LAB/ADMIN BUILDING - LAB SPACE CONSTRUCTION PHASING REQUIREMENTS:

THE LAB/ADMIN BUILDING INCLUDES TWO LABORATORY SPACES (LABORATORY 1 - 101 AND LABORATORY 2 - 102). KITSAP COUNTY REQUIRES FULL USE OF AT LEAST ONE LABORATORY SPACE THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS. FULL USE IS DEFINED AS THE FOLLOWING:

- FULLY FUNCTIONAL HVAC SYSTEM FOR SPACE CONDITIONING AND VENTILATION.
- FULLY FUNCTIONAL SPACE LIGHTING.
- TWO FULLY FUNCTIONAL COUNTERTOP MOUNTED OVENS (EXISTING EQUIPMENT).
- ONE FULLY FUNCTIONAL COUNTERTOP MOUNTED AUTOCLAVE (EXISTING EQUIPMENT).
- ONE FULLY FUNCTIONAL FUME HOOD AND ASSOCIATED EXHAUST FAN (EXISTING EQUIPMENT).
- UNOBSTRUCTED ACCESS FROM THE BUILDING EXTERIOR.

LAB/ADMIN BUILDING - LAB SPACE SUGGESTED PHASING PLAN:

THE CONTRACTOR SHALL PROVIDE A PHASING PLAN FOR ALL SCOPE RELATED TO THE LAB/ADMIN BUILDING TO THE DEPARTMENT OF COMMUNITY DEVELOPMENT (DCD) WHEN APPLYING FOR APPLICABLE PERMITS ASSOCIATED WITH THIS PROJECT.

PHASE 1: LABORATORY 1 - 101 REMAINS FULLY FUNCTIONAL. ALL EXISTING EQUIPMENT SERVING THIS SPACE IS FULLY FUNCTIONAL. PERFORM DEMOLITION SCOPE WITHIN LABORATORY 2 - 102. PERFORM NEW CONSTRUCTION WORK IN LABORATORY 2 - 102. COMPLETE TAB AND CX FOR ALL HVAC EQUIPMENT SERVING LABORATORY 2 - 102. THE COUNTY SHALL RELOCATE TWO OVENS (EXISTING EQUIPMENT) AND ONE AUTOCLAVE (EXISTING EQUIPMENT) FROM LABORATORY 1 - 101 TO LABORATORY 2 - 102. LABORATORY 2 - 102 BECOMES FULLY FUNCTIONAL.

PHASE 2: PERFORM DEMOLITION SCOPE WITHIN LABORATORY 1 - 101. PERFORM NEW CONSTRUCTION WORK IN LABORATORY 1 - 101. COMPLETE TAB AND CX FOR ALL HVAC EQUIPMENT SERVING LABORATORY 1 - 101. LABORATORY 1 - 101 BECOMES FULLY FUNCTIONAL. THE COUNTY SHALL RELOCATE EXISTING EQUIPMENT AS NEEDED BETWEEN THE TWO LAB SPACES.

Issued for Construction

KITSAP COUNTY

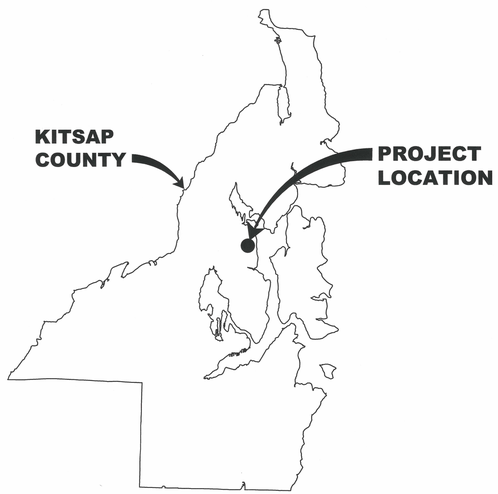
KITSAP COUNTY

CENTRAL KITSAP TREATMENT PLANT (CKTP)
HVAC SYSTEM REPLACEMENT

JUNE 2025

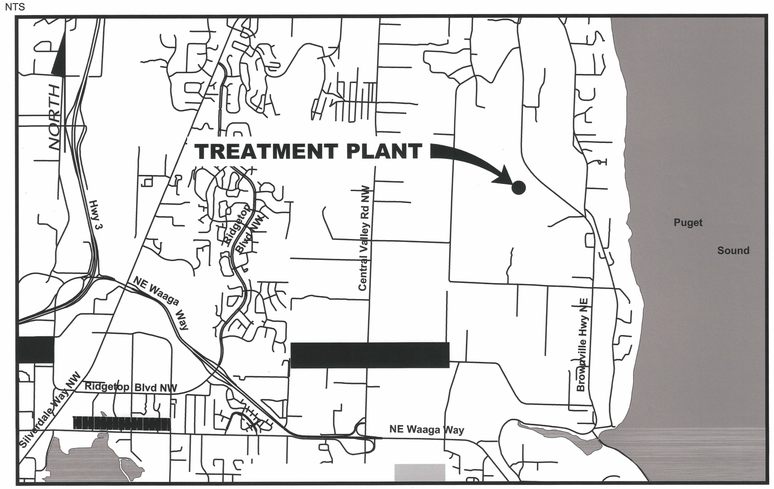
LOCATION MAPS

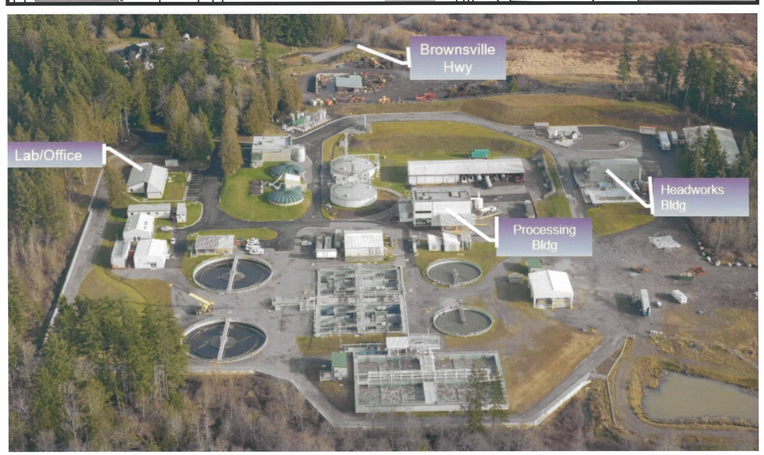
NTS



VICINITY MAP

NTS





COUNTY COMMISSIONERS

Christine Rolfes - District #1
Oran Root - District #2
Katherine T. Walters - District #3

APPROVED BY

1/21/2026
DATE
KORY ANGLESEY, P.E.
DIRECTOR OF PUBLIC WORKS

1/20/2026
DATE
CHRISTOPHER PIERCY
ASST DIRECTOR OF PUBLIC WORKS - UTILITIES

PREPARED BY

fsi ENGINEERS
Seattle // Spokane // Baltimore

IN ASSOCIATION WITH

Mechanical Engineer	- FSi Engineers
Architect	- Rolluda Architects
Structural Engineer	- BHC Consultants, LLC
Electrical Engineer	- FSi Engineers (Lab/Admin Building & Headworks Building)
	- BHC (Process Building)

Path: I:\22051 CKTP HVAC Upgrade\Working Drawi Filename: G0.00 Plot date: Jun 05, 2025-02:20:46pm CAD User: timo.
Xref Filename: | X21-10530_Status |

LAB/ADMIN BUILDING – LAB SPACE CONSTRUCTION PHASING REQUIREMENTS:

THE LAB/ADMIN BUILDING INCLUDES TWO LABORATORY SPACES (LABORATORY 1 – 101 AND LABORATORY 2 – 102). KITSAP COUNTY REQUIRES FULL USE OF AT LEAST ONE LABORATORY SPACE THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS. FULL USE IS DEFINED AS THE FOLLOWING:

- FULLY FUNCTIONAL (OR AS–IS) SPACE CONDITIONING AND VENTILATION.
- FULLY FUNCTIONAL SPACE LIGHTING.
- FULLY FUNCTIONAL ELECTRICITY AND HOT WATER.
- UNOBSTRUCTED ACCESS FROM THE BUILDING EXTERIOR AND TO/FROM INTERIOR RESTROOMS.

LAB/ADMIN BUILDING – LAB SPACE SUGGESTED PHASING PLAN:

THE CONTRACTOR SHALL PROVIDE A PHASING PLAN FOR ALL SCOPE RELATED TO THE LAB/ADMIN BUILDING TO THE DEPARTMENT OF COMMUNITY DEVELOPMENT (DCD) WHEN APPLYING FOR APPLICABLE PERMITS ASSOCIATED WITH THIS PROJECT.

PHASE 1: LAB 1–101 REMAINS FULLY OPERATIONAL, WITH ALL EXISTING EQUIPMENT IN PLACE AND FUNCTIONING (MAINTAIN HOT WATER SUPPLY PIPING TO THIS SPACE THROUGHOUT PHASE 1.) CONTRACTOR COMPLETES DEMOLITION AND CONSTRUCTION IN LAB 2–102, MECHANICAL ROOM 108, AND GENERAL OFFICE 104, THEN COMPLETES TAB AND COMMISSIONING FOR HVAC SYSTEMS SERVING THESE AREAS PRIOR TO OCCUPANCY.

PHASE 2: COUNTY RELOCATES EQUIPMENT FROM LAB 1–101 TO LAB 2–102 (1–2 WORKDAYS). CONTRACTOR COMPLETES DEMOLITION AND CONSTRUCTION IN LAB 1–101 AND THEN COMPLETES TAB AND COMMISSIONING FOR HVAC SYSTEMS SERVING LAB 1–101.

PROJECT SITE INFO

OWNER: KITSAP COUNTY DEPARTMENT OF PUBLIC WORKS/WASTEWATER
614 DIVISION STREET, PORT ORCHARD, WASHINGTON 98366
(206)337–5777

DESIGN MECHANICAL ENGINEER:
FSI ENGINEERS
PIER 54
1001 ALASKAN WY SUITE 200
SEATTLE, WA 98104
(206)622–3321

DESIGN ARCHITECT:
ROLLUDA ARCHITECTS
105 SOUTH MAIN ST SUITE 4S
SEATTLE, WA 98104
(206)624–4222

DESIGN STRUCTURAL ENGINEER:
BHC CONSULTANTS, LLC
950 PACIFIC AVE
TACOMA, WA 98402
(206)505–3400

DESIGN ELECTRICAL ENGINEERS:
FSi ENGINEERS INC. – LAB/ADMIN BUILDING & HEADWORKS
PIER 54
1001 ALASKAN WY SUITE 200
SEATTLE, WA 98104
(206)622–3321

BHC CONSULTANTS, LLC – PROCESS BUILDING
950 PACIFIC AVE
TACOMA, WA 98402
(206)505–3400

DRAWING INDEX

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KEVIN M. CHADWICK
STATE OF WASHINGTON
22329
REGISTERED PROFESSIONAL ENGINEER
09/30/25
SIGNED

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

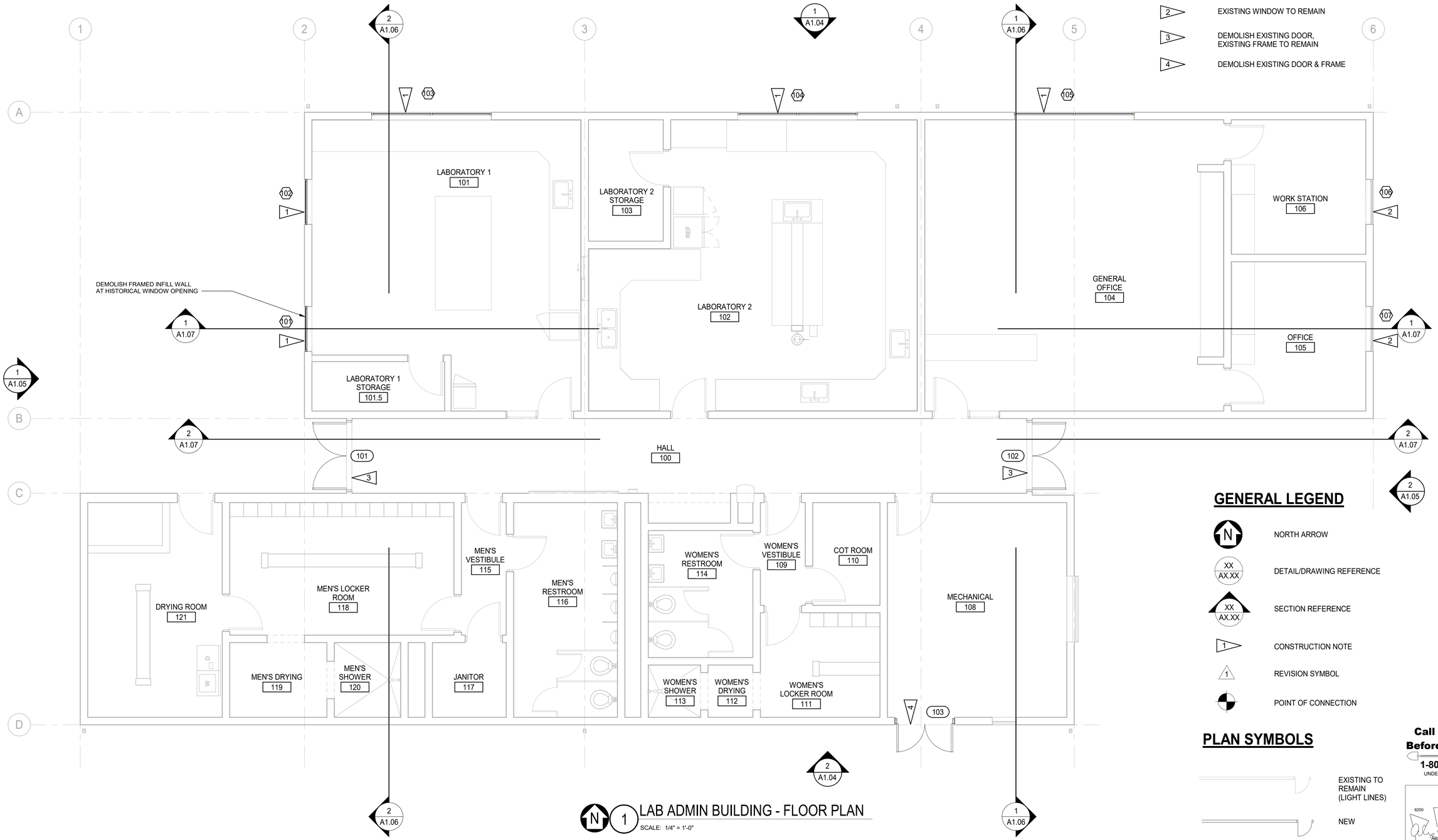
DRAWING INDEX

Drawing: G0.01
Sheet: 2 of 47
File: COMPLETE
Date: September 2025

Path: I:\22051 CKTP HVAC Upgrade\Working Drawi Filename: G0.01 Plot date: Sep 24, 2025-01:36:53pm CAD User: timo.

CONSTRUCTION NOTES

1. DEMOLISH EXISTING WINDOW
2. EXISTING WINDOW TO REMAIN
3. DEMOLISH EXISTING DOOR, EXISTING FRAME TO REMAIN
4. DEMOLISH EXISTING DOOR & FRAME



GENERAL LEGEND

- NORTH ARROW
- XX / AX.XX — DETAIL/DRAWING REFERENCE
- XX / AX.XX — SECTION REFERENCE
- 1 — CONSTRUCTION NOTE
- 1 — REVISION SYMBOL
- POINT OF CONNECTION

PLAN SYMBOLS

- EXISTING TO REMAIN (LIGHT LINES)
- NEW

0 2' 4' 8' 12'

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

N 1 LAB ADMIN BUILDING - FLOOR PLAN

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

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

LAB-ADMIN BUILDING FLOOR PLAN

Drawing: A1.01
Sheet: 3 of 47
File: COMPLETE
Date: September 2025

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8/26/2025 4:47:18 PM

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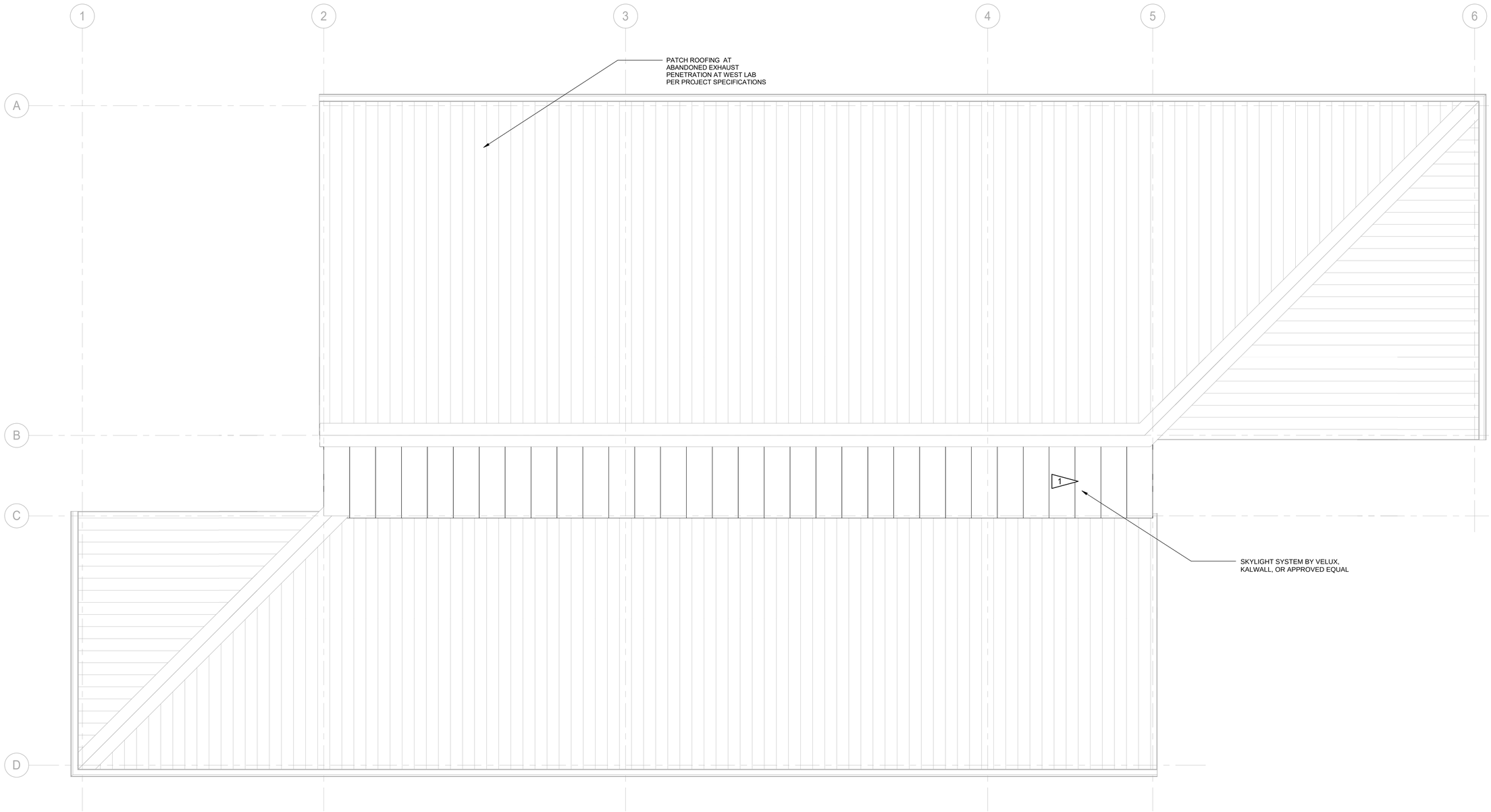
CONSTRUCTION NOTES

1 DEMOLISH EXISTING SKYLIGHT AND 2X FRAMING



N 1 LAB ADMIN BUILDING - ROOF PLAN

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

0 2' 4' 8' 12'

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

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

LAB-ADMIN BUILDING ROOF PLAN

Drawing: **A1.02**
Sheet: 4 of 47
File: COMPLETE
Date: September 2025

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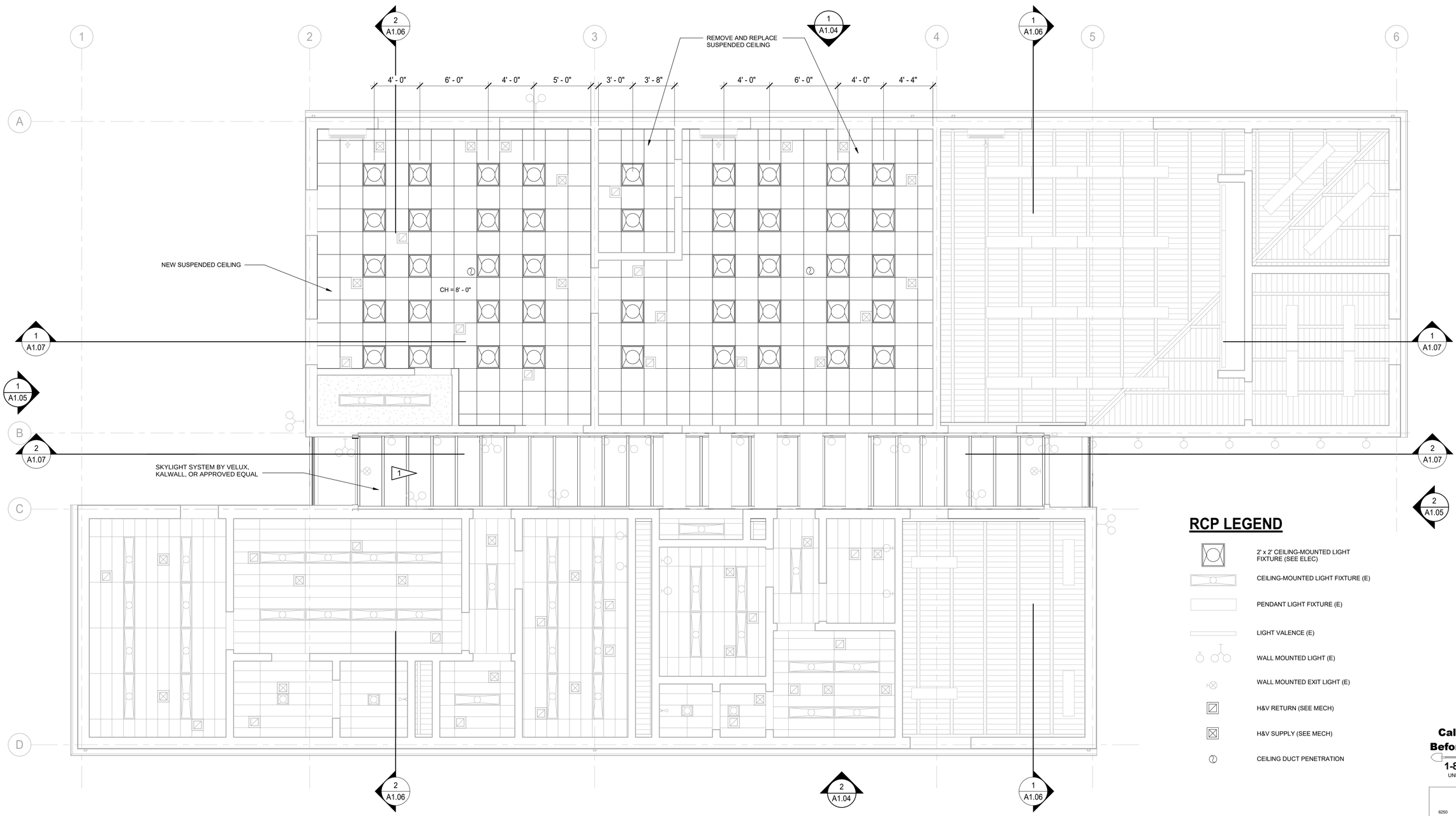
CONSTRUCTION NOTES

1 — DEMOLISH EXISTING SKYLIGHT AND 2X FRAMING



RCP LEGEND

- 2' x 2' CEILING-MOUNTED LIGHT FIXTURE (SEE ELEC)
- CEILING-MOUNTED LIGHT FIXTURE (E)
- PENDANT LIGHT FIXTURE (E)
- LIGHT VALENCE (E)
- WALL MOUNTED LIGHT (E)
- WALL MOUNTED EXIT LIGHT (E)
- H&V RETURN (SEE MECH)
- H&V SUPPLY (SEE MECH)
- CEILING DUCT PENETRATION

N 1 LAB ADMIN BUILDING - REFLECTED CEILING PLAN

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

0 2' 4' 8' 12'

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

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

LAB-ADMIN BUILDING REFLECTED CEILING PLAN

Drawing: **A1.03**
Sheet: 5 of 47
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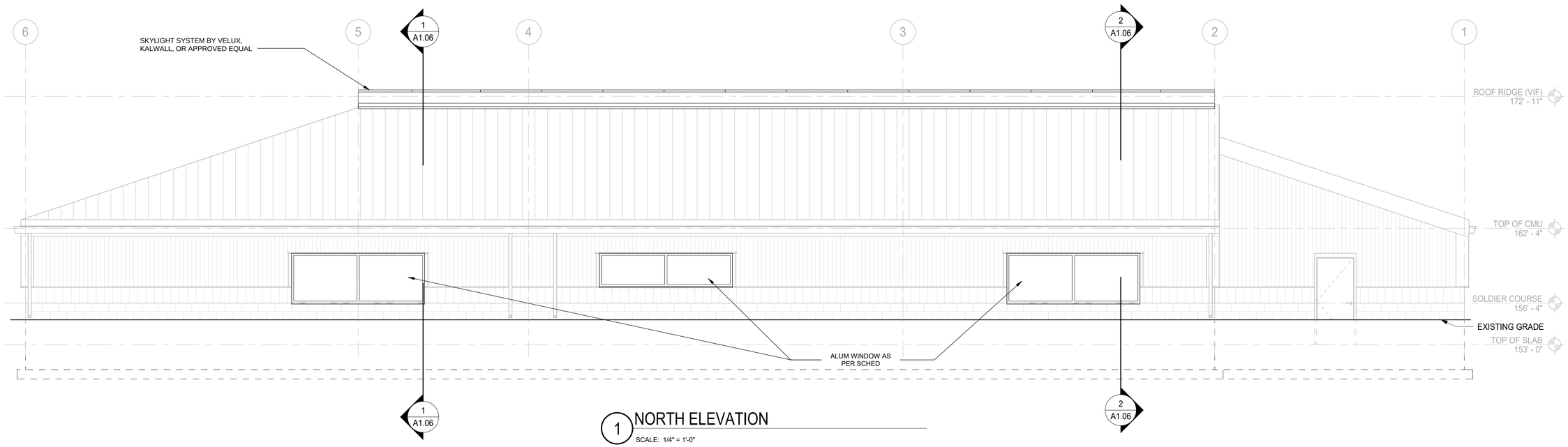
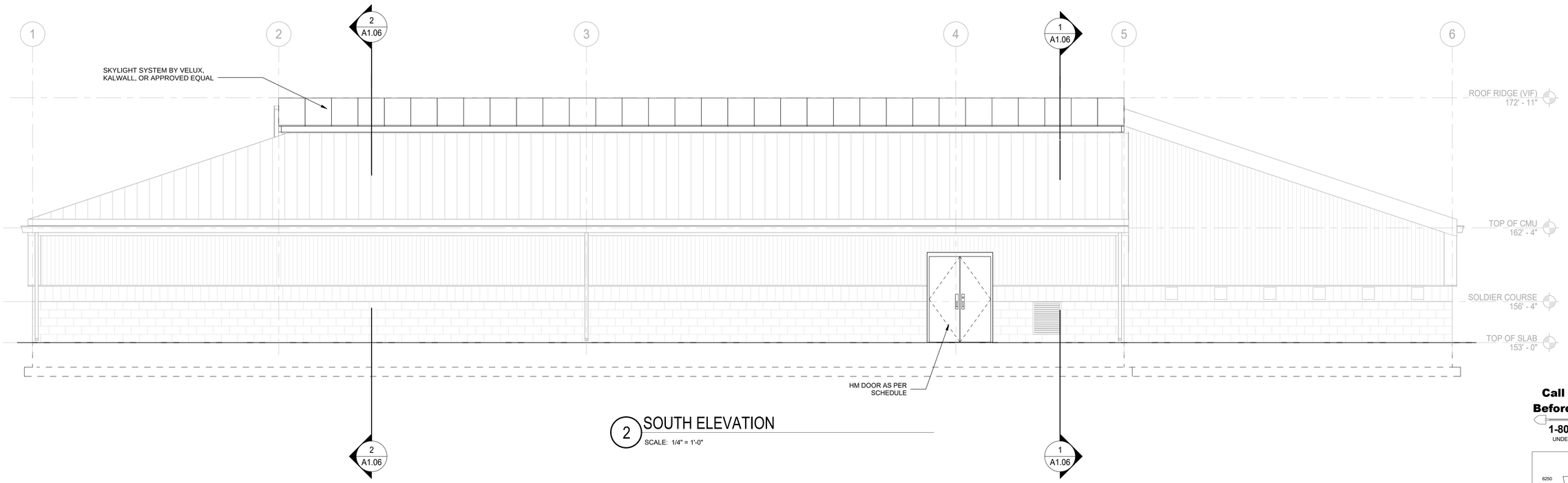


1 NORTH ELEVATION

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



2 SOUTH ELEVATION

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

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0 2' 4' 8' 12'
SCALE: 1/4" = 1'-0"

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

LAB-ADMIN BUILDING ELEVATIONS

Drawing: **A1.04**
Sheet: 6 of 47
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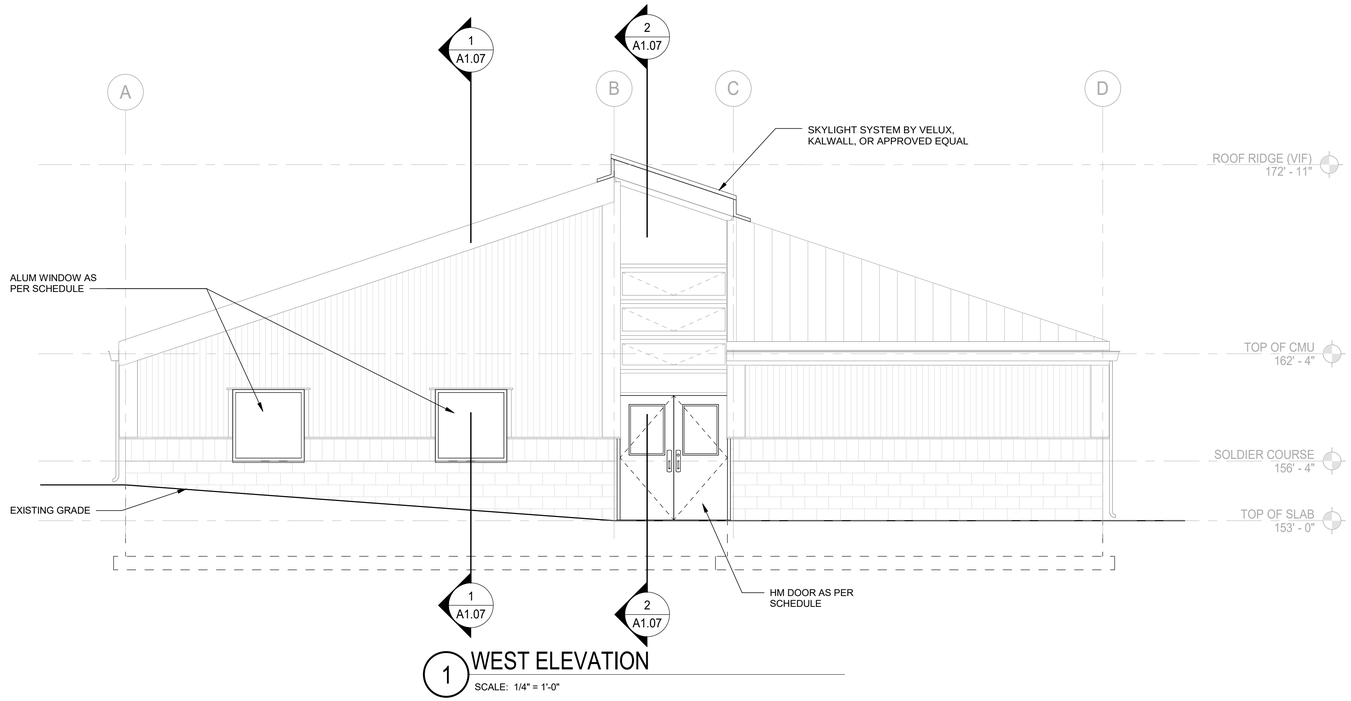
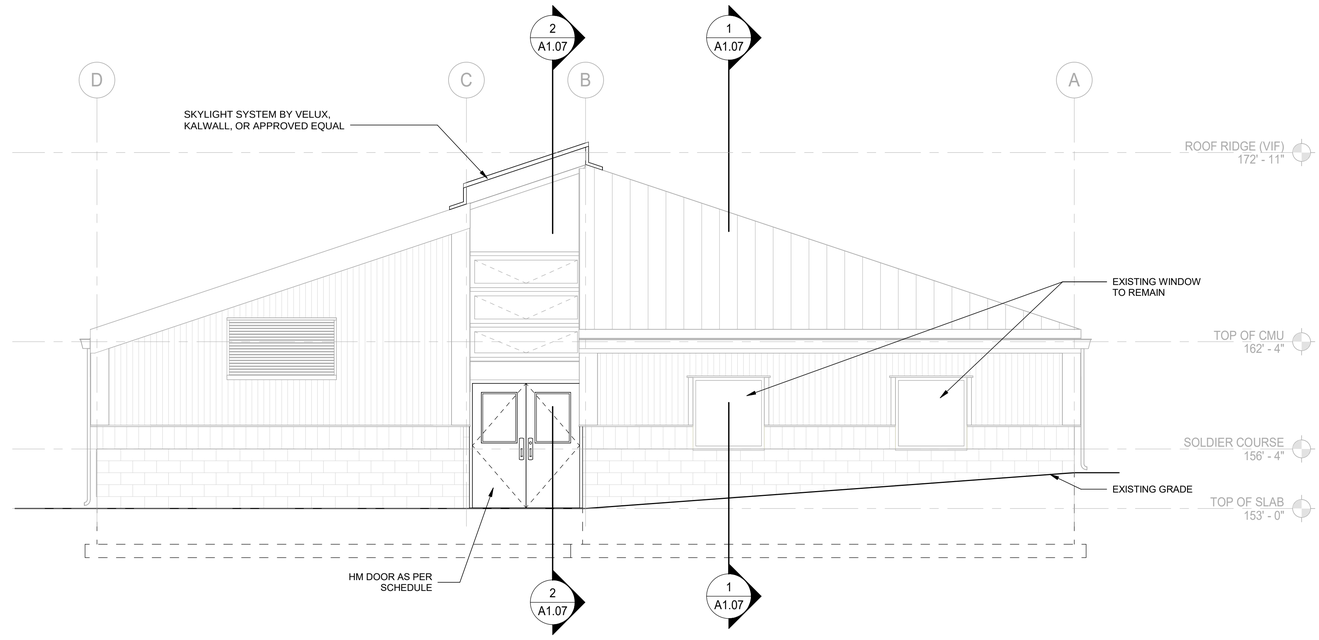


1 WEST ELEVATION

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



2 EAST ELEVATION

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

0 2' 4' 8' 12'

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

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

LAB-ADMIN BUILDING ELEVATIONS

Drawing: **A1.05**
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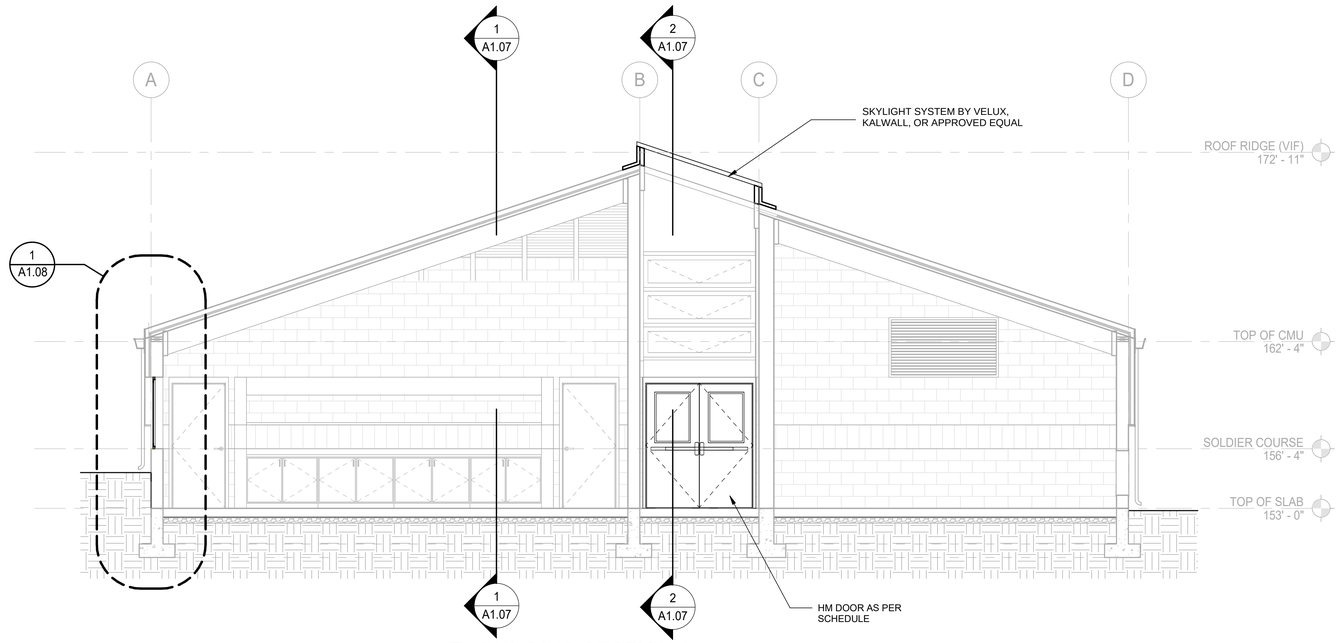
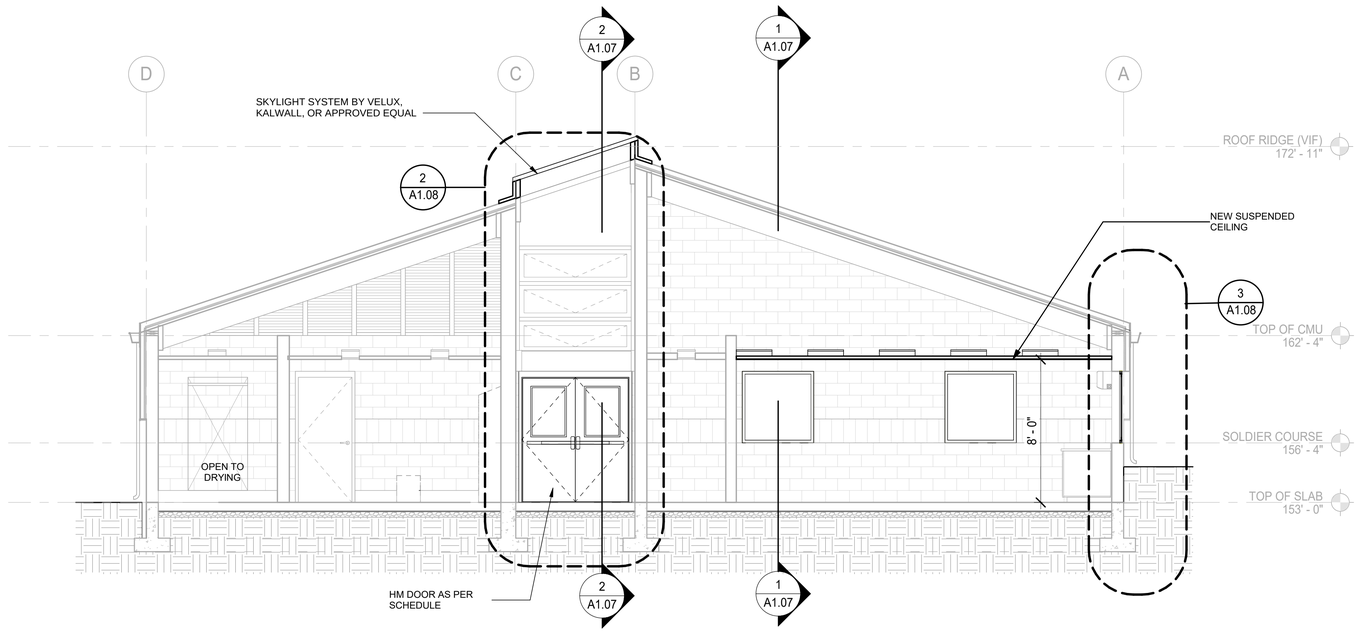


1 BUILDING SECTION A

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



2 BUILDING SECTION B

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

0 2' 4' 8' 12'

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

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

LAB-ADMIN BUILDING SECTIONS

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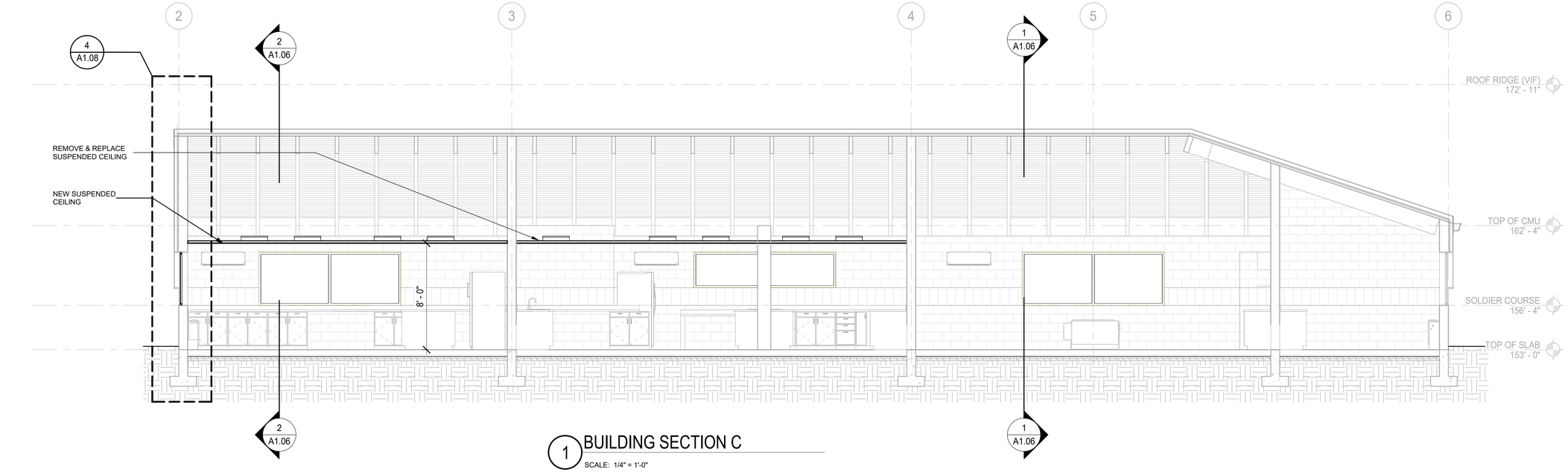
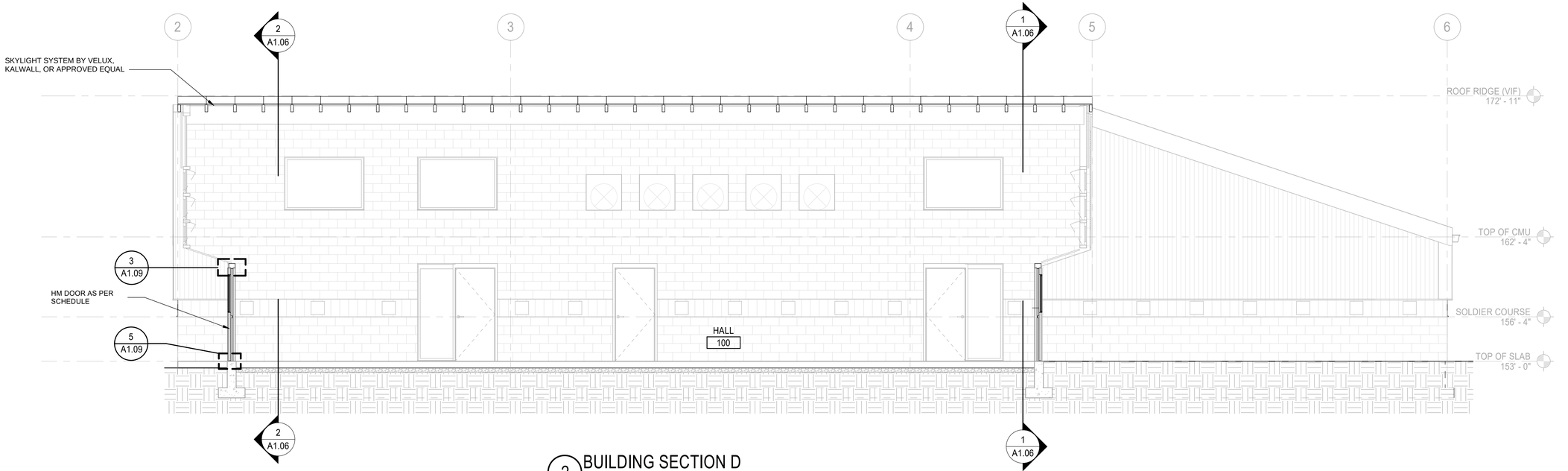


1 BUILDING SECTION C

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



2 BUILDING SECTION D

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

0 2' 4' 8' 12'

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

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

LAB-ADMIN BUILDING SECTIONS

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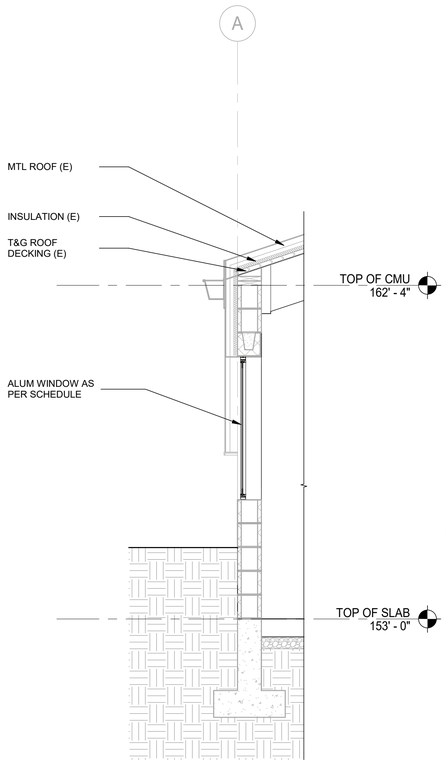

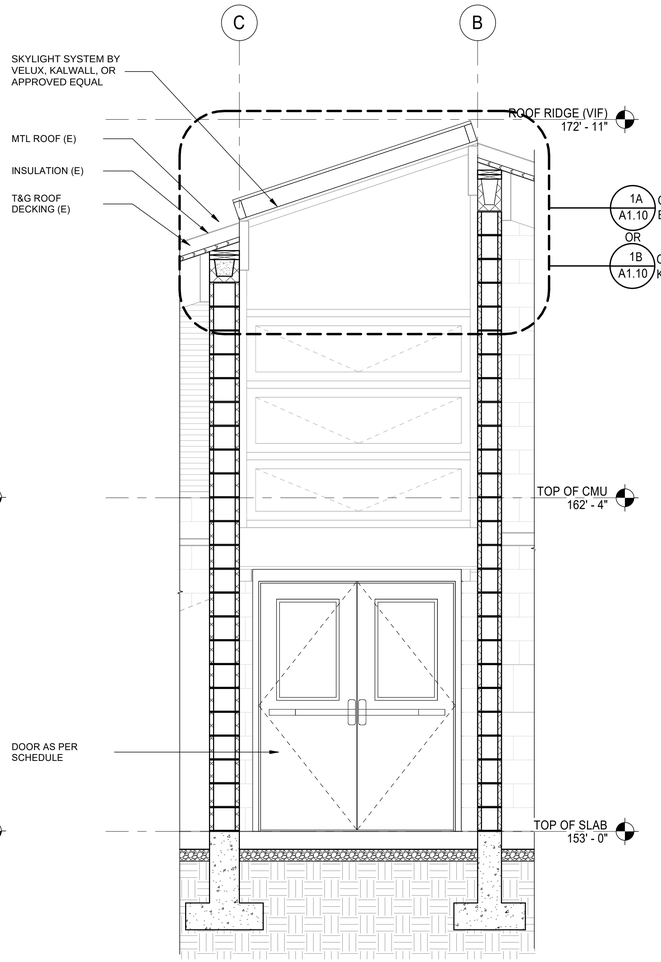

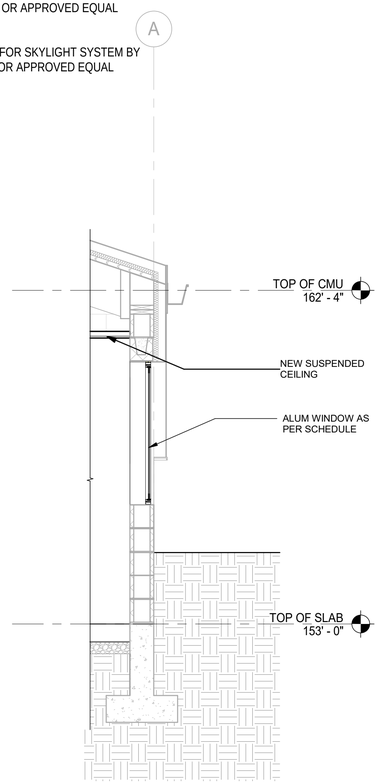

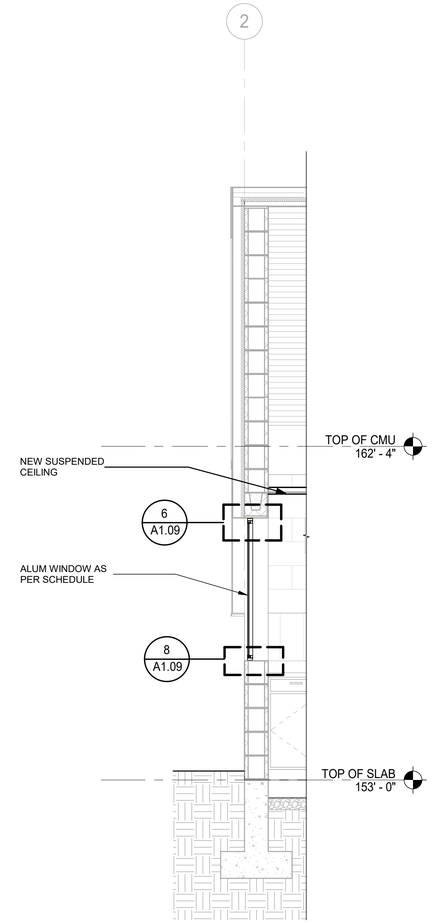

1 WALL SECTION 1
SCALE: 1/2" = 1'-0"

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

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

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

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0 1' 2' 4' 6'
SCALE: 1/2" = 1'-0"

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

LAB-ADMIN BUILDING WALL SECTIONS

Drawing: **A1.08**
Sheet: 10 of 47
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DOOR SCHEDULE

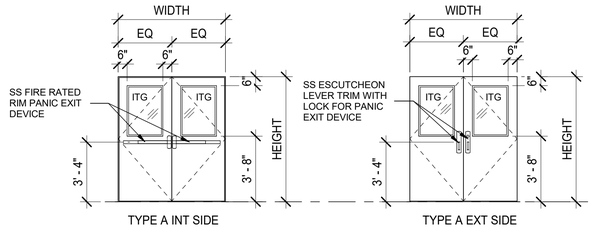
MARK	DOOR WIDTH	DOOR HEIGHT	DOOR THICKNESS	DOOR TYPE	DOOR MATERIAL	DOOR FINISH	DOOR GLAZING	FRAME TYPE	FRAME MATERIAL	FRAME FINISH	HARDWARE SET	FIRE RATING	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	COMMENTS
101	6' - 0"	7' - 0"	1 3/4"	A	HM	PT	ITG	EXISTING	HM	PT	01 (SEE SPECS)		EXISTING	EXISTING	EXISTING	ASTRAGAL, CLOSER (VERIFY & MATCH EXISTING DOOR SIZE)
102	6' - 0"	7' - 0"	1 3/4"	A	HM	PT	ITG	EXISTING	HM	PT	01 (SEE SPECS)	-	EXISTING	EXISTING	EXISTING	ASTRAGAL, CLOSER (VERIFY & MATCH EXISTING DOOR SIZE)
103	5' - 0"	7' - 0"	1 3/4"	B	HM	PT	-	1	HM	PT	01 (SEE SPECS)	2 HR	A6.01 / 3	A6.01 / 4	A6.01 / 5	VERIFY & MATCH EXISTING DOOR OPENING SIZE

WINDOW SCHEDULE

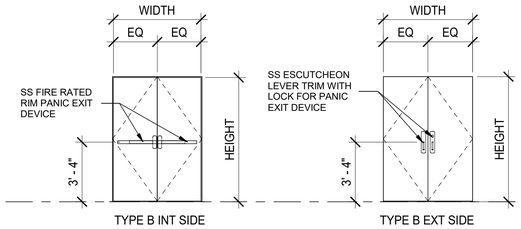
MARK	WINDOW TYPE	WINDOW FRAME MATERIAL	WINDOW GLAZING	WINDOW WIDTH	WINDOW HEIGHT	WINDOW SILL HEIGHT	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	COMMENTS
101	A	ALUM, MFR ANOD	ITG	4' - 0"	4' - 0"	3' - 4"	A6.01 / 6	A6.01 / 7	A6.01 / 8	
102	A	ALUM, MFR ANOD	ITG	4' - 0"	4' - 0"	3' - 4"	A6.01 / 6	A6.01 / 7	A6.01 / 8	
103	B	ALUM, MFR ANOD	ITG	10' - 8"	4' - 0"	3' - 4"	A6.01 / 6	A6.01 / 7	A6.01 / 8	
104	B	ALUM, MFR ANOD	ITG	10' - 8"	2' - 8"	4' - 8"	A6.01 / 6	A6.01 / 7	A6.01 / 8	
105	B	ALUM, MFR ANOD	ITG	10' - 8"	4' - 0"	3' - 4"	A6.01 / 6	A6.01 / 7	A6.01 / 8	

NOTE: VERIFY AND MATCH EXISTING WINDOW OPENING SIZE

DOOR TYPE

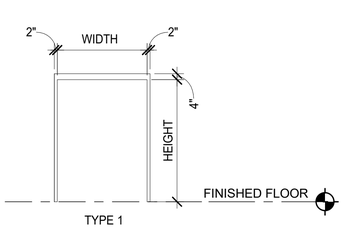


TYPE A
HALF LITE DOUBLE PANEL DOOR

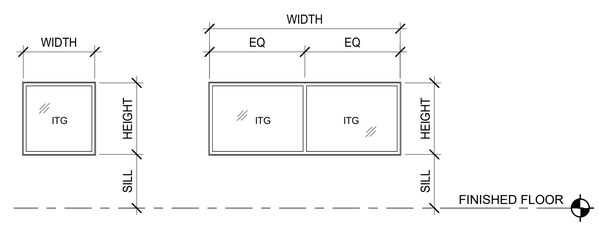


TYPE B
DOUBLE PANEL DOOR

FRAME TYPE



TYPE 1
HM FRAME



TYPE A
FIXED

TYPE B
2-PANEL FIXED

MATERIAL/FINISH LEGEND

ALUM	ALUMINUM
ANOD	ANODIZED
EXT	EXTERIOR
HM	HOLLOW METAL
ITG	INSULATED TEMPERED GLASS
INT	INTERIOR
MFR	MANUFACTURER
PT	PAINTED
SS	STAINLESS STEEL

1 DOOR & FRAME TYPES

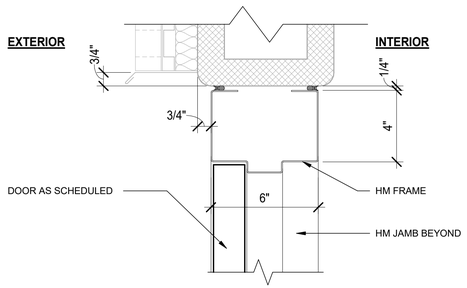
SCALE: 1/4" = 1'-0"

2 WINDOW TYPES

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

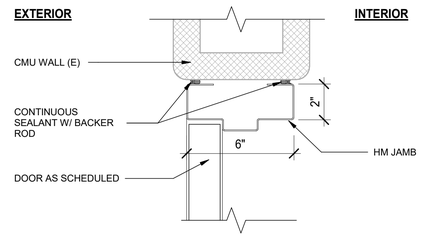
0 2' 4' 8' 12'

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



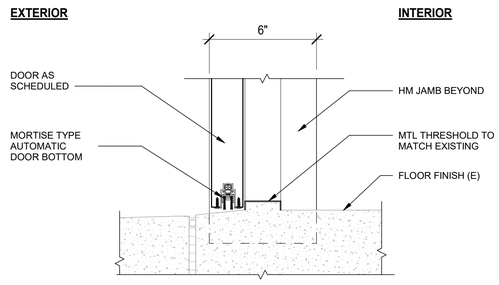
3 EXTERIOR DOOR HEADER

SCALE: 3" = 1'-0"



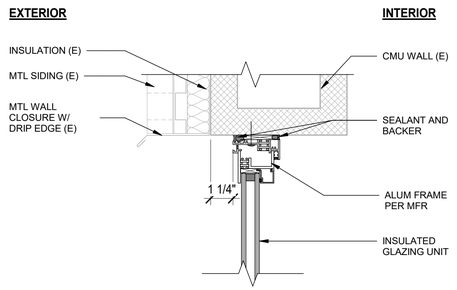
4 EXTERIOR DOOR JAMB

SCALE: 3" = 1'-0"



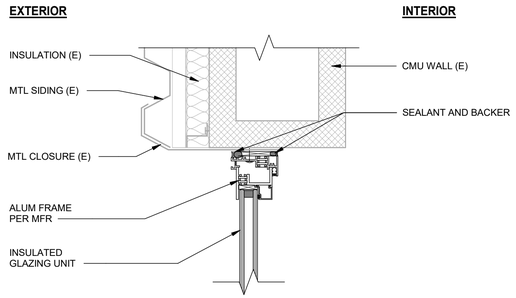
5 EXTERIOR DOOR SILL

SCALE: 3" = 1'-0"



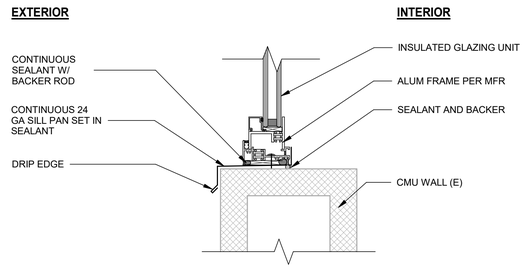
6 EXTERIOR WINDOW HEADER

SCALE: 3" = 1'-0"



7 EXTERIOR WINDOW JAMB

SCALE: 3" = 1'-0"



8 EXTERIOR WINDOW SILL

SCALE: 3" = 1'-0"

0 3" 6" 9" 12"

SCALE: 3" = 1'-0"

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

LAB-ADMIN BUILDING DOOR & WINDOW SCHEDULES

Drawing: A1.09
Sheet: 11 of 47
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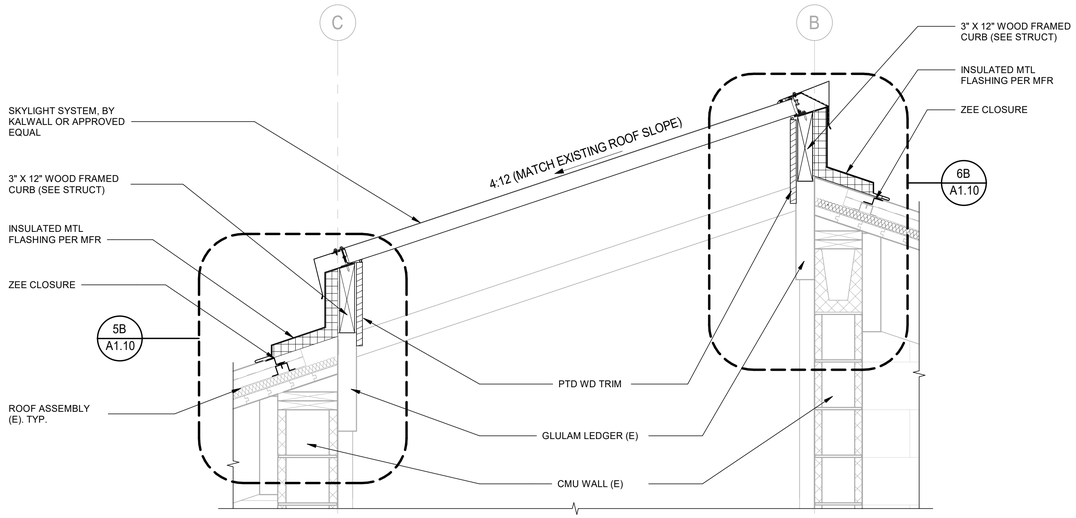
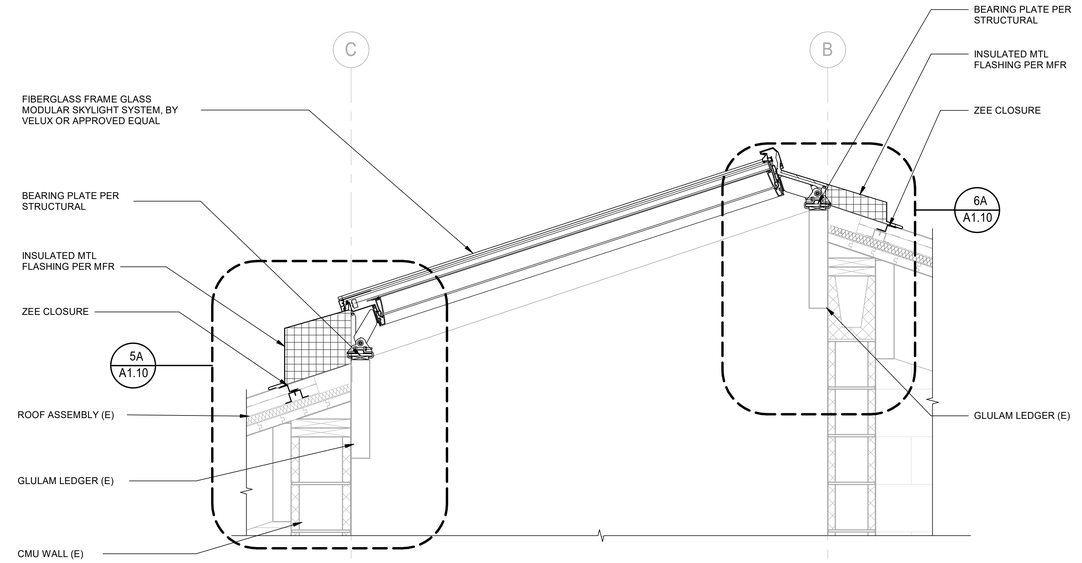


1B SKYLIGHT SECTION - OPTION B

SCALE: 1" = 1'-0"

0 1' 2' 3"

SCALE: 1" = 1'-0"

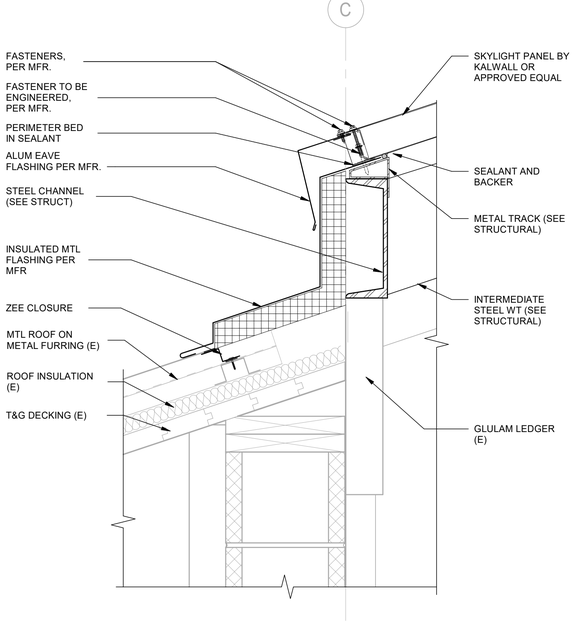


1A SKYLIGHT SECTION - OPTION A

SCALE: 1" = 1'-0"

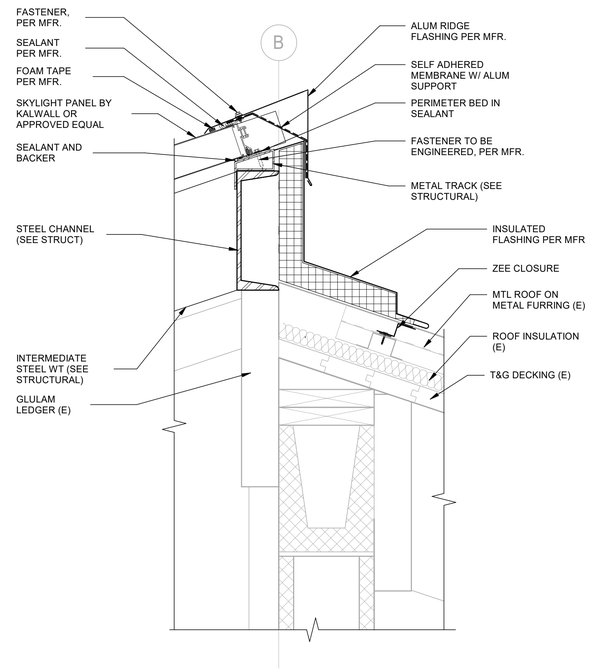
0 1' 2' 3"

SCALE: 1" = 1'-0"



5B SKYLIGHT TO ROOF - OPTION B

SCALE: 2" = 1'-0"

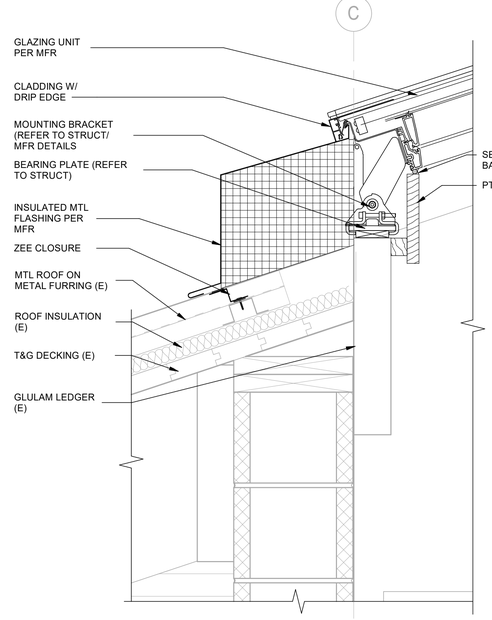


6B SKYLIGHT TO RIDGE - OPTION B

SCALE: 2" = 1'-0"

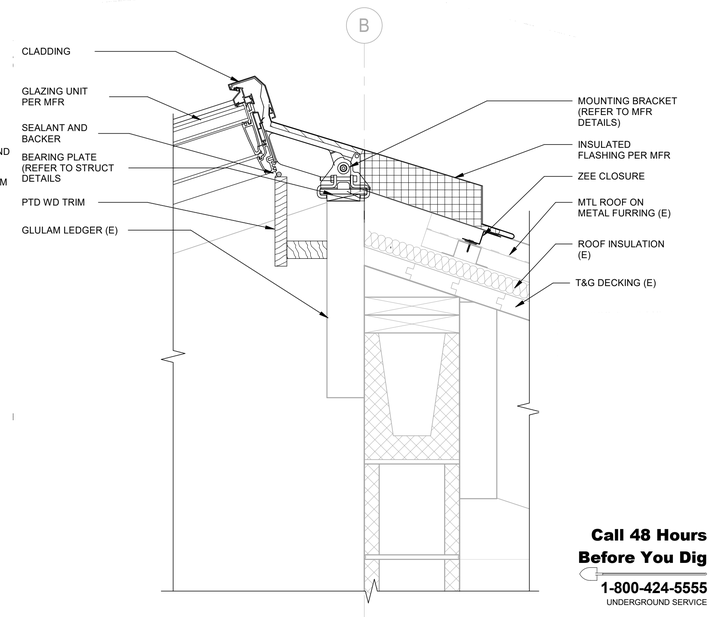
0 3" 6" 9" 12" 18"

SCALE: 2" = 1'-0"



5A SKYLIGHT TO ROOF - OPTION A

SCALE: 2" = 1'-0"



6A SKYLIGHT TO RIDGE - OPTION A

SCALE: 2" = 1'-0"

0 3" 6" 9" 12" 18"

SCALE: 2" = 1'-0"

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

LAB-ADMIN SKYLIGHT DETAILS

Drawing: **A1.10**

Sheet: 12 of 47

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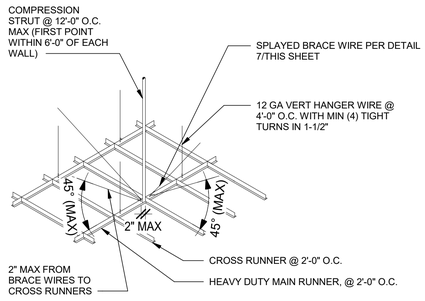
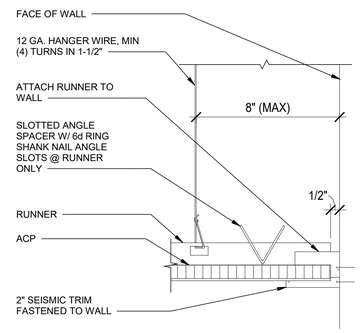


SEE DETAIL 11 - THIS SHEET FOR WIRE ATTACHMENT TO STRUCTURE

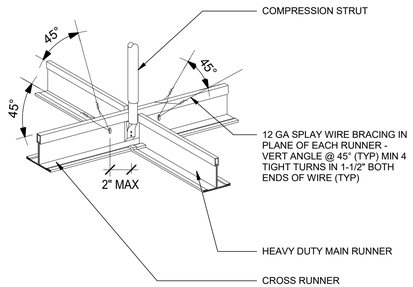
1 TYPICAL ACP GRID LAYOUT

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



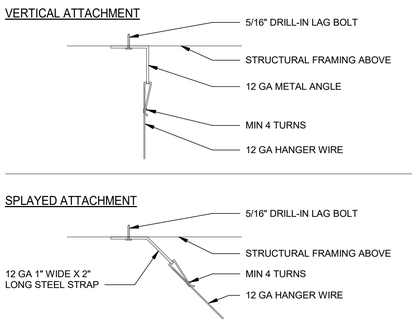
2 ACP CEILING TO WALL - ATTACHED END, TYP.

SCALE: 3" = 1'-0"



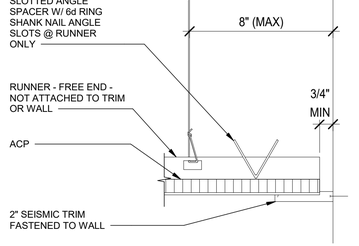
3 TYPICAL ACP CEILING BRACING

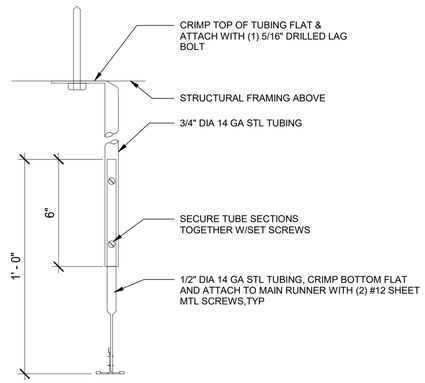
SCALE: 1 1/2" = 1'-0"



4 ACP CEILING TO WALL - FREE END, TYP.

SCALE: 3" = 1'-0"





5 HANGER WIRE ATTACHMENT, TYP.

SCALE: 3" = 1'-0"

6 ACP COMPRESSION STRUT, TYP.

SCALE: 3" = 1'-0"

0 3" 6" 9" 12"

SCALE: 3" = 1'-0"

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LAB-ADMIN BUILDING CEILING DETAILS

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Sheet: 13 of 47
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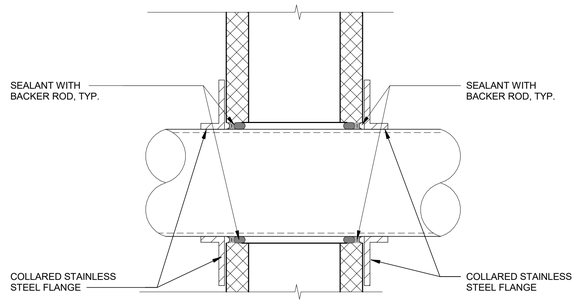
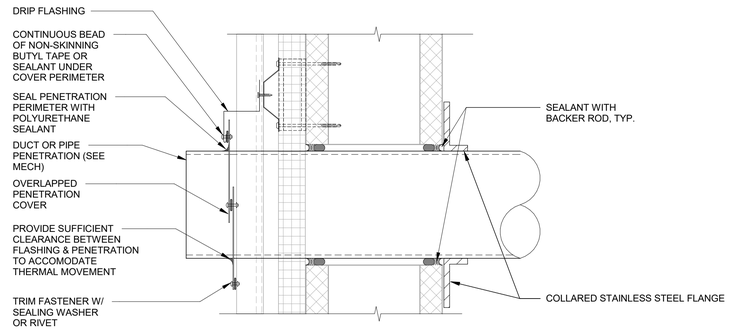


1 TYP. INT. WALL PENETRATION DETAIL

SCALE: 3" = 1'-0"



2 TYP. EXT. WALL PENETRATION DETAIL

SCALE: 3" = 1'-0"

0 3" 6" 9" 12"

SCALE: 3" = 1'-0"

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

LAB-ADMIN TYPICAL PENETRATION DETAILS

Drawing: **A1.12**
Sheet: 14 of 47
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GENERAL STRUCTURAL NOTES

A. GENERAL

1. SCOPE
   THE GENERAL STRUCTURAL NOTES AND TYPICAL STRUCTURAL DETAILS ARE GENERAL AND APPLY TO TO THE ENTIRE PROJECT EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS OR MODIFICATIONS TO THE CONTRARY.

2. APPLICABLE SPECIFICATIONS AND CODES
   ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE BUILDING CODE, (SEE BELOW). THE PROVISIONS OF THE BUILDING CODE SHALL SUPERSEDE THE PLANS AND SPECIFICATIONS EXCEPT WHERE THE PLANS AND SPECIFICATIONS ARE MORE RESTRICTIVE.

   IN ADDITION TO THE BUILDING CODE, CONSTRUCTION SHALL CONFORM TO OTHER STANDARDS AND CODES AS REFERENCED ON THE DRAWINGS OR IN THE SPECIFICATIONS.

3. DIMENSIONS
   STRUCTURAL DIMENSIONS CONTROLLED BY OR RELATED TO MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

   REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF ALL OPENINGS FOR DUCTS, PIPING, CONDUITS, ETC., NOT SHOWN. ALL OPENINGS IN STRUCTURAL MEMBERS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER. REFER TO CIVIL DRAWINGS AND SPECIFICATIONS FOR SUBGRADE INFORMATION AND CRITERIA. VERIFY ALL DIMENSIONS WITH CIVIL, MECHANICAL, AND ELECTRICAL DRAWINGS.

4. PROVISIONS FOR EQUIPMENT
   MECHANICAL AND ELECTRICAL EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, PIPE SLEEVES AND, PENETRATIONS, RECESSES AND REVEALS NOT SHOWN ON THE STRUCTURAL DRAWINGS, SHALL BE PROVIDED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF WASHINGTON. SUBMIT FINAL MECHANICAL DESIGN, INCLUDING UNIT WEIGHTS AND ANCHORAGE DESIGN, FOR REVIEW BY ENGINEER OF RECORD.

5. CONSTRUCTION LOADS
   STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL LOADS ON THE COMPLETED STRUCTURES. DURING CONSTRUCTION, THE STRUCTURES SHALL BE PROTECTED BY BRACING AND SUPPORTS WHEREVER EXCESSIVE CONSTRUCTION LOADS MAY OCCUR.

6. DRAINAGE SURFACES
   SLOPE DRAINAGE SURFACES UNIFORMLY TO DRAIN. SLOPE SHALL BE 1/4" PER FOOT, EXCEPT WHERE NOTED OTHERWISE ON THE PLANS. AT CONTRACTOR'S OPTION, BOTTOM OF SLAB MAY BE LEVEL AND MAINTAIN A MINIMUM THICKNESS AT FLOOR DRAINS.

B. STRUCTURAL DESIGN DATA

1. GENERAL

   A. BUILDING CODE: 2021 INTERNATIONAL BUILDING CODE WITH KITSAP COUNTY AMENDMENTS AND BY REFERENCE ASCE 7-16 MINIMUM DESIGN LOADS FOR AND BUILDINGS AND OTHER STRUCTURES.

   B. OCCUPANCY: U

   C. RISK CATEGORY III

   D. LOCATION: 47.657° N, 122.630° W, EL 156.45

2. DESIGN LOADS

   A. DEAD LOAD:
   BUILDING STRUCTURE: ACTUAL PLUS 5 PSF COLLATERAL DEAD LOAD ON ROOF SYSTEM

   B. LIVE LOAD
   BUILDING ROOF: 20 PSF

   C. SNOW LOAD
   SNOW LOAD IMPORTANCE FACTOR: Is = 1.1
   GROUND SNOW LOAD Pg: 25 PSF
   SNOW EXPOSURE FACTOR Ce: 0.9
   THERMAL FACTOR Ct = 1.0
   FLAT-ROOF SNOW LOAD Pf: 17.3 PSF
   SLOPING ROOF SNOW LOAD, PS: 25 PSF

   D. WIND DESIGN DATA
   BASIC WIND SPEED (3 SECOND GUST): 104 MPH
   WIND EXPOSURE: B ALL DIRECTIONS
   INTERNAL PRESSURE COEFFICIENT: ENCLOSED. GCpi = +/- .18
   INTERNAL PRESSURE: ± 7 PSF

   E. EARTHQUAKE DESIGN DATA:
   NO SEISMIC MASS INCREASE OR MODIFICATION TO THE EXISTING BUILDING STRUCTURE HAS BEEN MADE.

   SEISMIC IMPORTANCE FACTOR: Ie = 1.25
   SEISMIC DESIGN CATEGORY: D
   SITE CLASS D
   S_S = 1.427
   S_1 = 0.504
   F_a = 1.2
   F_v = 1.8
   S_{DS} = 1.142
   S_{D1} = 0.603

B. STRUCTURAL DESIGN DATA (CONTINUED)

F. SOILS DATA:

SOIL BEARING PRESSURE: 1,500 PSF (PRESUMPTIVE)

C. CONCRETE

1. DESIGN STRENGTHS
   STRUCTURAL CONCRETE: 4000 PSI AT 28 DAYS
   PLAIN CONCRETE: 3000 PSI AT 28 DAYS

   CONCRETE SHALL BE PROPORTIONED PER ACI 211.1 AND COMPLY WITH ASTM C94. FLY ASH (ASTM C618) MAY REPLACE UP TO 25% OF CEMENT BY WEIGHT. ALL CONCRETE SHALL BE NORMAL WEIGHT UNLESS NOTED OTHERWISE.

2. REINFORCEMENT
   REINFORCING BARS SHALL BE ASTM A615, GRADE 60, DEFORMED. WELDED WIRE FABRIC SHALL BE ASTM A185 OR A1064, WITH FY = 60 KSI MINIMUM. REINFORCEMENT SHALL BE PLACED, SUPPORTED, AND TIED PER ACI 318 WITH SPECIFIED CONCRETE COVER.

3. BAR SPLICES AND HOOKS
   SPLICES SHALL CONFORM TO THE BUILDING CODE AND BE CLASS B, UNLESS NOTED OTHERWISE. SPLICE LENGTH FOR BARS OF DIFFERENT SIZES SHALL BE BASED ON THE SMALLER BAR. HOOKS AND BENDS SHALL COMPLY WITH APPLICABLE CODE STANDARDS.

4. SLUMP AND AIR CONTENT
   SLUMP SHALL BE 1" TO 4", MEASURED PER ASTM C143. PUMPED CONCRETE MAY ACCOUNT FOR SLUMP LOSS BUT SHALL REMAIN WITHIN LIMITS. AIR CONTENT SHALL BE 5–7% FOR 3/4" OR 1" AGGREGATE, AND 5.5–8% FOR 1/2", PER ASTM C231, C173, OR C138.

5. PLACING AND CONSOLIDATION
   PLACE CONCRETE CONTINUOUSLY WITHIN JOINTS. DO NOT FREE-FALL MORE THAN 4 FEET. USE INTERNAL VIBRATION TO ENSURE FULL CONSOLIDATION. PROTECT CONCRETE FROM SEGREGATION DURING PLACEMENT.

6. CURING
   CURE CONCRETE PER ASTM C309 OR WITH MOIST COVERINGS. MAINTAIN CURING FOR AT LEAST 7 DAYS. BEGIN CURING AS SOON AS SURFACE WATER HAS EVAPORATED. CONTINUE CURING IF FORMS ARE REMOVED EARLY.

7. WEATHER PROTECTION
   COMPLY WITH ACI 305R AND 306R FOR HOT AND COLD WEATHER. DO NOT PLACE CONCRETE ON FROZEN SUBGRADE OR ABOVE 90°F WITHOUT PROPER MEASURES. PREVENT RAPID EVAPORATION TO REDUCE CRACKING RISK.

8. CHAMFERS
   UNLESS NOTED OTHERWISE, PROVIDE 3/4" CHAMFERS AT EXPOSED CONCRETE CORNERS AND EDGES. RE-ENTRANT CORNERS SHALL HAVE FILLETS WHERE SHOWN.

9. FIELD TESTING
   TESTING SHALL CONFORM TO:
   SAMPLING & CURING: ASTM C172, C31
   COMPRESSIVE STRENGTH: ASTM C39 (1 TEST AT 7 DAYS, 2 AT 28 DAYS PER SET)
   SLUMP: ASTM C143
   AIR CONTENT: ASTM C231, C173, OR C138
   MINIMUM TEST FREQUENCY: 1 SET PER 50 CY PLACED OR PER DAY/TYPE. CONCRETE IS ACCEPTABLE IF:
   AVERAGE OF 3 CONSECUTIVE TESTS ≥ F'C
   NO TEST IS MORE THAN 500 PSI BELOW F'C

10. FINISHES
    UNLESS NOTED OTHERWISE, PROVIDE A FLOAT FINISH. SLABS SHALL MEET CLASS B FLATNESS (1/4" IN 10 FT).

D. NON-SHRINK GROUT

GROUT FOR BASE PLATES, EQUIPMENT ANCHORAGE AND GENERAL PURPOSES SHALL BE APPROVED, NON-SHRINK CEMENTITIOUS GROUT CONTAINING NATURAL AGGREGATES DELIVERED TO THE JOB SITE IN FACTORY PREPACKAGED CONTAINERS REQUIRING ONLY THE ADDITION OF WATER, ASTM C1107 TYPE B OR C.

F. WOOD

1. FRAMING LUMBER

   FRAMING LUMBER SHALL BE KILN DRIED OR MC-15, AND GRADED AND MARKED IN CONFORMANCE WITH WEST COAST LUMBER INSPECTION BUREAU STANDARD GRADING RULES FOR WEST COAST LUMBER NO. 16, LATEST EDITION. FURNISH TO THE FOLLOWING MINIMUM STANDARDS: UNLESS NOTED OTHERWISE.

2x JOISTS AND BUILT-UP MEMBERS	HEM-FIR NO. 2
3x AND 4x BEAMS AND POSTS	DOUGLAS FIR-LARCH NO. 2
BOLTED STUDS, LEDGERS AND PLATES	DOUGLAS FIR-LARCH STANDARD GRADE

2. TREATED WOOD

   ALL WOOD PLATES, LEDGERS, AND BLOCKING IN DIRECT CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE-TREATED WITH AN AMERICAN WOOD PRESERVERS ASSOCIATION (AWPA) APPROVED PRESERVATIVE. ALTERNATIVELY PER IBC SECTION 2304.11, FOR SOME EXCEPTIONS, IMPERVIOUS MOISTURE BARRIERS MAY BE PROVIDED BETWEEN UNTREATED MEMBERS AND CONCRETE OR MASONRY.

   ALL METAL FASTENERS IN CONTACT WITH TREATED WOOD SHALL BE GALVANIZED PER ASTM F2329 OR STAINLESS STEEL. WHEN USING GALVANIZED FASTENERS, THE CONTRACTOR SHALL VERIFY THE GALVANIZATION PROCESS WITH THE CHEMICAL COMPOSITION OF THE WOOD TREATMENT.

3. TIMBER CONNECTORS
   TIMBER CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE BY SIMPSON STRONG-TIE COMPANY, INC, AS SPECIFIED IN THE LATEST EDITION OF THEIR CATALOG. EQUIVALENT DEVICES BY OTHER MANUFACTURERS MAY BE SUBSTITUTED, PROVIDED THEY HAVE CURRENT ICC-ES EVALUATION REPORTS DEMONSTRATING THAT THE PRODUCTS HAVE EQUAL OR GREATER LOAD CAPACITIES. PROVIDE NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER. CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH
   THE MANUFACTURER'S PUBLISHED SPECIFICATIONS. WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, PLACE ONE-HALF OF THE NAILS OR BOLTS IN EACH MEMBER. ALL BOLTS IN WOOD MEMBERS SHALL CONFORM TO ASTM A307. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. UNLESS NOTED OTHERWISE, ALL NAILS SHALL BE COMMON. ALL SHIMS SHALL BE SEASONED AND DRIED AND THE SAME GRADE (MINIMUM) AS MEMBERS CONNECTED. ALL SINGLE JOISTS, DOUBLE JOISTS, AND TRIPLE JOISTS SHALL BE CONNECTED TO FLUSH BEAMS WITH "U" SERIES JOIST HANGERS.

4. NAILS

   A. NAILS SHALL BE GALVANIZED COMMON WIRE NAILS.

   B. MINIMUM NAILING PER 2021 IBC TABLE 2304.10.2.

   C. PRE DRILLED HOLES SHALL BE 1/16" LESS THAN SPIKE DIAMETER. WHERE SPLITTING OF WOOD MAY OCCUR, HOLES SHALL BE 1/32" LESS THAN NAIL DIAMETER AND DIAMETER OF NAIL LESS THAN THE PENETRATION OF THE NAIL.

G. STEEL

1. CODE AND SPECIFICATIONS:
   STEEL CONSTRUCTION SHALL CONFORM TO THE SPECIFICATIONS AND STANDARDS AS CONTAINED IN THE 15TH EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION. SHOP DRAWINGS SHALL BE SUBMITTED AND REVIEWED BY THE ENINGEER BEFORE COMMENCING FABRICATION.

2. THE CONTRACTOR IS RESPONSIBLE FOR ALL ERECTION AIDS THAT INCLUDE, BUT ARE NOT LIMITED TO, ERECTION ANGLES, LIFT HOLES, AND OTHER AID.

3. STEEL FABRICATOR SHALL BE CERTIFIED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION AND SHALL BE A CATEGORY 'BU' CERTIFICATION OR DEMONSTRATE A MINIMUM OF FIVE YEARS EXPERIENCE ON SIMILAR PROJECTS. QUALIFICATIONS SHALL BE SUBMITTED TWO WEEKS PRIOR TO BID.

4. STEEL ERECTION SHALL BE PERFORMED BY AN ERECTOR CERTIFIED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION OR DEMONSTRATE A MINIMUM OF FIVE YEARS EXPERIENCE ON SIMILAR PROJECTS. QUALIFICATIONS SHALL BE SUBMITTED TWO WEEKS PRIOR TO BID.

5. MATERIAL PROPERTIES:
   ALL STEEL SHAPES: ASTM A36 (Fy = 36 KSI)
   BOLTS: ASTM A325N

6. WELDING:
   ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF AWS D1.1, 'STRUCTURAL WELDING CODE'.

   ALL WELDERS SHALL BE AWS/WABO (WASHINGTON ASSOCIATION OF BUILDING OFFICIALS) CERTIFIED. WELDERS SHALL BE PREQUALIFIED FOR ALL WELD POSITIONS AND TYPES PERFORMED. WELDS SHOWN ON PLAN ARE MINIMUM SIZES, BASED ON PLATE THICKNESS. FIELD WELDING SYMBOLS HAVE NOT NECESSARILY BEEN INDICATED ON THE DRAWINGS. WHERE SHOWN, PROPER FIELD WELDING PER AWS D1.1 SHALL BE FOLLOWED. WHERE NO FIELD WELDING SYMBOLS ARE SHOWN, IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE USE OF SHOP AND FIELD WELDS. GALVANIZATION SHALL BE REMOVE PRIOR TO APPLYING FIELD WELDS AND RE-APPLIED PER SPECIFICATIONS.

   ALL WELDS SHALL BE MADE USING LOW HYDROGEN ELECTRODES WITH MINIMUM TENSILE STRENGTH PER AWS D1.1 (MINIMUM 70 KSI). LOW HYDROGEN SMAW ELECTRODES SHALL BE USED WITHIN 4 HOURS OF OPENING THEIR HERMETICALLY SEALED CONTAINERS, OR SHALL BE REBAKED PER AWS D1.1, SECTION 4.5. ELECTRODES SHALL BE REBAKED NO MORE THAN ONE TIME, AND ELECTRODES THAT HAVE BEEN WET SHALL NOT BE USED.

   ALL WELDING SHALL BE PERFORMED IN STRICT ADHERENCE TO A WRITTEN WELDING PROCEDURE SPECIFICATION (WPS) PER AWS D1.1 OR AWS D1.6. ALL WELDING PARAMETERS SHALL BE WITHIN THE ELECTRODE MANUFACTURER'S RECOMMENDATIONS. WELDING PROCEDURES SHALL BE SUBMITTED TO THE OWNER'S TESTING AGENCY FOR REVIEW BEFORE STARTING FABRICATION OR ERECTION. COPIES OF THE WPS SHALL BE ON SITE AND AVAILABLE TO ALL WELDERS AND THE SPECIAL INSPECTOR.

H. SPECIAL INSPECTION

IN ADDITION TO THE INSPECTIONS REQUIRED BY SECTION 1701 OF THE IBC, SPECIAL INSPECTIONS SHALL BE PROVIDED DURING CONSTRUCTION OF THE FOLLOWING WORK PER IBC SECTION 1705:

1. ANCHOR BOLTS: INSTALLED IN CONCRETE OR MASONRY PRIOR TO AND DURING THE PLACEMENT OF CONCRETE AROUND BOLTS SHALL BE INSPECTED PERIODICALLY.

2. ALL CONCRETE: SHALL BE INSPECTED IN ACCORDANCE WITH REQUIREMENTS OF 2021 IBC PARAGRAPH 1705.3.

3. PLACEMENT: OF ALL REINFORCING STEEL SHALL BE INSPECTED PERIODICALLY.

4. MECHANICAL FASTENERS: INSTALLED IN GROUTED MASONRY SHALL BE INSPECTED PERIODICALLY.

5. EPOXY ANCHORS:
   INSTALLED IN GROUTED MASONRY SHALL BE INSPECTED CONTINUOUSLY.

I. STRUCTURAL OBSERVATIONS

THE ENGINEER OF RECORD SHALL PROVIDE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM, FOR GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS, AT SIGNIFICANT CONSTRUCTION STAGES AND AT THE COMPLETION OF THE STRUCTURAL SYSTEM. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED BY IBC SECTIONS 109, 1704 OR OTHER SECTIONS OF THE INTERNATIONAL BUILDING CODE. STRUCTURAL OBSERVATION REPORTS SHALL BE ISSUED TO THE OWNER, ARCHITECT, CONTRACTOR, AND BUILDING OFFICIAL AT THE SIGNIFICANT CONSTRUCTION STAGES.

Call 48 Hours Before You Dig
1-800-424-5555
UNDERGROUND SERVICE

NICHOLAS T. JACOBY — STATE OF WASHINGTON — 56968 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER
04/17/2025

No.	Revision	Date	By	App'd
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Designed: M Wildhood, P.E.
Drawn: R. Rhodes
Checked: N. Jacoby, P.E., S.E.

Scale: NTS
One Inch at Full Scale
If Not One Inch Scale Accordingly

Kitsap County Public Works
614 Division Street, MS 26
Port Orchard, WA 98366

KITSAP COUNTY SEWER UTILITY (KCU) CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC SYSTEM REPLACEMENT

STRUCTURAL GENERAL NOTES

Drawing: **S0.01**
Sheet: 15 of 47
File: P23-10865_S0.01
Date: September 2025

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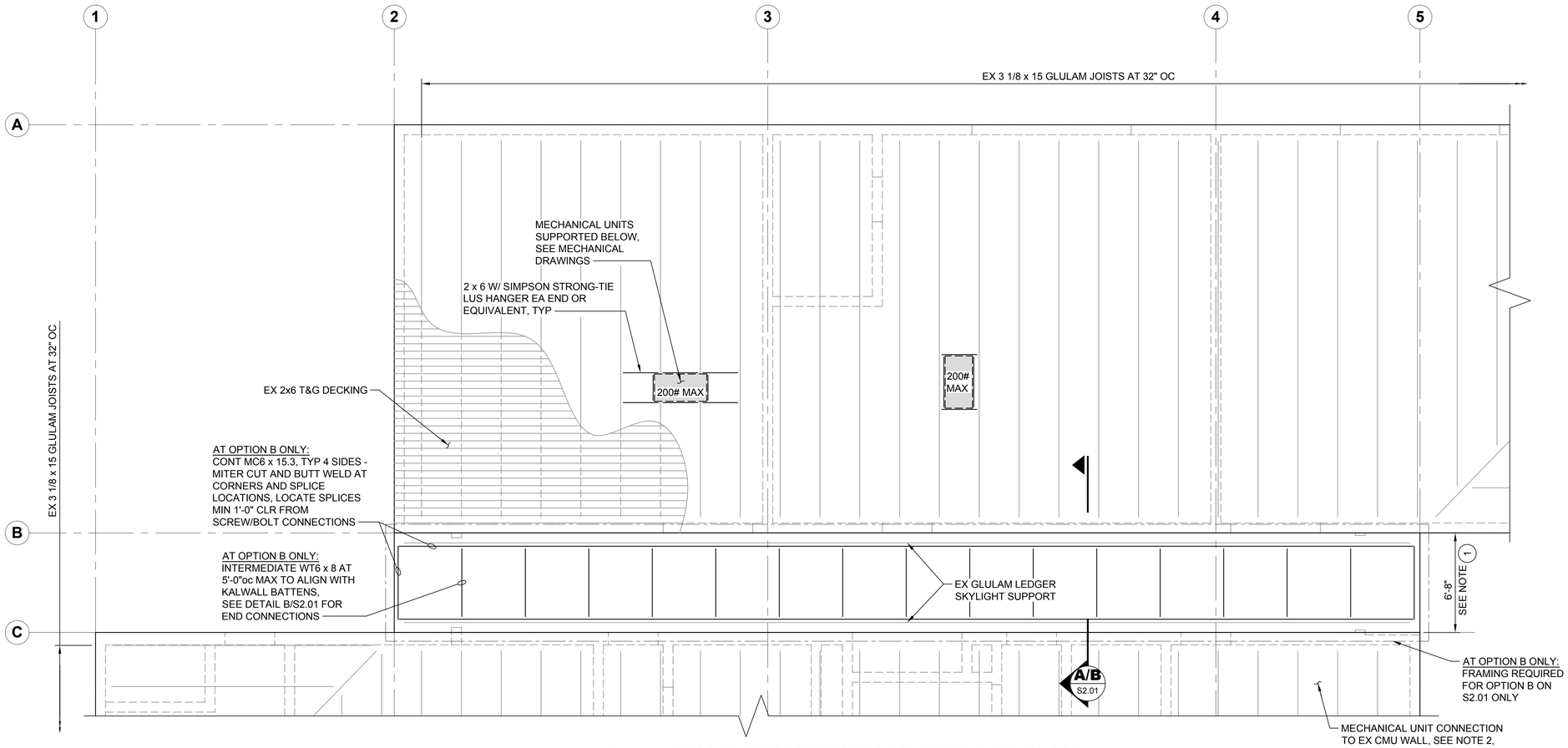
Xref Filename: | X23-10865_TB_FSI_24x36 | Dan\ | X23-10865_Status | Palmaler | Jacoby | |



N 1 ADMINISTRATION BUILDING ROOF PLAN
SCALE: 1/4"=1'-0"

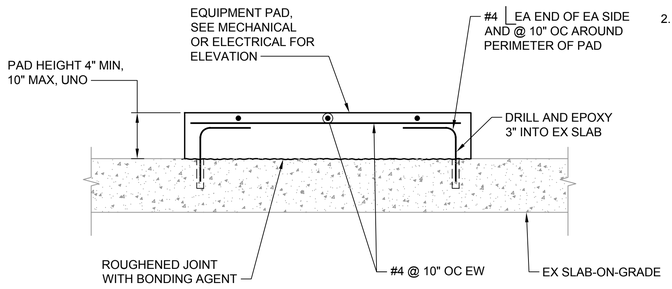
CONSTRUCTION NOTES:

1. FIELD VERIFY ALL DIMENSIONS TO EXISTING STRUCTURE.
2. SEE HVAC DRAWINGS FOR MECHANICAL UNIT MOUNTED TO EXISTING CMU WALL.

   SECURE MECHANICAL UNIT WITH SUPPORT BRACKETS ANCHORED TO EXISTING CMU WALL WITH 1/2" DIAMETER SIMPSON STRONG TIE SET-3G ADHESIVE ANCHORS (ESR-4047) OR APPROVED ALTERNATIVE. PROVIDE A MINIMUM OF 2 ANCHORS PER BRACKET WITH 3 1/2" MINIMUM EFFECTIVE EMBEDMENT, INTO FULLY GROUTED CMU BLOCKS. DO NOT DAMAGE EXISTING CMU REINFORCING STEEL. ANCHORS ARE NOT ALLOWED IN HEAD JOINTS.

   EACH EPOXY ANCHOR HAS BEEN DESIGNED FOR MAXIMUM ALLOWABLE TENSILE LOAD OF 500LB - 1,000LB EACH BRACKET.

   SUBMIT SUPPORT BRACKET DESIGN TO EOR FOR REVIEW AND APPROVAL.



FOR PADS UP TO 10"

1 TYPICAL EQUIPMENT PAD AT SLAB
SCALE: NTS

NOTES:

1. PROVIDE EQUIPMENT PADS FOR ALL EQUIPMENT UNLESS NOTED OTHERWISE.
2. PROVIDE EQUIPMENT PAD DIMENSIONS, HEIGHT, AND LOCATIONS AS REQUIRED BY THE EQUIPMENT MANUFACTURER AND APPROVED BY THE ENGINEER. VERIFY EQUIPMENT PAD DIMENSIONS, HEIGHT AND LOCATION WITH THE EQUIPMENT MANUFACTURER'S REVIEWED SHOP DRAWINGS BEFORE THE PAD IS INSTALLED.

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NICHOLAS T. TAYLOR — STATE OF WASHINGTON — 56968 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER
09/17/2025

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Drawn: R. Rhodes
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Scale: As Noted
One Inch at Full Scale
If Not One Inch Scale Accordingly

Kitsap County Public Works
614 Division Street, MS 26
Port Orchard, WA 98366

KITSAP COUNTY SEWER UTILITY (KCU) CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC SYSTEM REPLACEMENT

ADMINISTRATION BUILDING ROOF PLAN AND DETAIL

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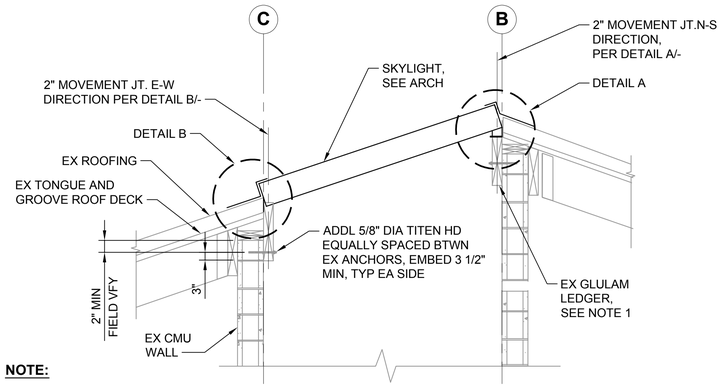
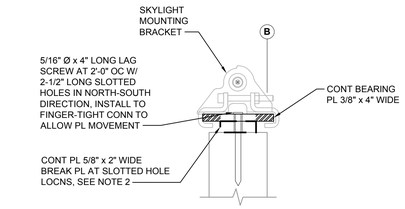
Xref Filename: | X23-10865_Prop Roof Lab-Admin Building_Floor Plan | X23-10865_TB +FSi_24x36 | Dahl | X23-10865_Status | Palmatier | Jacoby |

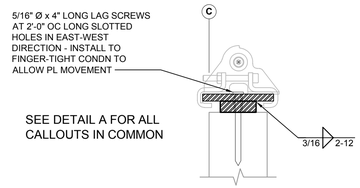


NOTE:

1. FASTENING ASSUMBED TO BE 5/8" DIA THRU-BOLT FASTENERS AT 3'-0"OC MAX INTO FULLY GROUTED CMU - W / 2" MIN EDGE DIST TO TOP OF CMU. CONTRACTOR FIELD VERIFY AND CONTACT EOR WITH DEVIATIONS.
2. VERIFY WITH SKYLIGHT VENDER THAT BOTTOM BEARING PLATE PROVIDES SUFFICIENT ROOM FOR SKYLIGHT ATTACHMENT.

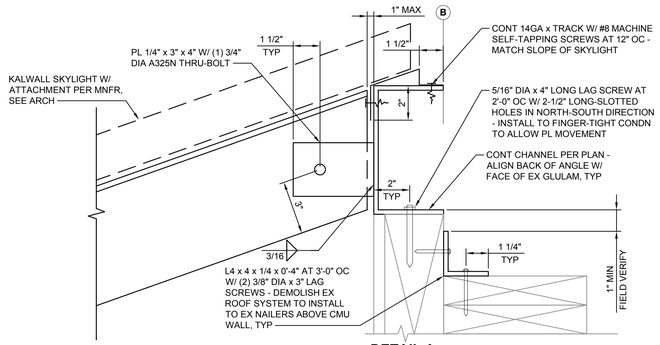


DETAIL A
SKYLIGHT MOUNTING BRACKETS W/ SLOTTED HOLES

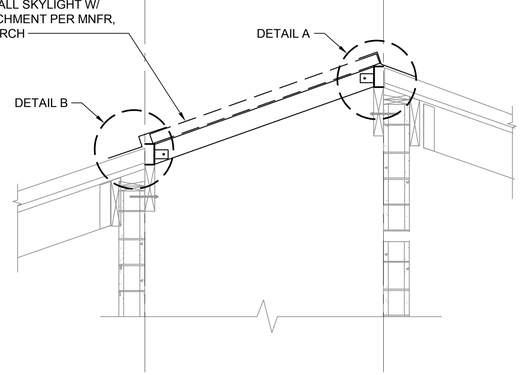


DETAIL B
SKYLIGHT MOUNTING BRACKETS W/ SLOTTED HOLES

A OPTION A - SKYLIGHT SUPPORT
SCALE: 1/2"=1'-0"

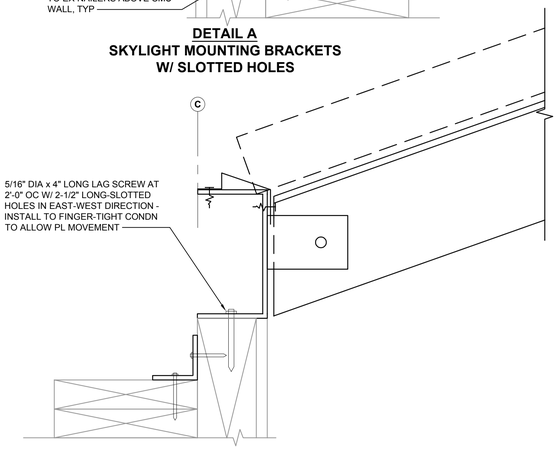


DETAIL A
SKYLIGHT MOUNTING BRACKETS W/ SLOTTED HOLES



NOTE:

1. SEE OPTION A FOR CALLOUTS IN COMMON.
2. VERIFY WITH KALWALL VENDER THAT MC6 x 15.3 PROVIDES ENOUGH HEIGHT FOR INTERMEDIATE SUPPORT ATTACHMENT.



DETAIL B
SKYLIGHT MOUNTING BRACKETS W/ SLOTTED HOLES

B OPTION B - KALWALL SKYLIGHT SUPPORT
SCALE: 1/2"=1'-0"

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Checked: N. Jacoby, P.E., S.E.

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One Inch at Full Scale
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KITSAP COUNTY SEWER UTILITY (KCU) CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC SYSTEM REPLACEMENT

ADMINISTRATION BUILDING SKYLIGHT SUPPORT SECTIONS AND DETAILS

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Date: September 2025

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Xref Filename: | X23-10865_TB -FSI_24x36 | Dahl | X23-10865_Status | Palmatier | Jacoby |

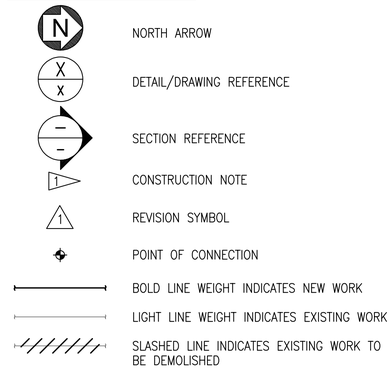
GENERAL ABBREVIATIONS

ADDN	ADDITION, ADDITIONAL
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
APPROX	APPROXIMATELY
ARCH	ARCHITECT
AUX	AUXILIARY
BAL	BALANCING
BLDG	BUILDING
BSMT	BASEMENT
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
CAP	CAPACITY
CL	CENTERLINE
COND	CONDENSATE
COL	COLUMN
CONN	CONNECT; CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS; CONTINUATION
COORD	COORDINATE
DEG	DEGREE
DIA	DIAMETER
DIFF	DIFFERENTIAL
DIM	DIMENSION
DISCH	DISCHARGE
DIV	DIVISION
DN	DOWN
DP	DIFFERENTIAL PRESSURE
DR	DRAIN
DWG	DRAWING
EA	EACH
EFF	EFFICIENCY
ELEC	ELECTRICAL ENGINEER
ELEV	ELEVATION; ELEVATOR
EMCS	ENERGY MANAGEMENT CONTROL SYSTEM
ENT	ENTERING
EQ	EQUAL
EQUIP	EQUIPMENT
ET	EXPANSION TANK
EWT	ENTERING WATER TEMPERATURE
EX, (E)	EXISTING
EXP	EXPOSED
EXPL	EXPLOSION
F	FAHRENHEIT
FIO	FURNISHED & INSTALLED BY OWNER
FLEX	FLEXIBLE
FLR	FLOOR
FOIC	FURNISHED BY OWNER, INSTALLED BY CONTRACTOR
FP	FIRE PROTECTION; FREEZE PROTECTION
FT	FEET; FOOT; FEET OF WATER(PRESS)
GA	GAGE; GAUGE
GAL	GALLON
GC	GENERAL CONTRACTOR
GEN	GENERAL
GPM	GALLONS PER MINUTE
GWB	GYPSUM WALLBOARD
H	HEIGHT; HIGH
HOA	HAND OFF AUTOMATIC
HOR	HORIZONTAL
HP	HORSE POWER
HR	HOUR
HZ	HERTZ
IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER
IFC	INTERNATIONAL FIRE CODE
IMC	INTERNATIONAL MECHANICAL CODE
IN	INCH
INFO	INFORMATION
INSUL	INSULATE; INSULATION
KW	KILOWATT
KWH	KILOWATT HOUR
L	LENGTH; LONG (DIM)
LAB	LABORATORY
LAV	LAVATORY
LB	POUND
LBS/HR	POUNDS PER HOUR
LF	LINEAL FEET
LO	LOW
LTG	LIGHTING
LVG	LEAVING
LWT	LEAVING WATER TEMPERATURE
MAT	MATERIAL
MAX	MAXIMUM
MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR
MECH	MECHANICAL; MECHANICAL CONTRACTOR
MED	MEDIUM
MFG	MANUFACTURING
MFR	MANUFACTURER
MIN	MINIMUM; MINUTE
MISC	MISCELLANEOUS
MTD	MOUNTED
N	NORTH
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN; NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER; OVERALL DIMENSION
OPP	OPPOSITE
PD	PRESSURE DROP
PERF	PERFORATED
PERP	PERPENDICULAR
PH	PHASE
POC	POINT OF CONNECTION
PRELIM	PRELIMINARY
PRESS	PRESSURE
PROP	PROPERTY; PROPOSAL
PS	PRESSURE SWITCH
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAGE
PT	PRESSURE/TEMPERATURE TAP
QTY	QUANTITY
RAD	RADIATOR
REF	REFERENCE
REFR	REFRIGERATION
REQD	REQUIRED
RET	RETURN
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
S	SOUTH
SCHED	SCHEDULE
SECT	SECTION
SF	SQUARE FEET
SHT	SHEET
SIM	SIMILAR
SOL	SOLENOID
SPEC	SPECIFICATION
SPECD	SPECIFIED
SQ	SQUARE
STD	STANDARD
STRUCT	STRUCTURAL ENGINEER
TBD	TO BE DETERMINED
TD	TEMPERATURE DIFFERENTIAL
TEMP	TEMPERATURE
TH	TOTAL HEAD
THRU	THROUGH
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UTIL	UTILITY
V	VOLT
VAR	VARIABLE
VEL	VELOCITY
VERT	VERTICAL
VOL	VOLUME
W	WATER; WIDE(DIM); WATT
W/	WITH
W/O	WITHOUT
WT	WEIGHT

HVAC ABBREVIATIONS

AL	ACOUSTIC LINED; ALUMINUM
AC	AIR CONDITIONING
AD	AUTOMATIC DAMPER
AF	AIR FOIL
AHU	AIR HANDLING UNIT
BDD	BACKDRAFT DAMPER
BHP	BRAKE HORSEPOWER
BI	BACKWARD INCLINED
BOD	BOTTOM OF DUCT
C	CONDENSATE; COMMON
CC	COOLING COIL
CFM	CUBIC FEET PER MINUTE
CG	CEILING GRILLE
CH	CABINET HEATER
CLG	COOLING
CV	CONSTANT VOLUME
CU	CONDENSING UNIT
DDC	DIRECT DIGITAL CONTROLS
DMPR	DAMPER
DB	DRY BULB TEMPERATURE(°F)
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
EG	EXHAUST GRILLE
EXH	EXHAUST
FA	FACE AREA
FD	FIRE DAMPER
FF	FINAL FILTER
FPM	FEET PER MINUTE
FS	FLOW SWITCH
FV	FACE VELOCITY
GALV	GALVANIZED
GR	GRILLE
H	HUMIDIFIER, HUMIDISTAT
HC	HEATING COIL
HTG	HEATING
HV	HEAT AND VENT UNIT
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
HX	HEAT EXCHANGER
IMC	INTERNATIONAL MECHANICAL CODE
LAT	LEAVING AIR TEMPERATURE
OA	OUTSIDE AIR
OAT	OUTSIDE AIR TEMPERATURE
ODP	OPEN DRIPPROOF
OSA	OUTSIDE AIR
OV	OUTLET VELOCITY
PF	PREFILTER
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION (GAS)
RH	RELATIVE HUMIDITY
RA	RETURN AIR
RF	RETURN FAN
RG	RETURN GRILLE
S	SUPPLY
SP	STATIC PRESSURE
SD	SUPPLY DIFFUSER
SA	SUPPLY AIR; SOUND ATTENUATOR
SF	SUPPLY FAN
SG	SUPPLY GRILLE
SR	SUPPLY REGISTER
SS	SPLIT SYSTEM
T, TSTAT	THERMOSTAT
TEFC	TOTALLY ENCLOSED, FAN COOLED
TG	TRANSFER GRILLE
UMC	UNIFORM MECHANICAL CODE
UH	UNIT HEATER
UV	UNIT VENTILATOR
VAV	VARIABLE AIR VOLUME
VSD	VARIABLE SPEED DRIVE
VENT	VENTILATE; VENTILATION
VD	VOLUME DAMPER
WG	WALL GRILLE; WATER GAGE
WSEC	WASHINGTON STATE ENERGY CODE
WB	WET BULB TEMPERATURE(°F)

GENERAL LEGEND



NORTH ARROW

DETAIL/DRAWING REFERENCE

SECTION REFERENCE

CONSTRUCTION NOTE

REVISION SYMBOL

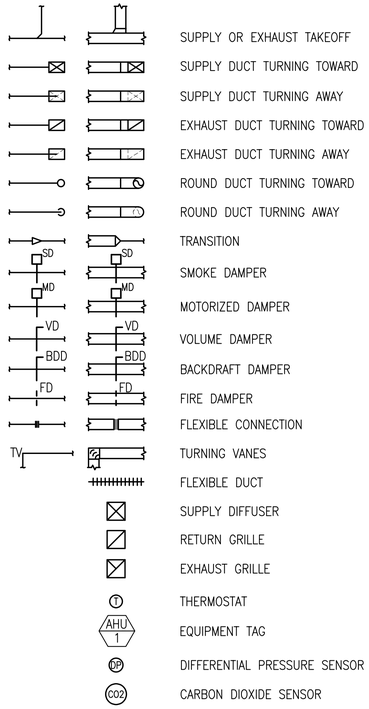
BOLD LINE WEIGHT INDICATES NEW WORK

LIGHT LINE WEIGHT INDICATES EXISTING WORK

SLASHED LINE INDICATES EXISTING WORK TO BE DEMOLISHED

HVAC DUCTWORK LEGEND

SINGLE LINE DUCTWORK INDICATES VIEW DIMENSION LESS THAN 12 INCHES



SUPPLY OR EXHAUST TAKEOFF

SUPPLY DUCT TURNING TOWARD

SUPPLY DUCT TURNING AWAY

EXHAUST DUCT TURNING TOWARD

EXHAUST DUCT TURNING AWAY

ROUND DUCT TURNING TOWARD

ROUND DUCT TURNING AWAY

TRANSITION

SMOKE DAMPER

MOTORIZED DAMPER

VOLUME DAMPER

BACKDRAFT DAMPER

FIRE DAMPER

FLEXIBLE CONNECTION

TURNING VANES

FLEXIBLE DUCT

SUPPLY DIFFUSER

RETURN GRILLE

EXHAUST GRILLE

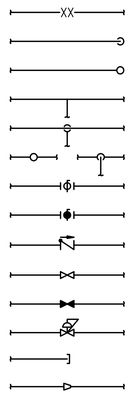
THERMOSTAT

EQUIPMENT TAG

DIFFERENTIAL PRESSURE SENSOR

CARBON DIOXIDE SENSOR

HVAC PIPING LEGEND



PIPING IDENTIFIER, SEE ABBREVIATIONS

ELBOW DOWN

ELBOW UP

TEE

TEE DN

TEE UP

ISOLATION OR SHUT-OFF VALVE (NO), TYPE AS SPECIFIED

ISOLATION OR SHUT-OFF VALVE (NC), TYPE AS SPECIFIED

CHECK VALVE

ISOLATION OR SHUT-OFF VALVE (NO), TYPE AS SPECIFIED

ISOLATION OR SHUT-OFF VALVE (NC), TYPE AS SPECIFIED

PRESSURE REDUCING VALVE

CAP

REDUCER

GENERAL CONSTRUCTION NOTES

1. PLANS ARE DIAGRAMMATIC AND DO NOT SHOW ALL BRANCHES, VALVES, SPECIALTIES AND EQUIPMENT.
2. ALL PIPING, VALVES AND EQUIPMENT ARE TO BE REMOVED IN DEMOLITION AREAS.
3. VALVES INDICATED FOR SHUT-OFF ISOLATION ARE SHOWN IN APPROXIMATE LOCATIONS. REFER TO REFERENCED BLDG. DRAWINGS FOR DETAILED SYSTEMS.
4. FIELD VERIFY EXACT LOCATIONS VALVES, EQUIPMENT AND PIPING.
5. CONTRACTOR TO VERIFY SYSTEM SHUT DOWN PRIOR TO ANY REMOVAL WORK.
6. CONTRACTOR TO RE-OPEN VALVES AFTER COMPLETION OF REMOVAL, CAP, & CUT TO RESTORE SYSTEM OPERATION WHERE REQUIRED.
7. SYSTEM SHUT DOWN REMOVAL, CUT & CAP SHALL ONLY BEGIN AFTER NEW, RE-ROUTED SYSTEM IS IN PLACE FOR SERVICE CONTINUITY WHERE REQUIRED.
8. ALL SYSTEMS SHALL BE DRAINED AND DISPOSAL OF FLUIDS HANDLED AS REQUIRED PER OWNER'S STANDARDS.
9. MECHANICAL DRAWINGS SHOW DISCONNECT AND RECONNECT POINTS AT THE PROJECT'S BOUNDARIES. AN ATTEMPT WAS MADE TO SHOW MAJOR MECHANICAL UTILITY WORK WITHIN THE PROJECT'S BOUNDARIES. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL/DISPOSAL OF ALL MECHANICAL WORK WITHIN THE PROJECT'S BOUNDARY.

2021 WASHINGTON STATE ENERGY CODE NOTES

1. PROVIDE POST CONSTRUCTION COMMISSIONING AND COMPLETION REQUIREMENTS IN ACCORDANCE WITH SECTION C408 AND ACCORDING WITH THE CONTRACT DOCUMENTS. SEE SPECIFICATION SECTIONS 23 05 00, 23 08 00 AND ALL OTHER APPLICABLE SPECIFICATION SECTIONS.
2. PROVIDE CLOSE OUT DOCUMENTATION AND TRAINING OF BUILDING OPERATIONS PERSONNEL FOR ALL MECHANICAL COMPONENTS IN ACCORDANCE WITH SECTION C103.6. SEE SPECIFICATIONS FOR MORE INFORMATION.
3. EACH SUPPLY AIR OUTLET AND ZONE TERMINAL DEVICE SHALL BE EQUIPPED WITH MEANS FOR AIR BALANCING PER SECTION C408.2.2.1. SEE SPECIFICATIONS FOR DETAILS.
4. BALANCE ALL HVAC SYSTEMS IN ACCORDANCE WITH SECTION C408.2.2, GENERALLY ACCEPTED ENGINEERING STANDARDS AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. SEE SPECIFICATION SECTION 23 05 93 AND ALL OTHER APPLICABLE SPECIFICATION SECTIONS.
5. ALL DUCTWORK SHALL BE CONSTRUCTED AND ERECTED PER THE INTERNATIONAL MECHANICAL CODE 2021 EDITION. SEE SECTION C403.10.2 OF THE 2021 WASHINGTON STATE ENERGY CODE AND SPECIFICATIONS FOR MORE INFORMATION.
6. ALL NEW DUCTWORK IS LOW PRESSURE.
7. ALL DUCTS AND PLENUMS THAT ARE PART OF AN HVAC SYSTEM SHALL BE THERMALLY INSULATED IN ACCORDANCE WITH TABLE C403.10.1.1 OR C403.10.1.2. SEE SPECIFICATIONS FOR MORE INFORMATION.
8. ALL PIPING SERVING AS PART OF A HEATING OR COOLING SYSTEM SHALL BE THERMALLY INSULATED IN ACCORDANCE WITH TABLE C403.10.3. SEE SPECIFICATIONS FOR MORE INFORMATION.
9. PROVIDE CONTROLS IN ACCORDANCE WITH SECTION C403.4 AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
10. ALL PIPING SERVING AS PART OF PLUMBING SYSTEMS SHALL BE THERMALLY INSULATED IN ACCORDANCE WITH TABLE C403.10.3. SEE SPECIFICATIONS FOR MORE INFORMATION.

HVAC GENERAL NOTES

1. THE MECHANICAL SCOPE OF WORK FOR THE LAB & ADMIN BUILDING CONSISTS OF DEMOLITION OF EXISTING MECHANICAL EQUIPMENT AND DUCTWORK NOTED IN DOCUMENTS, AND INSTALLATION OF NEW FCUS AND ERVS.
2. THE MECHANICAL SCOPE OF WORK FOR THE PROCESS BUILDING CONSISTS OF REPLACEMENT OF ACTUATORS FOR MODULATING OUTSIDE AIR AND BYPASS DAMPERS AND THE ADDITION OF CONTROL VALVES TO EXISTING HEATING HOT WATER SUPPLY PIPING.
3. THE MECHANICAL SCOPE OF WORK FOR THE HEADWORKS BUILDING CONSISTS OF DEMOLITION OF EXISTING AIR CONDITIONING UNIT, AND REPLACEMENT WITH A LIKE-IN-KIND AIR CONDITIONING UNIT WITH A HEROSITE COATING.

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

HVAC LEGEND, ABBREVIATIONS AND GENERAL NOTES

Drawing: M0.01
Sheet: 18 of 47
File: COMPLETE
Date: September 2025

Path: I:\22051 CKTP HVAC Upgrade\Working Drawi Filename: M0.01 Plot date: Sep 24, 2025-12:46:35pm CAD User: timo.

MECHANICAL COMPLIANCE SUMMARY

2021 WSEC Compliance Forms for Commercial Buildings including Group R1, R2, and Group R3 & R4 over 3 stories

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Project & Applicant Information	Project Title	Kitsap County Sewer Utility (KCU) Central Kitsap Treatment Plant (CKTP) HVAC System Replacement - 2021 WSEC	For Building Department Use:
	Project Address	614 Division Street, MS 26 Port Orchard, WA 98366	Date: May 27, 2025
	Applicant Name	Brent Quigley	
	Applicant Phone	206-385-6144	
	Applicant Email	brentq@fsi-engineers.com	

Mechanical Compliance Summary Scope - Compliance verification provided in this report is limited to code minimum efficiency requirements for mechanical equipment types defined in Tables C403.3.2(1) through C403.3.2(16) of the 2021 WSEC-C. This includes efficiency multipliers for economizer exceptions. Performance criteria for additional energy efficiency and load management measures ARE NOT included in this report. Additional documentation is required to demonstrate compliance with all other provisions of the energy code, including better than code efficiency criteria for Section C406. For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com.

General Occupancy	All Commercial	**General Building Use Type(s)**		Industrial		**Building Cond. Floor Area**	4,600
General Project Types	Alteration	**New Building or Addition Mechanical Scope**		**Alteration Mechanical Scope**	Multiple Zone Systems & Equipment	**Project Cond. Floor Area**	4,600
						Floors Above Grade	1
						Overall Compliance Path	General Prescriptive
Mechanical Project Description	Demolition of existing air handler unit, ductwork, replacement with new air handler, variable air volume boxes, and energy-recovery ventilators.						

Mechanical Compliance Scope and Method	**Project Type**	**Mechanical Scope**	**Economizer Exception(s) Applied?**	**DOAS Ventilation Provided?**		**Equipment Efficiency Compliance Verification**
	Alteration	Multiple Zone Systems & Equipment	Yes	Yes		**COMPLIES**
Additional Energy Efficiency Measures (AEM)	No mechanical additional energy efficiency measures included in project			**Load Management Measures (LDM)**	No mechanical load management measures included in project	
Does building include occupancy classifications requiring DOAS?			No	**Does project include DOAS equipment?**		Yes
Based on project scope do TSPR requirements apply?			No	**Do all systems comply with Appendix D standard reference design or qualify for an exception to TSPR?**		Yes

Scope & Space Conditioning	**ALTERATION - MULTIPLE ZONE SYSTEMS & EQUIPMENT**	**Compliance Verification**	**COMPLIES**

Multiple Zone Air Systems Category - Heat pump, split & single package

Air Systems Summary Information

System/Equip ID	Supply Airflow Control	Ventilation Standard	Ventilation CFM	Ventilation Air Source	Paired with DOAS	Ventilation energy recovery	Energy Recovery Efficiency (%)
CU-1, FCU-1	VAV with zone return or exhaust control	IMC Multiple Zones Ventilation	630	Separate DOAS	ERV-1, ERV-2	Yes per C403.5 Energy Recovery	75.9
CU-2, FCU-2	VAV with zone return or exhaust control	IMC Multiple Zones Ventilation	765	Separate DOAS	ERV-1, ERV-2	Yes per C403.5 Energy Recovery	75.9
CU-3	Constant volume	IMC Multiple Zones Ventilation	85	Separate DOAS	ERV-3	Provided but not required	74.7

Air Systems & Equipment - Cooling

System/ Equip ID	Cooling System/Equip Type	Specific Type	Cooling Capacity (Btu/h)	Econo Exception Multipliers (Full/IPLV)		Required Cooling Efficiency (Code Min + Econo)	Required Part Load Efficiency (Code Min + Econo)	Proposed Cooling Efficiency	CE Units	Proposed Part Load Efficiency	PL Units	Efficiency Compliance Verification
CU-1, FCU-1	Heat pump, air cooled	Split system	36,100	1.0	1.0	14.3	0	23	SEER2		IEER	COMPLIES
CU-2, FCU-2	Heat pump, air cooled	Split system	36,100	1.0	1.0	14.3	0	23	SEER2		IEER	COMPLIES
CU-3	Heat pump, air cooled	Split system	18,000	1.0	1.0	14.3	0	15.2	SEER2		IEER	COMPLIES

Air Systems & Equipment - Heating

System /Equip ID	Heating System/Equip Type	Specific Type	Heat Pump Heating Capacity (Btu/h)	Cooling Capacity (Btu/h) (Identical to Cooling Table)	Required Heat Pump Heating Efficiency	Required Low OSA Temp Efficiency	Proposed Heat Pump Heating Efficiency	HPH Units	Proposed Low OSA Temp Efficiency	LTH Units	Efficiency Compliance Verification
CU-1, FCU-1	Heat pump, air cooled, heating	Split system	36,960	36,100	7.5	0	9.6	HSPF2		COP	COMPLIES
CU-3	Heat pump, air cooled, heating	Split system	17,400	18,000	7.5	0	7.8	HSPF2		COP	COMPLIES
CU-2, FCU-2	Heat pump, air cooled, heating	Split system	36,960	36,100	7.5	0	9.6	HSPF2		COP	COMPLIES

Air Systems & Equipment Details

System/Equip ID	Discrete Area(s) Served	Location In Project Documents - Plan/Detail #	System/Equip Compliance Path
CU-1, FCU-1	Lab	M4.01, M5.01	General Prescriptive
	Heating Section/Auxiliary Heating Type: Electric resistance (or None)		Economizer Compliance Method: Applying air-side economizer exception
	Air-side economizer exception applied: Exp 1 - DOAS paired with cooling system (Note equip location limitations)		
	WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(2) Unitary Air-Cooled Heat Pumps		
	WSEC Equip Efficiency Reference Table - Heating: Refer to Cooling Reference Table		
CU-2, FCU-2	Lab	M4.01, M5.01	General Prescriptive
	Heating Section/Auxiliary Heating Type: Electric resistance (or None)		Economizer Compliance Method: Applying air-side economizer exception
	Air-side economizer exception applied: Exp 1 - DOAS paired with cooling system (Note equip location limitations)		
	WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(2) Unitary Air-Cooled Heat Pumps		
	WSEC Equip Efficiency Reference Table - Heating: Refer to Cooling Reference Table		
CU-3	Back of House	M4.01, M5.01	General Prescriptive
	Heating Section/Auxiliary Heating Type: Electric resistance (or None)		Economizer Compliance Method: Applying air-side economizer exception
	Air-side economizer exception applied: Exp 1 - DOAS paired with cooling system (Note equip location limitations)		
	WSEC Equip Efficiency Reference Table - Cooling: Table C403.3.2(2) Unitary Air-Cooled Heat Pumps		
	WSEC Equip Efficiency Reference Table - Heating: Refer to Cooling Reference Table		

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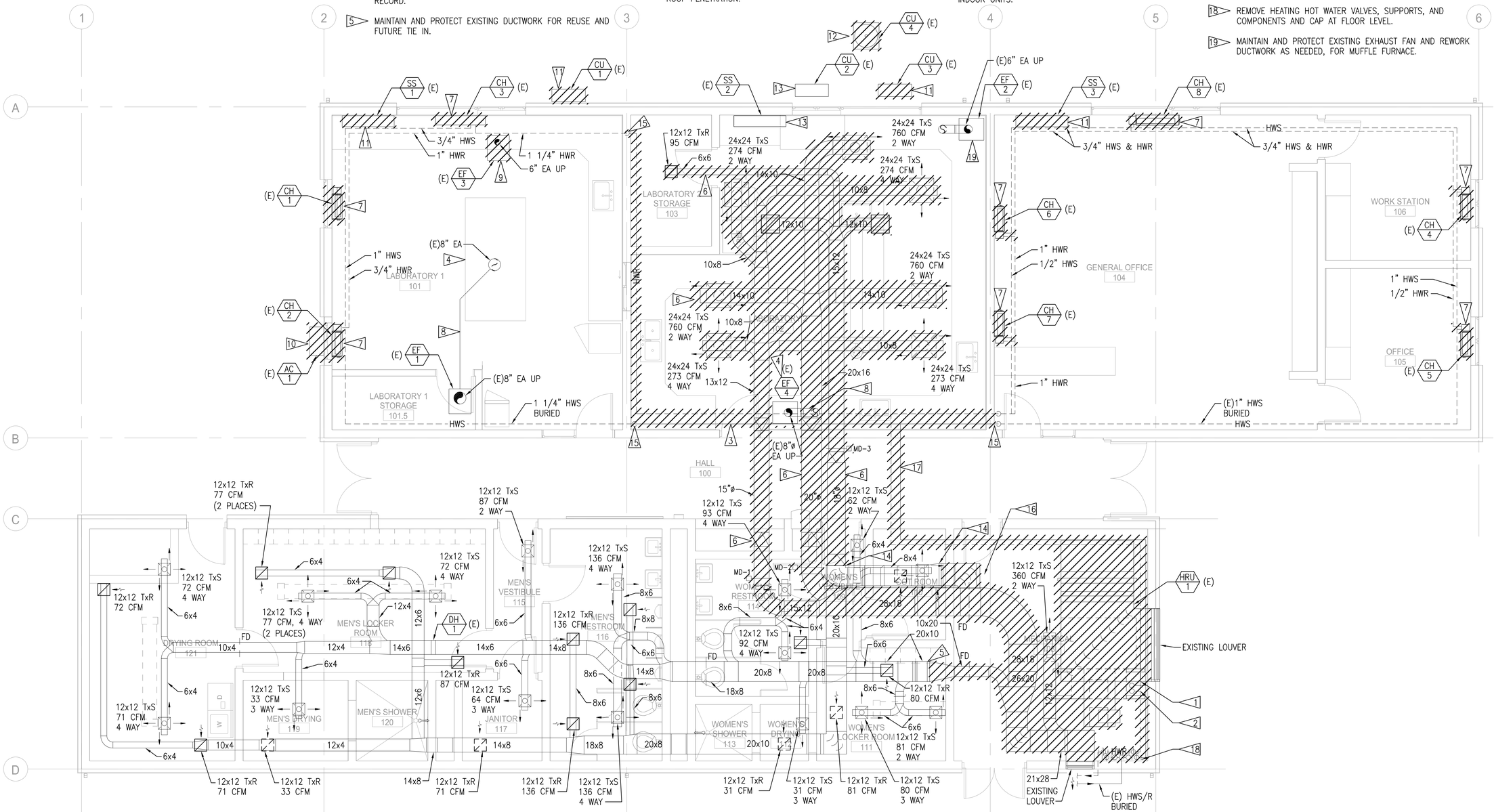
GENERAL NOTES

1. DEMOLISH SYSTEMS IN WEST AND EAST LABS IN COMPLIANCE WITH COUNTY–APPROVED LAB CONSTRUCTION PHASING PLAN.

DEMOLITION NOTES

1. REMOVE EXISTING HEAT RECOVERY UNIT, DUCTWORK, AND PIPING CONNECTIONS. MAINTAIN OUTSIDE AIR AND EXHAUST LOUVERS.
2. REMOVE EXISTING HEATING HOT WATER HWS/R PIPING, VALVES AND SUPPORTS TO HEAT RECOVERY UNIT.
3. REMOVE EXISTING HEATING HOT WATER HWS/R PIPING AND SUPPORTS WITHIN LAB 102 ROUTING TO LAB 101.
4. MAINTAIN AND PROTECT EXISTING FUME HOOD. TAKE AIRFLOW READINGS OF EXHAUST FANS PRIOR TO DEMOLITION WORK FOR RECORD.
5. MAINTAIN AND PROTECT EXISTING DUCTWORK FOR REUSE AND FUTURE TIE IN.
6. REMOVE EXISTING DUCTWORK, DIFFUSERS, GRILLES, SUPPORTS, AND APPURTENANCES.
7. REMOVE EXISTING CABINET HEATER, HEATING HOT WATER VALVES, AND HEATING HOT WATER PIPING. CAP PIPING AT FLOOR AND LEAVE PIPING UNDER SLAB ABANDONED IN PLACE.
8. MAINTAIN AND PROTECT EXISTING EXHAUST FAN AND DUCTWORK FOR LAB HOOD EXHAUST.
9. REMOVE EXISTING EXHAUST FAN AND DUCTWORK AND PATCH ROOF PENETRATION.
10. REMOVE EXISTING THROUGH WALL AIR CONDITIONING UNIT. OPENING TO BE ENCLOSED BY NEW WINDOW PER ARCHITECTURAL DRAWINGS.
11. REMOVE EXISTING SPLIT SYSTEM OUTDOOR AND INDOOR UNITS AND ASSOCIATED PIPING AND RETURN TO OWNER. PATCH WALL PENETRATIONS.
12. REMOVE EXISTING CONDENSING UNIT, ASSOCIATED PIPING, AND CONCRETE PAD.
13. MAINTAIN AND PROTECT EXISTING SPLIT SYSTEM OUTDOOR AND INDOOR UNITS.
14. REMOVE RETURN DUCTWORK UP TO TEE AND CAP OPEN END.
15. DRAIN BURIED HEATING HOT WATER PIPING WITH COMPRESSED AIR FOR ANY POTENTIAL LOW POINTS AND CAP OPEN END AT TOP OF VERTICAL PIPE CHASE. LEAVE PIPING UNDERSLAB AND IN WALL CAVITY ABANDONED IN PLACE.
16. MAINTAIN AND PROTECT DOMESTIC HOT WATER PIPING AND WATER HEATER IN MECHANICAL ROOM.
17. REMOVE EXISTING HOT WATER HWS/R PIPING AND SUPPORTS THROUGH TRANSFER STRUCTURE AND IN MECHANICAL ROOM.
18. REMOVE HEATING HOT WATER VALVES, SUPPORTS, AND COMPONENTS AND CAP AT FLOOR LEVEL.
19. MAINTAIN AND PROTECT EXISTING EXHAUST FAN AND REWORK DUCTWORK AS NEEDED, FOR MUFFLE FURNACE.



N 1 LAB-ADMIN BUILDING - HVAC DEMOLITION FLOOR PLAN
SCALE: 1/4"=1'-0"

4 3 2 1 0 4 8 12 FEET
SCALE: 1/4" = 1'-0"

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

LAB-ADMIN BUILDING
HVAC DEMOLITION FLOOR PLAN

Drawing: MD1.01
Sheet: 20 of 47
File: COMPLETE
Date: September 2025

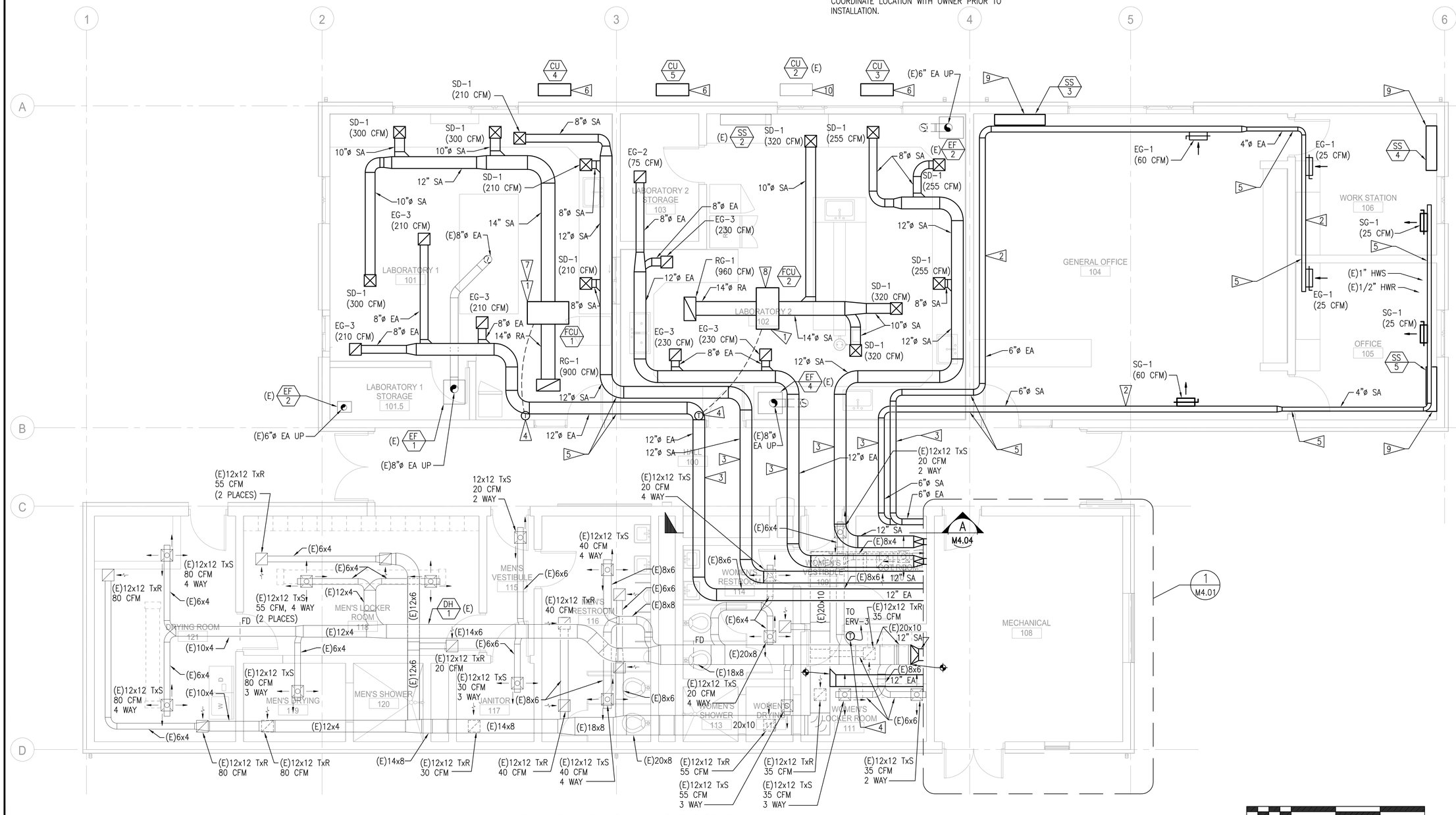
Path: I:\22051 CKTP HVAC Upgrade\Working Drawi Filename: MD1.01-LA Plot date: Sep 24, 2025-12:53:50pm CAD User: timo.

GENERAL NOTES

1. INSTALL SYSTEMS IN WEST AND EAST LABS IN COMPLIANCE WITH COUNTY-APPROVED LAB CONSTRUCTION PHASING PLAN.
2. PROVIDE FLEX DUCT TO ALL INLET AND OUTLET CONNECTIONS.

CONSTRUCTION NOTES

1. PROVIDE AND INSTALL FAN COIL UNIT TO BE MOUNTED ABOVE CEILING. PROVIDE CONDENSATE DRAINAGE PIPING AND ROUTE TO NEAREST SINK TAIL PIECE.
2. PROVIDE AND INSTALL EXPOSED DUCTWORK AND SUPPORTS TIGHT TO ROOF STRUCTURE. MAINTAIN MANUFACTURER'S CLEARANCE REQUIREMENTS OF WALL MOUNTED SPLIT UNITS.
3. ROUTE DUCTWORK IN EXISTING DUCT TRANSFER STRUCTURES.
4. PROVIDE AND MOUNT WALL THERMOSTAT.
5. ROUTE DUCTWORK THROUGH EXISTING INTERIOR WALL. REFER TO ARCHITECTURAL DETAILS ON A1.12 FOR WALL PENETRATION REQUIREMENTS.
6. PROVIDE AND INSTALL EXTERIOR CONDENSING UNIT ON PLASTIC CONDENSING UNIT PAD. PROVIDE REFRIGERANT PIPING AND ROUTE THROUGH NEW WALL PENETRATION TO INTERIOR UNIT. REFER TO ARCHITECTURAL DETAILS ON A1.12 FOR WALL PENETRATION REQUIREMENTS. COORDINATE LOCATION WITH OWNER PRIOR TO INSTALLATION.
7. PROVIDE REFRIGERANT PIPING AND CONNECT TO FAN COIL UNIT. ROUTE PIPING TO EXTERIOR CONDENSING UNIT (CU-4).
8. PROVIDE REFRIGERANT PIPING AND CONNECT TO FAN COIL UNIT. ROUTE PIPING TO EXTERIOR CONDENSING UNIT (CU-5).
9. PROVIDE AND INSTALL WALL MOUNTED SPLIT UNIT AND PROVIDE REFRIGERANT CONDENSATE PIPING. ROUTE REFRIGERANT PIPING TO EXTERIOR CONDENSING UNIT (CU-3). DRAIN CONDENSATE TO EXTERIOR. PROVIDE NEW WALL PENETRATIONS AND REFER TO ARCHITECTURAL DETAILS ON A1.12 FOR WALL PENETRATION REQUIREMENTS.
10. REPLACE EXISTING REFRIGERANT PIPING CURRENTLY SERVING CU-2 AND SS-2.



N 1 LAB-ADMIN BUILDING - HVAC FLOOR PLAN
SCALE: 1/4"=1'-0"

4 3 2 1 0 4 8 12
SCALE: 1/4" = 1'-0" FEET

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

LAB-ADMIN BUILDING
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Drawing: M1.01
Sheet: 21 of 47
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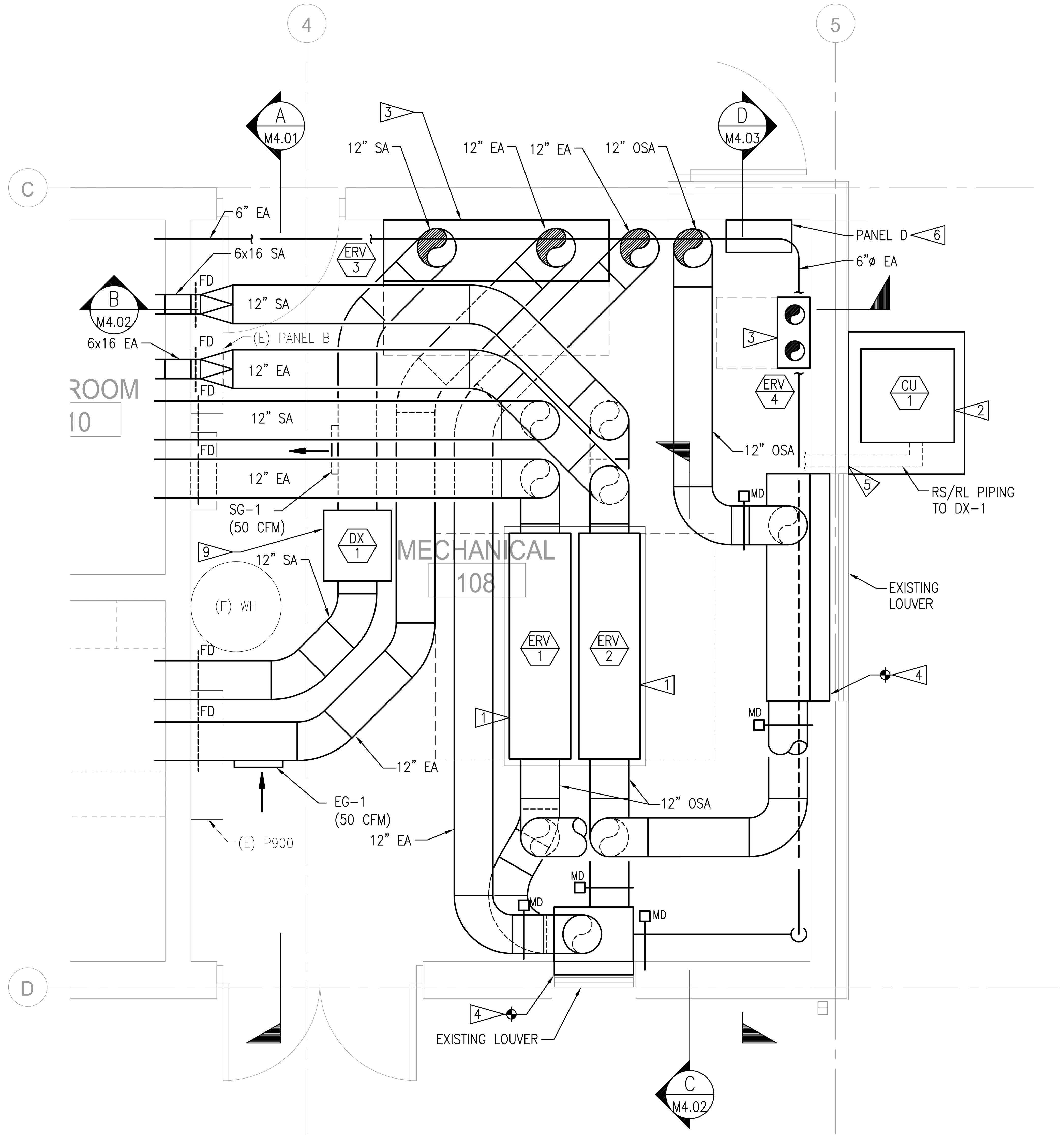
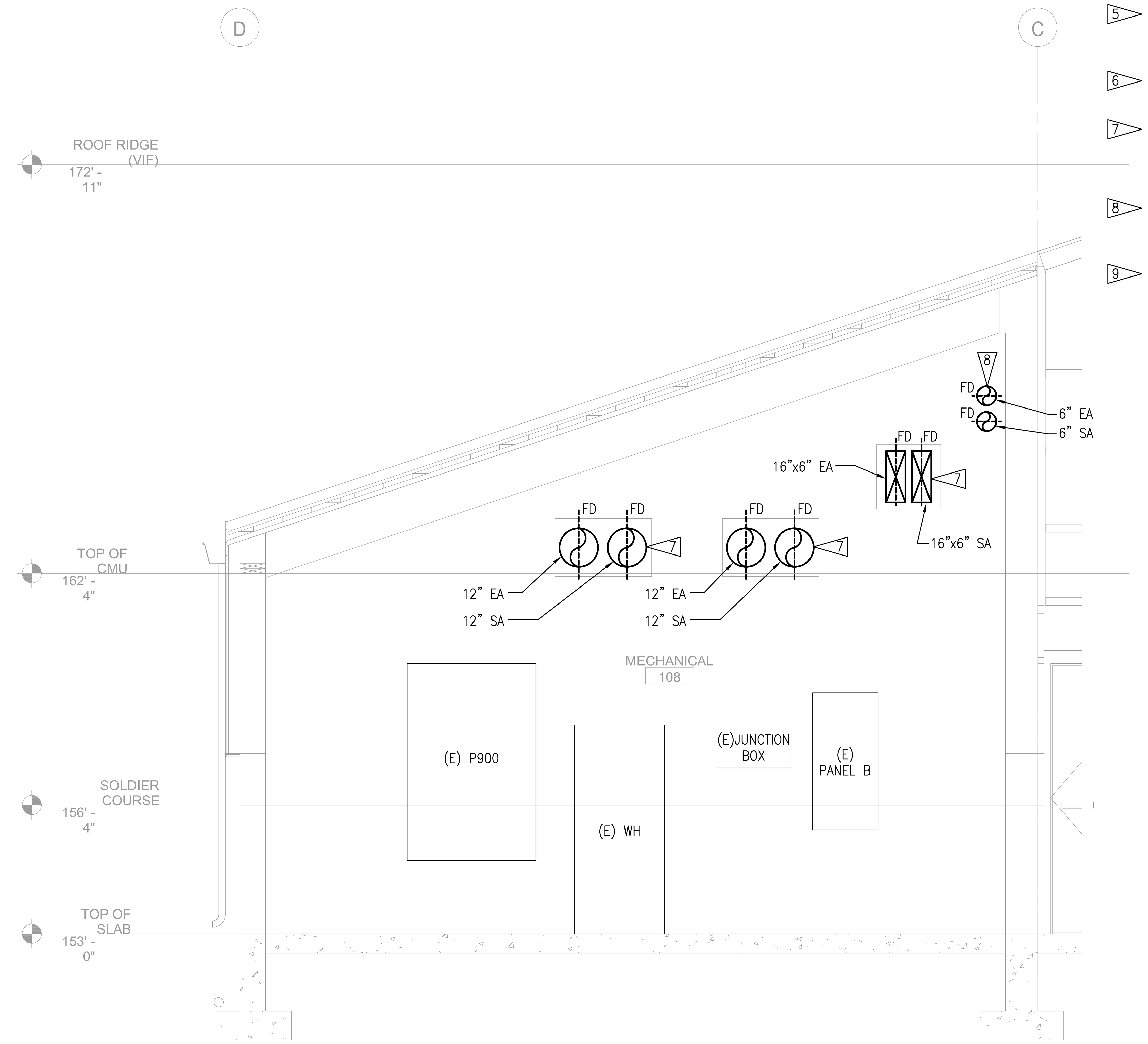


ENLARGED PLAN - MECHANICAL ROOM

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

1 — M1.01 M4.01



SECTION VIEW - MECHANICAL ROOM

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

A — M4.01 M4.01

CONSTRUCTION NOTES

1. PROVIDE AND INSTALL ENERGY RECOVERY VENTILATOR UNIT ON 4" HOUSEKEEPING PAD.
2. PROVIDE AND INSTALL EXTERIOR CONDENSING UNIT ON PLASTIC CONDENSING UNIT PAD.
3. PROVIDE AND MOUNT ENERGY RECOVERY VENTILATOR UNIT ON WALL.
4. PROVIDE DUCT PLENUM BOX AND CONNECT TO EXISTING LOUVER. PROVIDE FLANGED CONNECTIONS FROM DUCTWORK TO PLENUM BOX.
5. ROUTE REFRIGERANT PIPING THROUGH NEW WALL PENETRATION. REFER TO ARCHITECTURAL DETAILS ON A1.12 FOR WALL PENETRATION REQUIREMENTS.
6. MAINTAIN A MIN. 36" CLEAR FROM FRONT OF NEW ELECTRICAL PANEL.
7. ROUTE DUCTWORK THROUGH EXISTING WALL PENETRATION. CONTRACTOR SHALL PROVIDE DUCT TRANSITIONS FOR FIRE DAMPERS AND DUCTWORK THROUGH EXISTING WALL PENETRATIONS.
8. ROUTE DUCTWORK THROUGH EXISTING INTERIOR WALL. REFER TO ARCHITECTURAL DETAILS ON A1.12 FOR WALL PENETRATION REQUIREMENTS.
9. PROVIDE IN-LINE DIRECT EXPANSION COIL AND ROUTE CONDENSATE TO NEAREST FLOOR DRAIN.

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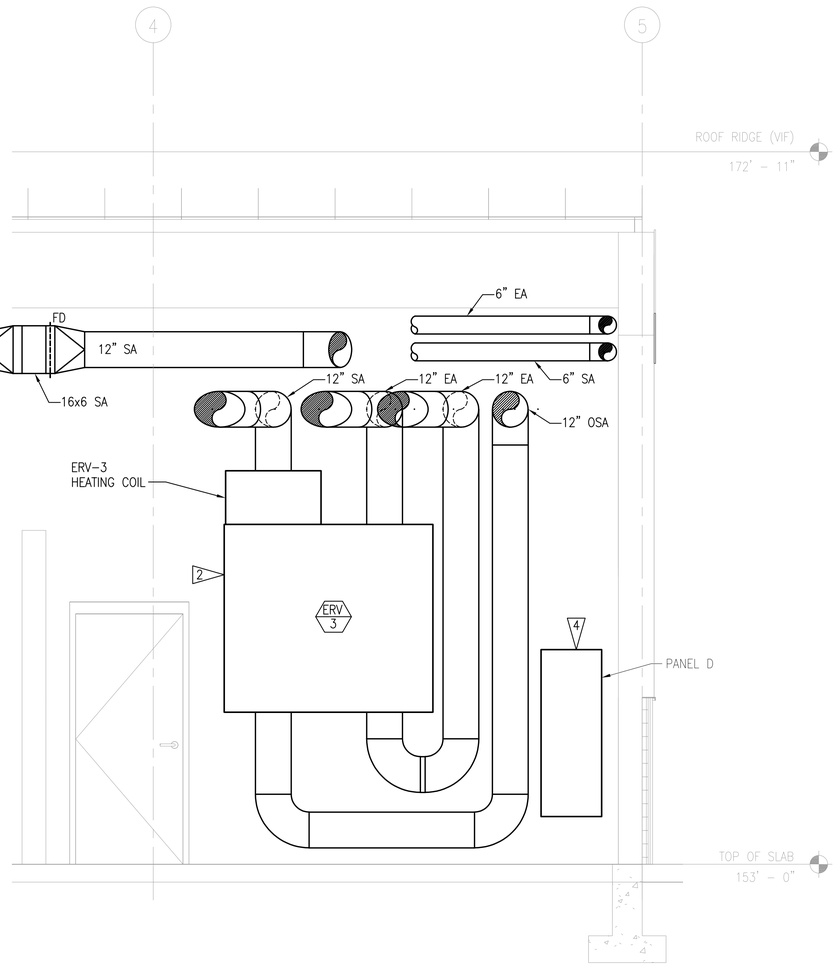
CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

LAB-ADMIN BUILDING
HVAC ENLARGED PLANS

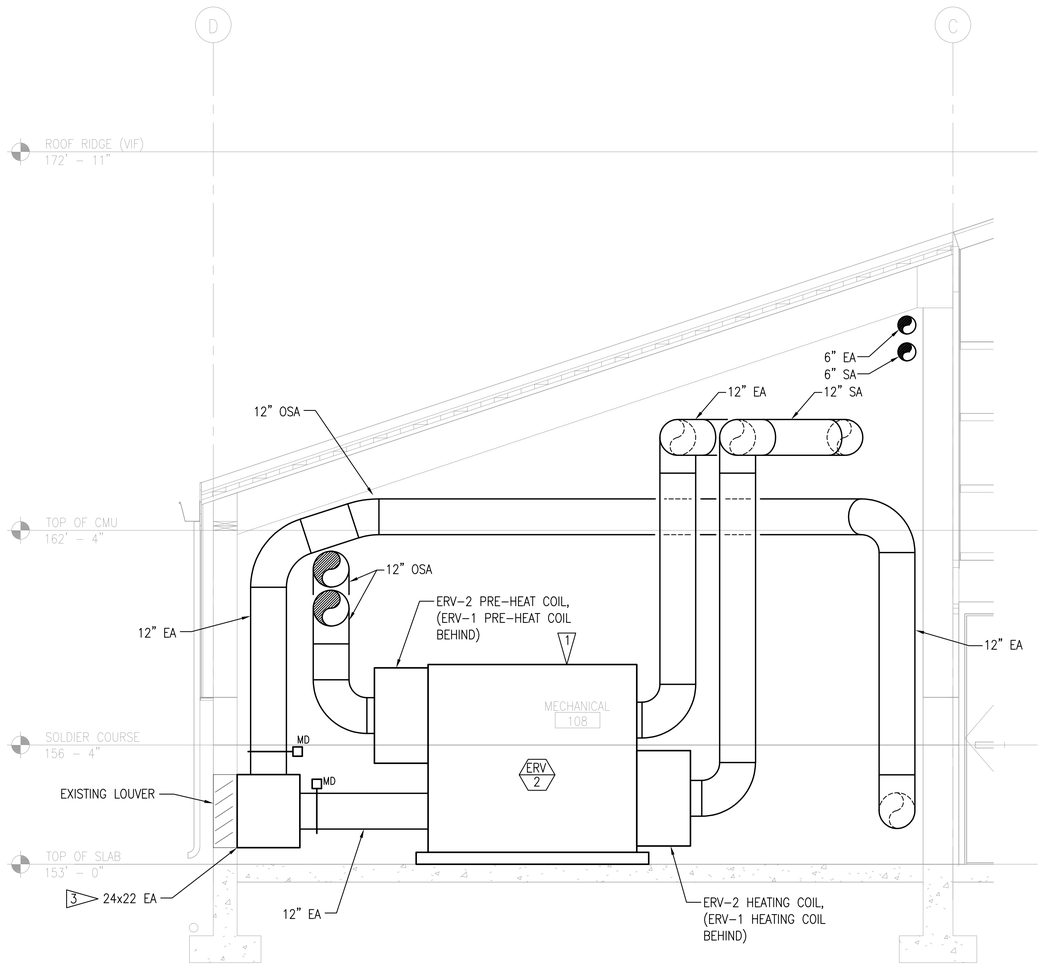
Drawing:	M4.01
Sheet:	22 of 47
File:	COMPLETE
Date:	September 2025

CONSTRUCTION NOTES

1. PROVIDE AND INSTALL ENERGY RECOVERY VENTILATOR UNIT ON 4" HOUSEKEEPING PAD.
2. PROVIDE AND MOUNT ENERGY RECOVERY VENTILATOR UNIT ON WALL. CONTRACTOR TO PROVIDE UNISTRUT AND ANGLE BRACKET DESIGN TO SUPPORT UNIT FROM BOTTOM TO WALL FOR ENGINEER REVIEW. REFER TO STRUCTURAL NOTES ON S1.01 FOR ADDITIONAL LOADING REQUIREMENTS.
3. PROVIDE AND INSTALL 24"X22" PLENUM BOX OVER EXISTING LOUVER. PROVIDE FLANGED CONNECTIONS FROM DUCTWORK TO PLENUM BOX.
4. MAINTAIN A MIN. 36" CLEAR FROM FRONT OF NEW ELECTRICAL PANEL.



SECTION VIEW - MECHANICAL ROOM (B)
SCALE: 1/2"=1'-0"
M4.01 M4.02



SECTION VIEW - MECHANICAL ROOM (C)
SCALE: 1/2"=1'-0"
M4.01 M4.02

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

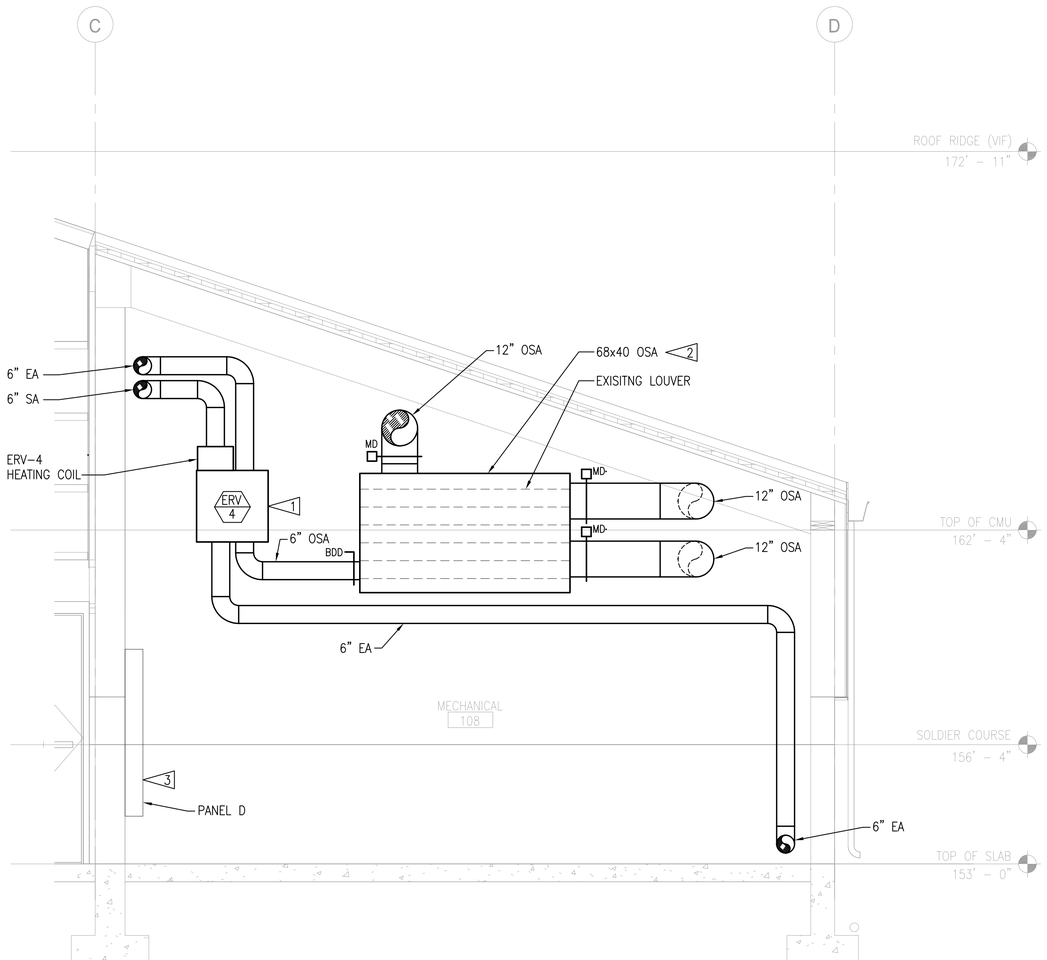
LAB-ADMIN BUILDING HVAC SECTIONS

Drawing: M4.02
Sheet: 23 of 47
File: COMPLETE
Date: September 2025

Path: I:\22051 CKTP HVAC Upgrade\Working Drawi Filename: M4.02 Plot date: Aug 29, 2025-02:42:41pm CAD User: timo.

CONSTRUCTION NOTES

1. PROVIDE AND INSTALL ENERGY RECOVERY VENTILATOR UNIT ON WALL.
2. PROVIDE AND INSTALL 68"X40" PLENUM BOX OVER EXISTING LOUVER. PROVIDE FLANGED CONNECTIONS FROM DUCTWORK TO PLENUM BOX.
3. MAINTAIN A MIN. 36" CLEAR FROM FRONT OF NEW ELECTRICAL PANEL.



SECTION VIEW - MECHANICAL ROOM

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

D
M4.01 | M4.03

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

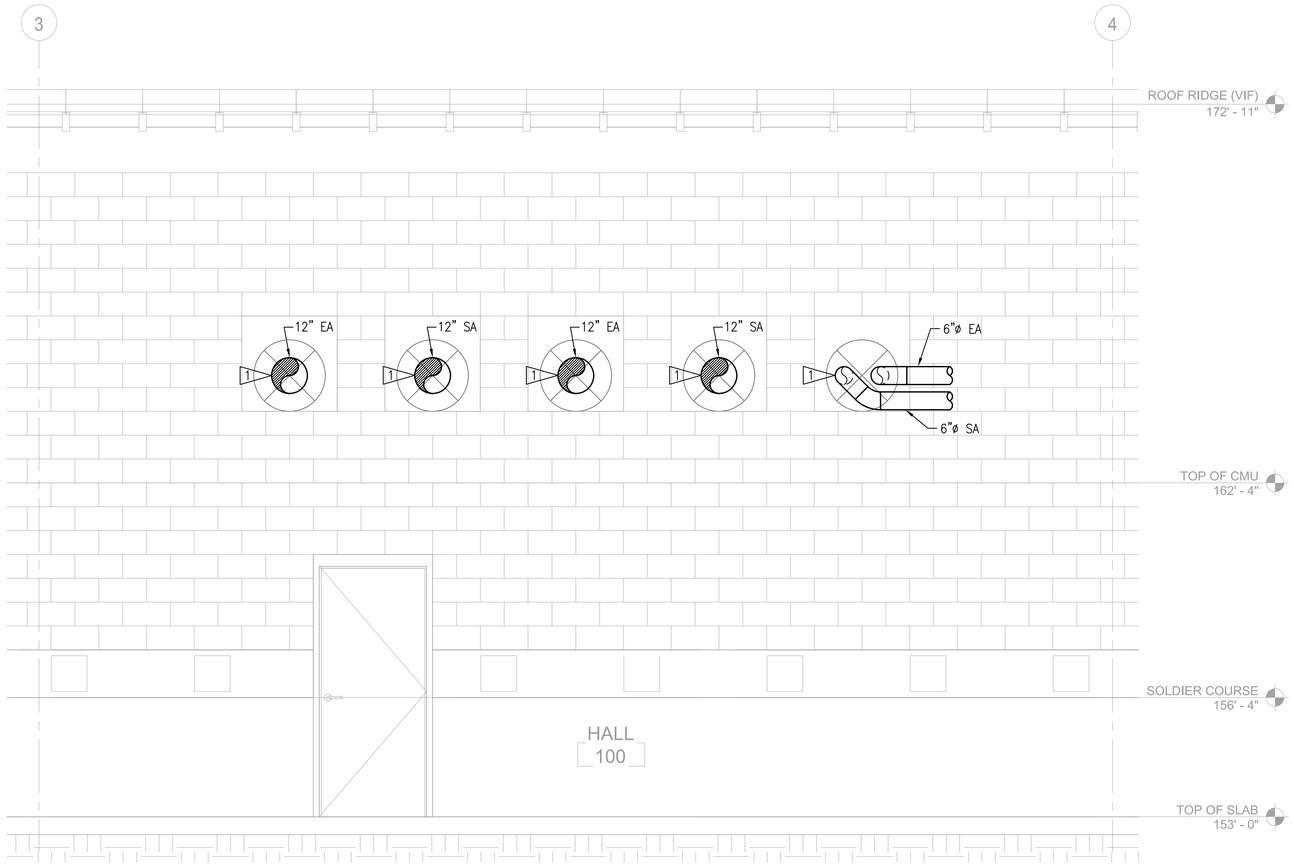
LAB-ADMIN BUILDING HVAC SECTIONS

Drawing: M4.03
Sheet: 24 of 47
File: COMPLETE
Date: September 2025

Path: I:\22051 CKTP HVAC Upgrade\Working Drawi Filename: M4.03 Plot date: Aug 29, 2025-02:49:44pm CAD User: timo.

CONSTRUCTION NOTES

1 PROVIDE AND INSTALL DUCTWORK WITHIN EXISTING DUCT TRANSFER STRUCTURE.



SECTION VIEW -

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

A M1.01 | M4.04

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LAB-ADMIN BUILDING HVAC SECTIONS

Drawing: M4.04
Sheet: 25 of 47
File: COMPLETE
Date: September 2025

Path: I:\22051 CKTP HVAC Upgrade\Working Drawi Filename: M4.04 Plot date: Aug 29, 2025-02:50:15pm CAD User: timo.

VRV SPLIT SYSTEM UNIT SCHEDULE

CALLOUT						INDOOR FAN		COOLING			HEATING				ELECTRICAL [7][8]					BASIS OF DESIGN		
TYPE	MARK	LOCATION	AREA SERVED	UNIT CONFIGURATION	RATED UNIT EFFICIENCY [1] EER2/SEER2	CFM	ESP (IN WC) [2] [3]	NOMINAL CAPACITY (TONS) [5]	TOTAL COOLING (BTUH)	SENSIBLE COOLING (BTUH)	HEATING CAPACITY (BTUH) [5]	MIN EFFICIENCY (HSPF2)	REFER TYPE	OPERATING WEIGHT (LBS)	V	HZ	ø	MOCP	MCA	MANUFACTURER	MODEL	NOTES
FCU	1	WEST LAB	WEST LAB	DUCTED	–	1130	0.5	3	36000	23250	36960	–	R32	105	208	60	1	15	3	DAIKIN	FXMA36AAVJU	
FCU	2	EAST LAB	EAST LAB	DUCTED	–	1130	0.5	3	36000	23250	36960	–	R32	105	208	60	1	15	3	DAIKIN	FXMA36AAVJU	
DX	1	MECH ROOM	BACK OF HOUSE	IN–LINE DUTCTED	–	–	–	1.5	18000	–	17400	–	R32	55	–	–	–	–	–	DAIKIN	CHPTA1822B3	
CU	1	OUTSIDE	ERV–3	–	12.5/15.2	–	–	1.5	18000	–	17400	7.8	R32	160	208	60	1	15	11.4	DAIKIN	DH4SEA1810	
CU	3	OUTSIDE	SS–3, SS–4, SS–5	–	12/21	–	–	2	23000	–	24000	10	R32	140	208	60	1	25	19.9	DAIKIN	3MXM24AVJU9	
CU	4	OUTSIDE	FCU–1	–	12/23	–	–	3	36100	–	36960	9.6	R32	175	208	60	1	20	19.8	DAIKIN	RXTQ36TBVJUB	
CU	5	OUTSIDE	FCU–2	–	12/23	–	–	3	36100	–	36960	9.6	R32	175	208	60	1	20	19.8	DAIKIN	RXTQ36TBVJUB	
SS	3	GEN OFFICE	GENERAL OFFICE	WALL MOUNTED	–	300	–	1	12000	–	12000	–	R32	19	208	60	1	–	–	DAIKIN	FTXV12AVJU9	
SS	4	WORK STATION	WORK STATION	WALL MOUNTED	–	300	–	0.5	7000	–	7000	–	R32	19	208	60	1	–	–	DAIKIN	CTXV07AVJU9	
SS	5	OFFICE	OFFICE	WALL MOUNTED	–	300	–	0.5	7000	–	7000	–	R32	19	208	60	1	–	–	DAIKIN	CTXV07AVJU9	

SCHEDULE NOTES:
[1] TEST PROCEDURE: AHRI 210/240 OR AHRI 340/360
[2] STATIC PRESSURE EXTERNAL TO UNIT
[3] DOES NOT INCLUDE ALLOWANCE FOR FILTER LOADING
[5] NOMINAL TONNAGE INCLUDED FOR REFERENCE ONLY – DO NOT USE FOR FINAL SIZING OF EQUIPMENT
[6] MAXIMUM ALLOWABLE MOTOR BRAKEHORSE POWER AT MAX FLOW AND ESP PER FAN MOTOR
[7] SINGLE POINT CONNECTION. UNIT TO BE PROVIDED WITH DISCONNECT SWITCH
[8] POWER CONNECTION TO BE MADE TO CONDENSING UNIT WITH CONDUIT AND POWER CONNECTED TO INDOOR UNIT FROM OUTDOOR UNIT

ENERGY RECOVERY VENTILATOR SCHEDULE

CALLOUT				SUPPLY FAN							RETURN FAN							FILTER		DX HEATING	MAX SOUND LEVEL (DBA)	OPERATING WEIGHT (LBS)	ELECTRICAL									
									MOTOR							MOTOR							UNIT				PREHEATER			BACKUP HEATER		
TYPE	MARK	LOCATION	SERVICE	FAN TYPE	DRIVE TYPE	CFM [1]	E.S.P. (IN WC) [2]	QTY	RPM [1]	HP	BHP	FAN TYPE	DRIVE TYPE	CFM [1]	E.S.P. (IN WC) [2]	QTY	RPM [1]	HP	BHP	TYPE	MAX VEL	TOTAL HEATING (MBH)			V	HZ	PH	MCA	V	KW	MCA	V	KW	MCA
ERV	1	OUTSIDE WEST LAB	WEST LAB	PLENUM	DIRECT	630	1.0	1	2311	1	1/2	PLENUM	DIRECT	630	1.0	1	2291	1	1/2	MERV 13	500	–	70	610	208	60	1	9.06	208	5	30.06	208	2	12.03
ERV	2	OUTSIDE EAST LAB	EAST LAB	PLENUM	DIRECT	760	1.0	1	2822	1	1/2	PLENUM	DIRECT	760	1.0	1	2344	1	1/2	MERV 13	500	–	70	610	208	60	1	9.06	208	5	30.06	208	2	12.03
ERV	3	LAB/ADMIN MECH ROOM	BACK OF HOUSE	PLENUM	DIRECT	735	1.0	1	2348	1	1/2	PLENUM	DIRECT	735	1.0	1	2426	1	1/2	MERV 8	500	17.4	70	610	208	60	1	9.06	–	–	–	208	5	30.06
ERV	4	LAB/ADMIN MECH ROOM	OFFICE	PLENUM	DIRECT	85	0.5	1	4165	1/8	0.07	PLENUM	DIRECT	85	0.5	1	3861	1/8	0.07	MERV 8	500	–	70	35	120	60	1	15	120	1	8.33	–	–	–

ENERGY RECOVERY VENTILATOR SCHEDULE - CONTINUED

CALLOUT		ENERGY RECOVERY WINTER					ENERGY RECOVERY SUMMER					BASIS OF DESIGN		
TYPE	MARK	OUTSIDE AIR DB/WB (DEG F)	RETURN AIR DB/WB (DEG F)	SUPPLY AIR DB/WB (DEG F)	CAPACITY REDUCTION (MBH)	ASHRAE 90.1 ENTHALPY RECOVERY RATIO	OUTSIDE AIR DB/WB (DEG F)	RETURN AIR DB/WB (DEG F)	SUPPLY AIR DB/WB (DEG F)	CAPACITY REDUCTION (MBH)	ASHRAE 90.1 ENTHALPY RECOVERY RATIO	MANUFACTURER	MODEL	NOTES
ERV	1	35/30.9	70/52.9	62.1/48.3	22.9	76.01	86/65.7	75/63	77.4/63.4	4.68	84.43	OXYGEN8	H10IN	[1]
ERV	2	35/30.9	70/52.9	61/47.6	26.3	72.45	86/65.7	75/63	77.8/63.5	5.44	81.37	OXYGEN8	H10IN	[1]
ERV	3	24.8/24.7	70/52.9	59.8/47.2	32.8	75.94	86/65.7	75/63	77.4/63.4	5.5	85	OXYGEN8	H10IN	[1]
ERV	4	24.8/20.7	70/51.5	54.1/41.3	3.7	61.3	86/65.7	75/62.5	78.9/63.5	0.8	60.4	RENEWAIRE	EV PREMIUM S	[1]

SCHEDULE NOTES
[1] WITH UNIT AT MAXIMUM CONDITIONS.
[2] STATIC PRESSURE EXTERNAL TO UNIT.

AIR OUTLETS AND INLETS SCHEDULE

CALLOUT	AIR TERMINAL DESCRIPTION	AIRFLOW CAPACITY LIMITS (CFM)		NOMINAL SIZE		NECK DIMENSIONS			MAX NC	MAX TSP DROP (IN. W.G.)	MATERIAL	OPD	FINISH	BASIS OF DESIGN		NOTES
		MAXIMUM	MINIMUM	LENGTH	WIDTH	DIAMETER	FOR RECTANGULAR LENGTH	FOR RECTANGULAR WIDTH						MANUFACTURER	MODEL	
SD–1	MODULAR CORE SQUARE CEILING DIFFUSER	415	200	24"	24"		10"	10"	18	0.05	STEEL	NO	WHITE	TITUS	MCD	
RG–1	CEILING MOUNTED LOUVERED RETURN GRILLE W/ FILTER	1000	185	24"	12"	14"	–	–	14	0.05	ALUMINUM BORDER AND CORE	NO	WHITE	TITUS	350FLF1	
EG–1	DUCT MOUNTED SPIRAL GRILLE	70	0	10"	3"	–	–	–	20	0.016	ALUMINUM	NO	N/A	TITUS	S300FS	
EG–2	CEILING MOUNTED EGGCRATE RETURN GRILLE	150	0	6"	6"	8"	–	–	17	0.03	ALUMINUM BORDER AND CORE	NO	WHITE	TITUS	50F	
EG–3	CEILING MOUNTED EGGCRATE RETURN GRILLE	410	175	10"	10"	12"	–	–	14	0.025	ALUMINUM BORDER AND CORE	NO	WHITE	TITUS	50F	
SG–1	DUCT MOUNTED SPIRAL GRILLE	70	0	10"	3"	–	–	–	20	0.016	ALUMINUM	NO	N/A	TITUS	S300FS	

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

HVAC SCHEDULES

Drawing: M5.01
Sheet: 26 of 47
File: COMPLETE
Date: September 2025

Path: I:\22051 CKTP HVAC Upgrade\Working Drawi Filename: M5.01 Plot date: Sep 24, 2025-01:09:00pm CAD User: timo.

SEQUENCE OF OPERATION – VRF/FCU

GENERAL SYSTEM DESCRIPTION AND REQUIREMENTS:

THE FAN COIL UNITs (FCU) ARE EQUIPPED WITH VARIABLE REFRIGERANT FLOW OR VARIABLE REFRIGERANT VOLUME (VRF/VRV). THE FCUs SHALL BE FULLY CONTROLLED BY THE MANUFACTURER'S ELECTRONIC CONTROLLERS AND CONTROL SYSTEM.

PROVIDE GRAPHICAL DISPLAY AND INTERFACE (INTELLIGENT TOUCH MODULE) TO THE SYSTEM DESCRIBED IN THIS DOCUMENT AND SHOWN ON THE DESIGN DRAWINGS. INCLUDE AND PROVIDE ACCESS TO ALL POINTS AVAILABLE TO THE VRF SYSTEM INTERFACE MODULE. ALL SETPOINTS, TIME SCHEDULE SETTINGS AND OTHER VALUES SHALL BE OPERATOR ADJUSTABLE UNLESS INDICATED OTHERWISE.

PROVIDE ROOM THERMOSTATS/SENSORS WITH THE ABILITY TO TEMPORARILY PLACE THE SYSTEM IN OCCUPIED MODE.

PROVIDE ROOM THERMOSTATS/SENSORS WITH THE ABILITY TO ADJUST SETPOINTS +/- 3° F.

INITIAL DEFAULT ROOM TEMPERATURE SETPOINTS SHALL BE 68 DEGREES FOR HEATING AND COOLING.

UNIT OPERATION:

THE UNIT SHALL BE FULLY CONTROLLED BY THE MANUFACTURER'S CONTROL SYSTEM.

THE VRF SYSTEM SHALL INDEX THE SYSTEM TO OCCUPIED MODE AT 7:00 AM TO 6:00 PM. WHEN NOT IN OCCUPIED MODE THE VRF SYSTEM SHALL INDEX THE SYSTEM TO UNOCCUPIED MODE.

THE OCCUPANTS SHALL HAVE THE ABILITY TO INDEX THE SYSTEM TO OCCUPIED MODE FOR ADJUSTABLE TIME PERIOD WHEN THE SYSTEM IS INDEXED TO UNOCCUPIED MODE.

OUTSIDE AIR/VENTILATION CONTROL

THE ERV SHALL RECEIVE AN ENABLE COMMAND FROM THE VRF SYSTEM CONTROLLER WHEN THE VRF SYSTEM IS IN OCCUPIED MODE. THE ERV SHALL MAINTAIN OCCUPIED/ENABLE STATUS THROUGHOUT SCHEDULED OR UNSCHEDULED OCCUPANCY.

TEMPERATURE CONTROL

THE VRF SYSTEM SHALL MONITOR THE INDIVIDUAL SPACE TEMPERATURES SERVED BY THE FCU.

THE VRV/VRF CONTROLLER SHALL MODULATE THE SYSTEM TO MAINTAIN SPACE TEMPERATURE SETPOINT.

WHEN THE ZONE SPACE TEMPERATURE SETPOINT IS ACHIEVED THE SYSTEM CONTROLLER SHALL INDEX THE FCU ASSOCIATED WITH THE ZONE TO STANDBY MODE. THE SYSTEM CONTROLLER SHALL ENABLE FCU OPERATION WHEN THE ZONE SPACE TEMPERATURE IS 1° F ABOVE OR BELOW SETPOINT.

NIGHT SETBACK:

WHEN UNIT IS IN UNOCCUPIED MODE AND THE SPACE TEMPERATURE REACHES 65° F, THE VRF SYSTEM SHALL ENABLE FCUs IN THE CORRESPONDING ZONE. WHEN THE ZONE/SPACE TEMPERATURE REACHES 70° F THE VRF SYSTEM SHALL TOGGLE BACK TO UNOCCUPIED MODE.

NIGHT SETUP:

WHEN UNIT IS IN UNOCCUPIED MODE AND THE SPACE TEMPERATURE REACHES 85° F, THE VRF SYSTEM SHALL ENABLE FCUs IN THE CORRESPONDING ZONE. WHEN THE ZONE/SPACE TEMPERATURE REACHES 80° F THE VRF SYSTEM SHALL TOGGLE BACK TO UNOCCUPIED MODE.

MORNING WARM-UP/COOL-DOWN OPTIMIZATION

THE CONTROL SYSTEM SHALL "LEARN" THE THERMAL CHARACTERISTICS OF THE BUILDING AND AIR DISTRIBUTION SYSTEMS TO PROVIDE OPTIMUM START TIMES FOLLOWING NIGHT SETBACK AND NIGHT SETUP. THE OPTIMUM START TIMES SHALL BE BASED ON LOGGED WARM-UP TIMES, COOL-DOWN TIMES, OUTSIDE AIR TEMPERATURES AND TIME OF DAY. THE CONTROL SYSTEM SHALL REFINE THE OPTIMUM START TO BE THE LATEST TIME TO HAVE THE SPACES UP TO OCCUPIED TEMPERATURE BY THE BEGINNING OF THE OCCUPIED PERIOD.

WHEN THE SYSTEM IS IN MORNING WARM-UP/COOL-DOWN MODE, THE CONTROL SYSTEM SHALL ENABLE THE ASSOCIATED INTERLOCKED EQUIPMENT.

OUTSIDE VENTILATION AIR SHALL NOT ENTER THE SYSTEM DURING MORNING WARM-UP AND MORNING COOL-DOWN. THE ERV/DOAS UNIT, SHALL NOT RUN DURING MORNING WARM-UP AND MORNING COOL-DOWN. OUTSIDE AIR DAMPERS SHALL REMAIN CLOSED AND OUTSIDE AIR FANS SHALL NOT RUN DURING MORNING WARM-UP AND MORNING COOL-DOWN.

SAFETIES AND ALARMS:

ANNUNCIATE ALARMS AT THE VRF SYSTEM'S INTELLIGENT TOUCH MODULE (VRF SYSTEM GRAPHICAL INTERFACE) WHEN ANY OF THE FOLLOWING EVENTS OCCUR.

VFV/VRF

ALL SYSTEM AND DIAGNOSTIC ALARMS FROM VRV/VRF SYSTEM.

FAN FAILURE

ALARM WHEN CONTROLLER SENDS START OR STOP SIGNAL TO FAN AND THERE IS NO PROOF OF STATUS ALIGNMENT FOR ONE (1) MINUTE.

SEQUENCE OF OPERATIONS – ERV

GENERAL SYSTEM DESCRIPTION AND REQUIREMENTS:

THE ENERGY RECOVERY VENTILATORS (ERV) ARE EQUIPPED WITH ECM SUPPLY FAN AND ECM EXHAUST FAN. ERV-1 AND ERV-2 ARE EQUIPPED WITH SCR ELECTRIC PREHEAT AND SCR HEATING COILS, ERV-3 IS EQUIPPED WITH SCR HEATING COIL AND DIRECT EXPANSION COIL (DX-1), AND ERV-4 IS EQUIPPED WITH SCR PREHEAT COIL.

THE ERVS SHALL BE CONTROLLED BY THE MANUFACTURER PROVIDED ELECTRONIC CONTROLLER.

PROVIDE GRAPHICAL DISPLAY AND INTERFACE (INTELLIGENT TOUCH MODULE) TO THE SYSTEM DESCRIBED IN THIS DOCUMENT AND SHOWN ON THE DESIGN DRAWINGS. INCLUDE AND PROVIDE ACCESS TO ALL POINTS AVAILABLE TO THE ERV SYSTEM INTERFACE MODULE. ALL SETPOINTS, TIME SCHEDULE SETTINGS AND OTHER VALUES SHALL BE OPERATOR ADJUSTABLE UNLESS INDICATED OTHERWISE.

UNIT OPERATION:

THE UNIT SHALL BE FULLY CONTROLLED BY THE MANUFACTURER'S CONTROL SYSTEM.

THE ERV SHALL RECEIVE AN ENABLE SIGNAL FROM THE VRF/FCU SYSTEM WHEN THE SYSTEM IS IN OCCUPIED MODE.

ECM FAN MOTOR CONTROL:

THE ECM FAN SPEED FOR THE SUPPLY FAN AND EXHAUST FAN SHALL BE SET TO MAINTAIN THE AIRFLOW SPECIFIED ON THE EQUIPMENT SCHEDULE. THE AIR BALANCER SHALL DETERMINE THE FAN SPEED SETTINGS.

ERV SUPPLY TEMPERATURE SETPOINT RESET SCHEDULE:

OAT 65° F – SAT 72° F
OAT 75° F – SAT 70° F

PREHEAT:

WHEN THE SUPPLY AIR TEMPERATURE IS 5°F BELOW THE SUPPLY AIR TEMPERATURE SETPOINT ENABLE THE ELECTRIC PREHEAT AND MODULATE THE SCR ELECTRIC HEATING COIL TO MAINTAIN THE SUPPLY AIR TEMPERATURE SETPOINT. THE SYSTEM CONTROLLER SHALL DISENGAGE THE ELECTRIC HEATING COIL WHEN THE SUPPLY AIR TEMPERATURE IS 2° F ABOVE SETPOINT.

FUME HOOD MAKEUP AIR (ERV-1 AND ERV-2 ONLY):

UPON A SIGNAL THAT WEST LAB FUME HOOD EXHAUST FAN (EF-1) IS ENABLED, ERV-1 EXHAUST FAN SHALL CEASE OPERATION AND SUPPLY FAN SHALL CONTINUE NORMAL OPERATION. ERV-1 EXHAUST FAN SHALL ENABLE ONCE EF-1 HAS SIGNALED BEING DISABLED.

UPON A SIGNAL THAT EAST LAB FUME HOOD EXHAUST FAN (EF-4) IS ENABLED, ERV-2 EXHAUST FAN SHALL CEASE OPERATION AND SUPPLY FAN SHALL CONTINUE NORMAL OPERATION. ERV-2 EXHAUST FAN SHALL ENABLE ONCE EF-4 HAS SIGNALED BEING DISABLED.

SAFETIES AND ALARMS:

ANNUNCIATE ALARMS AT THE VRF SYSTEM'S INTELLIGENT TOUCH MODULE (VRF SYSTEM GRAPHICAL INTERFACE) WHEN ANY OF THE FOLLOWING EVENTS OCCUR.

AIR FILTERS

THE ERV CONTROLLOR SHALL MONITOR THE DIFFERENTIAL PRESSURE SWITCH ACROSS SPECIFIED FILTERS AND SHALL PROVIDE AN ALARM WHEN THE PRESSURE DROP EXCEEDS THE SETPOINT.

ALL SYSTEM AND DIAGNOSTIC ALARMS FROM THE ERV SYSTEM.

FAN FAILURE

ALARM WHEN CONTROLLER SENDS START OR STOP SIGNAL TO FAN AND THERE IS NO PROOF OF STATUS ALIGNMENT FOR ONE (1) MINUTE.

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES
SEQUENCE OF OPERATIONS

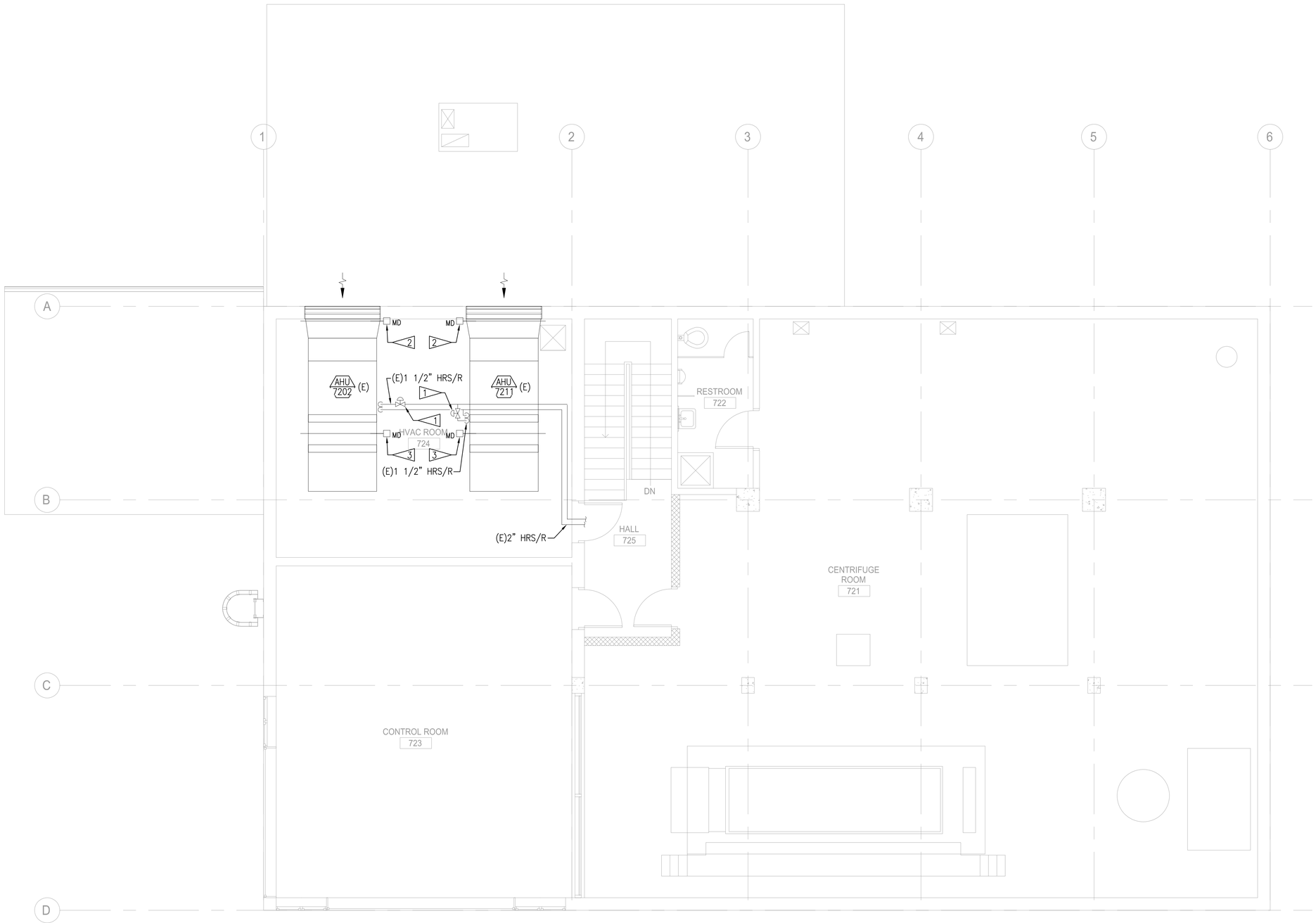
Drawing: **M6.01**

File: COMPLETE
Date: September 2025

Path: I:\22051 CKTP HVAC Upgrade\Working Drawi Filename: M6.01 Plot date: Sep 24, 2025-01:03:52pm CAD User: timo.

CONSTRUCTION NOTES

1. PROVIDE AND INSTALL 1-1/2" MOTORIZED 2-WAY CONTROL VALVE ON EXISTING HEATING HOT WATER RETURN PIPING TO HEATING COIL. INSTALL CONTROL VALVE DOWNSTREAM OF EXISTING ISOLATION VALVE.
2. REMOVE EXISTING OUTSIDE AIR DAMPER AND DAMPER ACTUATOR. PROVIDE AND INSTALL NEW OUTSIDE AIR DAMPER AND DAMPER ACTUATOR. REPLACE SCREENING ON LOUVERS.
3. REMOVE EXISTING DAMPER ACTUATOR FOR BYPASS AIR DAMPER. PROVIDE AND INSTALL ACTUATOR FOR EXISTING MOTORIZED BYPASS AIR DAMPER.



N 1 PROCESS BUILDING - HVAC FLOOR PLAN
SCALE: 1/4"=1'-0"

4 3 2 1 0 4 8 12
SCALE: 1/4" = 1'-0" FEET

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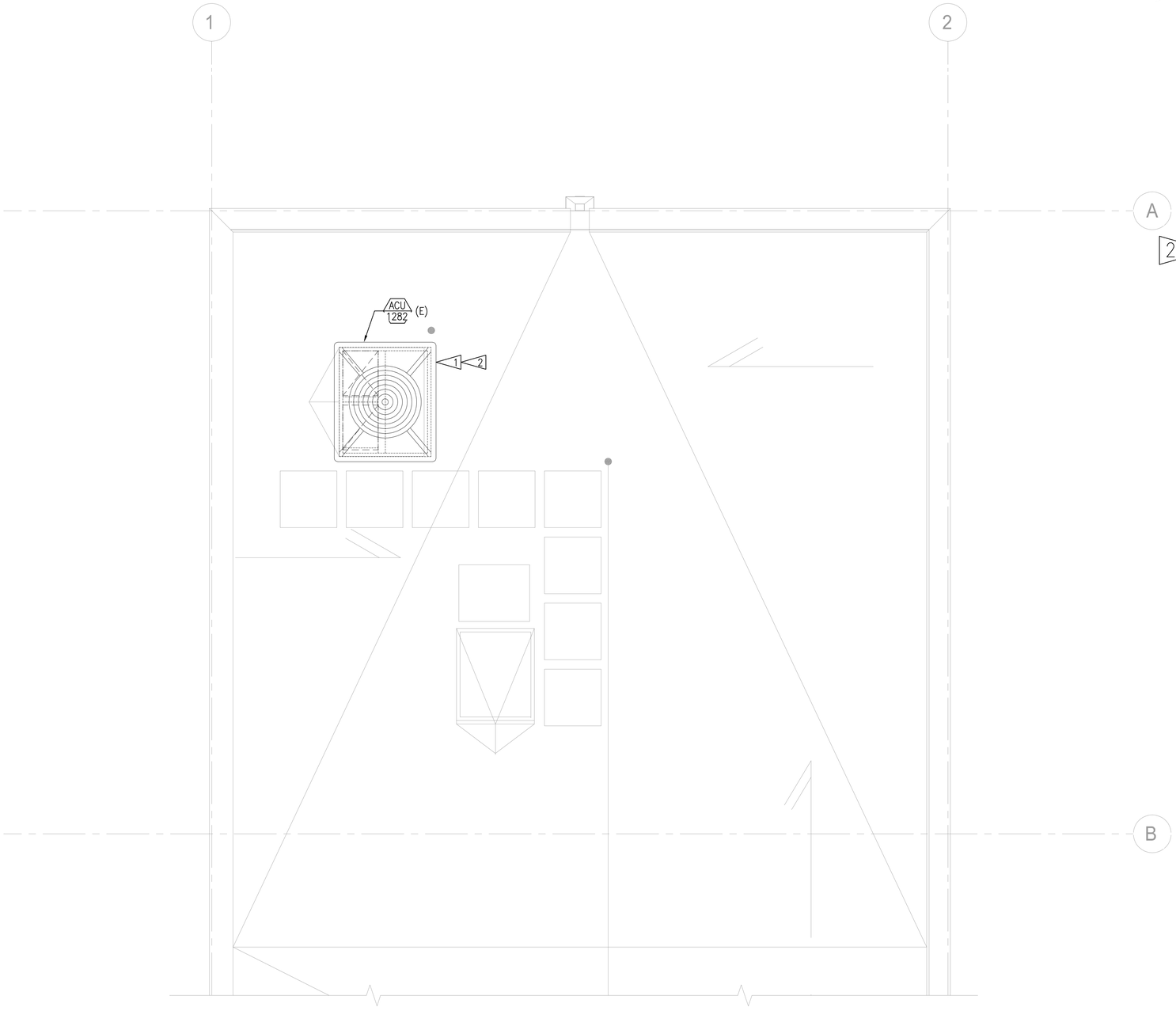
CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

PROCESS BUILDING HVAC FLOOR PLAN

Drawing: M7.01
Sheet: 28 of 47
File: COMPLETE
Date: September 2025

Path: I:\22051 CKTP HVAC Upgrade\Working Draw\ Filename: M7.01-PB Plot date: Aug 29, 2025-02:47:18pm CAD User: timo.



CONSTRUCTION NOTES

1. EXISTING UNIT TO BE REMOVED AND REPLACED WITH ROOFTOP AIR CONDITIONING UNIT (ACU) OF EQUIVALENT FUNCTIONALITY. EXISTING MANUFACTURER, MODEL, AND SERIAL NUMBER ARE PROVIDED FOR REFERENCE: TRANE 4TCY4024A1000AA / SN: 10104LGY9H; ALL EXISTING FEATURES, INCLUDING BUT NOT LIMITED TO HEATER SIZE, PRESENCE OF CRANKCASE HEATER, PRESENCE OF ECONOMIZER, AND CURB COMPATIBILITY, SHALL BE MET BY THE REPLACEMENT UNIT. ACU UNIT COILS AND CONDENSER SHALL HAVE FACTORY-APPLIED HERESITE COATING; ALL EXTERNAL COMPONENTS SHALL ALSO HAVE APPROPRIATE CORROSION-RESISTANT COATINGS.

2. REPLACE THE EXISTING ROOFTOP ACU INCLUDING MINOR MODIFICATIONS (IF NEEDED) TO EXISTING CURB AND/OR ROOF STRUCTURE; CONNECT/DISCONNECT POWER; DELIVER, PLACE AND SECURE ACU ON ROOF; REMOVE OLD UNIT AND PROPERLY DISPOSE; CONDUCT START UP AND COMMISSIONING.

N 1 HEADWORK BUILDING - HVAC ROOF PLAN
SCALE: 1/2"=1'-0"

2 1 0 2 4 6
SCALE: 1/2" = 1'-0" FEET

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

HEADWORK BUILDING HVAC ROOF PLAN

Drawing: M8.01
Sheet: 29 of 47
File: COMPLETE
Date: September 2025

Path: I:\22051 CKTP HVAC Upgrade\Working Drawi Filename: M8.01-HW Plot date: Sep 24, 2025-01:12:31pm CAD User: timo.

GENERAL LEGEND

- NORTH ARROW
- DETAIL/DRAWING REFERENCE
- SECTION REFERENCE
- CONSTRUCTION NOTE
- REVISION SYMBOL
- POINT OF CONNECTION
- BOLD LINE WEIGHT INDICATES NEW WORK
- LIGHT LINE WEIGHT INDICATES EXISTING WORK
- SLASHED LINE INDICATES EXISTING WORK TO BE DEMOLISHED

GENERAL ELECTRICAL LEGEND

- CONDUIT DOWN
- CONDUIT UP
- CONDUIT CAPPED
- CONDUIT HOMERUN WITH PANEL DESIGNATION (B-30)
- 2#12 – 1/2"C
- 2#12 & 1#12 NEUTRAL – 1/2"C
- 3#12 & 1#12 NEUTRAL – 1/2"C
- 3#12 & 2#12 NEUTRAL – 1/2"C
- 4#12 & 2#12 NEUTRAL – 3/4"C

POWER LEGEND

- THERMOSTAT
- PHOTOELECTRIC SMOKE DETECTOR (120V IN APATMENT UNITS, POWERED BY FIRE ALARM SYSTEM ELSEWHERE)
- QUAD RECEPTACLE, GROUNDED
- DUPLEX RECEPTACLE
- SINGLE RECEPTACLE
- $_{IG}$ DUPLEX RECEPTACLE, ISOLATED GROUND
- $_{GFCI}$ DUPLEX RECEPTACLE WITH GROUND FAULT INTERRUPTION
- $_{WP\ GFCI}$ DUPLEX RECEPTACLE WITH GROUND FAULT INTERRUPTION AND WATER RESISTANT RECEPTACLE
- FLOOR OUTLET BOX WITH DUPLEX RECEPTACLE
- JUNCTION BOX, WALL MOUNTED
- JUNCTION BOX, CEILING MOUNTED
- JUNCTION BOX, FLOOR MOUNTED
- MOTOR CONNECTION
- MOTOR
- TRANSFORMER
- DISCONNECTED SWITCH
- FUSED DISCONNECTED SWITCH
- SURFACE MOUNTED PANELBOARD
- FLUSH MOUNTED PANELBOARD
- EQUIPMENT CONNECTION, REFER TO DESCRIPTION ON PLANS FOR WHICH SPECIFIC EQUIPMENT CONNECTION

COMMON EQUIPMENT CONNECTIONS:

- $_{WH}$ 120V CONNECTION TO WATER HEATERS
- $_{EF}$ 120V CONNECTION TO EXHAUST FAN
- $_{DAMPER}$ 120V CONNECTION TO MOTORIZED DAMPER
- $_{DSD}$ 120V CONNECTION TO FIRE ALARM SYSTEM DUCT MOUNTED SMOKE DETECTOR
- $_{FSD}$ 120V CONNECTION TO FIRE ALARM SYSTEM FIRE SMOKE DETECTOR

- AHU 1 EQUIPMENT TAG

LIGHTING LEGEND (REFER TO LUMINAIRE SCHEDULE FOR PROJECT SPECIFIC LIGHTING FIXTURES)

- $ SINGLE POLE SWITCH
- $_{a,b}$ DUAL LEVEL SWITCH
- $_{3}$ THREE WAY SWITCH
- $_{4}$ FOUR WAY SWITCH
- $_{D}$ DIMMER SWITCH
- $_{K}$ KEY OPERATED SWITCH
- $_{MC}$ MOMENTARY CONTACT SWITCH
- $_{P}$ PILOT LIGHT SWITCH
- $_{T}$ SPRING WOUND TIMER SWITCH
- $_{M}$ MOTOR RATED SWITCH
- $_{OS}$ OCCUPANCY SENSOR, WALL MOUNTED
- $_{SSS}$ LIGHTING SWITCH: SCENE SELECTION STATION
- LRCM LIGHTING REMOTE CONTROL MODULE
- OCCUPANCY SENSOR, CEILING MOUNTED
- XXX LIGHT FIXTURE CALLOUT
- ILLUMINATED EXIT SIGN, ARROWS AS INDICATED WITH BUILT IN BATTERY.
- ILLUMINATED EXIT SIGN WITH BUILT IN BATTERY.
- EMERGENCY WALL PACK WITH BATTERY PACK
- 2' X 2' LED LIGHT
- 2' X 2' LED LIGHT, EGRESS
- 1' X 4' LED LIGHT
- 1' X 4' LED LIGHT, EGRESS
- 2' X 4' LED LIGHT
- 2' X 4' LED LIGHT, EGRESS
- FAN LIGHT, CEILING MOUNTED
- LED LIGHT, WALL MOUNTED
- LED LIGHT, WALL MOUNTED, EGRESS
- LED LIGHT, CEILING MOUNTED
- LED LIGHT, CEILING MOUNTED, EGRESS
- LED LIGHT, TRACK LIGHTING
- OUTSIDE LIGHT FIXTURES
- PARKING LOT POLE LIGHT

GENERAL BIDDING CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL PROVIDE COMMISSIONING TO ALL SYSTEMS REQUIRED BY NEC AND LOCAL AHJ.
2. THE CONTRACTOR SHALL PROVIDE LABOR, MATERIALS AND SUPERVISION NECESSARY TO ACCOMPLISH THE WORK AS SHOWN AND/OR NOTED ON THE DRAWINGS.
3. THE ELECTRICAL CONTRACTOR SHALL NOT SCALE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT UNLESS NOTED OTHERWISE.
4. ALL WORK PERFORMED SHALL BE DONE BY A LICENSED CONTRACTOR AND IN A FIRST–CLASS WORKMANLIKE MANNER. THE CONTRACTOR SHALL MEET ALL REQUIREMENTS SET FORTH BY ANY LOCAL ORDINANCE AND GOVERNING AUTHORITIES.
5. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED INSURANCE FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
6. IT IS NOT THE INTENT OF THE PLANS AND/OR SPECIFICATIONS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR SHALL BE EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE FOR ALL REQUIREMENTS NECESSARY FOR EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING TO ORIGINAL CONDITIONS ANY DAMAGE TO BUILDING SURFACES, EQUIPMENT, ETC CAUSED DURING THE PERFORMANCE OF WORK.
8. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE OR DELAYS AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN CONSEQUENTIALLY DAMAGED.
9. LIGHTING MUST MEET WA STATE ENERGY CODE REQUIREMENTS.

SYSTEMS NOT COVERED BY DESIGN SCOPE – CONTRACTOR'S RESPONSIBILITY:

1. ALL DEMO AND RESTORING WORK THAT SHALL AFFECT LIFE SAFETY SYSTEMS (FIRE ALARM) SHALL COMPLY WITH NEC 760 AND NFPA 72.

IMPORTANT CODE NOTES

APPLICABLE BUILDING CODES:
2021 IBC – WA AMENDMENTS
2023 NEC – WA AMENDMENTS
2021 IFC WITH WASHINGTON AMENDMENTS
2021 WSEC

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Port Orchard, WA 98366

CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

ELECTRICAL LEGEND AND GENERAL NOTES

Drawing: **E0.00**
Sheet: 30 of 47
File: COMPLETE
Date: September 2025

Path: I:\22051 CKTP HVAC Upgrade\Working Drawi Filename: E0.00 Plot date: Aug 27, 2025-02:53:25pm CAD User: chriso.

ELECTRICAL ABBREVIATIONS

A	AMPERE
AC	ALTERNATING CURRENT, ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
AMP	AMPERE
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BRKR	BREAKER
BLDG	BUILDING
BOH	BACK OF HOUSE
C	CONDUIT
CKT	CIRCUIT
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CLG	CEILING
CO	CONDUIT ONLY/CARBON MONOXIDE
COMM	COMMUNICATIONS
CPLC	CONTROL PANEL LIGHTING CONTROL
CT	CURRENT TRANSFORMER
CU	COPPER
CW	COOL WHITE
D/B	DESIGN/BUILD
DCO	DUPLEX CONVENIENCE OUTLET
DISP	GARBAGE DISPOSAL
DN	DOWN
DS	DISCONNECT SWITCH
DW	DISHWASHER
E	EXISTING TO REMAIN
EF	EXHAUST FAN
ELEC	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
ENT	ELECTRICAL NON-METALLIC TUBING
ERRCS	EMERGENCY RADIO RESPONDER COVERAGE SYSTEM
EQUIP	EQUIPMENT
EXIST	EXISTING
FACP	FIRE ALARM CONTROL PANEL
FATC	FIRE ALARM TERMINAL CABINET
F.C.I.O.	FURNISHED BY CONTRACTOR, INSTALLED BY OWNER
F.O.I.C.	FURNISHED BY OWNER, INSTALLED BY CONTRACTOR
FLUOR	FLUORESCENT
FOH	FRONT OF HOUSE
GEC	GROUND ELECTRODE CONDUCTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
GND	GROUND
GRS	GALVANIZED RIGID STEEL
HID	HIGH INTENSITY DISCHARGE
HP	HORSE POWER
HPWH	HEAT PUMP WATER HEATER
HT	HEAT TRACE
HTR	HEATER
IC	INSULATED CEILING
IDF	INTERMEDIATE DISTRIBUTION FRAME
IG	ISOLATED GROUND
J-BOX/JB	JUNCTION BOX
JT	JOINT TRENCH
KCMIL	THOUSAND CIRCULAR MILLS
KEC	KITCHEN EQUIPMENT CONTRACTOR
KVA	KILOVOLT AMPERES
KW	KILOWATT
LOTO	LOCK-OUT-TAG-OUT
LTG	LIGHTING
MATV	MASTER ANTENNA TELEVISION
MBJ	MAIN BONDING JUMPER
MCA	MINIMUM CIRCUIT AMPACITY
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MOP	MAXIMUM OVERCURRENT PROTECTION
MPOE	MAIN POINT OF ENTRY
MTD	MOUNTED
N	NEUTRAL
NIC	NOT IN CONTRACT
NEC	NATIONAL ELECTRICAL CODE (NFPA-70)
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
N.T.S.	NOT TO SCALE
OC	ON CENTER
OH	OVERHEAD
OS	OCCUPANCY SENSOR
PC	PHOTOCELL
PNL	PANEL
POC	POINT OF CONNECTION
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
PWR	POWER
QTY	QUANTITY
R	EXISTING TO BE REMOVED
RC	REGID CONDUIT
RECEPT	RECEPTACLE
ROMEX	ELECTRICAL NM CABLE
SD	SMOKE DETECTOR
SER	SERVICE ENTRANCE CABLE
SPEC	SPECIFICATIONS
SSBJ	SUPPLY SIDE BONDING JUMPER
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TEL	TELEPHONE
TJB	TELECOMMUNICATIONS J-BOX
TTB	TELEPHONE TERMINAL BOARD
TYP	TYPICAL
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
UL	UNDERWRITERS LABORATORIES
UG	UNDERGROUND
U.O.N.	UNLESS OTHERWISE NOTED
UTIL	UTILITY
V	VOLTS
VD	VOLTAGE DROP
VFD	VARIABLE FREQUENCY DRIVE
VS	VACANCY SENSOR
W	WATTS
W/	WITH
WCR	WITHSTAND AND CLOSE-IN RATING
WP	WEATHERPROOF
WW	WARM WHITE
XFMR	TRANSFORMER
XFR	TRANSFER IMPEDANCE OR ZONE

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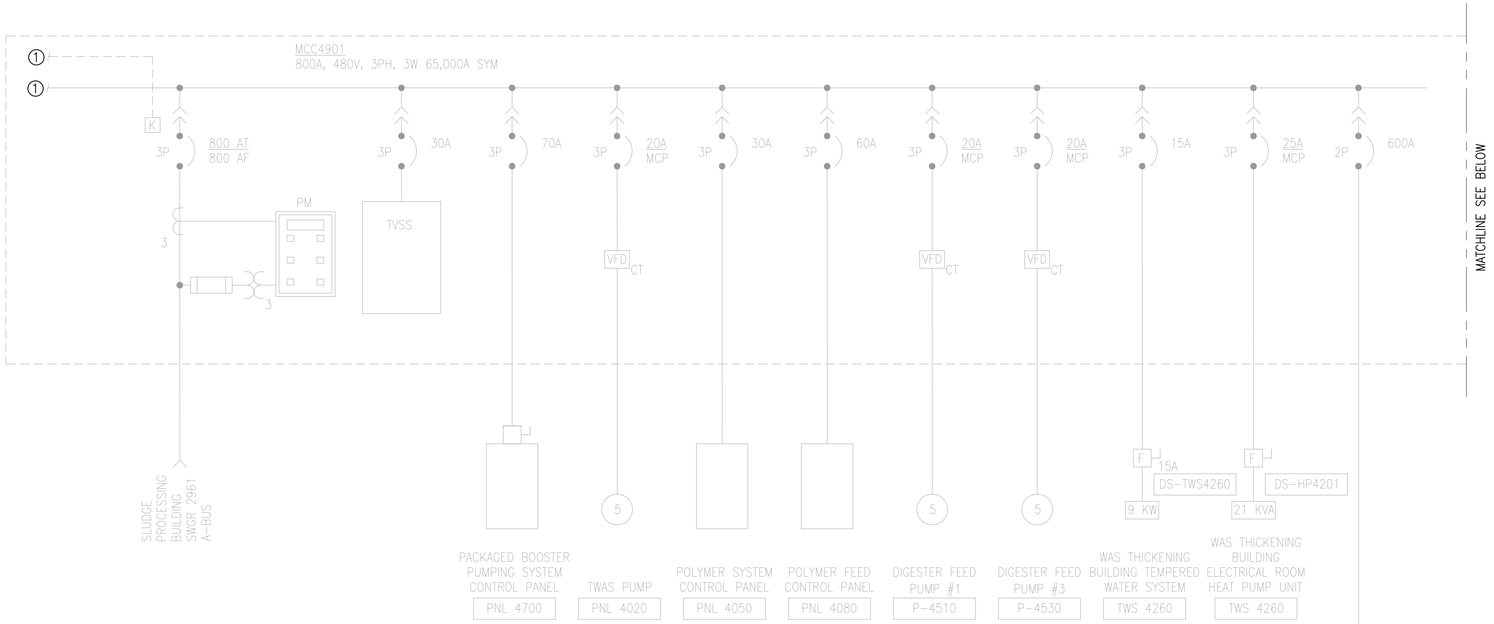
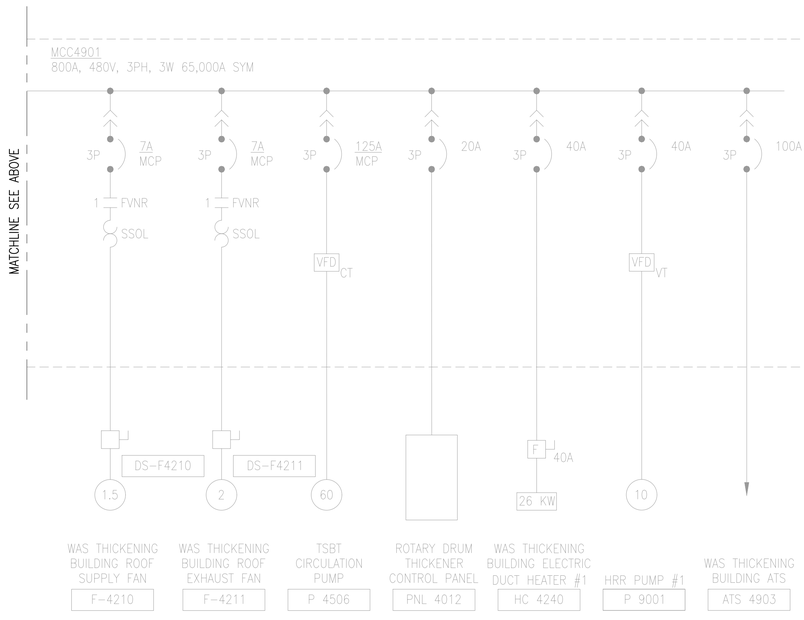
CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

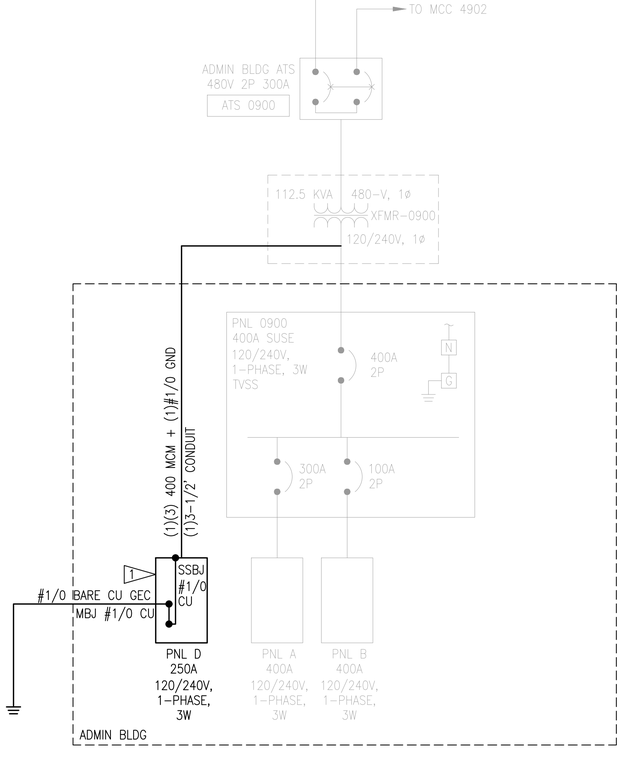
ELECTRICAL ABBREVIATIONS

Drawing: E0.01
Sheet: 31 of 47
File: COMPLETE
Date: September 2025

Path: I:\220051 CKTP HVAC Upgrade\Working Drawi Filename: E0.01 Plot date: Aug 27, 2025-02:53:29pm CAD User: chriso.







GENERAL NOTES

1. THE CONTRACTOR SHALL KEEP POWER INTERRUPTIONS TO A MINIMUM. POWER INTERRUPTIONS SHALL BE OUTSIDE WORKING HOURS.
2. THE CONTRACTOR SHALL INSTALL ALL ELECTRICAL EQUIPMENT, CONDUIT AND WIRE PRIOR TO DEMOLISHING ANY EXISTING SYSTEMS. CONTRACTOR SHALL MINIMIZE INDIVIDUAL EQUIPMENT POWER INTERRUPTIONS BY TRANSFERRING THE EQUIPMENT FROM THE OLD TO THE NEWLY INSTALLED SYSTEMS.
3. THE CONTRACTOR SHALL PERFORM THE WORK AND MAINTAIN PANEL A&B AND ALL THEIR RELATED CABLES/CIRCUIT BREAKERS NOT REPLACED.
4. ADD PLACARD NEXT TO PNL D INDICATING THE LOCATION OF ALL DISCONNECTING MEANS TO DE-ENERGIZE THE BUILDING.

CONSTRUCTION NOTES

1 NEW ADDED PANEL.

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

ONE-LINE DIAGRAM - ADMINISTRATIVE AND LABORATORY BUILDING

Drawing: E0.02
Sheet: 32 of 47
File: COMPLETE
Date: September 2025

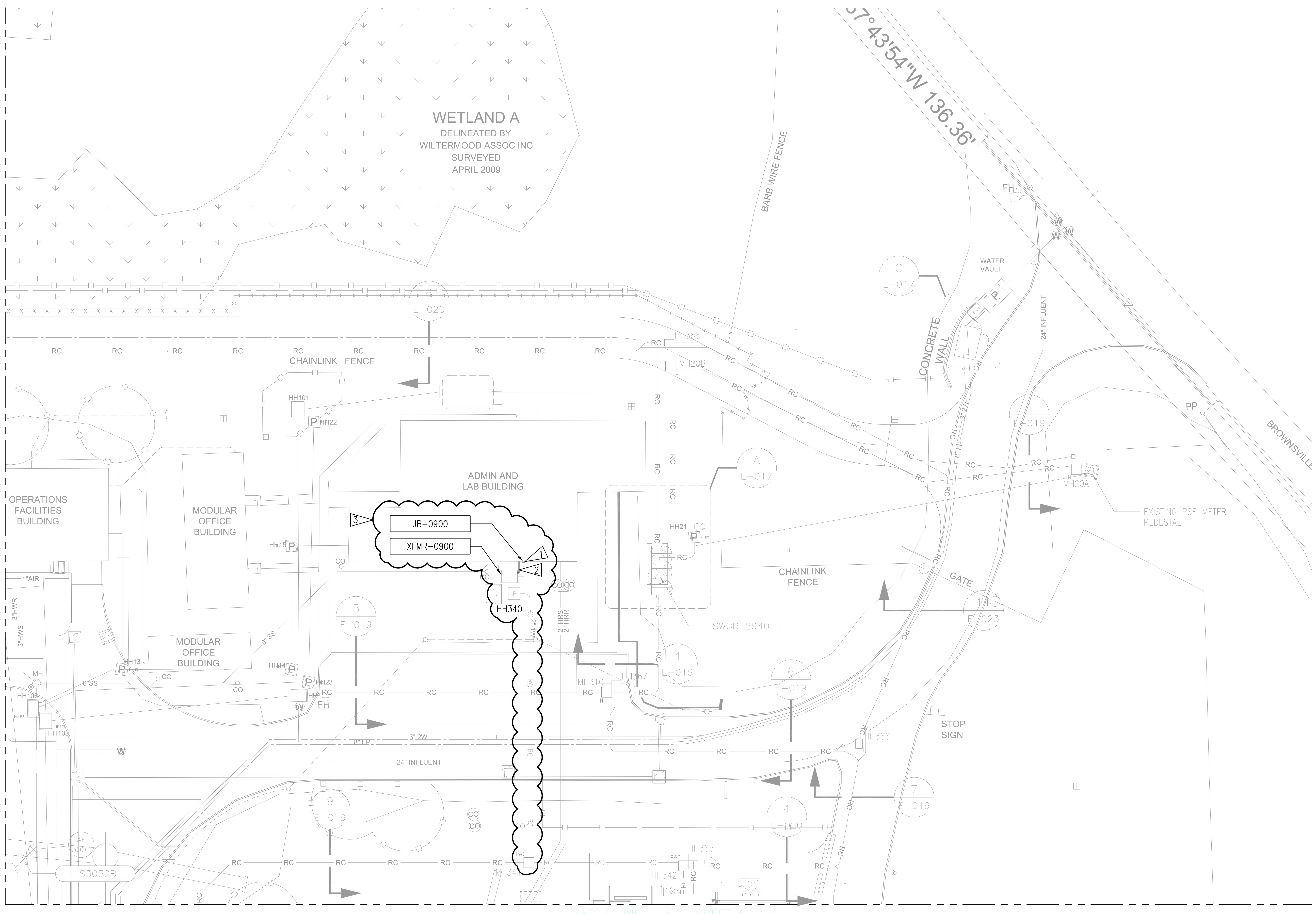
Path: I:\22051 CKTP HVAC Upgrade\Working Drawi Filename: E0.02 Plot date: Aug 27, 2025-02:53:33pm CAD User: chriso.

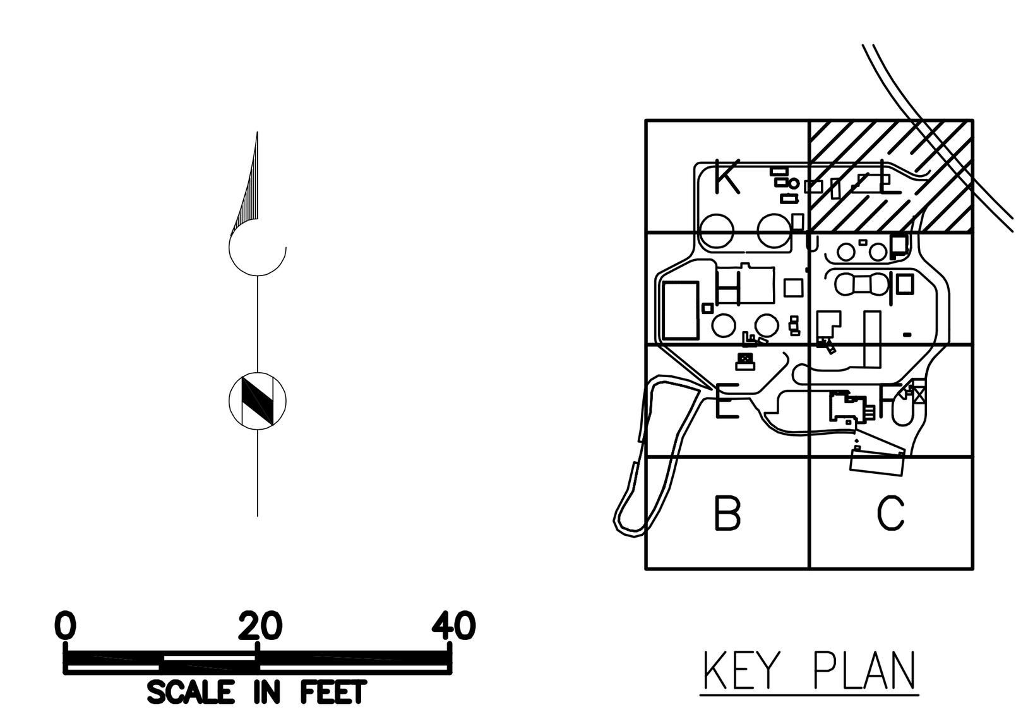
GENERAL NOTES

1. ALL UG CONDUITS SHALL BE SEALED FROM WATER AND MOISTURE.

CONSTRUCTION NOTES

1. COUNTY SEWER UTILITY WILL PROVIDE AND INSTALL PLACARD INDICATING THE LOCATION OF THE BUILDING DISCONNECT MEANS WHICH IS THE MAIN CB FOR PANEL 0900 AND THE MAIN CB FOR PANEL D.
2. ADD NEW CONDUCTORS FROM THE TRANSFORMER (UPGRADE THE XFMR LUGS IF NO SPACE AVAILABLE) TO NEW PANEL D.
3. ADMIN AND LABORATORY BUILDING AREA OF WORK ON THIS DRAWING





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Path: I:\22051 CKTP HVAC Upgrade\Working Drawi Filename: E0.03 Plot date: Sep 24, 2025-12:04:14pm CAD User: timo.

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

POWER - SITE LAYOUT - ADMINISTRATIVE AND LABORATORY BUILDING

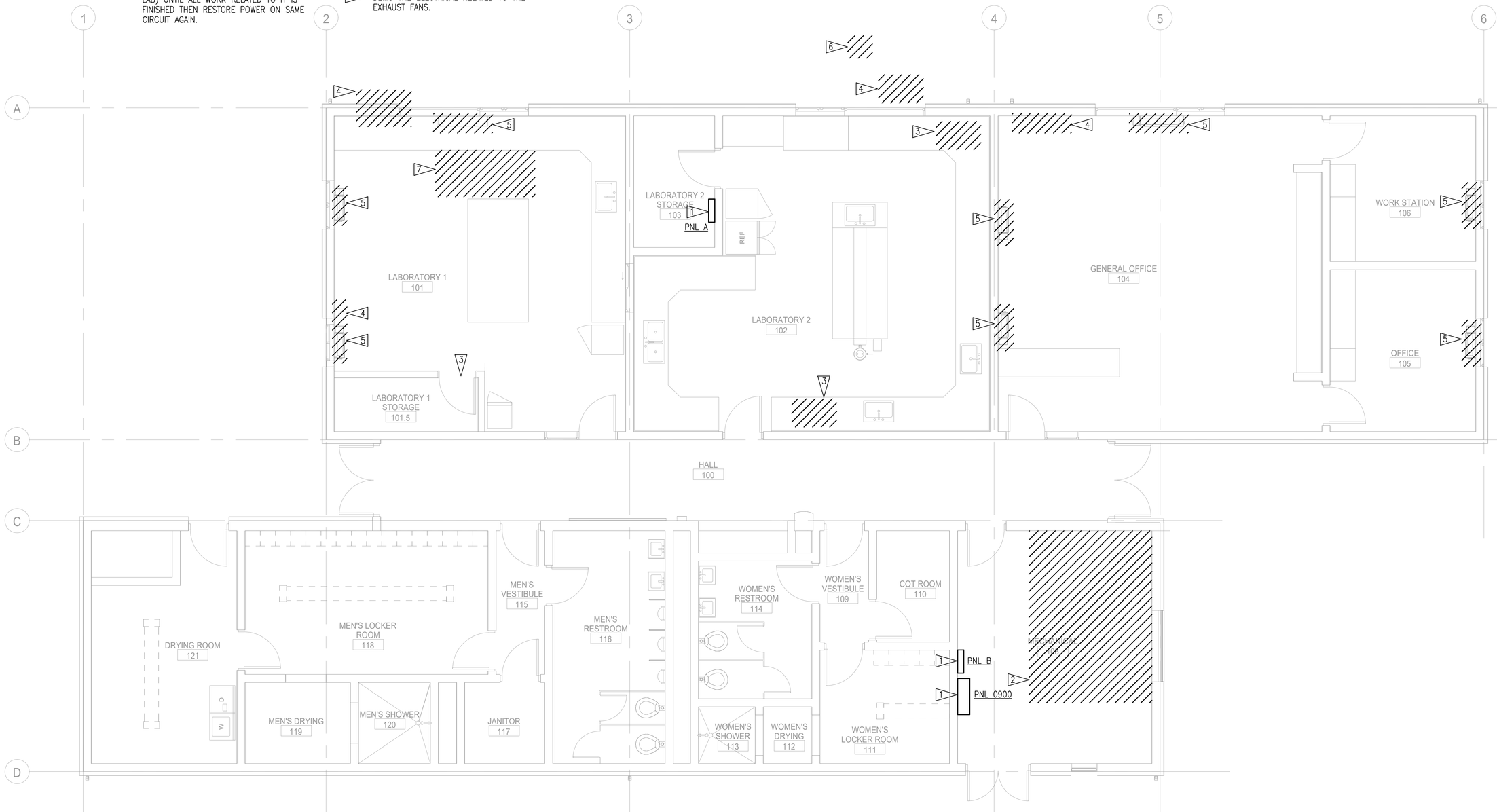
Drawing: E0.03
Sheet: 33 of 47
File: COMPLETE
Date: September 2025

DEMOLITION NOTES

1. ALL PANELS SHALL REMAIN AS IS. DEMO ONLY CIRCUITS INDICATED AND CONDUITS FROM THE EQUIPMENT TO THE PANELBOARD. DO NOT REMOVE CIRCUIT BREAKERS OR ANY PANEL COMPONENTS.
2. DEMO THE ELECTRICAL RELATED TO THE HEAT RECOVERY UNIT.
3. DE-ENERGIZE EF-4, EF-2 AND EF-1 (THE EXHAUST FAN FOR THE FUME HOOD AT WEST LAB) UNTIL ALL WORK RELATED TO IT IS FINISHED THEN RESTORE POWER ON SAME CIRCUIT AGAIN.
4. DEMO THE ELECTRICAL RELATED TO CU-1, SS-1, CU-3, SS-3 AND AC-1.
5. DEMO THE ELECTRICAL RELATED TO THE CABINET HEATERS.
6. DEMO THE ELECTRICAL RELATED TO THE CONDENSING UNIT. REFER TO THE MECHANICAL DRAWINGS FOR CONDENSING UNIT SUBJECT TO DEMOLITION.
7. DEMO THE ELECTRICAL RELATED TO THE EXHAUST FANS.

GENERAL NOTES

1. RESTORE ELECTRICAL POWER TO EQUIPMENT AFFECTED BY DEMO WORK. RESTORED CONNECTIONS SHALL COMPLY WITH THE CURRENT NEC VERSION.
2. USE FIRE STOP TO FILL THE HOLES AND MAINTAIN THE FIRE RATING OF THE WALLS AFTER DEMOLITION OF PENETRATING CONDUITS.
3. THE ELECTRICAL INSTALLATIONS WITHIN THE DEMOLITION SCOPE SHALL BE REMOVED TOTALLY TO THE PANELBOARD. THE CIRCUIT BREAKERS SHALL REMAIN.
4. PANELBOARD PENETRATIONS SHALL BE SEALED PER NEC REQUIREMENTS.
5. MAINTAIN POWER INTEGRITY TO ALL EQUIPMENT NOT SUBJECT TO DEMOLITION.
6. POWER INTERRUPTION SHALL BE OUTSIDE THE WORKING HOURS OF THE LAB, AND THE INTERRUPTION PERIODS SHALL BE AS MINIMAL AS POSSIBLE AND COORDINATED WITH OPERATIONS PERSONNEL.
7. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE EQUIPMENT TO BE DEMOLISHED WITH THE MECHANICAL SCOPE OF WORK.
8. DEMO AND INSTALL SYSTEMS IN WEST AND EAST LABS IN COMPLIANCE WITH COUNTY-APPROVED LAB CONSTRUCTION PHASING PLAN.



N 1 POWER DEMOLITION - ADMINISTRATION AND LABORATORY BUILDING - LEVEL 1
SCALE: 1/4"=1'-0"

4 3 2 1 0 4 8 12
SCALE: 1/4" = 1'-0" FEET

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

POWER DEMOLITION - ADMINISTRATION AND LABORATORY BUILDING - LEVEL 1

Drawing: ED1.01
Sheet: 34 of 47
File: COMPLETE
Date: September 2025

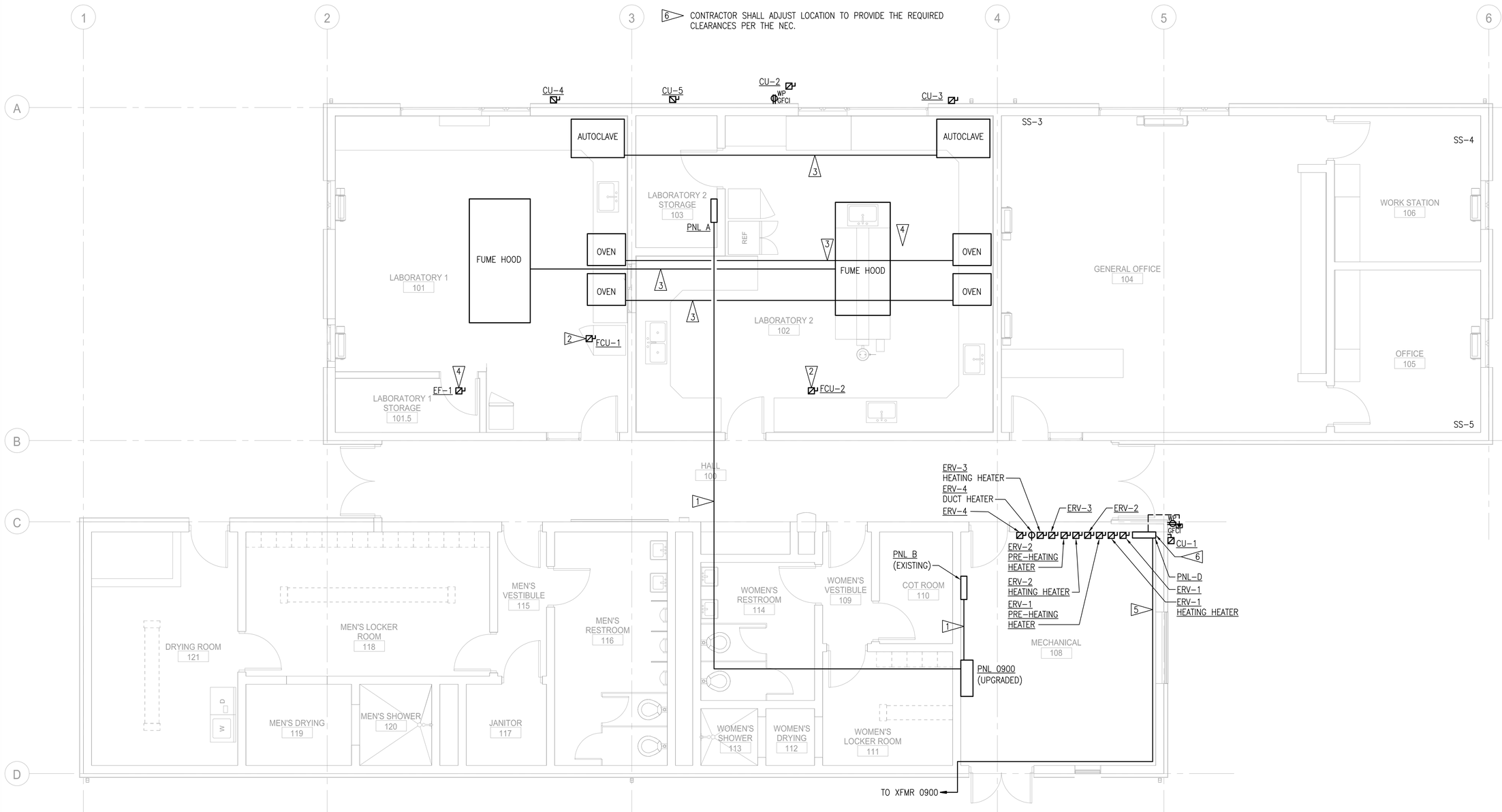
Path: I:\22051 CKTP HVAC Upgrade\Working Drawi Filename: ED1.01 Plot date: Aug 27, 2025-02:54:04pm CAD User: chriso.

CONSTRUCTION NOTES

1. DIAGRAMMATIC REPRESENTATION OF ELECTRICAL CONNECTION ONLY.
2. DISCONNECTS SHALL BE ACCESSIBLE THROUGH THE ACCESS PANEL.
3. CONNECT BY MEANS OF LOTO DS AND PIGTAIL TO ENSURE ONLY ONE LAB IS OPERATIONAL AT ONE TIME.
4. RELOCATED EXHAUST FAN. UTILIZE THE OLD CIRCUIT.
5. DE-ENERGIZE EF-4 AND EF-1 (THE EXHAUST FAN FOR THE FUME HOOD AT WEST LAB) UNTIL ALL WORK RELATED TO IT IS FINISHED THEN RESTORE POWER ON SAME CIRCUIT AGAIN.
6. CONTRACTOR SHALL ADJUST LOCATION TO PROVIDE THE REQUIRED CLEARANCES PER THE NEC.

GENERAL NOTES

1. REFER TO THE LOADS SCHEDULE FOR CIRCUIT AND DISCONNECT SWITCH INFORMATION.
2. THE AUTOCLAVE. (2) OVENS AND FUME HOOD SHALL BE RELOCATED DURING OFF HOURS AND SHALL BE POWERED WITHOUT INTERRUPTION DURING OPERATIONAL HOURS. MAINTAIN POWER TO THESE DEVICES FOR OPERATIONS STAFF TO PERFORM THEIR WORK WITHOUT INTERRUPTION.
3. DEMO AND INSTALL SYSTEMS IN WEST AND EAST LABS IN COMPLIANCE WITH COUNTY-APPROVED LAB CONSTRUCTION PHASING PLAN.



N 1 POWER - ADMINISTRATION AND LABORATORY BUILDING - LEVEL 1
SCALE: 1/4"=1'-0"

4 3 2 1 0 4 8 12
SCALE: 1/4" = 1'-0" FEET

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

POWER - ADMINISTRATION AND LABORATORY BUILDING - LEVEL 1

Drawing: **E1.01**
Sheet: 35 of 47
File: COMPLETE
Date: September 2025

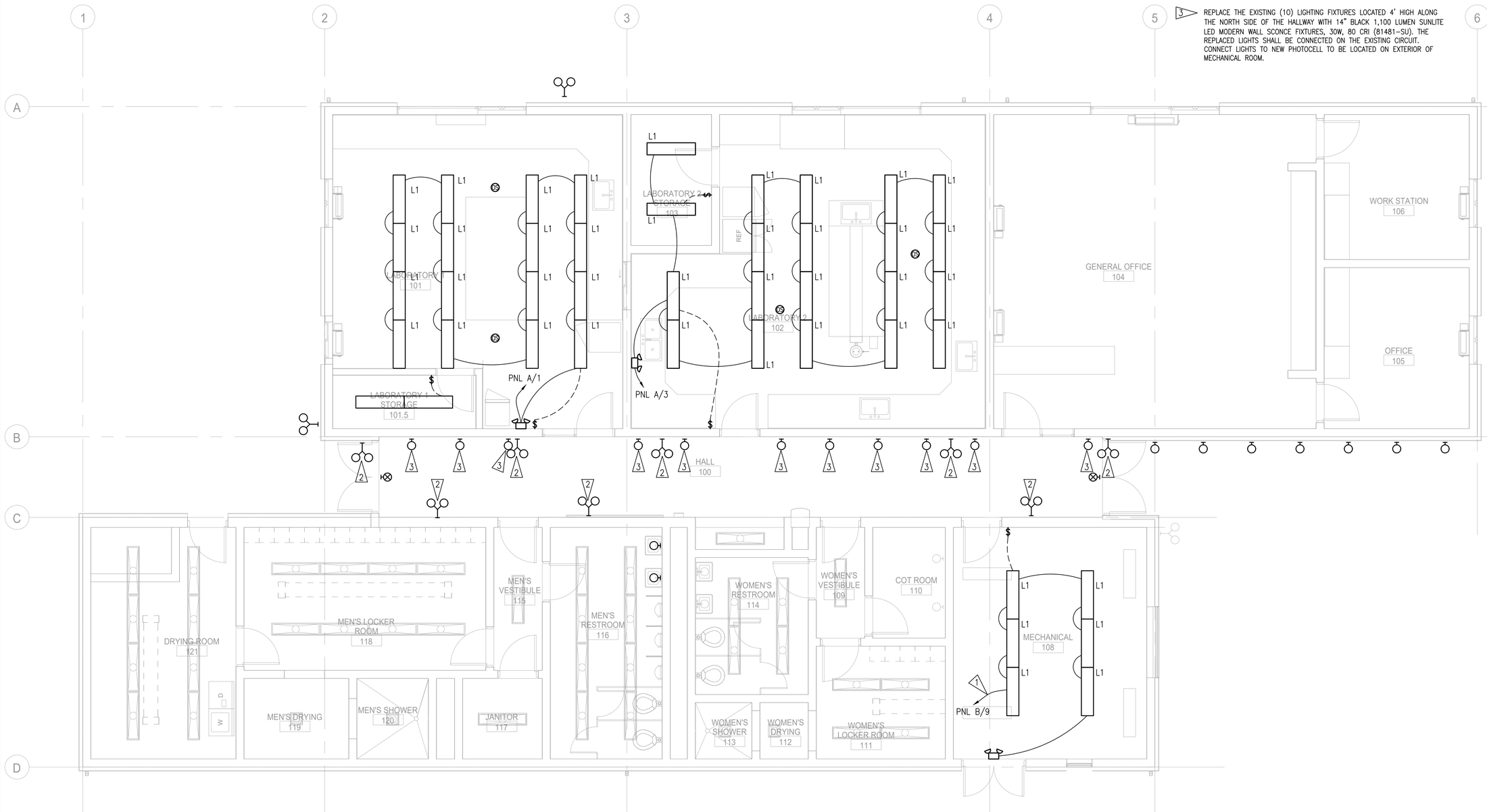
Path: I:\22051 CKTP HVAC Upgrade\Working Drawi Filename: E1.01 Plot date: Aug 29, 2025-09:01:27am CAD User: timo.

GENERAL NOTES

1. REPLACE ANY FLICKERING LIGHTING FIXTURE.
2. REPLACE ALL LIGHTING FIXTURES IN LAB ROOM 101 AND 102.
3. REMOVE THE EXISTING SMOKE DETECTOR IN LAB ROOM 101, AND COORDINATE WITH THE OWNER'S REPRESENTATIVE AND A LICENSED FIRE ALARM SPECIALIST FOR RE-INSTALLING ON THE NEW SUSPENDED CEILING AND ADDING EXTRA DETECTORS INSIDE THE VOID ABOVE THE SUSPENDED CEILING.
4. THE CONTRACTOR SHALL COORDINATE THE LIGHTING FIXTURES' LOCATIONS WITHIN THE MECHANICAL ROOM WITH ALL NEW AND EXISTING ITEMS WITHIN THE SPACE.

CONSTRUCTION NOTES

1. REPLACE THE LIGHTING IN THE MECH. ROOM WHILE KEEPING THE SAME CIRCUIT. COORDINATE THE EXACT LOCATION OF THE LIGHTING FIXTURES WITH THE COUNTY PRIOR TO CONSTRUCTION.
2. REPLACE THE EXISTING (8) LIGHTING FIXTURES LOCATED AT 12' HIGH ALONG BOTH SIDES OF THE HALLWAY (ROOM #100) WITH 6" BLACK 3,600 LUMEN PHOTOCELL EIKO/WESTPORT SURFACE MOUNTED CYLINDER WALL SCONCES (MODEL CWSP6S/36W/8CCT3/UNV/PC/BK OR EQUAL). THE REPLACED LIGHTS SHALL BE CONNECTED ON THE EXISTING CIRCUIT. CONNECT LIGHTS TO NEW PHOTOCELL TO BE LOCATED ON EXTERIOR OF MECHANICAL ROOM.
3. REPLACE THE EXISTING (10) LIGHTING FIXTURES LOCATED 4' HIGH ALONG THE NORTH SIDE OF THE HALLWAY WITH 14" BLACK 1,100 LUMEN SUNLITE LED MODERN WALL SCONCE FIXTURES, 30W, 80 CRI (81481-SU). THE REPLACED LIGHTS SHALL BE CONNECTED ON THE EXISTING CIRCUIT. CONNECT LIGHTS TO NEW PHOTOCELL TO BE LOCATED ON EXTERIOR OF MECHANICAL ROOM.



N 1 LIGHTING - ADMINISTRATION AND LABORATORY BUILDING - LEVEL 1
SCALE: 1/4"=1'-0"

4 3 2 1 0 4 8 12
SCALE: 1/4" = 1'-0" FEET

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

LIGHTING - ADMINISTRATION AND LABORATORY BUILDING - LEVEL 1

Drawing: E2.01
Sheet: 36 of 47
File: COMPLETE
Date: September 2025

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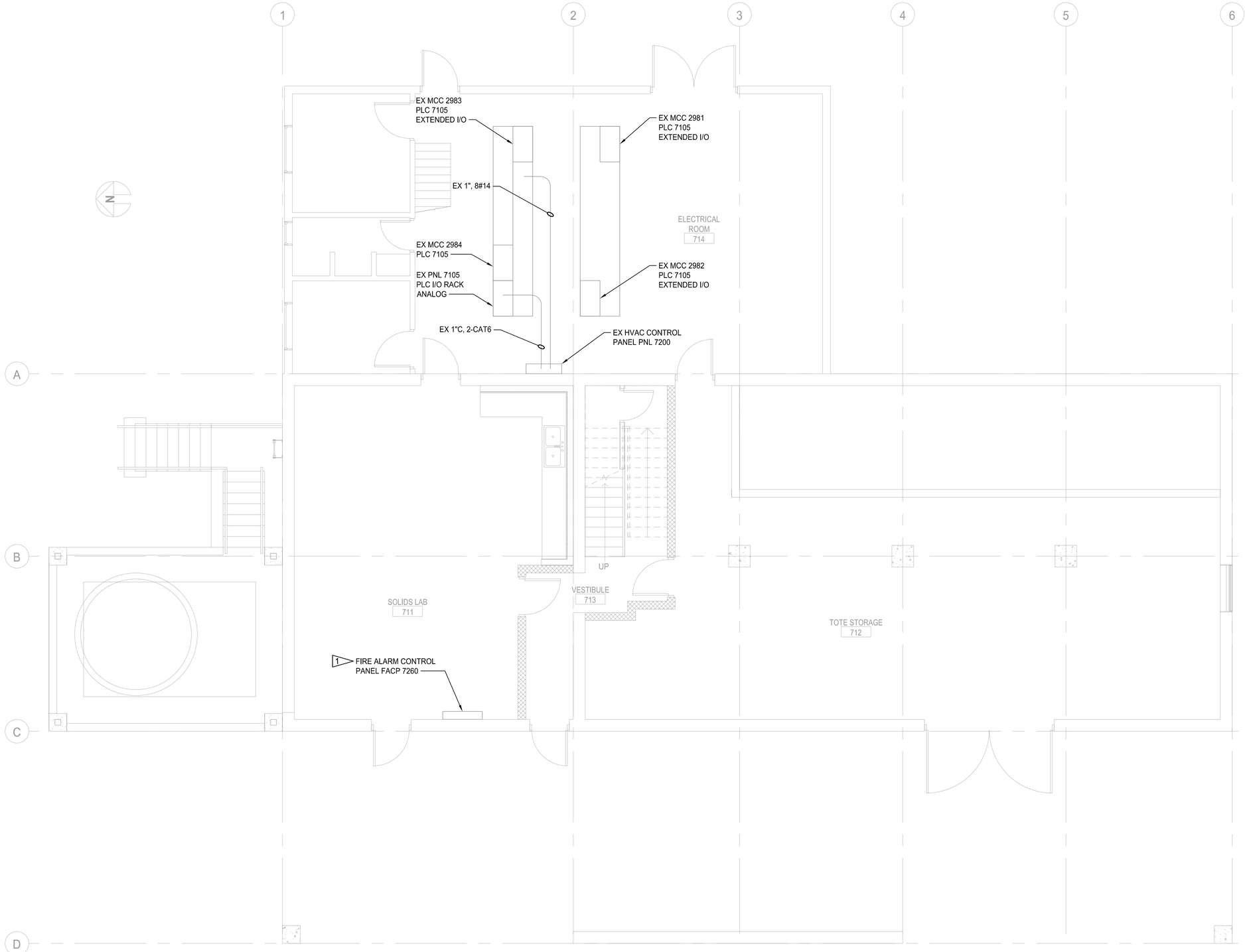

CONSTRUCTION NOTES

1. EXISTING FIRE ALARM CONTROL PANEL (FACP) IS SIEMENS... . MODIFICATIONS TO FACP ARE BY OTHERS.

N 1 POWER - PROCESS BUILDING - LEVEL 1
SCALE: 1/4"=1'-0"

4 3 2 1 0 4 8 12
SCALE: 1/4" = 1'-0" FEET

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UNDERGROUND SERVICE

DANIEL GUY PALMATIER — STATE OF WASHINGTON — 24806 — PROFESSIONAL ENGINEER
06/26/2025

No.	Revision	Date	By	App'd
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206.505.3400
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www.bhcconsultants.com

Designed: N. Palmatier, P.E.
Drawn: A. Bradley
Checked: C. Orchiltree, P.E.

Scale: 1/4" = 1'-0"
One Inch at Full Scale
If Not One Inch Scale Accordingly

KITSAP COUNTY WASHINGTON 18 57

Kitsap County Public Works
614 Division Street, MS 26
Port Orchard, WA 98366

KITSAP COUNTY SEWER UTILITY (KCU) CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC SYSTEM REPLACEMENT

POWER-
PROCESS BUILDING LEVEL 1

Drawing: **E3.01**
Sheet: 37 of 47
File: P23-10865_E3.01
Date: September 2025

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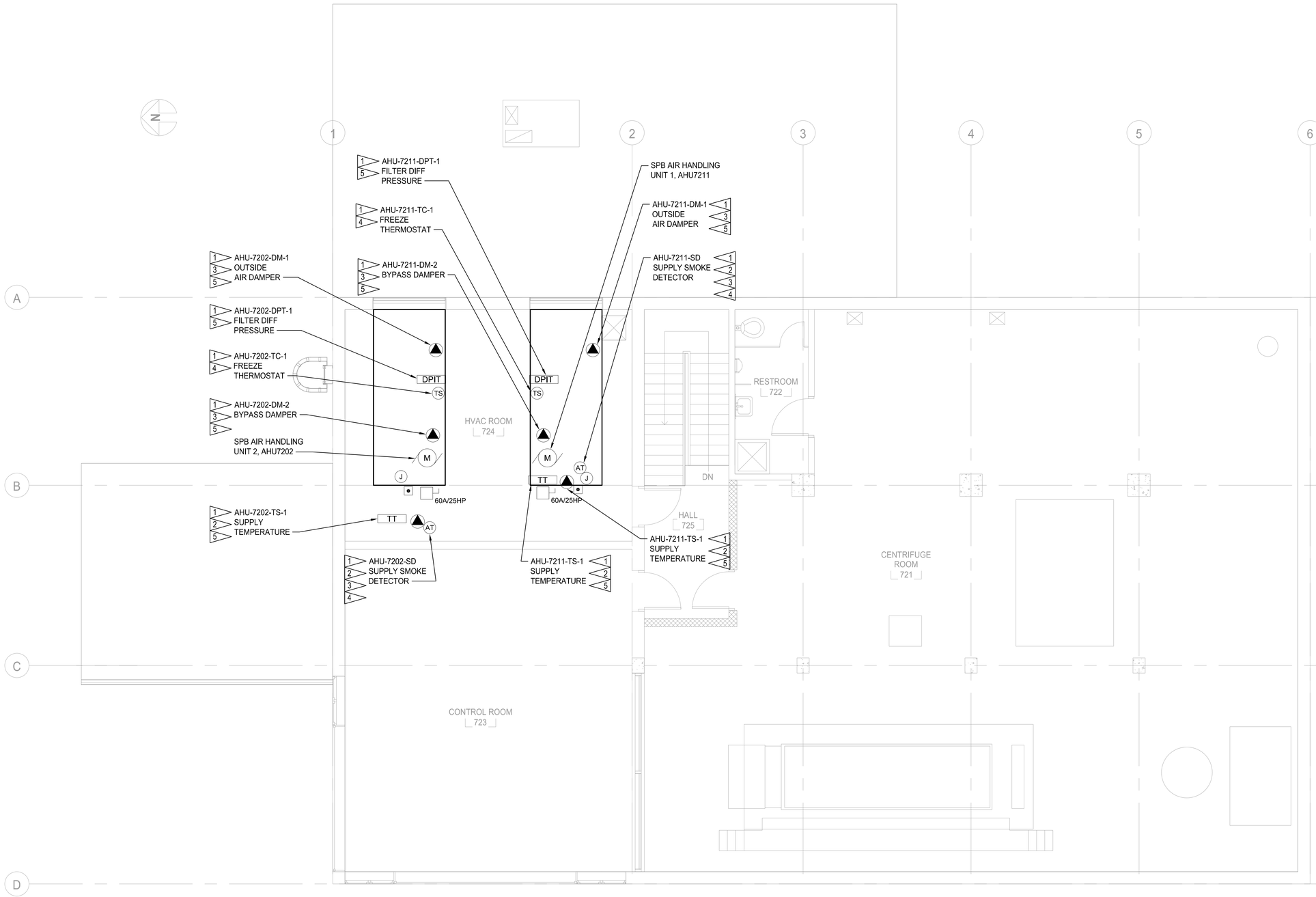
Path: S:\Cad\Kitsap County\23-10865 CKTP HVAC System Replcd Filename: P23-10865_E3.01 Plot date: Aug 28, 2025-03:59:07pm CAD User: JLira.
Xref Filename: | X23-10865_TB | X23-10865_CKWTP_A_Process Bldg - GROUND FLOOR PLAN | Palmatier | X23-10865_Status | X23-10865_TB #FSI_24x36 | Dahl |



CONSTRUCTION NOTES

1. EXTEND EXISTING CIRCUIT. PROVIDE NEW CONDUCTORS FROM HVAC CONTROL PANEL "PNL 7200". IT IS ACCEPTABLE TO REUSE EXISTING CONDUIT AND RACEWAY.
2. PROVIDE DUCT MOUNTING KIT OR ADAPTER KIT FOR NEW DEVICE IF REQUIRED.
3. PROVIDE 3/4" MINIMUM SIZED CONDUIT WITH 1#12 & 1#12N & 1#12G.
4. PROVIDE 3/4" MINIMUM SIZED CONDUIT WITH 2#12.
5. PROVIDE 3/4" MINIMUM SIZED CONDUIT WITH 1-2/C#18STP.

N 1 POWER - PROCESS BUILDING - LEVEL 2
SCALE: 1/4"=1'-0"

4 3 2 1 0 4 8 12
SCALE: 1/4" = 1'-0" FEET

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DANIEL GUY PALMATIER — STATE OF WASHINGTON — PROFESSIONAL ENGINEER
06/26/2025

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Designed: N. Palmatier, P.E.
Drawn: A. Bradley
Checked: C. Orchiltree, P.E.

Scale: 1/4" = 1'-0"
One Inch at Full Scale
If Not One Inch Scale Accordingly

Kitsap County Public Works
614 Division Street, MS 26
Port Orchard, WA 98366

KITSAP COUNTY SEWER UTILITY (KCU) CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC SYSTEM REPLACEMENT

POWER-
PROCESS BUILDING LEVEL 2

Drawing: **E3.02**
Sheet: 38 of 47
File: P23-10865_E3.02
Date: September 2025

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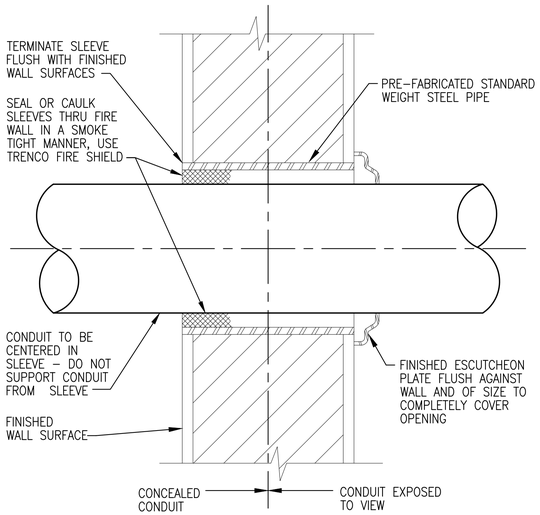
Xref Filename: | X23-10865_TB | 240729_Process Building_Upper Floor Plan | Palmatier | X23-10865_Status | X23-10865_TB -FSi_24x36 | Dahl |



CONDUIT PENETRATION THRU INTERIOR WALL DETAIL

SCALE: NOT TO SCALE

1
E2.01 E4.01

Path: I:\22051 CKTP HVAC Upgrade\Working Draw\ Filename: E4.01 Plot date: Aug 27, 2025-02:54:17pm CAD User: chriso.

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CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

ELECTRICAL DETAILS - ADMINISTRATIVE AND LABORATORY BUILDING

Drawing: E4.01
Sheet: 39 of 47
File: COMPLETE
Date: September 2025

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UNDERGROUND SERVICE

ARTHUR G. STOKES
STATE OF WASHINGTON
34736
REGISTERED
PROFESSIONAL ENGINEER
08.2025
SIGNED

v 4.0

PANELBOARD SCHEDULE

NAME: PANEL A (EXISTING)

VOLTAGE RATING: **120/240 VOLTS, 1 PHASE, 3 WIRE**
BUS RATING: **400** AMPS
MAIN BREAKER: **300** AMPS
FEED:
MOUNTING: **SURFACE**
SPECIAL FEATURES:

PANEL DIM: EXISTING
LOCATION: **EAST LAB**
FED FROM: **PNL 0900**
NOTES: EXISTING PANEL - SHOWING ONLY THE CIRCUITS TO BE DEMOLISHED - NO CALCULATIONS

LOAD TYPE	CIRCUIT DESCRIPTION	VA	CKT	BRKR	L1 L2	BRKR	CKT	VA	CIRCUIT DESCRIPTION	LOAD TYPE
L	LIGHTING - LAB		1	20 / 1	-B-	20 / 1	2		RECEPTACLES LUNCH ROOM & LAB STORAGE	R
L	LIGHTING - LUNCH ROOM		3	20 / 1	-C-	20 / 1	4		RECEPTACLES GENERAL OFFICE	R
L	LIGHTING - OFFICE		5	20 / 1	-B-	20 / 1	6		RECEPTACLES SMALL OFFICES	R
??	HEAT LUNCH ROOM		7	?? / ?	-C-	20 / 1	8		RECEPTACLES LAB NE & S WALLS	R
H	HEAT SMALL OFFICE		9	20 / 1	-B-	20 / 1	10		RECEPTACLES LAB S, W & CENTER	R
	SPACE		11		-C-	20 / 1	12		OVEN	X
X	DI		13	20 / 1	-B-	20 / 1	14		DI SOLENOID	X
X	BOD INCUBATOR & RECEPT. NEW BENCH		15	20 / 1	-C-	20 / 2	16		FURNACE	X
X	BOD INCUBATOR & RECEPT. NEW BENCH		17	20 / 1	-B-		18			X
X	HOT PLATE		19	20 / 2	-C-	20 / 1	20		FAN LUNCH ROOM & FUME HOOD	X
X			21		-B-	20 / 1	22		LAB DISHWASHER	X
H	HEAT PUMP OFFICE (split unit)		23	20 / 2	-C-	80 / 2	24		AUTOCLAVE	X
H			25		-B-		26			X
X	DI PUMP		27	30 / 2	-C-	30 / 2	28		HEAT PUMP LAB EAST (split unit)	H
X			29		-B-		30			H
X	REFREGIRATOR		31	20 / 2	-C-	?? / ?	32		HOT WATER PUMP MECH ROOM	??
X			33		-B-		34			??
??	HEAT PUMP LAB WEST (spliting)		35	?? / ?	-C-	?? / ?	36		HEAT	X
??			37		-B-	?? / ?	38		AIR PUMP AQUARIUM TANK PUMP	X
??	AC UNIT		39	?? / ?	-C-	30 / 1	40		VACUM PUMP	X
??			41		-B-	20 / 1	42		DI	X

LINE LOADS: **VA(L1)** **VA(L2)**
TOTAL LOAD: **KVA** **AMPS**

PANEL A (EXISTING) LOAD CALCULATION:

		CONNECTED VA	METHOD	NEC DEMAND	CALC. VA
TOTAL LIGHTING (L) LOAD:	L		ALL @	125%	
TOTAL RECEPTACLE (R) LOAD:	R		FIRST 10KVA @	100%	
			REMAINDER OVER 10KVA	50%	
TOTAL MOTOR (M) LOAD:	M		ALL @	100%	
	LM		ALL @	100%	
TOTAL HVAC (H) LOAD:	H		ALL @	100%	
TOTAL MISCELLANEOUS (X) LOAD:	X		ALL @	75%	
TOTAL VA:		VA			VA
AVERAGE AMPS @		AMPS			AMPS
VOLTAGE PHASE TO PHASE=	240				

v 4.0

PANELBOARD SCHEDULE

NAME: PANEL B (EXISTING)

VOLTAGE RATING: **120/240 VOLTS, 1 PHASE, 3 WIRE**
BUS RATING: **100** AMPS
MAIN BREAKER: **100** AMPS
FEED:
MOUNTING: **SURFACE**
SPECIAL FEATURES:

PANEL DIM: EXISTING
LOCATION: **MECHANICAL ROOM**
FED FROM: **PNL 0900**
NOTES: EXISTING PANEL - SHOWING ONLY THE CIRCUITS TO BE DEMOLISHED - NO CALCULATIONS

LOAD TYPE	CIRCUIT DESCRIPTION	VA	CKT	BRKR	L1 L2	BRKR	CKT	VA	CIRCUIT DESCRIPTION	LOAD TYPE
	SPARE		A	100 / 2	-C-		B			
			C		-A-	20 / 1	D	500	HEATERS, LIGHTS MAIN GEAR 2940	L
L	LIGHTING DRYING ROOM, MENS LOCKERS	1,600	1	20 / 1	-C-	20 / 1	2	1,800	RECEPTACLES DRYING ROOM, HALL	R
L	LIGHTING RESTROOMS	1,600	3	20 / 1	-A-	20 / 1	4	1,620	RECEPTACLES RESTROOMS+LAB EXHAUST	R
L	LIGHTING UPPER HALLWAY & PHOTOCELL LGTG	1,800	5	20 / 1	-C-	20 / 1	6	1,620	REC. COAT RM&WOMEN'S LOCKER	R
L	LIGHTING LOWER HALLWAY & ENTRANCE	1,800	7	20 / 1	-A-	40 / 2	8	1,620	RECEPTACLES MECH ROOM	R
L	LIGHTING MECH ROOM AND WOMEN LOCKER	800	9	20 / 1	-C-		10	1,000	STREET LIGHTING + HALL PLUGS	L
LM	PUMP - HOT WATER CIRCULATION #8	1,150	11	20 / 1	-A-	40 / 2	12	3,000	HEATER - DUCT	H
??	MOTORIZED DAMPERS 1/2 & 3	1,500	13	?? / ?	-C-		14	3,000		H
X	DRYER	2,700	15	30 / 2	-A-	?? / ?	16	2,700	SUPPLY FAN	??
X		2,700	17		-C-		18	?,???		??
X	REFRIGERATOR IN HALL	1,800	19	20 / 1	-A-	?? / ?	20	?,???	EXHAUST FAN	??
X	REFRIGERATOR IN HALL	1,800	21	20 / 1	-C-		22	?,???		??
??	LAB WEST AIR CONDITIONING	?,???	23	?? / ?	-A-	?? / ?	24		LAB WEST AIR COND	??
??		?,???	25		-C-	20 / 1	26	1,800	HALLWAY INCUBATOR	X
			27	/ 1	-A-	/ 1	28			
			29	/ 1	-C-	/ 1	30			
			31	/ 1	-A-	/ 1	32			
			33	/ 1	-C-	/ 1	34			
			35	/ 1	-A-	/ 1	36			

LINE LOADS: **22,690 VA(L1)** **VA(L2)**
TOTAL LOAD: **49.01 KVA** **AMPS**

PANEL B (EXISTING) LOAD CALCULATION:

		CONNECTED VA	METHOD	NEC DEMAND	CALC. VA
TOTAL LIGHTING (L) LOAD:	L	9100	ALL @	125%	11375
TOTAL RECEPTACLE (R) LOAD:	R	6660	FIRST 10KVA @	100%	6660
			REMAINDER OVER 10KVA	50%	
TOTAL MOTOR (M) LOAD:	M		ALL @	100%	
	LM	1150	125% OF LARGEST	125%	1438
TOTAL HVAC (H) LOAD:	H	21300	ALL @	100%	21300
TOTAL MISCELLANEOUS (X) LOAD:	X	10800	ALL @	75%	8100
TOTAL VA:		49010 VA			48873 VA
AVERAGE AMPS @		204 AMPS			204 AMPS
VOLTAGE PHASE TO PHASE=	240				

v 4.0

PANELBOARD SCHEDULE

NAME: PNL D (NEW)

VOLTAGE RATING: **240/120 VOLTS, 1 PHASE, 3 WIRE**
BUS RATING: **250** AMPS
MAIN BREAKER: **250** AMPS
FEED: **(1)(3) 400 MCM + (1)#1/0 GND @ (1)3-1/2" CONDUIT**
MOUNTING: **SURFACE - NEMA 4X**
SPECIAL FEATURES: **DPM + SPD**

LOCATION: **20 X 5.75 X 56 WxDxH**
FED FROM: **TFR 0900**
NOTES:

LOAD TYPE	CIRCUIT DESCRIPTION	VA	CKT	BRKR	L1 L2	BRKR	CKT	VA	CIRCUIT DESCRIPTION	LOAD TYPE
H	CU-05	1,901	1	20 / 2	-A-	15 / 2	2	971	ERV-01	H
H		1,901	3		-B-		4	971		H
H	CU-04	1,901	5	20 / 2	-A-	35 / 2	6	2,886	ERV-01 PRE-HEAT HEATER	H
H		1,901	7		-B-		8	2,886		H
H	ERV-4	1,056	9	15 / 1	-A-	15 / 2	10	971	ERV-03	H
H	FCU-01	360	11	15 / 2	-B-		12	971		H
H		360	13		-A-	15 / 2	14	1,154	ERV-01 HEATING HEATER	H
H	FCU-02	360	15	15 / 2	-B-		16	1,154		H
H		360	17		-A-	20 / 1	18		SPARE	
	SPARE		19	15 / 1	-B-	20 / 1	20		SPARE	
H	ERV-4 DUCT HEATER	1,000	21	15 / 1	-A-	20 / 2	22		SPARE	
	SPARE		23	15 / 1	-B-		24			
H	CU-01	1,368	25	15 / 2	-A-	20 / 2	26		SPARE	
H		1,368	27		-B-		28			
H	ERV-03 HEATING HEATER	2,886	29	35 / 2	-A-	15 / 2	30	971	ERV-02	H
H		2,886	31		-B-		32	971		H
H	CU-3	2,040	33	25 / 2	-A-	35 / 2	34	2,886	ERV-02 PRE-HEAT HEATER	H
H		2,040	35		-B-		36	2,886		H
	SPARE		37	20 / 1	-A-	15 / 2	38	1,154	ERV-02 HEATING HEATER	H
	SPARE		39	20 / 1	-B-		40	1,154		H

LINE LOADS: **23,864 VA(L1)** **21,809 VA(L2)**
TOTAL LOAD: **45.67 KVA** **190.3 AMPS**

PNL D (NEW) LOAD CALCULATION:

TOTAL LIGHTING (L) LOAD:	L		ALL @	125%	
TOTAL RECEPTACLE (R) LOAD:	R		FIRST 10KVA @	100%	
			REMAINDER OVER 10KVA	50%	
TOTAL MOTOR (M) LOAD:	M		ALL @	100%	
	LM		125% OF LARGEST	125%	
TOTAL HVAC (H) LOAD:	H	45673	ALL @	100%	45673
TOTAL MISCELLANEOUS (X) LOAD:	X		ALL @	75%	
TOTAL VA:		45673 VA			45673 VA
AVERAGE AMPS @		190 AMPS			190 AMPS
VOLTAGE PHASE TO PHASE=	240				

LIGHTING SCHEDULE

SYMBOL	MANUFACTURER	FAMILY	DESCRIPTION	OPTIONS	WATTAGE
L1	COOPER	BAA-FSP-14-42-35-EL14W-IP66	FSP		38.3

EQUIPMENT SCHEDULE

EQUIPMENT ID	VA	VOLTS	OUTLET TYPE	CIRCUIT
CU-05	3801.6	240	DS 25A 2P+N+GND	PNL D (NEW)/1,3
CU-04	3801.6	240	DS 25A 2P+N+GND	PNL D (NEW)/5,7
CU-01	2736	240	DS 25A 2P+N+GND	PNL D (NEW)/25,27
ERV-4	1056	120	DS 25A 2P+GND	PNL D (NEW)/9
ERV-01	1941.6	240	DS 25A 2P+N+GND	PNL D (NEW)/2,4
ERV-01 PRE-HEAT HEATER	5772	240	DS 35A 2P+N+GND	PNL D (NEW)/6,8
ERV-01 HEATING HEATER	2308.8	240	DS 25A 2P+N+GND	PNL D (NEW)/14,16
ERV-02	1941.6	240	DS 25A 2P+N+GND	PNL D (NEW)/30,32
ERV-02 PRE-HEAT HEATER	5772	240	DS 35A 2P+N+GND	PNL D (NEW)/34,36
ERV-02 HEATING HEATER	2308.8	240	DS 25A 2P+N+GND	PNL D (NEW)/38,40
ERV-03	1941.6	240	DS 25A 2P+N+GND	PNL D (NEW)/10,12
ERV-03 HEATING HEATER	5772	240	DS 35A 2P+N+GND	PNL D (NEW)/29,31
FCU-01	720	240	DS 25A 2P+N+GND	PNL D (NEW)/11,13
FCU-02	720	240	DS 25A 2P+N+GND	PNL D (NEW)/15,17

FLAG NOTES

1 NEUTRAL IS ADDED FOR FUTURE REPLACEMENT IF REQUIRED.

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ARTHUR G. STOKES — STATE OF WASHINGTON — 24736 — REGISTERED PROFESSIONAL ENGINEER — 09.2025 SIGNED

No.	Revision	Date	By	App'd

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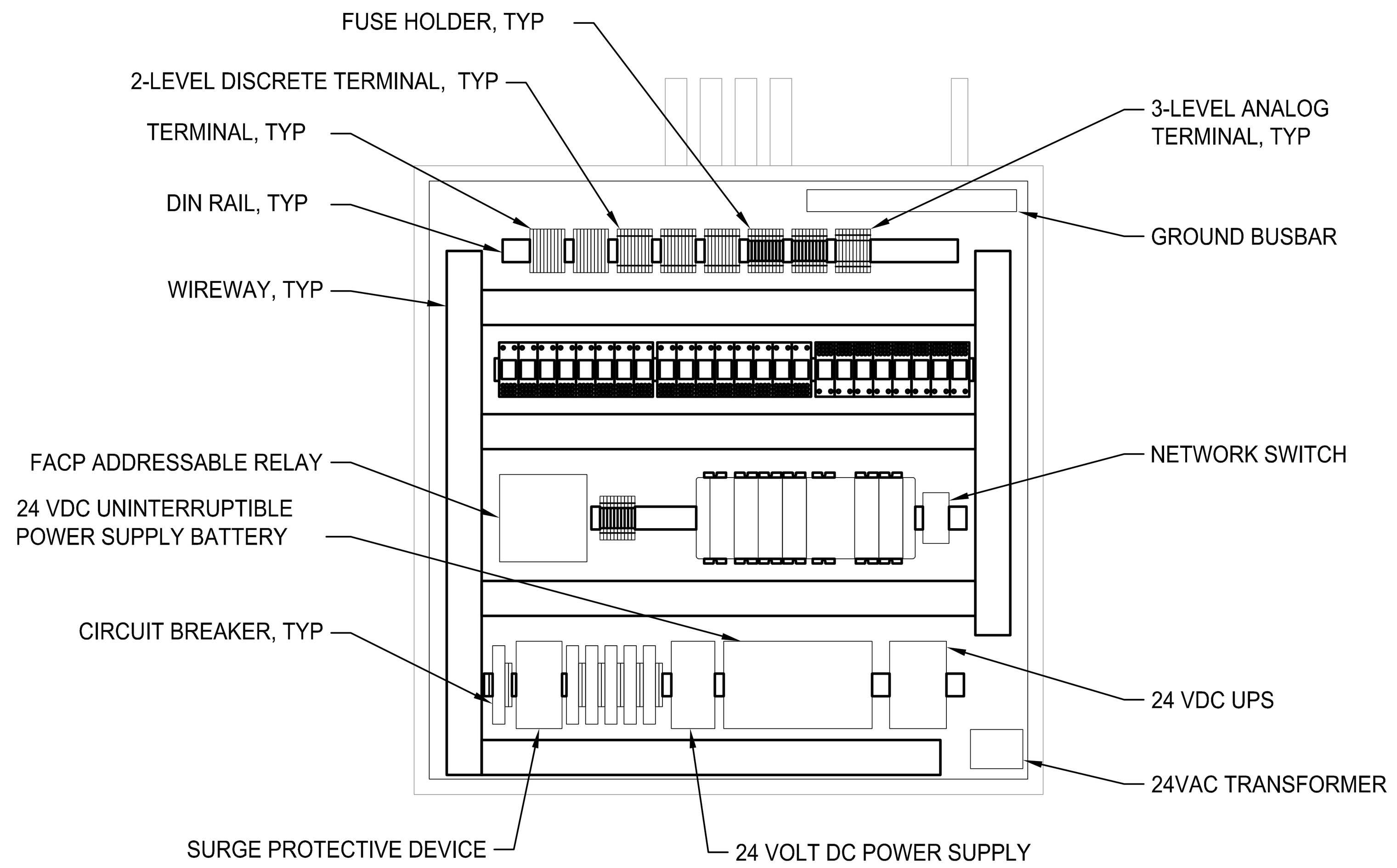
Port Orchard, WA 98366

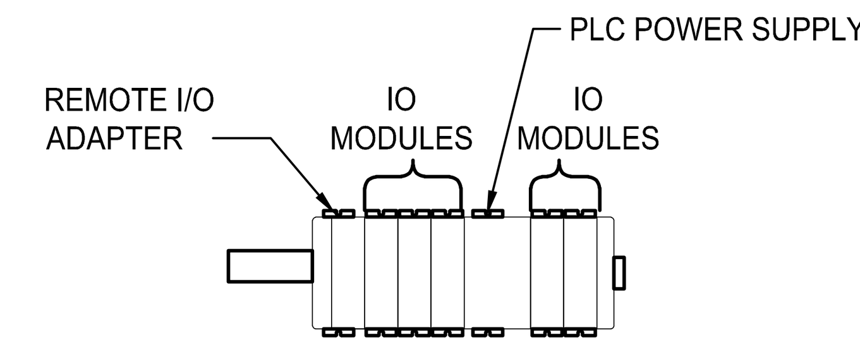
CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC UPGRADES

ELECTRICAL SCHEDULES - ADMINISTRATIVE AND LABORATORY BUILDING

Drawing: **E5.01**
Sheet: 40 of 47
File: COMPLETE
Date: September 2025

Path: I:\22051 CKTP HVAC Upgrade\Working Drawi Filename: E5.01 Plot date: Aug 27, 2025-02:54:21pm CAD User: chriso.





GENERAL NOTES

1. REPLACE EXISTING SUB-PANEL WITH NEW SUB-PANEL. PROVIDE NEW SUB-PANEL IN EXISTING ENCLOSURE.
2. EXISTING SUB-PANEL IS 34.25 INCHES BY 34.25 INCHES IN AN APPROXIMATELY 36 INCHES BY 36 INCHES BY 8 INCHES DEEP ENCLOSURE.

NAME PLATE SCHEDULE	
NP1	HVAC CONTROL PANEL PNL 7200
NP2	AHU 7202 ALARMS
NP3	AHU 7211 ALARMS
NP4	F 7207 ALARMS

LEGEND PLATE SCHEDULE	
LP1	SMOKE
LP2	ANTIFREEZE
LP3	DIRTY FILTER

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08/28/2025

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Designed: N. Palmatier, P.E.
Drawn: A. Bradley
Checked: C. Orchiltree, P.E.

Scale: N/A
One Inch at Full Scale
If Not One Inch Scale Accordingly

Kitsap County Public Works
614 Division Street, MS 26
Port Orchard, WA 98366

KITSAP COUNTY SEWER UTILITY (KCU) CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC SYSTEM REPLACEMENT

ELECTRICAL - PROCESS BUILDING PNL 7200 HVAC CONTROL PANEL ELEVATION

Drawing: E6.01
Sheet: 41 of 47
File: P23-10865_E6.01
Date: September 2025

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Xref Filename: | X23-10865_TB | Palmatier | X23-10865_Status | X23-10865_TB -FSi_24x36 | Dahl |

CHASIS			
RACK	SLOT	TYPE	DESCRIPTION
1	0	RIO	"1769-ANETR ETHERNET IP REMOTE I/O ADAPTER"
1	1	AO	"1769-OF4CI 4 CHANNEL 4-20MA ANALOG OUTPUT"
1	2	AI	"1769-IF4I 4 CHANNEL 4-20MA ANALOG INPUT"
1	3	AI	"1769-IF4I 4 CHANNEL 4-20MA ANALOG INPUT"
1	0	PS	"1769-PB2 2A 24VDC POWER SUPPLY"
1	4	DO	"1769-OB16 16 CHANNEL 24VDC SOURCE DISCRETE OUTPUT"
1	5	DI	"1769-IQ16 16 CHANNEL 24VDC SINK/SOURCE DISCRETE INPUT"

ANALOG OUTPUT					
RACK	SLOT	CHANNEL	TYPE	DESCRIPTION	RANGE
1	1	0	AO	AHU-7202-DM-2 FACE & BYPASS DAMPER ACTUATOR	MIN - MAX 4 MA - 20 MA
1	1	1	AO	AHU-7211-DM-2 FACE & BYPASS DAMPER ACTUATOR	MIN - MAX 4 MA - 20 MA
1	1	2	AO	SPARE	4 MA - 20 MA
1	1	3	AO	SPARE	4 MA - 20 MA

ANALOG INPUT					
RACK	SLOT	CHANNEL	TYPE	DESCRIPTION	RANGE
1	2	0	AI	"AHU-7202-TS-1 SUPPLY TEMPERATURE"	"20 ºF - 120 ºF 4 mA - 20 mA"
1	2	1	AI	"AHU-7202-DPT-1 FILTER DIFF. PRESSURE"	"0 IN H2O - 1.25 IN H2O 4 MA - 20 MA"
1	2	2	AI	"AHU-7211-TS-1 SUPPLY TEMPERATURE"	"20 ºF - 120 ºF 4 MA - 20 MA"
1	2	3	AI	"AHU-7211-DPT-1 FILTER DIFF. PRESSURE"	"0 IN H2O - 1.25 IN H2O 4 MA - 20 MA"
1	2	0	AI	"AHU-7211-WM-1 ROOM TEMPERATURE"	"20 ºF - 120 ºF 4 MA - 20 MA"
1	2	1	AI	"P-7209-WTS-1 WATER TEMPERATURE"	"0 ºF - 250 ºF 4 MA - 20 MA"
1	2	2	AI	"P-7209-OAS-1 OUTSIDE AIR TEMPERATURE"	"-58 ºF - 120 ºF 4 MA - 20 MA"
1	2	3	AI	SPARE	"0 % - 100 % 4 MA - 20 MA"

DISCRETE OUTPUT				
RACK	SLOT	CHANNEL	TYPE	DESCRIPTION
1	4	0	DO	AHU-7202-1CR CALL TO RUN
1	4	1	DO	AHU-7202-5CR DIRTY FILTER PILOT LIGHT
1	4	2	DO	AHU-7211-1CR CALL TO RUN
1	4	3	DO	AHU-7211-5CR DIRTY FILTER PILOT LIGHT
1	4	4	DO	F-7205-1CR CALL TO RUN
1	4	5	DO	F-7207-1CR CALL TO RUN
1	4	6	DO	F-7208-1CR CALL TO RUN
1	4	7	DO	P-7209-1CR CALL TO RUN
1	4	8	DO	FA-CR
1	4	9	DO	SPARE
1	4	10	DO	SPARE
1	4	11	DO	SPARE
1	4	12	DO	SPARE
1	4	13	DO	SPARE
1	4	14	DO	SPARE
1	4	15	DO	SPARE

DISCRETE INPUT				
RACK	SLOT	CHANNEL	TYPE	DESCRIPTION
1	5	0	DI	AHU-7202-2CR READY / HOA IN "AUTO"
1	5	1	DI	AHU-7202-3CR SMOKE DETECTOR
1	5	2	DI	AHU-7202-4CR FREEZE PROTECTION
1	5	3	DI	AHU-7211-2CR READY / HOA IN "AUTO"
1	5	4	DI	AHU-7211-3CR SMOKE DETECTOR
1	5	5	DI	AHU-7211-4CR FREEZE PROTECTION
1	5	6	DI	F-7205-2CR READY / HOA IN "AUTO"
1	5	7	DI	FA-CR FIRE ALARM CONTROL PANEL FAN SHUTDOWN
1	5	8	DI	F-7207-2CR READY / HOA IN "AUTO"
1	5	9	DI	F-7207-3CR SMOKE DETECTOR
1	5	10	DI	F-7208-2CR READY / HOA IN "AUTO"
1	5	11	DI	SPARE
1	5	12	DI	SPARE
1	5	13	DI	SPARE
1	5	14	DI	SPARE
1	5	15	DI	SPARE

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DANIEL GUY PALMATIER — 44806 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON
06/26/2025

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Drawn: A. Bradley
Checked: C. Orchiltree, P.E.

Scale: N/A
One Inch at Full Scale
If Not One Inch Scale Accordingly

Kitsap County Public Works
614 Division Street, MS 26
Port Orchard, WA 98366

KITSAP COUNTY SEWER UTILITY (KCU) CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC SYSTEM REPLACEMENT

ELECTRICAL - PROCESS BUILDING PNL 7200 HVAC CONTROL PANEL I/O LISTING

Drawing: **E6.02**
Sheet: 42 of 47
File: P23-10865_E6.02
Date: September 2025

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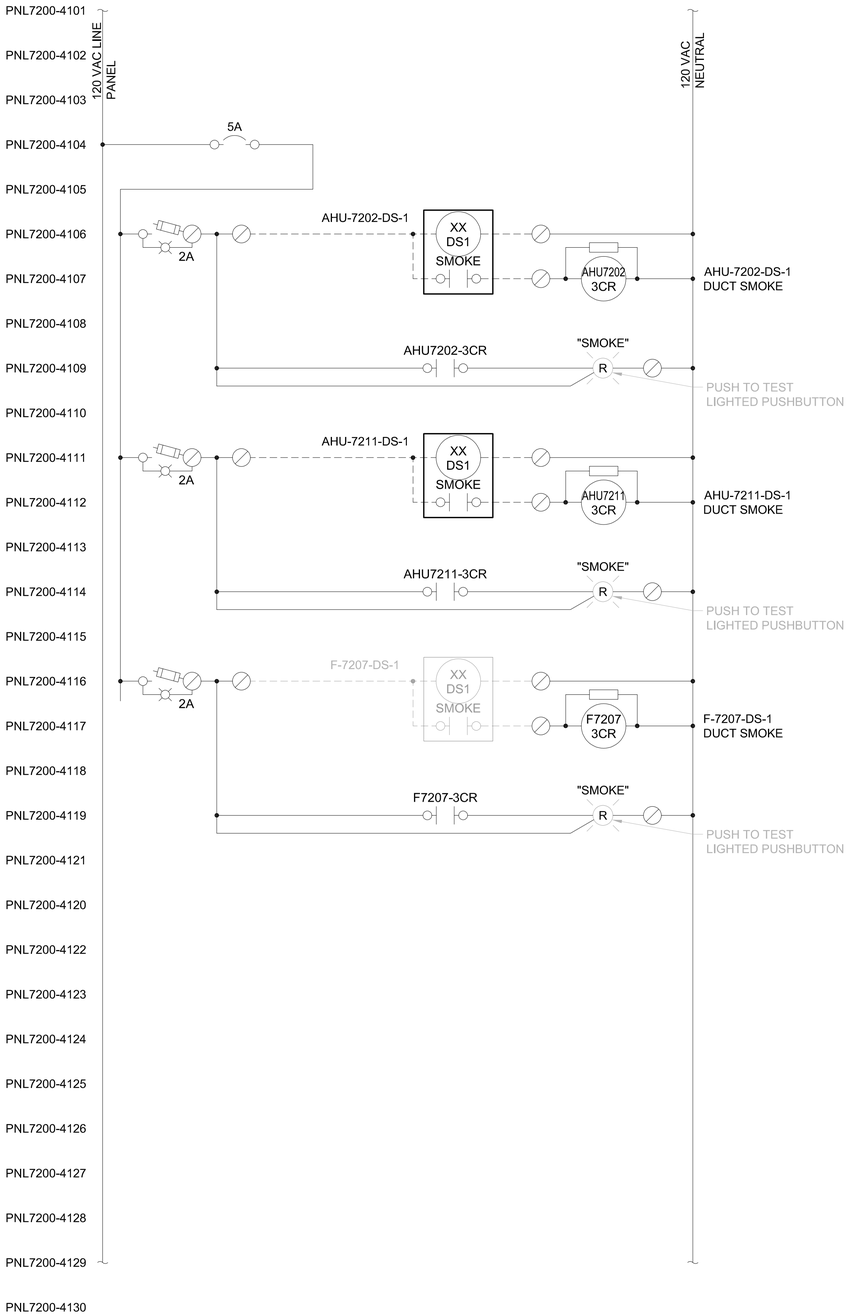
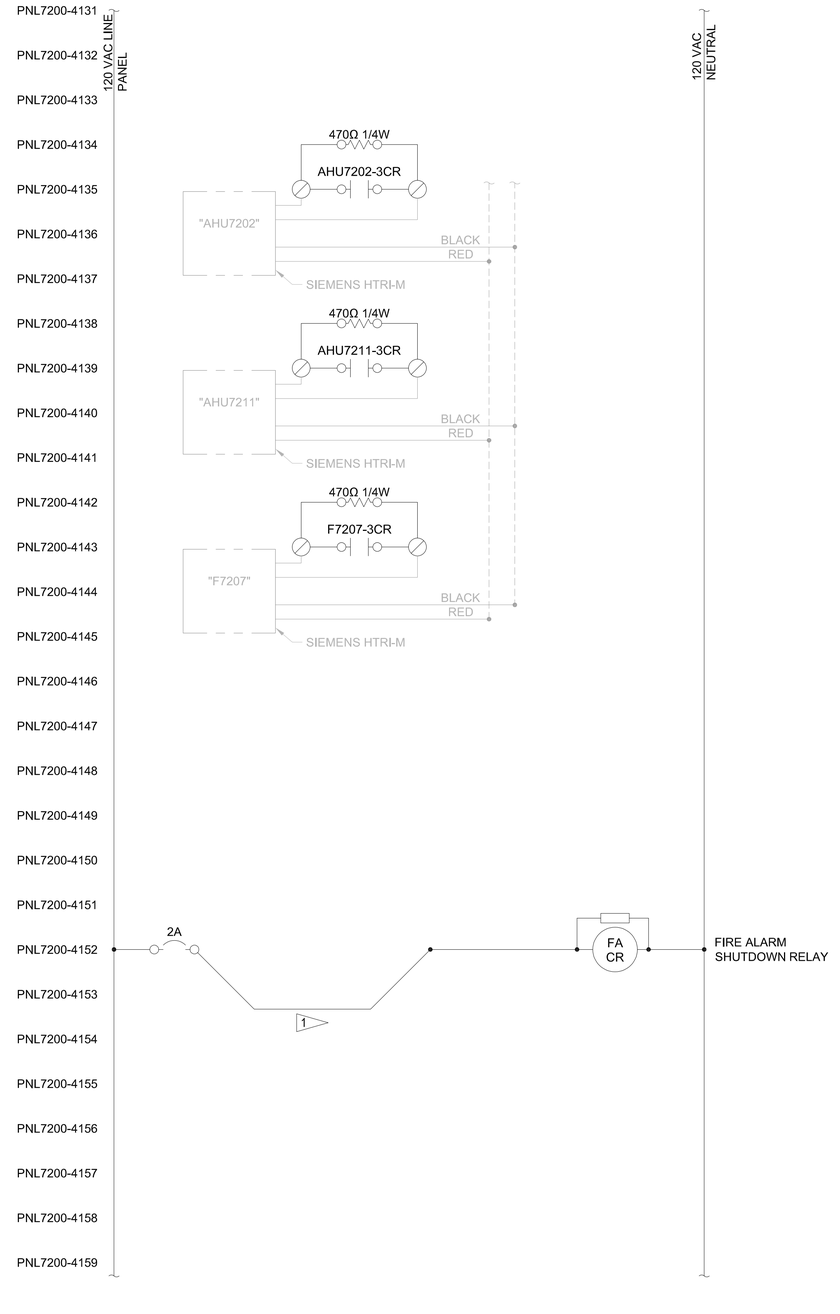
Path: S:\Card\Kitsap County\23-10865 CKTP HVAC System Replcd Filename: P23-10865_E6.02 Plot date: Aug 28, 2025-04:21:48pm CAD User: JLira.
Xref Filename: | X23-10865_TB | Palmatier | X23-10865_Status | X23-10865_TB +FSI_24x36 | DahI |





GENERAL NOTES

1. CONNECT TO EXISTING POWER CIRCUIT.
2. EXTEND EXISTING CONDUCTORS AND LAND TO NEW TERMINAL BLOCKS.

CONSTRUCTION NOTES

1 PROVIDE TERMINALS AND JUMPER FOR FUTURE FIRE ALARM INTERLOCK.

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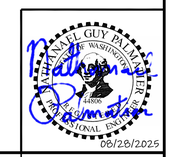

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KITSAP COUNTY SEWER UTILITY (KCU) CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC SYSTEM REPLACEMENT

ELECTRICAL - PROCESS BUILDING SCHEMATIC WIRING DIAGRAM 1 OF 5

Drawing: E7.01
Sheet: 43 of 47
File: P23-10865_E7.01
Date: September 2025

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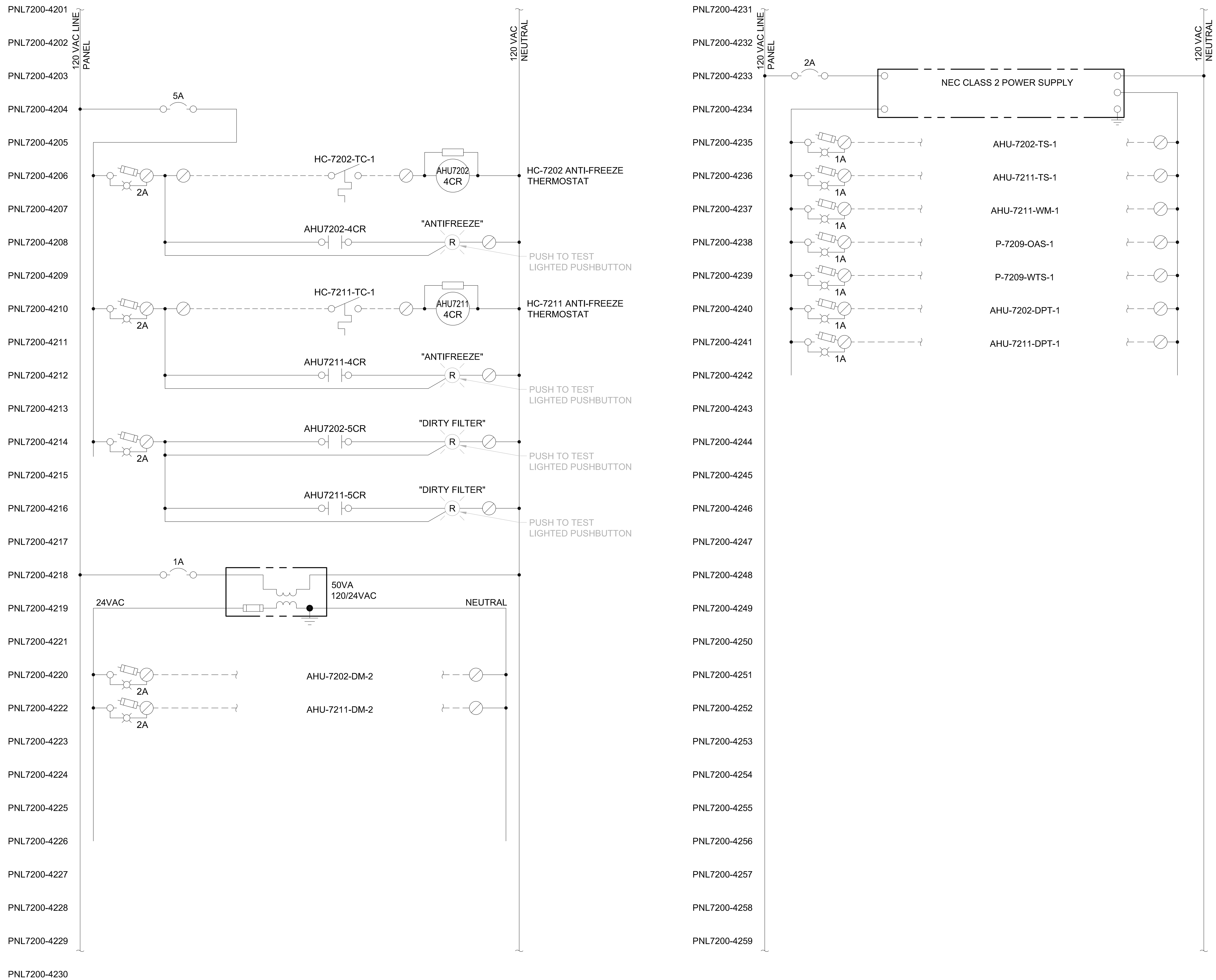
Path: S:\Cad\Kitsap County\23-10865 CKTP HVAC System Reph\d Filename: P23-10865_E7.01 Plot date: Aug 28, 2025-04:22:10pm CAD User: JLitra.
Xref Filename: | X23-10865_TB | Palmatier | X23-10865_Status | X23-10865_TB #FSI_24x36 | Dahl |



GENERAL NOTES

1. CONNECT TO EXISTING POWER CIRCUIT.
2. EXTEND EXISTING CONDUCTORS AND LAND TO NEW TERMINAL BLOCKS.

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Scale: N/A
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KITSAP COUNTY SEWER UTILITY (KCU) CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC SYSTEM REPLACEMENT

ELECTRICAL - PROCESS BUILDING SCHEMATIC WIRING DIAGRAM 2 OF 5

Drawing: E7.02
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File: P23-10865_E7.02
Date: September 2025

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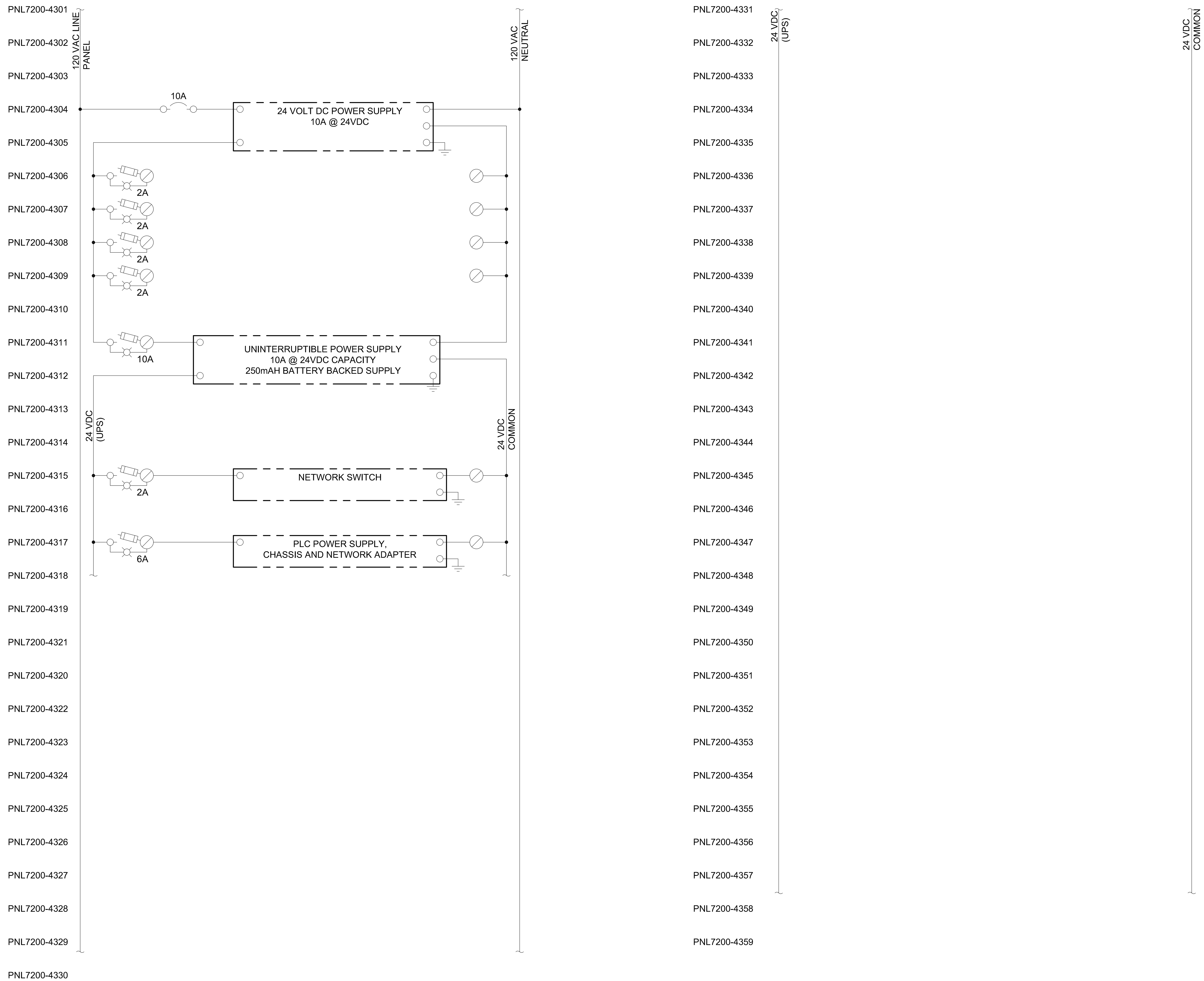

GENERAL NOTES

1. CONNECT TO EXISTING POWER CIRCUIT.
2. EXTEND EXISTING CONDUCTORS AND LAND TO NEW TERMINAL BLOCKS.

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Scale: N/A
One Inch at Full Scale
If Not One Inch Scale Accordingly

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KITSAP COUNTY SEWER UTILITY (KCU) CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC SYSTEM REPLACEMENT

ELECTRICAL - PROCESS BUILDING SCHEMATIC WIRING DIAGRAM 3 OF 5

Drawing: E7.03
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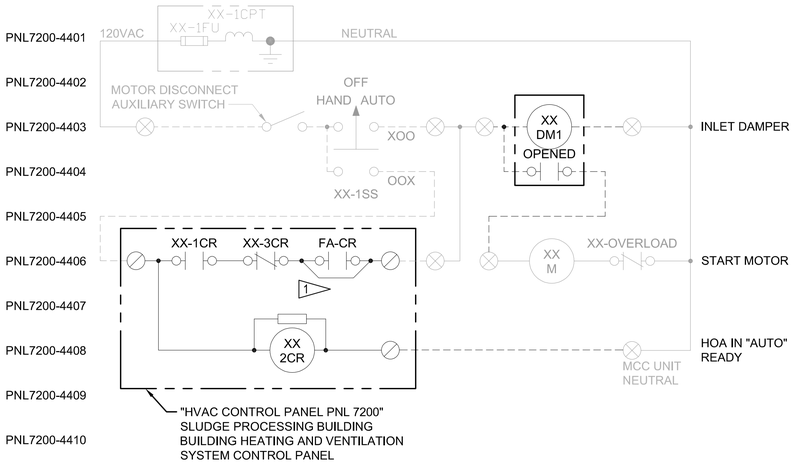
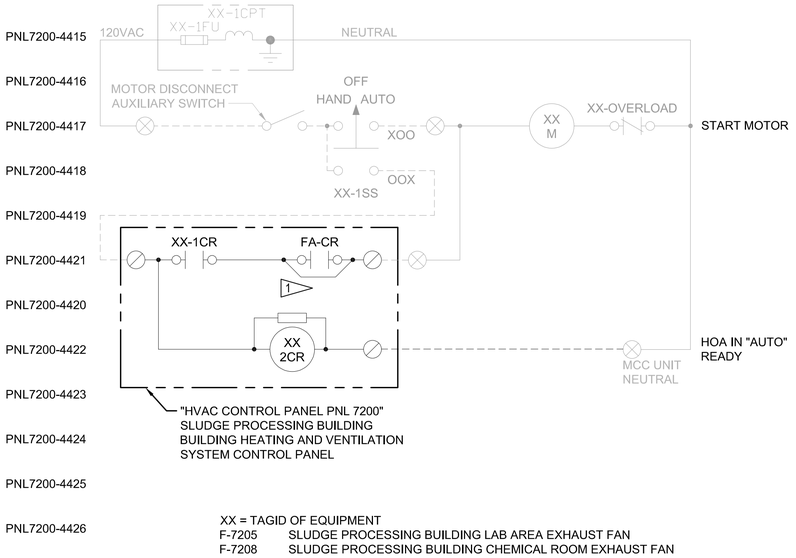
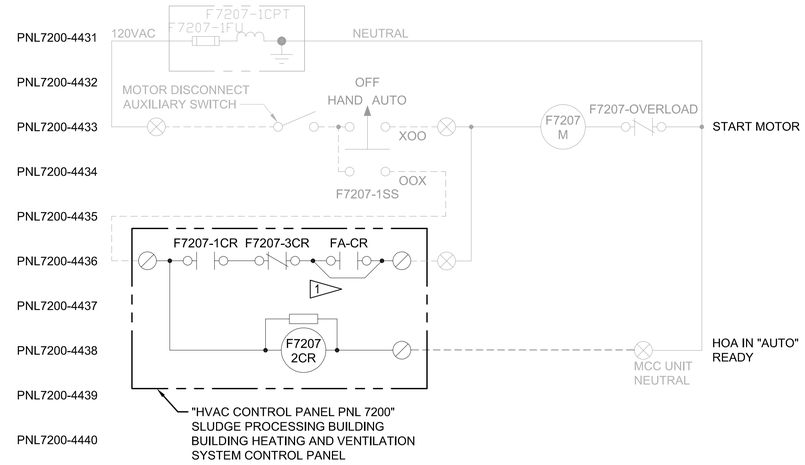
Xref Filename: | X23-10865_TB | Palmatier | X23-10865_Status | X23-10865_TB -FSI_24x36 | DahI |



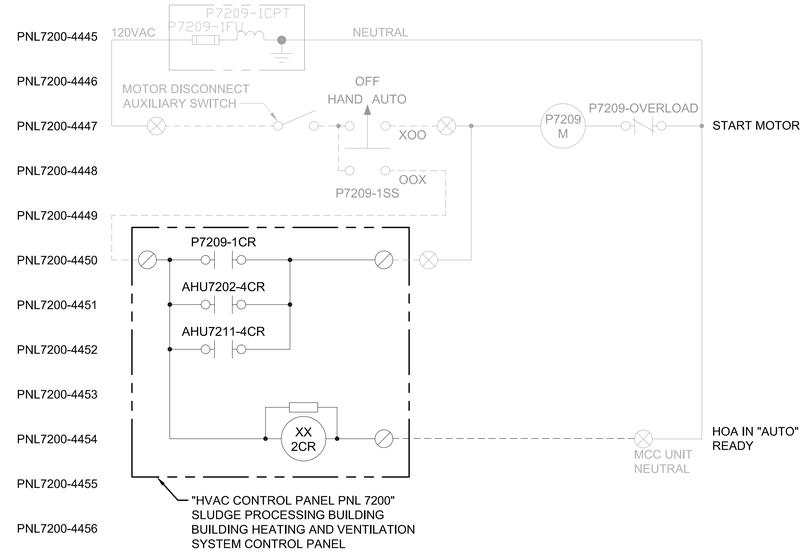
XX = TAGID OF EQUIPMENT
AHU-7202 SLUDGE PROCESSING BUILDING AIR HANDLER UNIT 2
AHU-7211 SLUDGE PROCESSING BUILDING AIR HANDLER UNIT 1



XX = TAGID OF EQUIPMENT
F-7205 SLUDGE PROCESSING BUILDING LAB AREA EXHAUST FAN
F-7208 SLUDGE PROCESSING BUILDING CHEMICAL ROOM EXHAUST FAN



F-7207 SLUDGE PROCESSING BUILDING CHEMICAL ROOM SUPPLY FAN



P-7209 SLUDGE PROCESSING BUILDING HEATING WATER PUMP

GENERAL NOTES

1. CONNECT TO EXISTING POWER CIRCUIT.
2. EXTEND EXISTING CONDUCTORS AND LAND TO NEW TERMINAL BLOCKS.

CONSTRUCTION NOTES

1 PROVIDE TERMINALS AND JUMPER FOR FUTURE FIRE ALARM INTERLOCK.

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Checked: C. Orchiltree, P.E.

Scale: N/A
One Inch at Full Scale
If Not One Inch Scale Accordingly

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KITSAP COUNTY SEWER UTILITY (KCU) CENTRAL KITSAP TREATMENT PLANT (CKTP) HVAC SYSTEM REPLACEMENT

ELECTRICAL - PROCESS BUILDING SCHEMATIC WIRING DIAGRAM 4 OF 5

Drawing: E7.04
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File: P23-10865_E7.04
Date: September 2025

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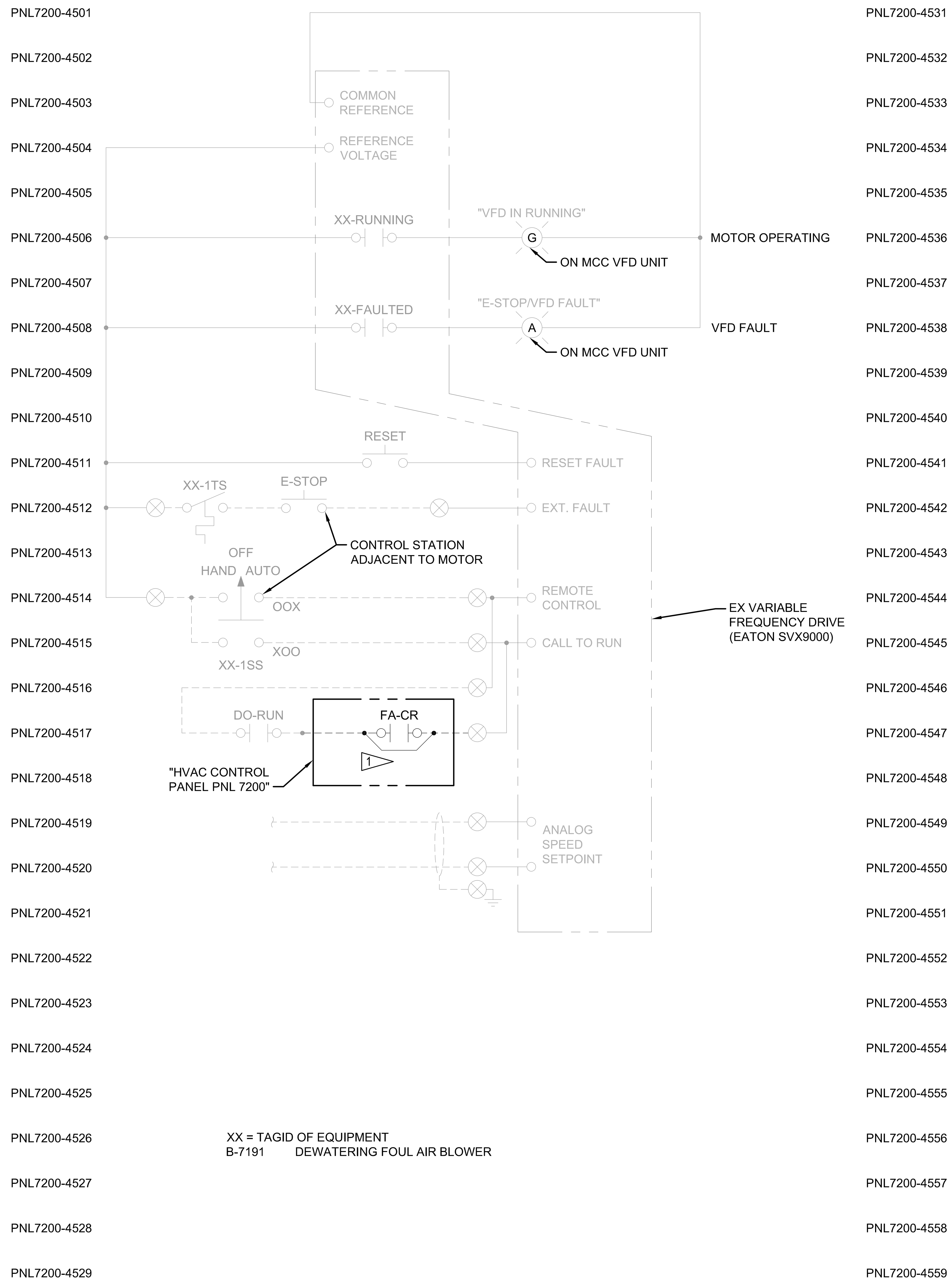

GENERAL NOTES

1. IN WIRING DIAGRAM, THE TAG ID "XX" REFERS TO THE TAG ID ASSOCIATED WITH THE MOTOR.
2. ADAPT WIRING IN EXISTING MCC MOUNTED VFD UNIT. ARRANGE SUCH THAT ON A FIRE ALARM SIGNAL THE VFD WILL STOP OPERATING IN "AUTO" MODE.
3. IT IS ACCEPTABLE TO PROVIDE ADDITIONAL TERMINALS OR USE AVAILABLE TERMINALS.

CONSTRUCTION NOTES

1 PROVIDE TERMINALS AND JUMPER FOR FUTURE FIRE ALARM INTERLOCK.

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Scale: N/A
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ELECTRICAL - PROCESS BUILDING SCHEMATIC WIRING DIAGRAM 5 OF 5

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