU SU3
LGP-1.1-6-1E24/1	CONTROL DIAGRAMS - MAIN UNIT AUXILARIES
LGP-1.37-6-9A24/12	DIGITAL GOVERNOR UPGRADE - MAIN UNITS 1-3 AUXILIARIES SCHEMATIC
LGP-1.37-6-9A31/2	DIGITAL GOVERNOR UPGRADE - MAIN UNITS 1-3 ANNUNCIATOR SCHEMATIC
LGP-1.37-6-9A24/13	DIGITAL GOVERNOR UPGRADE - MAIN UNITS 1-3 GOVERNOR INTERPOSING RELAYS

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MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: LIAM STERUM, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9E215
FILENAME: V4-LGP1.002-ED609.dgn

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

GOVERNOR OIL PUMP NO.1 & NO. 2 - SU1-SU3
ONE LINE DIAGRAMS
REMOVAL

SHEET ID
VOLUME 4
ED609

FINAL

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. SCHEMATIC DIAGRAMS ARE SHOWN FOR UNIT 1. SCHEMATIC DIAGRAMS FOR UNITS 2 AND 3 ARE SIMILAR.

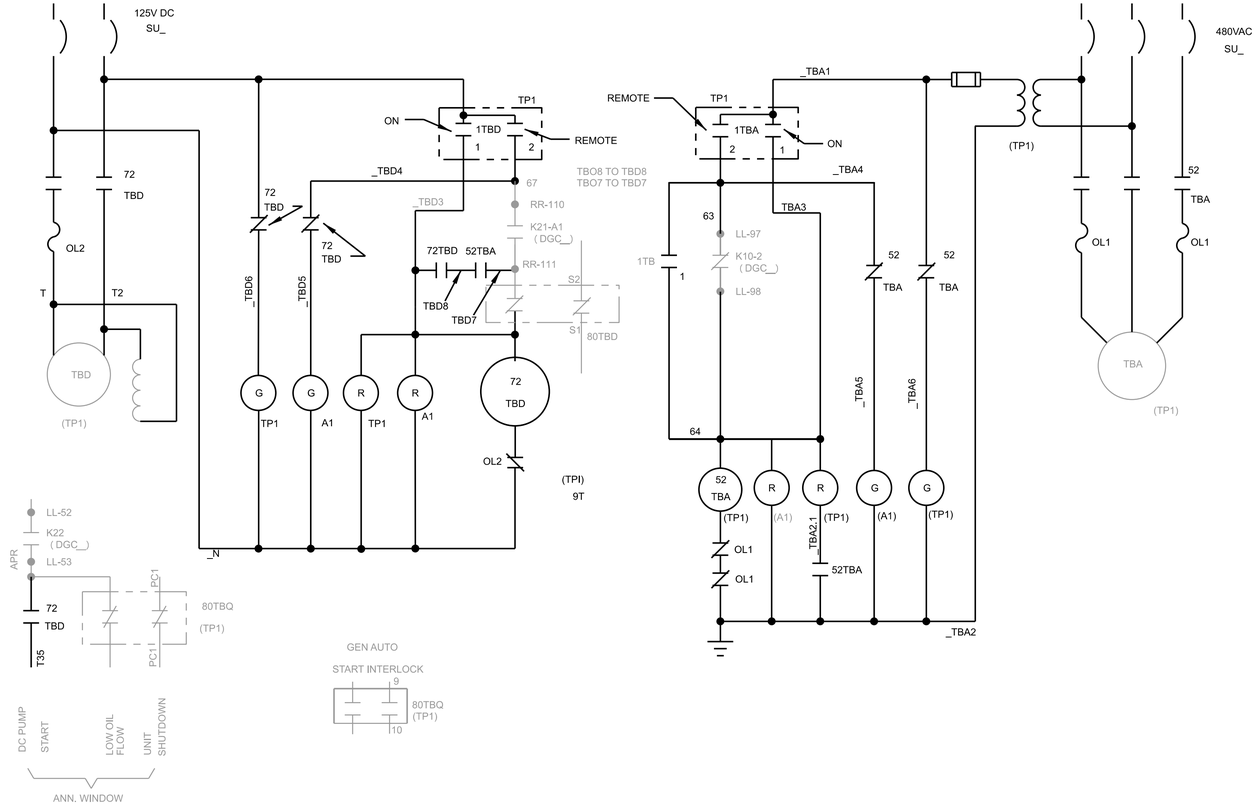
LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1-6-1A8/4	POWERHOUSE 480 - VOLT CONTROL CENTERS SU1 THRU SU3
LGP-1.1-1A8/6	CONTROL CABINETS - TURBINE PIT, AC & DC TURBINE BEARING OIL PUMP STARTER, HEAD COVER SUMP PUMP START
LGP-1.1-6-1E24/1	CONTROL DIAGRAMS - MAIN UNIT AUXILARIES
LGP-1.37-6-9A24/12	DIGITAL GOVERNOR UPGRADE - MAIN UNITS 1-3



1TB	TB OIL PUMPS		
OFF-CNTRL / AUTO		MAINTAINED CONTACTS	
CONTACT	OFF-CENTRAL		AUTO
1			X

1TBD	DC TB OIL PUMP		
1TBA	AC TB OIL PUMP		
OFF / ON / REMOTE		MAINTAINED CONTACTS	
CONTACT	ON	OFF	REMOTE
1	X		
2			X

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MARK	DESCRIPTION	DATE

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9E2116

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: L. VAN STEDUM, P.E.
FILE NAME: LGP1.002-ED610.dgn
SIZE: ANSI D
V4-LGP1.002-ED610

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201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

TURBINE BEARING OIL PUMPS SU1-SU3
ONE LINE DIAGRAM
REMOVAL

SHEET ID
VOLUME 4
ED610

FINAL

A4

TURBINE BEARING OIL PUMPS (SU1) - REMOVAL

SCALE: NTS

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE REMOVED.
2. SCHEMATIC DIAGRAMS ARE SHOWN FOR UNIT 4. SCHEMATIC DIAGRAMS FOR UNITS 5 AND 6 ARE SIMILAR.

LEGEND

EQUIPMENT TO BE REMOVED

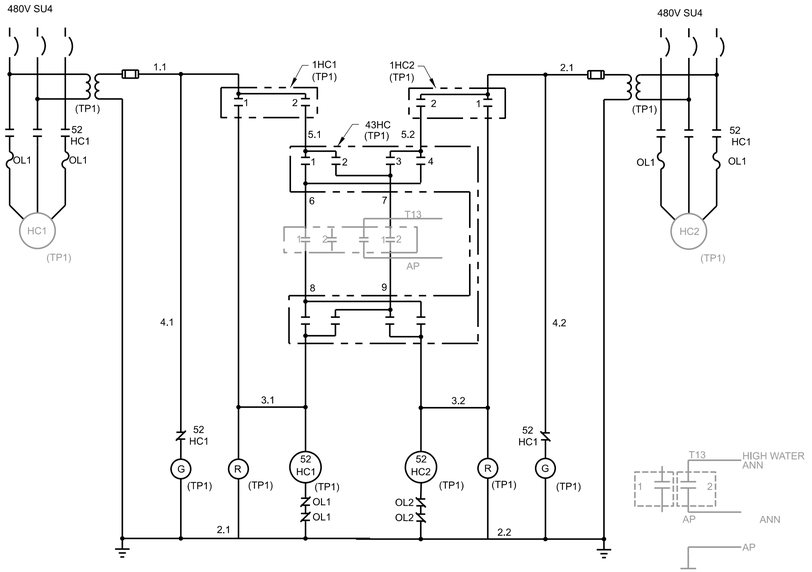
EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
89FV0253-03B	SU6 - STARTER STANDARD UNIT-2 DISCONNECTING DEVICES IN CONTROL UNIT
89FV0253-02B	SU5 - SIZE 2 COMBINATION & NON-COMBINATION STARTER CONTACTOR, SIZE 1 DC CONTACTOR WITH AC COIL
89FV0253-01B	SU4 - UNIT WIRING DIAGRAMS - FNVR COMBINATION STARTER, SIZE 1 DC CONTACTOR WITH AC COIL
LGP-1.37-6-9A24/24	DIGITAL GOVERNOR UPGRADE MAIN UNITS 4-6 AUXILARIES SCHEMATIC

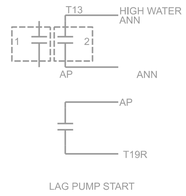
H1 HEAD COVER SUMP PUMPS (SU4) - REMOVAL

SCALE: NTS



1HC1	HD COVER SUMP PUMP 1		
1HC2	HD COVER SUMP PUMP 2		
ON / OFF / AUTO		MAINTAINED CONTACTS	
CONTACT	ON	OFF	AUTO
1	X		
2			X

43HC	HD COVER SUMP PUMP SEL	
NO. 1 LEAD / NO. 2 LEAD		MAINTAINED CONTACTS
CONTACT	NO. 1 LEAD	NO. 2 LEAD
1	X	
2		X
3	X	
4		X
5	X	
6		X
7	X	
8		X

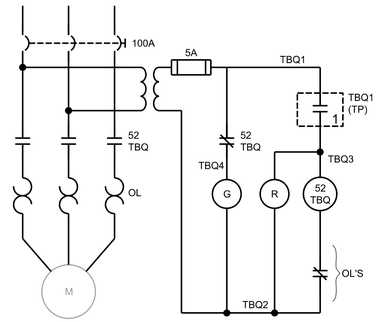


LAG PUMP START

J12 TURBINE GUIDE BEARING OIL SUMP DRAIN PUMP (SU4) - REMOVAL

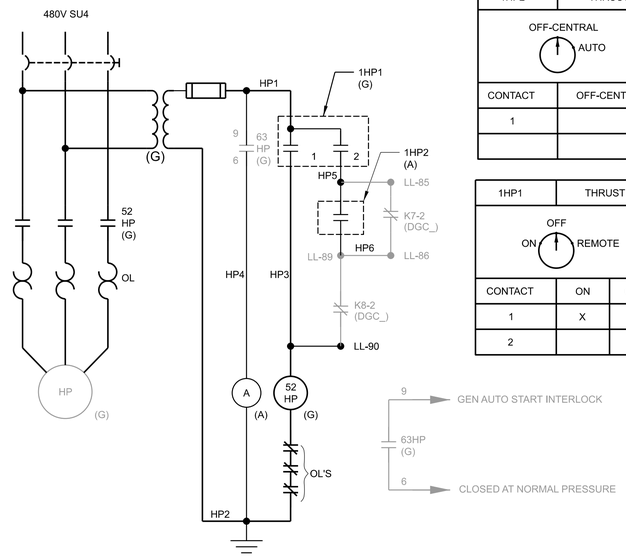
SCALE: NTS

1TBQ	BEARING OIL SUMP PUMP	
ON / OFF	MAINTAINED CONTACTS PULL TO TURN RED HANDLE	
CONTACT	ON	OFF
1	X	



H1 HEAD COVER SUMP PUMPS (SU4) - REMOVAL

SCALE: NTS



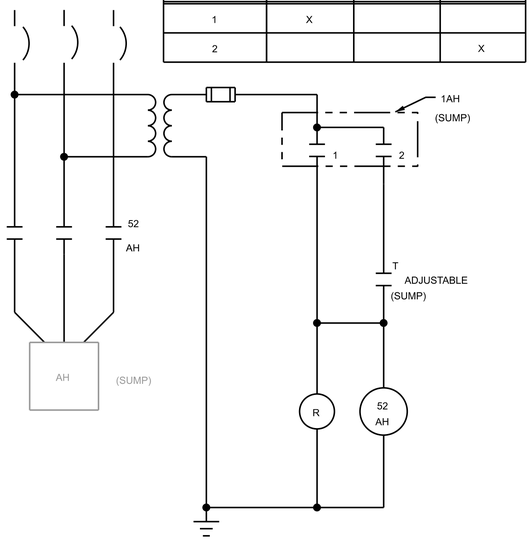
1HP2	THRUST BEARING OIL PUMP	
OFF-CENTRAL / AUTO		MAINTAINED CONTACTS
CONTACT	OFF-CENTRAL	AUTO
1		X

1HP1	THRUST BEARING OIL PUMP		
OFF / ON / REMOTE			MAINTAINED CONTACTS
CONTACT	ON	OFF	REMOTE
1	X		
2			X

A1 HI-PRESS THRUST BEARING OIL PUMP (SU4) - REMOVAL

SCALE: NTS

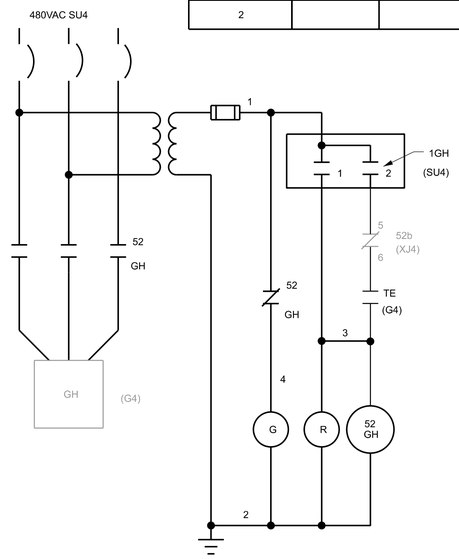
1AH	GOVERNOR SUMP HEATER		
OFF / ON / AUTO			MAINTAINED CONTACTS
CONTACT	ON	OFF	AUTO
1	X		
2			X



A8 GOVERNOR SUMP HEATER (SU4) - REMOVAL

SCALE: NTS

1GH	GENERATOR HEATER		
OFF / ON / AUTO			MAINTAINED CONTACTS
CONTACT	ON	OFF	AUTO
1	X		
2			X



A15 GENERATOR HEATER (SU4) - REMOVAL

SCALE: NTS

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MARK	DESCRIPTION	DATE

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9F21/3
FILE NAME: LGP1.002-ED611.dgn

DESIGNED BY:	S. SCHEIFF
DRAWN BY:	M. FLANAGAN
CHECKED BY:	K. SELLERS
SUBMITTED BY:	L. VAN STEDUM, P.E.
SIZE:	ANSI D

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WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

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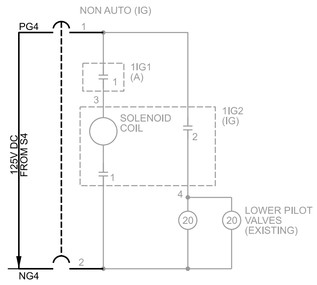
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

PUMPS AND HEATER SU4-SU6
ONE LINE DIAGRAMS
REMOVAL

SHEET ID
VOLUME 4
ED611

FINAL

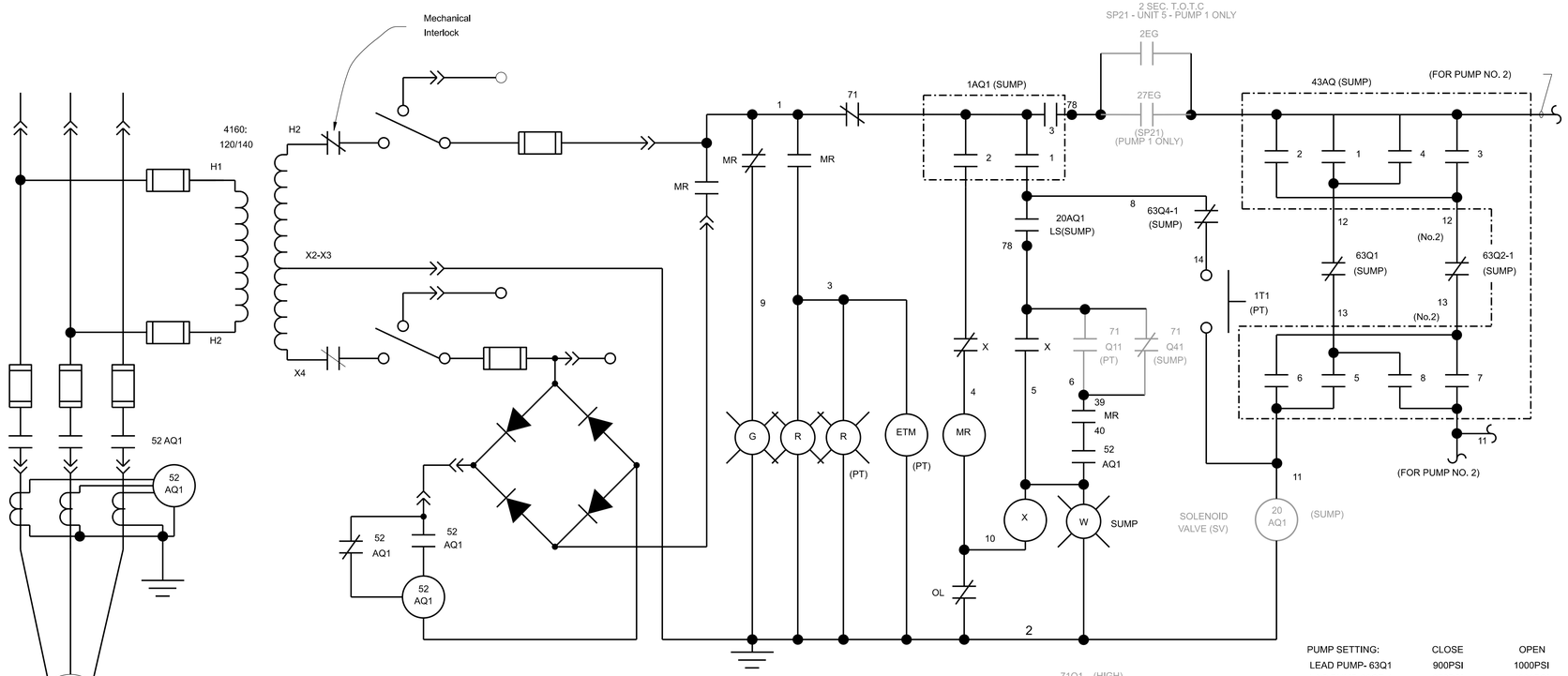


1IG2	INTAKE GATE EMERGENCY	
LOWER	RESET	MAINTAINED CONTACTS PULL TO TURN RED HANDLE
CONTACT	RESET	LOWER
1		X
2	X	

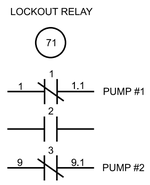
OPERATED FROM RESET TO LOWER
BY COIL OR HANDLE-FROM LOWER
TO RESET BY HANDLE

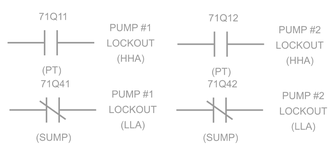
L1 INTAKE GATE EMERGENCY LOWER (SU4) - REMOVAL

SCALE: NTS

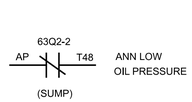


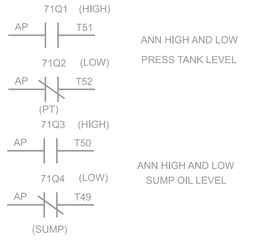
LOCKOUT RELAY





HHA - HIGH HIGH ALARM
LLA - LOW LOW ALARM





PUMP SETTING:	CLOSE	OPEN
LEAD PUMP- 63Q1	900PSI	1000PSI
LAG PUMP-63QZ-1	870PSI	1000PSI
ALARM-63Q2-2	880PSI	980PSI
SHUTDOWN-63Q3	700PSI	980PSI
PUMP TEST-63Q4-1	980PSI	1000PSI
PUMP TEST-63Q4-2	980PSI	1000PSI

TEST STATION PRESSURE TANK

20AQ1-(SV) > PUMP VALVE
20AQ1-(LS) > UNLOADER

A1 GOVENOR OIL PUMP NO. 1 - SU4 (PUMP NO. 2 SIMILAR) - REMOVAL

SCALE: NTS

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE REMOVED BY CONTRACTOR.
2. SCHEMATIC DIAGRAMS ARE SHOWN FOR UNIT 4. SCHEMATIC DIAGRAMS FOR UNITS 5 AND 6 ARE SIMILAR.

LEGEND

EQUIPMENT TO BE REMOVED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
89FV0253-03B	SU6 - STARTER STANDARD UNIT-2 DISCONNECTING DEVICES IN CONTROL UNIT
89FV0253-02B	SU5 - SIZE 2 COMBINATION & NON-COMBINATION STARTER CONTACTOR, SIZE 1 DC CONTACTOR WITH AC COIL
89FV0253-01B	SU4 - UNIT WIRING DIAGRAMS - FNVR COMBINATION STARTER, SIZE 1 DC CONTACTOR WITH AC COIL
LGP-1.37-6-9A24/24	DIGITAL GOVERNOR UPGRADE MAIN UNITS 4-6 AUXILARIES SCHEMATIC
LGP-1.37-6-9A31/4	DIGITAL GOVERNOR UPGRADE MAIN UNITS 4-6 ANNUNCIATOR SCHEMATIC
LGP-1.37-6-9A24/26	DIGITAL GOVERNOR UPGRADE MAIN UNITS 4-6 GOVERNOR INTERPOSING RELAYS

43AQ (AM)	GOV. OIL PUMP SEL	
NO. 1 LEAD	NO. 2 LEAD	MAINTAINED CONTACTS
CONTACT	PUMP 1 LEAD	PUMP 2 LEAD
1	X	
2		X
3	X	
4		X
5	X	
6		X
7	X	
8		X

4AQ1 (AT)	GOV OIL PUMP NO. 1		
4AQ2 (AS)	GOV OIL PUMP NO. 2		
CONT	OFF	AUTO	MAINTAINED CONTACTS
CONTACT	CONT	OFF	AUTO
1	X		
2			X

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: L. VAN STEDUM, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-SP21/4
FILE NAME: V4-LGP1.002-ED612.dgn

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WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
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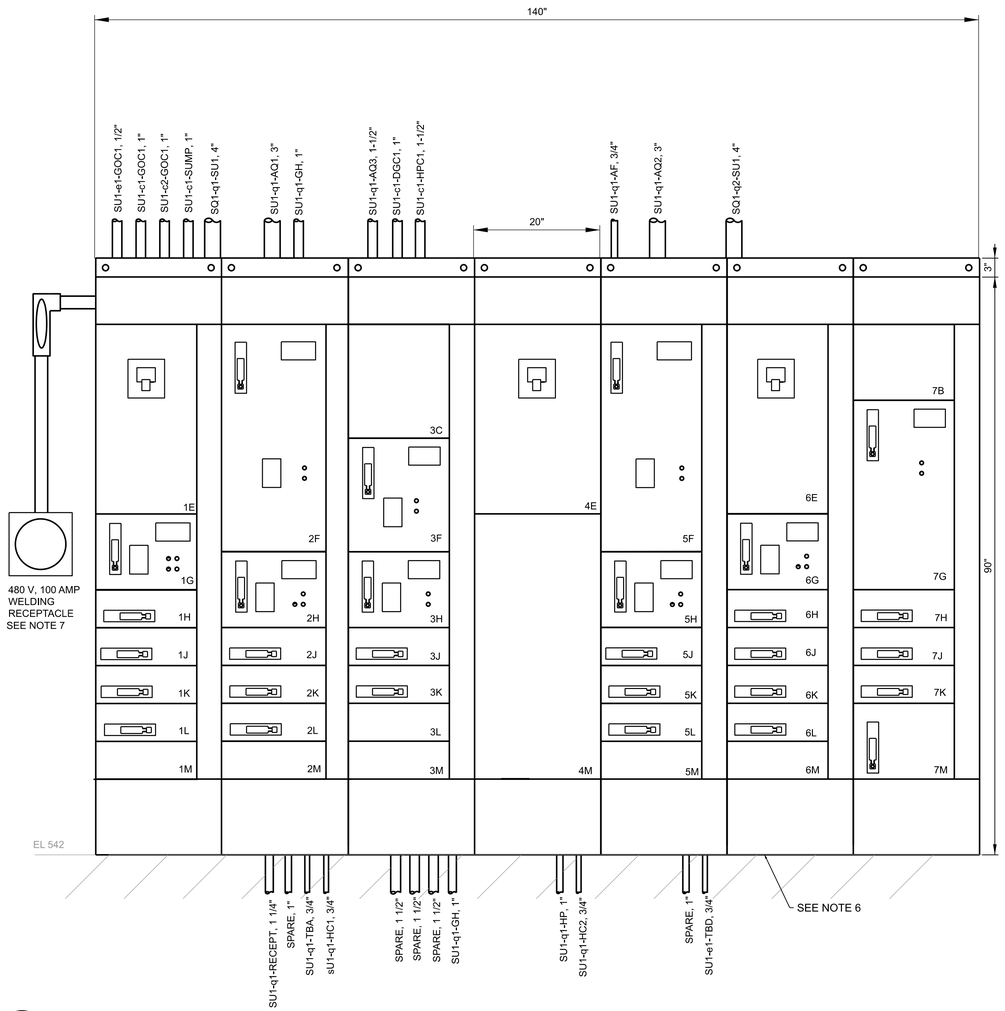
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

INTAKE GATE EMERGENCY LOWER
GOVERNOR OIL PUMPS - SU4-SU6
REMOVAL

SHEET ID
VOLUME 4
ED612

FINAL



A1 CONTROL CENTER SU1 LAYOUT, (SU2 & SU3 ARE SIMILAR)

SCALE: 1' - 1'-0"

SU1 (SU2 & SU3 SIMILAR) 480V CONTROL CENTER
NAMEPLATE AND EQUIPMENT SCHEDULE

VOLTS: 480VAC PHASE: 3-PHASE AMPS: 600A AIC: 65KA

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	CIRCUIT DESIGNATION	NEW CIRCUIT DESIGNATION
1E	MAIN BREAKER BUS 1	600A, 3 POLE, 600V (BUS 1), KEY INTERLOCK, LSI TRIP UNIT	SQ1-q1-SU1	SQ1-q1-SU1
1G	HEAD COVER PUMP #1	COMBINATION STARTER NEMA SIZE 1, R/G LGTS, CPT, ON/OFF/AUTO SW, LEAD/LAG SW	SU1-q7	SU1-q1-HC1
1H	RECEPT 480V	50A, 3 POLE, 600V	SU1-q8	SU1-q1-RECPT
1J	RECEPT 480V 100 AMP	100A, 3 POLE, 600V	--	SU1-q2-RECPT
1K	RECEPT 480V	50A, 3 POLE, 600V	SU1-q17	SU1-q3-RECPT
1L	BANDSAW	20A, 3 POLE, 600V	--	SU1-q4-RECPT
1M	SPACE	--	--	--
2F	GOV OIL PUMP #1	SOFTSTART FOR 125HP MOTOR, ON/OFF LGTS	SU1-q18	SU1-q1-AQ2
2H	GEN HEATERS	50A, 3 POLE, 600V, CONTACTOR NEMA SIZE 2, R/G LGTS, CPT, ON/OFF/AUTO SW	SU1-q11	SU1-q1-GH
2J	SPARE	50A, 3 POLE, 600V	--	--
2K	SPARE	50A, 3 POLE, 600V	--	--
2L	SPARE	30A, 3 POLE, 600V	--	--
2M	SPACE	--	--	--
3C	SPACE	--	--	--
3F	GOV OIL PUMP #3	SOFTSTART FOR 40HP MOTOR, ON/OFF LGTS	SU1-q1-XQ2C	SU1-q1-AQ1
3H	HI-PRES THRUST BEARING OIL PUMP	COMBINATION STARTER NEMA SIZE 2, R/G LGTS, CPT, ON/OFF/AUTO SW	SU1-q16	SU1-q1-HP
3J	SPARE	30A, 3 POLE, 600V	--	--
3K	XJ-1 FAN A	15A, 3 POLE, 600V	SU1-q6	SU1-q1-XFA
3L	SPACE	--	--	--
3M	SPACE	--	--	--
4E	TIE BREAKER	600A, 3 POLE, 600V (TIE), KEY INTERLOCK, LSI TRIP UNIT	--	--
4M	SPACE	--	--	--
5F	GOV OIL PUMP #2	SOFTSTART FOR 125HP MOTOR, ON/OFF LGTS	--	SU1-q1-AQ3
5H	AC TURBINE BEARING OIL PUMP	COMBINATION STARTER NEMA SIZE 1, R/G LGTS, CPT, ON/OFF/AUTO SW	SU1-q3	SU1-q1-TBA
5J	GOV OIL KIDNEY LOOP FILTER PUMP	35A, 3 POLE, 600V	--	SU1-q1-AF
5K	SPARE	50A, 3 POLE, 600V	--	--
5L	LIGHTS, HI BAY	30A, 3 POLE, 600V	SU1-q15	SU1-q1-LTH
5M	SPACE	--	--	--
6E	MAIN BREAKER BUS 2	600A, 3 POLE, 600V (BUS 2), KEY INTERLOCK, LSI TRIP UNIT	SQ1-q2-SU1	SQ1-q2-SU1
6G	HEAD COVER PUMP #2	COMBINATION STARTER NEMA SIZE 1, R/G LGTS, CPT, ON/OFF/AUTO SW	SU1-q14	SU1-q1-HC2
6H	TR11	50A, 3 POLE, 600V	SU1-q1	SU1-q1-TR11
6J	TR12	25A, 3 POLE, 600V	SU1-q4	SU1-q1-TR12
6K	3rd FLOOR UPSTREAM GALLERY WORKSHOP	50A, 3 POLE, 600V	--	SU1-q1
6L	SPARE	30A, 3 POLE, 600V	--	--
6M	SPACE	--	--	--
7B	MAIN LUG	--	S5R1-e1-SU	CE1-e1-CESU1
7G	DC TURBINE BEARING PUMP	STARTER FOR A 1HP DC MOTOR, R/G LGTS, CPT, ON/OFF/REMOTE SW	SU1-e1-TP1	SU1-e1-TBD
7H	GOVERNOR PUMP PLC	20A, 2 POLE, 125VDC	--	--
7J	SPARE	20A, 2 POLE, 125VDC	--	--
7K	SPARE	20A, 2 POLE, 125VDC	--	--
7M	EMERGENCY LIGHTING CONTACTOR	20A, 2 POLE, 125VDC	SU1-e1	SU1-e1-EML

SU1 SHOWN ABOVE

SU2

NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	NEW DESIGNATION
1L = SPARE	20A, 3 POLE, 600V	--
1K = RECEPT 480V-4TH FLOOR BAND SAW	50A, 3 POLE, 600V	SU1-q3-RECPT
3K = XJ-2 FAN A	15A, 3 POLE, 600V	SU2-q1-XFA
5K = HIGH BAY LIGHTS	30A, 3 POLE, 600V	SU2-q1-LTH
6H = TR21	50A, 3 POLE, 600V	SU2-q1-TR21
6J = TR22	25A, 3 POLE, 600V	SU2-q1-TR22
6K = SPARE	50A, 3 POLE, 600V	--

SU3

NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	NEW DESIGNATION
1L = SPARE	20A, 3 POLE, 600V	--
3K = XJ-3 FAN A	15A, 3 POLE, 600V	SU3-q1-XFA
6H = TR31	50A, 3 POLE, 600V	SU3-q1-TR31
6J = TR43	25A, 3 POLE, 600V	SU3-q1-TR32
6K = SPARE	50A, 3 POLE, 600V	--

GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR
2. THE DETAIL SHOWN REPRESENTS A SUGGESTED DESIGN TO ILLUSTRATE THE INTENT AND DOES NOT LIMIT THE CONTRACTOR FROM SUBMITTING A DIFFERENT LAYOUT/ARRANGEMENT.
3. PROVIDE BELL ALARM CONTACTS FOR ALL BREAKERS. ALL FEEDER BREAKER BELL ALARM CONTACTS, OVERLOADS, AND SOFTSTARTER TROUBLE SHALL BE PARALLELED TOGETHER AND ROUTE TO THE MAIN UNIT ANNUNCIATION BOARD.
4. CONNECT THE NEW CONTINUOUS GROUND BUS TO THE EXISTING POWERHOUSE GROUND INSERTS. CONTRACTOR TO REFER TO THE REFERENCE DRAWINGS TO LOCATED NEAREST CONNECTION POINT.
5. THE TWO MAIN CIRCUIT BREAKERS AND THE TIE BREAKER SHALL BE KEY INTERLOCKED SO THAT ONLY TWO OF THE THREE BREAKERS CAN BE IN THE CLOSED POSITION AT THE SAME TIME.
6. TWO INCH PAD REQUIRED, NOT SHOWN. SEE E-005 DETAIL Q. PROVIDE A BLOCKOUT FOR THE EMBEDDED CONDUIT SO IT CAN BE REUSED, MAY EXTEND THE CONDUIT ABOVE PAD WITH SUFFICIENT SPACE TO PROVIDE A BUSHING IF DESIRED.
7. MOUNT 480V RECEPTACLE ON THE WALL LEFT OF MCC.

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1A8/4	480 VOLT CONTROL CENTERS SU1 THRU SU3 ONE LINE DIAGRAM CONTROL CONNECTIONS, SCHEMATIC
LGP-1-6-1E1/1	EMBEDDED CONDUIT & GROUNDING MAIN UNIT BAY 1 UPSTREAM HALF EL 542.00
LGP-1-6-1E1/2	EMBEDDED CONDUIT & GROUNDING MAIN UNIT BAY 1 DOWNSTREAM HALF EL 542.00
LGP-1-6-1E1/3	EMBEDDED CONDUIT & GROUNDINGS MAIN UNIT BAY 2 UPSTREAM HALF EL 542.00
LGP-1-6-1E1/4	EMBEDDED CONDUIT & GROUNDINGS MAIN UNIT BAY 2 DOWNSTREAM HALF EL 542.00
LGP-1-6-1E1/5	EMBEDDED CONDUIT & GROUNDINGS MAIN UNIT GALLERIES 1 & 2 EL 558.00 & 580.00
LGP-1-6-1E1/10	EMBEDDED CONDUIT & GROUNDING FISHWAY GALLERY ERECTION BAY & BAYS 1-3 EL 542.00
LGP-1-6-1F1/1	EMBEDDED CONDUIT & GROUNDING MAIN UNIT BAY 3 UPSTREAM HALF EL 542.00
LGP-1-6-1F1/2	EMBEDDED CONDUIT & GROUNDING MAIN UNIT BAY 3 DOWNSTREAM HALF EL 542.00

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: ALVAN STERDUM, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-E422
FILENAME: V:\LGP\1.002-E-201.dgn

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201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

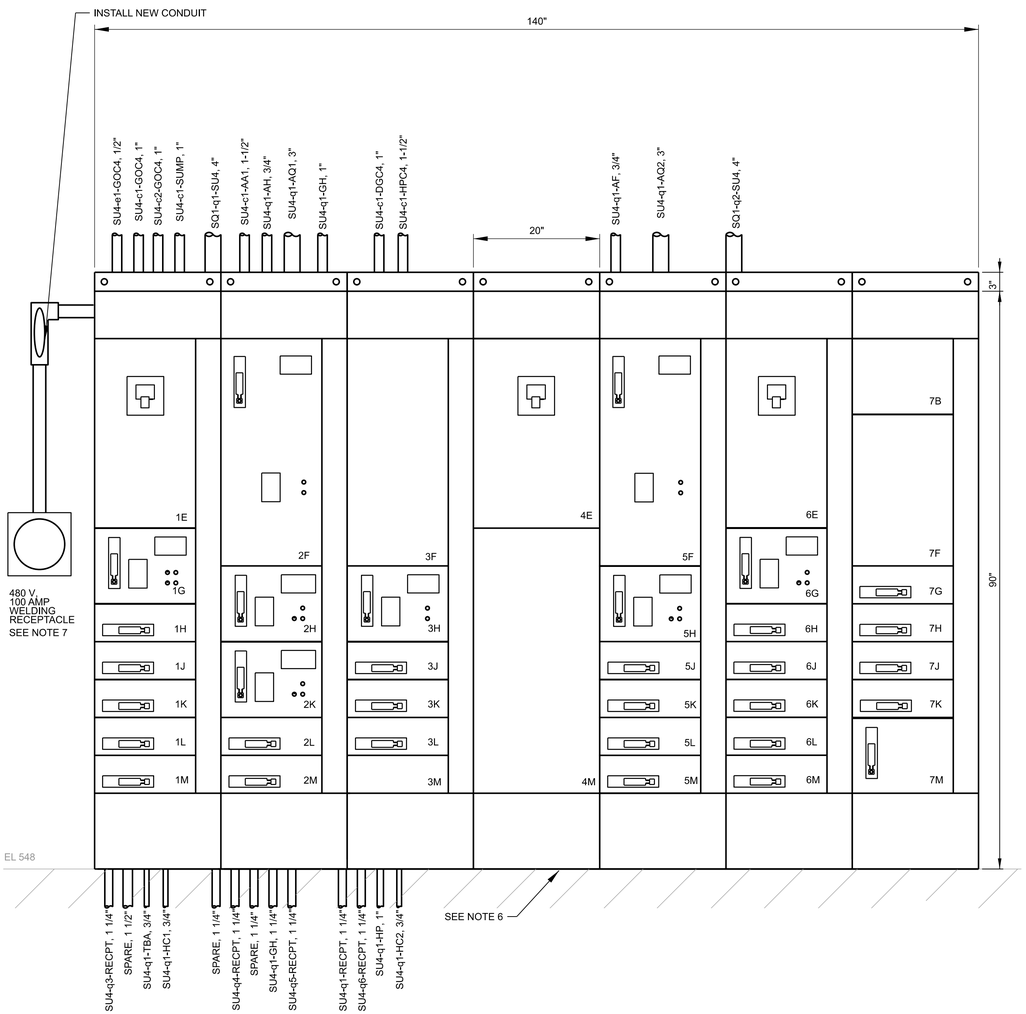
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

480 VOLT CONTROL CENTER SU1-SU3
ELEVATION VIEW
INSTALL

SHEET ID
VOLUME 4
E-201

FINAL



A1 CONTROL CENTER SU4 LAYOUT, (SU5 & SU6 ARE SIMILAR)

SCALE: 1' - 1'-0"

0' 1' 2'

SU4 (SU5 & SU6 SIMILAR) 480V CONTROL CENTER
NAMEPLATE AND EQUIPMENT SCHEDULE

VOLTS: 480VAC PHASE: 3-PHASE AMPS: 600A AIC: 65KA

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	CIRCUIT DESIGNATION	NEW CIRCUIT DESIGNATION
1E	MAIN BREAKER BUS 1	600A, 3 POLE, 600V (BUS 1), KEY INTERLOCK, LSI TRIP UNIT	SQ1-q1-SU4	SQ1-q1-SU4
1G	HEAD COVER PUMP #1	COMBINATION STARTER NEMA SIZE 1, R/G LGTS, CPT ON/OFF/AUTO SW, LEAD/LAG SW	SU4-q7	SU4-q1-HC1
1H	SPARE	50A, 3 POLE, 600V	--	--
1J	RECEPT 480V - PAINT BOOTH	50A, 3 POLE, 600V	SU4-q8	SU4-q1-RECPT
1K	RECEPT 480V - 100 AMP	100A, 3 POLE, 600V	--	SU4-q2-RECPT
1L	RECEPT 480V	50A, 3 POLE, 600V	SU4-q5	SU4-q3-RECPT
1M	RECEPT 480V	50A, 3 POLE, 600V	SU4-q3	SU4-q4-RECPT
2F	GOV OIL PUMP #1	SOFTSTART FOR 150HP MOTOR, R/G LGTS, CPT	--	SU4-q1-AQ1
2H	GEN HEATERS	50A, 3 POLE, 600V, CONTACTOR NEMA SIZE 2, R/G LGTS, CPT, ON/OFF/AUTO SW	SU4-q11	SU4-q1-GH
2K	GOVERNOR SUMP HEATER	20A, 3 POLE, 600V	SU4-q9	SU4-q1-EHQ
2L	GOV AIR COMP #1 (1000lbs)	120A, 3 POLE, 600V	SU4-q1-AA	SU4-q1-AA1
2M	SPARE	50A, 3 POLE, 600V	--	--
3F	SPACE	--	--	--
3H	HI-PRES THRUST BEARING OIL PUMP	COMBINATION STARTER NEMA SIZE 2, R/G LGTS, CPT, ON/OFF SW	SU4q16	SU4-q1-HP
3J	SPARE	50A, 3 POLE, 600V	--	--
3K	XJ-4 FAN A	15A, 3 POLE, 600V	SU4-q6	SU4-q1-XFA
3L	SPARE	50A, 3 POLE, 600V	--	--
3M	SPACE	--	--	--
4E	TIE BREAKER	600A, 3 POLE, 600V (TIE), KEY INTERLOCK, LSI TRIP UNIT	--	--
4M	SPACE	--	--	--
5F	GOV OIL PUMP #2	SOFTSTART FOR 150HP MOTOR, R/G LGTS, CPT	--	SU4-q1-AQ2
5H	TURBINE GUIDE BRG OIL SUMP PUMP	COMBINATION STARTER NEMA SIZE 2, R/G LGTS, CPT, ON/OFF SW	SU4-q2	SU4-q1-TBQ
5J	GOV OIL KIDNEY LOOP FILTER PUMP	35A, 3 POLE, 600V	--	SU4-q1-AF
5K	XJ-4 FAN B	15A, 3 POLE, 600V	SU4-q13	SU4-q1-XFB
5L	LIGHTS, HI BAY	30A, 3 POLE, 600V	--	--
5M	SPARE	50A, 3 POLE, 600V	--	--
6E	MAIN BREAKER BUS 2	600A, 3 POLE, 600V (BUS 2), KEY INTERLOCK, LSI TRIP UNIT	SQ1-q2-SU4	SQ1-q2-SU4
6G	HEAD COVER PUMP #2	COMBINATION STARTER NEMA SIZE 1, R/G LGTS, CPT ON/OFF/AUTO SW	SU4-q14	SU4-q1-HC2
6H	TR41	50A, 3 POLE, 600V	SU4-q1	SU4-q1-TR41
6J	TR42	25A, 3 POLE, 600V	SU4-q4	SU4-q1-TR42
6K	RECEPT 480V	50A, 3 POLE, 600V	SU4-q17	SU4-q5-RECEPT
6L	RECEPT 480V	50A, 3 POLE, 600V	SU4-q18	SU4-q6-RECPT
6M	RECEPT 480V	50A, 3 POLE, 600V	SU4-q10	SU4-q7-RECEPT
7B	MAIN LUG	--	S4R2-e1-SU4	CE4-e1-SU4
7F	SPACE	--	--	--
7E	SPARE	20A, 2 POLE, 125VDC	--	--
7H	GOVERNOR PUMP PLC	20A, 2 POLE, 125VDC	--	--
7J	SPARE	20A, 2 POLE, 125VDC	--	--
7K	SPARE	20A, 2 POLE, 125VDC	--	--
7M	EMERGENCY LIGHTING CONTACTOR	20A, 2 POLE, 125VDC	SU4-e1	SU4-e1-EML

SU4 SHOWN ABOVE

SU5

NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	NEW DESIGNATION
1J = RECEPT 480	50A, 3 POLE, 600V	SU5-q1-RECEPT
2L = GOV AIR COMP #2 (1000 LBS)	120A, 3 POLE, 600V	SU5-q1-AA2
3K = XJ-5 FAN A	15A, 3 POLE, 600V	SU5-q1-XFA
3L = HI BAY LIGHTS	30A, 3 POLE, 600V	SU5-q2-LTH
5K = XJ-5 FAN B	15A, 3 POLE, 600V	SU5-q1-XFB
6H = TR51	50A, 3 POLE, 600V	SU5-q1-TR51
6J = TR52	25A, 3 POLE, 600V	SU5-q1-TR52

SU6

NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	NEW DESIGNATION
1J = RECEPT 480V	50A, 3 POLE, 600V	SU6-q1-RECEPT
2L = CO2 TANK COMP #1	30A, 3 POLE, 600V	SU6-q1-YA1
2M = CO2 TANK COMP #2	30A, 3 POLE, 600V	SU6-q1-YA2
3K = XJ-6 FAN A	15A, 3 POLE, 600V	SU6-q1-XFA
3L = HI-BAY LIGHTS	30A, 3 POLE, 600V	SU6-q1-LTH
5K = XJ-6 FAN B	15A, 3 POLE, 600V	SU6-q1-XFB
5L = TR63	15A, 3 POLE, 600V	SU6-q1-TR63
6H = TR61	50A, 3 POLE, 600V	SU6-q1-TR61
6J = TR62	25A, 3 POLE, 600V	SU6-q1-TR62

GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR
2. THE DETAIL SHOWN REPRESENTS A SUGGESTED DESIGN TO ILLUSTRATE THE INTENT AND DOES NOT LIMIT THE CONTRACTOR FROM SUBMITTING A DIFFERENT LAYOUT/ARRANGEMENT.
3. PROVIDE BELL ALARM CONTACTS FOR ALL BREAKERS. ALL FEEDER BREAKER BELL ALARM CONTACTS, OVERLOADS, AND SOFTSTARTER TROUBLE SHALL BE PARALLELED TOGETHER AND ROUTE TO THE MAIN UNIT ANNUNCIATION BOARD.
4. CONNECT THE NEW CONTINUOUS GROUND BUS TO THE EXISTING POWERHOUSE GROUND INSERTS. CONTRACTOR TO REFER TO THE REFERENCE DRAWINGS TO LOCATED NEAREST CONNECTION POINT.
5. THE TWO MAIN CIRCUIT BREAKERS AND THE TIE BREAKER SHALL BE KEY INTERLOCKED SO THAT ONLY TWO OF THE THREE BREAKERS CAN BE IN THE CLOSED POSITION AT THE SAME TIME.
6. TWO INCH PAD REQUIRED, NOT SHOWN. SEE E-005 DETAIL Q. PROVIDE A BLOCKOUT FOR THE EMBEDDED CONDUIT SO IT CAN BE REUSED. MAY EXTEND THE CONDUIT ABOVE PAD WITH SUFFICIENT SPACE TO PROVIDE A BUSHING IF DESIRED.
7. MOUNT 480V RECEPTACLE ON THE WALL LEFT OF MCC.

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.9-6-1F1/1	MAIN UNIT - BAY 4 UPSTREAM
LGP-1.9-6-1F1/2	MAIN UNIT- BAY 4 DOWNSTREAM
LGP-1.9-6-1G1/1	MAIN UNIT - BAY 5 UPSTREAM
LGP-1.9-6-1G1/2	MAIN UNIT - BAY 5 DOWNSTREAM
LGP-1.9-6-1G1/3	MAIN UNIT - BAY 6 UPSTREAM
LGP-1.9-6-1G1/4	MAIN UNIT - BAY 6 DOWNSTREAM

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STEFONI, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-e-SHT-#1
FILENAME: V4-LGP-1.002-E-202.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

480 VOLT CONTROL CENTER SU4-SU6
ELEVATION VIEW
INSTALL

SHEET ID
VOLUME 4
E-202

FINAL

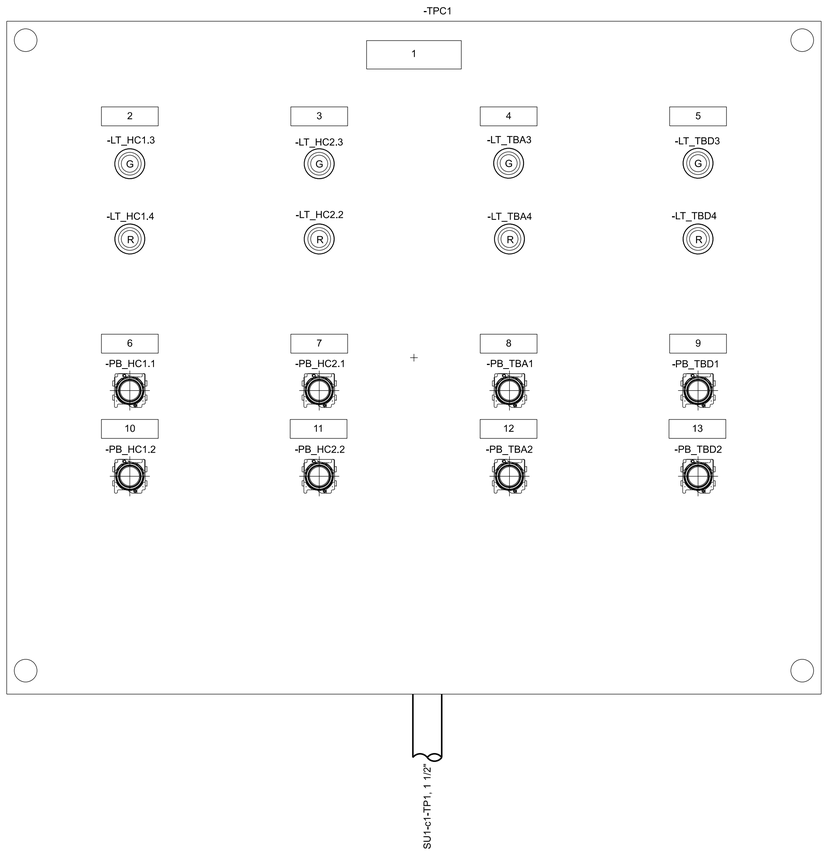
GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR
2. THE DETAIL SHOWN REPRESENTS A SUGGESTED DESIGN TO ILLUSTRATE THE INTENT AND DOES NOT LIMIT THE CONTRACTOR FROM SUBMITTING A DIFFERENT LAYOUT/ARRANGEMENT.

REFERENCE DRAWINGS

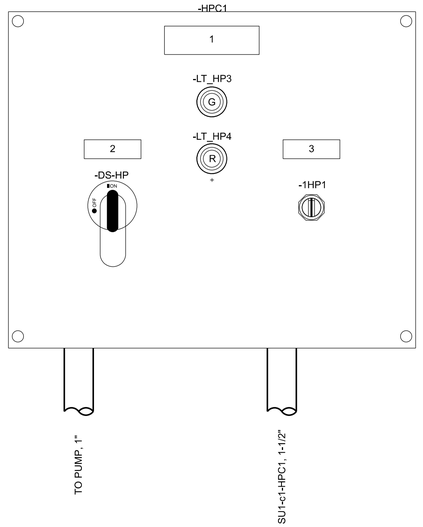
DRAWING NO	TITLE
LGP-1.1-6-1F21/1	ONE LINE SU3 & CP3
LGP-1.1-6-1E21/2	ONE LINE SU2 & CP2
LGP-1.1-6-1E21/1	ONE LINE SU1 & CP1

TURBINE PIT CONTROL PANEL NAMEPLATE SCHEDULE			
NP NUM.	CHAR. SIZE	FIRST LINE	SECOND LINE
1	1/2"	TURBINE PIT	CONTROL PANEL
2	1/4"	HEAD COVER SUMP	PUMP #1
3	1/4"	HEAD COVER SUMP	PUMP #2
4	1/4"	AC TURBINE BEARING	OIL PUMP
5	1/4"	DC TURBINE BEARING	OIL PUMP
6	1/4"	START	
7	1/4"	START	
8	1/4"	START	
9	1/4"	START	
10	1/4"	STOP	
11	1/4"	STOP	
12	1/4"	STOP	
13	1/4"	STOP	



A1 TURBINE PIT CONTROL PANEL - TPRC1
(TPRC2 AND TPRC3 SIMILAR)
SCALE: NTS

HI-PRESSURE THRUST BRG. PUMP CONTROL NAMEPLATE SCHEDULE			
NP NUM.	CHAR. SIZE	FIRST LINE	SECOND LINE
1	1/2"	HI-PRESSURE THRUST BRG	OIL PUMP CONTROL PANEL
2	1/4"	DISCONNECT	
3	1/4"	ON/OFF/REMOTE	



A13 HI-PRESSURE OIL PUMP CONTROL PANEL -HPC1
(HPC2 AND HPC3 SIMILAR)
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: DANA STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9A401
FILE NAME: V4-LGP1.002-E-203.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

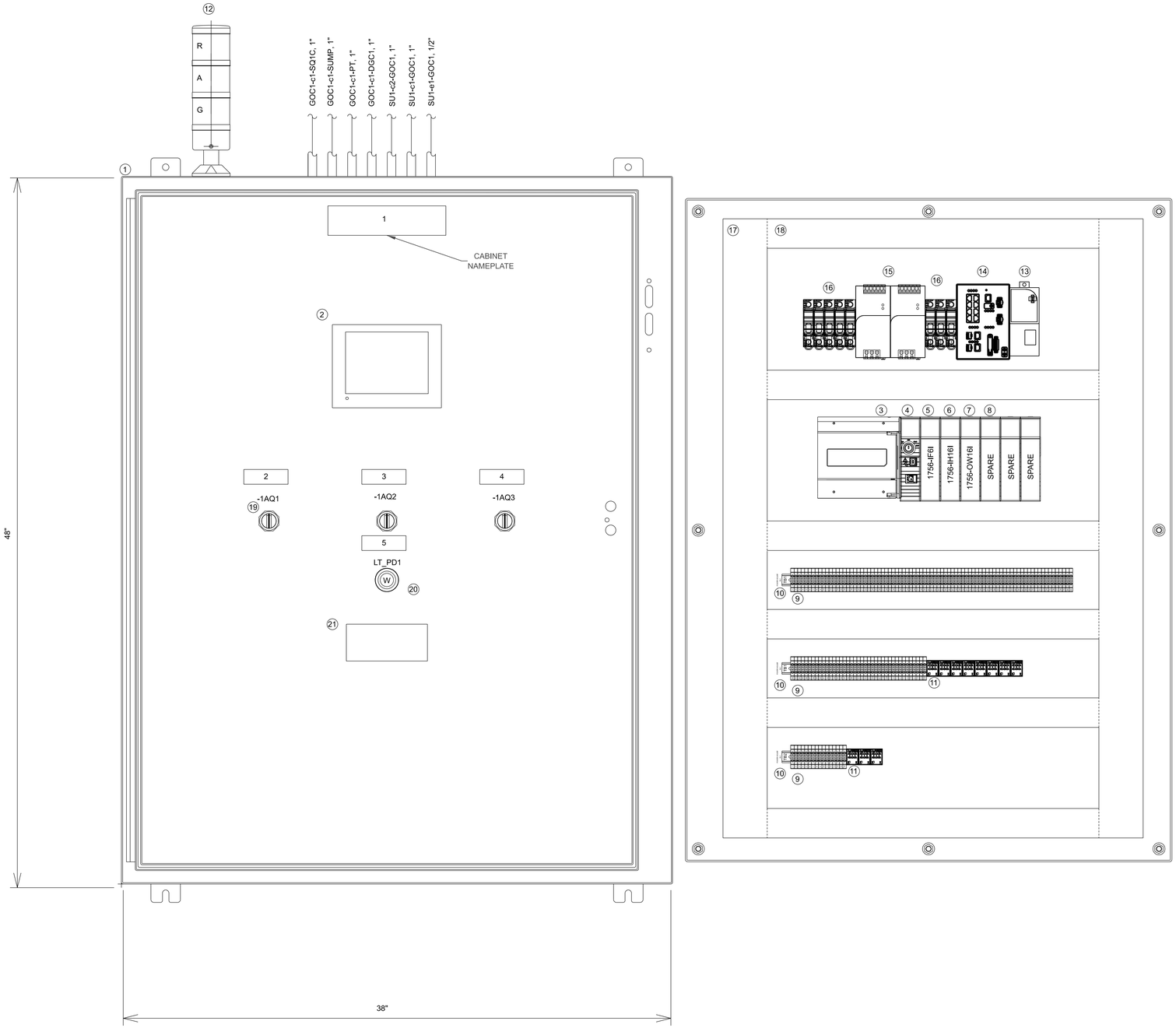
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

TURBINE PIT CONTROL PANEL - TPC1
HI-PRESSURE OIL PUMP CONTROL PANEL - HPC1
INSTALL

SHEET ID
VOLUME 4
E-203

FINAL



GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR
2. THE DETAIL SHOWN REPRESENTS A SUGGESTED DESIGN TO ILLUSTRATE THE INTENT AND DOES NOT LIMIT THE CONTRACTOR FROM SUBMITTING A DIFFERENT LAYOUT/ARRANGEMENT.
3. THE ENCLOSURE IS WALL MOUNTED. THE HMI SCREEN SHALL BE MOUNTED 60" FROM THE FINISHED FLOOR HEIGHT TO THE CENTER OF THE SCREEN.

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1F21/1	ONE LINE SU3 & CP3
LGP-1.1-6-1E21/2	ONE LINE SU2 & CP2
LGP-1.1-6-1E21/1	ONE LINE SU1 & CP1

GOVERNOR OIL PUMP CONTROL PANEL NAMEPLATE SCHEDULE

NP NUM.	CHAR. SIZE	FIRST LINE	SECOND LINE
1	1/2"	GOVERNOR OIL PUMP	CONTROL PANEL
2	1/4"	GOVERNOR OIL PUMP #1	ON/OFF/AUTO
3	1/4"	GOVERNOR OIL PUMP #2	ON/OFF/AUTO
4	1/4"	GOVERNOR OIL PUMP #3	ON/OFF/AUTO
5	1/4"	BACKUP CONTROL	

MATERIALS LIST (SU1-SU3)

ITEM	QTY	UNIT	DESCRIPTION
1	1	EA	NEMA 12 48 X 38 X 10 SINGLE DOOR ENCLOSURE
2	1	EA	HMI-ADVANTECH-WEBOP-2070T
3	1	EA	DC POWER SUPPLY
4	1	EA	CONTROL LOGIX 5580 CONTROLLER-1756-L82E
5	1	EA	ANALOG INPUT-1756-IF6I
6	1	EA	90-146 VDC ISOLATED INPUT - 1756-IH16I
7	1	EA	N.O. ISOLATED RELAY OUTPUT - 1756-OW16I
8	3	EA	SPACER (1756-N2)
9	136	EA	TERMINAL BLOCKS
10	2	EA	DIN RAIL
11	11	EA	CONTROL RELAY
12	1	EA	STACK LIGHTS
13	1	EA	NETWORK SWITCH POWER SUPPLY
14	1	EA	NETWORK SWITCH
15	2	EA	POWER SUPPLY
16	8	EA	FUSE
17	2	EA	3" VERTICAL PANDUIT
18	6	EA	2" HORIZONTAL PANDUIT
19	3	EA	SELECTOR SWITCH
20	1	EA	INDICATOR LIGHT - WHITE
21	1	EA	BACKUP CONTROLLER

A1 GOVERNOR OIL PUMP CONTROL GOC1 (GOC2 AND GOC3 SIMILAR)
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: IVAN STEDUM, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-8E40/1
FILENAME: V4-LGP1.002-E-204.dgn

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WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
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PORTLAND, OREGON

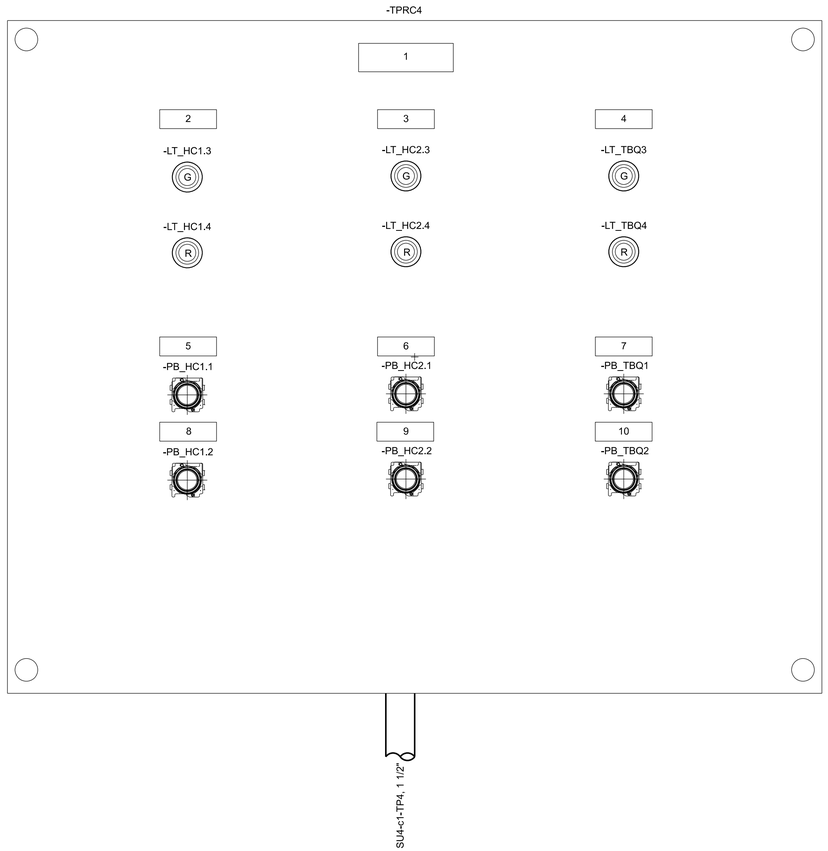
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

GOVERNOR OIL PUMP CONTROL - GOC1
FOR SU1-SU3
INSTALL

SHEET ID
VOLUME 4
E-204

FINAL

TURBINE PIT CONTROL PANEL NAMEPLATE SCHEDULE			
NP. NUM.	CHAR. SIZE	FIRST LINE	SECOND LINE
1	1/2"	TURBINE PIT	CONTROL PANEL
2	1/4"	HEAD COVER SUMP	PUMP #1
3	1/4"	HEAD COVER SUMP	PUMP #2
4	1/4"	TURBINE GUIDE BEARING	OIL SUMP PUMP
5	1/4"	START	
6	1/4"	START	
7	1/4"	START	
8	1/4"	STOP	
9	1/4"	STOP	
10	1/4"	STOP	



A1 TURBINE PIT CONTROL PANEL - TPRC4
(TPRC5 AND TPRC6 SIMILAR)
SCALE: NTS

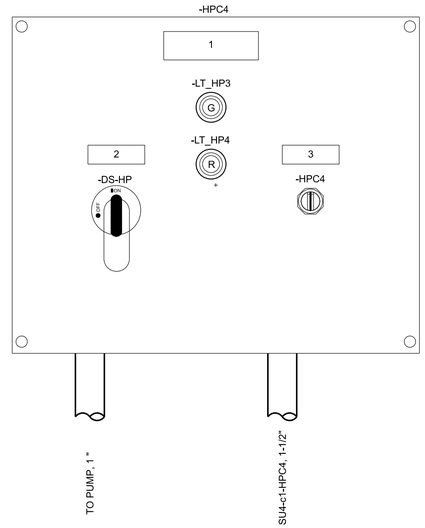
GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR
2. THE DETAIL SHOWN REPRESENTS A SUGGESTED DESIGN TO ILLUSTRATE THE INTENT AND DOES NOT LIMIT THE CONTRACTOR FROM SUBMITTING A DIFFERENT LAYOUT/ARRANGEMENT.

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.9-6-1G21/3	ONE LINE SU6 & CP6
LGP-1.9-6-1G21/2	ONE LINE SU5 & CP5
LGP-1.9-6-1F21/1	ONE LINE SU4 & CP4

HI-PRESSURE THRUST BRG. PUMP CONTROL NAMEPLATE SCHEDULE			
NP. NUM.	CHAR. SIZE	FIRST LINE	SECOND LINE
1	1/2"	HI-PRESSURE THRUST BRG	OIL PUMP CONTROL PANEL
2	1/4"	DISCONNECT	
3	1/4"	ON/OFF/REMOTE	



A13 HI-PRESSURE TURBINE PUMP CONTROL - HPC4
(HPC5 AND HPC6 SIMILAR)
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JOAN STERLING, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-5940/2
SIZE:
FILE NAME: V4-LGP1.002-E-205.dgn

U.S. ARMY CORPS OF ENGINEERS
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201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

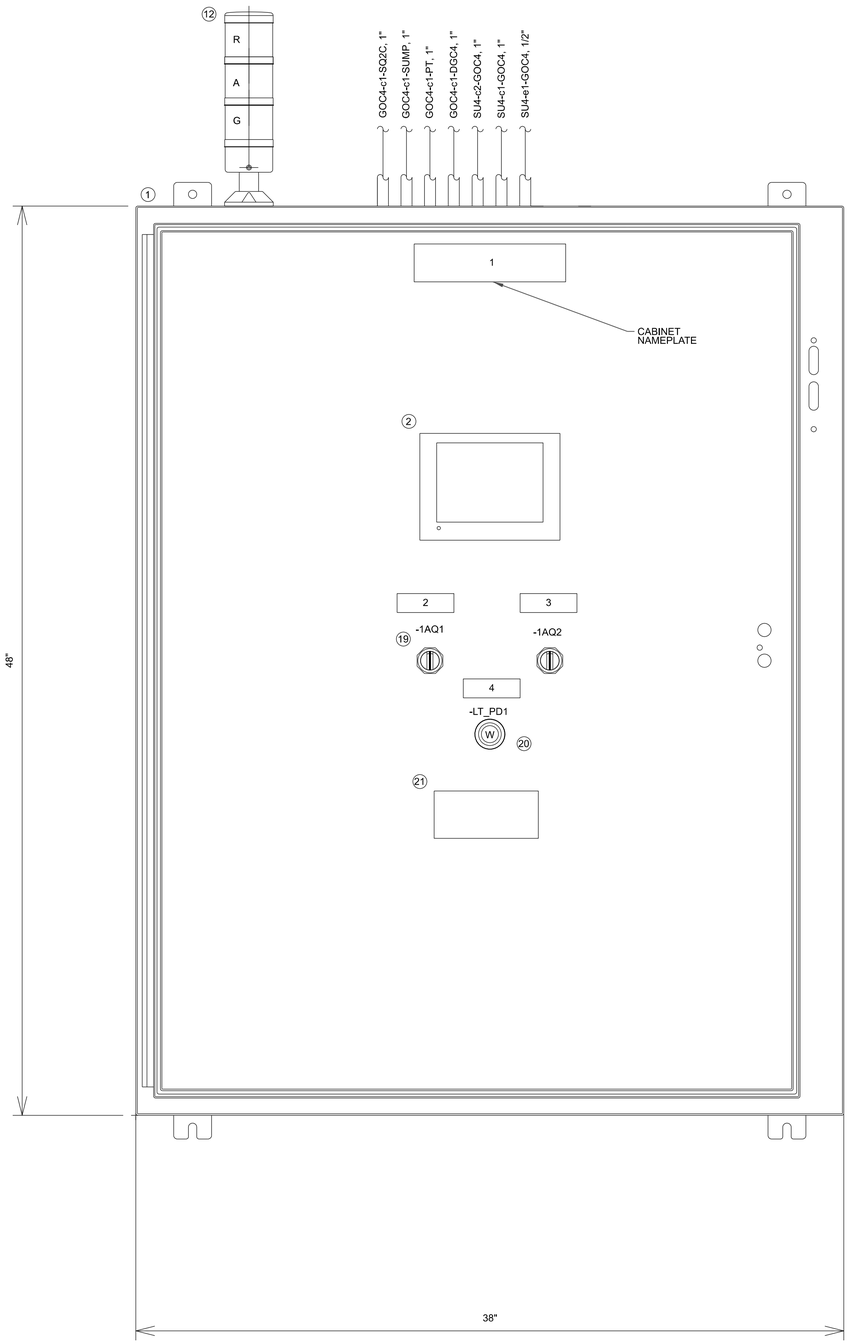
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

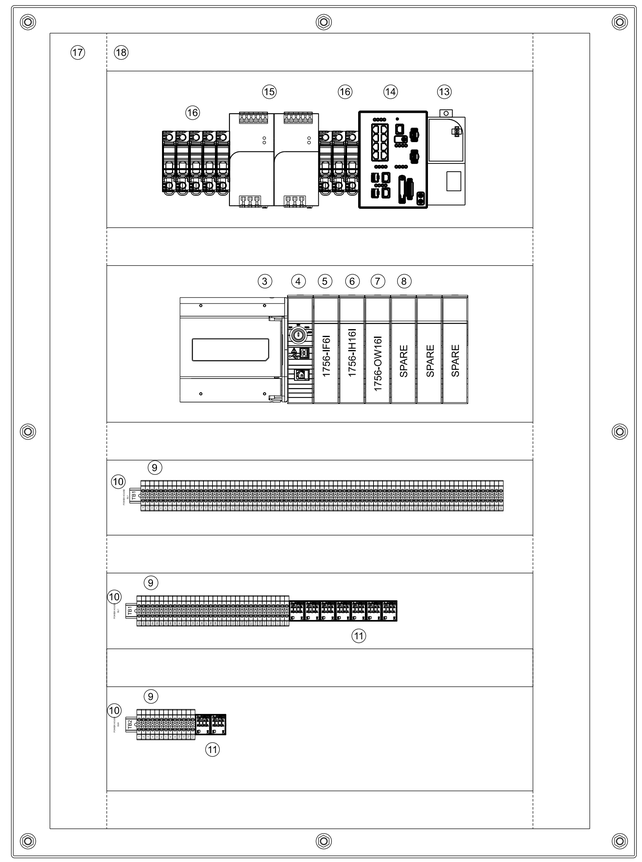
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

TURBINE PIT CONTROL PANEL - TPRC4
HI-PRESSURE TURBINE PUMP CONTROL - HPC4
INSTALL

SHEET ID
VOLUME 4
E-205

FINAL





GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR
2. THE DETAIL SHOWN REPRESENTS A SUGGESTED DESIGN TO ILLUSTRATE THE INTENT AND DOES NOT LIMIT THE CONTRACTOR FROM SUBMITTING A DIFFERENT LAYOUT/ARRANGEMENT.
3. THE ENCLOSURE IS WALL MOUNTED. THE HMI SCREEN SHALL BE MOUNTED 60" FROM THE FINISHED FLOOR HEIGHT TO THE CENTER OF THE SCREEN.

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.9-6-1G21/3	ONE LINE SU6 & CP6
LGP-1.9-6-1G21/2	ONE LINE SU5 & CP5
LGP-1.9-6-1F21/1	ONE LINE SU4 & CP4

GOVERNOR OIL PUMP CONTROL PANEL NAMEPLATE SCHEDULE

NP NUM.	CHAR. SIZE	FIRST LINE	SECOND LINE
1	1/2"	GOVERNOR OIL PUMP	CONTROL PANEL
2	1/4"	GOVERNOR OIL PUMP #1	ON/OFF/AUTO
3	1/4"	GOVERNOR OIL PUMP #2	ON/OFF/AUTO
4	1/4"	BACKUP CONTROL	

MATERIALS LIST (SU4-SU6)

ITEM	QTY	UNIT	DESCRIPTION
1	1	EA	NEMA 12 48 X 38 X 10 SINGLE DOOR ENCLOSURE
2	1	EA	HMI-ADVANTECH-WEBOP-2070T
3	1	EA	DC POWER SUPPLY
4	1	EA	CONTROL LOGIX 5580 CONTROLLER-1756-L82E
5	1	EA	ANALOG INPUT-1756-IF6I
6	1	EA	90-146 VDC ISOLATED INPUT - 1756-IH16I
7	1	EA	N.O. ISOLATED RELAY OUTPUT - 1756-OW16I
8	3	EA	SPACER (1756-N2)
9	128	EA	TERMINAL BLOCKS
10	2	EA	DIN RAIL
11	9	EA	CONTROL RELAY
12	3	EA	STACK LIGHTS
13	1	EA	NETWORK SWITCH POWER SUPPLY
14	1	EA	NETWORK SWITCH
15	2	EA	POWER SUPPLY
16	8	EA	FUSE
17	2	EA	3" VERTICAL PANDUIT
18	6	EA	2" HORIZONTAL PANDUIT
19	2	EA	SELECTOR SWITCH
20	1	EA	INDICATOR LIGHT - WHITE
21	1	EA	BACKUP CONTROLLER

A1 GOVERNOR OIL PUMP CONTROL - SU4
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9F40/1
FILE NAME: V4-LGP1.002-E-206.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

GOVERNOR OIL PUMP CONTROL - GOC4
FOR SU4-SU6
INSTALL

SHEET ID
VOLUME 4
E-206

FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. PROVIDE BELL ALARM CONTACTS FOR ALL BREAKERS. ALL FEEDER BREAKER BELL ALARM CONTACTS, OVERLOADS SHALL BE PARALLELED TOGETHER AND ROUTED TO THE GOVERNOR OIL PUMP PLC.

LEGEND

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1E21/1	ONE LINE DIAGRAM SU1 & CP1

480VAC

SU1

SQ1-q1-SU1 6-1/C - #500 KCMIL & #1G

SQ1-q2-SU1 6-1/C - #500 KCMIL & #1G

1E 600 KEY INTERLOCK 4E 600 6E 600

1H 50 SU1-q1-RECPT 3-1/C #6 + #10G — RECEPT 480V

1J 100 SU1-q2-RECPT 3-1/C #1 + #8G — RECEPT 480V - 100A

1K 50 SU1-q3-RECPT 3-1/C #6 + #10G — RECEPT 480V

1L 20 SU1-q4-RECPT 3-1/C #12 + #12G — BANDSAW

2H 50 SU1-q1-GH 3-1/C #6 + #10G — 24KW — GEN HEATERS

SU1-c1-GH 1-2/C #12 — 23

2J 50 — SPARE

2K 50 — SPARE

2L 30 — SPARE

3H 50 SU1-q1-HPC 3-1/C #10 + #10G — 42 — 2

SU1-c1-HPC1 1-7/C #12 — 1 HP1 (G)

SU1-c1-DGC1 1-4/C #12 — 1 HP2 (A)

SPARE — XJ-1 FAN A

15HP — HIGH PRESS. THRUST BRG. OIL PUMP

3J 30 — SPARE

3K 15 SU1-q1-XFA 3-1/C #12 + #12G — 3HP — GOVERNOR OIL PUMP NO. 3

3F 120 SU1-q1-AO3 3-1/C #4 + #8G — 40HP — GOVERNOR OIL PUMP NO.1

SS — 24V PS

1G 30 SU1-q1-HC1 3-1/C #12 + #12G — 42 — 1 — 7.5HP — HEAD COVER SUMP PUMP NO.1

1 HC1 — 43 HC

2F 400 SU1-q1-AO1 3-1/C #3/0 + #6G — 125HP — GOVERNOR OIL PUMP NO.1

SS — 24V PS

SU1-c1-SUMP 1-12/C #12

SU1-c1-GOC1 12-1/C #12

SU1-c2-GOC1 ETHERNET

125 DC POWER

PLC GOVERNOR OIL PUMP CONTROL (GOC1)

GOC1-c1-DGC1 1-6/C #12

GOC1-c1-SUMP 1-12/C #12

GOC1-c1-PT 1-6/C #12 3-4/C #16 SHIELDED

(GOV. SUMP TANK) 20 33 71Q3; 20 33 71Q4; 20 33 71Q5

(PRESS. TANK) T 71Q1 PS; 71Q2 PS; PS

5F 400 SU1-q1-AO2 3-1/C #3/0 + #6G — 125HP — GOVERNOR OIL PUMP NO.2

SS — 24V PS

5J 35 SU1-q1-AF 3-1/C #8 + #10G — SPARE

5K 50 — SPARE

5L 30 SU1-q1-TH 3-1/C #10 + #10G — HI-BAY LIGHTING

6G 20 SU1-q1-HC2 3-1/C #12 + #12G — 42 — 1 — 5HP — HEAD COVER SUMP PUMP NO.2

SU1-c1-TP1 1-14/C #12 — 1 HC2

30 — 1 — 42 — AH — 23 — KIDNEY LOOP FILTER PUMP — 10 HP (GOV. SUMP)

6H 50 SU1-q1-TR11 3-1/C #6 + #10G — 30KVA — LIGHTING TRANS. TR11

6J 25 SU1-q1-TR12 3-1/C #10 + #10G — 15KVA — LIGHTING TRANS. TR12

6K 50 SU1-q1 3-1/C #6 + #10G — 3rd FLOOR UPSTREAM GALLERY WORKSHOP

6L 30 — SPARE

5H 15 SU1-q1-TBA 3-1/C #12 + #12G — 1HP — AC TURBINE BRG OIL PUMP

1 TBA — SU1-c2-TP1 1-5/C #12 — SU1-c2-DGC1 1-11/C #12 — 1TB (A)

IN CONDUIT SU1-c1-TP1, 1 1/2"

TP1 (TP)

63 HC1 (TP); 80 TBQ (TP)

MULTI RANGER (TP1)

TURBINE PIT CONTROL CABINET (TPC1)

SU1-c3-TP1 1-5/C #12 — TO DC TURBINE BRG OIL PUMP CONTROL

A1 480 VOLT CONTROL CENTER SU1

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001
DRAWING NUMBER: LGP-1.0022-6-#E2177
FILE NAME: V4-LGP1.0022-E-601.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

480 VOLT CONTROL CENTER SU1
ONE LINE DIAGRAM
INSTALL

SHEET ID
VOLUME 4
E-601

FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. PROVIDE BELL ALARM CONTACTS FOR ALL BREAKERS. ALL FEEDER BREAKER BELL ALARM CONTACTS, OVERLOADS SHALL BE PARALLELED TOGETHER AND ROUTED TO THE GOVERNOR OIL PUMP PLC.

LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1E21/2	ONE LINE SU2 & CP2

480VAC

SU2

SO1-q1-SU2 6-1/C- #500 KCMIL & #1G

SO1-q2-SU2 6-1/C- #500 KCMIL & #1G

1E 600 KEY INTERLOCK 6E 600

4E 600

1H 50 SU2-q1-RECPT 3-1/C #6 + #10G — RECEPT 480V

1J 100 SU2-q2-RECPT 3-1/C #1 + #8G — RECEPT 480V - 100A

1K 50 SU2-q3-RECPT 3-1/C #6 + #10G — RECEPT 480V 4th FLOOR BANDSAW

1L 20 — SPARE

2H 50 — 2 — 42 — 1 GH — SU2-q1-GH 3-1/C #6 + #10G, SU2-c1-GH 1-2/C #12 — 23 — 24KW — GEN HEATERS

2J 50 — SPARE

2K 50 — SPARE

2L 30 — SPARE

3H 50 — 2 — 42 — SU2-q1-HP 3-1/C #10 + #10G — SU2-c1-HP2 1-7/C #12 — HP1 — (G) — 15HP — HIGH PRESS. THRUST BRG. OIL PUMP

SU2-c1-DGC2 1-4/C #12 — HP2 — (A) — SPARE

3J 30 — SPARE

3K 15 — SU2-q1-XFA 3-1/C #12 + #12G — 3HP — XJ-2 FAN A

3F 120 — 24V PS — SS — SU2-q1-AO3 3-1/C #4 + #8G — 40HP — GOVERNOR OIL PUMP NO. 3

1G 30 — 1 — 42 — SU2-q1-HC1 3-1/C #12 + #12G — 7.5HP — HEAD COVER SUMP PUMP NO.1 — 1 HC1 — 43 HC

2F 400 — 24V PS — SS — SU2-q1-AO1 3-1/C #3/0 + #6G — 125HP — GOVERNOR OIL PUMP NO.1

SU2-q1-SUMP 1-12/C #12

SU2-c1-GOC2 12-1/C #12

SU2-c2-GOC2 ETHERNET

125 DC POWER

PLC GOVERNOR OIL PUMP CONTROL (GOC2)

SU2-q1-GOC2 2-1/C #12 — GOC2-c1-DGC2 1-6/C #12

GOC2-c1-SUMP 1-12/C #12

GOC2-c1-PT 1-6/C #12, 3-4/C #16 SHIELDED

5F 400 — 24V PS — SS — SU2-q1-AO2 3-1/C #3/0 + #6G — 125HP — GOVERNOR OIL PUMP NO.2

5J 35 — SU2-q1-AF 3-1/C #6 + #10G — 30 — 1 — 42 — AH — 23 — 10 HP (GOV. SUMP) — KIDNEY LOOP FILTER PUMP

5K 30 — SU2-q2-LTH 3-1/C #10 + #10G — HI-BAY LIGHTING

5L 30 — SU2-q1-LTH 3-1/C #10 + #10G — HI-BAY LIGHTING

6G 20 — 1 — 42 — SU2-q1-HC2 3-1/C #12 + #12G — 5HP — HEAD COVER SUMP PUMP NO.2

SU2-c1-TP2 1-14/C #12 — 1 HC2

6H 50 — SU2-q1-TR21 3-1/C #6 + #10G — 30KVA — LIGHTING TRANS. TR21

6J 25 — SU2-q1-TR22 3-1/C #10 + #10G — 15KVA — LIGHTING TRANS. TR22

6K 50 — SPARE

6L 30 — SPARE

5H 15 — 1 — 42 — 1 TBA — SU2-q1-TBA 3-1/C #12 + #12G — 1HP — AC TURBINE BRG OIL PUMP

SU2-c2-TP2 1-5/C #12 — SU2-c3-TP2 1-5/C #12

SU2-c2-DGC2 1-11/C #12 — 1TB — (A) — IN CONDUIT SU2-c1-TP2, 1 1/2"

(TP) — 63 HC1 — 80 TBQ — (TP) — TP2 — (TP)

MULTI RANGER — (TP2)

TURBINE PIT CONTROL CABINET (TPC2)

(GOV. SUMP TANK) — 20 — 33 — 71Q3 — 20 — 33 — 71Q4 — 20 — 33 — 71Q5

(PRESS. TANK) — T — 71Q1 — PS — 71Q2 — PS — PS

A1 480 VOLT CONTROL CENTER SU2

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY:
SIZE: E
ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001
DRAWING NUMBER: LGP-1.0022-6-#E2118
SUBMITTED BY: P. E.
LEVEL NAME: V04-LGP1.0022-E-602.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

480 VOLT CONTROL CENTER SU2
ONE LINE DIAGRAM
INSTALL

SHEET ID
VOLUME 4
E-602

FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. PROVIDE BELL ALARM CONTACTS FOR ALL BREAKERS. ALL FEEDER BREAKER BELL ALARM CONTACTS, OVERLOADS SHALL BE PARALLELED TOGETHER AND ROUTED TO THE GOVERNOR OIL PUMP PLC.

LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1F21/1	ONE LINE SU3 & CP3

480VAC

SU3

SQ1-q1-SU3 6-1/C- #500 KCMIL & #1G

SQ1-q2-SU3 6-1/C- #500 KCMIL & #1G

KEY INTERLOCK

1C 600 — 4C 600 — 6C 600

1H 50 — SU3-q1-RECPT 3-1/C #6 + #10G

1J 100 — SU3-q2-RECPT 3-1/C #1 + #8G

1K 50 — SU3-q3-RECPT 3-1/C #6 + #10G

1L 20

2H 50 — SU3-q1-GH 3-1/C #6 + #10G; SU3-c1-GH 1-2/C #12; 24KW

2J 50

2K 50

2L 30

3H 50 — SU3-q1-HP 3-1/C #10 + #10G; 15HP; HIGH PRESS. THRUST BRG. OIL PUMP

3J 30

3K 15

3F 120 — SU3-q1-XFA 3-1/C #12 + #12G; 3HP

SU3-q1-AO3 3-1/C #4 + #6G; 40HP

1G 30 — SU3-q1-HC1 3-1/C #12 + #12G; 7.5HP

2F 400 — SU3-q1-AO1 3-1/C #3/0 + #6G; 125HP

SU3-c1-SUMP 1-12/C #12

SU3-c1-GOC3 12-1/C #12

SU3-c2-GOC3 ETHERNET

SU3-q1-GOC3 2-1/C #12

125 DC POWER

PLC GOVERNOR OIL PUMP CONTROL (GOC3)

5F 400 — SU3-q1-AO2 3-1/C #3/0 + #6G; 125HP

5J 35 — SU3-q1-AF 3-1/C #8 + #10G; SPARE

5K 50

5L 30 — SU3-q1-LTH 3-1/C #10 + #10G; HI-BAY LIGHTING

6G 20 — SU3-q1-HC2 3-1/C #12 + #12G; 5HP; HEAD COVER SUMP PUMP NO.2

SU3-c1-TP3 1-14/C #12

6H 50 — SU3-q1-TR31 3-1/C #6 + #10G; 30KVA; LIGHTING TRANS. TR31

6J 25 — SU3-q1-TR32 3-1/C #10 + #10G; 15KVA; LIGHTING TRANS. TR32

6K 50

6L 30

5H 15 — SU3-q1-TBA 3-1/C #12 + #12G; 1HP; AC TURBINE BRG OIL PUMP

SU3-c2-TP3 1-5/C #12

SU3-c3-TP3 1-5/C #12

SU3-c2-DGC3 1-11/C #12 — 1TB (A) — IN CONDUIT SU3-c1-TP3, 1 1/2" — TP3 (TP) — 63 HC1 (TP); 80 TBQ; MULTI RANGER (TP3); TURBINE PIT CONTROL CABINET (TPC3)

SU3-c1-HPC3 1-7/C #12 — HP1 (G)

SU3-c1-DGC3 1-4/C #12 — HP2 (A) — SPARE

XJ-3 FAN A

GOVERNOR OIL PUMP NO. 3

HEAD COVER SUMP PUMP NO.1

GOVERNOR OIL PUMP NO.1

GOC3-c1-DGC3 1-16/C #12

GOC3-c1-SUMP 1-12/C #12

GOC3-c1-PT 3-4/C #16 SHIELDED

GOVERNOR OIL PUMP NO.2

(GOV. SUMP TANK): 20 33 71Q3; 20 33 71Q4; 20 33 71Q5

(PRESS. TANK): T 71Q1 PS; 71Q2 PS; PS

30 — 1 — 42 — AH — 23 — KIDNEY LOOP FILTER PUMP — 10 HP (GOV. SUMP)

SPARE

RECEPT 480V

RECEPT 480V - 100A

RECEPT 480V

SPARE

GEN HEATERS

SPARE

SPARE

SPARE

MARK	DESCRIPTION	DATE

DESIGNED BY:	S. SCHEIFF
DRAWN BY:	M. FLANAGAN
CHECKED BY:	K. SELLERS
SUBMITTED BY:	
SIZE:	A1
ANSI D	

ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001
DRAWING NUMBER: LGP-1.0022-6-9F2115
FILE NAME: V4-LGP1.0022-E-603.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

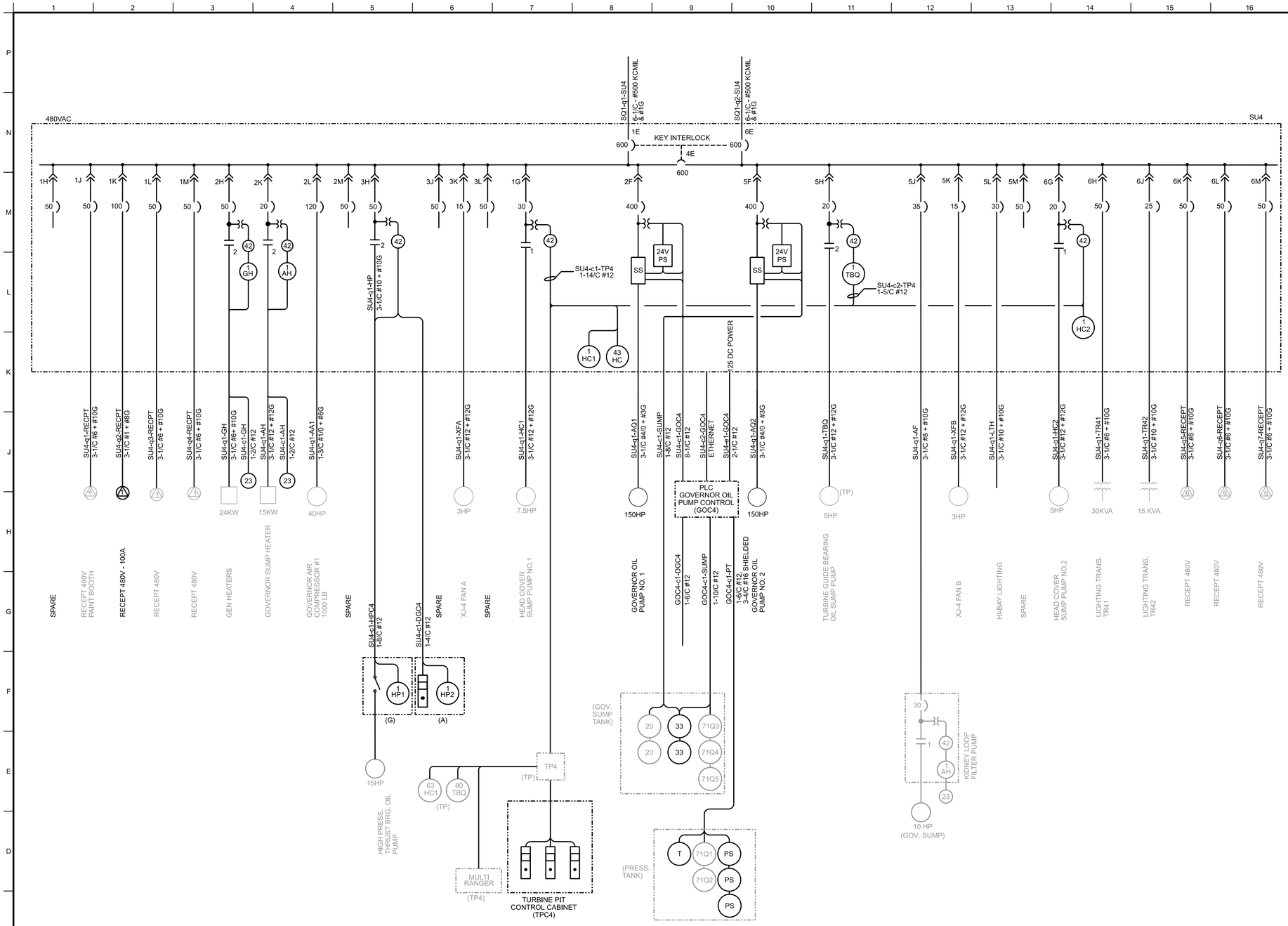
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

480 VOLT CONTROL CENTER SU3
ONE LINE DIAGRAM
INSTALL

SHEET ID
VOLUME 4
E-603

FINAL

A1 480 VOLT CONTROL CENTER SU3
SCALE: NTS



GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. PROVIDE BELL ALARM CONTACTS FOR ALL BREAKERS. ALL FEEDER BREAKER BELL ALARM CONTACTS, OVERLOADS SHALL BE PARALLELED TOGETHER AND ROUTED TO THE GOVERNOR OIL PUMP PLC.

LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.9-6-1F21/1	ONE LINE SU4 & CP4

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: SUSAN STEDMAN, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0022-6-9F21/6
FILE NAME: V4-LGP1.0022-E-604.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

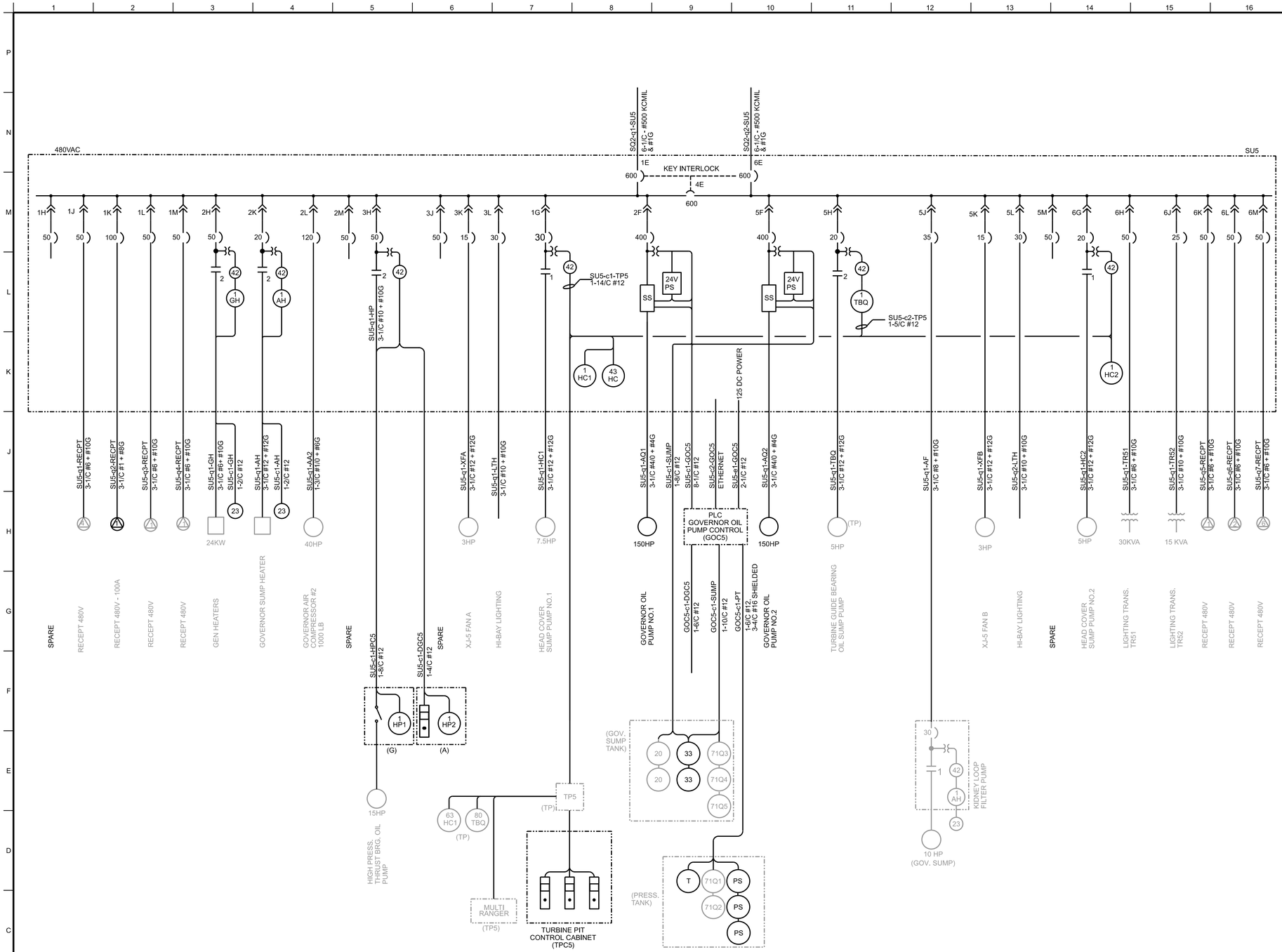
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

480 VOLT CONTROL CENTER SU4
ONE LINE DIAGRAM
INSTALL

SHEET ID
VOLUME 4
E-604

FINAL

A1 480 VOLT CONTROL CENTER SU4
SCALE: NTS



GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. PROVIDE BELL ALARM CONTACTS FOR ALL BREAKERS. ALL FEEDER BREAKER BELL ALARM CONTACTS, OVERLOADS SHALL BE PARALLELED TOGETHER AND ROUTED TO THE GOVERNOR OIL PUMP PLC.

LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.9-6-1G21/2	ONE LINE SU5 & CP5

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: IVAN STEDUM, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-SU2/3
FILENAME: V4-LGPT.002-E-605.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

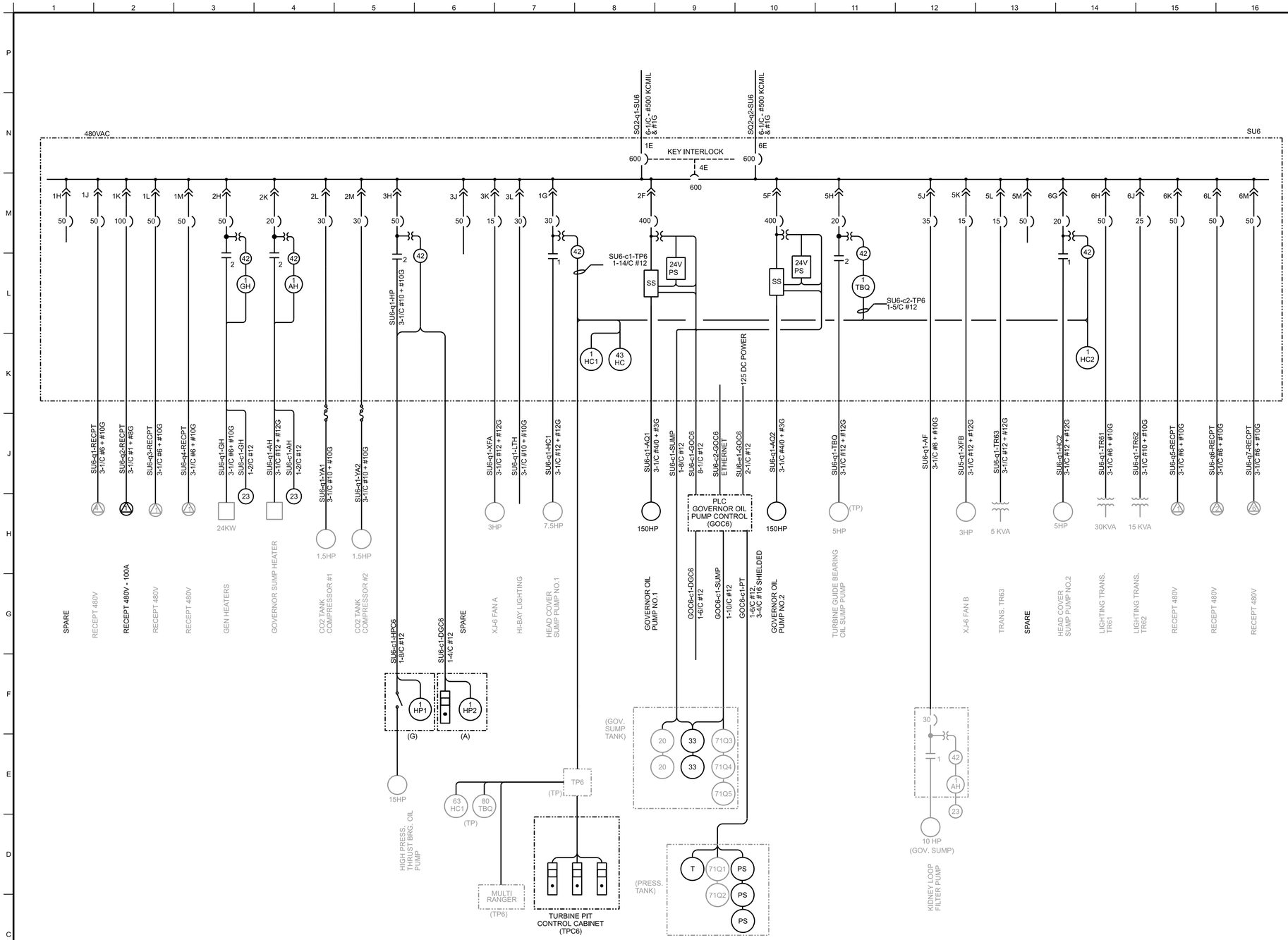
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

480 VOLT CONTROL CENTER SU5
ONE LINE DIAGRAM
INSTALL

SHEET ID
VOLUME 4
E-605

FINAL

A1 480 VOLT CONTROL CENTER SU5
SCALE: NTS



GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. PROVIDE BELL ALARM CONTACTS FOR ALL BREAKERS. ALL FEEDER BREAKER BELL ALARM CONTACTS, OVERLOADS, AND SOFTSTARTER TROUBLE SHALL BE PARALLELED TOGETHER AND ROUTED TO THE GOVERNOR OIL PUMP CONTROL PLC.

LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.9-6-1G21/3	ONE LINE SU6 & CP6

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STEGMAN, P.E.
SIZE: D FILE NAME: ANSI D V4-LGP1.002-E-606.dgn

ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001

U.S. ARMY CORPS OF ENGINEERS WALLA WALLA DISTRICT 201 NORTH 3RD AVENUE WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS HYDROELECTRIC DESIGN CENTER PORTLAND, OREGON

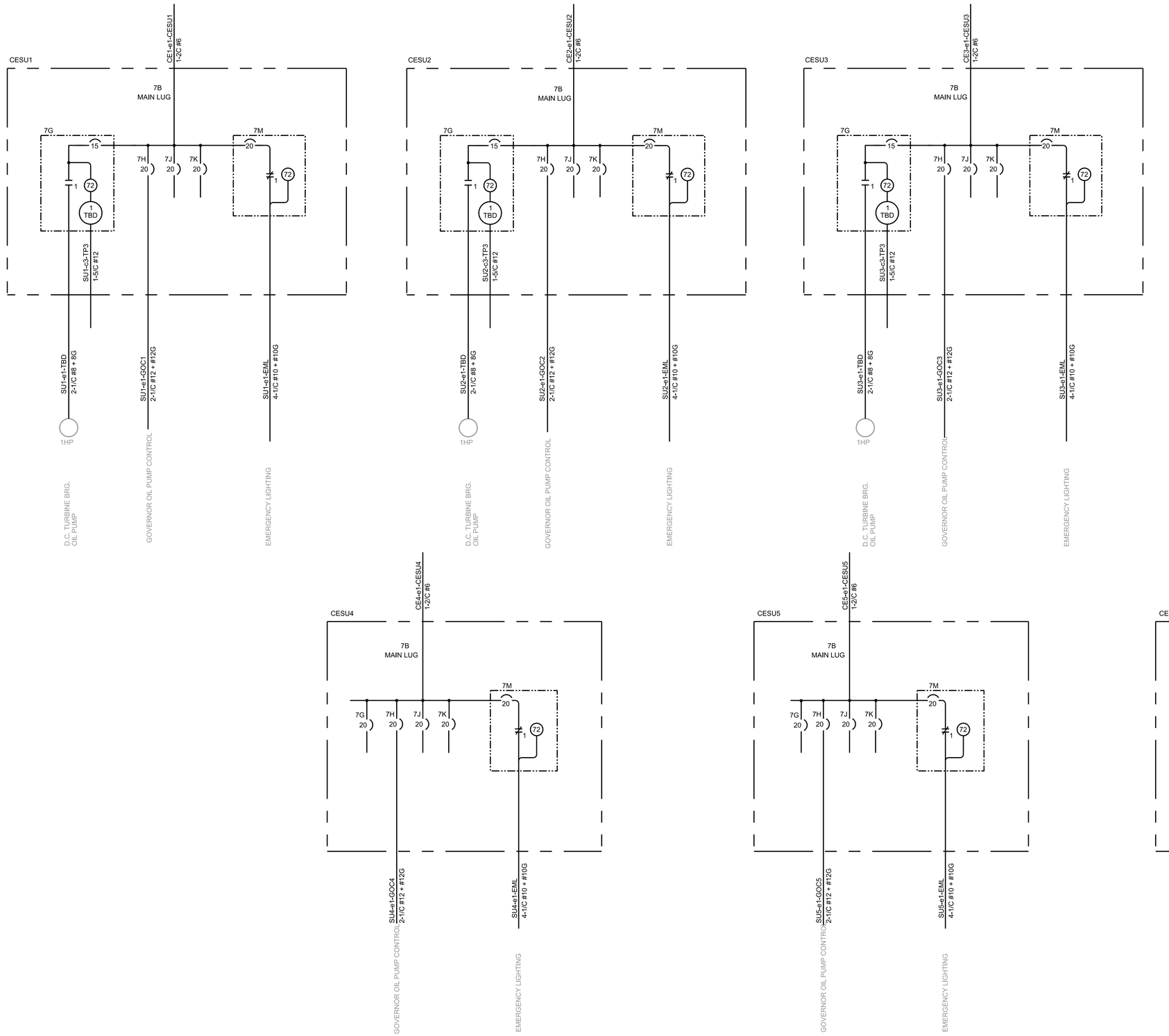
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

480 VOLT CONTROL CENTER SU6
ONE LINE DIAGRAM
INSTALL

SHEET ID
VOLUME 4
E-606

FINAL

A1 480 VOLT CONTROL CENTER SU6
SCALE: NTS



A1 SU1 - SU6 125 VDC LOADS
SCALE: NTS

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. PROVIDE BELL ALARM CONTACTS FOR ALL BREAKERS. ALL FEEDER BREAKER BELL ALARM CONTACTS, OVERLOADS SHALL BE PARALLELED TOGETHER AND ROUTED TO THE GOVERNOR OIL PUMP PLC.

LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.9-6-1G21/3	ONE LINE SU6 & CP6
LGP-1.9-6-1G21/2	ONE LINE SU5 & CP5
LGP-1.9-6-1F21/1	ONE LINE SU4 & CP4
LGP-1.1-6-1F21/1	ONE LINE SU3 & CP3
LGP-1.1-6-1E21/2	ONE LINE SU2 & CP2
LGP-1.1-6-1E21/1	ONE LINE SU1 & CP1

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: LIAM STERUM, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0022-6-SHZ1/1
FILE NAME: V4-L GP1.0022-E-607.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SU1-SU6 125 VDC LOADS
ONE LINE DIAGRAM
INSTALL

SHEET ID
VOLUME 4
E-607

FINAL

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. SCHEMATIC DIAGRAMS ARE SHOWN FOR UNIT 1. SCHEMATIC DIAGRAMS FOR UNITS 2 AND 3 ARE SIMILAR.

LEGEND

EQUIPMENT TO BE INSTALLED

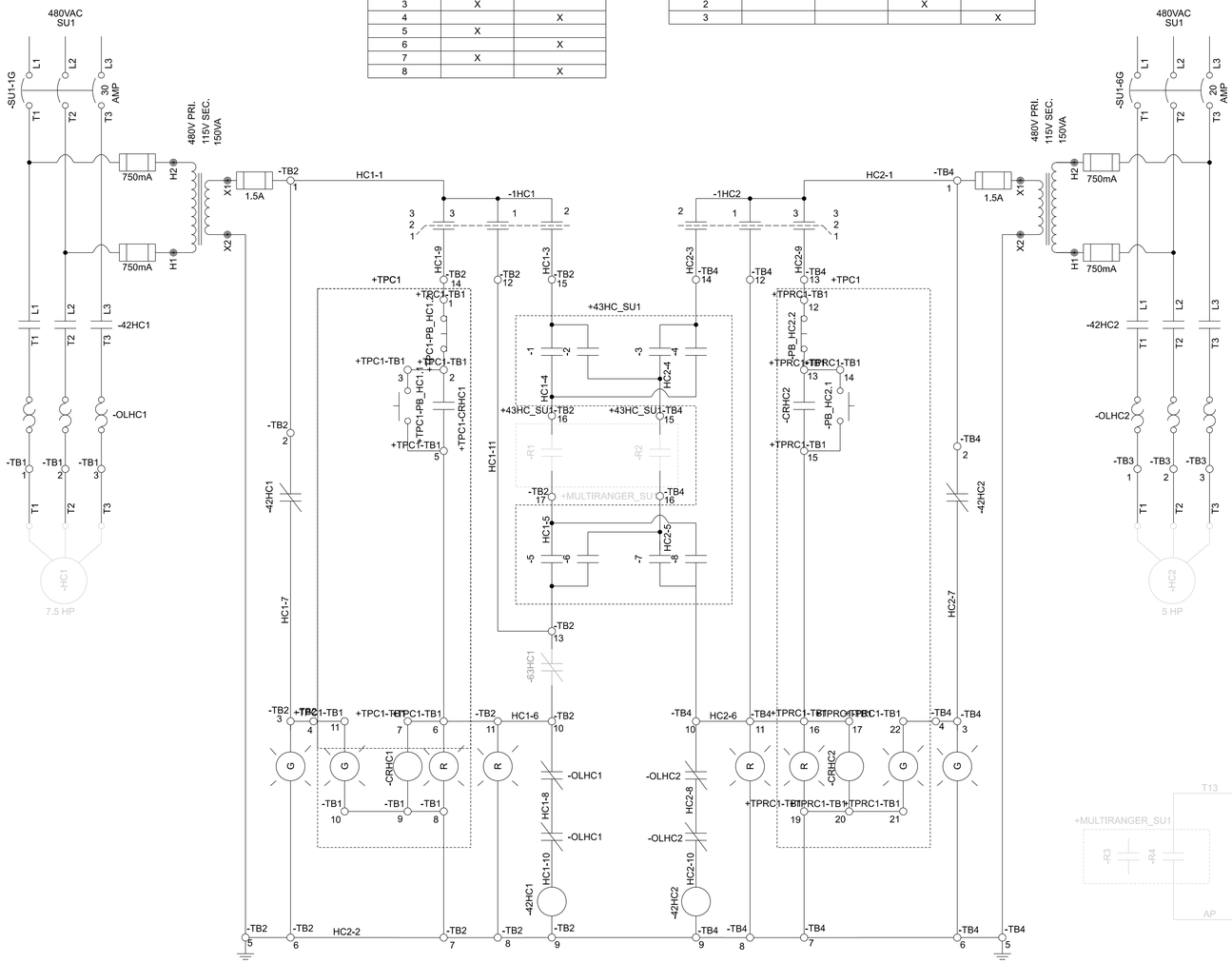
EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1-6-1A8/4	POWERHOUSE 480 - VOLT CONTROL CENTERS SU1 THRU SU3
LGP-1.1-1A8/6	CONTROL CABINETS - TURBINE PIT, AC & DC TURBINE BEARING OIL PUMP STARTER, HEAD COVER SUMP PUMP START
8FP-020-8	CONTROL CABINETS - TURBINE PIT - SHT. 2
LGP-1.1-6-1E24/1	CONTROL DIAGRAMS - MAIN UNIT AUXILARIES

43HC_SU1	HEAD COVER SUMP PUMP SEL	
NO. 1 LEAD / NO. 2 LEAD / MAINTAIN CONTACTS		
CONTACT	NO. 1 LEAD	NO. 2 LEAD
1	X	
2		X
3	X	
4		X
5	X	
6		X
7	X	
8		X

1HC1	HEAD COVER SUMP PUMP 1			
1HC2	HEAD COVER SUMP PUMP 2			
OFF / AUTO CONT / MAINTENANCE / MAINTAIN CONTACTS				
CONTACT	ON	OFF	AUTO	MAINTENANCE
1	X			
2			X	
3				X



A4 HEAD COVER SUMP PUMPS - SU1

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	S. SCHEIFF
DRAWN BY:	M. FLANAGAN
CHECKED BY:	K. SELLERS
SUBMITTED BY:	JOHN STERLING, P.E.
SIZE: ANSI D	FILE NAME: V4-LGP1.002-E-608.dgn
ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	
CONTRACT NO.:	W912EF22R0001
DRAWING NUMBER:	LGP-1.002-E-8E24/1

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

HEAD COVER SUMP PUMPS - SU1
CONTROL SCHEMATIC
INSTALL

SHEET ID
VOLUME 4
E-608

FINAL

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. SCHEMATIC DIAGRAMS ARE SHOWN FOR UNIT 1. SCHEMATIC DIAGRAMS FOR UNITS 2 AND 3 ARE SIMILAR.

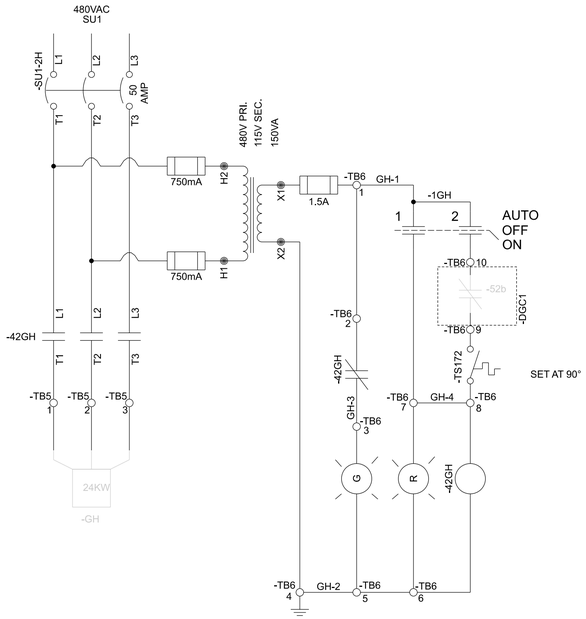
LEGEND

EQUIPMENT TO BE INSTALLED

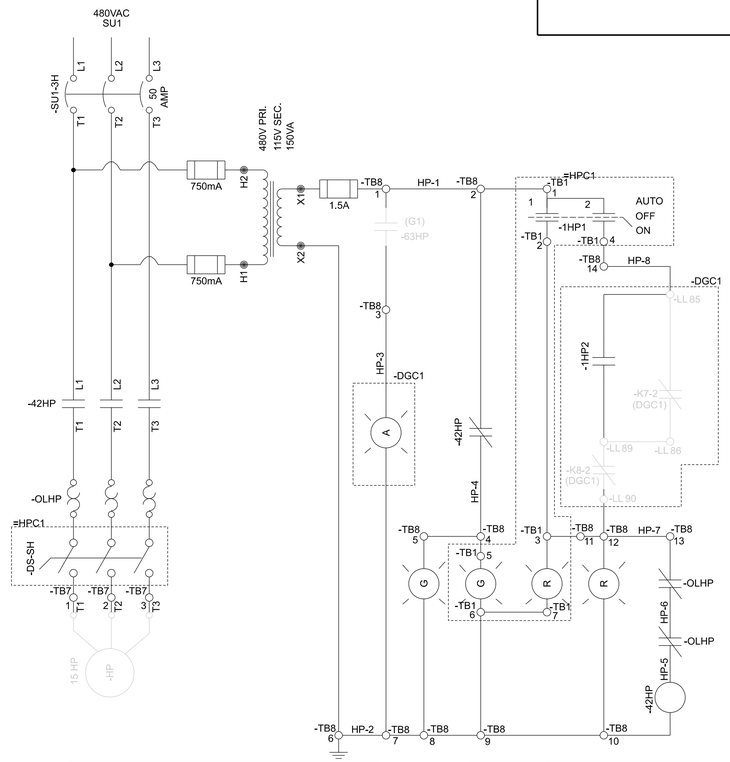
EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1-6-1A8/4	POWERHOUSE 480 - VOLT CONTROL CENTERS SU1 THRU SU3
LPG-1.1-1A8/6	CONTROL CABINETS - TURBINE PIT, AC & DC TURBINE BEARING OIL PUMP STARTER, HEAD COVER SUMP PUMP START
8FP-020-8	CONTROL CABINETS - TURBINE PIT - SHT. 2
LGP-1.1-6-1E24/1	CONTROL DIAGRAMS - MAIN UNIT AUXILARIES
LGP-1.37-6-9A24/12	DIGITAL GOVERNOR UPGRADE - MAIN UNITS 1-3



1GH	GENERATOR HEATER		
ON OFF AUTO			MAINTAIN CONTACTS
CONTACT	CONT	OFF	AUTO
1	X		
2			X



1HP1			
OFF ON AUTO			MAINTAIN CONTACTS
CONTACT	ON	OFF	AUTO
1	X		
2			X

1HP2	THRUST BRG OIL PUMP	
OFF-CNTRL AUTO		MAINTAIN CONTACTS
CONTACT	OFF-CNTRL	AUTO
1		X

GEN AUTO START INTERLOCK

-63HP

CLOSED AT NORMAL PRESS.

A3 GENERATOR HEATER - SU1
SCALE: NTS

A12 HI-PRESS THRUST BRG OIL PUMP - SU1
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9E24/2
FILE NAME: V4-LGP1.002-E-609.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

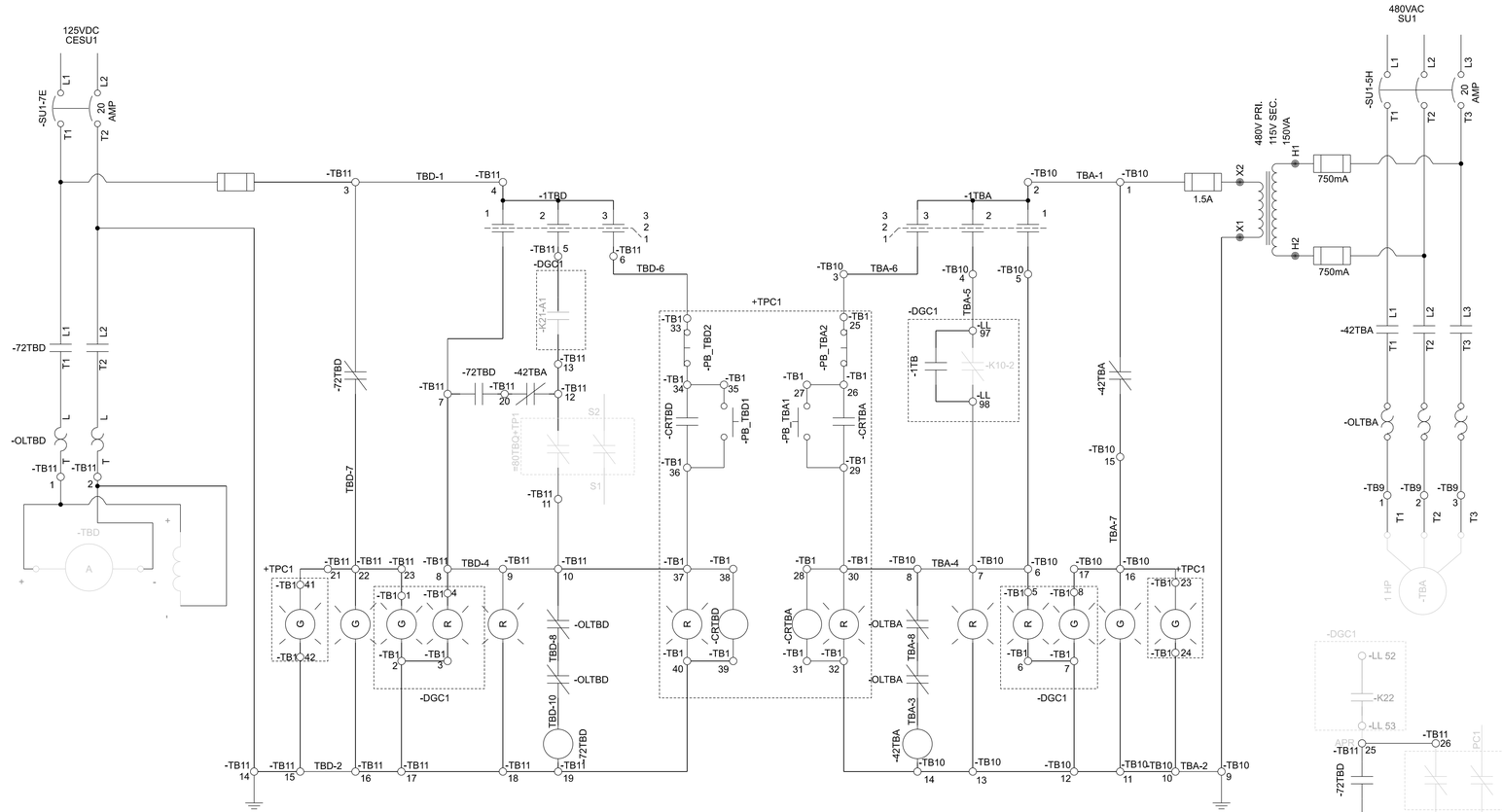
U.S. ARMY CORPS OF ENGINEERS
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

GENERATOR HEATER - SU1
HI-PRESS THRUST BRG OIL PUMP - SU1
INSTALL

SHEET ID
VOLUME 4
E-609

FINAL

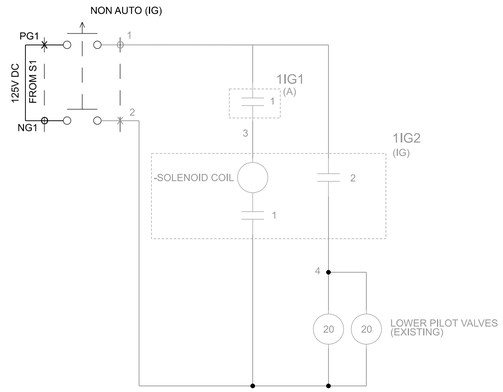


1TBD	DC TB OIL PUMP			
1TBA	AC TB OIL PUMP			
OFF ON AUTO MAINTENANCE — MAINTAIN CONTACTS				
CONTACT	ON	OFF	AUTO	MAINTENANCE
1	X			
2			X	
3				X

1TB	AC TB OIL PUMP OVERRIDE	
MANUAL AUTO — MAINTAIN CONTACTS		
CONTACT	MANUAL	AUTO
1	X	

E1 TURBINE BEARING OIL PUMPS - SU1

SCALE: NTS



1IG2	INTAKE GATE EMERGENCY	
RESET LOWER — MAINTAINED CONTACTS PULL TO TURN RED HANDLE		
CONTACT	RESET	LOWER
1		X
2	X	

A7 EMERGENCY GATE LOWER - SU1

SCALE: NTS

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. SCHEMATIC DIAGRAMS ARE SHOWN FOR UNIT 1. SCHEMATIC DIAGRAMS FOR UNITS 2 AND 3 ARE SIMILAR.

LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1-6-1A8/4	POWERHOUSE 480 - VOLT CONTROL CENTERS SU1 THRU SU3
LPG-1.1-1A8/6	CONTROL CABINETS - TURBINE PIT, AC & DC TURBINE BEARING OIL PUMP STARTER, HEAD COVER SUMP PUMP START
8FP-020-8	CONTROL CABINETS - TURBINE PIT - SHT. 2
LGP-1.1-6-1E24/1	CONTROL DIAGRAMS - MAIN UNIT AUXILARIES
LGP-1.37-6-9A24/12	DIGITAL GOVERNOR UPGRADE - MAIN UNITS 1-3

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: SUZANNE STERUM, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9E24/3
FILE NAME: V4-LGP1.002-E-610.dgn

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

TURBINE BEARING OIL PUMPS - SU1
EMERGENCY GATE LOWER - SU1
INSTALL

SHEET ID
VOLUME 4
E-610

FINAL

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. SCHEMATIC DIAGRAMS ARE SHOWN FOR UNIT 1. SCHEMATIC DIAGRAMS FOR UNITS 2 AND 3 ARE SIMILAR.
3. THE SOFT-STARTS FOR AQ1 AND AQ2 CONNECT TO THE GOVERNOR OIL PUMP PLC VIA ETHERNET FOR CONTROL. THE DISCRETE INPUTS ARE FOR THE BACKUP CONTROLLER ONLY. SEE "PLC NETWORK DIAGRAM" IN VOLUME 5 FOR MORE INFORMATION.

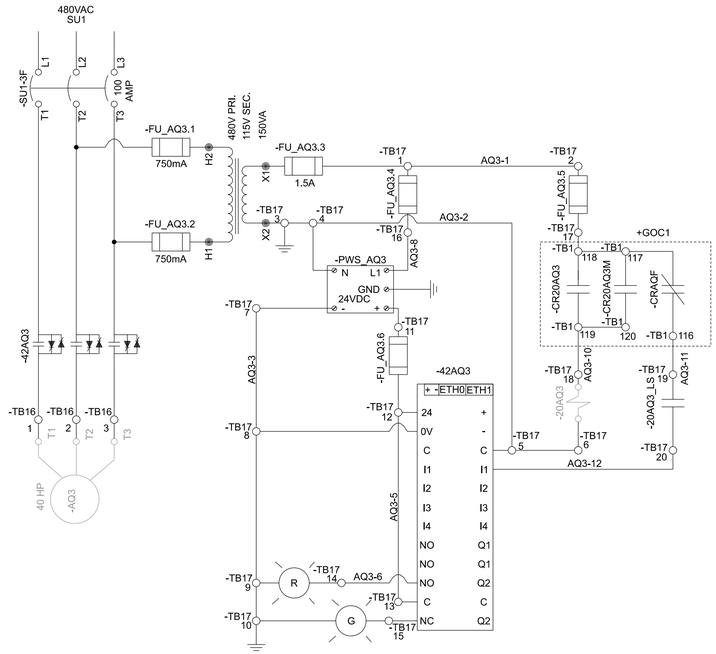
LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

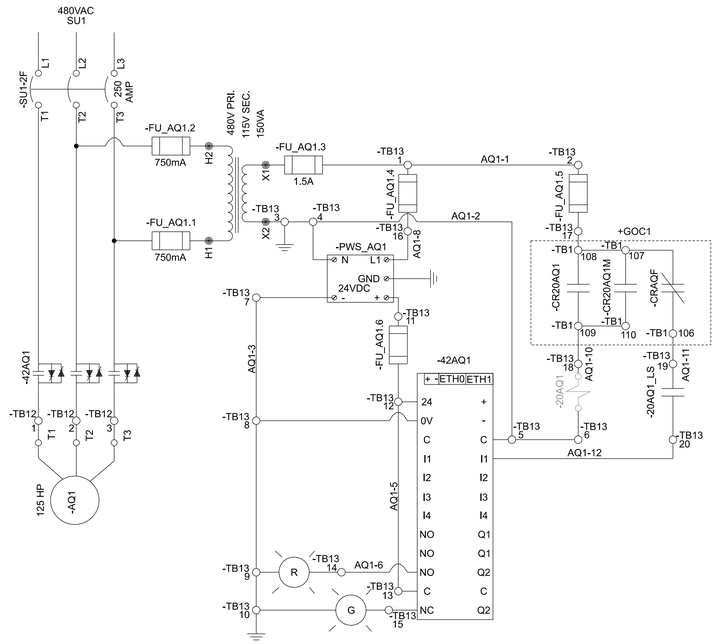
REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1-6-1A8/4	POWERHOUSE 480 - VOLT CONTROL CENTERS SU1 THRU SU3
LGP-1.1-6-1E24/1	CONTROL DIAGRAMS - MAIN UNIT AUXILARIES



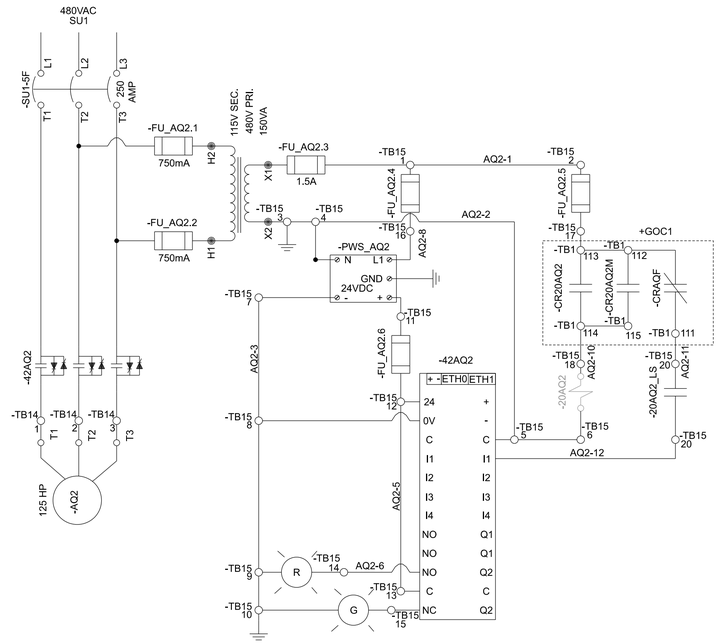
H1 GOVERNOR OIL PUMP 3 - SU1

SCALE: NTS



A1 GOVERNOR OIL PUMP 1 - SU1

SCALE: NTS



A11 GOVERNOR OIL PUMP 2 - SU1

SCALE: NTS

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MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF	ISSUE DATE: AUGUST 2022
DRAWN BY: M. FLANAGAN	SOLICITATION NO.: W912EF22R0001
CHECKED BY: K. SELLERS	CONTRACT NO.:
SUBMITTED BY: JUAN STEDEM, P.E.	DRAWING NUMBER: LGP-1.002-6-5E24/4
SIZE: ANSI D	FILENAME: V4-LGP1.002-E-611.dgn

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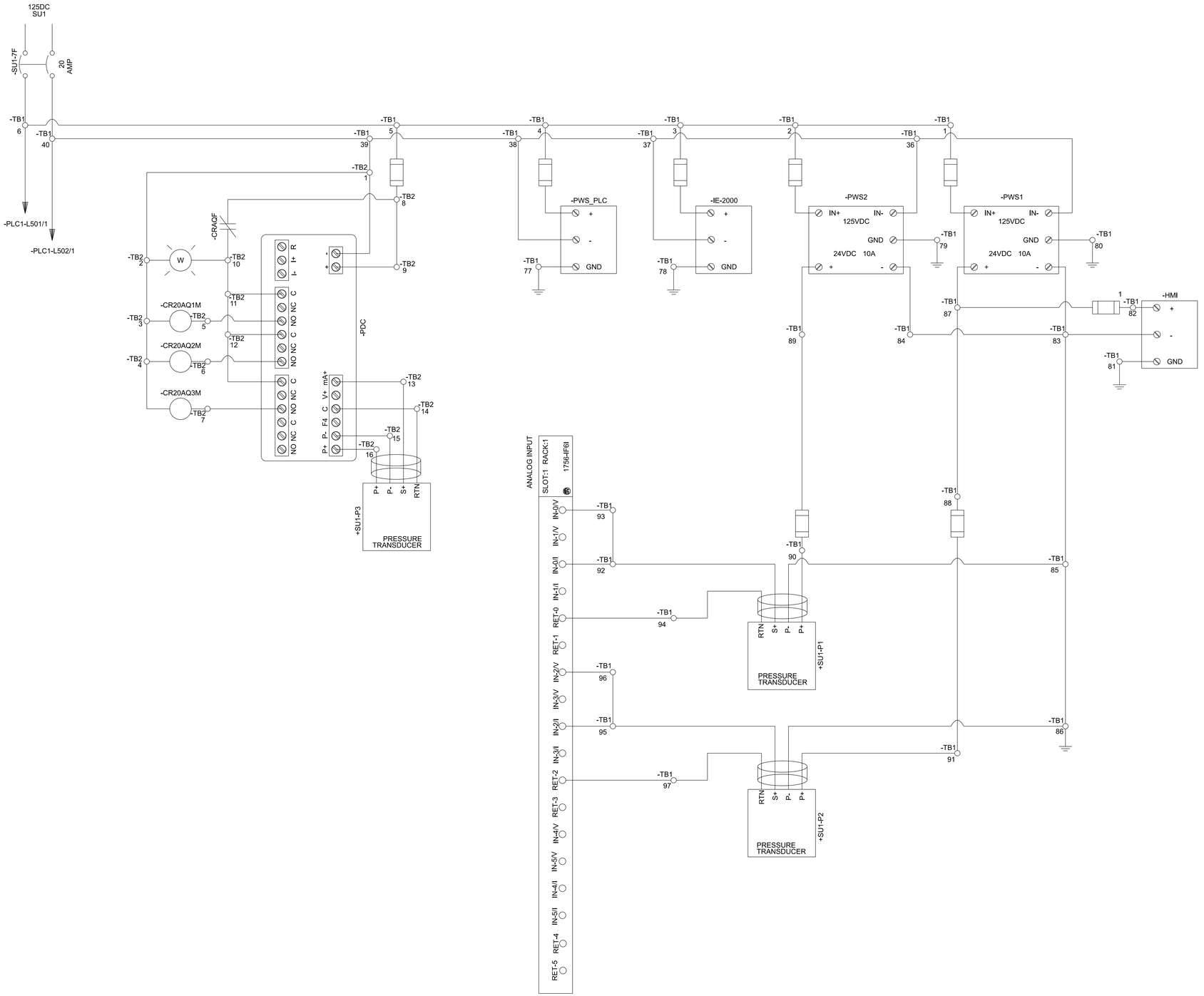
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

GOVERNOR OIL PUMPS 1, 2, 3 CONTROL SCHEMATIC INSTALL

SHEET ID
VOLUME 4
E-611

FINAL



GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. SCHEMATIC DIAGRAMS ARE SHOWN FOR UNIT 1. SCHEMATIC DIAGRAMS FOR UNITS 2 AND 3 ARE SIMILAR.

LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1-6-1A8/4	POWERHOUSE 480 - VOLT CONTROL CENTERS SU1 THRU SU3
LGP-1.1-6-1E24/1	CONTROL DIAGRAMS - MAIN UNIT AUXILARIES

A1 GOVERNOR OIL PUMP PLC - SU1

SCALE: NTS

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MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: J. STERUM, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001
DRAWING NUMBER: LGP-1.002-6-9E24/5
FILE NAME: V4-LGP1.002-E-612.dgn

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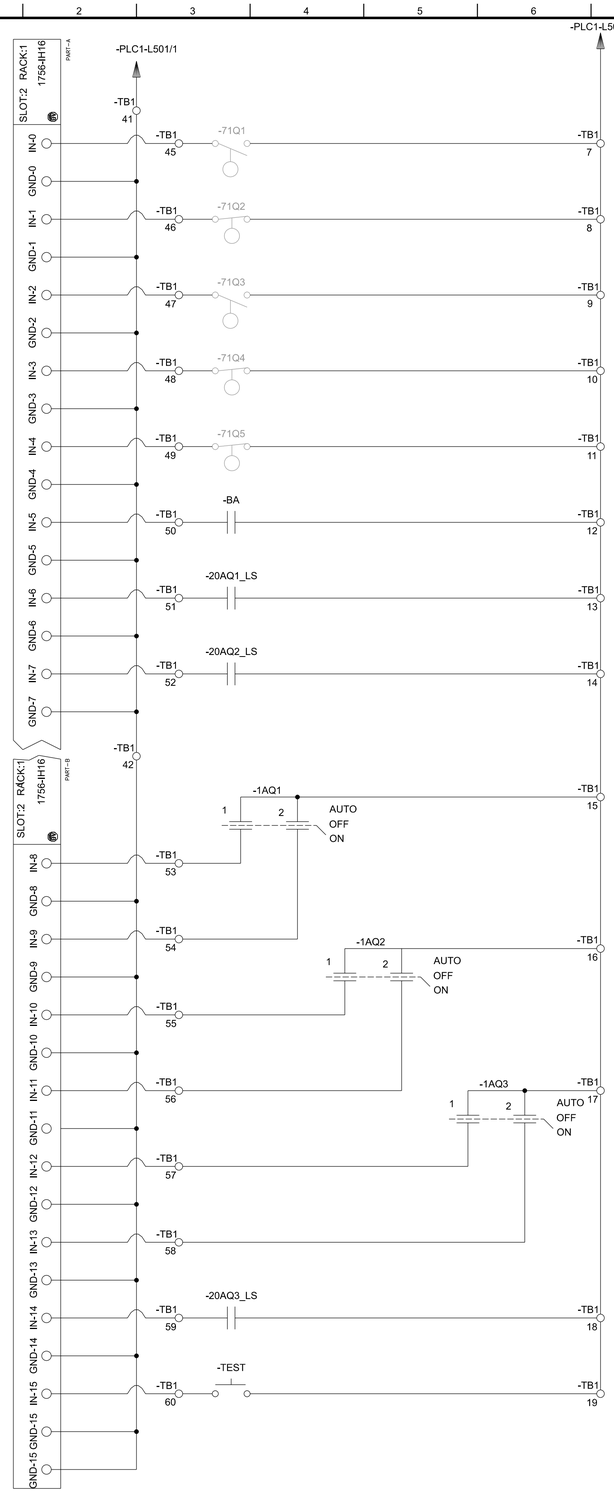
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

GOVERNOR OIL PUMP CONTROL - GOC1
CONTROL SCHEMATIC
INSTALL

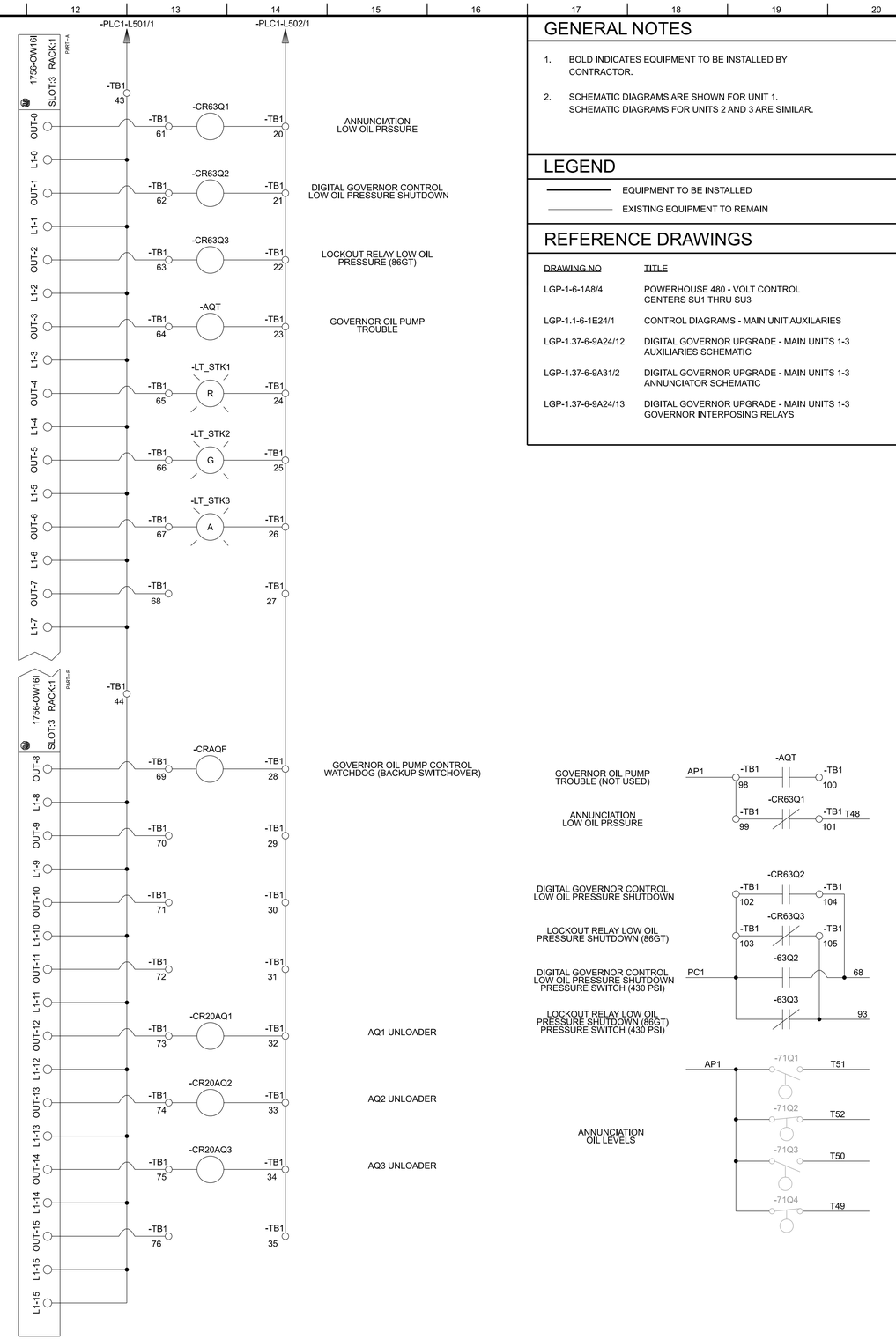
SHEET ID
VOLUME 4
E-612

FINAL



A1 GOVERNOR OIL PUMP PLC - SU1

SCALE: NTS



A11 GOVERNOR OIL PUMP PLC - SU1

SCALE: NTS

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. SCHEMATIC DIAGRAMS ARE SHOWN FOR UNIT 1. SCHEMATIC DIAGRAMS FOR UNITS 2 AND 3 ARE SIMILAR.

LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1-6-1A8/4	POWERHOUSE 480 - VOLT CONTROL CENTERS SU1 THRU SU3
LGP-1.1-6-1E24/1	CONTROL DIAGRAMS - MAIN UNIT AUXILARIES
LGP-1.37-6-9A24/12	DIGITAL GOVERNOR UPGRADE - MAIN UNITS 1-3 AUXILIARIES SCHEMATIC
LGP-1.37-6-9A31/2	DIGITAL GOVERNOR UPGRADE - MAIN UNITS 1-3 ANNUNCIATOR SCHEMATIC
LGP-1.37-6-9A24/13	DIGITAL GOVERNOR UPGRADE - MAIN UNITS 1-3 GOVERNOR INTERPOSING RELAYS

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DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: LYAN STEDUM, P.E.
SIZE: ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9E24/6
FILE NAME: V4-LGP1.002-E-613.dgn

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SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

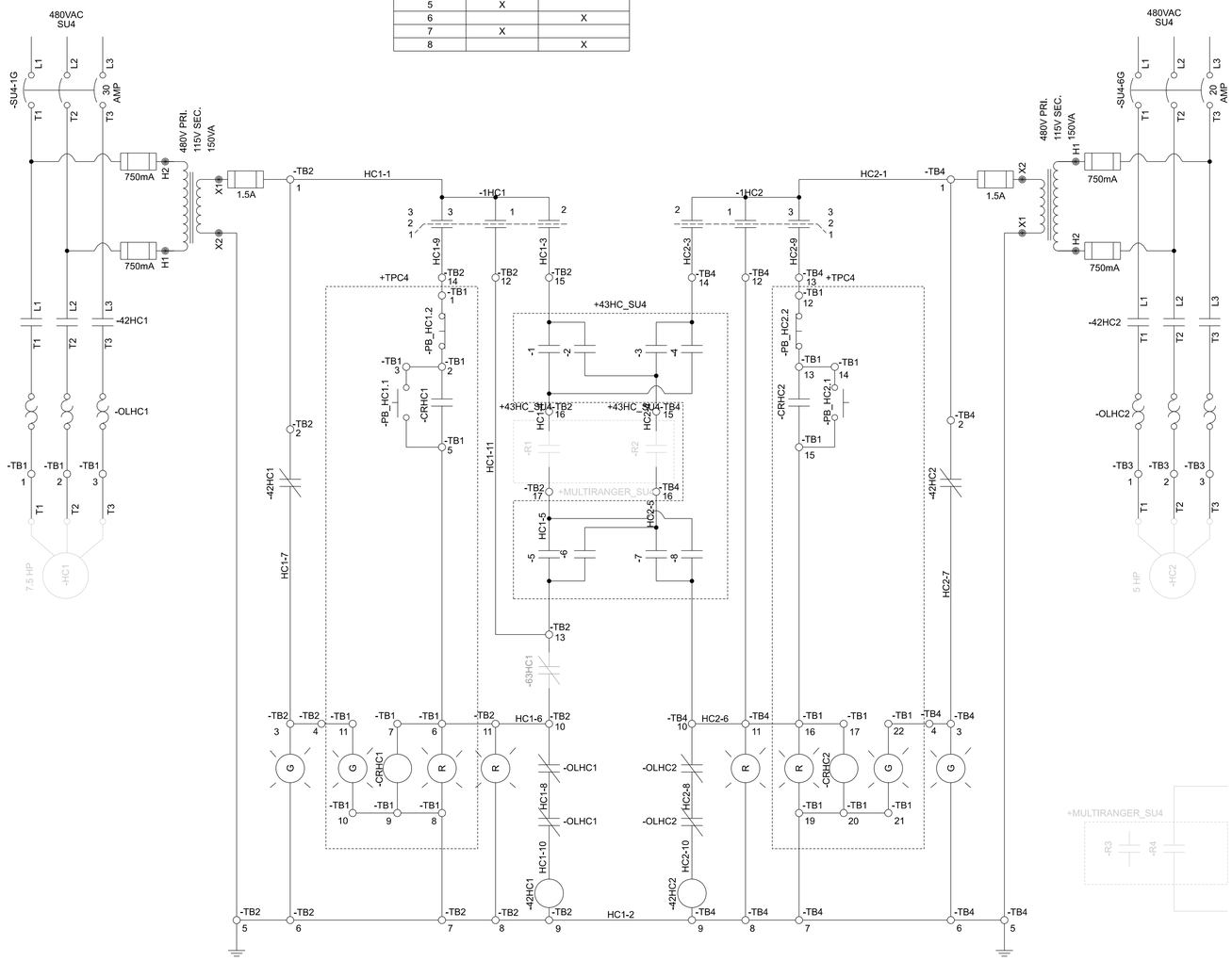
GOVERNOR OIL PUMP PLC - GOC1
CONTROL SCHEMATIC
INSTALL

SHEET ID
VOLUME 4
E-613

FINAL

43HC_SU4	HEAD COVER SUMP PUMP SEL
NO. 1 LEAD / NO. 2 LEAD / MAINTAIN CONTACTS	
CONTACT	NO. 1 LEAD	NO. 2 LEAD
1	X	
2		X
3	X	
4		X
5	X	
6		X
7	X	
8		X

1HC1	HEAD COVER SUMP PUMP 1			
1HC2	HEAD COVER SUMP PUMP 2			
OFF / AUTO / ON / MAINTENANCE / MAINTAIN CONTACTS				
CONTACT	CONT	OFF	AUTO	MAINTENANCE
1	X			
2			X	
3				X



B4 HEAD COVER SUMP PUMPS - SU4

SCALE: NTS

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. SCHEMATIC DIAGRAMS ARE SHOWN FOR UNIT 4. SCHEMATIC DIAGRAMS FOR UNITS 5 AND 6 ARE SIMILAR.

LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
89FV0253-03B	SU6 - STARTER STANDARD UNIT-2 DISCONNECTING DEVICES IN CONTROL UNIT
89FV0253-02B	SU5 - SIZE 2 COMBINATION & NON-COMBINATION STARTER CONTACTOR, SIZE 1 DC CONTACTOR WITH AC COIL
89FV0253-01B	SU4 - UNIT WIRING DIAGRAMS - FNVR COMBINATION STARTER, SIZE 1 DC CONTACTOR WITH AC COIL
LGP-1.37-6-9A24/24	DIGITAL GOVERNOR UPGRADE MAIN UNITS 4-6 AUXILARIES SCHEMATIC

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DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JONATHAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.: W912EF22R0001
DRAWING NUMBER: LGP-1.002-6-9F24/1
FILE NAME: V4-LGP1.002-E-614.dgn

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POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

HEAD COVER SUMP PUMPS - SU4
CONTROL SCHEMATIC
INSTALL

SHEET ID
VOLUME 4
E-614

FINAL

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. SCHEMATIC DIAGRAMS ARE SHOWN FOR UNIT 4. SCHEMATIC DIAGRAMS FOR UNITS 5 AND 6 ARE SIMILAR.

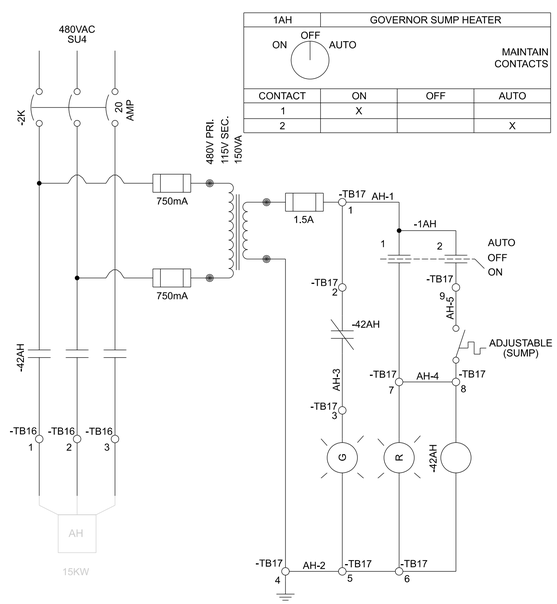
LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

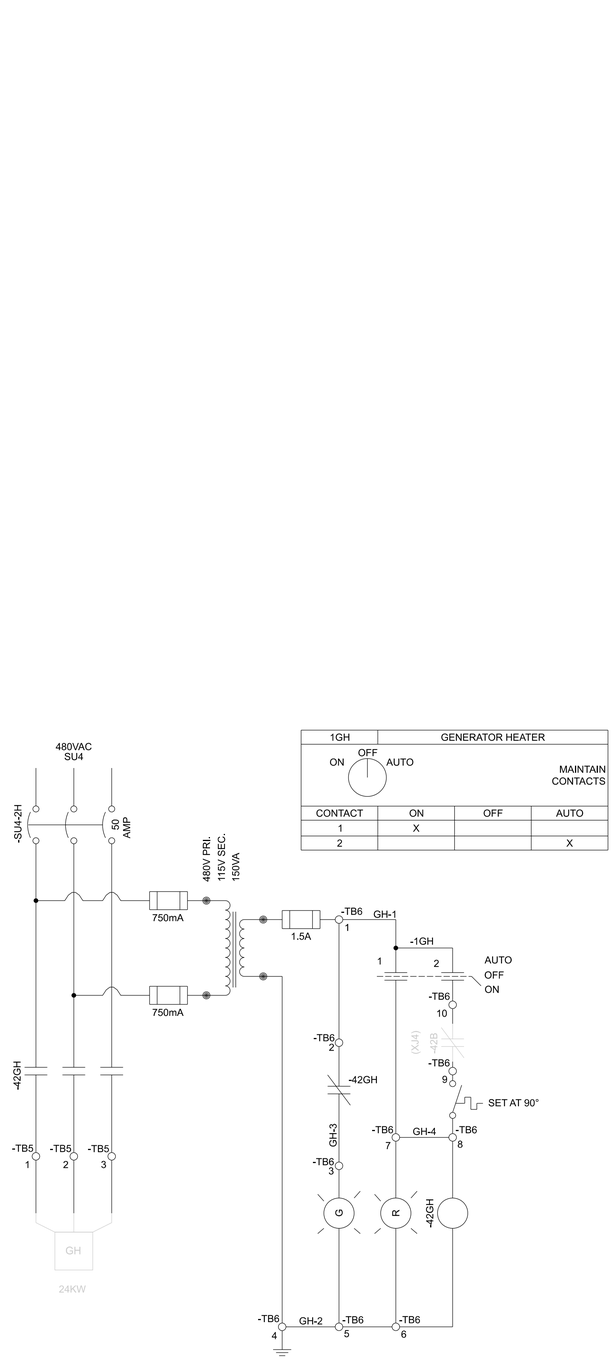
DRAWING NO	TITLE
89FV0253-03B	SU6 - STARTER STANDARD UNIT-2 DISCONNECTING DEVICES IN CONTROL UNIT
89FV0253-02B	SU5 - SIZE 2 COMBINATION & NON-COMBINATION STARTER CONTACTOR, SIZE 1 DC CONTACTOR WITH AC COIL
89FV0253-01B	SU4 - UNIT WIRING DIAGRAMS - FNVR COMBINATION STARTER, SIZE 1 DC CONTACTOR WITH AC COIL
LGP-1.37-6-9A24/24	DIGITAL GOVERNOR UPGRADE MAIN UNITS 4-6 AUXILARIES SCHEMATIC



1AH	GOVERNOR SUMP HEATER		
ON OFF AUTO			MAINTAIN CONTACTS
CONTACT	ON	OFF	AUTO
1	X		
2			X

J11 GOVERNOR SUMP HEATER - SU4

SCALE: NTS



1GH	GENERATOR HEATER		
ON OFF AUTO			MAINTAIN CONTACTS
CONTACT	ON	OFF	AUTO
1	X		
2			X

A1 GENERATOR HEATER - SU4

SCALE: NTS

1HP1	HI-PRESSURE THRUST BEARING PUMP		
ON OFF AUTO			MAINTAIN CONTACTS
CONTACT	ON	OFF	AUTO
1	X		
2			X

1HP2	THRUST BRG OIL PUMP	
OFF-CNTRL AUTO		MAINTAIN CONTACTS
CONTACT	OFF-CNTRL	AUTO
1		X

A11 HI-PRESSURE THRUST BEARING OIL PUMP - SU4

SCALE: NTS

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MARK	DESCRIPTION	DATE

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9F24/2
FILE NAME: LGP1.002-E-615.dgn

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: L. VAN STEDUM, P.E.
SIZE: ANSI D

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SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

GENERATOR AND GOVERNOR SUMP HEATERS - SU4
HI-PRESS THRUST BRG OIL PUMP - SU4
INSTALL

SHEET ID
VOLUME 4
E-615

FINAL

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. SCHEMATIC DIAGRAMS ARE SHOWN FOR UNIT 4. SCHEMATIC DIAGRAMS FOR UNITS 5 AND 6 ARE SIMILAR.

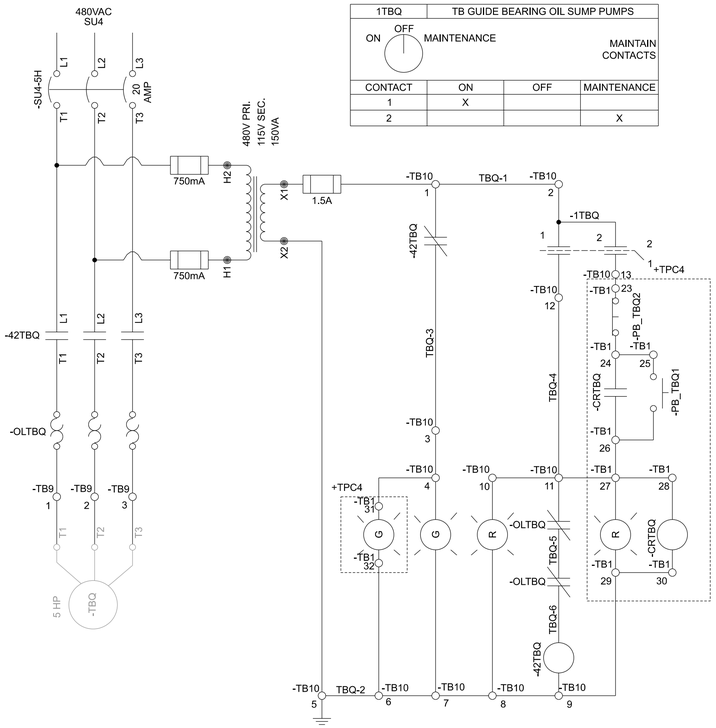
LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

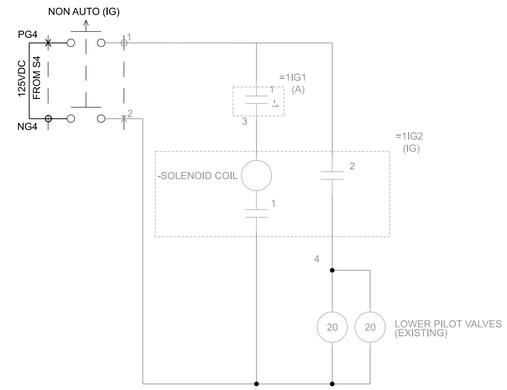
DRAWING NO	TITLE
89FV0253-03B	SU6 - STARTER STANDARD UNIT-2 DISCONNECTING DEVICES IN CONTROL UNIT
89FV0253-02B	SU5 - SIZE 2 COMBINATION & NON-COMBINATION STARTER CONTACTOR, SIZE 1 DC CONTACTOR WITH AC COIL
89FV0253-01B	SU4 - UNIT WIRING DIAGRAMS - FNVR COMBINATION STARTER, SIZE 1 DC CONTACTOR WITH AC COIL
LGP-1.37-6-9A24/24	DIGITAL GOVERNOR UPGRADE MAIN UNITS 4-6 AUXILARIES SCHEMATIC



1TBQ	TB GUIDE BEARING OIL SUMP PUMPS		
ON / OFF / MAINTENANCE			MAINTAIN CONTACTS
CONTACT	ON	OFF	MAINTENANCE
1	X		
2			X

D2 TURBINE GUIDE BEARING OIL SUMP PUMP - SU4

SCALE: NTS



1IG2	INTAKE GATE EMERGENCY	
RESET / LOWER	MAINTAINED CONTACTS PULL TO TURN RED HANDLE	
CONTACT	RESET	LOWER
1		X
2	X	

D12 INTAKE GATE EMERGENCY LOWER SU4

SCALE: NTS

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MARK	DESCRIPTION	DATE

DESIGNED BY:	S. SCHEIFF
DRAWN BY:	M. FLANAGAN
CHECKED BY:	K. SELLERS
SUBMITTED BY:	J. VANSTERUM, P.E.
SIZE:	D
FILENAME:	V4-LGP1.002-E-616.dgn
ANSI D	

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SOLICITATION NO.:	
CONTRACT NO.:	W912EF22R0001
DRAWING NUMBER:	LGP-1.002-6-9F24/3

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DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

TURBINE GUIDE BEARING OIL SUMP PUMP - SU4 CONTROL SCHEMATIC INSTALL

SHEET ID
VOLUME 4
E-616

FINAL

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. SCHEMATIC DIAGRAMS ARE SHOWN FOR UNIT 4. SCHEMATIC DIAGRAMS FOR UNITS 5 AND 6 ARE SIMILAR.
3. THE SOFT-STARTS FOR AQ1 AND AQ2 CONNECT TO THE GOVERNOR OIL PUMP PLC VIA ETHERNET FOR CONTROL. THE DISCRETE INPUTS ARE FOR THE BACKUP CONTROLLER ONLY. SEE "PLC NETWORK DIAGRAM" IN VOLUME 5 FOR MORE INFORMATION.

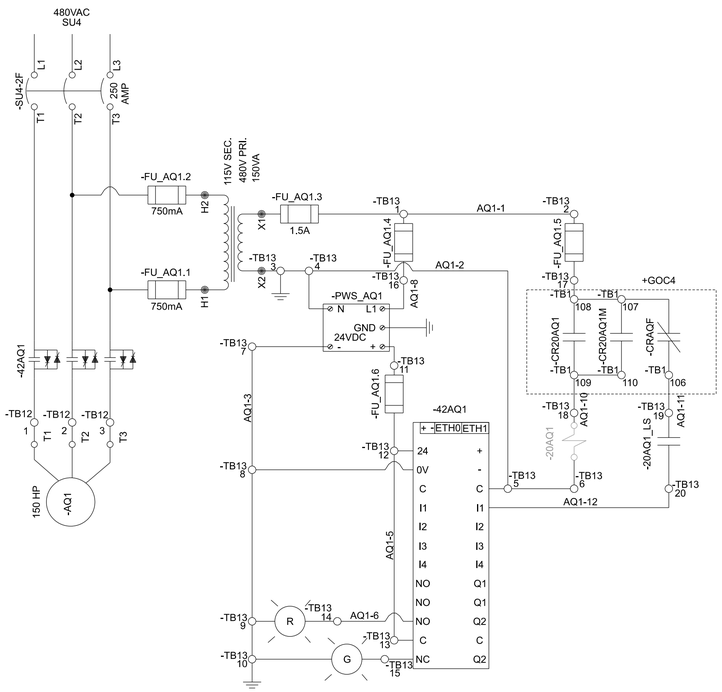
LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

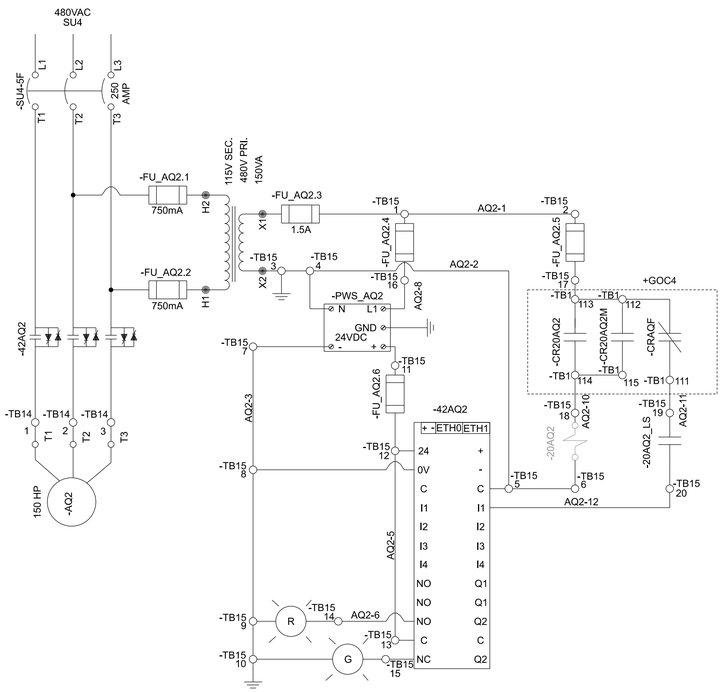
REFERENCE DRAWINGS

DRAWING NO	TITLE
89FV0253-03B	SU6 - STARTER STANDARD UNIT-2 DISCONNECTING DEVICES IN CONTROL UNIT
89FV0253-02B	SU5 - SIZE 2 COMBINATION & NON-COMBINATION STARTER CONTACTOR, SIZE 1 DC CONTACTOR WITH AC COIL
89FV0253-01B	SU4 - UNIT WIRING DIAGRAMS - FNVR COMBINATION STARTER, SIZE 1 DC CONTACTOR WITH AC COIL
LGP-1.37-6-9A24/24	DIGITAL GOVERNOR UPGRADE MAIN UNITS 4-6 AUXILARIES SCHEMATIC



A1 GOVERNOR OIL PUMP NO. 1 - SU4

SCALE: NTS



A11 GOVERNOR OIL PUMP NO. 2 - SU4

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF	ISSUE DATE: AUGUST 2022
DRAWN BY: M. FLANAGAN	SOLICITATION NO.: W912EF22R0001
CHECKED BY: K. SELLERS	CONTRACT NO.:
SUBMITTED BY: JUAN STERLING, P.E.	DRAWING NUMBER: LGP-1.002-6-9F24/4
SIZE: ANSI D	FILE NAME: V4-LGP1.002-E-617.dgn

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POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

GOV OIL PUMP 1 & 2
CONTROL SCHEMATIC
INSTALL

SHEET ID
VOLUME 4
E-617

FINAL

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. SCHEMATIC DIAGRAMS ARE SHOWN FOR UNIT 4. SCHEMATIC DIAGRAMS FOR UNITS 5 AND 6 ARE SIMILAR.

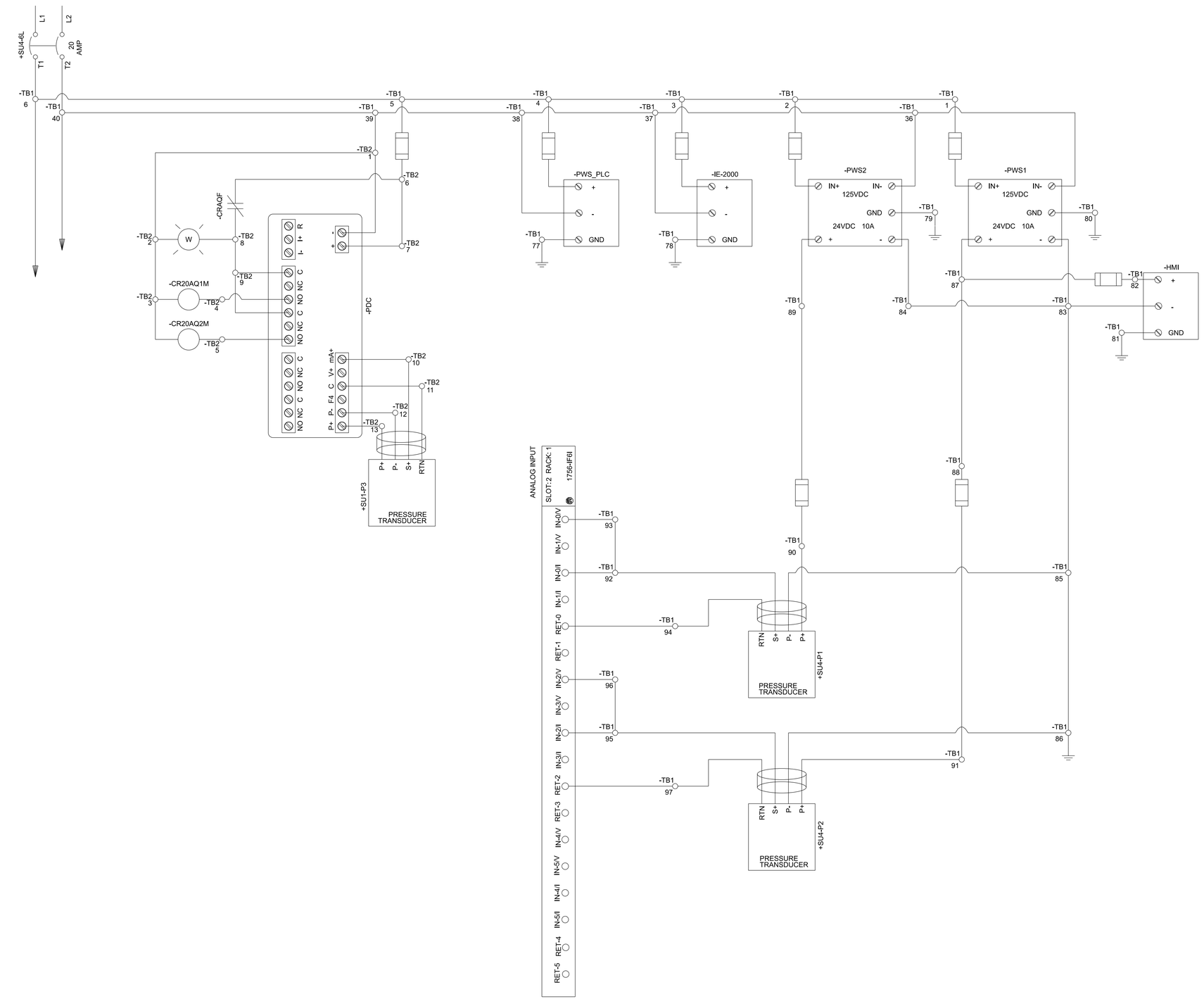
LEGEND

EQUIPMENT TO BE INSTALLED

EXISTING EQUIPMENT TO REMAIN

REFERENCE DRAWINGS

DRAWING NO	TITLE
89FV0253-03B	SU6 - STARTER STANDARD UNIT-2 DISCONNECTING DEVICES IN CONTROL UNIT
89FV0253-02B	SU5 - SIZE 2 COMBINATION & NON-COMBINATION STARTER CONTACTOR, SIZE 1 DC CONTACTOR WITH AC COIL
89FV0253-01B	SU4 - UNIT WIRING DIAGRAMS - FNVR COMBINATION STARTER, SIZE 1 DC CONTACTOR WITH AC COIL
LGP-1.37-6-9A24/24	DIGITAL GOVERNOR UPGRADE MAIN UNITS 4-6 AUXILARIES SCHEMATIC



A1 GOVERNOR OIL PUMP PLC - SU4

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF	ISSUE DATE: AUGUST 2022
DRAWN BY: M. FLANAGAN	SOLICITATION NO.: W912EF22R0001
CHECKED BY: K. SELLERS	CONTRACT NO.:
SUBMITTED BY: JUAN STEDFORD, P.E.	DRAWING NUMBER: LGP-1.002-6-9F24/5
SIZE: ANSI D	FILENAME: V4-LGP1.002-E-618.dgn

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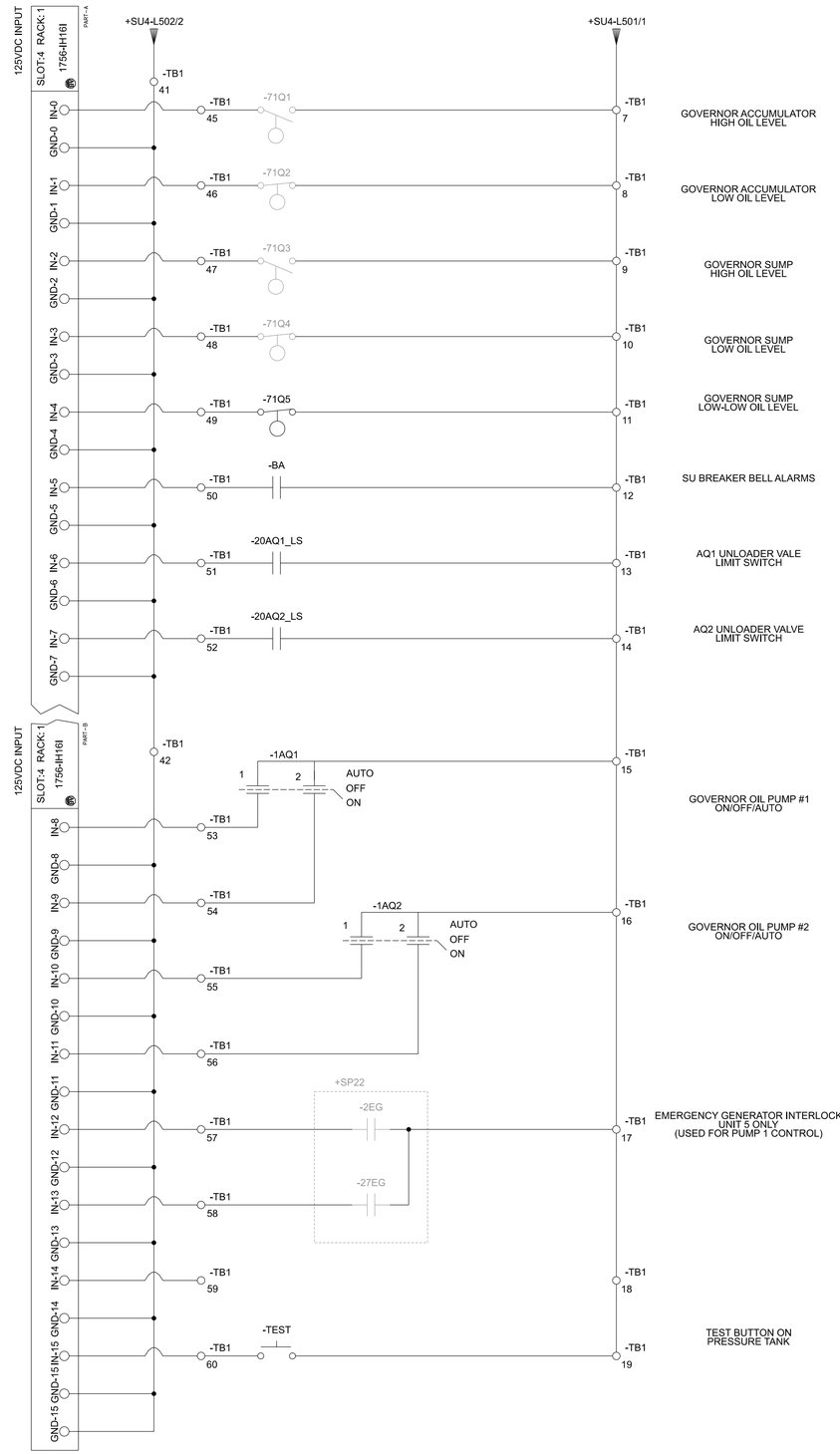
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

GOVERNOR OIL PUMP CONTROL - GOC4
CONTROL SCHEMATIC
INSTALL

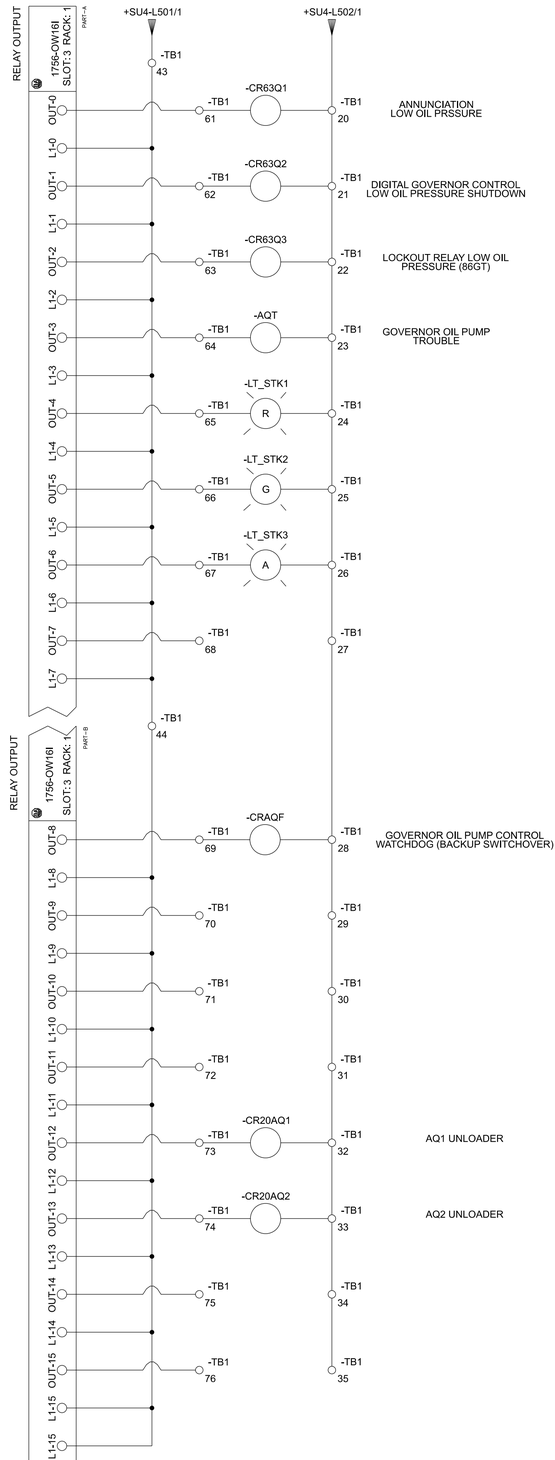
SHEET ID
VOLUME 4
E-618

FINAL



A1 GOVERNOR OIL PUMP PLC - SU4

SCALE: NTS



A12 GOVERNOR OIL PUMP PLC - SU4

SCALE: NTS

GENERAL NOTES

1. BOLD INDICATES EQUIPMENT TO BE INSTALLED BY CONTRACTOR.
2. SCHEMATIC DIAGRAMS ARE SHOWN FOR UNIT 4. SCHEMATIC DIAGRAMS FOR UNITS 5 AND 6 ARE SIMILAR.
3. 2EG AND 27EG ARE INTERLOCKS TO THE EMERGENCY GENERATOR CONTROLS. IT IS UNKNOWN IF THESE ARE STILL IN SERVICE. CONTRACTOR TO VERIFY LOCATION AND IF THEY ARE STILL USED BY THE EMERGENCY GENERATOR CONTROLS.

LEGEND

REFERENCE DRAWINGS

DRAWING NO	TITLE
89FV0253-03B	SU6 - STARTER STANDARD UNIT-2 DISCONNECTING DEVICES IN CONTROL UNIT
89FV0253-02B	SU5 - SIZE 2 COMBINATION & NON-COMBINATION STARTER CONTACTOR, SIZE 1 DC CONTACTOR WITH AC COIL
89FV0253-01B	SU4 - UNIT WIRING DIAGRAMS - FNVR COMBINATION STARTER, SIZE 1 DC CONTACTOR WITH AC COIL
LGP-1.37-6-9A24/24	DIGITAL GOVERNOR UPGRADE MAIN UNITS 4-6 AUXILARIES SCHEMATIC
LGP-1.37-6-9A31/4	DIGITAL GOVERNOR UPGRADE MAIN UNITS 4-6 ANNUNCIATOR SCHEMATIC
LGP-1.37-6-9A24/26	DIGITAL GOVERNOR UPGRADE MAIN UNITS 4-6 GOVERNOR INTERPOSING RELAYS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STEDUTO, P.E.
SIZE: D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9F24/6
FILE NAME: V4-LGP1.002-E-619.dgn
ANSI D

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

GOVERNOR OIL PUMP PLC - GOC4
CONTROL SCHEMATIC
INSTALL

SHEET ID
VOLUME 4
E-619

FINAL

GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1.1-6-1A8/4	POWERHOUSE 480 - VOLT CONTROL CENTERS SU1 THRU SU3
LPG-1.1-1A8/6	CONTROL CABINETS - TURBINE PIT, AC & DC TURBINE BEARING OIL PUMP STARTER, HEAD COVER SUMP PUMP START
8FP-020-8	CONTROL CABINETS - TURBINE PIT - SHT. 2
LGP-1.1-6-1E24/1	CONTROL DIAGRAMS - MAIN UNIT AUXILARIES

POWER HOUSE SU1 — TB1

Target	Wire Number		Jumper	Wire Number	Target
-OLHC1:T1		1			-HC1:T1
-OLHC1:T2		2			-HC1:T2
-OLHC1:T3		3			-HC1:T3

SU1-q1-HC1, 3/4" — SU1-c1-TP1, 1 1/2"

POWER HOUSE SU1 — TB2

Target	Wire Number		Jumper	Wire Number	Target
-FUSE	HC1-1	1		HC1-1	SS-1HC1
		2		HC1-1	-42HC1-NC
-42HC1-NC	HC1-7	3		HC1-7	-LT-G
		4		HC1-7	+TPC1-TB1:11
-GND	HC1-2	5		HC1-2	-XFMR:X2
-LT-G	HC1-2	6			
		7		HC1-2	+TPC1-TB1:8
-LT-R	HC1-2	8			
-TB4:9	HC1-2	9		HC1-2	-42HC1:A2
-OLHC1	HC1-6	10		HC1-6	63HC1
-LT-R	HC1-6	11		HC1-6	+TPC1-TB1:6
SS-1HC1:1	HC1-11	12			
+43HC_SU1-6	HC1-11	13		HC1-11	63HC1
SS-1HC1:3	HC1-9	14		HC1-9	+TPC1-TB1:1
+43HC_SU1-1	HC1-3	15		HC1-3	SS-1HC1:2
+43HC_SU1-4	HC1-4	16		HC1-4	+RANGER_R1
+43HC_SU1-5	HC1-5	17		HC1-5	+RANGER_R1

SU1-1G
(HEAD COVER SUMP PUMP NO.1)

POWER HOUSE SU1 — TB3

Target	Wire Number		Jumper	Wire Number	Target
-OLHC2:T1		1			-HC2:T1
-OLHC2:T2		2			-HC2:T2
-OLHC2:T3		3			-HC2:T3

SU1-q1-HC2, 3/4"

POWER HOUSE SU1 — TB4

Target	Wire Number		Jumper	Wire Number	Target
-FUSE	HC2-1	1		HC2-1	SS-1HC2
		2		HC2-1	-42HC2-NC
-42HC2-NC	HC2-7	3		HC2-7	-LT-G
		4		HC2-7	+TPC1-TB1:22
-GND	HC2-2	5		HC2-2	-XFMR:X2
-LT-G	HC2-2	6			
		7		HC2-2	+TPC1-TB1:19
-LT-R	HC2-2	8			
-TB2:9	HC2-2	9		HC2-2	-42HC2:A2
OLHC2	HC2-6	10		HC2-6	+43HC_SU1-8
-LT-R	HC2-6	11		HC2-6	+TPC1-TB1:16
SS-1HC2:1	HC2-6	12			
SS-1HC2:3	HC2-9	13		HC2-9	+TPC1-TB1:12
+43HC_SU1-2	HC2-3	14		HC2-3	SS-1HC2:2
+43HC_SU1-3	HC2-4	15		HC2-4	+RANGER_R2
+43HC_SU1-7	HC2-5	16		HC2-5	+RANGER_R2

SU1-6G
(HEAD COVER SUMP PUMP NO.2)

POWER HOUSE SU1 — TB9

Target	Wire Number		Jumper	Wire Number	Target
-OLTBA:T1		1			-TBA:T1
-OLTBA:T2		2			-TBA:T2
-OLTBA:T3		3			-TBA:T3

SU1-q1-TBA, 3/4" — SU1-c2-DGC1, 1 1/2"

POWER HOUSE SU1 — TB10

Target	Wire Number		Jumper	Wire Number	Target
-42TBA-NC	TBA-1	1		TBA-1	-FUSE
SS-1TBA	TBA-1	2			
SS-1TBA:3	TBA-6	3		TBA-6	+TPC1-TB1:25
SS-1TBA:2	TBA-5	4		TBA-5	DGC1-LL:97
SS:1-1TBA:1	TBA-4	5			
		6		TBA-4	DGC1-TB1:5
-LT-R	TBA-4	7		TBA-4	DGC1-LL:98
-OLTBA	TBA-4	8		TBA-4	+TPC1-TB1:30
-GND	TBA-2	9		TBA-2	-XFMR:X2
		10		TBA-2	+TPC1-TB1:24
-LT-G	TBA-2	11			
		12		TBA-2	DGC1-TB1:7
-LT-R	TBA-2	13			
-42TBA:A2	TBA-2	14		TBA-2	+TPC1-TB1:32
		15		TBA-7	-42TBA-NC
-LT-G	TBA-7	16		TBA-7	+TPC1-TB1:23
		17		TBA-7	DGC1-TB1:8

SU1-5H
(AC TURBINE BRG OIL PUMP)

POWER HOUSE SU1 — TB11

Target	Wire Number		Jumper	Wire Number	Target
-OLTBD		1			-TBD:+
-OLTBD		2			-TBD:-
-FUSE	TBD-1	3		TBD-1	-72TBD-NC
		4		TBD-1	SS-1TBD
SS-1TBD:2	TBD-5	5		TBD-5	DGC1-K21-A1
SS-1TBD:3	TBD-6	6		TBD-6	+TPC1-TB1:33
SS-1TBD:1	TBD-4	7		TBD-4	-72TBD-NO
		8		TBD-4	DGC1-TB1:4
		9		TBD-4	-LT-R
OLTBD	TBD-4	10		TBD-4	+TPC1-TB1:37
		11		TBD-4	=80TBQ+TP1
-42TBA-NC	TBD-3	12		TBD-3	=80TBQ+TP1
		13		TBD-3	DGC1-K21-A1
XFMR:X2	TBD-2	14		TBD-2	-GND
		15		TBD-2	+TPC1-TB1:42
LT-G	TBD-2	16			
		17		TBD-2	DGC1-TB1:2
-LT-R	TBD-2	18			
-72TBD:A2	TBD-2	19		TBD-2	+TPC1-TB1:40
-72TBD-NO	TBD-9	20		TBD-9	-42TBA-NC
		21		TBD-7	+TPC1-TB1:41
LT-G	TBD-7	22		TBD-7	-72TBD-NC
		23		TBD-7	DGC1-TB1:1
DC PUMP START		24			-72TBD-NO
DGC1-LL-53		25			-72TBD-NO
		26			=80TBQ+TP1
		27			

SU1-q1-TBD, 3/4"

CESU1-7G
(DC TURBINE BRG OIL PUMP)

A1 TERMINAL BLOCK LAYOUT
SCALE: NTS

A11 TERMINAL BLOCK LAYOUT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9E5111

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: LIAM STORM, P.E.
SIZE: ANSI D
FILENAME: V4-LGP1.002-E-701.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SU1 MISC EQUIPMENT
TERMINAL BLOCK LAYOUT
SHEET 1 OF 3 - INSTALL

SHEET ID
VOLUME 4
E-701

FINAL

GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1-6-1A8/4	POWERHOUSE 480 - VOLT CONTROL CENTERS SU1 THRU SU3
LPG-1.1-1A8/6	CONTROL CABINETS - TURBINE PIT, AC & DC TURBINE BEARING OIL PUMP STARTER, HEAD COVER SUMP PUMP START
8FP-020-8	CONTROL CABINETS - TURBINE PIT - SHT. 2
LGP-1.1-6-1E24/1	CONTROL DIAGRAMS - MAIN UNIT AUXILARIES
LGP-1.37-6-9A24/12	DIGITAL GOVERNOR UPGRADE - MAIN UNITS 1-3

POWER HOUSE
SU1
TB5

Target	Wire Number		Jumper	Wire Number	Target
42GH:T1		1			GH:T1
42GH:T2		2			GH:T2
42GH:T3		3			GH:T3

POWER HOUSE
SU1
TB6

Target	Wire Number		Jumper	Wire Number	Target
-FUSE	GH-1	1		GH-1	SS-1GH
		2		GH-1	-42GH-NC
-42GH-NC	GH-3	3		GH-3	-LT-G
-XFMR:X2	GH-2	4		GH-2	-GND
-LT-G	GH-2	5			
-LT-R	GH-2	6		GH-2	-42GH:A2
SS-1GH:1	GH-4	7		GH-4	-LT-R
-TS172	GH-4	8		GH-4	-42GH:A1
-TS172	GH-5	9		GH-5	=SU1-DGC1-52b
SS-1GH:2	GH-6	10		GH-6	=SU1-DGC1-52b

SU1-q1-GH, 1"
SU1-c3-DGC1, 1 1/2"

SU1-2H
(GEN HEATERS)

A1 TERMINAL BLOCK LAYOUT
SCALE: NTS

POWER HOUSE
SU1
TB7

Target	Wire Number		Jumper	Wire Number	Target
-OLHP:T1		1			-HP:T1
-OLHP:T2		2			-HP:T2
-OLHP:T3		3			-HP:T3

POWER HOUSE
SU1
TB8

Target	Wire Number		Jumper	Wire Number	Target
-FUSE	HP-1	1		HP-1	-63HP-NO
-42HP-NC	HP-1	2		HP-1	=HPC1-TB1:1
-63HP-NO	HP-3	3		HP-3	-DGC1-LT-A
-42HP-NC	HP-4	4		HP-4	=HPC1-TB1:5
-LT-G	HP-4	5			
-GND	HP-2	6		HP-2	-XFMR:X2
		7		HP-2	-DGC1-LT-A
		8		HP-2	-LT-G
		9		HP-2	=HPC1-TB1:6
-LT-R	HP-2	10		HP-2	-42HP:A2
		11		HP-7	=HPC1-TB1:3
-LT-R	HP-7	12		HP-7	-DGC1-LL:90
		13		HP-7	-OLHP
-DGC1-LL:85	HP-8	14		HP-8	=HPC1-TB1:4

SU1-q1-HP, 1"
SU1-c1-DGC1, 1 1/2"
SU1-c1-HPC1, 1"

SU1-3H
(HIGH PRESS. THRUST BRG. OIL PUMP)

A11 TERMINAL BLOCK LAYOUT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JOAN STERUM, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9E51/2
FILE NAME: V4-LGP1.002-E-702.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SU1 MISC EQUIPMENT
TERMINAL BLOCK LAYOUT
SHEET 2 OF 3 - INSTALL

SHEET ID
VOLUME 4
E-702

FINAL

GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1-6-1A8/4	POWERHOUSE 480 - VOLT CONTROL CENTERS SU1 THRU SU3
LGP-1.1-6-1E24/1	CONTROL DIAGRAMS - MAIN UNIT AUXILARIES

POWER HOUSE
SU1
TB16

Target	Wire Number		Jumper	Wire Number	Target
-42AQ3:T1		1			-AQ3:T1
-42AQ3:T2		2			-AQ3:T2
-42AQ3:T3		3			-AQ3:T3

SU1-q1-AQ3, 2"
1
2
3

POWER HOUSE
SU1
TB17

Target	Wire Number		Jumper	Wire Number	Target
FUSE-AQ3.3	AQ3-1	1		AQ3-1	FUSE-AQ3.4
		2		AQ3-1	FUSE-AQ3.5
-XFMR:X2	AQ3-2	3		AQ3-2	-GND
		4		AQ3-2	-PWS_AQ3:N
-42AQ3:C	AQ3-2	5			
		6		AQ3-2	-20AQ3:N
-PWS_AQ3:-	AQ3-3	7			
-42AQ3:0V	AQ3-3	8			
-LT-R	AQ3-3	9			
-LT-G	AQ3-3	10		AQ3-3	-GND
-PWS_AQ3:+	AQ3-4	11		AQ3-4	FUSE-AQ3.6
FUSE-AQ3.6	AQ3-5	12		AQ3-5	-42AQ3:24
		13		AQ3-5	-42AQ3:C
-LT-R	AQ3-6	14		AQ3-6	-42AQ3:NO
-LT-G	AQ3-7	15		AQ3-7	-42AQ3:NC
FUSE-AQ3.4	AQ3-8	16		AQ3-8	-PWS_AQ3:L1
FUSE-AQ3.5	AQ3-9	17		AQ3-9	+GOC1-TB1:118
-20AQ3:H	AQ3-10	18		AQ3-10	+GOC1-TB1:119
-20AQ3_LS	AQ3-11	19		AQ3-11	+GOC1-TB1:116
-42AQ3:I1	AQ3-12	20		AQ3-12	-20AQ3_LS

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10
9
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12

SU1-3F
(GOVERMOR OIL PUMP NO.3)

SU1-c1-GOC1, 1"
SU1-c1-SUMP, 1"

POWER HOUSE
SU1
TB12

Target	Wire Number		Jumper	Wire Number	Target
-42AQ1:T1		1			-AQ1:T1
-42AQ1:T2		2			-AQ1:T2
-42AQ1:T3		3			-AQ1:T3

SU1-q1-AQ1, 1"
1
2
3

POWER HOUSE
SU1
TB13

Target	Wire Number		Jumper	Wire Number	Target
FUSE-AQ1.3	AQ1-1	1		AQ1-1	FUSE-AQ1.4
		2		AQ1-1	FUSE-AQ1.5
-XFMR:X2	AQ1-2	3		AQ1-2	-GND
		4		AQ1-2	-PWS_AQ1:N
-42AQ1:C	AQ1-2	5			
		6		AQ1-2	-20AQ1:N
-PWS_AQ1:-	AQ1-3	7			
-42AQ1:0V	AQ1-3	8			
-LT-R	AQ1-3	9			
-LT-G	AQ1-3	10		AQ1-3	-GND
-PWS_AQ1:+	AQ1-4	11		AQ1-4	FUSE-AQ1.6
FUSE-AQ1.6	AQ1-5	12		AQ1-5	-42AQ1:24
		13		AQ1-5	-42AQ1:C
-LT-R	AQ1-6	14		AQ1-6	-42AQ1:NO
-LT-G	AQ1-7	15		AQ1-7	-42AQ1:NC
FUSE-AQ1.4	AQ1-8	16		AQ1-8	-PWS_AQ1:L1
FUSE-AQ1.5	AQ1-9	17		AQ1-9	+GOC1-TB1:108
-20AQ1:H	AQ1-10	18		AQ1-10	+GOC1-TB1:109
-20AQ1_LS	AQ1-11	19		AQ1-11	+GOC1-TB1:106
-42AQ1:I1	AQ1-12	20		AQ1-12	-20AQ1_LS

1
2
2
3
3
4

SU1-2F
(GOVERMOR OIL PUMP NO.1)

POWER HOUSE
SU1
TB14

Target	Wire Number		Jumper	Wire Number	Target
-42AQ2:T1		1			-AQ2:T1
-42AQ2:T2		2			-AQ2:T2
-42AQ2:T3		3			-AQ2:T3

SU1-q1-AQ2, 2"
1
2
3

POWER HOUSE
SU1
TB15

Target	Wire Number		Jumper	Wire Number	Target
FUSE-AQ2.3	AQ2-1	1		AQ2-1	FUSE-AQ2.4
		2		AQ2-1	FUSE-AQ2.5
-XFMR:X2	AQ2-2	3		AQ2-2	-GND
		4		AQ2-2	-PWS_AQ2:N
-42AQ2:C	AQ2-2	5			
		6		AQ2-2	-20AQ2:N
-PWS_AQ2:-	AQ2-3	7			
-42AQ2:0V	AQ2-3	8			
-LT-R	AQ2-3	9			
-LT-G	AQ2-3	10		AQ2-3	-GND
-PWS_AQ2:+	AQ2-4	11		AQ2-4	FUSE-AQ2.6
FUSE-AQ2.6	AQ2-5	12		AQ2-5	-42AQ2:24
		13		AQ2-5	-42AQ2:C
-LT-R	AQ2-6	14		AQ2-6	-42AQ2:NO
-LT-G	AQ2-7	15		AQ2-7	-42AQ2:NC
FUSE-AQ2.4	AQ2-8	16		AQ2-8	-PWS_AQ2:L1
FUSE-AQ2.5	AQ2-9	17		AQ2-9	+GOC1-TB1:113
-20AQ2:H	AQ2-10	18		AQ2-10	+GOC1-TB1:114
-20AQ2_LS	AQ2-11	19		AQ2-11	+GOC1-TB1:111
-42AQ2:I1	AQ2-12	20		AQ2-12	-20AQ2_LS

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SU1-5F
(GOVERMOR OIL PUMP NO.2)

A1 TERMINAL BLOCK LAYOUT
SCALE: NTS

A11 TERMINAL BLOCK LAYOUT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	S. SCHEIFF
DRAWN BY:	M. FLANAGAN
CHECKED BY:	K. SELLERS
SUBMITTED BY:	
SUAM STEP/M:	
SIZE:	FILENAME:
ANSI D	V4-LGP1.002-E-703.dgn

ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-#E1/3

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SU1 MISC EQUIPMENT
TERMINAL BLOCK LAYOUT
SHEET 3 OF 3 - INSTALL

SHEET ID
VOLUME 4
E-703

FINAL

POWER HOUSE
PLC1

Target	Wire Number		TB1	Jumper	Wire Number	Target
-FUSE		1				
-FUSE		2				
-FUSE		3				
-FUSE		4				
-FUSE		5				
		6				+SU1-7F
		7				-71Q1:4
		8				-71Q2:2
		9				-71Q3:4
		10				-71Q4:2
		11				-71Q5:2
		12				-BA
		13				-20AQ1_LS
		14				-20AQ2_LS
		15				-1AQ1
		16				-1AQ2
		17				-1AQ3
		18				-20AQ3_LS
		19				-TEST:4
		20				CR63Q1
		21				-CR63Q2
		22				-CR63Q3
		23				-AQT
		24				-LT_STK1:X2
		25				-LT_STK2:X2
		26				-LT_STK3:X2
		27				-SPARE
		28				-CRAQF
		29				-SPARE
		30				-SPARE
		31				-SPARE
		32				-CR20AQ1
		33				-CR20AQ2
		34				-CR20AQ3
		35				-SPARE
-PWS2:IN-		36				-PWS1:IN-
		37				-IE-2000:-
		38				-PWS_PLC:-
		39				TB2:1
		40				+SU4-6L
		41				+SU4-L502/2
		42				
		43				+SU4-L501/1
		44				
IN-0		45				-71Q1:3
IN-1		46				-71Q2:1
IN-2		47				-71Q3:3
IN-3		48				-71Q4:1
IN-4		49				-71Q5:1
IN-5		50				-BA
IN-6		51				-20AQ1_LS
IN-7		52				-20AQ2_LS
IN-8		53				-1AQ1:1
IN-9		54				-1AQ1:2
IN-10		55				-1AQ2:1
IN-11		56				-1AQ2:2
IN-12		57				-1AQ3:1
IN-13		58				-1AQ3:2
IN-14		59				-20AQ3_LS
IN-15		60				-TEST
OUT-0		61				-CR63Q1
OUT-1		62				-CR63Q2
OUT-2		63				-CR63Q3
OUT-3		64				-AQT
OUT-4		65				-LT_STK1:X1
OUT-5		66				-LT_STK2:X1
OUT-6		67				-LT_STK3:X1
OUT-7		68				-SPARE
OUT-8		69				-CRAQF
OUT-9		70				-SPARE
OUT-10		71				-SPARE
OUT-11		72				-SPARE
OUT-12		73				-CR20AQ1
OUT-13		74				-CR20AQ2
OUT-14		75				-CR20AQ3
OUT-15		76				-SPARE

SU1-s1-GOC1, 1/2"
GOC1-c1-PT, 1"
GOC1-c1-SUMP, 1"
SU1-c1-GOC1, 1"

POWER HOUSE
PLC1

Target	Wire Number		TB1	Jumper	Wire Number	Target
GND		77				PWS_PLC:GND
		78				-IE-2000:GND
		79				-PWS2:GND
		80				-PWS1:GND
		81				-HMI:GND
-FUSE		82				-HMI:+
-PWS1:-		83				-HMI:-
-PWS2:-		84				
		85				+SU4-P1:P-
-GND		86				+SU4-P2:P-
-FUSE		87				-PWS1:+
-FUSE		88				
-FUSE		89				-PWS2:+
-FUSE		90				+SU4-P1:P+
-FUSE		91				+SU4-P2:P+
IN-0/I		92				+SU4-P1:S+
IN-0/V		93				
RET-0		94				+SU4-P1:RTN
IN-2/I		95				+SU4-P2:S+
IN-2/V		96				
RET-2		97				RTN
		98				-AQT:NO
		99				-CR63Q1:NC
		100				-AQT:NO
		101				-CR63Q1:NC
		102				-CR63Q2:NO
		103				-CR63Q3:NC
		104				-CR63Q2:NO
		105				-CR63Q3:NC
-TB13:19		106				-CRAQF:NC
-CR20AQ1M:NO		107				-CRAQF:NC
-TB13:17		108				-CR20AQ1:NO
-TB13:18		109				-CR20AQ1:NO
		110				-CR20AQ1M:NO
-TB15:19		111				-CRAQF:NC
-CR20AQ2M		112				-CRAQF:NC
-TB15:17		113				-CR20AQ2:NO
-TB15:18		114				-CR20AQ2:NO
		115				-CR20AQ2M:NO
-TB17:19		116				-CRAQF:NC
-CR20AQ3M		117				-CRAQF:NC
-TB17:17		118				-CR20AQ3:NO
-TB17:18		119				-CR20AQ3:NO
		120				-CR20AQ3M:NO

GOC1-c1-DGC1, 1"

POWER HOUSE
PLC1

Target	Wire Number		TB2	Jumper	Wire Number	Target
TB1:39		1				-PDC:-
		2				-LT_W
		3				-CR20AQ1M
-CR20AQ3M		4				-CR20AQ2M
-CR20AQ1M		5				-PDC:NO
-CR20AQ2M		6				-PDC:NO
-CR20AQ3M		7				-PDC:NO
-FUSE		8				-CRAQF:NC
		9				-PDC:+
-CRAQF:NC		10				-LT_W
		11				-PDC:C
-PDC:C		12				-PDC:C
-PDC:mA+		13				SU4-P3:S+
-PDC:C		14				SU4-P3:RTN
-PDC:P-		15				SU4-P3:P-
-PDC:P+		16				SU4-P3:P+

PLC TERMINAL BLOCK LAYOUT - SU1

A1

SCALE: NTS

GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR

REFERENCE DRAWINGS

DRAWING NO	TITLE
LGP-1-6-1A8/4	POWERHOUSE 480 - VOLT CONTROL CENTERS SU1 THRU SU3
LGP-1.1-6-1E24/1	CONTROL DIAGRAMS - MAIN UNIT AUXILARIES
LGP-1.37-6-9A24/12	DIGITAL GOVERNOR UPGRADE - MAIN UNITS 1-3 AUXILIARIES SCHEMATIC
LGP-1.37-6-9A31/2	DIGITAL GOVERNOR UPGRADE - MAIN UNITS 1-3 ANNUNCIATOR SCHEMATIC
LGP-1.37-6-9A24/13	DIGITAL GOVERNOR UPGRADE - MAIN UNITS 1-3 GOVERNOR INTERPOSING RELAYS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JONATHAN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9E5114
FILE NAME: V4-LGP1.002-E-704.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

GOC1
TERMINAL BLOCK LAYOUT
INSTALL

SHEET ID
VOLUME 4
E-704

FINAL

GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR

REFERENCE DRAWINGS

DRAWING NO	TITLE
89FV0253-03B	SU6 - STARTER STANDARD UNIT-2 DISCONNECTING DEVICES IN CONTROL UNIT
89FV0253-02B	SU5 - SIZE 2 COMBINATION & NON-COMBINATION STARTER CONTACTOR, SIZE 1 DC CONTACTOR WITH AC COIL
89FV0253-01B	SU4 - UNIT WIRING DIAGRAMS - FNVR COMBINATION STARTER, SIZE 1 DC CONTACTOR WITH AC COIL
LGP-1.37-6-9A24/24	DIGITAL GOVERNOR UPGRADE MAIN UNITS 4-6 AUXILARIES SCHEMATIC

POWER HOUSE
SU4
TB1

Target	Wire Number		Jumper	Wire Number	Target
-OLHC1:T1		1			-HC1:T1
-OLHC1:T2		2			-HC1:T2
-OLHC1:T3		3			-HC1:T3

SU4-q1-HC1, 3/4"
SU4-c1-TP4, 1 1/2"

POWER HOUSE
SU4
TB2

Target	Wire Number		Jumper	Wire Number	Target
-FUSE	HC1-1	1		HC1-1	SS-1HC1
		2		HC1-1	-42HC1-NC
-42HC1-NC	HC1-7	3		HC1-7	-LT-G
		4		HC1-7	+TPC4-TB1:11
-GND	HC1-2	5		HC1-2	-XFMR:X2
-LT-G	HC1-2	6			
		7		HC1-2	+TPC4-TB1:8
-LT-R	HC1-2	8			
-TB4:9	HC1-2	9		HC1-2	-42HC1:A2
-OLHC1	HC1-6	10		HC1-6	63HC1
-LT-R	HC1-6	11		HC1-6	+TPC4-TB1:6
SS-1HC1:1	HC1-11	12			
+43HC_SU4-6	HC1-11	13		HC1-11	63HC1
SS-1HC1:3	HC1-9	14		HC1-9	+TPC4-TB1:1
+43HC_SU4-1	HC1-3	15		HC1-3	SS-1HC1:2
+43HC_SU4-4	HC1-4	16		HC1-4	+RANGER_R1
+43HC_SU4-5	HC1-5	17		HC1-5	+RANGER_R1

SU4-1G
(HEAD COVER SUMP PUMP NO.1)

POWER HOUSE
SU4
TB3

Target	Wire Number		Jumper	Wire Number	Target
-OLHC2:T1		1			-HC2:T1
-OLHC2:T2		2			-HC2:T2
-OLHC2:T3		3			-HC2:T3

SU4-q1-HC2, 3/4"

POWER HOUSE
SU4
TB4

Target	Wire Number		Jumper	Wire Number	Target
-FUSE	HC2-1	1		HC2-1	SS-1HC2
		2		HC2-1	-42HC2-NC
-42HC2-NC	HC2-7	3		HC2-7	-LT-G
		4		HC2-7	+TPC4-TB1:22
-GND	HC2-2	5		HC2-2	-XFMR:X2
-LT-G	HC2-2	6			
		7		HC2-2	+TPC4-TB1:19
-LT-R	HC2-2	8			
-TB2:9	HC2-2	9		HC2-2	-42HC2:A2
-OLHC2	HC2-6	10		HC2-6	+43HC_SU4-8
-LT-R	HC2-6	11		HC2-6	+TPC4-TB1:16
SS-1HC2:1	HC2-6	12			
SS-1HC2:3	HC2-9	13		HC2-9	+TPC4-TB1:12
+43HC_SU4-2	HC2-3	14		HC2-3	SS-1HC2:2
+43HC_SU4-3	HC2-4	15		HC2-4	+RANGER_R2
+43HC_SU4-7	HC2-5	16		HC2-5	+RANGER_R2
		17			

SU4-6G
(HEAD COVER SUMP PUMP NO.2)

POWER HOUSE
SU4
TB9

Target	Wire Number		Jumper	Wire Number	Target
-OLTBQ:T1		1			-TBQ:T1
-OLTBQ:T2		2			-TBQ:T2
-OLTBQ:T3		3			-TBQ:T3

SU4-q1-TBA, 3/4"

POWER HOUSE
SU4
TB10

Target	Wire Number		Jumper	Wire Number	Target
-FUSE	TBQ-1	1		TBQ-1	-42TBQ-NC
		2		TBQ-1	SS-1TBQ
		3		TBQ-3	-42TBQ-NC
-LT-G	TBQ-3	4		TBQ-3	+TPC4-TB1:31
-XFMR:X2	TBQ-2	5		TBQ-2	-GND
		6		TBQ-2	+TPC4-TB1:32
		7		TBQ-2	-LT-G
		8		TBQ-2	-LT-R
-42TBQ:A2	TBQ-2	9		TBQ-2	+TPC4-TB1:29
-LT-R	TBQ-4	10			
-OLTBQ	TBQ-4	11		TBQ-4	+TPC4-TB1:27
SS-1TBQ:1	TBQ-4	12			
SS-1TBQ:2	TBQ-7	13		TBQ-7	+TPC4-TB1:23

SU4-5H
(TURBINE GUIDE BEARING OIL SUMP PUMP)

A1 TERMINAL BLOCK LAYOUT
SCALE: NTS

A11 TERMINAL BLOCK LAYOUT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: J. VAN STEEUM, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0024-6-9F51/1
FILE NAME: V4-LGP1.0024-E-705.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SU4 MISC EQUIPMENT
TERMINAL BLOCK LAYOUT
SHEET 1 OF 3 - INSTALL

SHEET ID
VOLUME 4
E-705

FINAL

GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR

REFERENCE DRAWINGS

DRAWING NO	TITLE
89FV0253-03B	SU6 - STARTER STANDARD UNIT-2 DISCONNECTING DEVICES IN CONTROL UNIT
89FV0253-02B	SU5 - SIZE 2 COMBINATION & NON-COMBINATION STARTER CONTACTOR, SIZE 1 DC CONTACTOR WITH AC COIL
89FV0253-01B	SU4 - UNIT WIRING DIAGRAMS - FNVR COMBINATION STARTER, SIZE 1 DC CONTACTOR WITH AC COIL
LGP-1.37-6-9A24/24	DIGITAL GOVERNOR UPGRADE MAIN UNITS 4-6 AUXILARIES SCHEMATIC

POWER HOUSE
SU4
TB16

Target	Wire Number		Jumper	Wire Number	Target
-42AH:T1		1			AH:T1
-42AH:T2		2			AH:T2
-42AH:T3		3			AH:T3

SU4-q1-AH, 3/4"
1
2
3

POWER HOUSE
SU4
TB17

Target	Wire Number		Jumper	Wire Number	Target
-FUSE	AH-1	1	+	AH-1	-1AH
		2	+	AH-1	-42AH-NC
-42AH-NC	AH-3	3		AH-3	-LT-G
-GND	AH-2	4	+	AH-2	-XFMR:X2
		5	+	AH-2	-LT-G
-42AH:A2	AH-2	6	+	AH-2	-LT-R
-LT-R	AH-4	7	+	AH-4	-1AH:1
-42AH:A1	AH-4	8	+	AH-4	-TMP_AH1:3
-TMP_AH1:4	AH-5	9		AH-5	-1AH:2

4
5

SU4-2H
(GOVERNOR SUMP HEATER)

POWER HOUSE
SU4
TB5

Target	Wire Number		Jumper	Wire Number	Target
-42GH:T1		1			GH:T1
-42GH:T2		2			GH:T2
-42GH:T3		3			GH:T3

SU4-q1-GH, 1 1/4"
SU4-c2-DGC4, 3/4"
1
2
3

POWER HOUSE
SU4
TB6

Target	Wire Number		Jumper	Wire Number	Target
-FUSE	GH-1	1	+	GH-1	-1GH
		2	+	GH-1	-42GH-NC
-42GH-NC	GH-3	3		GH-3	-LT-G
-GND	GH-2	4	+	GH-2	-XFMR:X2
		5	+	GH-2	-LT-G
-42GH:A2	GH-2	6	+	GH-2	-LT-R
-LT-R	GH-4	7	+	GH-4	-1GH:1
-42GH:A1	GH-4	8	+	GH-4	-TMP_GH1:3
-TMP_GH1:4	GH-5	9		GH-5	-42B-NC
-1GH:2	GH-6	10		GH-6	-42B-NC

4
5
1
2

SU4-2H
(GEN HEATERS)

POWER HOUSE
SU4
TB7

Target	Wire Number		Jumper	Wire Number	Target
-OLHP:T1					-HP:T1
-OLHP:T2					-HP:T2
-OLHP:T3					-HP:T3

SU4-q1-HP, 1"
SU4<c1-DGC4, 1"
SU4<c1-HPC4, 1"
1
2
3

POWER HOUSE
SU4
TB8

Target	Wire Number		Jumper	Wire Number	Target
-63HP-NO	HP-1	1	+	HP-1	-FUSE
-42HP-NC	HP-1	2	+	HP-1	=HPC4-TB1:1
-63HP-NO	HP-3	3		HP-3	-DGC4-LT-A
-42HP-NC	HP-4	4	+	HP-4	=HPC4-TB1:5
-LT-G	HP-4	5	+		
-GND	HP-2	6	+	HP-2	-XFMR:X2
		7	+	HP-2	-DGC4-LT-A
		8	+	HP-2	-LT-G
		9	+	HP-2	=HPC4-TB1:6
-LT-R	HP-2	10	+	HP-2	-42HP:A2
		11	+	HP-7	=HPC4-TB1:3
-LT-R	HP-7	12	+	HP-7	-DGC4-LL-90
		13	+	HP-7	-OLHP
-DGC4-LL-85	HP-8	14		HP-8	=HPC4-TB1:4

1
2
1
3
4
2
5
6
7
3
4
8

SU4-3H
(HIGH PRESS. THRUST BRG. OIL PUMP)

A1 TERMINAL BLOCK LAYOUT
SCALE: NTS

A11 TERMINAL BLOCK LAYOUT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JUAN STERLING, P.E.
LEAD CHIEF: P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9F51/2
FILE NAME: V4-LGP1.002-E-706.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SU4 MISC EQUIPMENT
TERMINAL BLOCK LAYOUT
SHEET 2 OF 3 - INSTALL

SHEET ID
VOLUME 4
E-706

FINAL

GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR

REFERENCE DRAWINGS

DRAWING NO	TITLE
89FV0253-03B	SU6 - STARTER STANDARD UNIT-2 DISCONNECTING DEVICES IN CONTROL UNIT
89FV0253-02B	SU5 - SIZE 2 COMBINATION & NON-COMBINATION STARTER CONTACTOR, SIZE 1 DC CONTACTOR WITH AC COIL
89FV0253-01B	SU4 - UNIT WIRING DIAGRAMS - FNVR COMBINATION STARTER, SIZE 1 DC CONTACTOR WITH AC COIL
LGP-1.37-6-9A24/24	DIGITAL GOVERNOR UPGRADE MAIN UNITS 4-6 AUXILARIES SCHEMATIC

SU4-c1-GOC4, 1"

SU4-c1-SUMP, 1"

SU4-q1-AQ1, 2"

POWER HOUSE
SU4
TB12

Target	Wire Number		Jumper	Wire Number	Target
-42AQ1:T1		1			-AQ1:T1
-42AQ1:T2		2			-AQ1:T2
-42AQ1:T3		3			-AQ1:T3

POWER HOUSE
SU4
TB13

Target	Wire Number		Jumper	Wire Number	Target
FUSE-AQ1.3	AQ1-1	1		AQ1-1	FUSE-AQ1.4
		2		AQ1-1	FUSE-AQ1.5
-XFMR:X2	AQ1-2	3		AQ1-2	-GND
		4		AQ1-2	-PWS_AQ1:N
-42AQ1:C	AQ1-2	5			
		6		AQ1-2	-20AQ1:N
-PWS_AQ1:-	AQ1-3	7			
-42AQ1:0V	AQ1-3	8			
-LT-R	AQ1-3	9			
-LT-G	AQ1-3	10		AQ1-3	-GND
-PWS_AQ1:+	AQ1-4	11		AQ1-4	FUSE-AQ1.6
-FUSE-AQ1.6	AQ1-5	12		AQ1-5	-42AQ1:24
		13		AQ1-5	-42AQ1:C
-LT-R	AQ1-6	14		AQ1-6	-42AQ1:NO
-LT-G	AQ1-7	15		AQ1-7	-42AQ1:NC
FUSE-AQ1.4	AQ1-8	16		AQ1-8	-PWS_AQ1:L1
FUSE-AQ1.5	AQ1-9	17		AQ1-9	+GOC4-TB1:108
-20AQ1:H	AQ1-10	18		AQ1-10	+GOC4-TB1:109
-20AQ1_LS	AQ1-11	19		AQ1-11	+GOC4-TB1:106
-42AQ1:I1	AQ1-12	20		AQ1-12	-20AQ1_LS

SU4-2F
(GOVERNOR OIL PUMP NO.1)

A1 TERMINAL BLOCK LAYOUT
SCALE: NTS

SU4-q1-AQ2, 2"

POWER HOUSE
SU4
TB14

Target	Wire Number		Jumper	Wire Number	Target
-42AQ2:T1		1			-AQ2:T1
-42AQ2:T2		2			-AQ2:T2
-42AQ2:T3		3			-AQ2:T3

POWER HOUSE
SU4
TB15

Target	Wire Number		Jumper	Wire Number	Target
FUSE-AQ2.3	AQ2-1	1		AQ2-1	FUSE-AQ2.4
		2		AQ2-1	FUSE-AQ2.5
-XFMR:X2	AQ2-2	3		AQ2-2	-GND
		4		AQ2-2	-PWS_AQ2:N
-42AQ2:C	AQ2-2	5			
		6		AQ2-2	-20AQ2:N
-PWS_AQ2:-	AQ2-3	7			
-42AQ2:0V	AQ2-3	8			
-LT-R	AQ2-3	9			
-LT-G	AQ2-3	10		AQ2-3	-GND
-PWS_AQ2:+	AQ2-4	11		AQ2-4	FUSE-AQ2.6
-FUSE-AQ2.6	AQ2-5	12		AQ2-5	-42AQ2:24
		13		AQ2-5	-42AQ2:C
-LT-R	AQ2-6	14		AQ2-6	-42AQ2:NO
-LT-G	AQ2-7	15		AQ2-7	-42AQ2:NC
FUSE-AQ2.4	AQ2-8	16		AQ2-8	-PWS_AQ2:L1
FUSE-AQ2.5	AQ2-9	17		AQ2-9	+GOC4-TB1:113
-20AQ2:H	AQ2-10	18		AQ2-10	+GOC4-TB1:114
-20AQ2_LS	AQ2-11	19		AQ2-11	+GOC4-TB1:111
-42AQ2:I1	AQ2-12	20		AQ2-12	-20AQ2_LS

SU4-5F
(GOVERNOR OIL PUMP NO.2)

A11 TERMINAL BLOCK LAYOUT
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: JOAN STEDUM, P.E.
SIZE: ANSI D
FILE NAME: V4-LGP1.002-E-707.dgn
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9F51/3

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SU4 MISC EQUIPMENT
TERMINAL BLOCK LAYOUT
SHEET 3 OF 3 - INSTALL

SHEET ID
VOLUME 4
E-707

FINAL

POWER HOUSE
PLC4
TB1

Target	Wire Number		Jumper	Wire Number	Target
-FUSE		1			
-FUSE		2			
-FUSE		3			
-FUSE		4			
-FUSE		5			
		6			+SU4-6L
		7			-71Q1:4
		8			-71Q2:2
		9			-71Q3:4
		10			-71Q4:2
		11			-71Q5:2
		12			-BA
		13			-20AQ1_LS
		14			-20AQ2_LS
		15			-1AQ1
		16			-1AQ2
		17			-SP22
		18			-SPARE
		19			-TEST:4
		20			-CR63Q1
		21			-CR63Q2
		22			-CR63Q3
		23			-AQT
		24			-LT_STK1:X2
		25			-LT_STK2:X2
		26			-LT_STK3:X2
		27			-SPARE
		28			-CRAQF
		29			-SPARE
		30			-SPARE
		31			-SPARE
		32			-CR20AQ1
		33			-CR20AQ2
		34			-SPARE
		35			-SPARE
-PWS2:IN-		36			-PWS1:IN-
		37			-IE-2000:-
		38			-PWS_PLC:-
		39			TB2:1
		40			+SU4-6L
		41			+SU4-L502/2
		42			
		43			+SU4-L501/1
		44			
IN-0		45			-71Q1:3
IN-1		46			-71Q2:1
IN-2		47			-71Q3:3
IN-3		48			-71Q4:1
IN-4		49			-71Q5:1
IN-5		50			-BA
IN-6		51			-20AQ1_LS
IN-7		52			-20AQ2_LS
IN-8		53			-1AQ1:1
IN-9		54			-1AQ1:2
IN-10		55			-1AQ2:1
IN-11		56			-1AQ2:2
IN-12		57			+SP22-2EG
IN-13		58			+SP22-27EG
IN-14		59			-SPARE
IN-15		60			-TEST
OUT-0		61			-CR63Q1
OUT-1		62			-CR63Q2
OUT-2		63			-CR63Q3
OUT-3		64			-AQT
OUT-4		65			-LT_STK1:X1
OUT-5		66			-LT_STK2:X1
OUT-6		67			-LT_STK3:X1
OUT-7		68			-SPARE
OUT-8		69			-CRAQF
OUT-9		70			-SPARE
OUT-10		71			-SPARE
OUT-11		72			-SPARE
OUT-12		73			-CR20AQ1
OUT-13		74			-CR20AQ2
OUT-14		75			-SPARE
OUT-15		76			-SPARE

SU4=e1-GOC4, 1/2"
GOC4=c1-PT, 1"
GOC4=c1-SUMP, 1"
SU4=c1-GOC4, 1"
(FOR UNIT 5 ONLY)
GOC5=c1-SP22, 1/2"

POWER HOUSE
PLC4
TB1

Target	Wire Number		Jumper	Wire Number	Target
GND		77			PWS_PLC:GND
		78			-IE-2000:GND
		79			-PWS2:GND
		80			-PWS1:GND
		81			-HMI:GND
-FUSE		82			-HMI:+
-PWS1:-		83			-HMI:-
-PWS2:-		84			
		85			+SU4-P1:P-
-GND		86			+SU4-P2:P-
-FUSE		87			-PWS1:+
-FUSE		88			
-FUSE		89			-PWS2:+
-FUSE		90			+SU4-P1:P+
-FUSE		91			+SU4-P2:P+
IN-0/I		92			+SU4-P1:S+
IN-0/V		93			
RET-0		94			+SU4-P1:RTN
IN-2/I		95			+SU4-P2:S+
IN-2/V		96			
RET-2		97			RTN
		98			-AQT:NO
		99			-CR63Q1:NC
		100			-AQT:NO
		101			-CR63Q1:NC
		102			-CR63Q2:NO
		103			-CR63Q3:NC
		104			-CR63Q2:NO
		105			-CR63Q3:NC
-TB13:19		106			-CRAQF:NC
-CR20AQ1M:NO		107			-CRAQF:NC
-TB13:17		108			-CR20AQ1:NO
-TB13:18		109			-CR20AQ1:NO
		110			-CR20AQ1M:NO
-TB15:19		111			-CRAQF:NC
-CR20AQ2M		112			-CRAQF:NC
-TB15:17		113			-CR20AQ2:NO
-TB15:18		114			-CR20AQ2:NO
		115			-CR20AQ2M:NO

GOC4=c1-DGC4, 1"

POWER HOUSE
PLC4
TB2

Target	Wire Number		Jumper	Wire Number	Target
TB1:39		1			-PDC:-
		2			-LT_W
-CR20AQ2M		3			-CR20AQ1M
-CR20AQ1M		4			-PDC:NO
-CR20AQ2M		5			-PDC:NO
-FUSE		6			-CRAQF:NC
		7			-PDC:+
-CRAQF:NC		8			-LT_W
-PDC:C		9			-PDC:C
-PDC:mA+		10			SU4-P3:S+
-PDC:C		11			SU4-P3:RTN
-PDC:P-		12			SU4-P3:P-
-PDC:P+		13			SU4-P3:P+

GENERAL NOTES

1. ALL EQUIPMENT ON THIS SHEET IS NEW AND TO BE INSTALLED BY CONTRACTOR

REFERENCE DRAWINGS

DRAWING NO	TITLE
89FV0253-03B	SU6 - STARTER STANDARD UNIT-2 DISCONNECTING DEVICES IN CONTROL UNIT
89FV0253-02B	SU5 - SIZE 2 COMBINATION & NON-COMBINATION STARTER CONTACTOR, SIZE 1 DC CONTACTOR WITH AC COIL
89FV0253-01B	SU4 - UNIT WIRING DIAGRAMS - FNVR COMBINATION STARTER, SIZE 1 DC CONTACTOR WITH AC COIL
LGP-1.37-6-9A24/24	DIGITAL GOVERNOR UPGRADE MAIN UNITS 4-6 AUXILARIES SCHEMATIC
LGP-1.37-6-9A31/4	DIGITAL GOVERNOR UPGRADE MAIN UNITS 4-6 ANNUNCIATOR SCHEMATIC
LGP-1.37-6-9A24/26	DIGITAL GOVERNOR UPGRADE MAIN UNITS 4-6 GOVERNOR INTERPOSING RELAYS

PLC TERMINAL BLOCK LAYOUT - SU4

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. SCHEIFF
DRAWN BY: M. FLANAGAN
CHECKED BY: K. SELLERS
SUBMITTED BY: LYNN STERLING, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0022-6-9P51/4
FILE NAME: V4-LGP1.0022-E-708.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

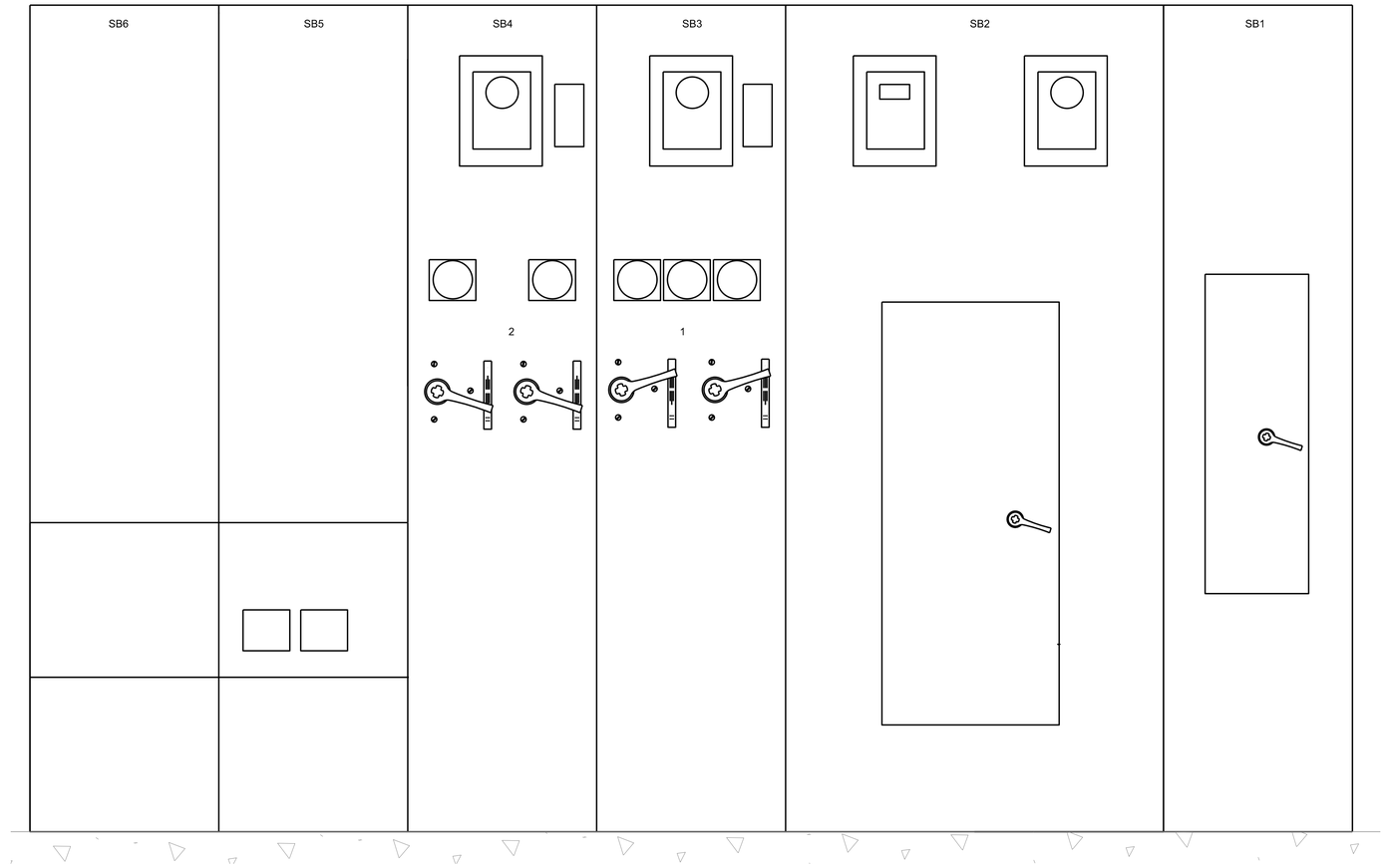
GOC4
TERMINAL BLOCK LAYOUT
INSTALL

SHEET ID
VOLUME 4
E-708

FINAL

GENERAL NOTES:

1. ALL EQUIPMENT ON THIS SHEET IS INTENDED FOR REMOVAL.



C4 ELEVATION - SB1-6 VDC DISTRIBUTION BOARD - REMOVAL

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

0 1' 2' 3'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSLD

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-4-A41
SIZE: FILENAME: V5-LGP1.002-ED201.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

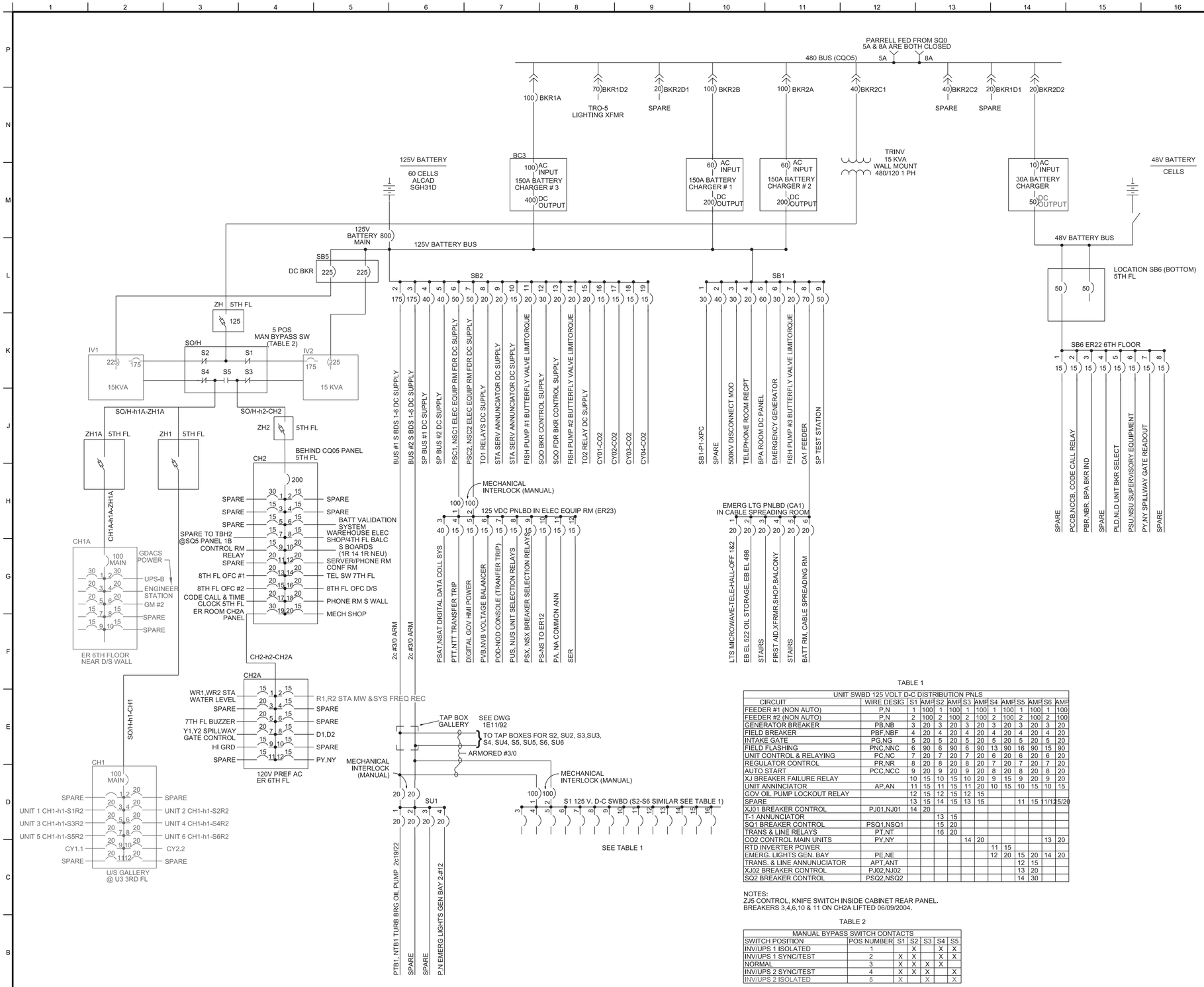
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SB1-6 VDC DISTRIBUTION BOARD
ELEVATION VIEW
REMOVAL

SHEET ID
VOLUME 5
ED201

FINAL



GENERAL NOTES:

1. ALL BREAKERS ARE EQUIPPED WITH BOTH THERMAL AND MAGNETIC TRIP ELEMENTS UNLESS OTHERWISE NOTED.
2. ALL DC BREAKERS ARE 2 POLE.
3. ITEMS IN BOLD INDICATE EQUIPMENT TO BE REMOVED.

COLOR CODE	
COLOR	VOLTAGE
ORANGE	13.8 KV
BLACK	4160 V
GREEN	480 V
LIGHT BLUE	120/208 V
PURPLE	120 V PREF AC
OLIVE	48 VDC
RED	125 VDC
BROWN	500 KV

TABLE 1

UNIT SWBD 125 VOLT D-C DISTRIBUTION PNLS

CIRCUIT	WIRE DESIG	S1	AMP	S2	AMP	S3	AMP	S4	AMP	S5	AMP	S6	AMP
FEEDER #1 (NON AUTO)	P,N	1	100	1	100	1	100	1	100	1	100	1	100
FEEDER #2 (NON AUTO)	P,N	2	100	2	100	2	100	2	100	2	100	2	100
GENERATOR BREAKER	PB,NB	3	20	3	20	3	20	3	20	3	20	3	20
FIELD BREAKER	PBF,NBF	4	20	4	20	4	20	4	20	4	20	4	20
INTAKE GATE	PG,NG	5	20	5	20	5	20	5	20	5	20	5	20
FIELD FLASHING	PNC,NNC	6	90	6	90	6	90	13	90	16	90	15	90
UNIT CONTROL & RELAYING	PC,NC	7	20	7	20	7	20	6	20	6	20	6	20
REGULATOR CONTROL	PR,NR	8	20	8	20	8	20	7	20	7	20	7	20
AUTO START	PCC,NCC	9	20	9	20	9	20	8	20	8	20	8	20
XJ BREAKER FAILURE RELAY		10	15	10	15	10	20	9	15	9	20	9	20
UNIT ANNINCIATOR	AP,AN	11	15	11	15	11	20	10	15	10	15	10	15
GOV OIL PUMP LOCKOUT RELAY		12	15	12	15	12	15						
SPARE		13	15	14	15	13	15			11	15	11/12	15/20
XJ01 BREAKER CONTROL	PJ01,NJ01	14	20										
T-1 ANNUNCIATOR				13	15								
SQ1 BREAKER CONTROL	PSQ1,NSQ1			15	20								
TRANS & LINE RELAYS	PT,NT			16	20								
CO2 CONTROL MAIN UNITS	PY,NY					14	20					13	20
RTD INVERTER POWER								11	15				
EMERG. LIGHTS GEN. BAY	PE,NE							12	20	15	20	14	20
TRANS. & LINE ANNUNUCIATOR	APT,ANT									12	15		
XJ02 BREAKER CONTROL	PJ02,NJ02									13	20		
SQ2 BREAKER CONTROL	PSQ2,NSQ2									14	30		

NOTES:
ZJ5 CONTROL, KNIFE SWITCH INSIDE CABINET REAR PANEL.
BREAKERS 3,4,6,10 & 11 ON CH2A LIFTED 06/09/2004.

TABLE 2

MANUAL BYPASS SWITCH CONTACTS

SWITCH POSITION	POS NUMBER	S1	S2	S3	S4	S5
INV/UPS 1 ISOLATED	1		X		X	X
INV/UPS 1 SYNC/TEST	2	X	X		X	X
NORMAL	3	X	X	X	X	
INV/UPS 2 SYNC/TEST	4	X	X	X		X
INV/UPS 2 ISOLATED	5	X		X		X

A2

125 VDC CONTROL SOURCES ONE LINE DIAGRAM, SHEET 1 OF 3

SCALE: NOT TO SCALE

US Army Corps of Engineers®

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201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
LEAD DESIGNER: FILENAME: V5-LGP1.002-ED601.dgn
ANS I.D.

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-SK2311

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

125V DCCONTROL SOURCES
ONE LINE DIAGRAM
REMOVAL

SHEET ID
VOLUME 5
ED601

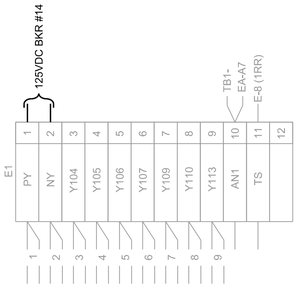
FINAL

GENERAL NOTES:

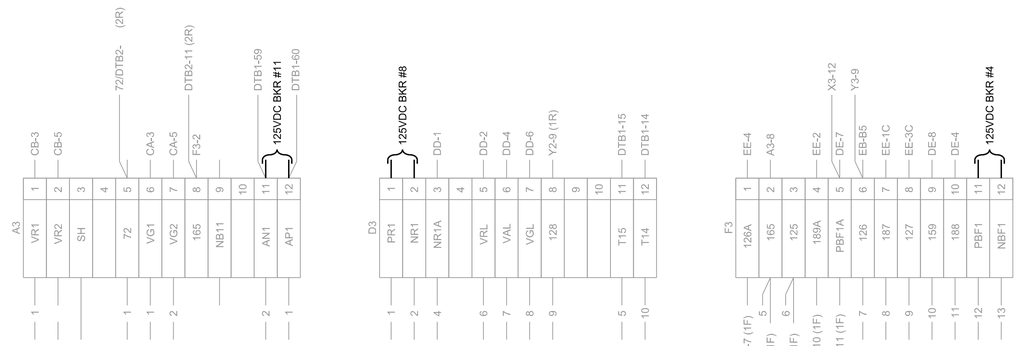
1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED.
2. DESTINATION OF THESE WIRES TO BE FIELD VERIFIED.
3. REMOVE EXISTING PREFERRED AC SUPPLY FOR S-BOARD #1 LOCATED AT THE GDACS RTU CABINET AT TERMINAL BLOCK PTB-26 (LINE) AND PTB-29 (NEUTRAL).

REFERENCE DRAWINGS:

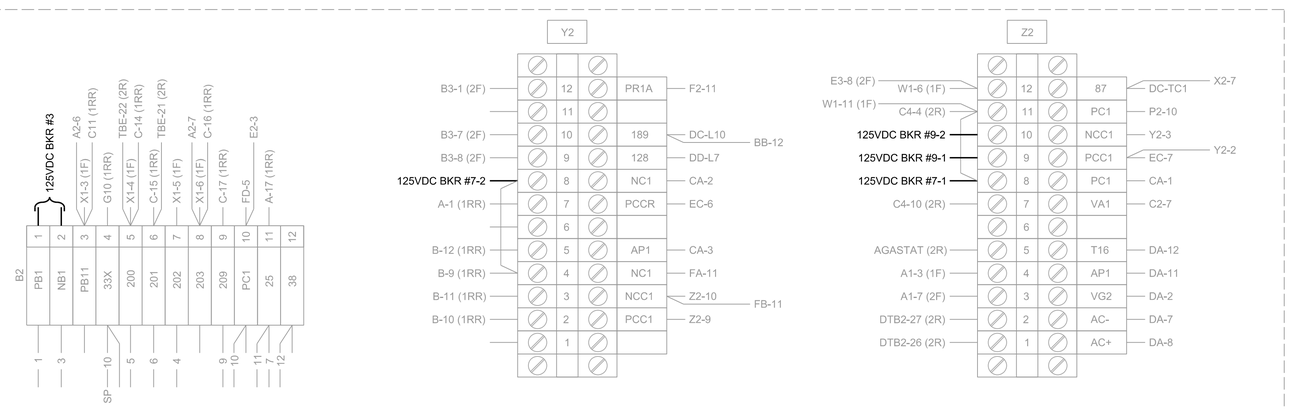
DRAWING NO.	TITLE
LGP-9-6-13/46	SWITCHBOARD WIRING DIAGRAM PANEL S11
LGP-9-6-13/47	SWITCHBOARD WIRING DIAGRAM PANEL S12
LGP-9-6-13/48	SWITCHBOARD WIRING DIAGRAM PANEL S1R1
LGP-9-6-13/49	SWITCHBOARD WIRING DIAGRAM PANEL S1R2
LGP-9-6-13/50	SWITCHBOARD WIRING DIAGRAM PANEL S1R1RED.



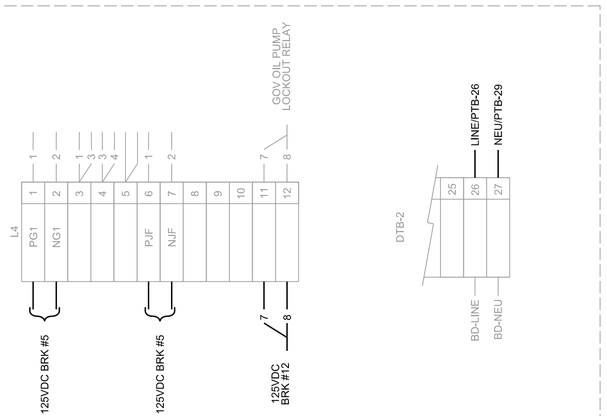
GEN. SWITCHBOARD S11
WIRING DIAGRAM (1F)



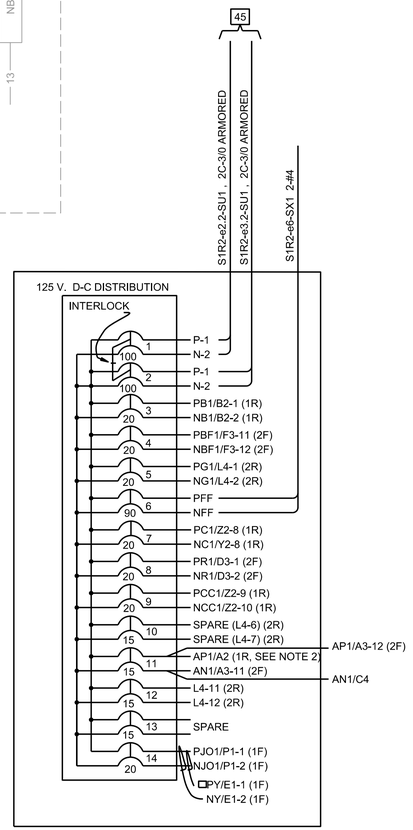
GEN. SWITCHBOARD S12
WIRING DIAGRAM (2F)



GEN. SWITCHBOARD S1R1
WIRING DIAGRAM (1R)



GEN. SWITCHBOARD S1R2
WIRING DIAGRAM (2R)



END PANEL

MAIN UNIT GENERATOR SWITCHBOARD S11, S12, S1R1, S1R2, WIRING DIAGRAM

A1

SCALE: NOT TO SCALE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9A4/6/3
FILENAME: V5-LGP1.002-ED712.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MAIN UNIT GENERATOR
SWITCHBOARD S11, S12, S1R1, S1R2, WIRING DIAGRAM
REMOVAL

SHEET ID
VOLUME 5
ED712

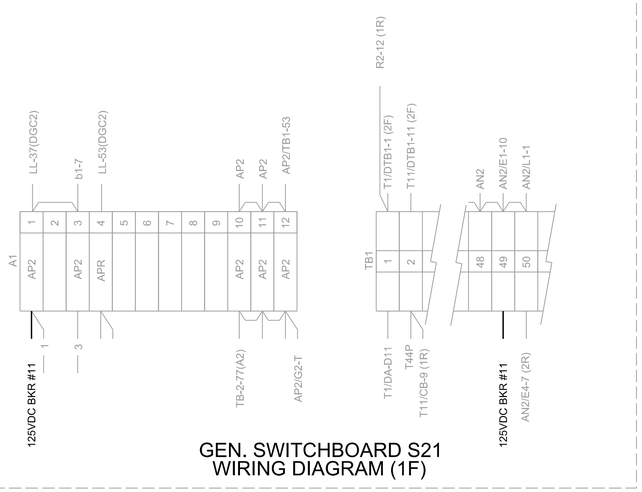
FINAL

GENERAL NOTES:

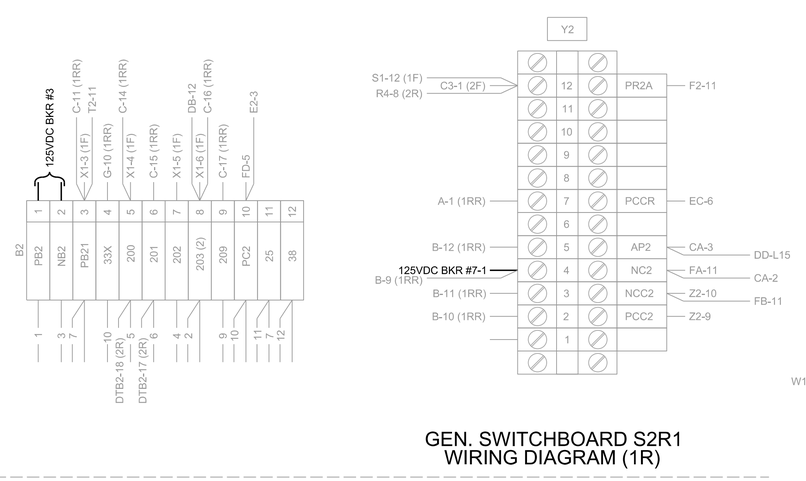
1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE REMOVED.
2. DESTINATION OF THESE WIRES TO BE FIELD VERIFIED.
3. REMOVE EXISTING PREFERRED AC SUPPLY FOR S-BOARD #2 LOCATED AT THE GDACS RTU CABINET AT TERMINAL BLOCK PTB-26 (LINE) AND PTB-30 (NEUTRAL).

REFERENCE DRAWINGS:

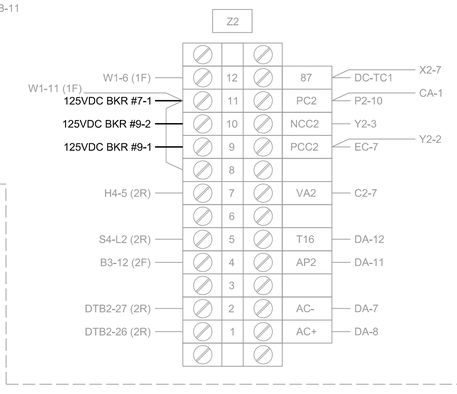
DRAWING NO.	TITLE
LGP-9-6-13/51	SWITCHBOARD WIRING DIAGRAM PANEL S21
LGP-9-6-13/52	SWITCHBOARD WIRING DIAGRAM PANEL S22
LGP-9-6-13/53	SWITCHBOARD WIRING DIAGRAM PANEL S2R1
LGP-9-6-13/54	SWITCHBOARD WIRING DIAGRAM PANEL S2R2
LGP-9-6-13/55	SWITCHBOARD WIRING DIAGRAM PANEL S2R1R

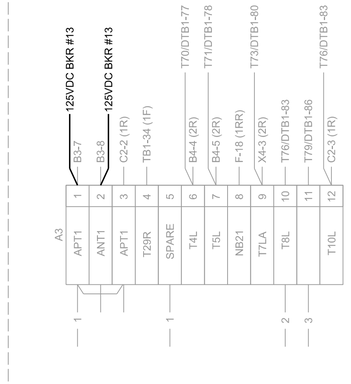


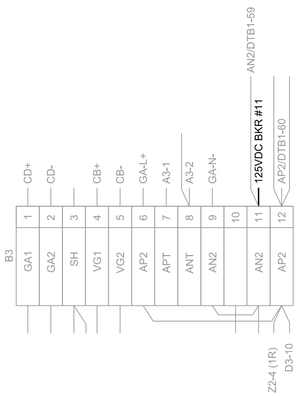
GEN. SWITCHBOARD S21
WIRING DIAGRAM (1F)

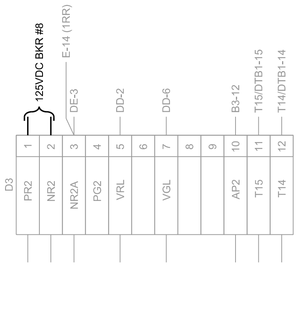


GEN. SWITCHBOARD S2R1
WIRING DIAGRAM (1R)

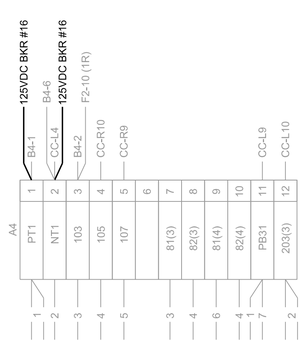


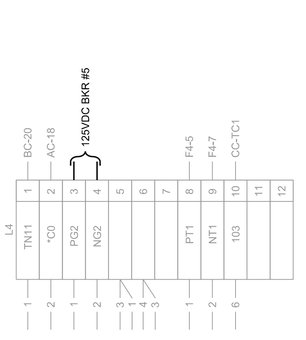


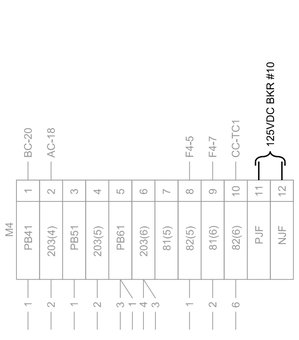


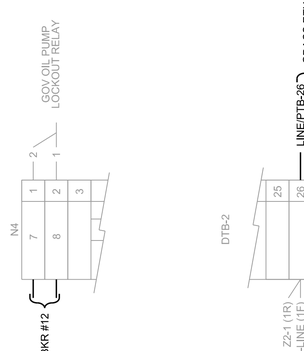


GEN. SWITCHBOARD S22
WIRING DIAGRAM (2F)

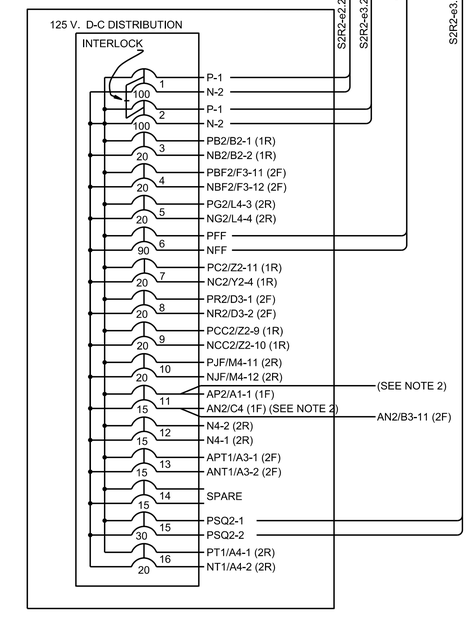








GEN. SWITCHBOARD S2R2
WIRING DIAGRAM (2R)



END PANEL

A1 MAIN UNIT GENERATOR SWITCHBOARD, S21, S22, S2R1, S2R2 WIRING DIAGRAM

SCALE: 1"=1" FULL SIZE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	L. SUPPAN
DRAWN BY:	B. MASOJUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. FINK, P.E.
SIZE	ANSI D
ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-6-SHEET
FILENAME:	V5-LGP1.002-ED713.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MAIN UNIT GENERATOR
S21, S2R1, S22, S2R2 WIRING DIAGRAM
REMOVAL

SHEET ID
VOLUME 5
ED713

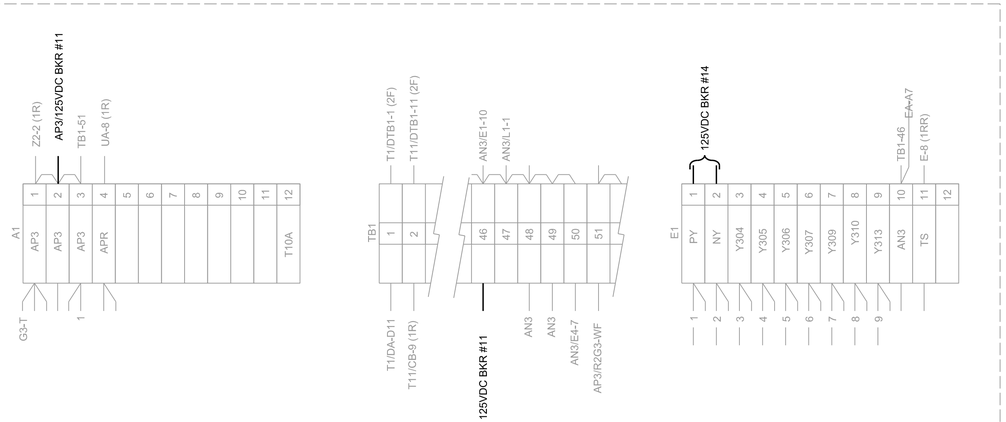
FINAL

GENERAL NOTES:

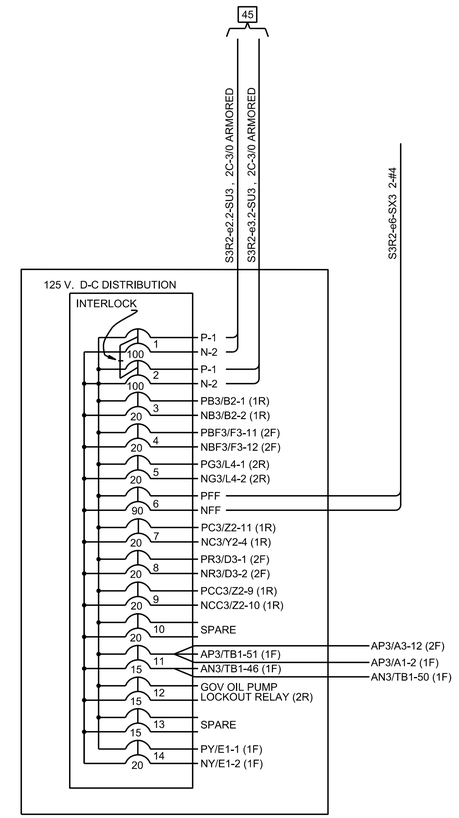
1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE REMOVED.
2. DESTINATION OF THESE WIRES TO BE FIELD VERIFIED.
3. REMOVE EXISTING PREFERRED AC SUPPLY FOR S-BOARD #3 LOCATED AT THE GDACS RTU CABINET AT TERMINAL BLOCK PTB-26 (LINE) AND PTB-30 (NEUTRAL).

REFERENCE DRAWINGS:

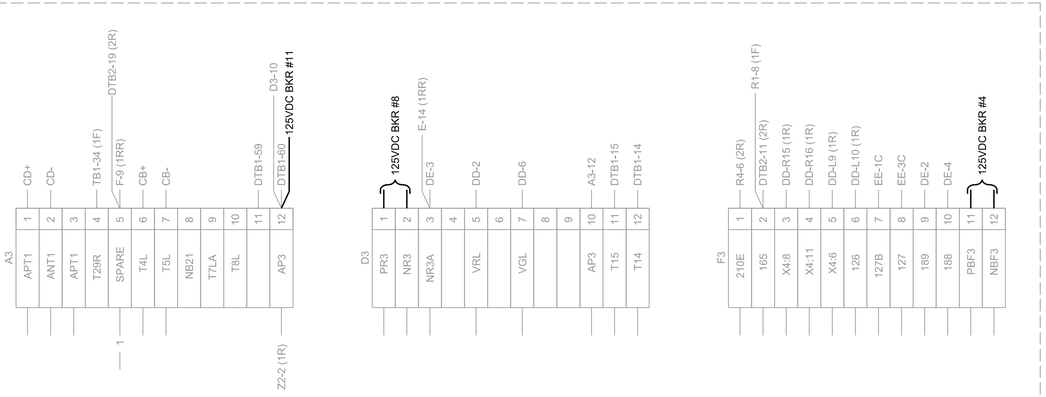
DRAWING NO.	TITLE
LGP-9-6-13/56	SWITCHBOARD WIRING DIAGRAM PANEL S31
LGP-9-6-13/57	SWITCHBOARD WIRING DIAGRAM PANEL S32
LGP-9-6-13/58	SWITCHBOARD WIRING DIAGRAM PANEL S3R1
LGP-9-6-13/59	SWITCHBOARD WIRING DIAGRAM PANEL S3R2
LGP-9-6-13/60	SWITCHBOARD WIRING DIAGRAM PANEL S3R1R



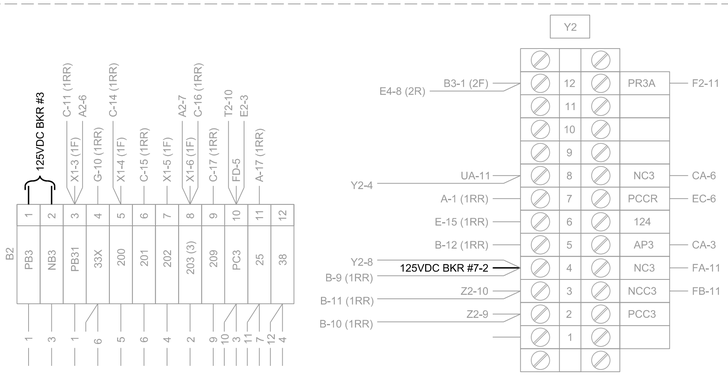
GEN. SWITCHBOARD S31
WIRING DIAGRAM (1F)

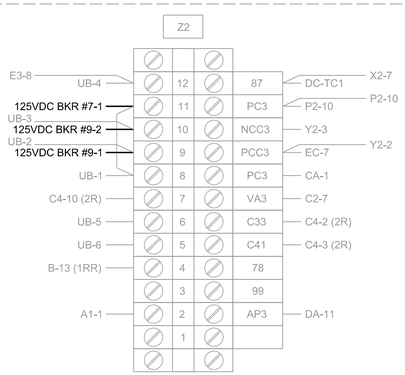


END PANEL

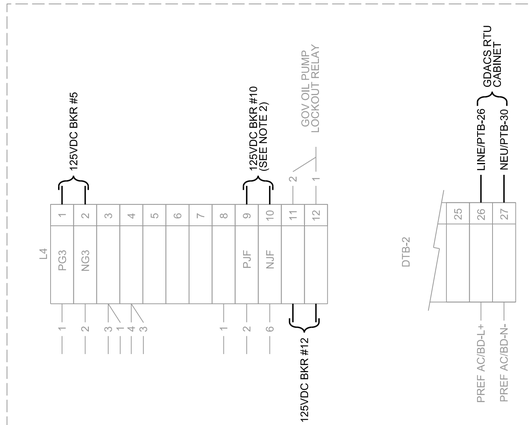


GEN. SWITCHBOARD S32
WIRING DIAGRAM (2F)





GEN. SWITCHBOARD S3R1
WIRING DIAGRAM (1R)



GEN. SWITCHBOARD S3R2
WIRING DIAGRAM (2R)

MAIN UNIT GENERATOR SWITCHBOARD, S31,
S32, S3R2, S3R1 WIRING DIAGRAM

A1 SCALE: NOT TO SCALE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINNEY, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-S9-46/5
SIZE: FILE NAME: V5-LGP1.002-ED714.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MAIN UNIT GENERATOR
S31, S32, S3R2, S3R1 WIRING DIAGRAM
REMOVAL

SHEET ID
VOLUME 5
ED714

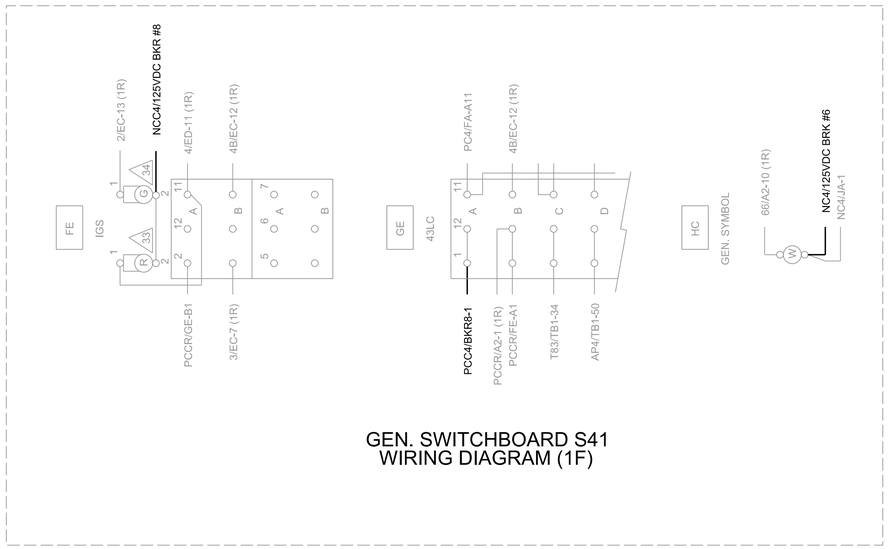
FINAL

GENERAL NOTES:

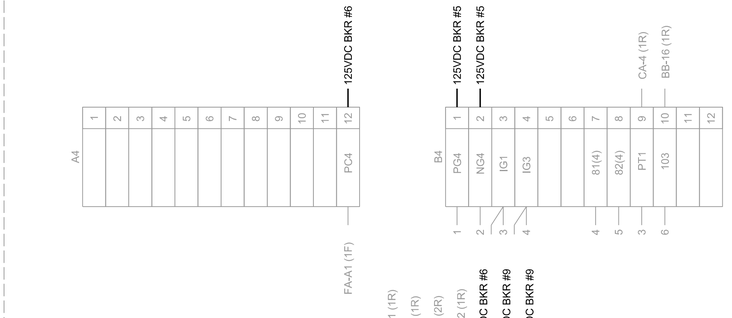
1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE REMOVED.
2. DESTINATION OF THESE WIRES TO BE FIELD VERIFIED.
3. REMOVE EXISTING PREFERRED AC SUPPLY FOR S-BOARD #4 LOCATED AT THE GDACS RTU CABINET AT TERMINAL BLOCK PTB-26 (LINE) AND PTB-30 (NEUTRAL).

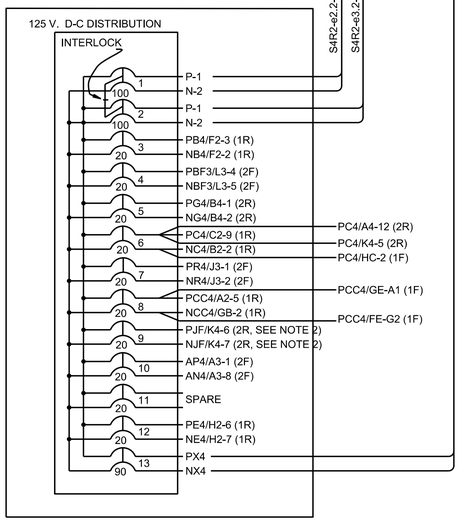
REFERENCE DRAWINGS:

DRAWING NO.	TITLE
LGP-9-6-13/61	SWITCHBOARD WIRING DIAGRAM PANEL S41
LGP-9-6-13/62	SWITCHBOARD WIRING DIAGRAM PANEL S42
LGP-9-6-13/63	SWITCHBOARD WIRING DIAGRAM PANEL S4R1
LGP-9-6-13/64	SWITCHBOARD WIRING DIAGRAM PANEL S4R2
LGP-9-6-13/65	SWITCHBOARD WIRING DIAGRAM PANEL S4R1R

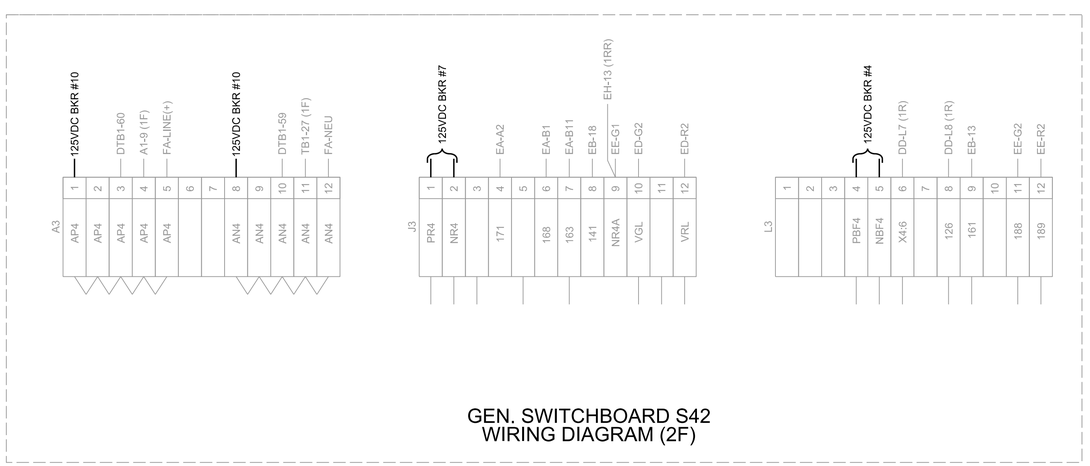


GEN. SWITCHBOARD S41
WIRING DIAGRAM (1F)



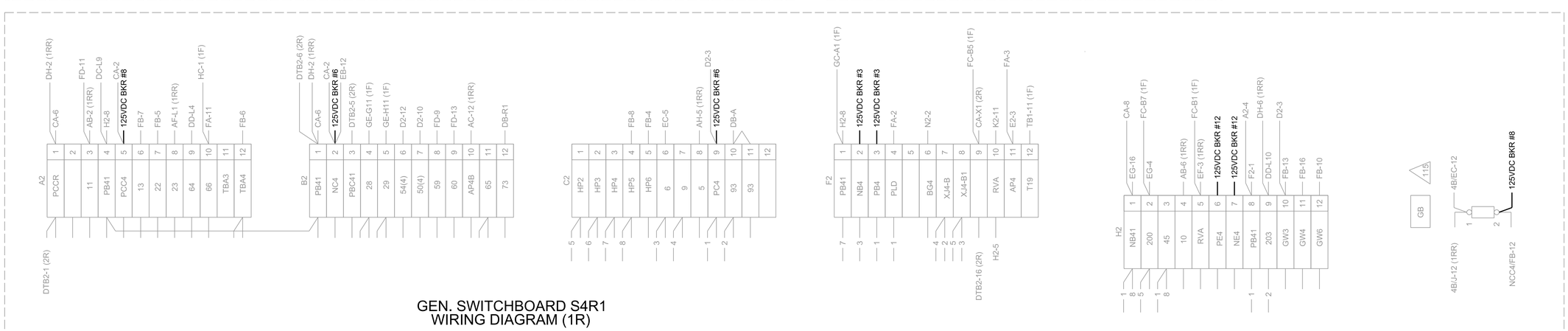


END PANEL



GEN. SWITCHBOARD S42
WIRING DIAGRAM (2F)

GEN. SWITCHBOARD S4R2
WIRING DIAGRAM (2R)



GEN. SWITCHBOARD S4R1
WIRING DIAGRAM (1R)

A1 MAIN UNIT GENERATOR SWITCHBOARD, S41, S42, S4R2, S4R1 WIRING DIAGRAM

SCALE: NOT TO SCALE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	L. SUPPAN
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. FINLAY, P.E.
SIZE:	ANSI D
ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-6-SN4616
FILENAME:	V5-LGP1.002-ED715.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MAIN UNIT GENERATOR
S41, S42, S4R2, S4R1 WIRING DIAGRAM
REMOVAL

SHEET ID
VOLUME 5
ED715

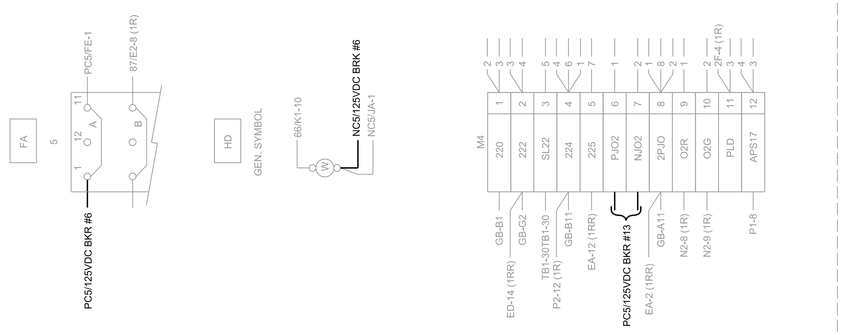
FINAL

GENERAL NOTES

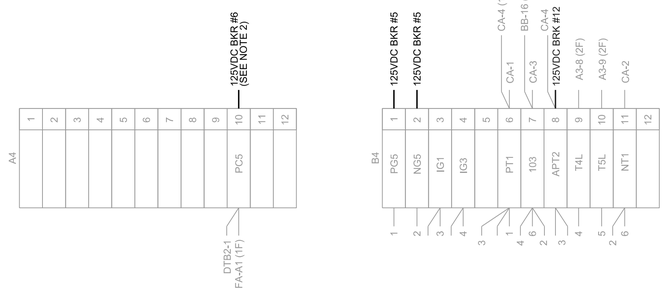
1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED.
2. DESTINATION OF THESE WIRES TO BE FIELD VERIFIED.
3. REMOVE EXISTING PREFERRED AC SUPPLY FOR S-BOARD #5 LOCATED AT THE GDACS RTU CABINET AT TERMINAL BLOCK PTB-26 (LINE) AND PTB-30 (NEUTRAL).

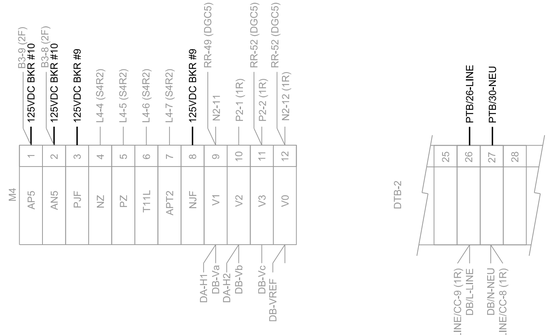
REFERENCE DRAWINGS

DRAWING NO.	TITLE
LGP-9-6-13/66	SWITCHBOARD WIRING DIAGRAM PANEL S51
LGP-9-6-13/67	SWITCHBOARD WIRING DIAGRAM PANEL S52
LGP-9-6-13/68	SWITCHBOARD WIRING DIAGRAM PANEL S5R1
LGP-9-6-13/69	SWITCHBOARD WIRING DIAGRAM PANEL S5R2
LGP-9-6-13/70	SWITCHBOARD WIRING DIAGRAM PANEL S5R1R

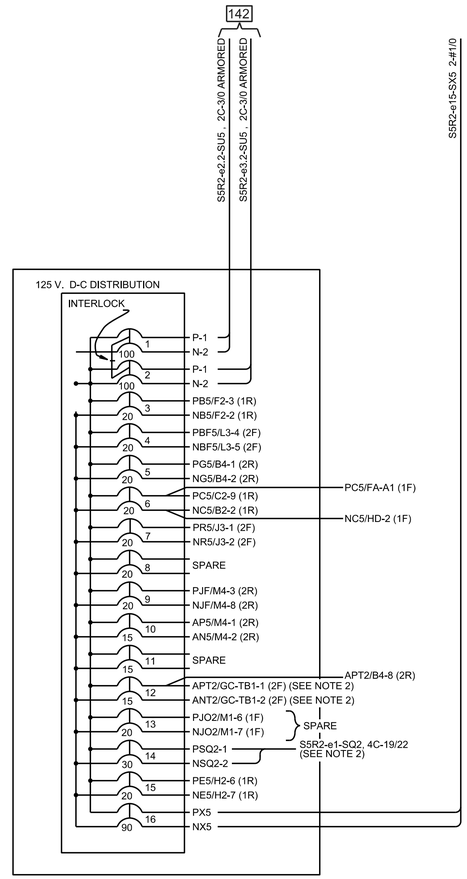


GEN. SWITCHBOARD S51
WIRING DIAGRAM (1F)

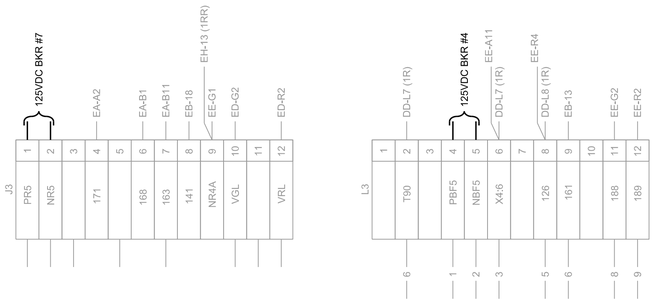




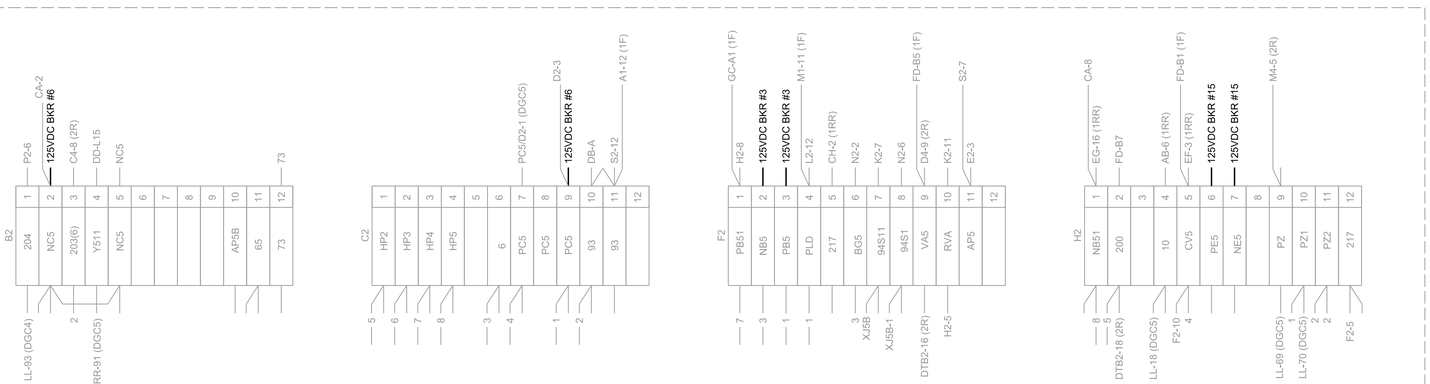
GEN. SWITCHBOARD S5R2
WIRING DIAGRAM (2R)



END PANEL



GEN. SWITCHBOARD S52
WIRING DIAGRAM (2F)



GEN. SWITCHBOARD S5R1
WIRING DIAGRAM (1R)

A1 MAIN UNIT GENERATOR
SWITCHBOARD WIRING DIAGRAMS (S5)
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINNEY, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0022-6-9A467
SIZE: FILENAME: V5-LGP1.0022-ED716.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MAIN UNIT GENERATOR
SWITCHBOARD, S51, S52, S5R1, S5R2, WIRING DIAGRAMS
REMOVAL

SHEET ID
VOLUME 5
ED716

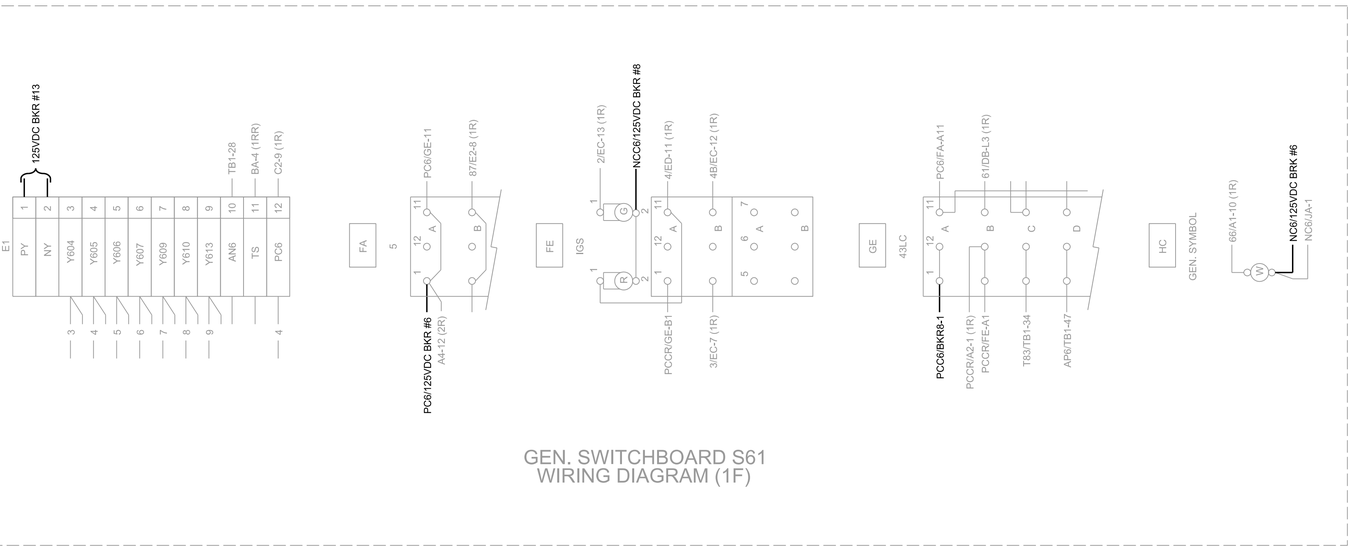
FINAL

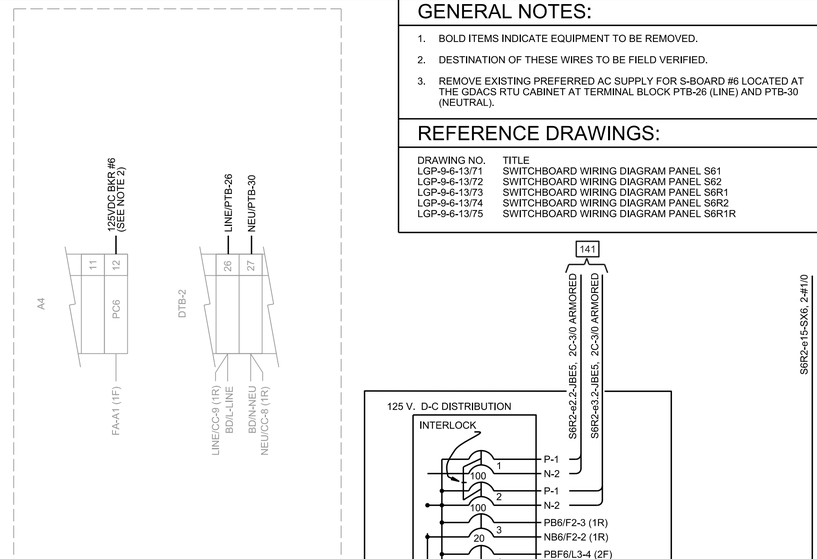
GENERAL NOTES:

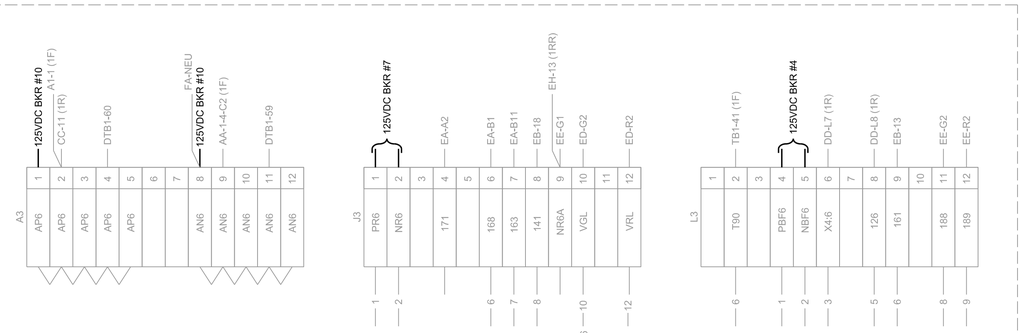
1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED.
2. DESTINATION OF THESE WIRES TO BE FIELD VERIFIED.
3. REMOVE EXISTING PREFERRED AC SUPPLY FOR S-BOARD #6 LOCATED AT THE GDACS RTU CABINET AT TERMINAL BLOCK PTB-26 (LINE) AND PTB-30 (NEUTRAL).

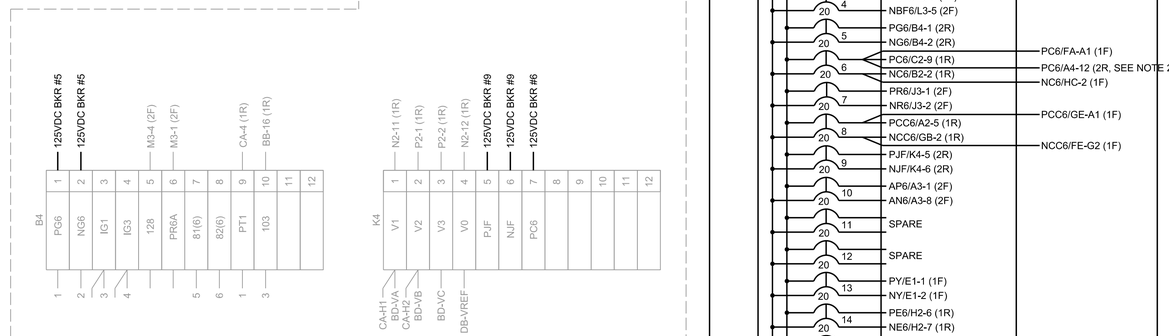
REFERENCE DRAWINGS:

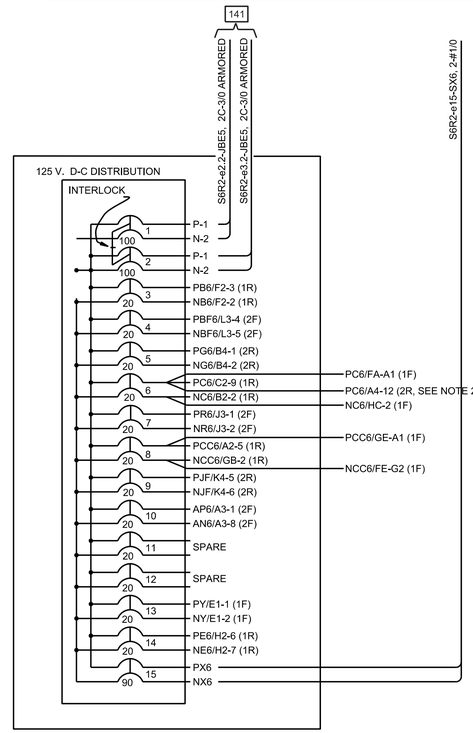
DRAWING NO.	TITLE
LGP-9-6-13/71	SWITCHBOARD WIRING DIAGRAM PANEL S61
LGP-9-6-13/72	SWITCHBOARD WIRING DIAGRAM PANEL S62
LGP-9-6-13/73	SWITCHBOARD WIRING DIAGRAM PANEL S6R1
LGP-9-6-13/74	SWITCHBOARD WIRING DIAGRAM PANEL S6R2
LGP-9-6-13/75	SWITCHBOARD WIRING DIAGRAM PANEL S6R1R

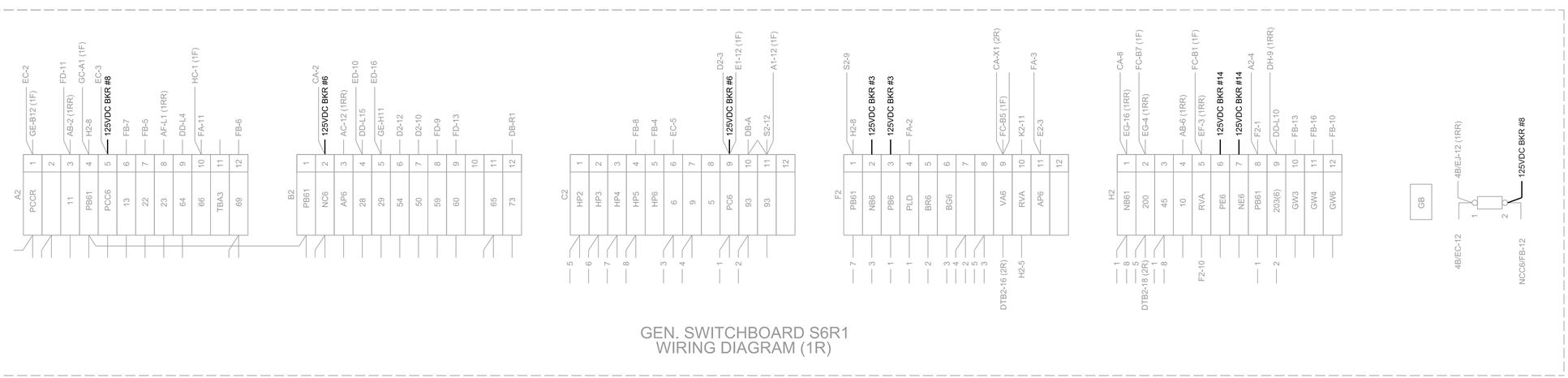












MAIN UNIT GENERATOR
SWITCHBOARD WIRING DIAGRAMS (S6)

A1

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	L. SUPPAN
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. FINLAY, P.E.
ANSI D	

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.0022-6-SW4618
SIZE: FILE NAME: V5-LGP1.0022-ED717.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

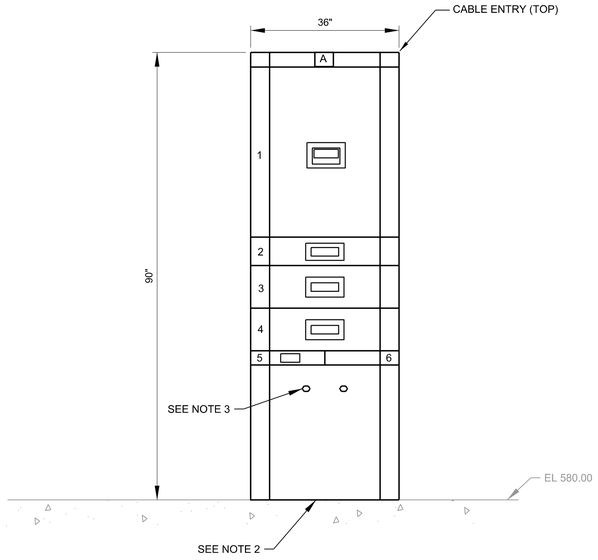
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MAIN UNIT GENERATOR
SWITCHBOARD, S61, S62, S6R1, S6R2 WIRING DIAGRAMS
REMOVAL

SHEET ID
VOLUME 5
ED717

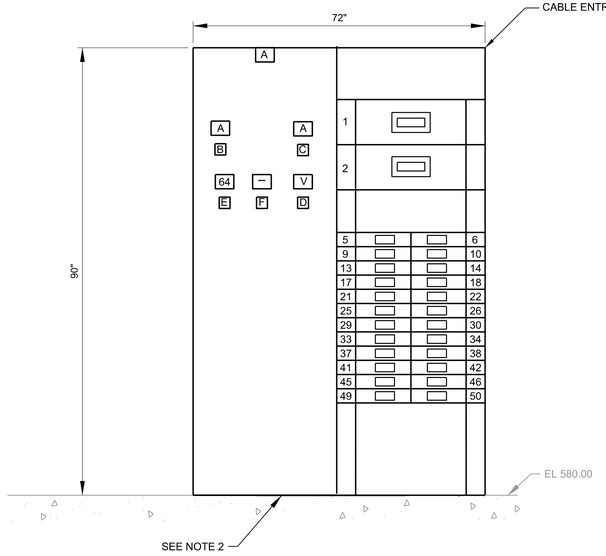
FINAL



REF
V1 E-107
V1 E-505
V5 E-301

H4 BATTERY SWITCHBOARD SB1 LAYOUT

0' 1' 2'



REF
V1 E-107
V1 E-505
V5 E-301

C4 BATTERY SWITCHBOARD SB2A LAYOUT (SB2B SIMILAR)

0' 1' 2'

BATTERY SWITCHBOARD SB2A NAMEPLATE AND EQUIPMENT SCHEDULE VOLTS: 125VDC AMPS: 600A AIC: 42KADC 2-WIRE, UNGROUNDED		
UNIT	NAMEPLATE SCHEDULE	CIRCUIT AMPERAGE
1	125VDC SWITCHBOARD SB1	500A, CIRCUIT BREAKER, 2 POLE 125V DC
2	125VDC BATTERY CHARGER BC1	500A, CIRCUIT BREAKER, 2 POLE 125V DC
5	CE1 PANEL FEEDER #1	100A, CIRCUIT BREAKER, 2 POLE 125V DC
6	CE2 PANEL FEEDER #1	100A, CIRCUIT BREAKER, 2 POLE 125V DC
9	CE3 PANEL FEEDER #1	100A, CIRCUIT BREAKER, 2 POLE 125V DC
10	CE4 PANEL FEEDER #1	100A, CIRCUIT BREAKER, 2 POLE 125V DC
13	CE5 PANEL FEEDER #1	100A, CIRCUIT BREAKER, 2 POLE 125V DC
14	CE6 PANEL FEEDER #1	100A, CIRCUIT BREAKER, 2 POLE 125V DC
17	INVERTER IV1	225A, CIRCUIT BREAKER, 2 POLE 125V DC
18	CE7 PANEL FEEDER #1	50A, CIRCUIT BREAKER, 2 POLE 125V DC
21	CE8 PANEL FEEDER #1	100A, CIRCUIT BREAKER, 2 POLE 125V DC
22	4160V SWGR BUS 1	40A, CIRCUIT BREAKER, 2 POLE 125V DC
25	TRANSFORMER TO1 RELAYS	20A, CIRCUIT BREAKER, 2 POLE 125V DC
26	STA SERV COMMON	20A, CIRCUIT BREAKER, 2 POLE 125V DC
29	ANN STA SERV COMMON	15A, CIRCUIT BREAKER, 2 POLE 125V DC
30	FISH PUMP #1 BUTTERFLY VALVE LIMITORQUE	20A, CIRCUIT BREAKER, 2 POLE 125V DC
33	SPARE	15A, CIRCUIT BREAKER, 2 POLE 125V DC
34	TELEPHONE ROOM RECEPTACLE	20A, CIRCUIT BREAKER, 2 POLE 125V DC
37	500KV MOD CONTROL POWER	30A, CIRCUIT BREAKER, 2 POLE 125V DC
38	FISH PUMP #2 BUTTERFLY VALVE LIMITORQUE	20A, CIRCUIT BREAKER, 2 POLE 125V DC
41	SB2A RELAYS CONTROL	20A, CIRCUIT BREAKER, 2 POLE 125V DC
42	XPC REMOTE CONTROL BREAKERS	20A, CIRCUIT BREAKER, 2 POLE 125V DC
45	DC-DC CONVERTER FDR #1	30A, CIRCUIT BREAKER, 2 POLE 125V DC
46	SBC CONTROL POWER	20A, CIRCUIT BREAKER, 2 POLE 125V DC
49	CY01 CO2 CONTROL SUPPLY	15A, CIRCUIT BREAKER, 2 POLE 125V DC
50	CY02 CO2 CONTROL SUPPLY	15A, CIRCUIT BREAKER, 2 POLE 125V DC
A	SB2A	---
B	BATTERY AMMETER	---
C	SB2A LOAD AMMETER	---
D	VOLT METER	---
E	GROUND DETECTION 64	---
F	GROUND DETECTION ENABLE SWITCH	---

BATTERY SWITCHBOARD SB2B NAMEPLATE AND EQUIPMENT SCHEDULE VOLTS: 125VDC AMPS: 600A AIC: 42KADC 2-WIRE, UNGROUNDED		
UNIT	NAMEPLATE SCHEDULE	CIRCUIT AMPERAGE
1	125VDC SWITCHBOARD SB1	500A, CIRCUIT BREAKER, 2 POLE 125V DC
2	125VDC BATTERY CHARGER BC2	500A, CIRCUIT BREAKER, 2 POLE 125V DC
5	CE1 PANEL FEEDER #2	100A, CIRCUIT BREAKER, 2 POLE 125V DC
6	CE2 PANEL FEEDER #2	100A, CIRCUIT BREAKER, 2 POLE 125V DC
9	CE3 PANEL FEEDER #2	100A, CIRCUIT BREAKER, 2 POLE 125V DC
10	CE4 PANEL FEEDER #2	100A, CIRCUIT BREAKER, 2 POLE 125V DC
13	CE5 PANEL FEEDER #2	100A, CIRCUIT BREAKER, 2 POLE 125V DC
14	CE6 PANEL FEEDER #2	100A, CIRCUIT BREAKER, 2 POLE 125V DC
17	INVERTER IV2	225A, CIRCUIT BREAKER, 2 POLE 125V DC
18	CE7 PANEL FEEDER #2	50A, CIRCUIT BREAKER, 2 POLE 125V DC
21	CE8 PANEL FEEDER #2	100A, CIRCUIT BREAKER, 2 POLE 125V DC
22	4160V SWGR BUS 2	40A, CIRCUIT BREAKER, 2 POLE 125V DC
25	TRANSFORMER TO2 RELAYS	20A, CIRCUIT BREAKER, 2 POLE 125V DC
26	CA1 PANEL FEEDER	70A, CIRCUIT BREAKER, 2 POLE 125V DC
29	BPA ROOM DC PANEL	50A, CIRCUIT BREAKER, 2 POLE 125V DC
30	TEMPORARY BATTERY	30A, CIRCUIT BREAKER, 2 POLE 125V DC
33	EMERGENCY GENERATOR	30A, CIRCUIT BREAKER, 2 POLE 125V DC
34	SP SWGR TEST STATION	30A, CIRCUIT BREAKER, 2 POLE 125V DC
37	SPARE	20A, CIRCUIT BREAKER, 2 POLE 125V DC
38	SPARE	20A, CIRCUIT BREAKER, 2 POLE 125V DC
41	SB2A RELAYS CONTROL	20A, CIRCUIT BREAKER, 2 POLE 125V DC
42	FISH PUMP #3 BUTTERFLY VALVE LIMITORQUE	20A, CIRCUIT BREAKER, 2 POLE 125V DC
45	DC-DC CONVERTER FDR #2	30A, CIRCUIT BREAKER, 2 POLE 125V DC
46	SBC CONTROL POWER	20A, CIRCUIT BREAKER, 2 POLE 125V DC
49	CY03 CO2 CONTROL SUPPLY	15A, CIRCUIT BREAKER, 2 POLE 125V DC
50	CY04 CO2 CONTROL SUPPLY	15A, CIRCUIT BREAKER, 2 POLE 125V DC
A	SB2B	---
B	N/A	---
C	SB2B LOAD AMMETER	---
D	VOLT METER	---
E	GROUND DETECTION 64	---
F	GROUND DETECTION ENABLE SWITCH	---

GENERAL NOTES:

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. TWO INCH PAD REQUIRED NOT SHOWN. SEE E-003B DETAIL Q.
3. SB2B ONLY. PROVIDE 300A BATTERY CONNECTION PLUG FOR TEMPORARY BATTERY CONNECTION COORDINATE WITH PROJECT ON TYPE.

REFERENCE DRAWINGS:

DRAWING NO.	TITLE
LGP-1-6-1D1/6	EMBEDDED CONDUIT & GROUNDING - ERECTION BAY INTAKE EL 580.00 & 598.00.
LGP-1-6-1D11/5	ERECTION BAY EL 580.00.

ABBREVIATION LEGEND:

VM	VOLTMETER
AM	AMMETER
27	UNDERVOLTAGE RELAY
64	GROUND DETECTOR RELAY

BATTERY SWITCHBOARD SB1 NAMEPLATE AND EQUIPMENT SCHEDULE VOLTS: 125VDC AMPS: 800A AIC: 42KADC 2-WIRE, UNGROUNDED		
UNIT	NAMEPLATE SCHEDULE	CIRCUIT AMPERAGE
1	125VDC BATTERY BE1	800A, CIRCUIT BREAKER, 2 POLE 125V DC
2	LOAD BANK LB1	400A, CIRCUIT BREAKER, 2 POLE 125V DC
5	125VDC SB2A SWITCHBOARD	500A, CIRCUIT BREAKER, 2 POLE 125V DC
6	125VDC SB2B SWITCHBOARD	500A, CIRCUIT BREAKER, 2 POLE 125V DC
9	SPACE	---
10	SPACE	---
A	SB1	---

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
CONTRACT NO.:
DRAWING NUMBER: LGP-1-002-6-A4/2
SCALE: FILENAME: V5-LGP1 002-E-201.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

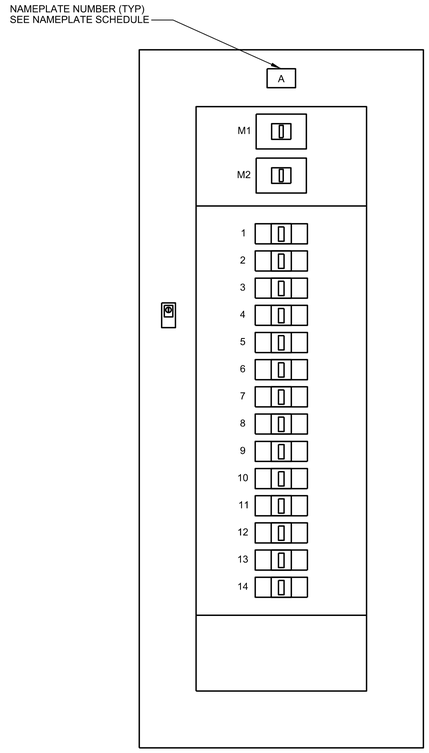
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

125V BATTERY SWITCHBOARDS
SWITCHBOARDS SB1, SB2A & SB2B LAYOUT
INSTALL

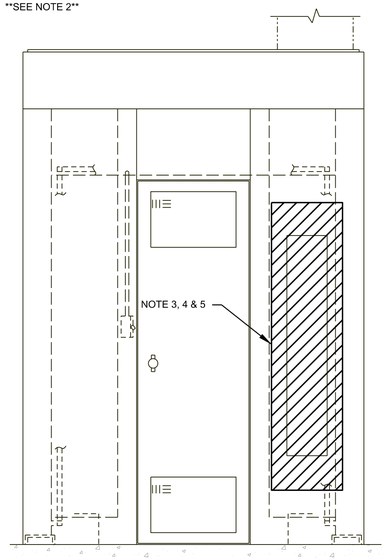
SHEET ID
VOLUME 5
E-201

FINAL



REF V1 E-104 — H6 — PANELBOARD CE1 LAYOUT (CE2 & CE3 SIMILAR)

NOT TO SCALE
SEE NOTE 2



B1 — GENERATOR SWITCHBOARD CABINET LAYOUT

NOT TO SCALE

GENERAL NOTES:

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. CE1 SHALL BE INSTALLED ON S-BOARD SI, CE2 ON S-BOARD S2 AND CE3 ON S-BOARD S3.
3. CONTRACTOR SHALL CUT OPENINGS FOR THE NEW PANELBOARDS AND SHALL INSTALL EQUIPMENT BASED ON MANUFACTURER INSTRUCTION. VERIFY ALL DIMENSIONS IN THE FIELD.
4. GENERATOR SWITCHBOARD PANEL DEPTH VARIES BETWEEN 5.25" AND 6". VERIFY DIMENSIONS PRIOR TO INSTALLATION OF EQUIPMENT. NEW BREAKER PANEL SHOULD BE FLUSH WITH THE FACE OF THE GENERATOR SWITCHBOARD.
5. ACCESS TO WIRING SHOULD BE FROM THE LEFT SIDE.

NAMEPLATE AND EQUIPMENT SCHEDULE (CE1)

VOLTS: 125VDC AMPS: 100A AIC: 22KA 2-WIRE, UNGROUNDED

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT
M1	MAIN BREAKER #1	100A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
M2	MAIN BREAKER #2	100A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
1	FIELD FLASHING	90A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
2	GEN BREAKER	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
3	INTAKE GATE CONTROL	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
4	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
5	UNIT CONTROL & RELAYING	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
6	REGULATOR CONTROL	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
7	UNIT ANNUNCIATOR	15A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
8	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
9	XJO1 BKR CONTROL	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
10	FIELD BREAKER	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
11	CESU1	50A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
12	GOV. OIL PUMP LOCKOUT RELAY	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
13	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
14	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
A	CE1	---

NAMEPLATE AND EQUIPMENT SCHEDULE (CE2)

VOLTS: 125VDC AMPS: 100A AIC: 22KA 2-WIRE, UNGROUNDED

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT
M1	MAIN BREAKER #1	100A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
M2	MAIN BREAKER #2	100A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
1	FIELD FLASHING	90A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
2	GEN BREAKER	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
3	INTAKE GATE CONTROL	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
4	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
5	UNIT CONTROL & RELAYING	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
6	REGULATOR CONTROL	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
7	UNIT ANNUN	15A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
8	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
9	FIELD BREAKER	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
10	T1 XFMR ANNUN	15A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
11	CESU2	50A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
12	GOV. OIL PUMP LOCKOUT RELAY	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
13	XFMR & LINE RELAYS	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
14	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
A	CE2	---

NAMEPLATE AND EQUIPMENT SCHEDULE (CE3)

VOLTS: 125VDC AMPS: 100A AIC: 22KA 2-WIRE, UNGROUNDED

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT
M1	MAIN BREAKER #1	100A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
M2	MAIN BREAKER #2	100A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
1	FIELD FLASHING	90A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
2	GEN BREAKER	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
3	INTAKE GATE CONTROL	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
4	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
5	UNIT CONTROL & RELAYING	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
6	REGULATOR CONTROL	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
7	UNIT ANNUNCIATOR	15A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
8	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
9	FIELD BREAKER	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
10	CO2 CONTROL MAIN UNITS	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
11	CESU3	50A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
12	GOV. OIL PUMP LOCKOUT RELAY	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
13	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
14	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
A	CE3	---

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-A4461
SUBMITTED BY: JORDAN S. FINLAY, P.E.
SIZE: ANSI D
FILENAME: V5-LGP1.002-E-202.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

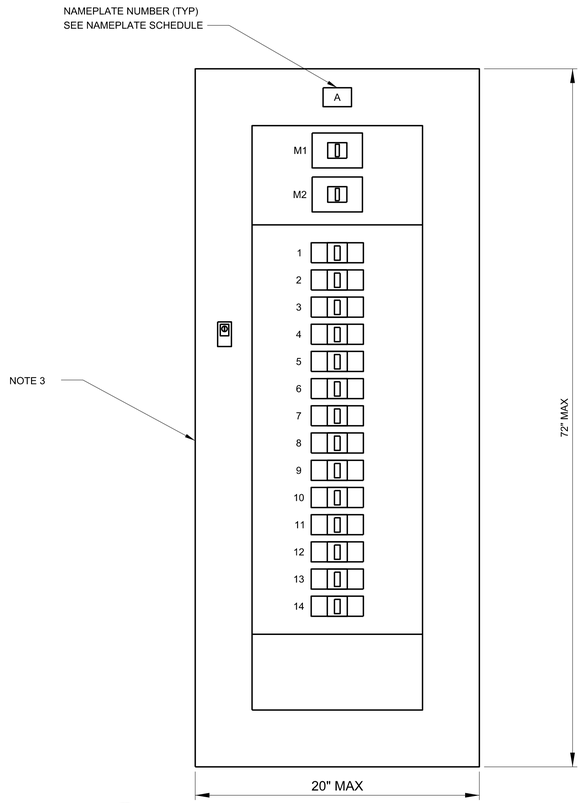
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

125 VDC PANELS CE1 - CE3
LAYOUT
INSTALL

SHEET ID
VOLUME 5
E-202

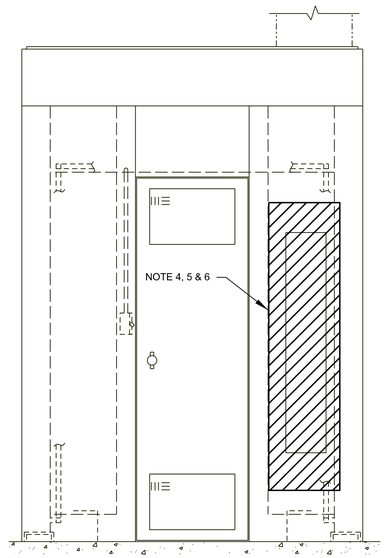
FINAL



REF V1 E-105 H5

PANELBOARD CE4 LAYOUT (CE5 & CE6 SIMILAR)

NOT TO SCALE
SEE NOTE 2



A6

GENERATOR SWITCHBOARD CABINET LAYOUT

NOT TO SCALE

GENERAL NOTES:

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. PANEL CE4 SHALL BE INSTALLED ON S-BOARD S4, CE5 ON S-BOARD S5 AND CE6 ON S-BOARD S6.
3. PROVIDE TWO ADDITIONAL 20A SPARE BREAKERS ON PANELBOARD CE5 ONLY.
4. CONTRACTOR SHALL CUT OPENINGS FOR THE NEW PANELBOARDS AND SHALL INSTALL EQUIPMENT BASED ON MANUFACTURER INSTRUCTION. VERIFY ALL DIMENSIONS IN THE FIELD.
5. GENERATOR SWITCHBOARD PANEL DEPTH VARIES BETWEEN 5.25" AND 6". VERIFY DIMENSIONS PRIOR TO INSTALLATION OF EQUIPMENT. NEW BREAKER PANEL SHOULD BE FLUSH WITH THE FACE OF THE GENERATOR SWITCHBOARD.
6. ACCESS TO WIRING SHOULD BE FROM THE LEFT SIDE.

NAMEPLATE AND EQUIPMENT SCHEDULE (CE4)

VOLTS: 125VDC AMPS: 100A AIC: 22KA 2-WIRE, UNGROUNDED

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT
M1	MAIN BREAKER #1	100A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
M2	MAIN BREAKER #2	100A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
1	FIELD FLASHING	90A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
2	GEN BREAKER	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
3	INTAKE GATE CONTROL	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
4	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
5	UNIT CONTROL & RELAYING	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
6	REGULATOR CONTROL	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
7	UNIT ANNUN	15A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
8	AUTO START	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
9	FIELD BREAKER	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
10	RTD INVERTER PWR	15A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
11	CESU4	50A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
12	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
13	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
14	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
A	CE4	—

NAMEPLATE AND EQUIPMENT SCHEDULE (CE5)

VOLTS: 125VDC AMPS: 100A AIC: 22KA 2-WIRE, UNGROUNDED

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT
M1	MAIN BREAKER #1	100A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
M2	MAIN BREAKER #2	100A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
1	FIELD FLASHING	90A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
2	GEN BREAKER	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
3	INTAKE GATE CONTROL	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
4	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
5	UNIT CONTROL & RELAYING	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
6	REGULATOR CONTROL	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
7	UNIT ANNUN	15A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
8	XJ8	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
9	FIELD BREAKER	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
10	XFMR ANNUN	15A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
11	CESU5	50A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
12	XJO2 BREAKER CONTROL	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
13	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
14	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
A	CE5	—

NAMEPLATE AND EQUIPMENT SCHEDULE (CE6)

VOLTS: 125VDC AMPS: 100A AIC: 22KA 2-WIRE, UNGROUNDED

UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT
M1	MAIN BREAKER #1	100A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
M2	MAIN BREAKER #2	100A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
1	FIELD FLASHING	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
2	GEN BREAKER	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
3	INTAKE GATE CONTROL	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
4	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
5	UNIT CONTROL & RELAYING	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
6	REGULATOR CONTROL	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
7	UNIT ANNUN	15A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
8	AUTO START	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
9	FIELD BREAKER	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
10	CO2 CTRL MAIN UNITS	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
11	CESU6	50A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
12	OIL/WATER SEPARATOR ALARM	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
13	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
14	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
A	CE6	—

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MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-A4462
SUBMITTED BY: JORDAN S. FINK, P.E.
SIZE: ANSI D
FILENAME: V5-LGP1.002-E-203.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

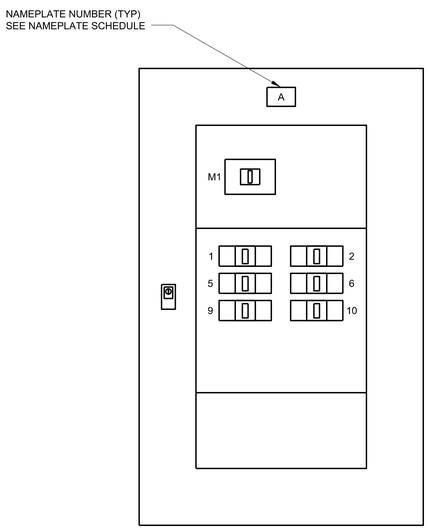
125 VDC PANELS CE4 - CE6
LAYOUT
INSTALL

SHEET ID
VOLUME 5
E-203

FINAL

GENERAL NOTES:

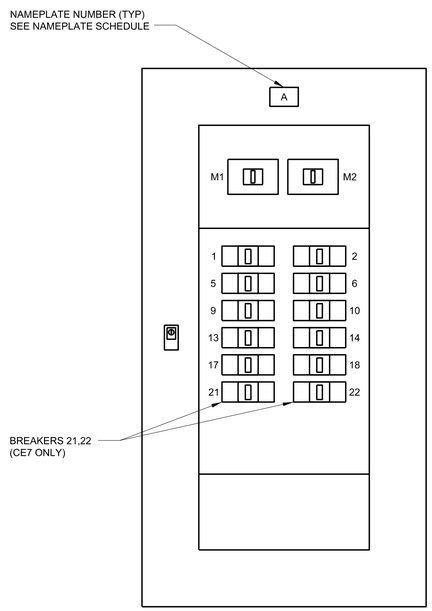
1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.



REF V1 E-108 F3

PANELBOARD CA1 LAYOUT

NOT TO SCALE



REF V1 E-108 F8

PANELBOARD CE7 & CE8 LAYOUT

NOT TO SCALE

NAMEPLATE AND EQUIPMENT SCHEDULE (CA1)		
VOLTS: 125VDC AMPS: 100A AIC: 22KA 2-WIRE, UNGROUNDED		
UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT
M1	MAIN BREAKER	70A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
1	CR2.1 EB EL.522 OIL STORAGE, EB EL.498	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
2	CRO4.1 FIRST AID, XFMR, SHOP, BALCONY	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
5	CRO5.1 BATT. RM., CABLE SPREADING RM.	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
6	STAIRS	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
9	LTS, MICROWAVE, TELEPHONE, HAUL-OFF 1&2	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
10	STAIRS	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
A	CA1	---

NAMEPLATE AND EQUIPMENT SCHEDULE (CE7)		
VOLTS: 125VDC AMPS: 100A AIC: 22KA 2-WIRE, UNGROUNDED		
UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT
M1	MAIN BREAKER #1	100A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
M2	MAIN BREAKER #2	100A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
1	DIGITAL DATA COLLECTION SYSTEM	40A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
2	TRANSFER TRIP	15A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
5	HMI POWER	15A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
6	VOLTAGE BALANCER	15A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
9	CONSOLE (TRANSFER TRIP)	15A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
10	UNIT SELECTION RELAYS	15A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
13	BREAKER SELECTION RELAYS	15A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
14	POWER TO ER12	15A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
17	COMMON ANNUN.	15A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
18	SER	15A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
21	SG CABINET POWER	15A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
22	SPARE	15A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
A	CE7	---

NAMEPLATE AND EQUIPMENT SCHEDULE (CE8)		
VOLTS: 125VDC AMPS: 100A AIC: 22KA 2-WIRE, UNGROUNDED		
UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT
M1	MAIN BREAKER #1	100A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
M2	MAIN BREAKER #2	100A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
1	SQO BREAKER CTRL PWR/PLC LOCAL/REMOTE PNL PWR	30A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
2	SPARE	30A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
5	SQ1 BREAKER CTRL PWR/ PLC LOCAL/REMOTE PNL PWR	30A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
6	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
9	SQ2 BREAKER CTRL PWR/PLC LOCAL/REMOTE PNL PWR	30A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
10	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
13	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
14	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
17	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
18	SPARE	20A, 1 CIRCUIT BREAKER, 2 POLE 125V DC
A	CE8	---

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MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DING
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-1A01
SIZE: FILENAME: V5-LGP1.002-E-204.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

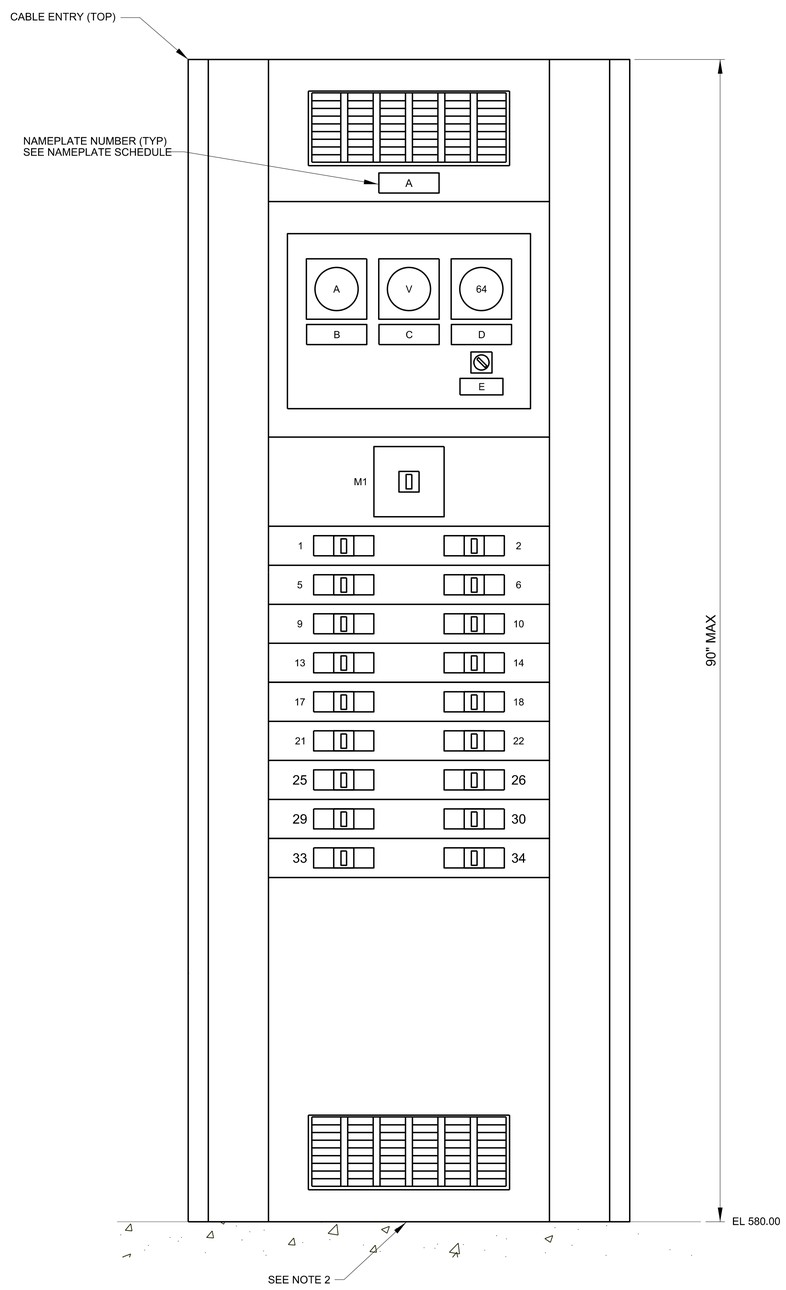
125V DC PANELS CA1, CE7 & CE8 & CE9
LAYOUT
INSTALL

SHEET ID
VOLUME 5
E-204

FINAL

GENERAL NOTES:

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. TWO INCH PAD REQUIRED NOT SHOWN. SEE E-003B DETAIL Q.

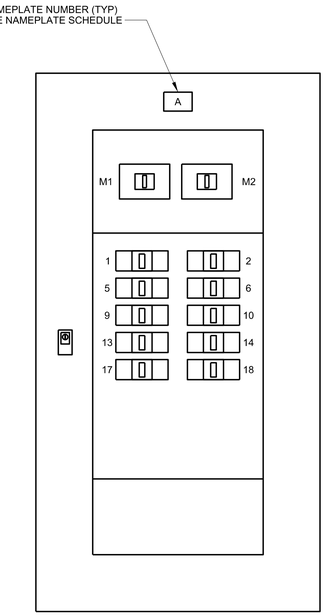


REF V1 E-107, V5 E-501A — B3 — SWITCHBOARD CH1A LAYOUT (CH1B SIMILAR)
NOT TO SCALE

NAMEPLATE AND EQUIPMENT SCHEDULE (CH1A)		
VOLTS: 120VAC AMPS: 200A AIC: 22KA 2-WIRE, UNGROUNDED		
UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT
M1	MAIN BREAKER	175A CIRCUIT BREAKER, 2 POLE 120V AC
1	CH2 PANEL FEEDER #1	100A CIRCUIT BREAKER, 2 POLE 120V AC
2	CH3 PANEL FEEDER #1	60A CIRCUIT BREAKER, 2 POLE 120V AC
5	CH4 PANEL FEEDER #1	100A CIRCUIT BREAKER, 2 POLE 120V AC
6	UNIT 1 S BOARD	20A CIRCUIT BREAKER, 2 POLE 120V AC
9	UNIT 2 S BOARD	20A CIRCUIT BREAKER, 2 POLE 120V AC
10	UNIT 3 S BOARD	20A CIRCUIT BREAKER, 2 POLE 120V AC
13	UNIT 4 S BOARD	20A CIRCUIT BREAKER, 2 POLE 120V AC
14	UNIT 5 S BOARD	20A CIRCUIT BREAKER, 2 POLE 120V AC
17	UNIT 6 S BOARD	20A CIRCUIT BREAKER, 2 POLE 120V AC
18	SPARE TO TBH2 @SQ5 PANEL 1B	15A CIRCUIT BREAKER, 2 POLE 120V AC
21	CONTROL RM RELAY	15A CIRCUIT BREAKER, 2 POLE 120V AC
22	8TH FL OFC #1	20A CIRCUIT BREAKER, 2 POLE 120V AC
25	CH1A RELAYS	20A CIRCUIT BREAKER, 2 POLE 120V AC
26	8TH FL S (UPSTREAM)	20A CIRCUIT BREAKER, 2 POLE 120V AC
29	CODE CALL & TIME CLOCK (5TH FL)	20A CIRCUIT BREAKER, 2 POLE 120V AC
30	MECH. SHOP	15A CIRCUIT BREAKER, 2 POLE 120V AC
33	SERVER/PH. ROOM	15A CIRCUIT BREAKER, 2 POLE 120V AC
34	SPARE	20A CIRCUIT BREAKER, 2 POLE 120V AC
A	CH1A	---
B	CH1A - AMMETER	---
C	CH1A - VOLTMETER	---
D	GROUND DETECTOR (64)	---
E	GROUND DETECTION ENABLE SWITCH	---

NAMEPLATE AND EQUIPMENT SCHEDULE (CH1B)		
VOLTS: 120VAC AMPS: 200A AIC: 22KA 2-WIRE, UNGROUNDED		
UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT
M1	MAIN BREAKER	175A CIRCUIT BREAKER, 2 POLE 120V AC
1	CH2 PANEL FEEDER #2	100A CIRCUIT BREAKER, 2 POLE 120V AC
2	CH3 PANEL FEEDER #2	60A CIRCUIT BREAKER, 2 POLE 120V AC
5	CH4 PANEL FEEDER #2	100A CIRCUIT BREAKER, 2 POLE 120V AC
6	UNIT 1 S BOARD	20A CIRCUIT BREAKER, 2 POLE 120V AC
9	UNIT 2 S BOARD	20A CIRCUIT BREAKER, 2 POLE 120V AC
10	UNIT 3 S BOARD	20A CIRCUIT BREAKER, 2 POLE 120V AC
13	UNIT 4 S BOARD	20A CIRCUIT BREAKER, 2 POLE 120V AC
14	UNIT 5 S BOARD	20A CIRCUIT BREAKER, 2 POLE 120V AC
17	UNIT 6 S BOARD	20A CIRCUIT BREAKER, 2 POLE 120V AC
18	BATTERY VALIDATION SYSTEM	15A CIRCUIT BREAKER, 2 POLE 120V AC
21	WAREHOUSE ELEC. SHOP (4TH FL BALC.)	15A CIRCUIT BREAKER, 2 POLE 120V AC
22	S BOARDS (1R 14 1R NEU)	20A CIRCUIT BREAKER, 2 POLE 120V AC
25	CH1B RELAYS	20A CIRCUIT BREAKER, 2 POLE 120V AC
26	TEL SW (7TH FL)	20A CIRCUIT BREAKER, 2 POLE 120V AC
29	8TH FL OFC (DOWNSTREAM)	20A CIRCUIT BREAKER, 2 POLE 120V AC
30	PHONE RM S WALL	20A CIRCUIT BREAKER, 2 POLE 120V AC
33	HYDROGEN & SMOKE SENSORS	20A CIRCUIT BREAKER, 2 POLE 120V AC
34	SPARE	20A CIRCUIT BREAKER, 2 POLE 120V AC
A	CH1B	---
B	CH1B - AMMETER	---
C	CH1B - VOLTMETER	---
D	GROUND DETECTOR (64)	---
E	GROUND DETECTION ENABLE SWITCH	---

NAMEPLATE AND EQUIPMENT SCHEDULE (CH3)			
VOLTS: 120VAC AMPS: 100A AIC: 22KA 2-WIRE, UNGROUNDED			
UNIT	NAMEPLATE SCHEDULE	DESCRIPTION OF EQUIPMENT	CIRCUIT DESTINATION
M1	MAIN BREAKER #1	60A, 2 POLE, 600V	
M2	MAIN BREAKER #2	60A, 2 POLE, 600V	
1	WR1, WR2 - STA WTR LVL RECORDERS	15A, 2 POLE, 600V	CH3-h1-ORW
2	R1, R2 - MW/FREQ REC & SG2 IND	15A, 2 POLE, 600V	CH3-h2-ST
5	SPARE	20A, 2 POLE, 600V	
6	7TH FL BUZZER	15A, 2 POLE, 600V	CH3-h6
9	Y1, Y2 - SPILLWAY GATE CNTRL	15A, 2 POLE, 600V	CH3-h9-SOC
10	D1, D2	15A, 2 POLE, 600V	CH3-h10
13	HI GRD	15A, 2 POLE, 600V	CH3-h13
14	SPARE	15A, 2 POLE, 600V	
17	PY, NY	15A, 2 POLE, 600V	CH3-h17
18	SPARE	15A, 2 POLE, 600V	
A	CH3		



REF V1 E-108 — D17 — PANELBOARD CH3 LAYOUT
NOT TO SCALE

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. TINKLE, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-1A4/1
FILE NAME: V5-LGP1.002-E-205.dgn

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

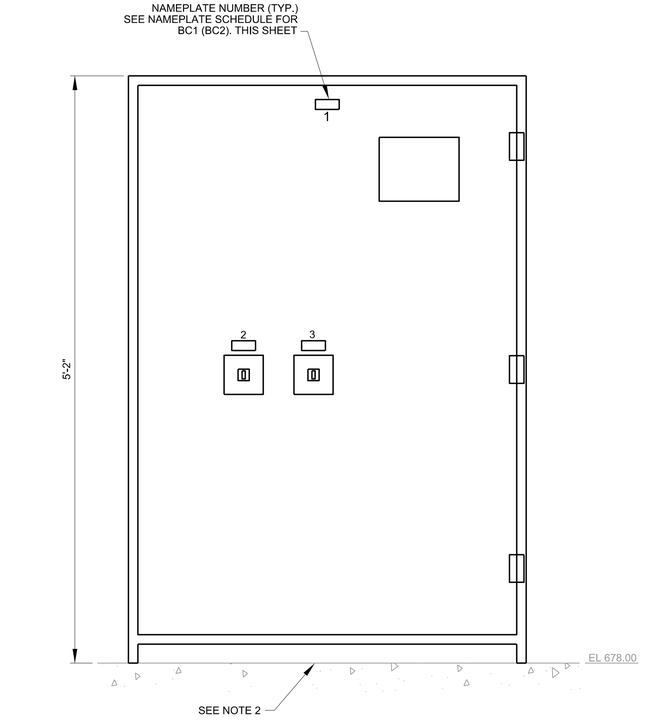
PREFERRED AC SWITCHBOARDS CH1A, CH1B & CH3
LAYOUT
INSTALL

SHEET ID
VOLUME 5
E-205

FINAL

GENERAL NOTES:

1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED, AND SHOWS THE SUGGESTED LAYOUT FOR BATTERY CHARGERS BC1 & BC2.
2. TWO INCH PAD REQUIRED NOT SHOWN. SEE E-003B DETAIL Q.



REF
E-108
E-501A

D5 NEW 125VDC BATTERY CHARGER BC1 (BC2 SIMILAR)

0" 8" 16"

BATTERY CHARGER BC1 NAMEPLATE (NP) SCHEDULE
BC2 SIMILAR

NP NUM.	CHAR. SIZE	FIRST LINE	SECOND LINE
1	1/2"	125VDC BATTERY CHARGER NO. 1	BC1
2	1/4"	DC OUTPUT	CIRCUIT BREAKER
3	1/4"	AC INPUT	CIRCUIT BREAKER

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-AA02
FILE NAME: V5-LGP1.002-E-206.dgn

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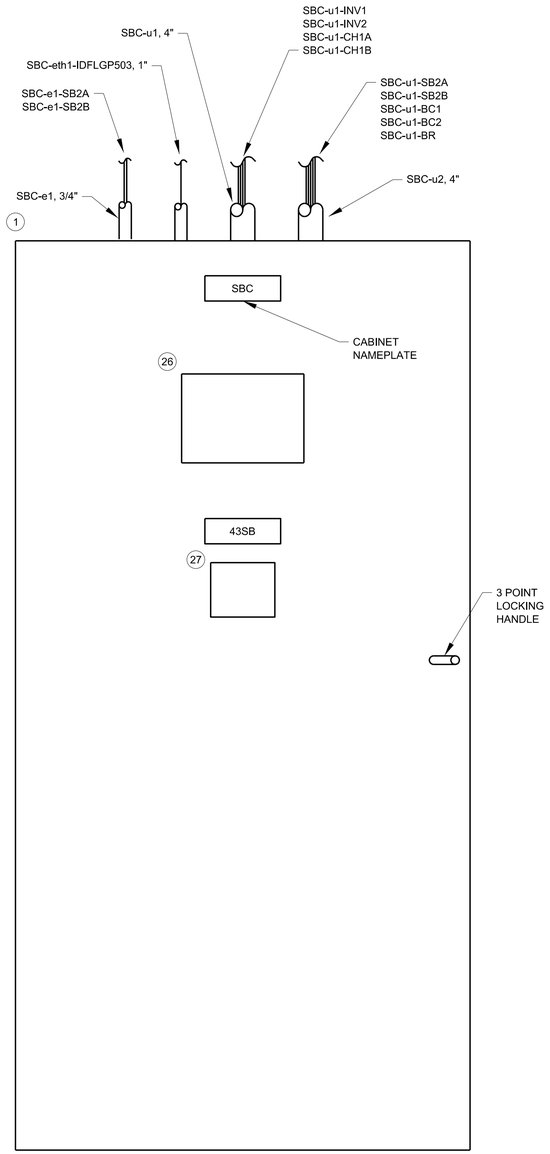
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

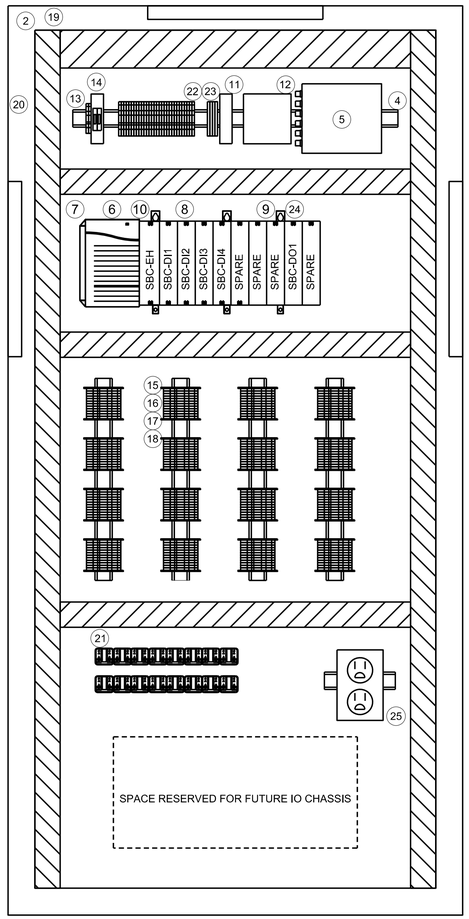
125V DC BATTERY CHARGERS & INVERTERS
LAYOUT
INSTALL

SHEET ID
VOLUME 5
E-206

FINAL



FRONT
DOOR PANEL



INSIDE
BACK PANEL

			MATERIALS LIST
ITEM	QTY	UNIT	DESCRIPTION
1	1	EA	NEMA 12 72 X 36 X 18 SINGLE DOOR ENCLOSURE
2	1	EA	BACK PANEL
3	1	EA	120VDC LIGHT WITH DOOR SWITCHES
4	*	LF	DIN RAIL: ZINC PLATED, CHROMATED STEEL, 35 X 7.5MM OR AS REQUIRED
5	1	EA	FIBER PATCH PANEL HOUSING AND CONNECTOR PLATE
6	1	EA	ALLEN BRADLEY #1756-PH75 125VDC, 75W CHASSIS POWER SUPPLY
7	1	EA	ALLEN BRADLEY #1756-A10 10-SLOT PLC CHASSIS
8	4	EA	ALLEN BRADLEY #1756-IH16I 125VDC DISCRETE INPUT MODULE
9	4	EA	ALLEN BRADLEY #1756-N2 SLOT FILLER
10	1	EA	ALLEN BRADLEY #1756-EN2T ETHERNET/IP MODULE
11	1	EA	125VDC TO 24VDC POWER SUPPLY
12	1	EA	CISCO IE-2000-8TC-G-B MANAGED SWITCH
13	1	EA	GROUND BLOCK
14	2	EA	CIRCUIT BREAKER
15	8	EA	TERMINAL BLOCK END ANCHOR
16	29	EA	TERMINAL BLOCK END BARRIER
17	318	EA	TERMINAL BLOCK PARTITION PLATE
18	*	EA	DIODE BLOCKING TERMINAL BLOCK
19	*	LF	WIRING DUCT & COVER 2"X 5"D
20	*	LF	WIRING DUCT & COVER 3"X 5"D
21	16	EA	CONTROL RELAY
22	4	EA	FUSES
23	4	EA	FUSE HOLDERS WITH BLOWN FUSE INDICATION
24	1	EA	ALLEN BRADLEY #1756-OW16 125VDC DISCRETE OUTPUT MODULE
25	1	EA	CONVENIENCE OUTLET
26	1	EA	ALLEN BRADLEY HMI 2715P-T19CD
27	1	EA	TWO POSITION SELECTOR SWITCH

CONTRACTOR TO VERIFY ALL QUANTITIES AND FURNISH/INSTALL AS REQUIRED FOR A COMPLETE SYSTEM, ENSURE ALL EQUIPMENT CAN EASILY BE REMOVED FROM CABINET.
*LENGTH OR QUANTITY AS NECESSARY

B2 SBC PLC CABINET LAYOUT
NOT TO SCALE

GENERAL NOTES:

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. PANEL LAYOUT FOR REFERENCE ONLY. CONTRACTOR TO SUBMIT ENCLOSURE AND WIRING DETAILS.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SIRACUSA
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-A003
SIZE FILENAME: V5-LGP1.002-E-207.dgn

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

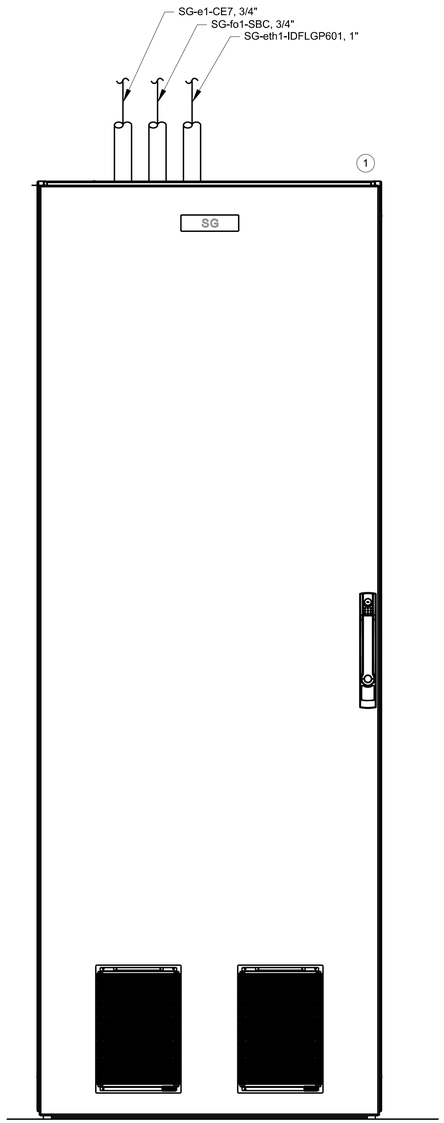
SBC PLC CABINET LAYOUT
ELEVATION VIEW
INSTALL

SHEET ID
VOLUME 5
E-207

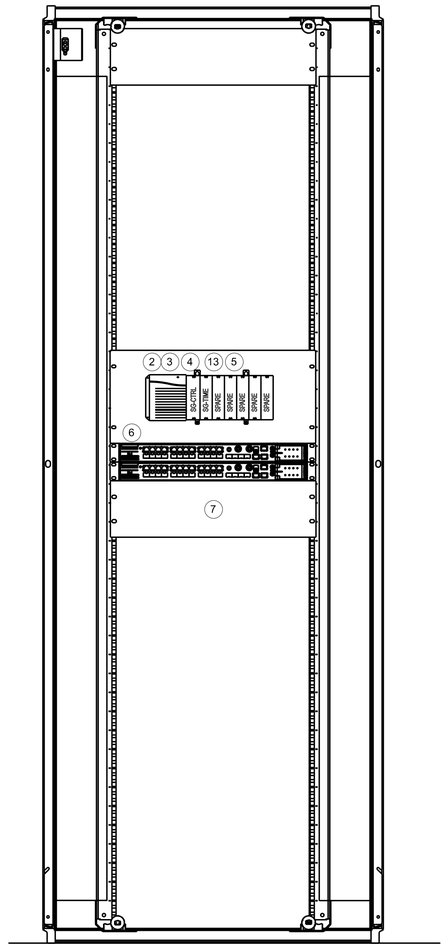
FINAL

GENERAL NOTES:

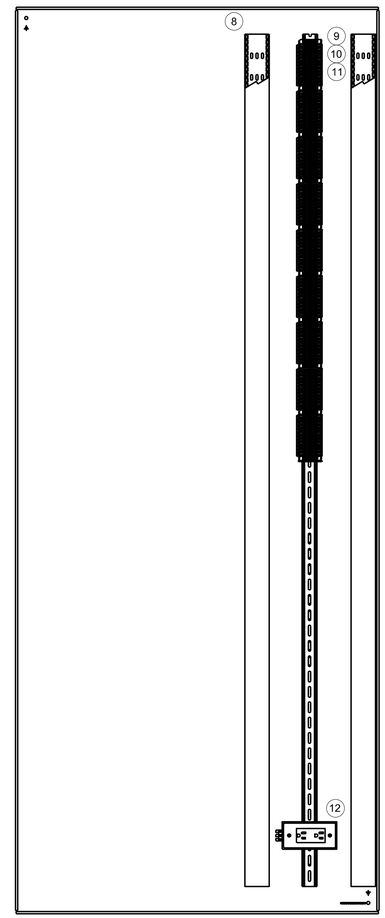
1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. PANEL LAYOUT FOR REFERENCE ONLY. CONTRACTOR TO SUBMIT ENCLOSURE AND WIRING DETAILS.



FRONT VIEW



INTERNAL VIEW



LEFT SIDE VIEW

			MATERIALS LIST
ITEM	QTY	UNIT	DESCRIPTION
1	1	EA	45U RACK CABINET
2	1	EA	ALLEN BRADLEY #1756-A7 7-SLOT PLC CHASSIS
3	1	EA	ALLEN BRADLEY #1756-PH75 125VDC, 75W CHASSIS POWER SUPPLY
4	1	EA	ALLEN BRADLEY #1756-L82E CONTROLLER
5	6	EA	ALLEN BRADLEY #1756-N2 SLOT FILLER
6	2	EA	CISCO C9300-24T-A MANAGED COPPER SWITCH
7	1	EA	FIBER PATCH PANEL
8	*	LF	WIRING DUCT & COVER 3"X 5"D
9	10	EA	TERMINAL BLOCK END ANCHOR
10	10	EA	TERMINAL BLOCK END BARRIER
11	108	EA	TERMINAL BLOCK
12	1	EA	CONVENIENCE OUTLET
13	1	EA	ALLEN BRADLEY #1756-TIME TIME SYNCHRONIZATION MODULE

CONTRACTOR TO VERIFY ALL QUANTITIES AND FURNISH/INSTALL AS REQUIRED FOR A COMPLETE SYSTEM, ENSURE ALL EQUIPMENT CAN EASILY BE REMOVED FROM CABINET.
*LENGTH OR QUANTITY AS NECESSARY

B1 SG PLC CABINET LAYOUT
NOT TO SCALE

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MARK	DESCRIPTION	DATE

DESIGNED BY: K. SIRACUSA
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-A0/4
FILENAME: V5-LGP1.002-E-208.dgn

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

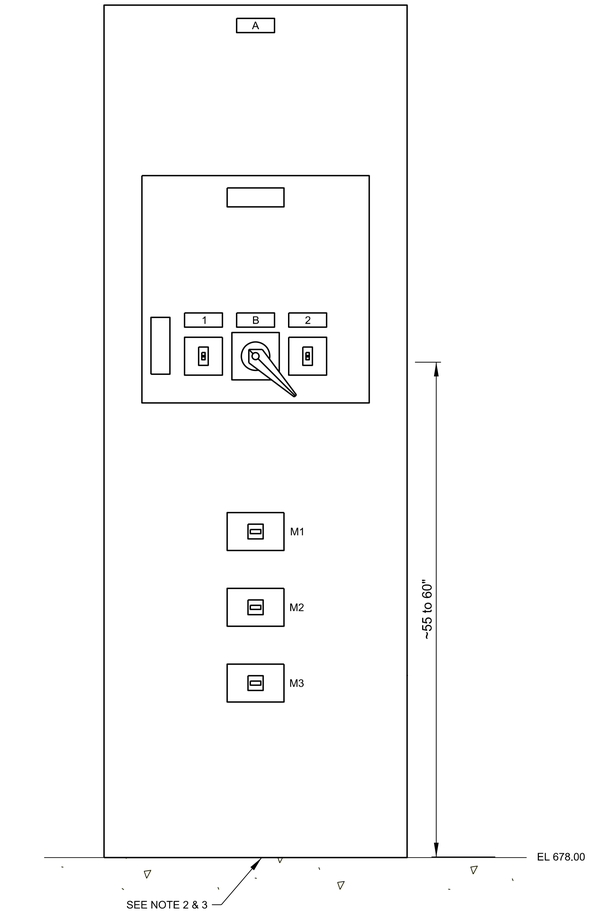
SG PLC CABINET LAYOUT
ELEVATION VIEW
INSTALL

SHEET ID
VOLUME 5
E-208

FINAL

GENERAL NOTES:

1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED, AND SHOWS THE SUGGESTED LAYOUT FOR MANUAL BYPASS SWITCH CABINET MBS1 & MBS2.
2. TWO INCH PAD REQUIRED NOT SHOWN, SEE E-003B DETAIL Q.
3. CONTRACTOR WILL ENSURE THE TRANSFER IS AT A HEIGHT OF 55 TO 60 INCHES FOR EASE OF OPERATION.



NEW MANUAL BYPASS SWITCH MBS1
(MBS2 SIMILAR)
SCALE: NOT TO SCALE

REF
V1 E-107
V5 E-501A
C4

MANUAL BYPASS SWITCH MBS1 NAMEPLATE (NP) SCHEDULE
MBS2 SIMILAR

NP NUM.	CHAR. SIZE	FIRST LINE	SECOND LINE
1	1/2"	BYPASS BREAKER	--
2	1/4"	OUTPUT BREAKER	--
M1	1/4"	TH1 OUTPUT BREAKER	--
M2	1/4"	IV2 OUTPUT BREAKER	--
M3	1/4"	SPARE	--
A	1/4"	MBS1	MANUAL BYPASS SWITCH
B	1/4"	TRANSFER SWITCH	--

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MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-A005
FILENAME: V5-LGP1.002-E-209.dgn

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MBS1 & MBS2
PANEL LAYOUT
INSTALL

SHEET ID
VOLUME 5
E-209

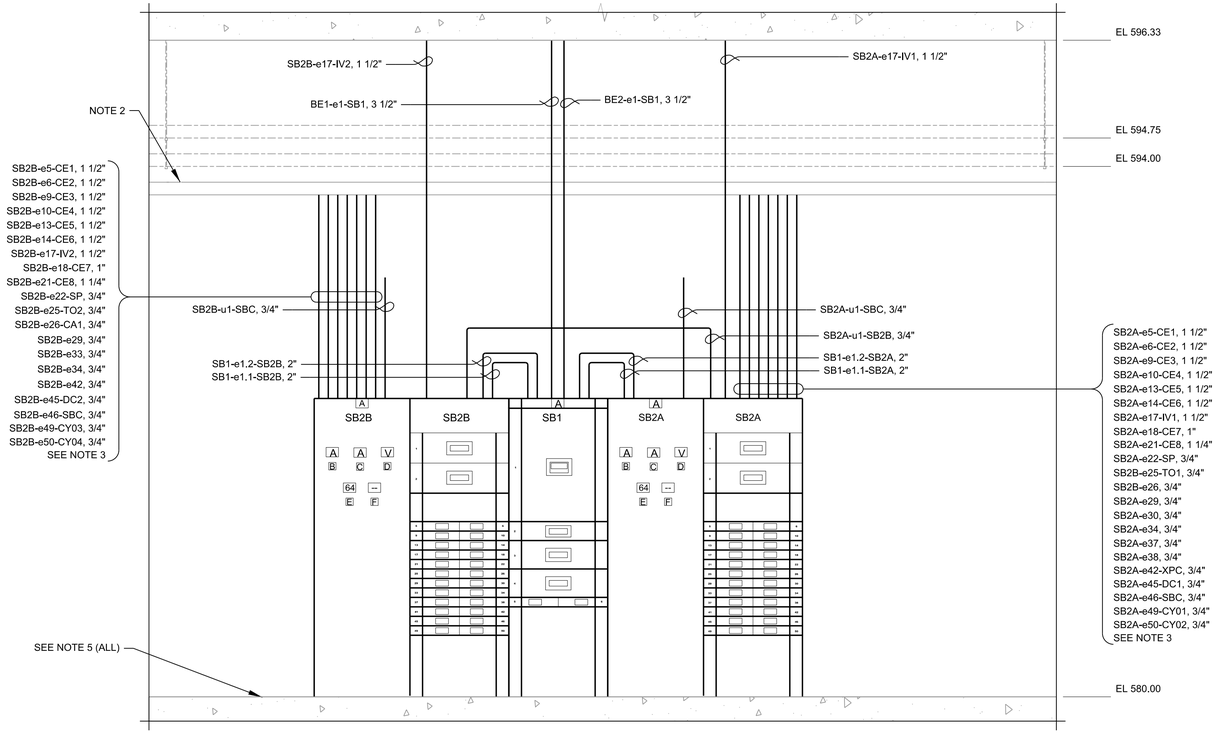
FINAL

GENERAL NOTES:

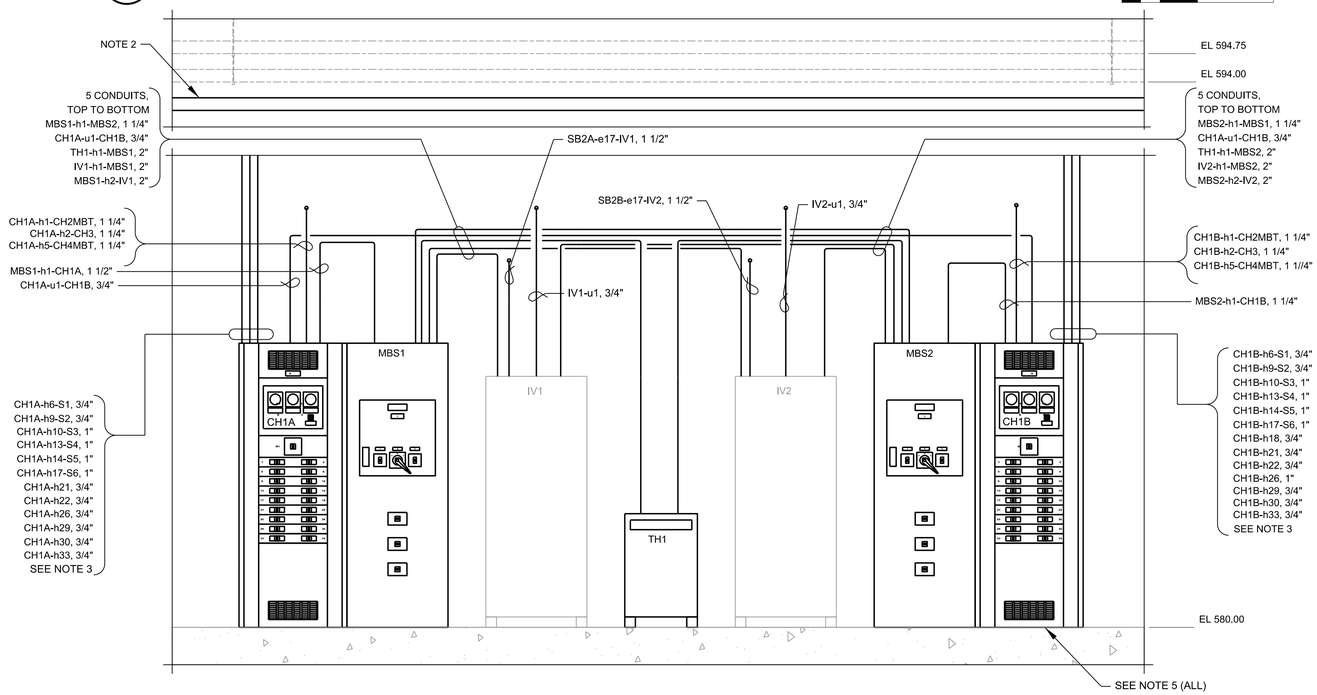
1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED.
2. PROVIDE 2 NEW CABLE TRAYS (UPPER AND LOWER) AND INSTALL NEW CABLES IN THE NEW TRAYS.
3. CONTRACTOR'S DESIGN TO INSTALL NEW WIREWAY OR CONDUIT TO ROUTE CABLES FROM THE SWITCHBOARDS TO NEW CABLE TRAY
4. SEE REFERENCE DRAWINGS FOR CABLE TRAYS ROUTING DETAILS AND CABLE SHAFT DETAILS.
5. TWO INCH PAD REQUIRED NOT SHOWN. SEE E-003B DETAIL Q.
6. CONDUIT ROUTING IS SHOWN FOR CLARITY AND NOT AS ACTUAL ROUTING.

REFERENCE DRAWINGS:

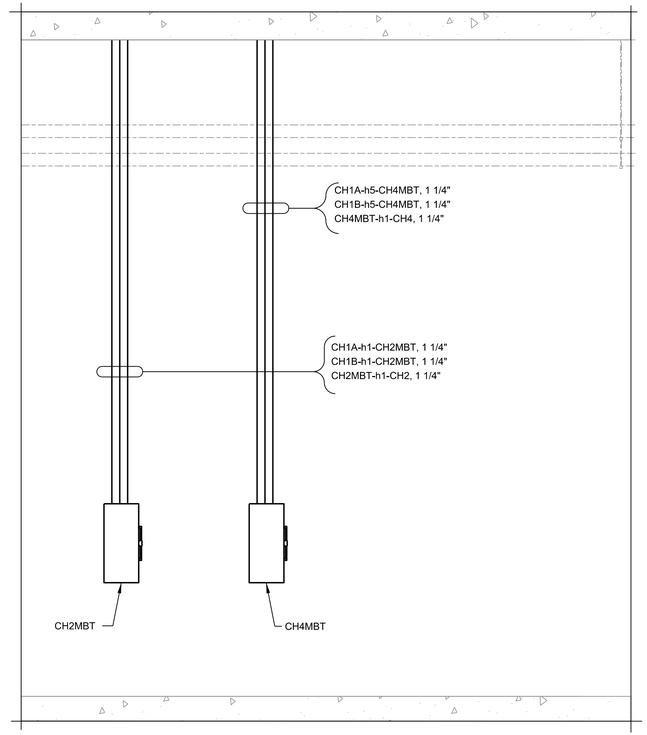
DRAWING NO.	TITLE
LGP-1-6-1D11/5	ERECTION BAY EL 580
LGP-1.1-6-1D11/5	ERECTION BAY EL 580



REF E-501A H2 BATTERY SWITCHBOARD SECTION



REF E-501A A2 PREFERRED AC EQUIPMENT ELEVATION



REF E-501A A13 MANUAL BREAKER TRANSFER ELEVATION

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MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANS D. FILENAME: V5-LGP1.002-E-301.dgn
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-0A1301

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CABLE SPREADING ROOM
SECTION VIEWS, EL 678.00
INSTALL

SHEET ID
VOLUME 5
E-301

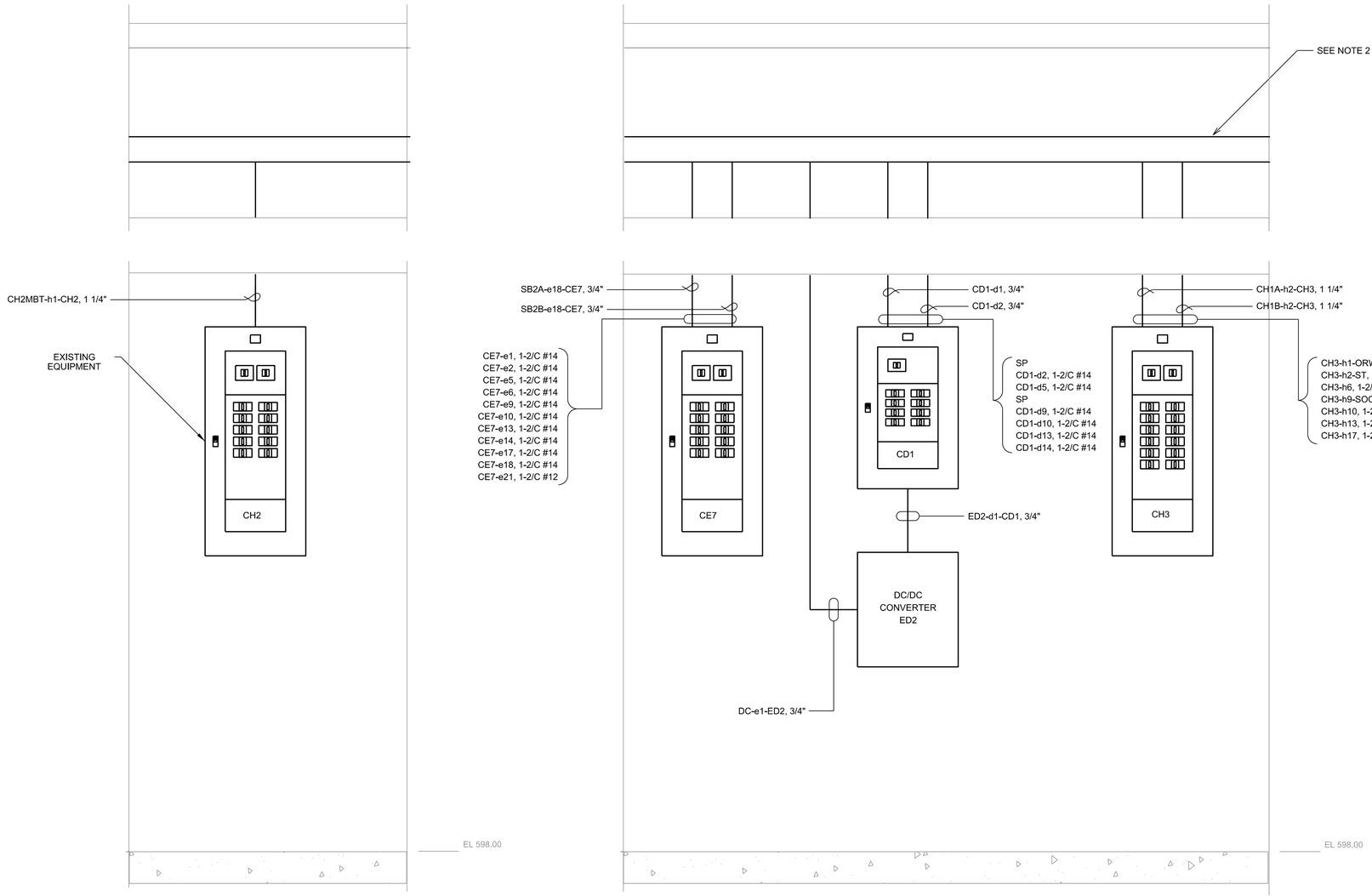
FINAL

GENERAL NOTES:

1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED.
2. CONTRACTOR'S DESIGN TO INSTALL NEW WIREWAY OR CONDUIT TO ROUTE CABLES FROM THE PANELBOARDS TO NEW CABLE TRAY.
3. SEE CONDUIT AND CABLE SCHEDULE FOR ADDITIONAL INFORMATION.

REFERENCE DRAWINGS:

DRAWING NO.	TITLE
LGP-1-6-9A40/1	CONTROL & ELEC. EQUIP. ROOMS LAYOUT & DETAILS



F3
E-108
C3 EQUIPMENT ROOM SECTIONS

0' 2' 4'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN	ISSUE DATE: AUGUST 2022
DRAWN BY: B. MASOUMPANAH	SOLICITATION NO.: W912EF22R0001
CHECKED BY: D. DINH	CONTRACT NO.:
SUBMITTED BY: JORDAN S. TINKHAM, P.E.	DRAWING NUMBER: LGP-1.002-6-9A13/2
SIZE: ANSI D	FILENAME: V5-LGP1.002-E-302.dgn

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U.S. ARMY CORPS OF ENGINEERS
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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

EQUIPMENT ROOM
SECTION VIEW EL. 598.00
INSTALL

SHEET ID
VOLUME 5
E-302

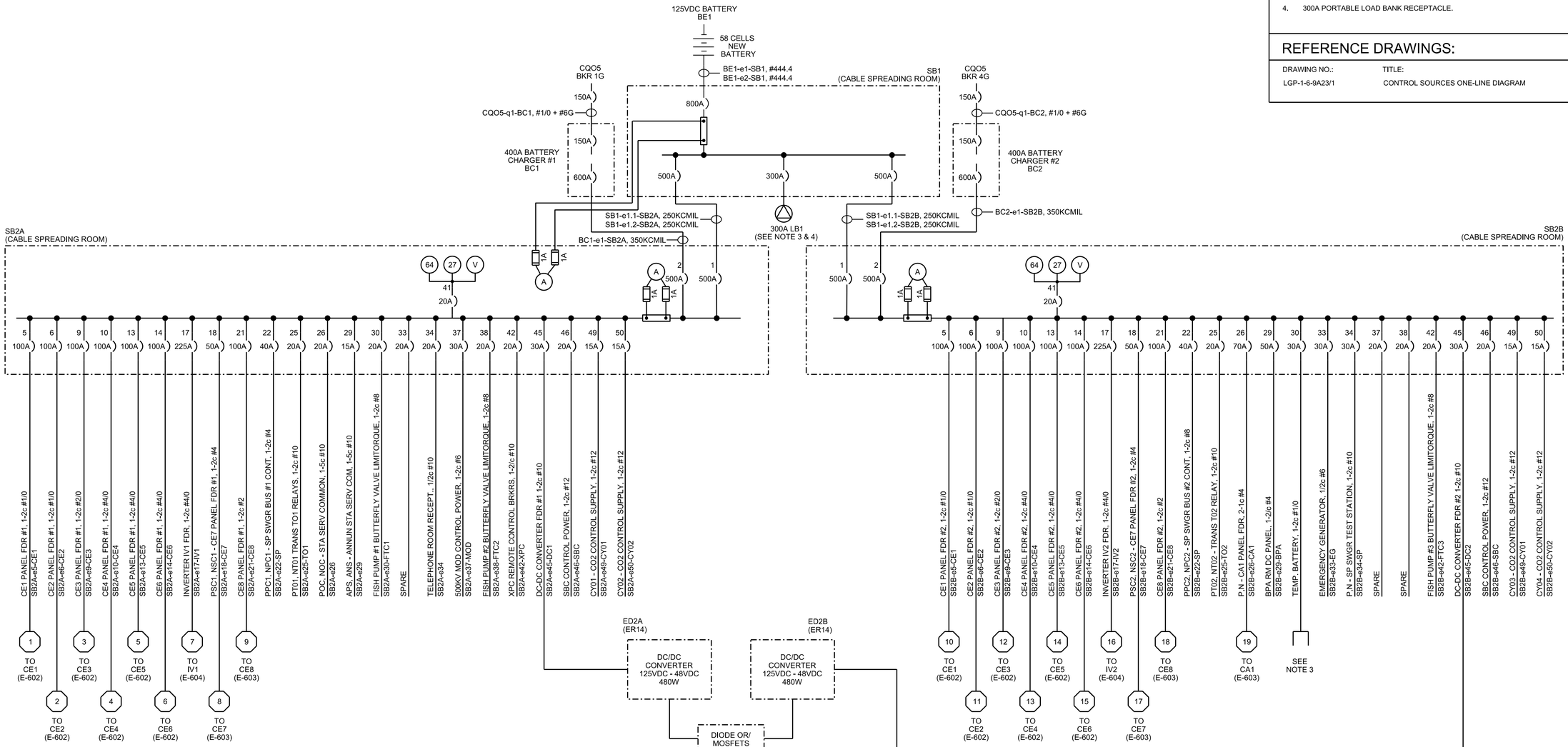
FINAL

GENERAL NOTES:

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. PANEL CD1 IS LOCATED IN THE EQUIPMENT ROOM, ADJACENT TO THE CONTROL ROOM.
3. PROVIDE 300A BATTERY CONNECTION PLUG FOR TEMPORARY BATTERY CONNECTION COORDINATE WITH PROJECT ON TYPE. SEE DRAWING V5 E-201 IN VOLUME 5 FOR ELEVATION VIEW.
4. 300A PORTABLE LOAD BANK RECEPTACLE.

REFERENCE DRAWINGS:

DRAWING NO.:	TITLE:
LGP-1-6-9A23/1	CONTROL SOURCES ONE-LINE DIAGRAM



A1 125VDC ONE LINE

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	L. SUPPAN
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	C.
	D. DINH
SUBMITTED BY:	D.
ANSI D.	

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-A2.1/1
JORDAN S. FINK, P.E.
FILE NAME: LGP1.002-E-601.dgn
V5-LGP1.002-E-601.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

125 VDC
ONE LINE DIAGRAM
SHEET 1 OF 3 - INSTALL

SHEET ID
VOLUME 5
E-601

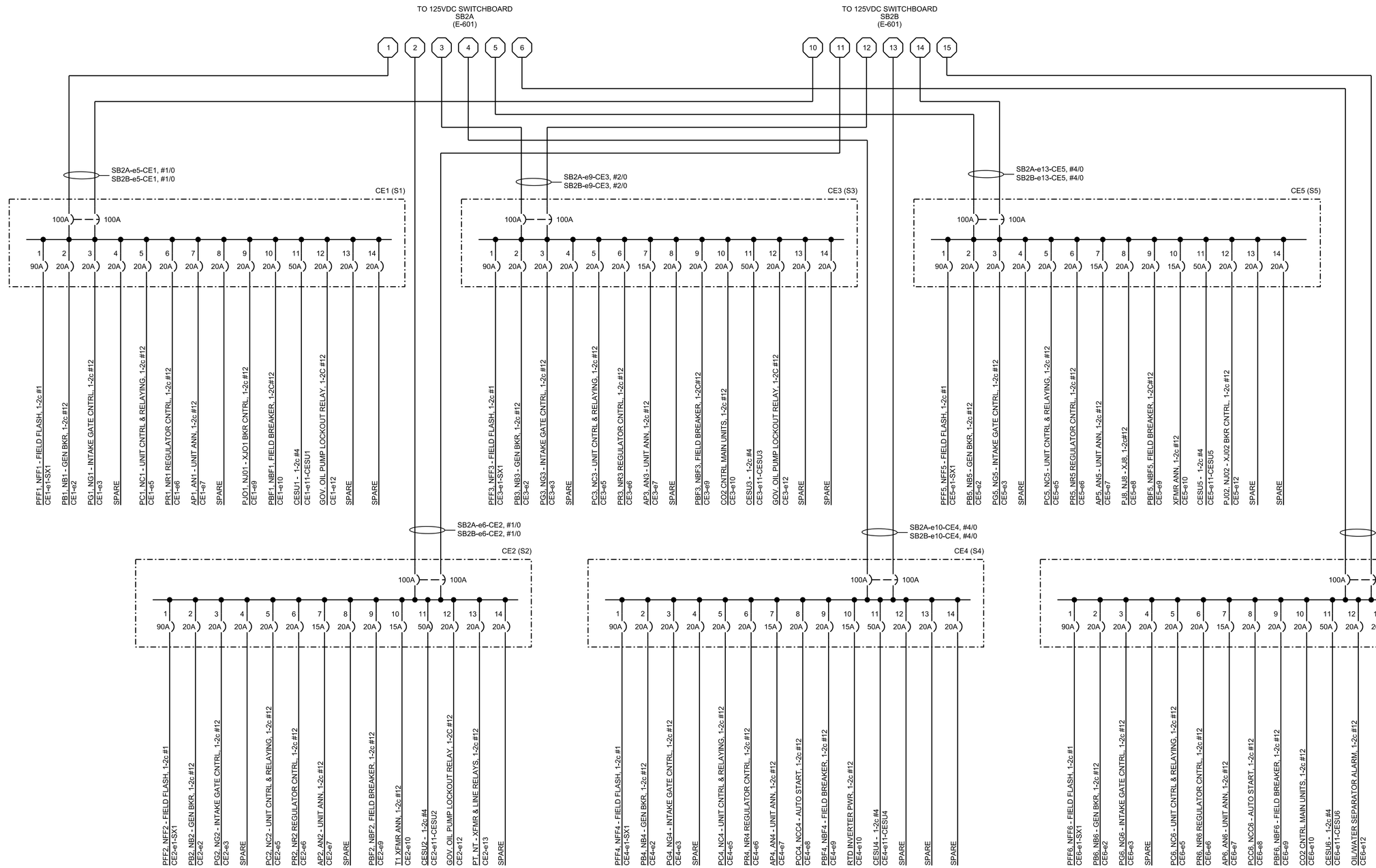
FINAL

GENERAL NOTES:

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.

REFERENCE DRAWINGS:

DRAWING NO.:	TITLE:
LGP-1-6-9A23/1	CONTROL SOURCES ONE LINE DIAGRAM



A1 CE1—CE6 125VDC ONE LINE
SCALE: NTS

US Army Corps of Engineers®

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-4A21/2
FILENAME: V5-LGP1.002-E-602.dgn

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

125 VDC
ONE LINE DIAGRAM
SHEET 2 OF 3 - INSTALL

SHEET ID
VOLUME 5
E-602

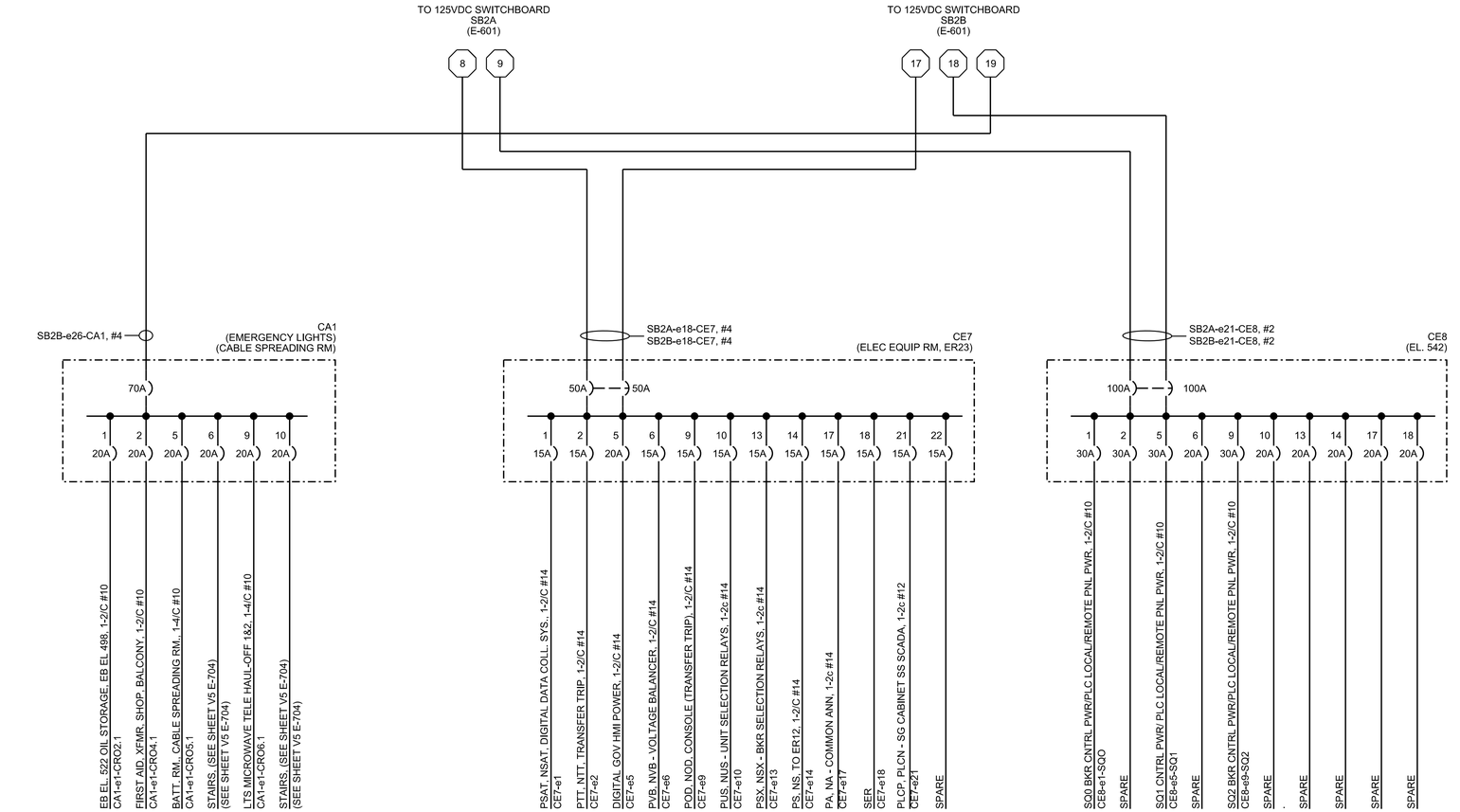
FINAL

GENERAL NOTES

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.

REFERENCE DRAWINGS:

DRAWING NO.	TITLE
LGP-1-6-9A23/1	CONTROL SOURCES ONE LINE DIAGRAM



A7 125VDC ONE LINE
SCALE: NTS

MARK	DESCRIPTION	DATE

US Army Corps of Engineers®

DESIGNED BY: L. SUPPAN	ISSUE DATE: AUGUST 2022
DRAWN BY: B. MASOUMPANAH	SOLICITATION NO.: W912EF22R0001
CHECKED BY: D. DINH	CONTRACT NO.:
SUBMITTED BY: JORDAN S. FINK, P.E.	DRAWING NUMBER: LGP-1.002-6-4A21/3
SIZE: ANSI D	FILENAME: V5-LGP1.002-E-603.dgn

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

125V DC
ONE LINE DIAGRAM
SHEET 3 OF 3 - INSTALL

SHEET ID
VOLUME 5
E-603

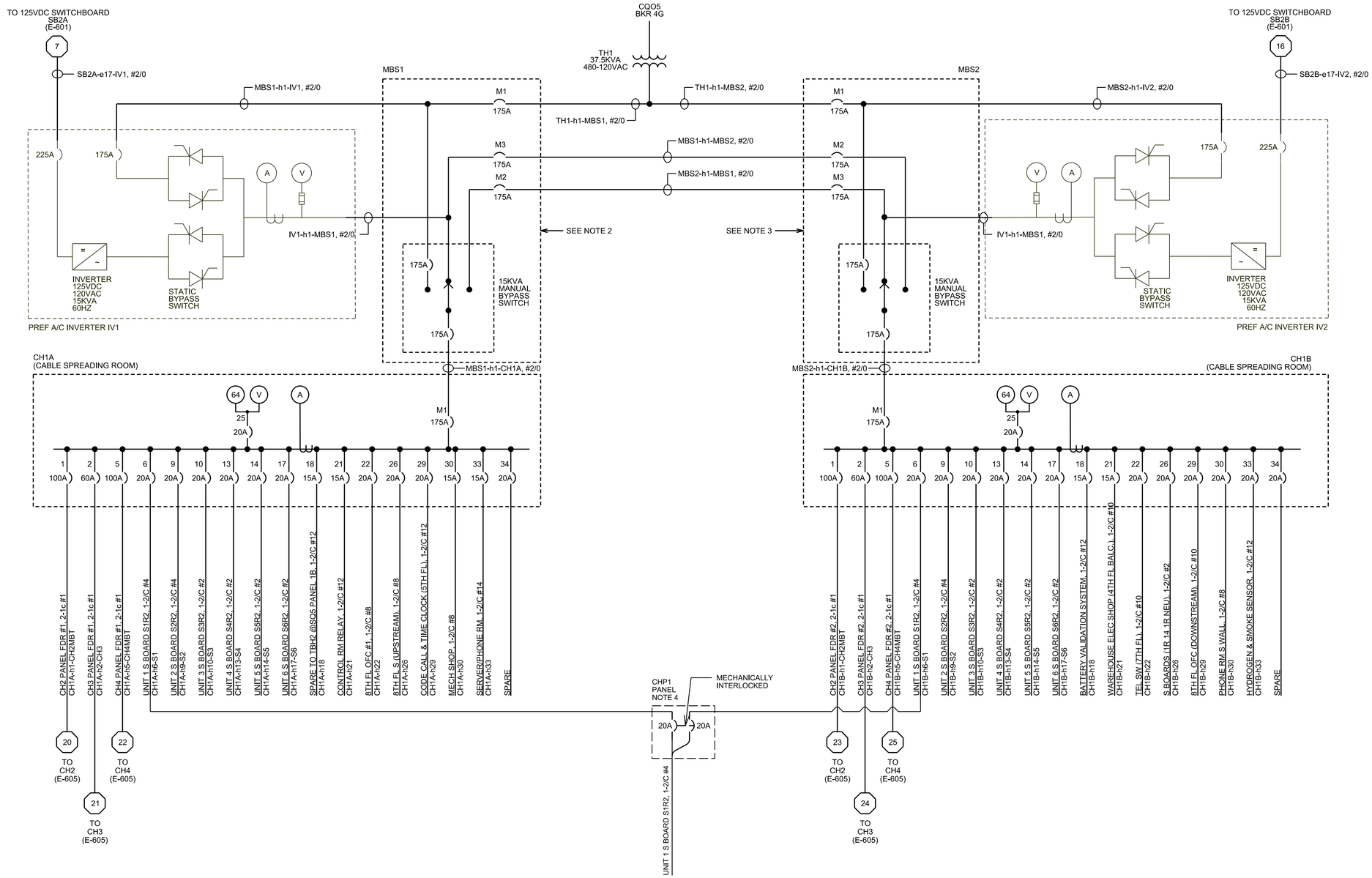
FINAL

GENERAL NOTES

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.
2. THE THREE 175A BREAKERS TO BE LOCATED IN THE SAME CABINET AS THE MSB1.
3. THE THREE 175A BREAKERS TO BE LOCATED IN THE SAME CABINET AS THE MSB2.
4. PANEL IS LOCATED AT THE RTU CABINET NEAR THE S-BOARDS. THE PANEL IS SHOWN FOR S-BOARD #1. CONTRACTOR SHALL INSTALL THE SAME PANELS FOR S-BOARDS #1 THRU #6. SEE V5 E-712 THRU E-717 FOR ADDITIONAL DETAILS.

REFERENCE DRAWINGS:

DRAWING NO.	TITLE
LGP-1-6-9A23/1	CONTROL SOURCES ONE LINE DIAGRAM



A4 PREFERRED AC ONE-LINE

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN	ISSUE DATE: AUGUST 2022
DRAWN BY: B. MASOUMPANAH	SOLICITATION NO.: W912EF22R0001
CHECKED BY: D. DINH	CONTRACT NO.:
SUBMITTED BY: JORDAN S. FINK, P.E.	DRAWING NUMBER: LGP-1.002-6-17A2/11
SIZE: ANSI D	FILE NAME: V5-LGP1.002-E-604.dgn

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

PREFERRED AC
ONE LINE DIAGRAM
SHEET 1 OF 2 - INSTALL

SHEET ID
VOLUME 5
E-604

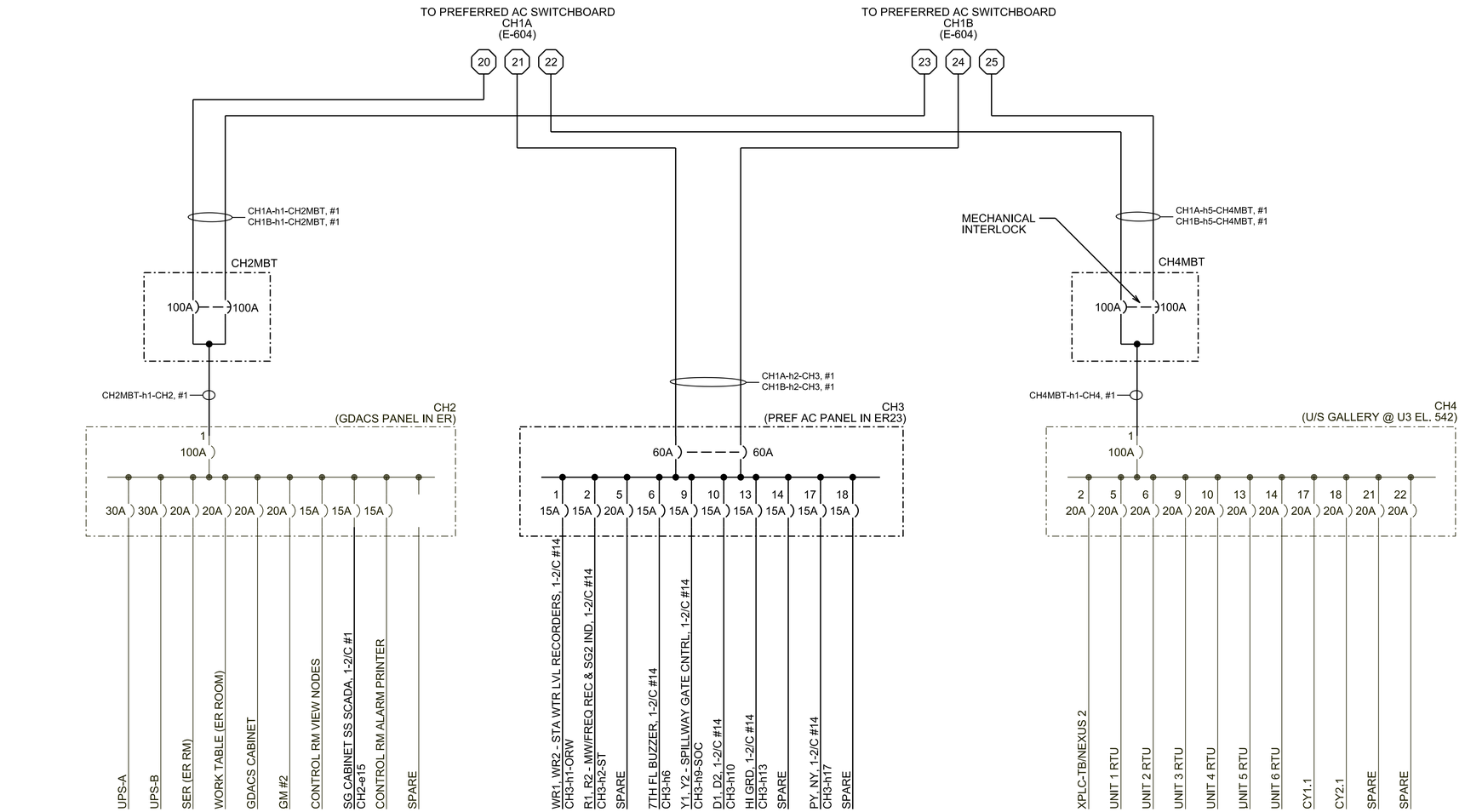
FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED.

REFERENCE DRAWINGS:

DRAWING NO.	TITLE
LGP-1-6-9A23/1	CONTROL SOURCES ONE LINE DIAGRAM



A7 PREFERRED AC ONE LINE
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-1A21/2
SIZE: FILENAME: V5-LGP1.002-E-605.dgn

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

125 VDC & PREFERRED AC, CH2, CH3 & CH4
ONE LINE DIAGRAM
SHEET 2 OF 2 - INSTALL

SHEET ID
VOLUME 5
E-605

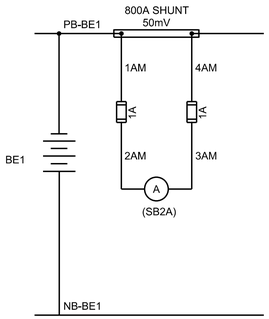
FINAL

GENERAL NOTES

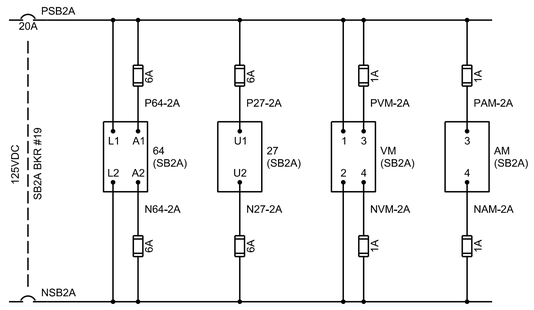
1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.

CIRCUIT NAMES DESIGNATION

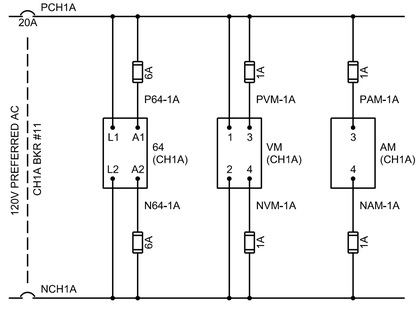
EQUIPMENT NAME	CIRCUIT NAME
SB2A	PSB2A
	NSB2A
	P64-2A
	N64-2A
	P27-2A
	N27-2A
	PVM-2A
	NVM-2A
	PAM-2A
	NAM-2A
SB2B	PSB2B
	NSB2B
	P64-2B
	N64-2B
	P27-2B
	N27-2B
	PVM-2B
	NVM-2B
	PAM-2B
	NAM-2B
CH1A	PCH1A
	NCH1A
	P64-1A
	N64-1A
	PVM-1A
	NVM-1A
	PAM-1A
	NAM-1A
CH1B	PCH1B
	NCH1B
	P64-1B
	N64-1B
	PVM-1B
	NVM-1B
	PAM-1B
	NAM-1B



A1 BATTERY METERING SCHEMATIC
SCALE: NTS



A6 BATTERY SWITCHBOARD METERING SCHEMATIC SB2A (SB2B SIMILAR)
SCALE: NTS



A11 PREFERRED AC SWITCHBOARD METERING SCHEMATIC CH1A (CH1B SIMILAR)
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9A2411
SUBMITTED BY: JORDAN S. FINK, P.E.
SIZE: ANSI D
FILE NAME: V5-LGP1.002-E-606.dgn

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U.S. ARMY CORPS OF ENGINEERS
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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

125V DC & PREFERRED AC METERING
CONTROL SCHEMATIC
INSTALL

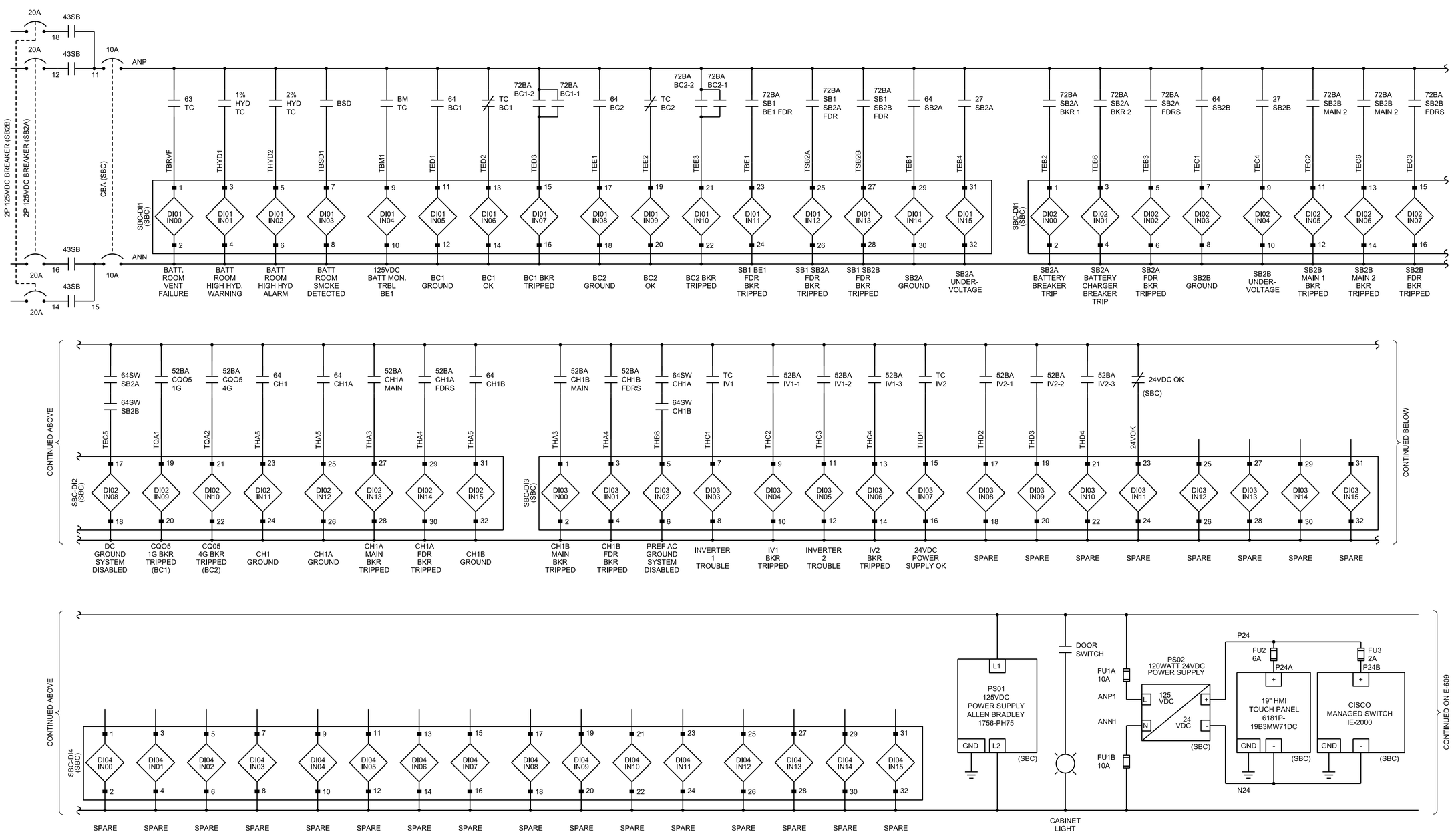
SHEET ID
VOLUME 5
E-606

FINAL

GENERAL NOTES

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.

DECK	43SB SB2A / SB2B		MAINTAINED POSITION, MAKE BEFORE BREAK, BLACK PISTOL GRIP	
		POSITION SB2A	POSITION SB2B	FUNCTION
1	11 — 12	X		SB2A
	18		X	SB2B
	15 — 16	X		SB2A
	14		X	SB2B



A1 SBC PLC INPUT CONTROL SCHEMATIC

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	K. SIRACUSA
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. FINK, P.E.
SPEC. WRITER:	
ANSI D	
ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-E-SK24/2
FILENAME:	I:\LGP\1.002-E-607.dgn

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

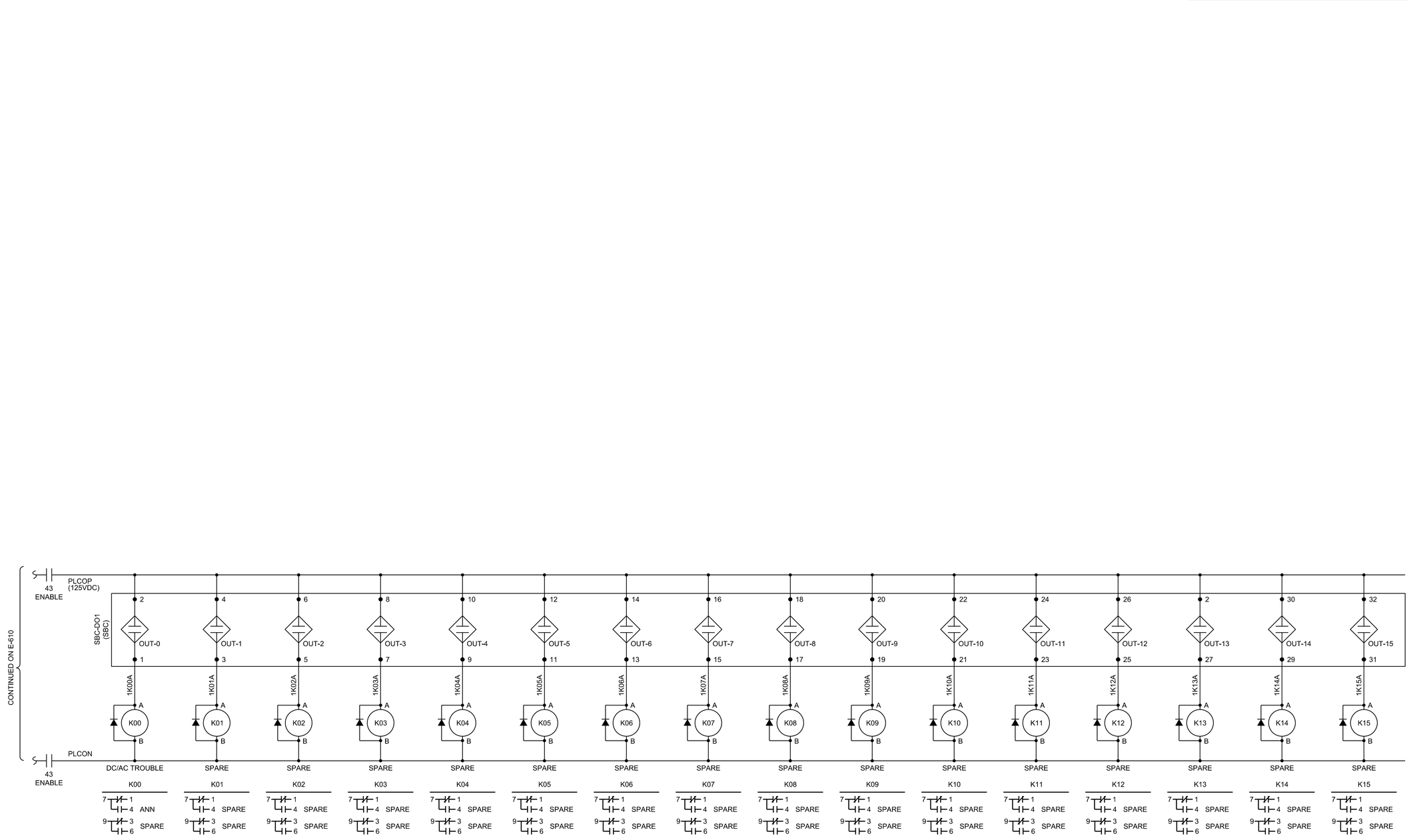
SBC PLC INPUT
CONTROL SCHEMATIC
INSTALL

SHEET ID
VOLUME 5
E-607

FINAL

GENERAL NOTES

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.



A1 SBC PLC OUTPUT CONTROL SCHEMATIC

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SIRACUSA	ISSUE DATE: AUGUST 2022
DRAWN BY: B. MASOUMPANAH	SOLICITATION NO.: W912EF22R0001
CHECKED BY: D. DINH	CONTRACT NO.:
SUBMITTED BY: JORDAN S. FINK, P.E.	DRAWING NUMBER: LGP-1.002-6-9A24/3
ANSI D	SIZE: FILENAME: V5-LGP1.002-E-608.dgn

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SBC PLC OUTPUT
CONTROL SCHEMATIC
INSTALL

SHEET ID
VOLUME 5
E-608

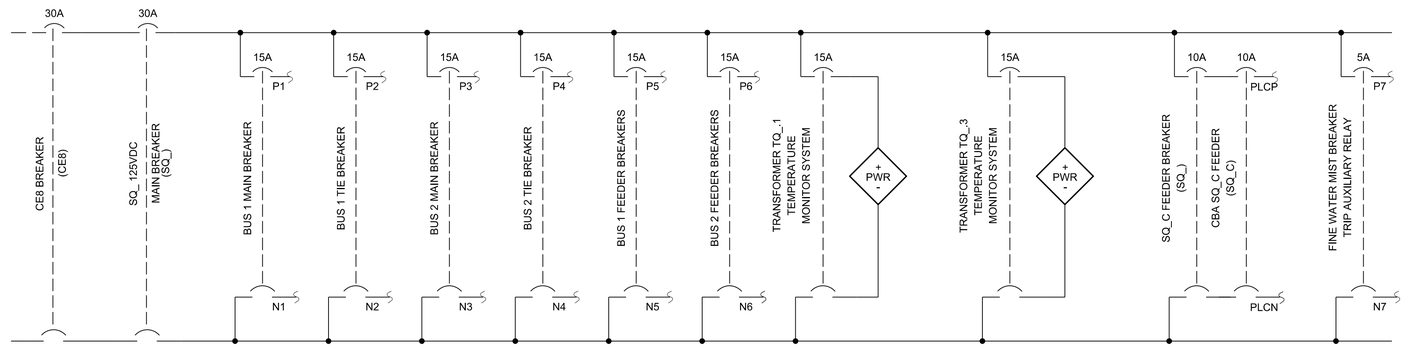
FINAL

GENERAL NOTES

1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED
2. "_" IS PLACEHOLDER FOR SQ SWITCHGEAR. FOR EXAMPLE, "SQ_C FEEDER BREAKER" IS "SQ1C" FEEDER BREAKER FOR SQ1 SWITCHGEAR.

REFERENCE DRAWINGS:

DRAWING NO.	TITLE
R32545	480V SUBSTATION SQO CONTROL SCHEMATIC BUS SUPPLY & BUS TIE BREAKERS
R32549	480V SUBSTATION SQ1 CONTROL SCHEMATIC BUS SUPPLY & BUS TIE BREAKERS
11-C-04SD-LLA-19	SQ2 BUS 2 SUPPLY BREAKER (52-2) CONTROL SCHEMATIC
11-C-04SD-LLA-20	SQ2 TIE SUPPLY BREAKER (52-3) CONTROL SCHEMATIC



SQ_ 125VDC POWER DISTRIBUTION

A7 SQ 125VDC POWER DISTRIBUTION

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN	ISSUE DATE: AUGUST 2022
DRAWN BY: B. MASOUMPANAH	SOLICITATION NO.: W912EF22R0001
CHECKED BY: D. DINH	CONTRACT NO.:
SUBMITTED BY: JORDAN S. FINK, P.E.	DRAWING NUMBER: LGP-1.002-E-SHEET
SIZE: ANSI D	FILE NAME: V5-LGP1.002-E-609.dgn

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201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

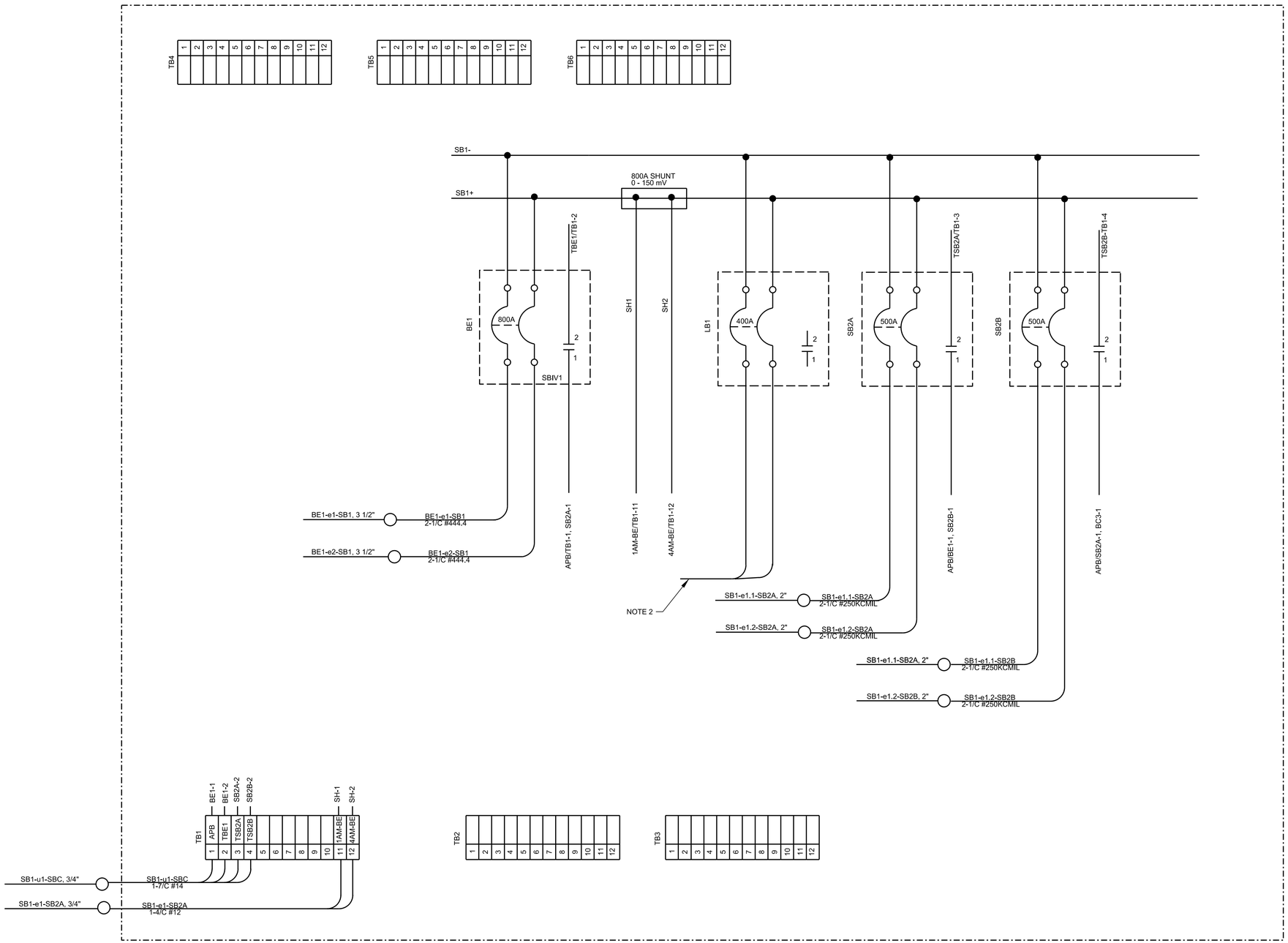
SQO, SQ1 & SQ2 BREAKERS
CONTROL SCHEMATIC
INSTALL

SHEET ID
VOLUME 5
E-609

FINAL

GENERAL NOTES:

1. ALL ITEMS IN BOLD, EQUIPMENT TO BE INSTALLED.
2. CONTRACTOR SHALL PROVIDE PLUG TEST PINS ON SB1 FOR CONNECTING THE LOAD BANK



SB1A WIRING DIAGRAM

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN	ISSUE DATE: AUGUST 2022
DRAWN BY: B. MASOUMPANAH	SOLICITATION NO.: W912EF22R0001
CHECKED BY: D. DINH	CONTRACT NO.:
SUBMITTED BY: JORDAN S. FINLAY, P.E.	DRAWING NUMBER: LGP-1.002-E-SW4221
SIZE: ANSI D	FILE NAME: V5-LGP1.002-E-701.dgn

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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

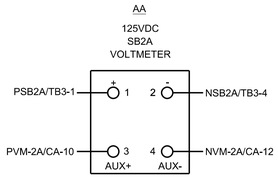
SB1
WIRING DIAGRAM
INSTALL

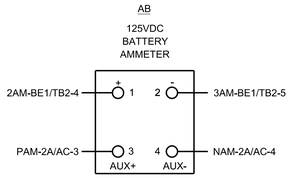
SHEET ID
VOLUME 5
E-701

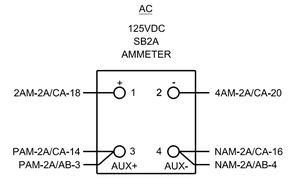
FINAL

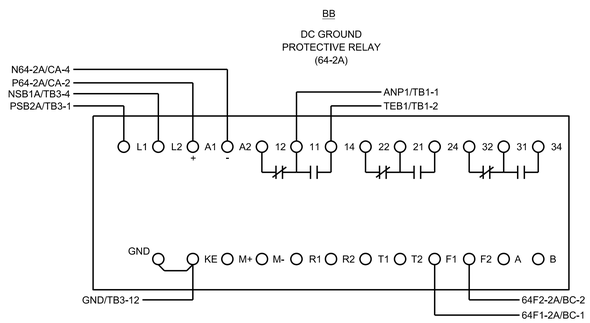
GENERAL NOTES:

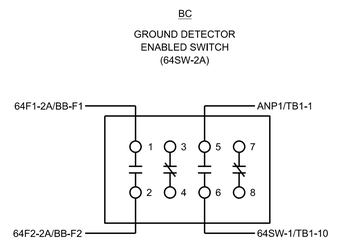
1. BOLD ITEMS INDICATE NEW EQUIPMENT TO BE INSTALLED.
2. FUSES SHALL BE PROVIDED FOR THE DC GROUND PROTECTIVE RELAY AND DC UNDERVOLTAGE RELAY IF RECOMMENDED BY MANUFACTURER.
3. DEVICES ARE SHOWN TO ILLUSTRATE THE INTENT. IF A DIFFERENT DEVICE IS USED, CONTRACTOR TO UPDATE DRAWINGS AS NECESSARY TO REFLECT CHANGES.





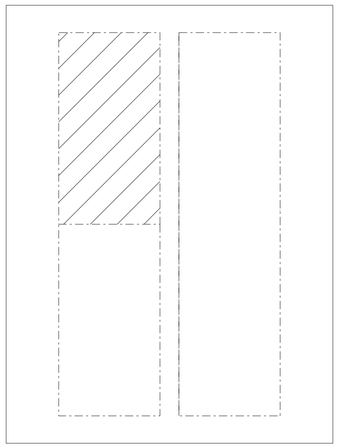






REAR DOOR

SB2A



FRONT

SB2A WIRING DIAGRAM (FRONT)

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-SHEET-
SIZE: V5-LGP1.002-E-702A.dgn

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WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

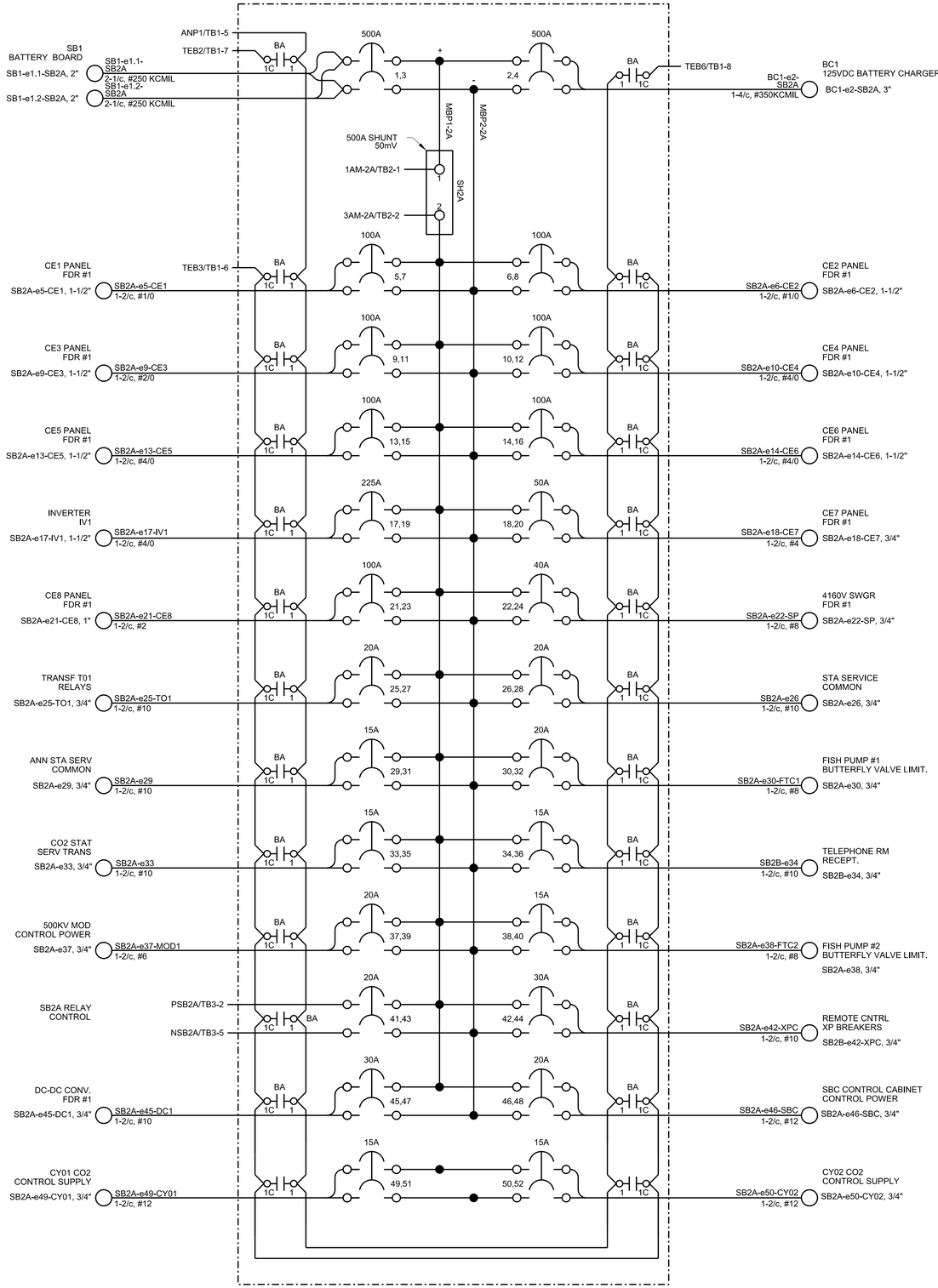
SB2A
WIRING DIAGRAM
SHEET 1 OF 3 - INSTALL

SHEET ID
VOLUME 5
E-702A

FINAL

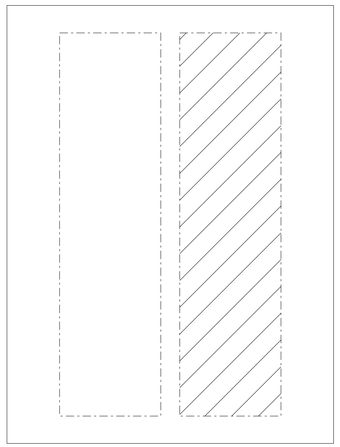
GENERAL NOTES:

1. BOLD ITEMS INDICATE NEW EQUIPMENT TO BE INSTALLED.



SB2A WIRING DIAGRAM (BREAKERS SECTION)

SB2A



FRONT

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FERNANDEZ, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-SHT#2/3
FILENAME: V5-LGP1.002-E-702B.dgn

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201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SB2A
WIRING DIAGRAM
SHEET 2 OF 3 - INSTALL

SHEET ID
VOLUME 5
E-702B

FINAL

GENERAL NOTES:

1. BOLD ITEMS INDICATE NEW EQUIPMENT TO BE INSTALLED.
2. FUSES SHALL BE PROVIDED FOR THE DC GROUND PROTECTIVE RELAY AND DC UNDERVOLTAGE RELAY IF RECOMMENDED BY MANUFACTURER.
3. DEVICES ARE SHOWN TO ILLUSTRATE THE INTENT. IF A DIFFERENT DEVICE IS USED, CONTRACTOR TO UPDATE DRAWINGS AS NECESSARY TO REFLECT CHANGES.

SB2A-u1-SB2B, 3/4"
SB2A-u1-SB2B
1-3/c, #14
SB2A-u1-SBC, 3/4"
SB2A-u1-SBC
1-9/c, #14
SB1-e1-SB2A, 3/4"
SB1-e1-SB2A
1-4/c, #12

3 SPARES

TB1

SBC/TB6-06	1 ANP1	BC-5
SBC/TB6-01	2 TEB1	BB-11, BB-14
	3 ANP1	DA-12
SBC/TB6-02	4 TEB4	DA-11
	5 ANP1	BKR1-1
SBC/TB6-05	6 TEB3	BKR5-1C
SBC/TB6-03	7 TEB2	BKR1-1C
SBC/TB6-04	8 TEB6	BKR2-1C
	9	
SB2B/TB1-10	10 64SW-1	BC-6
	11 SPARE	
	12 SPARE	

TB'S LEFT SIDE WALL

CA
FUSES

NSB2A/TB3-5
PSB2A/TB3-3
PSB2A/TB3-2
NSB2A/TB3-6

1 3 5 7 9 11 13 15
6A 6A 6A 6A 1A 1A 1A 1A
2 4 6 8 10 12 14 16

P64-2A/BB-A1
N64-2A/BB-A2
P27-2A/DA-U1
N27-2A/DA-U2
NAM-2A/AC-4
PAM-2A/AC-3
NVM-2A/AA-4
PVM-2A/AA-3

3AM-2A/TB2-2
1AM-2A/TB2-1
1AM-BE/TB2-3
3AM-BE/TB2-5

17 19 21 23
1A 1A 1A 1A
18 20 22 24

2AM-2A/AC-1
4AM-2A/AC-2
4AM-BE/TB2-6
2AM-BE/TB2-4

TB2

1	1AM-2A	CA-17, SH2A-1
2	3AM-2A	CA-19, SH2A-2
3	1AM-BE	CA-21, AB-1
4	2AM-BE	CA-22, CA-23, AB-2
5	3AM-BE	
6	4AM-BE	CA-24
7	SP	
8	SP	
9		
10		
11		
12		

DA
DC RELAY
UNDERVOLTAGE
(27-2A)

P27-2A/CA-6 — U1/+ — U2/- — N27-2A/CA-8

TEB4/TB1-4 — 11 — 21
ANP1/TB1-3 — 12 — 22
14 — 24

TB3

1	PSB2A	BB-L1, AA-1
2	PSB2A	BKR41, CA-9
3	PSB2A	CA-1, BB-L2
4	NSB2A	AA-2, BKR43
5	NSB2A	CA-3
6	NSB2A	CA-11
7		
8		
9		
10		
11		
12		BB-KE

TB4

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

REAR

TB'S RIGHT SIDE WALL

SB2A

REAR

SB2A WIRING DIAGRAM (TOP REAR)

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. TINNEY, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9N42/4
SCALE:
FILENAME: V5-LGP1.002-E-702C.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SB2A
WIRING DIAGRAM
SHEET 3 OF 3 - INSTALL

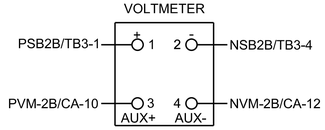
SHEET ID
VOLUME 5
E-702C

FINAL

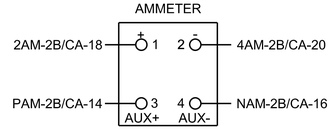
GENERAL NOTES:

1. BOLD ITEMS INDICATE NEW EQUIPMENT TO BE INSTALLED.
2. FUSES SHALL BE PROVIDED FOR THE DC GROUND PROTECTIVE RELAY AND DC UNDERVOLTAGE RELAY IF RECOMMENDED BY MANUFACTURER.
3. DEVICES ARE SHOWN TO ILLUSTRATE THE INTENT. IF A DIFFERENT DEVICE IS USED, CONTRACTOR TO UPDATE DRAWINGS AS NECESSARY TO REFLECT CHANGES.

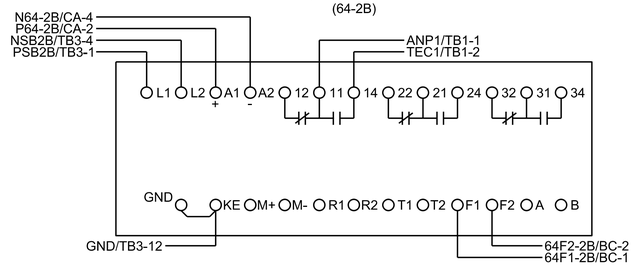
AA
125VDC
SB2B
VOLTMETER



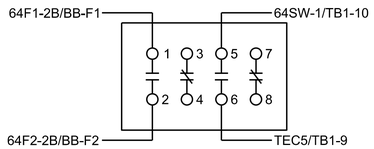
AC
125VDC
SB2B
AMMETER



BB
DC GROUND
PROTECTIVE RELAY
(64-2B)

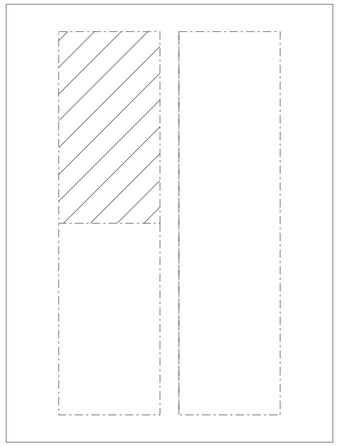


BC
GROUND DETECTOR
ENABLED SWITCH
(64SW-2B)



REAR DOOR

SB2B



FRONT

SB2B WIRING DIAGRAM (FRONT)

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-SW42/5
SUBMITTED BY: JORDAN S. FINKLE, P.E.
SIZE: ANSI D
FILENAME: V5-LGP1.002-E-703A.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

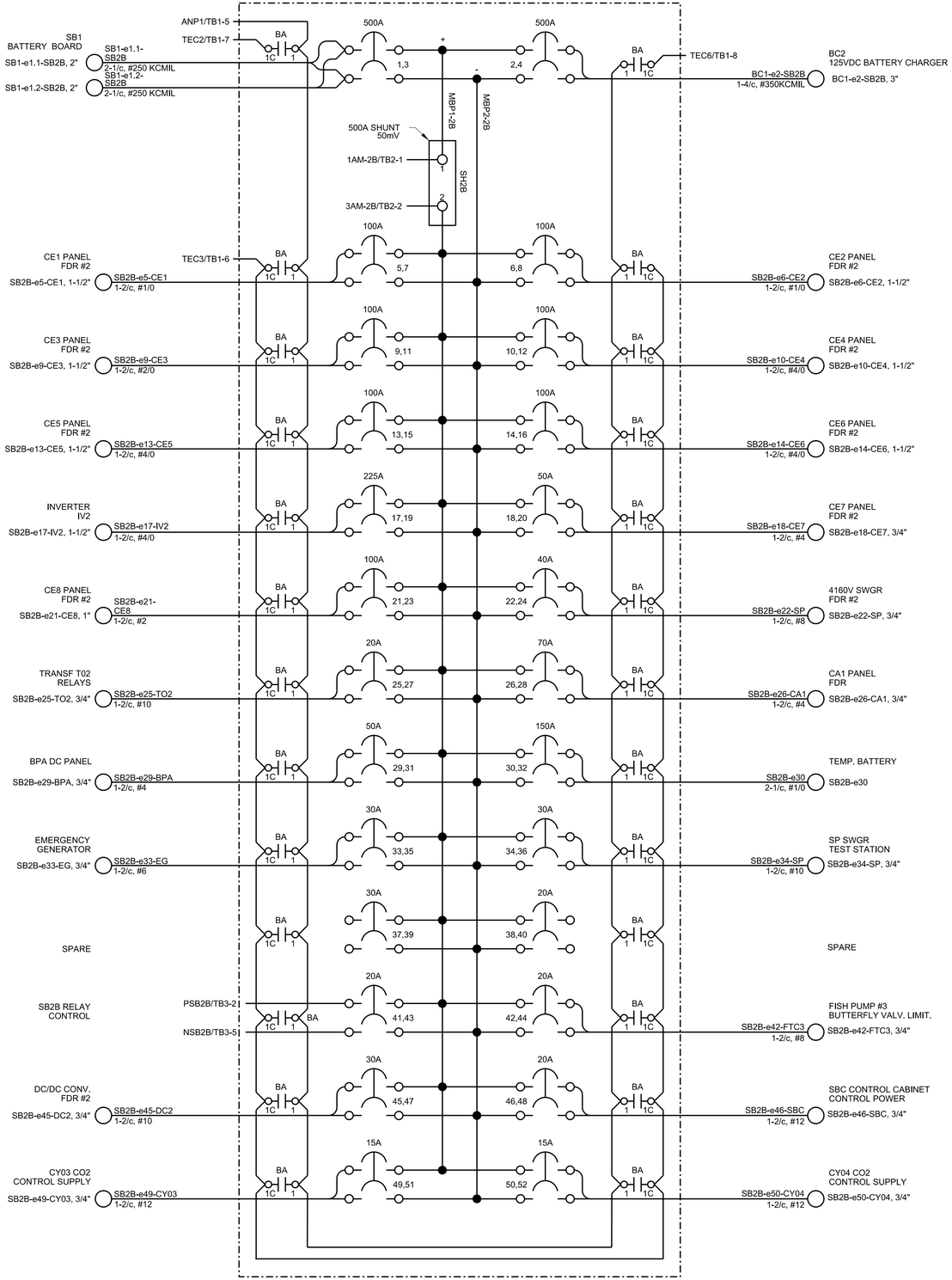
SB2B
WIRING DIAGRAM
SHEET 1 OF 3 - INSTALL

SHEET ID
VOLUME 5
E-703A

FINAL

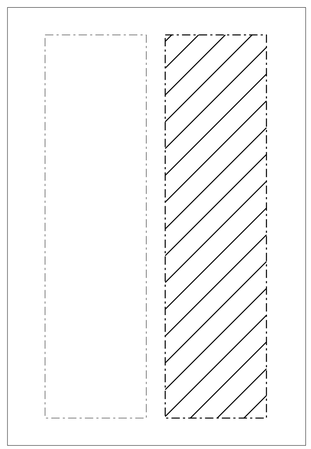
GENERAL NOTES:

1. BOLD ITEMS INDICATE NEW EQUIPMENT TO BE INSTALLED.



SB2B WIRING DIAGRAM (BREAKERS SECTION)

SB2B



FRONT

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-704426
SIZE:
FILE NAME: V5-LGP1.002-E-703B.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SB2B
WIRING DIAGRAM
SHEET 2 OF 3 - INSTALL

SHEET ID
VOLUME 5
E-703B

FINAL

GENERAL NOTES:

1. BOLD ITEMS INDICATE NEW EQUIPMENT TO BE INSTALLED.
2. FUSES SHALL BE PROVIDED FOR THE DC GROUND PROTECTIVE RELAY AND DC UNDERVOLTAGE RELAY IF RECOMMENDED BY MANUFACTURER.
3. DEVICES ARE SHOWN TO ILLUSTRATE THE INTENT. IF A DIFFERENT DEVICE IS USED, CONTRACTOR TO UPDATE DRAWINGS AS NECESSARY TO REFLECT CHANGES.

SB2A-u1-SB2B, 3/4"
SB2B-u1-SBC, 3/4"
SB2A-u1-SB2B 1-3/c, #14
SB2B-u1-SBC 1-9/c, #14

2 SPARES

TB1

SBC/TB7-06	1	ANP1	BB-11
SBC/TB7-01	2	TEC1	BB-14
	3	ANP1	DA-12
SBC/TB7-02	4	TEC4	DA-11
	5	ANP1	BKR5-1
SBC/TB7-05	6	TEC3	BKR5-1C
SBC/TB7-03	7	TEC2	BKR1-1C
SBC/TB7-04	8	TEC6	BKR2-1C
SBC/TB7-07	9	TEC5	BC-6
SB2A/TB1-10	10	64SW-1	BC-5
	11	SP	
	12	SP	

TB'S LEFT SIDE WALL

CA
FUSES

NSB2B/TB3-5
PSB2B/TB3-3
PSB2B/TB3-2
NSB2B/TB3-6

1 3 5 7 9 11 13 15
6A 6A 6A 6A 1A 1A 1A 1A
2 4 6 8 10 12 14 16

P64-2B/BB-A1
N64-2B/BB-A2
P27-2B/DA-U1
N27-2B/DA-U2
NAM-2B/AC-4
PAM-2B/AC-3
NVM-2B/AA-4
PVM-2B/AA-3

3AM-2B/TB2-2
1AM-2B/TB2-1

17 19 21 23
1A 1A 1A 1A
18 20 22 24

2AM-2B/AC-1
4AM-2B/AC-2

TB2

1	1AM-1B	CA-17 SH2B-1
2	3AM-1B	CA-19 SH2B-2
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

DA
DC RELAY
UNDERVOLTAGE
(27-1B)

P27-2B/CA-6 — U1/+ — U2/- — N27-1B/CA-8

TEC5/TB1-4 — 11 — 21
ANP1/TB1-3 — 12 — 22
14 — 24

TB3

1	PSB2B	BB-L1 AA-1 BKR41 CA-9
2	PSB2B	
3	PSB2B	CA-1 BB-L2 AA-2 BKR43 CA-3
4	NSB2B	
5	NSB2B	
6	NSB2B	CA-11
7		
8		
9		
10		
11		
12		BB-KE

TB4

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

REAR

TB'S RIGHT SIDE WALL

SB2B

REAR

SB2B WIRING DIAGRAM (TOP REAR)

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
SUBMITTED BY:
JORDAN S. FIELDS, P.E.
ANSI D
DRAWING NUMBER: LGP-1.002-E-SW4227
SIZE: FILENAME: V5-LGP1.002-E-703C.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
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WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
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PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

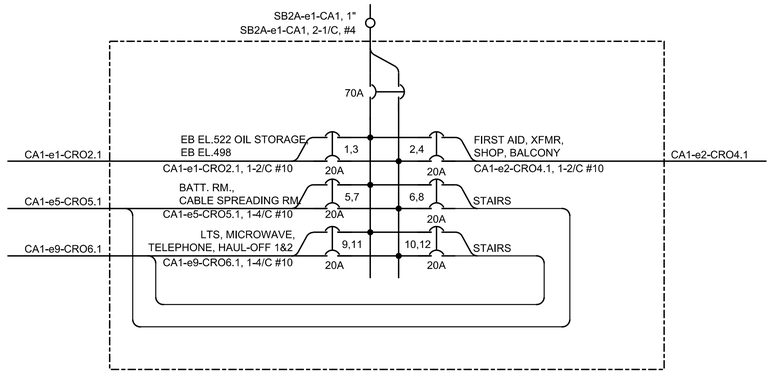
SB2B
WIRING DIAGRAM
SHEET 3 OF 3 - INSTALL

SHEET ID
VOLUME 5
E-703C

FINAL

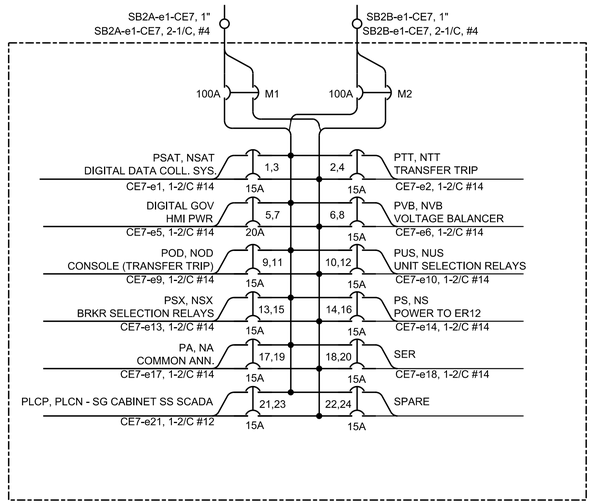
GENERAL NOTES:

1. BOLD ITEMS INDICATES EQUIPMENT TO BE INSTALLED.
2. ALL DOUBLE MAIN BREAKERS SHALL HAVE MECHANICAL INTERLOCK.



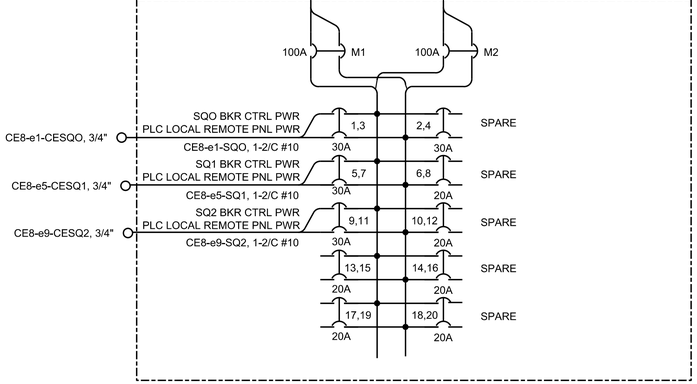
CA1

SUPPLIED FROM SB2B BKR 26



CE7

SUPPLIED FROM SB2A BKR 18, SB2B BKR 18
(PREVIOUSLY NAMED ER23)



CE8

SUPPLIED FROM SB2A BKR 21, SB2B BKR 21

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN	ISSUE DATE: AUGUST 2022
DRAWN BY: B. MASOUMPANAH	SOLICITATION NO.: W912EF22R0001
CHECKED BY: D. DINH	CONTRACT NO.:
SUBMITTED BY: JORDAN S. FINK, P.E.	DRAWING NUMBER: LGP-1.002-E-SHA2/8
SIZE: ANSI D	FILENAME: V5-LGP1.002-E-704.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

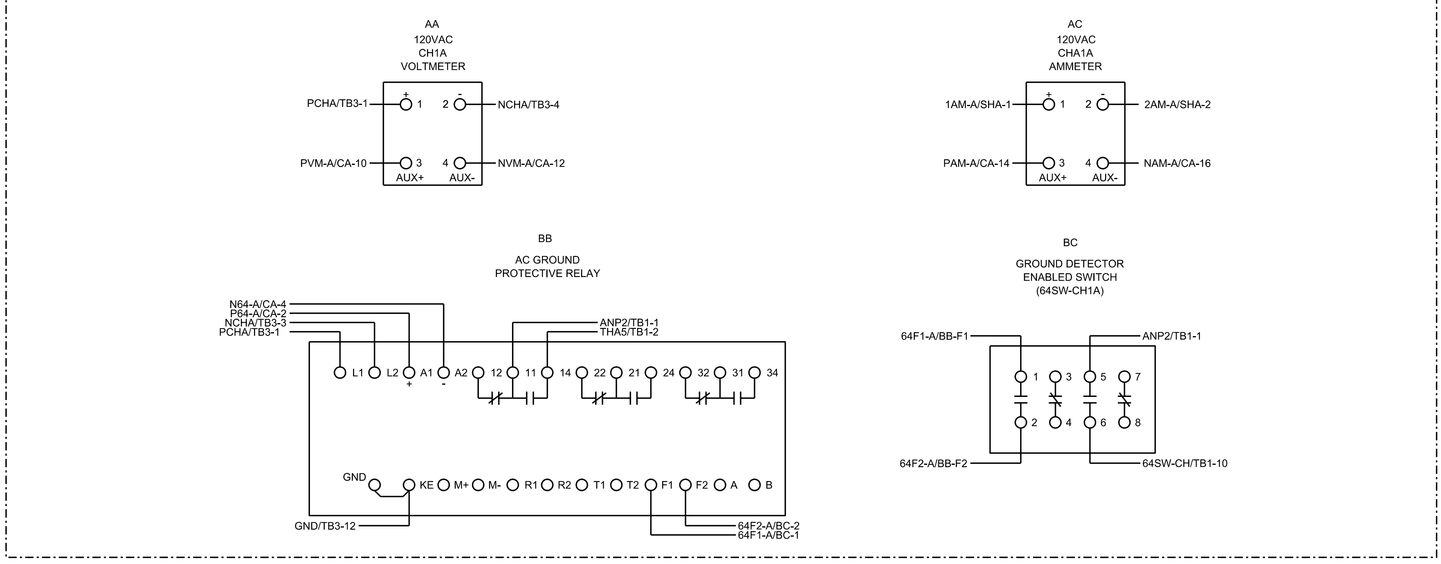
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

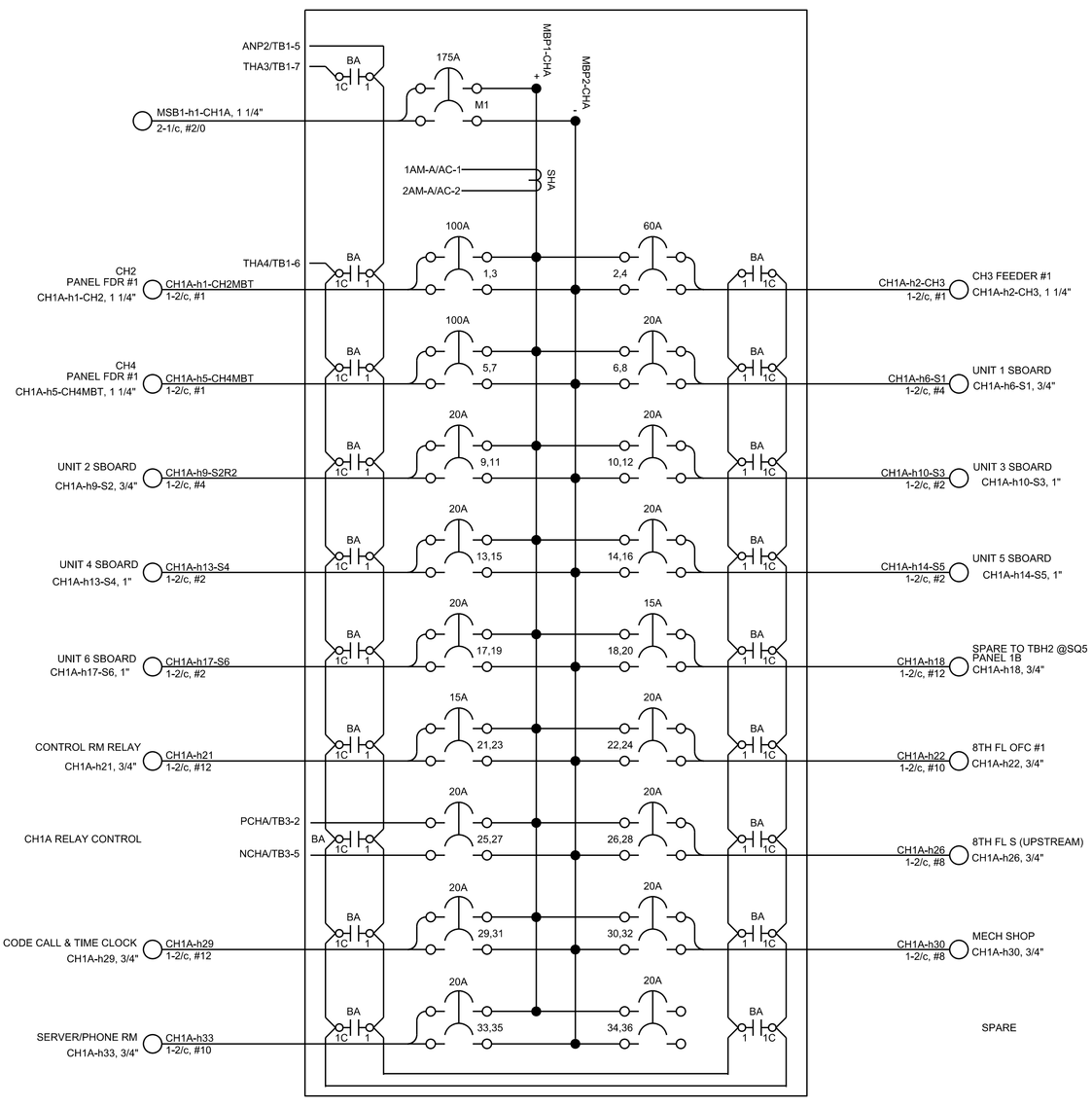
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

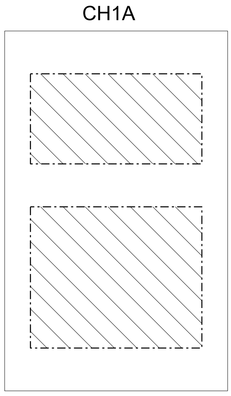
CA1, CE7 & CE8
WIRING DIAGRAM
INSTALL

SHEET ID
VOLUME 5
E-704

FINAL







CH1A WIRING DIAGRAM (FRONT)

GENERAL NOTES:

1. BOLD ITEMS INDICATES EQUIPMENT TO BE INSTALLED.
2. ALL DOUBLE MAIN BREAKERS SHALL HAVE MECHANICAL INTERLOCK.

SHEET ID
VOLUME 5
E-705A

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CH1A
WIRING DIAGRAM
SHEET 1 OF 2 - INSTALL

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

DESIGNED BY: L. SUPPAN	ISSUE DATE: AUGUST 2022
DRAWN BY: B. MASOUMPANAH	SOLICITATION NO.: W912EF22R0001
CHECKED BY: D. DINH	CONTRACT NO.:
SUBMITTED BY: JORDAN S. FINK, P.E.	DRAWING NUMBER: LGP-1.002-6-9A42/9
SIZE: ANSI D	FILENAME: V5-LGP1.002-E-705A.dgn

MARK	DESCRIPTION	DATE

US Army Corps of Engineers®

FINAL

GENERAL NOTES:

1. BOLD ITEMS INDICATES EQUIPMENT TO BE INSTALLED.
2. TERMINATE EXISTING CIRCUITS TO THE TERMINAL BLOCKS ON ONE SIDE AND NEW CIRCUITS ON THE OTHER SIDE.
3. ALL DOUBLE MAIN BREAKERS SHALL HAVE MECHANICAL INTERLOCK.

CH1A-u1-CH1B, 3/4"

CH1A-u1-SBC, 3/4"

CH1A-u1-CH1B 1-3/c, #14

CH1A-u1-SBC 1-9/c, #14

5 SPARES

TB1

SBC/TB8-05	1	ANP2	BC-5, BB-11
SBC/TB8-01	2	THA5	BB-14
	3	ANP2	
	4		
	5	ANP2	BKRM1-1
SBC/TB8-04	6	THA4	BKR1-1C
SBC/TB8-03	7	THA3	BKRM1-1C
	8		
	9		
1CHB/TB1-10	10	64SW-CH	BC-6
1CHB/TB1-11	11	SP	
1CHB/TB1-12	12	SP	

TB2

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

CA

NCHA/TB3-5
PCHA/TB3-3
PCHA/TB3-2
NCHA/TB3-6

1 3 5 7 9 11 13 15
6A 6A 6A 6A 1A 1A 1A 1A
2 4 6 8 10 12 14 16

P64-A/BB-A1
N64-A/BB-A2
NAM-A/AC-4
PAM-A/AC-3
NVM-A/AA-4
PVM-A/AA-3

17 19 21 23
1A 1A 1A 1A
18 20 22 24

TB3

1	PCHA	BB-L1, AA-1, BKR25, CA-9
2	PCHA	
3	PCHA	CA-1, BB-L2, AA-2, BKR25, CA-3
4	NCHA	
5	NCHA	
6	NCHA	CA-11
7		
8		
9		
10		
11		
12	GND	BB-KE

TB4

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

TB'S LEFT SIDE WALL

REAR

TB'S RIGHT SIDE WALL

CH1A

REAR

CH1A WIRING DIAGRAM (REAR)

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-SHA42/10
SUBMITTED BY: JORDAN S. FINK, P.E.
SIZE: E FILE NAME: V5-LGP1.002-E-705B.dgn
ANSI D

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

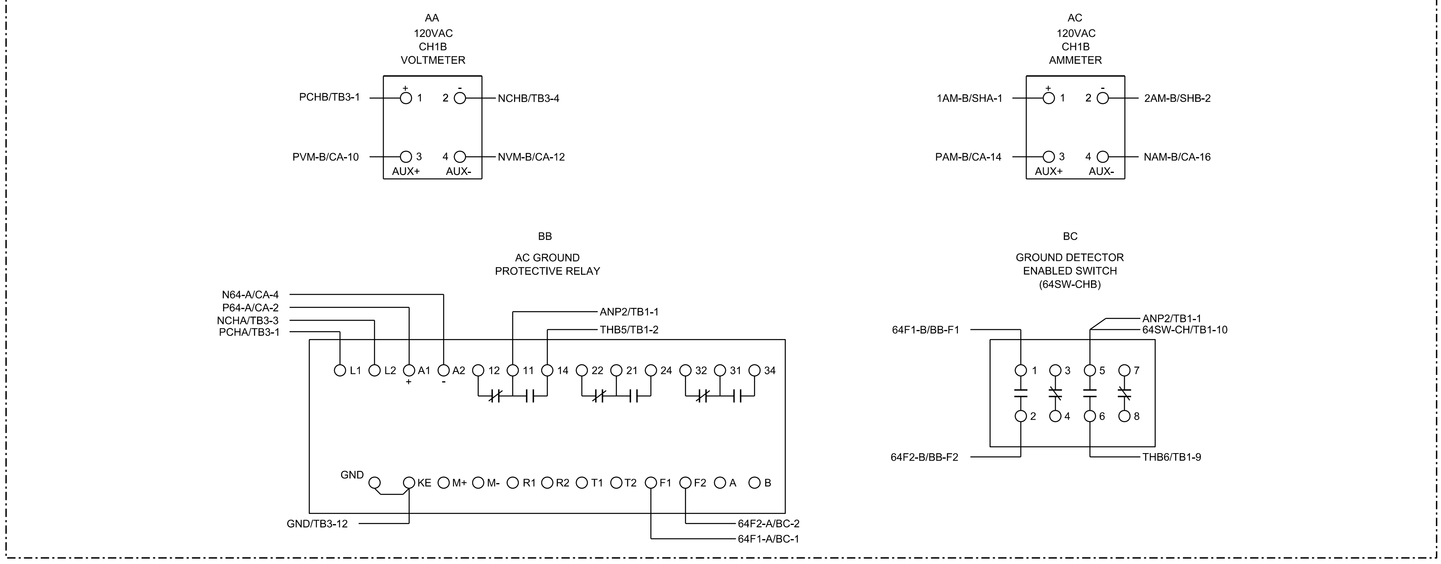
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

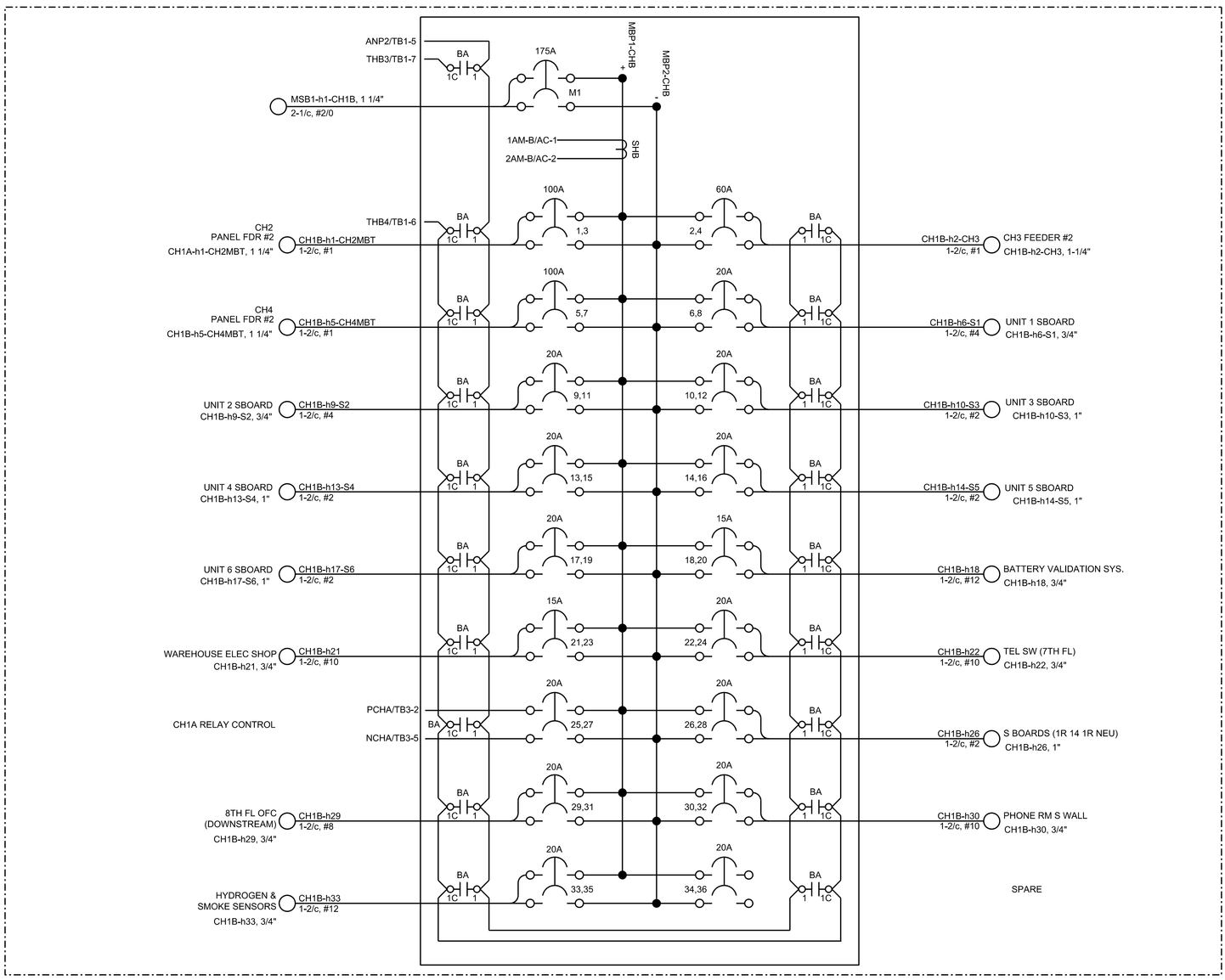
LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CH1A
WIRING DIAGRAM
SHEET 2 OF 2 - INSTALL

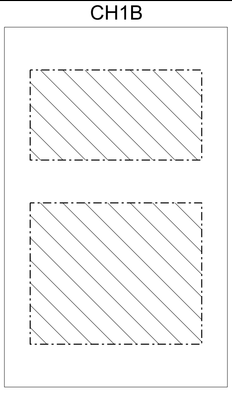
SHEET ID
VOLUME 5
E-705B

FINAL





CH1B



FRONT

CH1B WIRING DIAGRAM (FRONT)

GENERAL NOTES:

1. BOLD ITEMS INDICATES EQUIPMENT TO BE INSTALLED.
2. TERMINATE EXISTING CIRCUITS TO THE TERMINAL BLOCKS ON ONE SIDE AND NEW CIRCUITS ON THE OTHER SIDE.
3. ALL DOUBLE MAIN BREAKERS SHALL HAVE MECHANICAL INTERLOCK.

SHEET ID
VOLUME 5
E-706A

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

CH1B
WIRING DIAGRAM
SHEET 1 OF 2 - INSTALL

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

DESIGNED BY: L. SUPPAN	ISSUE DATE: AUGUST 2022
DRAWN BY: B. MASOUMPANAH	SOLICITATION NO.: W912EF22R0001
CHECKED BY: D. DINH	CONTRACT NO.:
SUBMITTED BY: JORDAN S. FINK, P.E.	DRAWING NUMBER: LGP-1.002-6-9A42/11
SIZE: ANSI D	FILENAME: V5-LGP1.002-E-706A.dgn

MARK	DESCRIPTION	DATE

US Army Corps of Engineers®

FINAL

GENERAL NOTES:

1. BOLD ITEMS INDICATES EQUIPMENT TO BE INSTALLED.
2. TERMINATE EXISTING CIRCUITS TO THE TERMINAL BLOCKS ON ONE SIDE AND NEW CIRCUITS ON THE OTHER SIDE.
3. ALL DOUBLE MAIN BREAKERS SHALL HAVE MECHANICAL INTERLOCK.

CH1A-u1-CH1B, 3/4"

CH1A-u1-CH1B
1-3/c, #14

CH1B-u1-SBC, 3/4"

CH1B-u1-SBC
1-9/c, #14

5 SPARES

TB1

SBC/TB9-05	1	ANP2	BC-5, BB-11
SBC/TB9-01	2	THB5	BB-14
	3	ANP2	
	4		
	5	ANP2	BKRM1-1
SBC/TB9-04	6	THB4	BKR1-1C
SBC/TB9-03	7	THB3	BKRM1-1C
	8		
SBC/TB-02	9	THB6	BC-6
CH1A/TB1-10	10	64SW-CH	BC-5
CH1A/TB1-11	11	SP	
CH1A/TB1-12	12	SP	

TB2

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

CA

NCHB/TB3-5
PCHB/TB3-3
PCHB/TB3-2
NCHB/TB3-6

1 3 5 7 9 11 13 15
6A 6A 6A 6A 1A 1A 1A 1A
2 4 6 8 10 12 14 16

P64-B/BB-A1
N64-B/BB-A2
NAM-B/AC-4
PAM-B/AC-3
NVM-B/AA-4
PVM-B/AA-3

TB3

1	PCHB	BB-L1, AA-1, BKR30, CA-9
2	PCHB	
3	PCHB	CA-1
4	NCHB	BB-L2, AA-2, BKR30, CA-3
5	NCHB	
6	NCHB	CA-11
7		
8		
9		
10		
11		
12	GND	BB-KE

TB4

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

17 19 21 23
1A 1A 1A 1A
18 20 22 24

TB'S LEFT SIDE WALL

REAR

TB'S RIGHT SIDE WALL

CH1B

REAR

CH1B WIRING DIAGRAM (REAR)

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-SH42/12
SIZE: FILENAME: V5-LGP1.002-E-706B.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

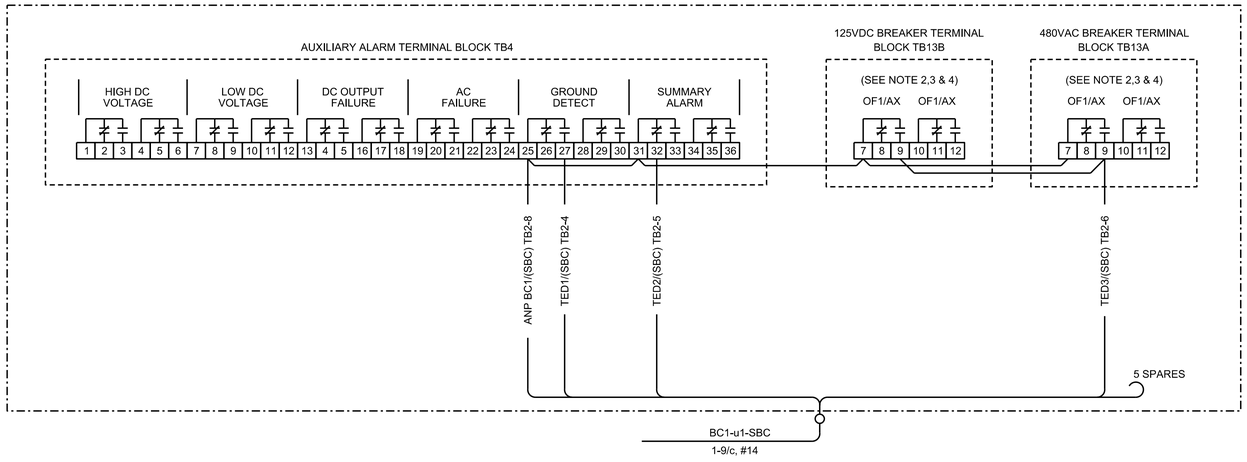
CH1B
WIRING DIAGRAM
SHEET 2 OF 2 - INSTALL

SHEET ID
VOLUME 5
E-706B

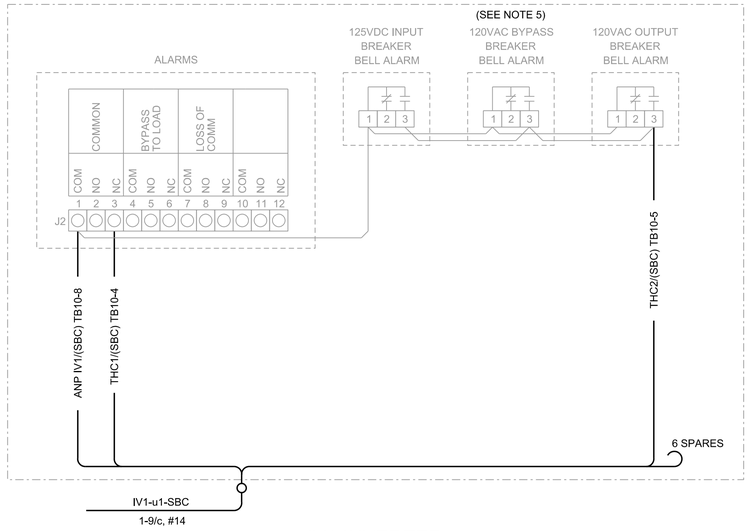
FINAL

GENERAL NOTES:

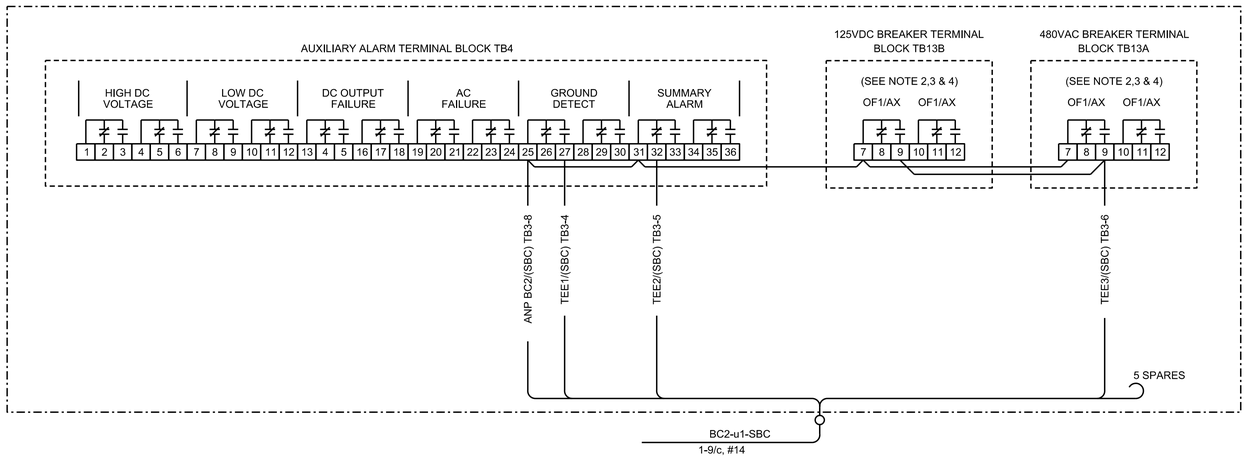
1. BOLD ITEMS INDICATES EQUIPMENT TO BE INSTALLED.
2. DEVICES ARE SHOWN TO ILLUSTRATE THE INTENT. IF A DIFFERENT DEVICE IS USED. CONTRACTOR TO UPDATE DRAWINGS AS NECESSARY TO REFLECT CHANGES.
3. CIRCUIT BREAKER CONDITION SIGNAL CONTACTS SHOWN IN NON-ALARM STATE WITH BREAKERS "CLOSED".
4. CONTRACTOR TO VERIFY THAT THE CONTACTS SHOWN ARE THE BELL ALARMS CONTACTS. IF NOT, CONTRACTOR SHALL WIRED THE BELL ALARMS CONTACTS TO THE ANNUNCIATOR.
5. ONLY PROVIDE THE ALARMS IF THE EXISTING BREAKERS HAS BELL ALARM CONTACT.



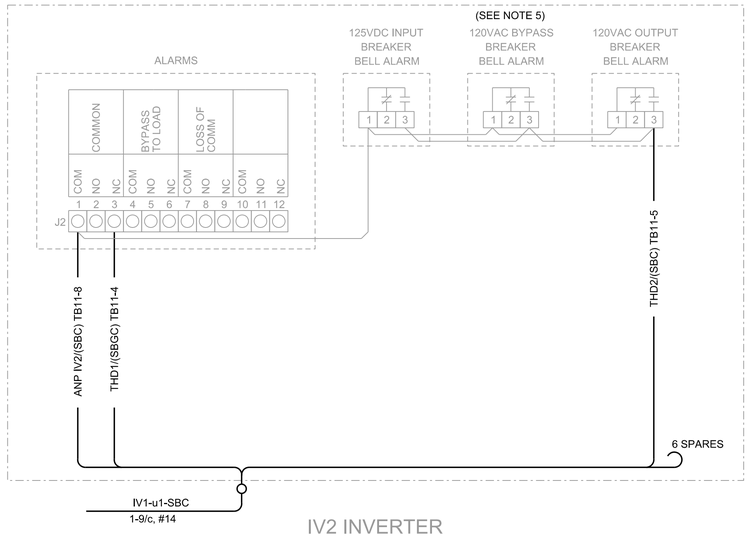
BC1 BATTERY CHARGER



IV1 INVERTER



BC2 BATTERY CHARGER



IV2 INVERTER

BATTERY CHARGERS & INVERTERS WIRING DIAGRAM

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
SIZE: ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-SW42713
FILENAME: V5-LGP1.002-E-707.dgn

U.S. ARMY CORPS OF ENGINEERS
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WALLA WALLA, WASHINGTON

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HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

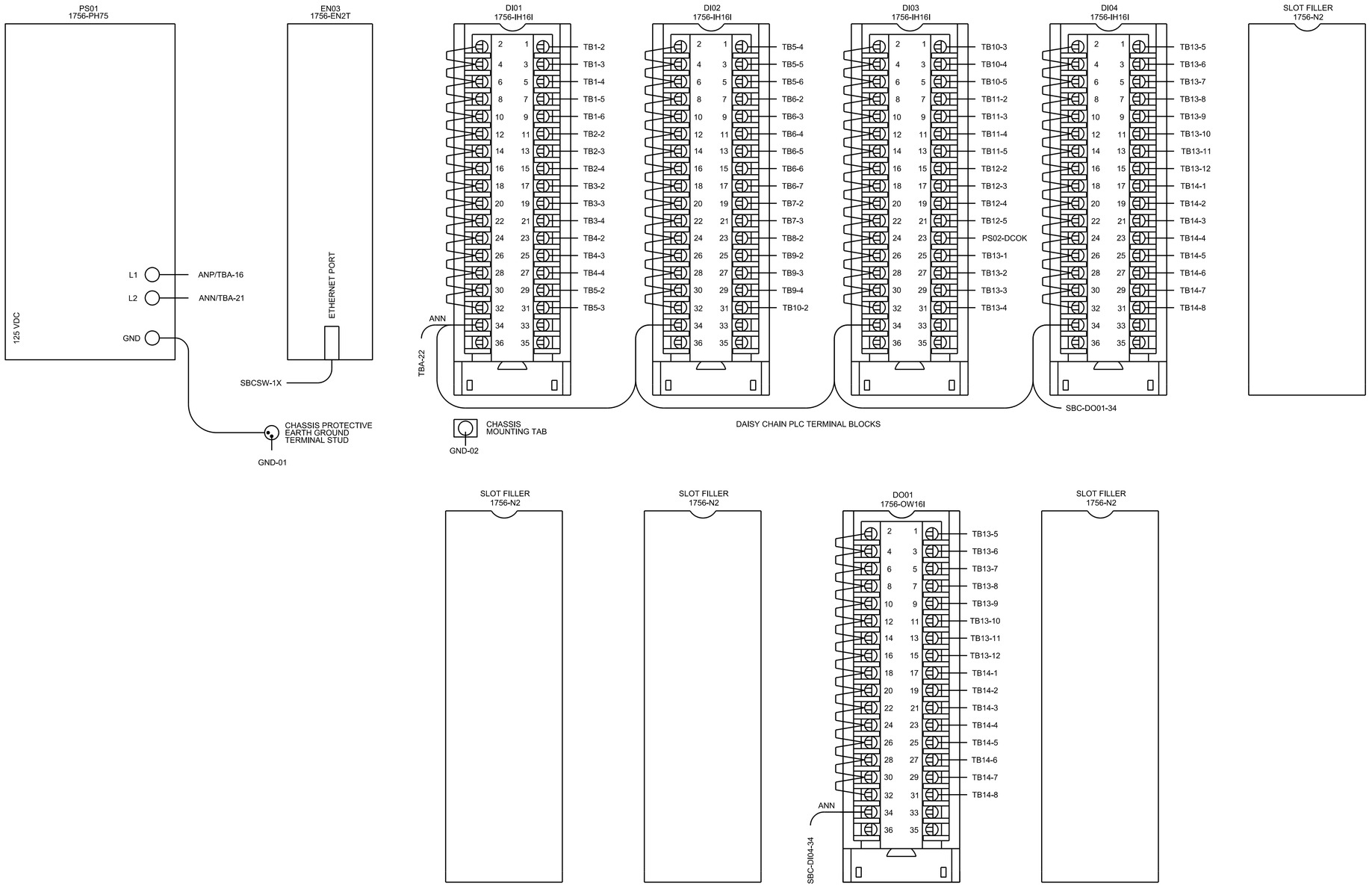
BATTERY CHARGERS
WIRING DIAGRAM
INSTALL

SHEET ID
VOLUME 5
E-707

FINAL

GENERAL NOTES:

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.



A1 SBC PLC MODULE WIRING DIAGRAM

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	K. SIRACUSA
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. FINK, P.E.
SIZE:	ANSI D
ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-6-9/42/14
FILENAME:	V5-LGP1.002-E-708.dgn

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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SBC PLC MODULE
WIRING DIAGRAM
SHEET 1 OF 4 - INSTALL

SHEET ID
VOLUME 5
E-708

FINAL

GENERAL NOTES:

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.

(BATTERY ROOM) BR-u1-SBC 9C#14

TB1 TERMINAL BLOCK

BLK	1	ANP	TBA-7
WHT	2	TBRVF	DI01-1
RED	3	THYD1	DI01-3
GRN	4	THYD2	DI01-5
ORN	5	TBSD1	DI01-7
BLU	6	TBM1	DI01-9
WHT/BLK	7		
RED/BLK	8		
GRN/BLK	9		
	10		
	11		
	12		

(BATTERY CHARGER 1) BC1-u1-SBC 9C#14

TB2 TERMINAL BLOCK

BLK	1	ANP	TBA-7
WHT	2	TED1	DI01-11
RED	3	TED2	DI01-13
GRN	4	TED3	DI01-15
ORN	5		
BLU	6		
WHT/BLK	7		
RED/BLK	8		
GRN/BLK	9		
	10		
	11		
	12		

(BATTERY CHARGER 2) BC2-u1-SBC 9C#14

TB3 TERMINAL BLOCK

BLK	1	ANP	TBA-8
WHT	2	TEE1	DI01-17
RED	3	TEE2	DI01-19
GRN	4	TEE3	DI01-21
ORN	5		
BLU	6		
WHT/BLK	7		
RED/BLK	8		
GRN/BLK	9		
	10		
	11		
	12		

SB1-u1-SBC (SB1) 9C#14

TB4 TERMINAL BLOCK

BLK	1	ANP	TBA-8
WHT	2	TBE1	DI01-23
RED	3	TSB2A	DI01-25
GRN	4	TSB2B	DI01-27
ORN	5		
BLU	6		
WHT/BLK	7		
RED/BLK	8		
GRN/BLK	9		
	10		
	11		
	12		

SB2A-u1-SBC (SB2A) 9C#14

TB5 TERMINAL BLOCK

BLK	1	ANP	TBA-9
WHT	2	TEB1	DI01-29
RED	3	TEB4	DI01-31
GRN	4	TEB2	DI02-1
ORN	5	TEB6	DI02-3
BLU	6	TEB3	DI02-5
WHT/BLK	7		
RED/BLK	8		
GRN/BLK	9		
	10		
	11		
	12		

SB2B-u1-SBC (SB2B) 9C#14

TB6 TERMINAL BLOCK

BLK	1	ANP	TBA-9
WHT	2	TEC1	DI02-7
RED	3	TEC4	DI02-9
GRN	4	TEC2	DI02-11
ORN	5	TEC6	DI02-13
BLU	6	TEC3	DI02-15
WHT/BLK	7	TEC5	DI02-17
RED/BLK	8		
GRN/BLK	9		
	10		
	11		
	12		

CQ05-u1-SBC (CQ05) 9C#14

TB7 TERMINAL BLOCK

BLK	1	ANP	TBA-10
WHT	2	TQA1	DI02-19
RED	3	TQA2	DI02-21
GRN	4		
ORN	5		
BLU	6		
WHT/BLK	7		
RED/BLK	8		
GRN/BLK	9		
	10		
	11		
	12		

CH1-u1-SBC (CH1A) 9C#14

TB8 TERMINAL BLOCK

BLK	1	ANP	TBA-10
WHT	2	TH5	DI02-23
RED	3		
GRN	4		
ORN	5		
BLU	6		
WHT/BLK	7		
RED/BLK	8		
GRN/BLK	9		
	10		
	11		
	12		

CH1A-u1-SBC (CH1A) 9C#14

TB9 TERMINAL BLOCK

BLK	1	ANP	TBA-11
WHT	2	THA5	DI02-25
RED	3	THA3	DI02-27
GRN	4	THA4	DI02-29
ORN	5		
BLU	6		
WHT/BLK	7		
RED/BLK	8		
GRN/BLK	9		
	10		
	11		
	12		

CH1B-u1-SBC (CH1B) 9C#14

TB10 TERMINAL BLOCK

BLK	1	ANP	TBA-11
WHT	2	THB5	DI02-31
RED	3	THB3	DI03-1
GRN	4	THB4	DI03-3
ORN	5	THB6	DI03-5
BLU	6		
WHT/BLK	7		
RED/BLK	8		
GRN/BLK	9		
	10		
	11		
	12		

(INVERTER 1) IV1-u1-SBC 9C#14

TB11 TERMINAL BLOCK

BLK	1	ANP	TBA-12
WHT	2	THC1	DI03-7
RED	3	THC2	DI03-9
GRN	4	THC3	DI03-11
ORN	5	THC4	DI03-13
BLU	6		
WHT/BLK	7		
RED/BLK	8		
GRN/BLK	9		
	10		
	11		
	12		

(INVERTER 2) IV2-u1-SBC 9C#14

TB12 TERMINAL BLOCK

BLK	1	ANP	TBA-12
WHT	2	THD1	DI03-15
RED	3	THD2	DI03-17
GRN	4	THD3	DI03-19
ORN	5	THD4	DI03-21
BLU	6		
WHT/BLK	7		
RED/BLK	8		
GRN/BLK	9		
	10		
	11		
	12		

TB13 TERMINAL BLOCK

1	SPARE	DI03-25
2	SPARE	DI03-27
3	SPARE	DI03-29
4	SPARE	DI03-31
5	SPARE	DI04-1
6	SPARE	DI04-3
7	SPARE	DI04-5
8	SPARE	DI04-7
9	SPARE	DI04-9
10	SPARE	DI04-11
11	SPARE	DI04-13
12	SPARE	DI04-15

TB14 TERMINAL BLOCK

1	SPARE	DI04-17
2	SPARE	DI04-19
3	SPARE	DI04-21
4	SPARE	DI04-23
5	SPARE	DI04-25
6	SPARE	DI04-27
7	SPARE	DI04-29
8	SPARE	DI04-31
9		
10		
11		
12		

SBC-u1-ER21 (ER21) 9C#14

TB15 TERMINAL BLOCK

BLK	1	SBCTRBL7	K00-7
WHT	2	SBCTRBL4	K00-4
7 SPARE	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
	11		
	12		

A1 SBC PLC WIRING DIAGRAM

SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
K. SIRACUSA	AUGUST 2022
DRAWN BY:	SOLICITATION NO.:
B. MASOUMPANAH	W912EF22R0001
CHECKED BY:	CONTRACT NO.:
D. DINH	DRAWING NUMBER:
SUBMITTED BY:	LGP-1.002-E-SW42115
JORDAN S. FINK, P.E.	SIZE: FILENAME:
ANSI D	V5-LGP1.002-E-709.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

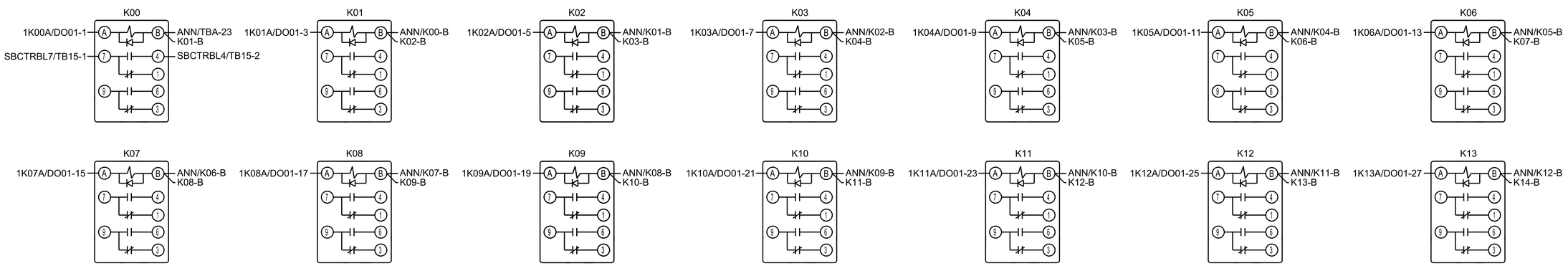
SBC TERMINAL BLOCKS
WIRING DIAGRAM
SHEET 2 OF 4 - INSTALL

SHEET ID
VOLUME 5
E-709

FINAL

GENERAL NOTES

1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.



A1 SBC AUXILIARY RELAY WIRING DIAGRAM
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SIRACUSA	ISSUE DATE: AUGUST 2022
DRAWN BY: B. MASOUMPANAH	SOLICITATION NO.: W912EF22R0001
CHECKED BY: D. DINH	CONTRACT NO.:
SUBMITTED BY: JORDAN S. FINK, P.E.	DRAWING NUMBER: LGP-1.002-6-SHA2716
SIZE: ANSI D	FILENAME: V5-LGP1.002-E-710.dgn

U.S. ARMY CORPS OF ENGINEERS
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LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

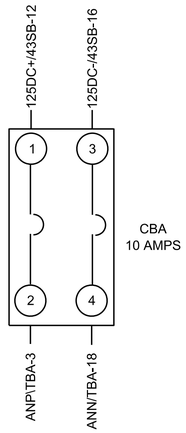
SBC AUXILIARY RELAYS
WIRING DIAGRAM
SHEET 3 OF 4 - INSTALL

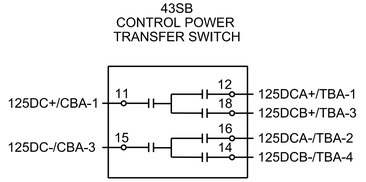
SHEET ID
VOLUME 5
E-710

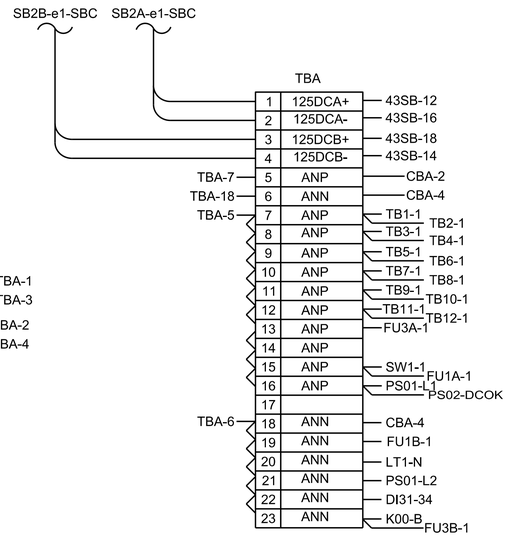
FINAL

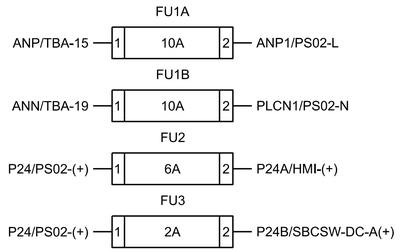
GENERAL NOTES

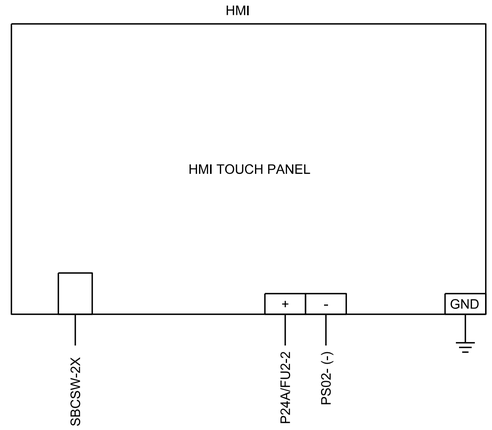
1. ITEMS IN BOLD INDICATE EQUIPMENT TO BE INSTALLED.

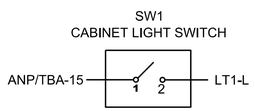


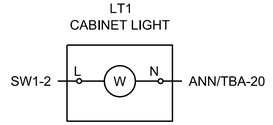


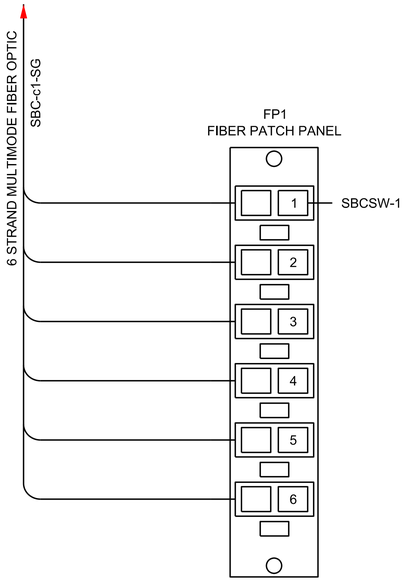


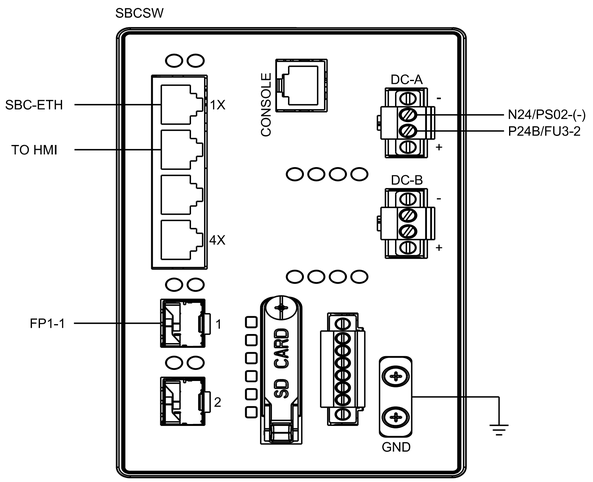


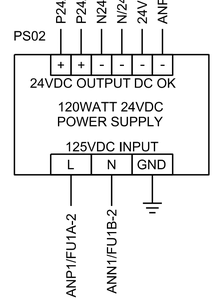












A1 SBC MISC EQUIPMENT WIRING DIAGRAM
SCALE: NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K. SIRACUSA
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-E-SHA2177
SHEET: E-711
FILENAME: V5-LGP1.002-E-711.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

SBC MISC EQUIPMENT
WIRING DIAGRAM
SHEET 4 OF 4 - INSTALL

SHEET ID
VOLUME 5
E-711

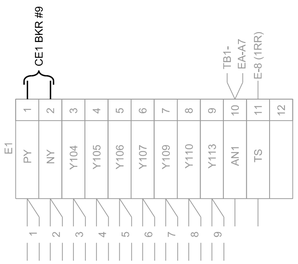
FINAL

GENERAL NOTES:

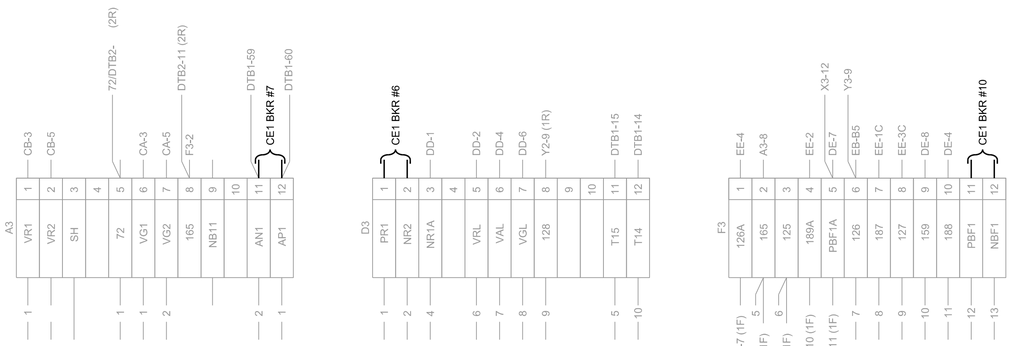
1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED.
2. DESTINATION OF THESE WIRES TO BE FIELD VERIFIED.
3. NEW PREFERRED AC SUPPLY CABLES FOR S-BOARD #1 LOCATED AT THE GDACS RTU CABINET. CONTRACTOR WILL INSTALL A SMALL PANEL FOR THE TWO FEEDS FROM CH1A AND CH1B.

REFERENCE DRAWINGS:

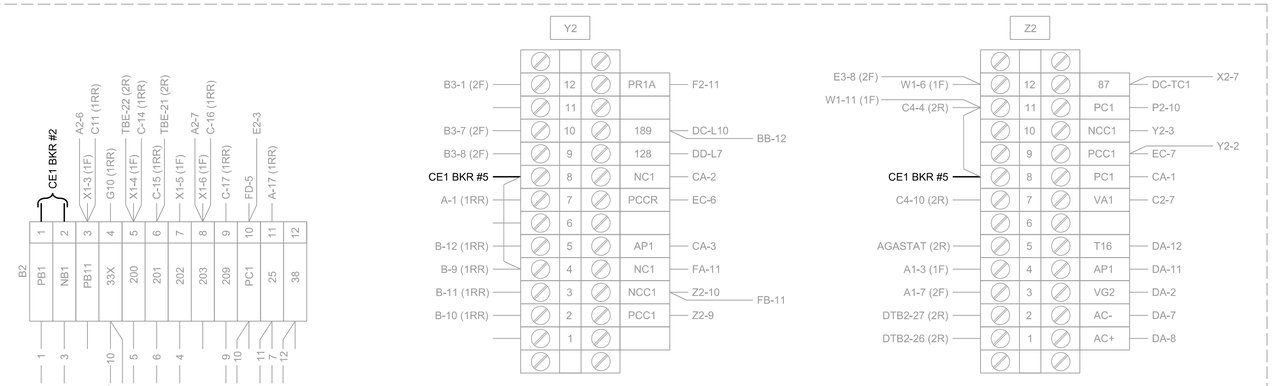
DRAWING NO.	TITLE
LGP-9-6-13/46	SWITCHBOARD WIRING DIAGRAM PANEL S11
LGP-9-6-13/47	SWITCHBOARD WIRING DIAGRAM PANEL S12
LGP-9-6-13/48	SWITCHBOARD WIRING DIAGRAM PANEL S1R1
LGP-9-6-13/49	SWITCHBOARD WIRING DIAGRAM PANEL S1R2
LGP-9-6-13/50	SWITCHBOARD WIRING DIAGRAM PANEL S1R1R



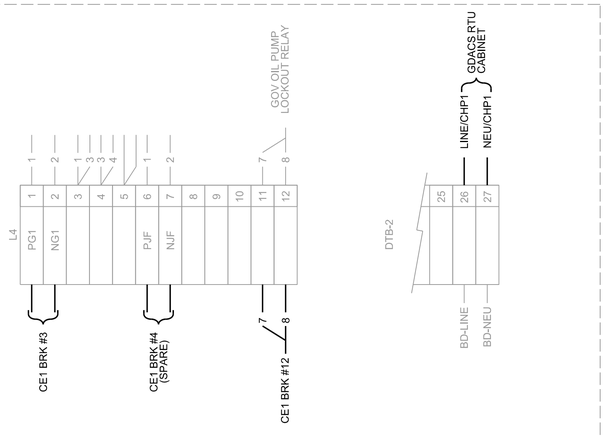
GEN. SWITCHBOARD S11
WIRING DIAGRAM (1F)



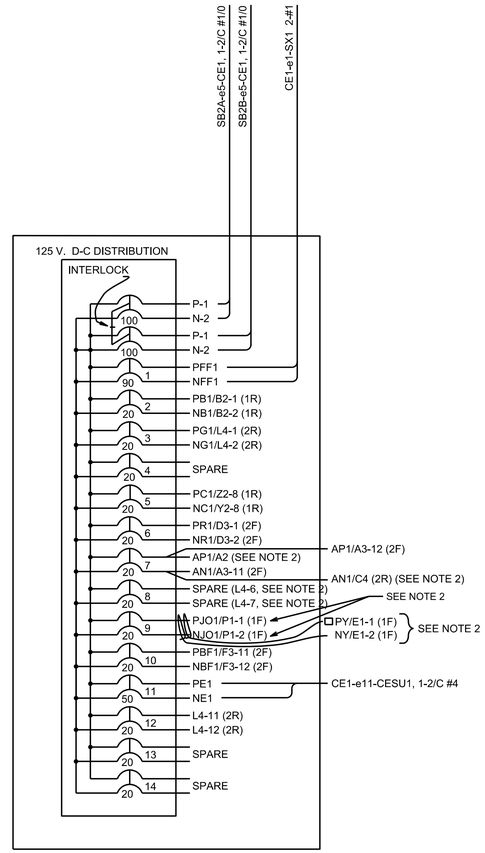
GEN. SWITCHBOARD S12
WIRING DIAGRAM (2F)



GEN. SWITCHBOARD S1R1
WIRING DIAGRAM (1R)



GEN. SWITCHBOARD S1R2
WIRING DIAGRAM (2R)



CE1

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINLAY, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9/46/9
SIZE: F FILENAME: V5-LGP1.002-E-712.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MAIN UNIT GENERATOR
SWITCHBOARD S11, S12, S1R1, S1R2, WIRING DIAGRAM
INSTALL

SHEET ID
VOLUME 5
E-712

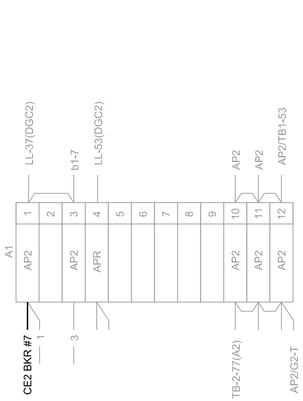
FINAL

GENERAL NOTES:

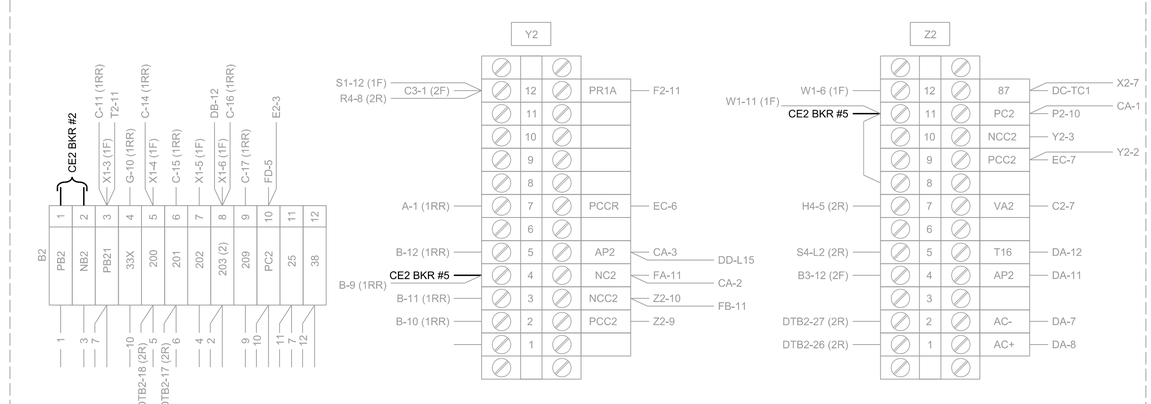
1. BOLD ITEMS INDICATE EQUIPMENT TO BE REMOVED.
2. DESTINATION OF THESE WIRES TO BE FIELD VERIFIED.
3. NEW PREFERRED AC SUPPLY CABLES FOR S-BOARD #2 LOCATED AT THE GDACS RTU CABINET. CONTRACTOR WILL INSTALL A SMALL PANEL FOR THE TWO FEEDS FROM CH1A AND CH1B.

REFERENCE DRAWINGS:

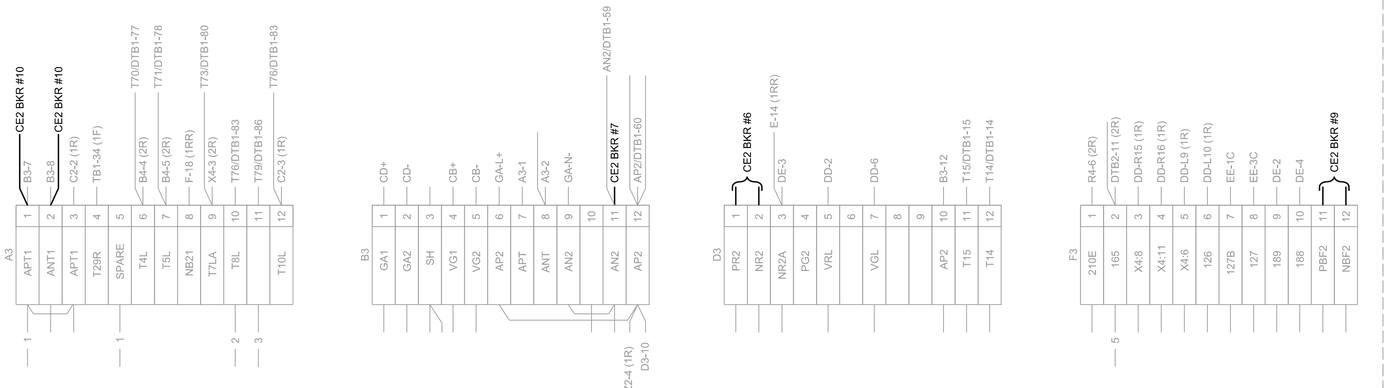
DRAWING NO.	TITLE
LGP-9-6-13/51	SWITCHBOARD WIRING DIAGRAM PANEL S21
LGP-9-6-13/52	SWITCHBOARD WIRING DIAGRAM PANEL S22
LGP-9-6-13/53	SWITCHBOARD WIRING DIAGRAM PANEL S2R1
LGP-9-6-13/54	SWITCHBOARD WIRING DIAGRAM PANEL S2R2
LGP-9-6-13/55	SWITCHBOARD WIRING DIAGRAM PANEL S2R1R



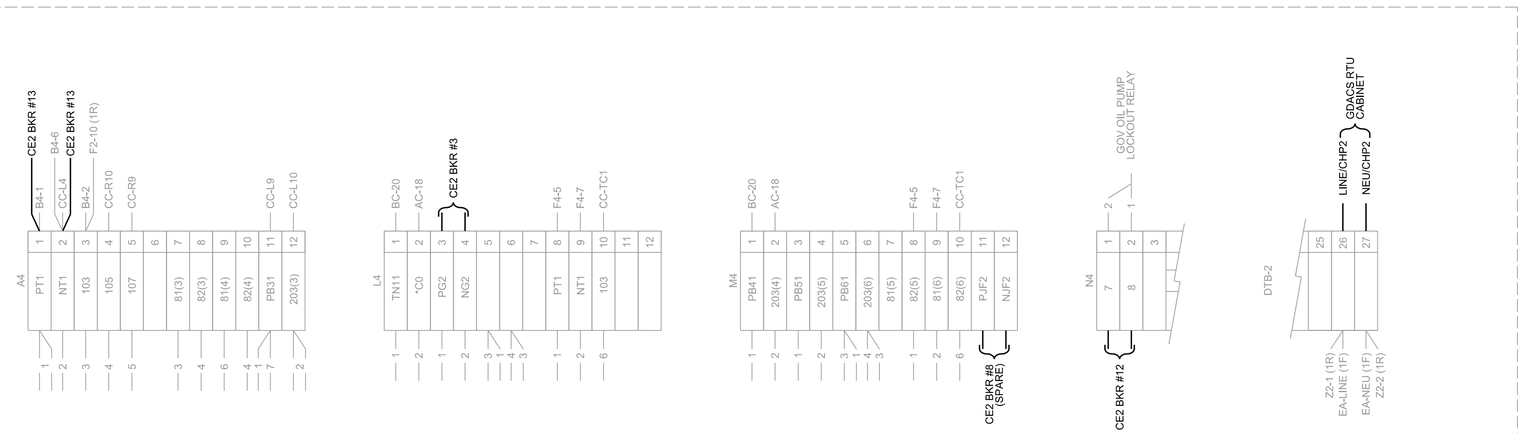
GEN. SWITCHBOARD S21
WIRING DIAGRAM (1F)



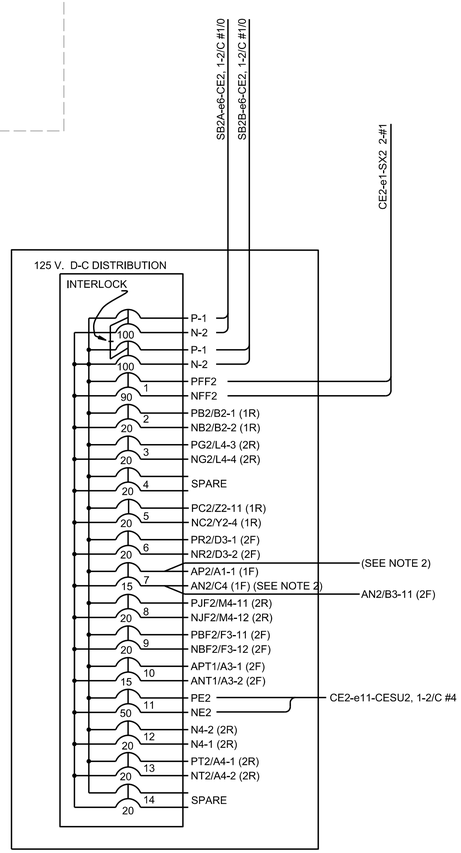
GEN. SWITCHBOARD S2R1
WIRING DIAGRAM (1R)



GEN. SWITCHBOARD S22
WIRING DIAGRAM (2F)



GEN. SWITCHBOARD S2R2
WIRING DIAGRAM (2R)



CE2

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: P.E.
JORDAN S. FINK, P.E.
ANSI D

ISSUE DATE: AUGUST 2022
SOLICITATION NO.:
W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-S9-46/10
SIZE: FILE NAME: V5-LGP1.002-E-713.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

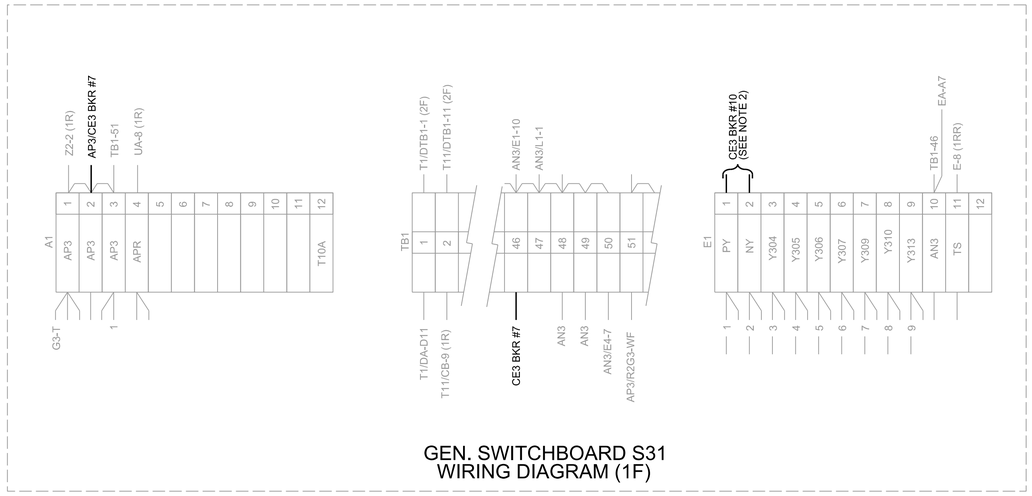
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

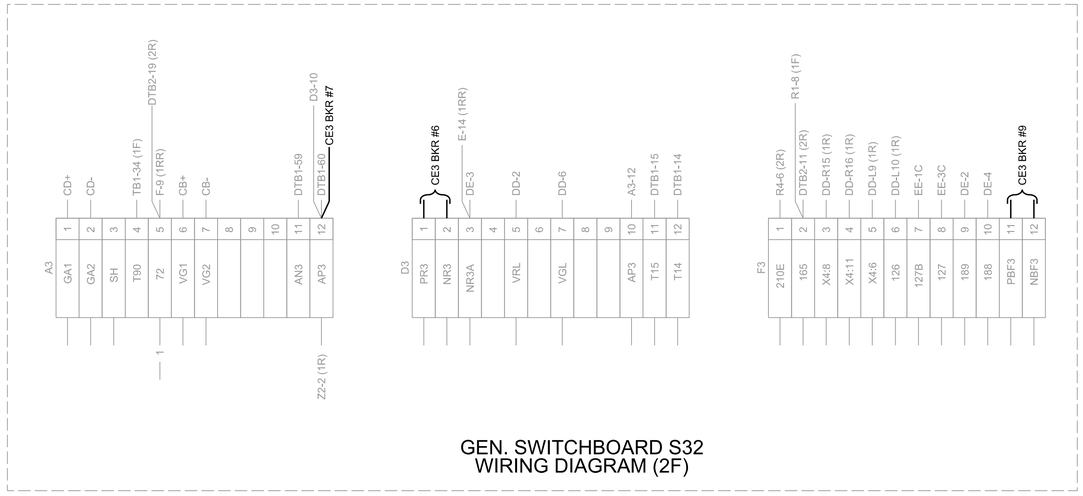
MAIN UNIT GENERATOR
S21, S2R1, S22, S2R2 WIRING DIAGRAM
INSTALL

SHEET ID
VOLUME 5
E-713

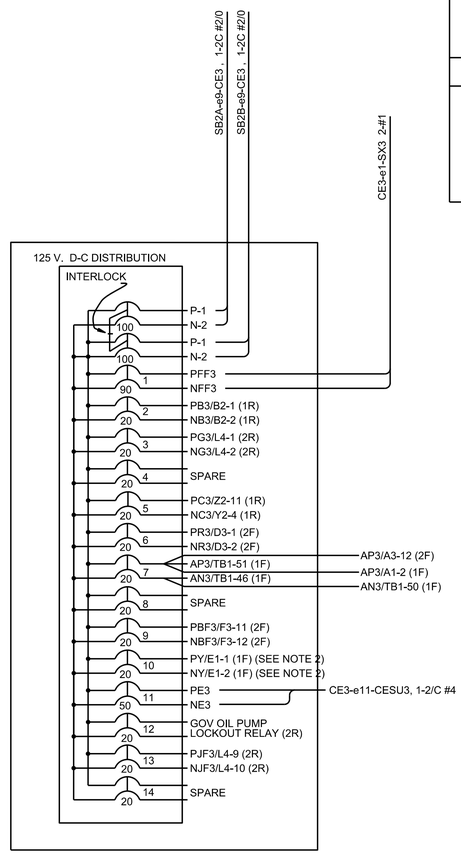
FINAL



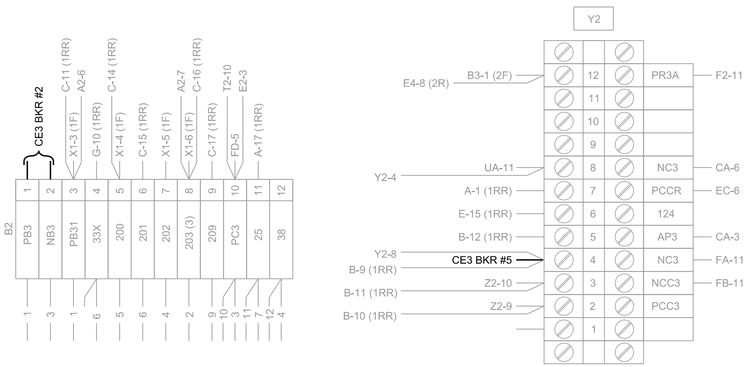
GEN. SWITCHBOARD S31
WIRING DIAGRAM (1F)



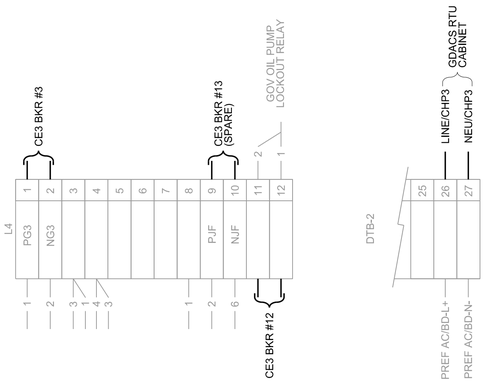
GEN. SWITCHBOARD S32
WIRING DIAGRAM (2F)



CE3



GEN. SWITCHBOARD S3R1
WIRING DIAGRAM (1R)



GEN. SWITCHBOARD S3R2
WIRING DIAGRAM (2R)

GENERAL NOTES:

1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED.
2. DESTINATION OF THESE WIRES TO BE FIELD VERIFIED.
3. NEW PREFERRED AC SUPPLY CABLES FOR S-BOARD #3 LOCATED AT THE GDACS RTU CABINET. CONTRACTOR WILL INSTALL A SMALL PANEL FOR THE TWO FEEDS FROM CH1A AND CH1B.

REFERENCE DRAWINGS:

DRAWING NO.	TITLE
LGP-9-6-13/56	SWITCHBOARD WIRING DIAGRAM PANEL S31
LGP-9-6-13/57	SWITCHBOARD WIRING DIAGRAM PANEL S32
LGP-9-6-13/58	SWITCHBOARD WIRING DIAGRAM PANEL S3R1
LGP-9-6-13/59	SWITCHBOARD WIRING DIAGRAM PANEL S3R2
LGP-9-6-13/60	SWITCHBOARD WIRING DIAGRAM PANEL S3R1R

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINK, P.E.
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-SW46/11
SIZE: FILENAME: V5-LGP1.002-E-714.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MAIN UNIT GENERATOR
S31, S32, S3R2, S3R1 WIRING DIAGRAM
INSTALL

SHEET ID
VOLUME 5
E-714

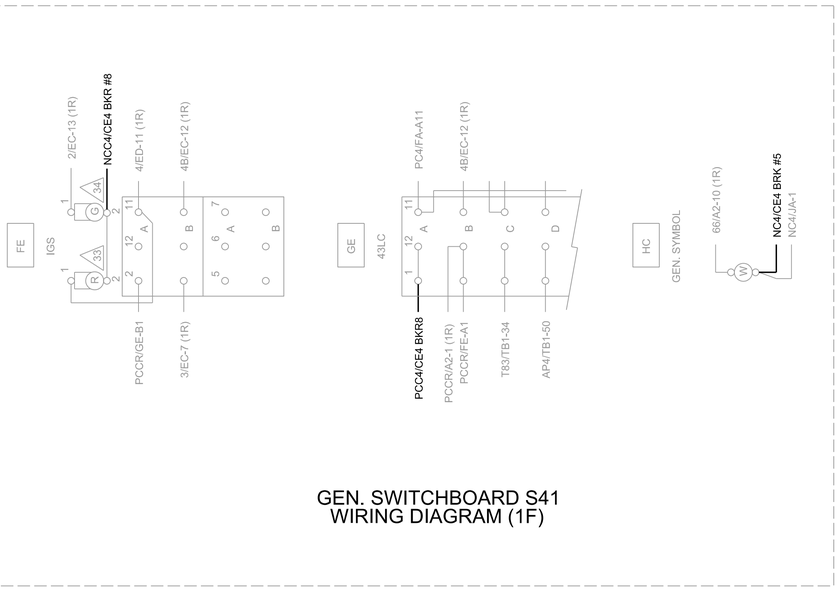
FINAL

GENERAL NOTES:

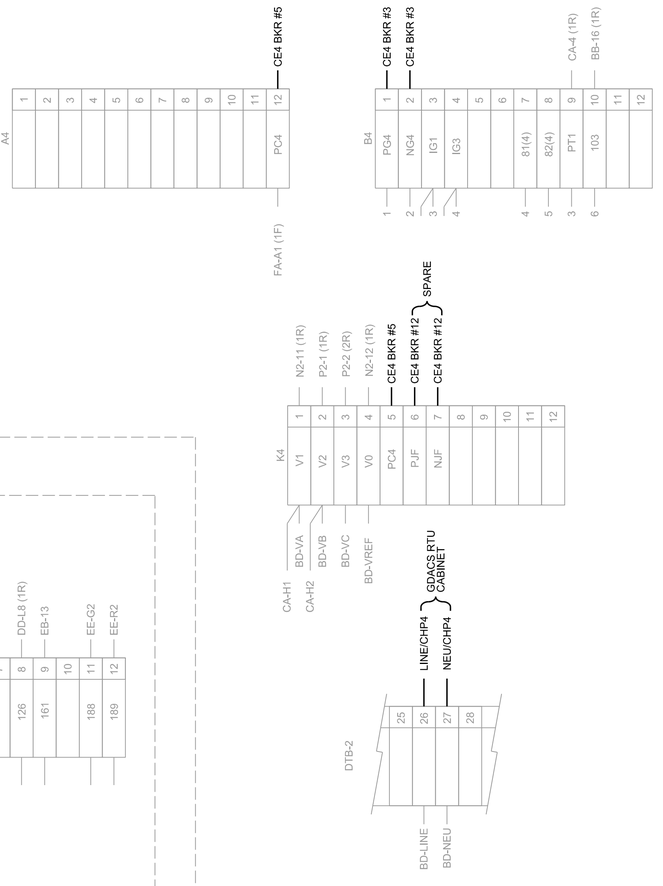
1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED.
2. DESTINATION OF THESE WIRES TO BE FIELD VERIFIED.
3. NEW PREFERRED AC SUPPLY CABLES FOR S-BOARD #4 LOCATED AT THE GDACS RTU CABINET. CONTRACTOR WILL INSTALL A SMALL PANEL FOR THE TWO FEEDS FROM CH1A AND CH1B.

REFERENCE DRAWINGS:

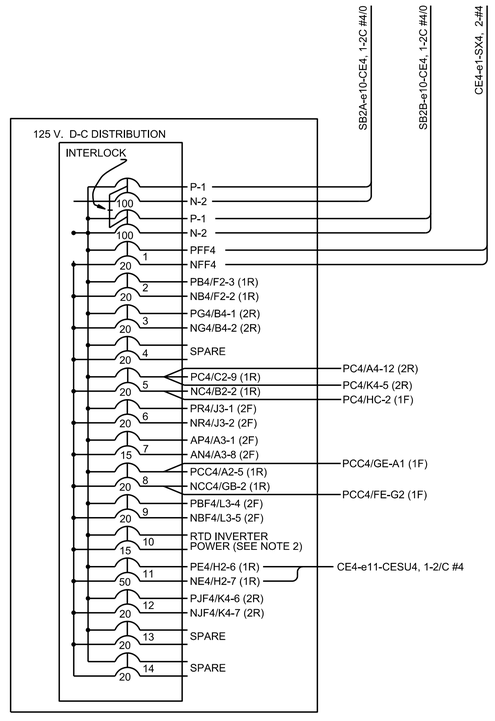
DRAWING NO.	TITLE
LGP-9-6-13/61	SWITCHBOARD WIRING DIAGRAM PANEL S41
LGP-9-6-13/62	SWITCHBOARD WIRING DIAGRAM PANEL S42
LGP-9-6-13/63	SWITCHBOARD WIRING DIAGRAM PANEL S4R1
LGP-9-6-13/64	SWITCHBOARD WIRING DIAGRAM PANEL S4R2
LGP-9-6-13/65	SWITCHBOARD WIRING DIAGRAM PANEL S4R1R



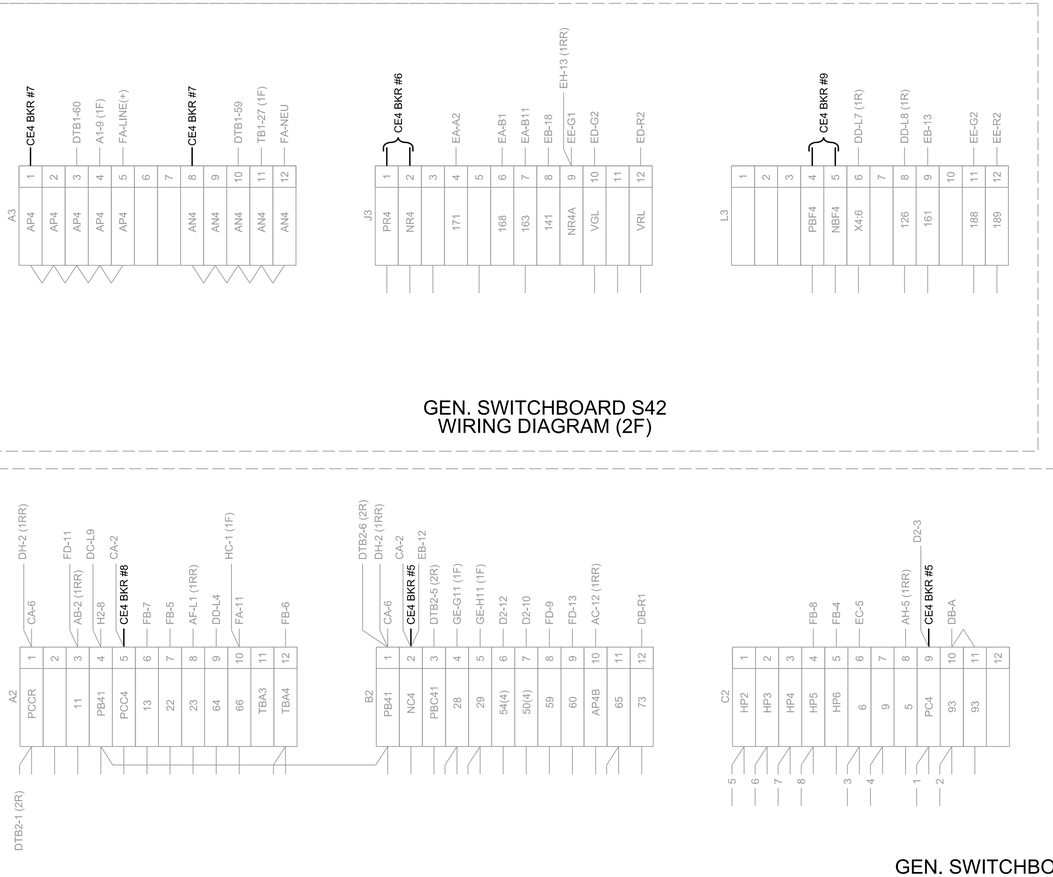
GEN. SWITCHBOARD S41
WIRING DIAGRAM (1F)



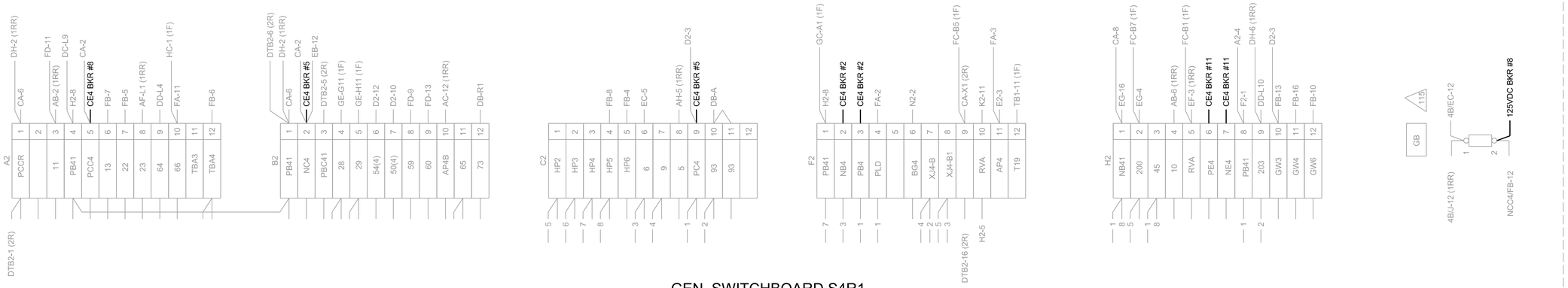
GEN. SWITCHBOARD S4R2
WIRING DIAGRAM (2R)



CE4



GEN. SWITCHBOARD S42
WIRING DIAGRAM (2F)



GEN. SWITCHBOARD S4R1
WIRING DIAGRAM (1R)

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MAIN UNIT GENERATOR
S41, S42, S4R2, S4R1 WIRING DIAGRAM
INSTALL

SHEET ID
VOLUME 5
E-715

FINAL

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	L. SUPPAN
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. TINKLE, P.E.
SPEC. WRITER:	ANSI D
ISSUE DATE:	AUGUST 2022
SOLICITATION NO.:	W912EF22R0001
CONTRACT NO.:	
DRAWING NUMBER:	LGP-1.002-6-SW46712
FILENAME:	V5-LGP1.002-E-715.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

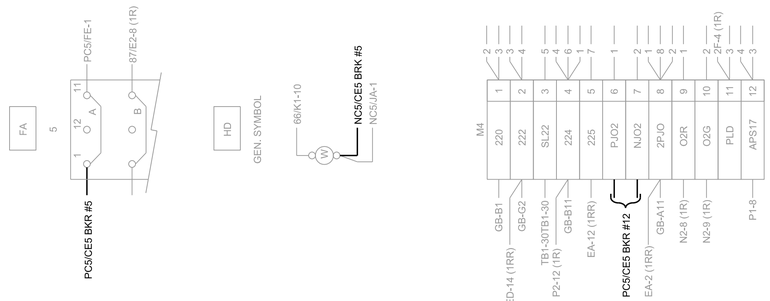
U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

GENERAL NOTES

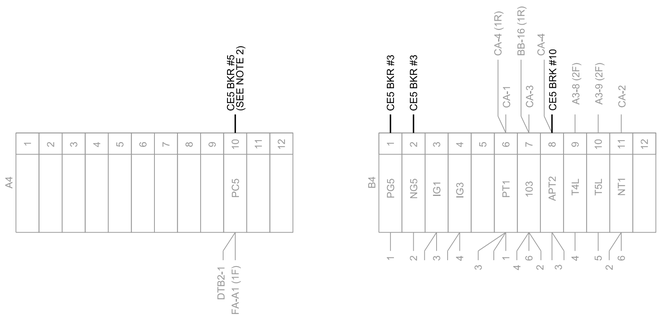
1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED.
2. DESTINATION OF THESE WIRES TO BE FIELD VERIFIED.
3. NEW PREFERRED AC SUPPLY CABLES FOR S-BOARD #5 LOCATED AT THE GDACS RTU CABINET. CONTRACTOR WILL INSTALL A SMALL PANEL FOR THE TWO FEEDS FROM CH1A AND CH1B.

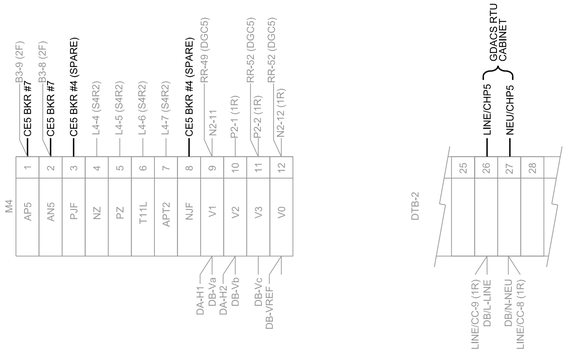
REFERENCE DRAWINGS

DRAWING NO.	TITLE
LGP-9-6-13/66	SWITCHBOARD WIRING DIAGRAM PANEL S51
LGP-9-6-13/67	SWITCHBOARD WIRING DIAGRAM PANEL S52
LGP-9-6-13/68	SWITCHBOARD WIRING DIAGRAM PANEL S5R1
LGP-9-6-13/69	SWITCHBOARD WIRING DIAGRAM PANEL S5R2
LGP-9-6-13/70	SWITCHBOARD WIRING DIAGRAM PANEL S5R1R

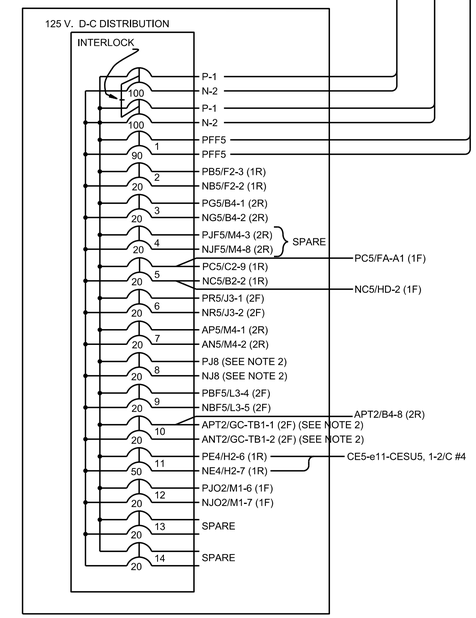


GEN SWITCHBOARD S51
WIRING DIAGRAM (1F)

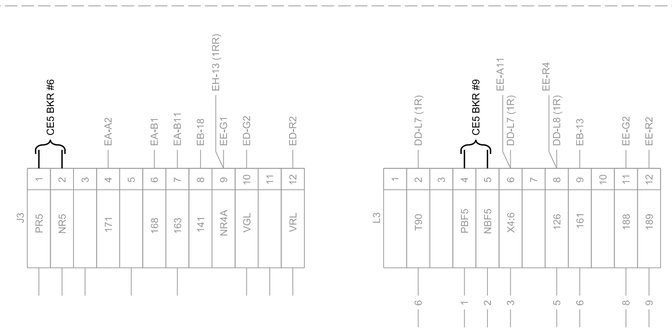




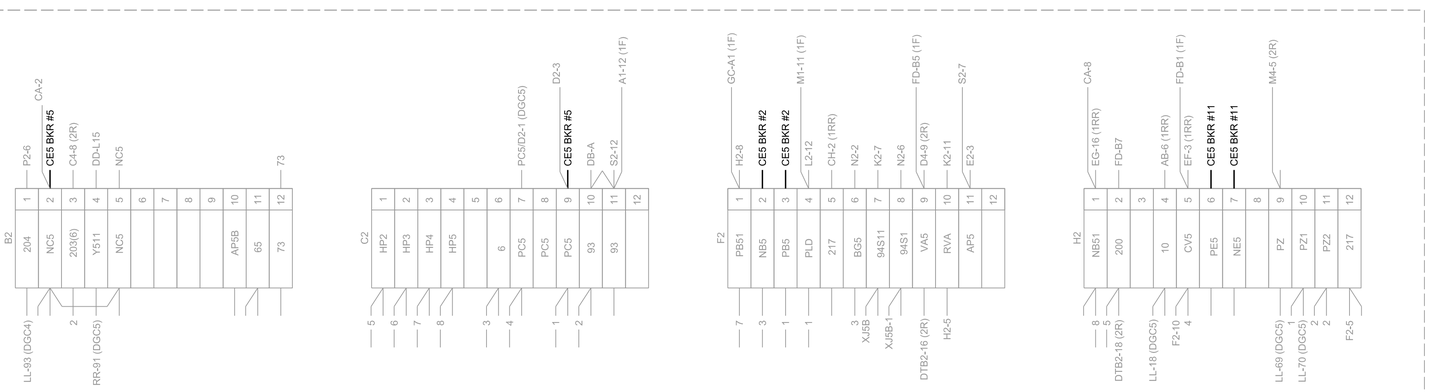
GEN SWITCHBOARD S5R2
WIRING DIAGRAM (2R)



CE5



GEN SWITCHBOARD S52
WIRING DIAGRAM (2F)



GEN SWITCHBOARD S5R1
WIRING DIAGRAM (1R)

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	L. SUPPAN
DRAWN BY:	B. MASOUMPANAH
CHECKED BY:	D. DINH
SUBMITTED BY:	JORDAN S. FINK, P.E.
ANSI D	

ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-9/46/13
SHEET: E-716 FILENAME: V5-LGP1.002-E-716.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MAIN UNIT GENERATOR
SWITCHBOARD, S51, S52, S5R1, S5R2 WIRING DIAGRAM
INSTALL

SHEET ID
VOLUME 5
E-716

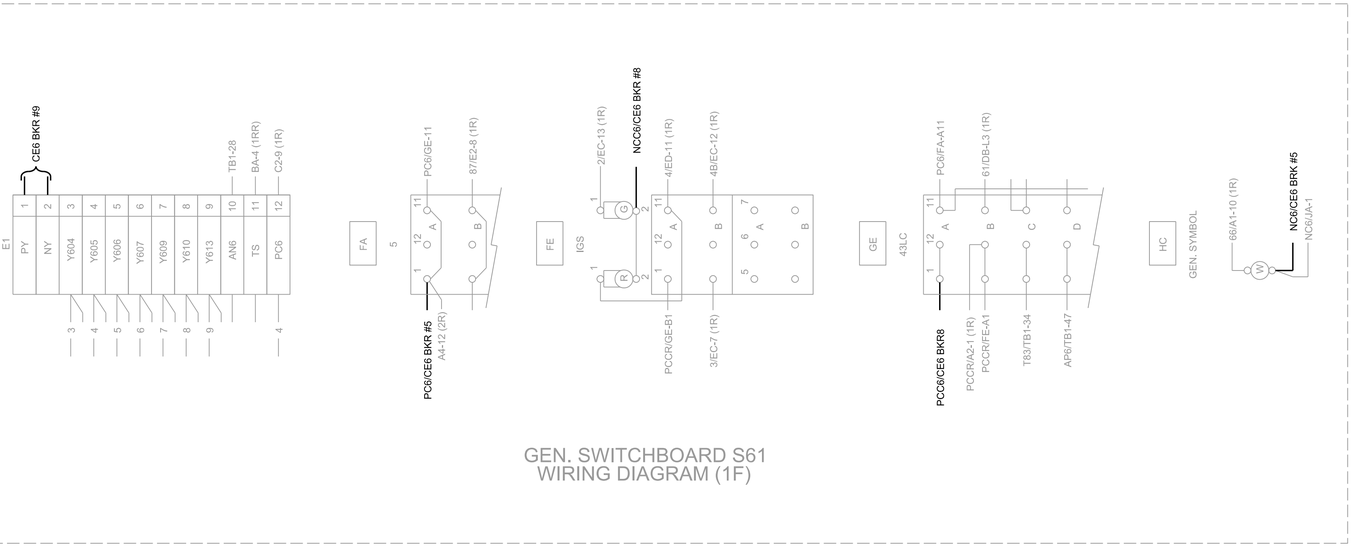
FINAL

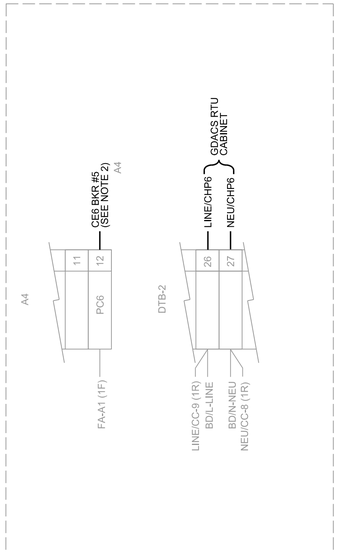
GENERAL NOTES

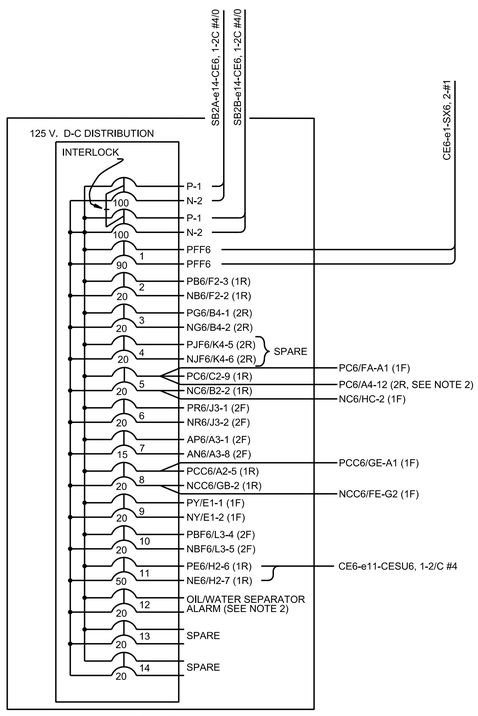
1. BOLD ITEMS INDICATE EQUIPMENT TO BE INSTALLED.
2. DESTINATION OF THESE WIRES TO BE FIELD VERIFIED.
3. NEW PREFERRED AC SUPPLY CABLES FOR S-BOARD #6 LOCATED AT THE GDACS RTU CABINET. CONTRACTOR WILL INSTALL A SMALL PANEL FOR THE TWO FEEDS FROM CH1A AND CH1B.

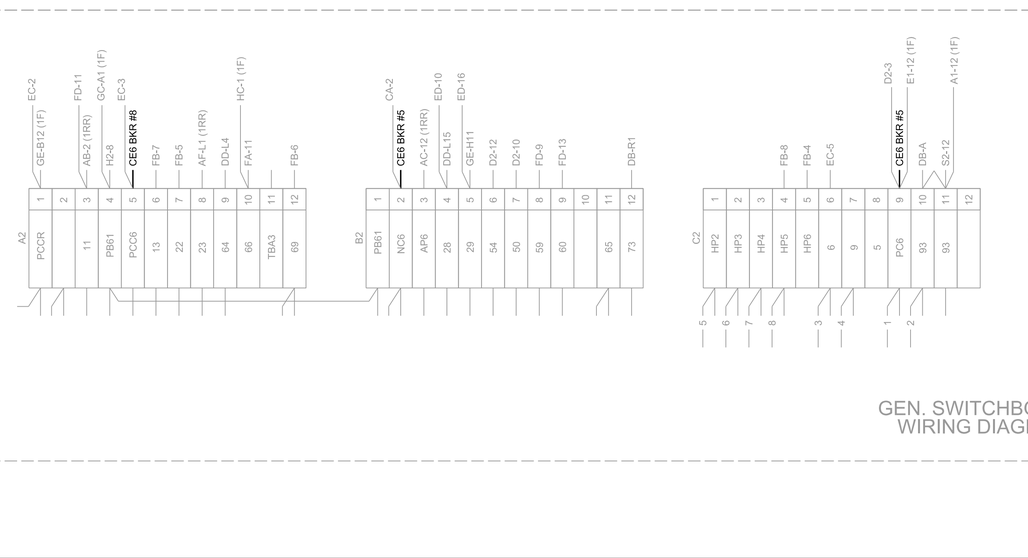
REFERENCE DRAWINGS

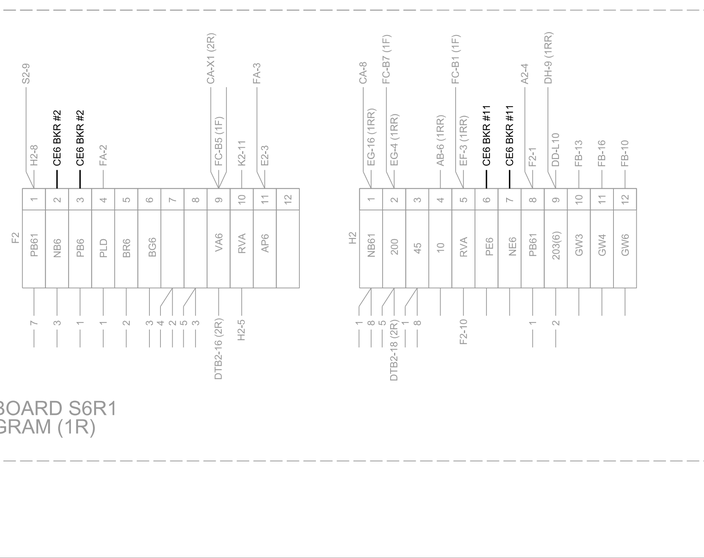
DRAWING NO.	TITLE
LGP-9-6-13/71	SWITCHBOARD WIRING DIAGRAM PANEL S61
LGP-9-6-13/72	SWITCHBOARD WIRING DIAGRAM PANEL S62
LGP-9-6-13/73	SWITCHBOARD WIRING DIAGRAM PANEL S6R1
LGP-9-6-13/74	SWITCHBOARD WIRING DIAGRAM PANEL S6R2
LGP-9-6-13/75	SWITCHBOARD WIRING DIAGRAM PANEL S6R1R











MARK	DESCRIPTION	DATE

DESIGNED BY: L. SUPPAN
DRAWN BY: B. MASOUMPANAH
CHECKED BY: D. DINH
SUBMITTED BY: JORDAN S. FINNEY
ANSI D
ISSUE DATE: AUGUST 2022
SOLICITATION NO.: W912EF22R0001
CONTRACT NO.:
DRAWING NUMBER: LGP-1.002-6-S9A6/14
SIZE: FILE NAME: V5-LGP1.002-E-717.dgn

U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
201 NORTH 3RD AVENUE
WALLA WALLA, WASHINGTON

U.S. ARMY CORPS OF ENGINEERS
HYDROELECTRIC DESIGN CENTER
PORTLAND, OREGON

LITTLE GOOSE LOCK AND DAM
SNAKE RIVER
POWERHOUSE
DC SYSTEM AND LOW VOLTAGE SWITCHGEAR

MAIN UNIT GENERATOR
SWITCHBOARD, S61, S62, S6R1, S6R2 WIRING DIAGRAMS
INSTALL

SHEET ID
VOLUME 5
E-717

FINAL