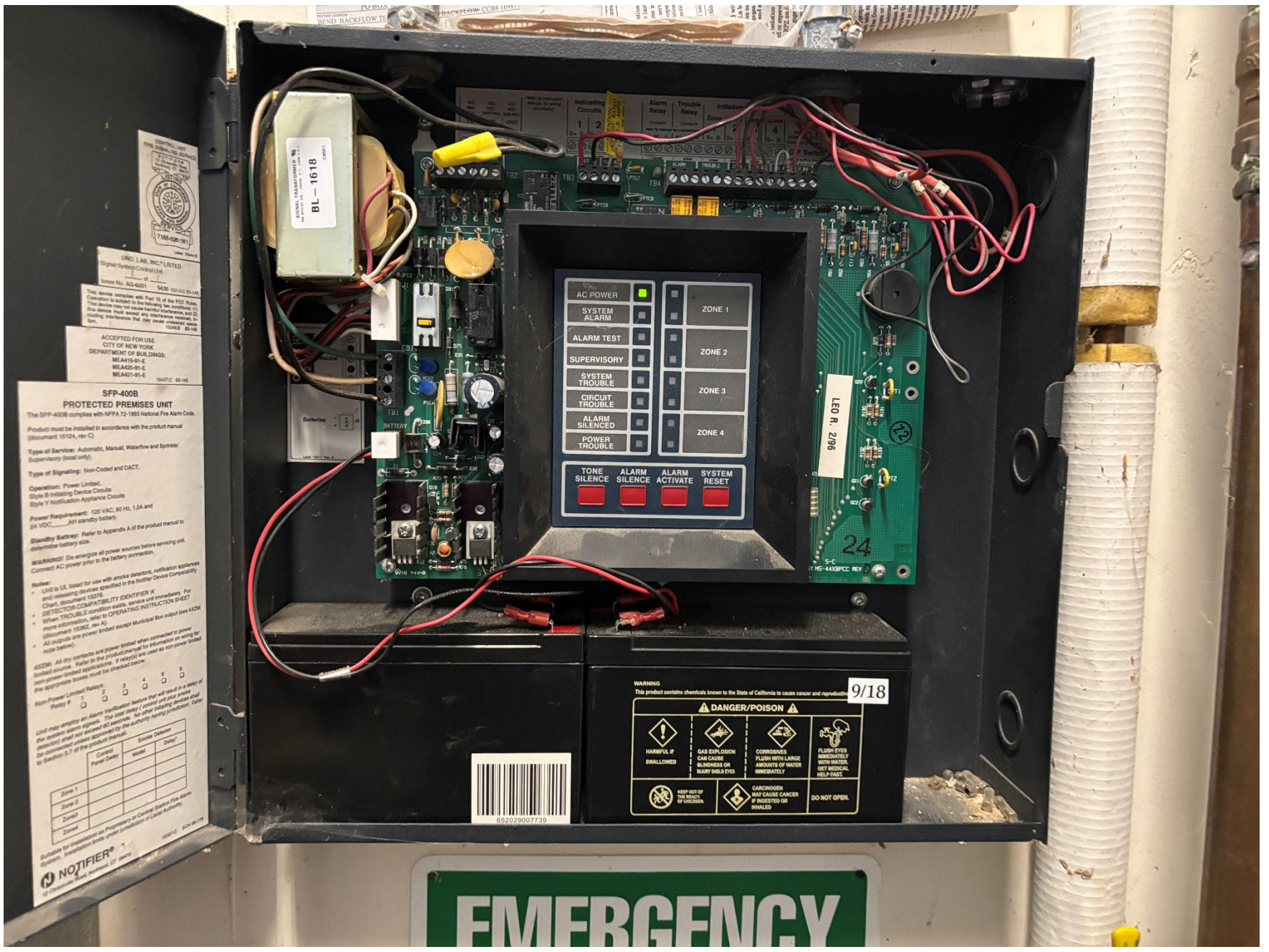
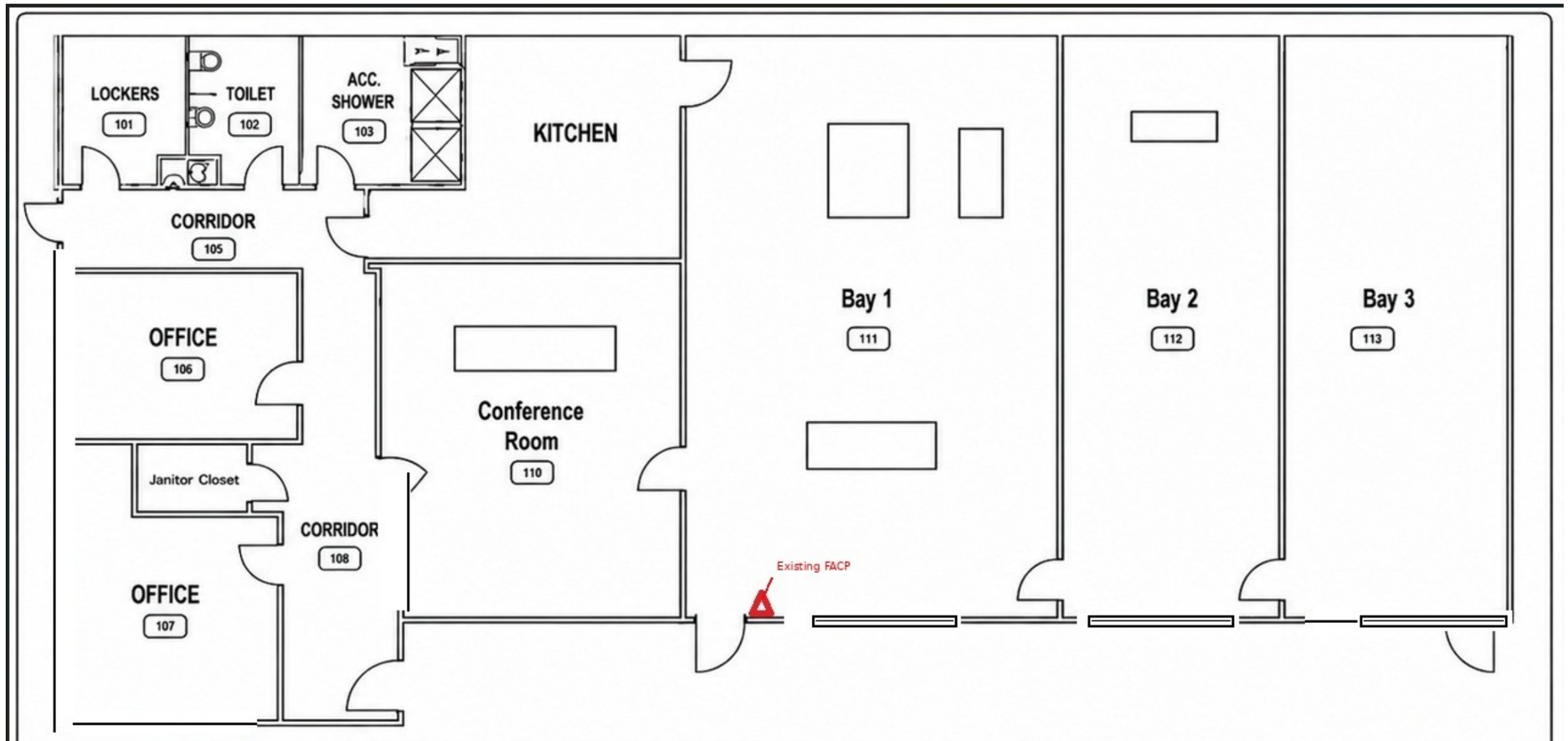
The following are questions/answers that were brought up that supplement the Request for Quotes, and in some cases may provide some different information than what is stated in the Request for Quotes. Where there are differences, quoters shall make pen and ink changes in those sections of the Request for Quotes, with the information provided in this Question and Answer round.

1. Q: Can we use addressable fire alarm panel?
   A: Yes the government amended the SOW to require a currently manufacturer-supported, UL-listed addressable or hybrid-addressable fire alarm control panel. See Attachment 8 REVISED SOW JODA Maint Shop FACP

2. Q: What method is available at this location for monitoring? IP Internet? Standard Phone Lines?
   A: The Government will provide and activate two analog telephone/POTS communication lines using existing copper telephone/backbone infrastructure serving the JODA Maintenance Shop. Contractor shall include all required listed communicators, dialer modules, RJ31X jacks or equivalent listed line-seizure connections, surge protection, cabling, terminations, programming, coordination, testing, and monitoring-provider signal verification required to connect the installed system to the Government-provided telephone lines. The Government will be responsible for line activation/provisioning and recurring telephone service charges. Contractor shall coordinate with the COR, the Government-designated telephone/service provider, and the Government-designated central station monitoring provider. If the Government-provided analog telephone/POTS lines are not available or cannot be made functional, alternate communication methods are available but will require prior Government approval before installation or connection.

3. Q: Could you please provide interior photos of the panel so we can accurately determine the required specs and pricing? Any available drawings would also be greatly appreciated.
   A: See following photos and drawings:





LEGEND

Existing FACP /
FACP Replacement Location

NOTES

Conceptual location plan only.
Contractor shall field-verify existing circuits, device inventory, wiring, power, monitoring method, AHJ requirements, and final locations.
No new device locations are shown.

TYPICAL CODES & STANDARDS FOR FACP INSTALLATION

- NFPA 72 – National Fire Alarm and Signaling Code; panel, initiating devices, NACs, batteries, programming, testing, and documentation.
- NFPA 70 (NEC) – power, grounding, wiring methods, raceways, and low-voltage installation.
- NFPA 13 – sprinkler waterflow and tamper interface/monitoring coordination.
- NFPA 101 / adopted building-fire code – life-safety and fire alarm requirements.
- Applicable State of Oregon licensing requirements and local AHJ requirements.
- Manufacturer installation instructions and listing requirements for all equipment provided.
- Field verification of existing circuits, device compatibility, monitoring/cutover requirements, and final locations.

JOHN DAY FOSSIL BEDS NATIONAL MONUMENT

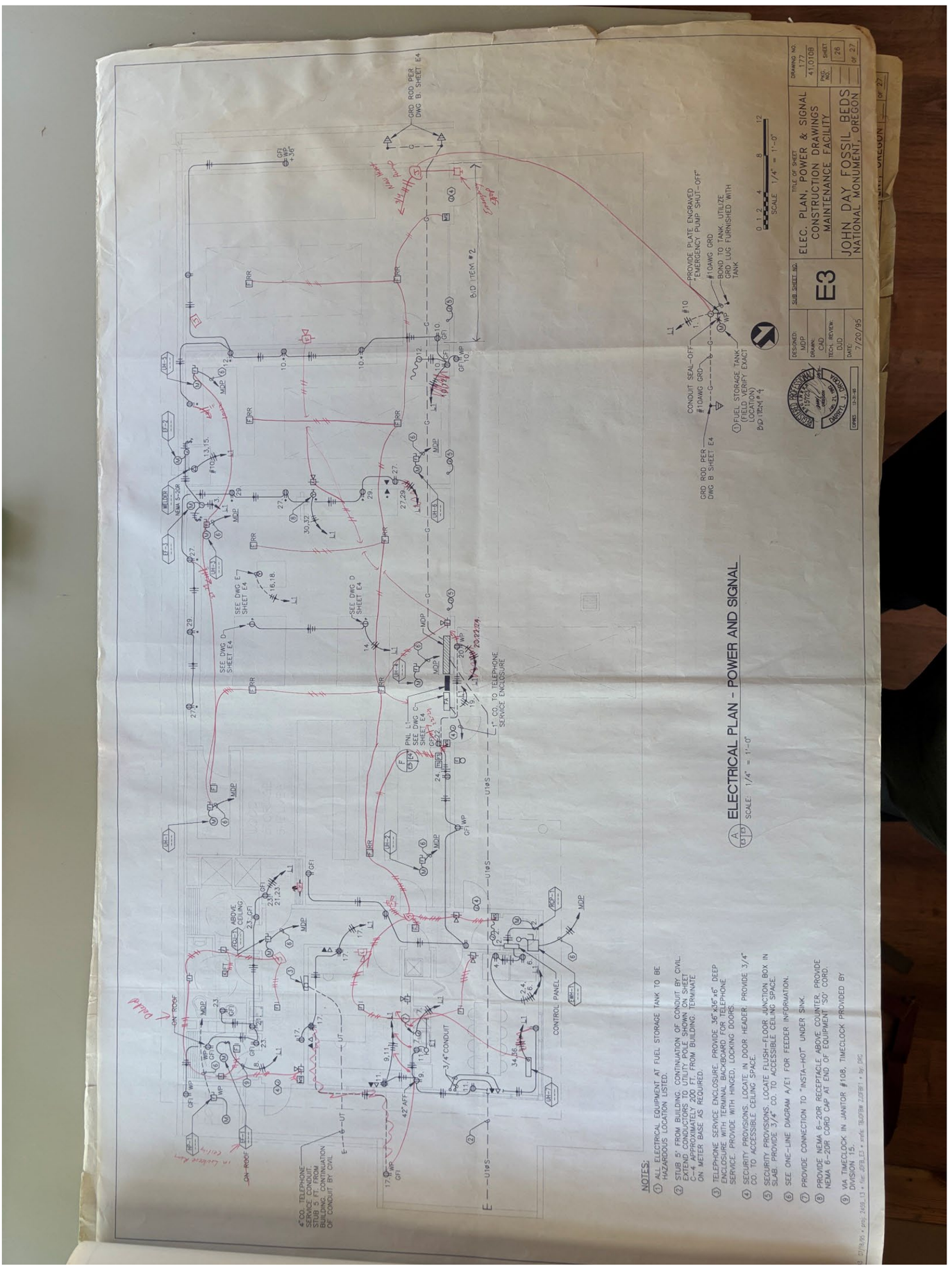
MAINTENANCE SHOP

FIRE ALARM CONTROL PANEL (FACP) REPLACEMENT CONCEPT PLAN

DATE:	SCALE:	DRAWN BY:	SHEET:
06/22/2026	1/4" = 1'-0"	NPS / JODA	**A1**

Concept plan only – Contractor shall field-verify existing circuits, device inventory, monitoring method, and AHJ requirements.

BID ITEM # 2
PROVIDE DEVICE PLATE ENGRAVED "OUTDOOR LIGHTS"
48" AFF
1" CONDUIT
GENERAL NOTES:
1. ARCHITECTURAL PLANS INDICATE EXACT LOCATIONS OF ALL LIGHT FIXTURES.
NOTES THIS SHEET:
(1) SUSPEND WITH WHITE FIXTURE STEM. BOTTOM OF FIXTURE TO BE LEVEL WITH CEILING.
(2) PROVIDE 300W RATED PORCELAIN KEYLESS SOCKET WITH 75W A-19 LAMP.
PROVIDE PERFECT-LINE "WHY-2" LAMPHOLDER AND SURFACE OUTDOOR BOX. MOUNT ON WOOD POLE PROVIDED BY OTHER DIVISION AT HEIGHT AS DIRECTED. (FIELD VERIFY EXACT LOCATION) PROVIDE WITH (2) 150W PAR 38 FL LAMPS
ELECTRICAL PLAN - LIGHTING
SCALE: 1/4" = 1'-0"
SCALE 1/4" = 1'-0"
REGISTERED PROFESSIONAL ENGINEER
15725
DARRYL J. DROHA
EXPIRES 12-31-95
DESIGNED: MDP
DRAWN: DRG
TECH. REVIEW: DJD
DATE: 7/20/95
SUB SHEET NO. E2
TITLE OF SHEET
ELECTRICAL PLAN, LIGHTING
CONSTRUCTION DRAWINGS
MAINTENANCE FACILITY
JOHN DAY FOSSIL BEDS
NATIONAL MONUMENT, OREGON
DRAWING NO. 177 41,0108
PKG. NO.
SHEET 25 OF 27


ELECTRICAL PLAN - POWER AND SIGNAL
SCALE: 1/4" = 1'-0"
NOTES:
1 ALL ELECTRICAL EQUIPMENT AT FUEL STORAGE TANK TO BE HAZARDOUS LOCATION LISTED.
2 STUB 5' FROM BUILDING. CONTINUATION OF CONDUIT BY CIVIL. EXTEND CONDUCTORS TO UTILITY POLE SHOWN ON SHEET C-4 APPROXIMATELY 200 FT. FROM BUILDING. TERMINATE ON METER BASE AS REQUIRED.
3 TELEPHONE SERVICE ENCLOSURE. PROVIDE 36"x36"x6" DEEP ENCLOSURE WITH TERMINAL BACKBOARD FOR TELEPHONE SERVICE. PROVIDE WITH HINGED, LOCKING DOORS.
4 SECURITY PROVISIONS. LOCATE IN DOOR HEADER. PROVIDE 3/4" CO. TO ACCESSIBLE CEILING SPACE.
5 SECURITY PROVISIONS. LOCATE FLUSH-FLOOR JUNCTION BOX IN SLAB. PROVIDE 3/4" CO. TO ACCESSIBLE CEILING SPACE.
6 SEE ONE-LINE DIAGRAM A/E1 FOR FEEDER INFORMATION.
7 PROVIDE CONNECTION TO "INSTA-HOT" UNDER SINK.
8 PROVIDE NEMA 6-20R RECEPTACLE ABOVE COUNTER. PROVIDE NEMA 6-20R CORD CAP AT END OF EQUIPMENT 'SO' CORD.
9 VIA TIMECLOCK IN JANITOR #108, TIMECLOCK PROVIDED BY DIVISION 15.
CONTROL PANEL
1" CO. TO TELEPHONE SERVICE ENCLOSURE
4" CO. TELEPHONE SERVICE CONDUIT. STUB 5 FT. FROM BUILDING. CONTINUATION OF CONDUIT BY CIVIL
GRD ROD PER DWG B. SHEET E4
BID ITEM #2
CONDUIT SEAL-OFF
#10AWG GRD
PROVIDE PLATE ENGRAVED "EMERGENCY PUMP SHUT-OFF"
#10AWG GRD
BOND TO TANK. UTILIZE GRD LUG FURNISHED WITH TANK
FUEL STORAGE TANK (FIELD VERIFY EXACT LOCATION) BID ITEM #4
SCALE 1/4" = 1'-0"
TITLE OF SHEET
ELEC. PLAN, POWER & SIGNAL
CONSTRUCTION DRAWINGS
MAINTENANCE FACILITY
JOHN DAY FOSSIL BEDS
NATIONAL MONUMENT, OREGON
SUB SHEET NO.
E3
DESIGNED: MDP
DRAWN: CAD
TECH. REVIEW: DJD
DATE: 7/20/95
DRAWING NO. 177
41.0108
PKG. NO.
SHEET 26 OF 27

ELECTRICAL LEGEND

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
A	AMPERE (AMP)
AL	ALUMINUM
CB	CIRCUIT BREAKER
C	CONDUIT
CKT	CIRCUIT
CLG	CEILING
CO	CONDUIT ONLY
CT	CURRENT TRANSFORMER
CU	COPPER
CWA	CONSTANT-WATTAGE AUTO XFMR
DN	DOWN
DTT	DOUBLE TWIN TUBE
EMT	ELECTRIC METALLIC TUBING
EP	EXPLOSION PROOF
EPO	EMERGENCY POWER OFF
EWC	ELECTRIC WATER COOLER
FA	FIRE ALARM
FLA	FULL LOAD AMPS
GFP	GROUND FAULT PROTECTION
GFI	GROUND FAULT INTERRUPTER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GRC	GALVANIZED RIGID CONDUIT
GRD	GROUND
HP	HORSEPOWER
HPF	HIGH POWER FACTOR
HPS	HIGH PRESSURE SODIUM
HV	HIGH VOLTAGE
HZ	HERTZ
INC	INCANDESCENT
JB	JUNCTION BOX
KW	KILOWATT
KWH	KILOWATT HOUR
KV	KILOVOLT
KVA	KILOVOLT AMP
LTG	LIGHTING
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MECH	MECHANICAL
MLO	MAIN LUGS ONLY
NIC	NOT IN CONTRACT
NPF	NORMAL POWER FACTOR
PE	PHOTO ELECTRIC CELL
PF	POWER FACTOR
PNL	PANELBOARD
PVC	POLYVINYLCHLORIDE CONDUIT
PWR	POWER
SDP	SUB-DISTRIBUTION PANEL
TYP	TYPICAL
UC	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
V	VOLTAGE
VA	VOLT AMPERES
VP	VAPOR PROOF
W	WATTS
WP	WEATHER PROOF
XFMR	TRANSFORMER

LIGHTING

- CEILING LUMINAIRE: SURFACE, RECESSED
- WALL LUMINAIRE: SURFACE, RECESSED
- WALL WASHER: SURFACE, RECESSED
- INCANDESCENT STRIP LIGHTS
- TRACK WITH HEADS LOCATED
- FLUORESCENT LUMINAIRE: SURFACE, RECESSED
- FLUORESCENT LUMINAIRE: WALL MOUNTED
- FLUORESCENT LUMINAIRE: BARE LAMP
- POLE LIGHT: LUMINAIRES AS SHOWN
- DESIGNATES LIGHT ON EMERGENCY CIRCUIT
- EXIT LIGHT: CEILING, WALL (ARROWS AS SHOWN)
- BOLLARD
- EMERGENCY BATTERY LIGHT: HEADS AS SHOWN
- WALL SWITCH: 1 POLE, 2 POLE
- WALL SWITCH: 3 WAY, 4 WAY
- WALL SWITCH: KEY LOCK, MOMENTARY
- WALL SWITCH: LOW VOLTAGE, PILOT
- MANUAL DIMMER
- WALL SWITCH: TIMER
- PHOTOELECTRIC CELL
- DESIGNATES LUMINAIRE TYPE (SEE LUMINAIRE SCHEDULE).
- DESIGNATES NIGHT LIGHT CIRCUIT
- EXISTING TO REMAIN
- NEW
- EXISTING TO BE RELOCATED
- EXISTING TO BE REMOVED
- ELECTRICAL EQUIPMENT NOTE LABEL DESIGNATOR
- MOTION SENSOR: CEILING MOUNT, WALL MOUNT.

POWER

- WALL RECEPTACLE: SINGLE, DUPLEX
- WALL RECEPTACLE: EMERGENCY, 4-PLEX
- CEILING RECEPTACLE: DUPLEX
- DENOTES RECEPTACLE ABOVE COUNTER
- PENDANT RECEPTACLE
- SPECIAL PURPOSE OUTLET AS NOTED
- CLOCK HANGER RECEPTACLE
- FLUSH IN-FLOOR OUTLET: DUPLEX, COMBINATION, SIGNAL
- PEDESTAL OUTLET: POWER, SIGNAL, COMBINATION
- SURFACE OUTLET STRIP: DIMENSION AS SHOWN
- TELEPOWER POLE, POWER, COMBINATION
- JUNCTION BOX
- DISCONNECT SWITCH: FUSED, NON-FUSED
- MOTOR STARTER: MANUAL, MAGNETIC, COMBINATION
- MOTOR CONNECTION
- CONTACTOR, RELAY, SOLENOID
- PUSH BUTTON STATION
- WIRING CONCEALED IN CEILING OR WALL
- WIRING CONCEALED IN FLOOR OR UNDERGROUND
- INDICATES INSULATED GREEN GROUND WIRE
- HOME RUN DESTINATION SHOWN (3#12AWG UON)
- CONDUIT ELL: UP, DN.
- EQUIPMENT DESIGNATOR SEE SCHEDULE.

SIGNAL

- SPRINKLER SYSTEM SWITCH: FLOW, TAMPER
- MANUAL FIRE ALARM STATION
- DETECTOR: IONIZATION, HEAT (FIXED TEMP), RATE-OF-RISE.
- FIRE ALARM: VISUAL; BELL
- FIRE ALARM: CONTROL PANEL
- FIRE ALARM: HORN; HORN W/VISUAL
- FIREMANS PHONE JACK
- SPEAKER: WALL, CEILING
- MAGNETIC DOOR HOLDER, CLOSER
- ELECTRIC DOOR LOCK, CONTACT
- FIRE ALARM SPEAKER: WALL, CEILING
- WALL OUTLET: TELEPHONE, DATA
- WALL OUTLET: EMERGENCY TELEPHONE
- WALL OUTLET: MICROPHONE, INTERCOM, AUDIO JACK
- WALL OUTLET: VOLUME CONTROL
- CCTV CAMERA
- SYSTEM CLOCK: WALL, CEILING
- MASTER ANTENNA TV OUTLET
- THERMOSTAT (FURN. BY DIV. 15, INSTALLED BY DIV. 16)
- MANUAL EMERGENCY SECURITY STATION
- CARD KEY READER STATION
- SECURITY ELECTRONIC SENSOR

EQUIPMENT

- ELECTRICAL EQUIPMENT
- PANELBOARD: SURFACE, RECESSED
- CABINET: SURFACE, RECESSED
- TRANSFORMER
- GROUND ROD
- GROUND PAD
- EQUIPMENT WITH DERIVED GROUND
- VOLTMETER, AMMETER
- SELECTOR SWITCH: VOLTMETER, AMMETER
- METER: KILOWATT HOUR, POWER FACTOR
- POTENTIAL TRANSFORMER
- CURRENT TRANSFORMER
- HEAT TRACE CONNECTION
- UTILITY METERBASE

NOTES:

THIS IS A STANDARD LEGEND SHEET, THEREFORE, SOME SYMBOLS MAY APPEAR ON THIS SHEET THAT DO NOT APPEAR ON THE DRAWINGS.

LUMINAIRE SCHEDULE

A1 FLUORESCENT SURFACE WET LOCATION LABEL VAPORTITE
1.SIZE: 7-5/8 IN. X 50 IN.
2.LAMP: FLUORESCENT, TWO F32T8 RS.
3.BALLAST: 120 VAC, ELECTRONIC.
4.MOUNTING: SURFACE.
5.LUMINAIRE BODY: ONE PIECE MOLDED POYESTER OR FIBERGLASS.
6.LENS: GASKETED ACRYLIC DIFFUSER. A MINIMUM OF SIX CAM ACTION LATCHES TO ATTACH LENS TO LUMINAIRE BODY.
7.SPECIAL: U.L. WET LOCATION LABEL
8.MANUFACTURER: LITHONIA DMW 232, METALUX, DAYBRITE, H.E.WILLIAMS, COLUMBIA OR APPROVED.

AE SAME AS TYPE A1 EXCEPT WITH EMERGENCY BALLAST.

B1 IC RATED FLUORESCENT DOWNLIGHT
1.SIZE: 6 IN. NOMINAL APERTURE.
2.LAMP: FLUORESCENT, TWO HORIZONTAL 13 WATT DTT.
3.BALLAST: 120 VAC, NPF.
4.MOUNTING: RECESSED.
5.LENS: FRESNEL WITH WHITE SPLAY.
6.ACCESSORIES: UL WET LOCATION LISTED.
7.MANUFACTURER: LITHONIA LICSF SERIES OR APPROVED.

C1 FLUORESCENT LENSED TROFFER
1.SIZE: 12 IN. X 48 IN.
2.LAMP: FLUORESCENT, TWO F32T8RS.
3.BALLAST: 120 VAC, ELECTRONIC.
4.MOUNTING: RECESSED GRID.
5.FINISH: BAKED WHITE ENAMEL.
6.LENS: PRISMATIC ACRYLIC.
7.MANUFACTURER: LITHONIA SP SERIES OR APPROVED.

CE SAME AS TYPE C1 EXCEPT WITH EMERGENCY BALLAST.

D1 FLUORESCENT SURFACE STRIP
1.SIZE: 48 IN. STRIP.
2.LAMP: FLUORESCENT, ONE F32 T8 RS.
3.BALLAST: 120 VAC, ELECTRONIC.
4.MOUNTING: SURFACE.
5.MANUFACTURER: LITHONIA C SERIES, METALUX, DAYBRITE, LIGHTOLIER, COLUMBIA OR APPROVED.

D2 FLUORESCENT SURFACE STRIP
1.SIZE: 96 IN. STRIP.
2.LAMP: FLUORESCENT, TWO F32 T8 RS.
3.BALLAST: 120 VAC, ELECTRONIC, TANDEM WIRED LAMPS.
4.MOUNTING: SURFACE.
5.MANUFACTURER: LITHONIA C SERIES, DAYBRITE, METALUX, LIGHTOLIER, COLUMBIA OR APPROVED.

DE SAME AS TYPE D1 EXCEPT WITH EMERGENCY BALLAST.

E1 FLUORESCENT UNDERCABINET
1.SIZE: 48 IN. LENGTH X 1-1/2 IN. DEEP.
2.LAMP: FLUORESCENT, ONE F32 T8 RS.
3.BALLAST: 120 VAC, ELECTRONIC.
4.LENS: PRISMATIC ACRYLIC, OPAQUE FRONT.
5.ACCESSORIES: INTEGRAL ROCKER SWITCH.
6.MANUFACTURER: ALKO "SUPER INCH" OR APPROVED.

F1 FLUORESCENT SURFACE
1.SIZE: 4 IN. X 4 IN. X 48 IN.
2.LAMP: FLUORESCENT, TWO F32 T8 RS.
3.BALLAST: 120 VAC, ELECTRONIC.
4.MOUNTING: PENDANT WITH SWIVEL ADAPTOR.
5.FINISH: BAKED WHITE ENAMEL.
6.LENS: PRISMATIC ACRYLIC.
7.MANUFACTURER: LITHONIA WC232 SERIES OR APPROVED.

SE1 HID SURFACE WALL
1.SIZE: 5 IN. X 10-1/2 IN. X 5-1/4 POLYCARBONATE HOUSING.
2.LAMP: METAL HALIDE, ONE 50 WATT.
3.BALLAST: 120 VAC, HPF, CWA.
4.MOUNTING: SURFACE WALL.
5.LENS: LOW GLARE PRISMATIC.
6.FINISH: BRONZE.
7.MANUFACTURER: HUBBELL NRG-300 SERIES, OR APPROVED.

X1 FLUORESCENT SINGLE FACE UNIVERSAL EXIT
1.SIZE: 8 IN. X 12 IN. X 2 IN. NOMINAL.
2.LAMP: GREEN LED.
3.BALLAST : 120 VAC.
4.HOUSING: DIE CAST ALUMINUM, WHITE FINISH.
5.MOUNTING: UNIVERSAL (SEE DRAWINGS FOR APPLICATION).
6.LENS: 6 IN. HIGH X 3/4 IN. STROKE LETTERS.
7.ACCESSORIES: DIRECTIONAL ARROWS, NICKEL CADMIUM BATTERY.
8.MANUFACTURER: LITHONIA SIGNATURE SERIES, HUBBELL OR APPROVED.

LOAD SUMMARY

	CONNECTED	DEMAND FACTOR	DEMANDED
LIGHTING	3,660 VA	125%	4,575 VA
RECEPTACLES	10,120 VA	NEC	10,060 VA
EQUIPMENT	19,920 VA	100%	19,920 VA
MOTORS	2,664 VA	100%	2,664 VA
HEATING	50,880 VA	100%	50,880 VA
TOTAL CONNECTED KVA = 87.24			
TOTAL AMPS @ 240V, 1ø = 364			

FEEDER SCHEDULE

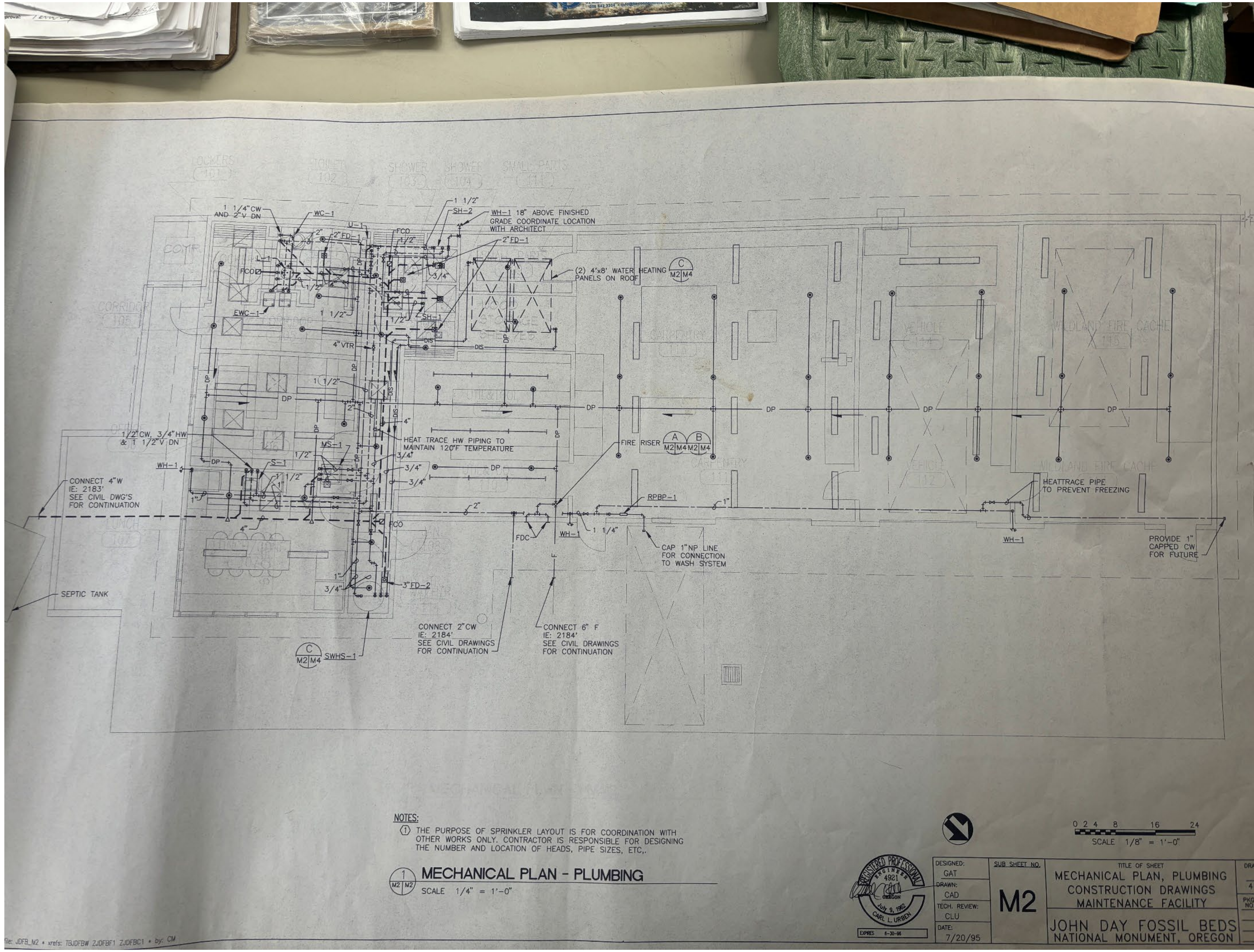
MARK	TRIP SETTING	CONDUCTORS	CONDUIT SIZE
1A	30A	2-#10	3/4"
B		2-#10+#10G	3/4"
C		3-#10	3/4"
D		3-#10+#10G	3/4"
2A	80A	2-#3	1"
B		2-#3+#8G	1"
C		3-#3	1"
D		3-#3+#8G	1-1/4"
3A	125A	2-#1	1-1/4"
B		2-#1+#6G	1-1/4"
C		3-#1	1-1/4"
D		3-#1+#6G	1-1/2"
4A	225A	2-#4/0	2"
B		2-#4/0+#4G	2"
C		3-#4/0	2"
D		3-#4/0+#4G	2"

A E1 E1 ONE LINE DIAGRAM
SCALE: NONE

NOTE: ALL CONDUCTORS COPPER.

DESIGNED: MDP	SUB SHEET NO. E1	TITLE OF SHEET: ELEC. LEGEND & SCHEDULES CONSTRUCTION DRAWINGS MAINTENANCE FACILITY
DRAWN: DRG		JOHN DAY FOSSIL BEDS NATIONAL MONUMENT, OREGON
TECH. REVIEW: DJD		
DATE: 7/20/95		DRAWING NO. 177 41,010B; PKG. NO.; SHEET 24 OF 27

14:51 07/18/95 • proj: 2459_13 • file: JDFB_E1 • xref: TBJDFBM • by: DRG


1 1/4" CW
AND 2" V DN
WC-1
WH-1 18" ABOVE FINISHED GRADE COORDINATE LOCATION WITH ARCHITECT
SH-2
2" FD-1
(2) 4'x8' WATER HEATING PANELS ON ROOF
EWC-1
4" VTR
1/2" CW, 3/4" HW & 1 1/2" V DN
HEAT TRACE HW PIPING TO MAINTAIN 120°F TEMPERATURE
FIRE RISER
CONNECT 4" W
IE: 2183'
SEE CIVIL DWG'S FOR CONTINUATION
SEPTIC TANK
RPBP-1
HEATTRACE PIPE TO PREVENT FREEZING
PROVIDE 1" CAPPED CW FOR FUTURE
CAP 1" NP LINE FOR CONNECTION TO WASH SYSTEM
FDC
3" FD-2
SWHS-1
CONNECT 2" CW
IE: 2184'
SEE CIVIL DRAWINGS FOR CONTINUATION
CONNECT 6" F
IE: 2184'
SEE CIVIL DRAWINGS FOR CONTINUATION
NOTES:
1 THE PURPOSE OF SPRINKLER LAYOUT IS FOR COORDINATION WITH OTHER WORKS ONLY. CONTRACTOR IS RESPONSIBLE FOR DESIGNING THE NUMBER AND LOCATION OF HEADS, PIPE SIZES, ETC,.
MECHANICAL PLAN - PLUMBING
SCALE 1/4" = 1'-0"
SCALE 1/8" = 1'-0"
DESIGNED: GAT
DRAWN: CAD
TECH. REVIEW: CLU
DATE: 7/20/95
SUB SHEET NO. M2
MECHANICAL PLAN, PLUMBING
CONSTRUCTION DRAWINGS
MAINTENANCE FACILITY
JOHN DAY FOSSIL BEDS
NATIONAL MONUMENT, OREGON

DUCT LEGEND

SUPPLY AIR · RETURN OR EXHAUST AIR · OUTSIDE AIR — DUCT SECTIONS

FD FIRE DAMPER · SD SMOKE DAMPER · VD VOLUME DAMPER · AD AUTOMATIC DAMPER

EF-1 — TYPE, ITEM, SEE SCHEDULE — EQUIPMENT

12"x 20"SG 700 CFM — SUPPLY GRILLE (SG)
12"x 20"RG 700 CFM — RETURN GRILLE (RG)
12"x 20"EG 700 CFM — EXHAUST GRILLE (EG)
DIFFUSERS, REGISTERS, & GRILLES

T2 ZONE NUMBER OR EQUIPMENT CONTROLLED
TNLL NIGHT LOW LIMIT
ROOM THERMOSTATS

R=2D FOR FLEX
R=1-1/2D FOR ROUND
SECTION · PLAN — ROUND DUCT
SECTION · PLAN — RECTANGULAR DUCT
RETURN OR EXH. GRILLE ONLY

SECTION · PLAN — SIDE WALL SUPPLY GRILLE
SECTION · PLAN — SUPPLY DIFFUSER HARD CONNECT

LINED PLENUM · ROUND DUCT · SECTION
SPIN-IN FITTING · PLAN
SUPPLY DIFFUSER CONNECTION

DUCT DETAILS (LOW VELOCITY)

W, R=1-1/2W — RADIUS ELBOW
TURNING VANES IN ALL ELLS AND TEES — MITER ELBOWS & TEES
FLEX CONN.
12X6 — SIZE SHOWN IS CLEAR AIR PASSAGE — ACOUSTICAL LINER

LESS THAN 15° · 15° TO 30° · GREATER THAN 30° — OFFSETS

30° MAX — TRANSITIONS
30° MAX — RECTANGULAR TO ROUND

45° · 4" MIN OR 1/4W OR 12" MAX · W — RECTANGULAR DUCT FITTINGS

SPIN-IN FITTING · CONICAL SPIN-IN FITTING — RECTANGULAR TO ROUND FITTINGS

EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	ELECTRICAL
FCU-1	INDOOR FAN COIL UNIT 1180 CFM AT 0.60-IN ESP COOLING: 30.9 MBH TOTAL, 29.9 MBH SENSIBLE 510 MIN OSA 80°F DB, 60°FWB EAT HEATING: 68 MBH HEATING W/TH 15 KW SUPPLIMENTAL ELECTRIC HEAT 41°F EAT, 95 LAT. BASIS OF DESIGN: CARRIER FB4AN036	240V/1PH 23 MCA
HP-1	HEAT PUMP COOLING: 30.9 MBH TOTAL, 29.9 MBH SENSIBLE AT 95°F AMBIENT HEATING: 15 MBH AT 6°F AMBIENT BASIS OF DESIGN: CARRIER 38YC036	240V/1PH 82 MCA
EF-1	INLINE EXHAUST FAN 510 CFM AT 0.625-IN ESP BASIS OF DESIGN: GREENHECK BSQ-80	120V/1PH 1/3 HP
EF-2 & EF-3	WALL EXHAUST FAN 700 CFM AT 0.25-IN ESP BASIS OF DESIGN: GREENHECK GW-130-C	120V/1PH 1/12 HP
UH-1 & UH-2	UNIT HEATER 3 KW ELECTRIC BASIS OF DESIGN: Q-MARK MUH03-21	240V/1PH 12.5 AMPS
UH-2 & UH-4	UNIT HEATER 7.5 KW ELECTRIC BASIS OF DESIGN: Q-MARK MUH-07-2	240V/1PH 31.3 AMPS
UH-5 & UH-6	UNIT HEATER 5 KW ELECTRIC BASIS OF DESIGN: Q-MARK MUH-05-21	240V/1PH 21 AMPS
UH-7	UNIT HEATER FAN FORCED ELECTRIC HEATER TO PROVIDE 6825 BTU'S HEAT. BASIS OF DESIGN: QMARK QVB2422.	240V/1PH 2.5 KW 10.5 AMPS

MISC. VALVES AND COCKS

- SHUT-OFF VALVE
- SHUT-OFF VALVE W/ TAMPER SWITCH
- RELIEF VALVE
- DV DRAIN VALVE
- RPBP REDUCED PRESSURE BACKFLOW PREVENTER
- BALANCING VALVE
- TRIPLE DUTY VALVE
- PRESSURE & TEMPERATURE TEST PLUG
- AUTOMATIC BALL DRIP VALVE
- (SIZE) SHOCK ARRESTOR

HVAC PIPING

RD	RD	REFRIGERANT DISCHARGE LINE
RL	RL	REFRIGERANT LIQUID
RS	RS	REFRIGERANT SUCTION
HWS	HWS	HEATING WATER SUPPLY
HWR	HWR	HEATING WATER RETURN
CWS	CWS	CHILLED WATER SUPPLY
CWR	CWR	CHILLED WATER RETURN
AAV	AAV	AUTOMATIC AIR VENT

PLUMBING PIPING

W	W	SANITARY WASTE (BELOW GRADE OR FLOOR)
AR	AR	ACID RESISTANT WASTE
V	V	VENT
AV	AV	ACID RESISTANT VENT
CW	CW	COLD WATER
HW	HW	HOT WATER
RHW	RHW	RETURN HOT WATER
LP	LP	PROPANE GAS
A	A	COMPRESSED AIR
IRR	IRR	IRRIGATION
ICW	ICW	INDUSTRIAL COLD WATER
DIS	DIS	DISTILLED WATER
NP	NP	NON-POTABLE COLD WATER

PLUMBING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	ROUGH-IN SIZE-INCHES W	V	CW	HW	REMARKS
WC-1	WATER CLOSET	4	2	1 1/4		FLOOR MOUNTED, FLUSH VALVE, ADA
U-1	URINAL	2	1 1/2	3/4		WALL HUNG, ADA
L-1	LAVATORY	1 1/2	1 1/4	1/2	1/2	COUNTERTOP, ADA
SH-1	SHOWER			1/2	1/2	PRESSURE MIXING VALVE
SH-2	SHOWER			1/2	1/2	PRESSURE MIXING VALVE, ADA
EWC-1	ELECTRIC WATER COOLER	1 1/2	1 1/4	1/2		DUAL HEIGHT, ADA
S-1	SINK	2	1 1/2	1/2	1/2	DISPOSAL HOT WATER DISPENSER
MS-1	MOP SINK	2	1 1/2	1/2	1/2	FLOOR MOUNTED
WH-1	WALL HYDRANT			3/4		FREEZE PROOF

PLUMBING EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	ELECTRICAL
SWHS-1	SOLAR WATER HEATER 82 GALLON STORAGE (2) 4X8 PANELS 4500W BOOSTER ELEMENT 19 GPH MIN REHEAT AT 100° RISE BASIS OF DESIGN: SUN-PAK	
RPBP-1	REDUCED PRESSURE BACKFLOW PREVENTER 10 GPM @ 12 PSI LOSS BASIS OF DESIGN: FEBCO 825Y (1")	

MISC. FITTINGS AND SYMBOLS

- DIRECTION OF FLOW
- DIRECTION OF SLOPE
- ELBOW (90°)
- ELBOW (45°)
- TEE
- UNION
- CAP
- RISER
- ELBOW UP
- ELBOW DOWN
- TEE UP
- TEE DOWN

FIRE PROTECTION SYMBOLS

- S SHUT-OFF VALVE WITH TAMPER SWITCH
- FDC FIRE DEPARTMENT CONNECTION
- UPRIGHT SPRINKLER HEAD
- DRY PENDANT SPRINKLER HEAD
- DRY SIDE WALL SPRINKLER
- F FIRE PROTECTION LINE (WITH FREEZE PROTECTION)
- DP DRY PIPE SPRINKLER

PLUMBING SYMBOLS

- CO CLEANOUT
- CTG CLEANOUT TO GRADE
- FD FLOOR DRAIN
- WCO WALL CLEANOUT

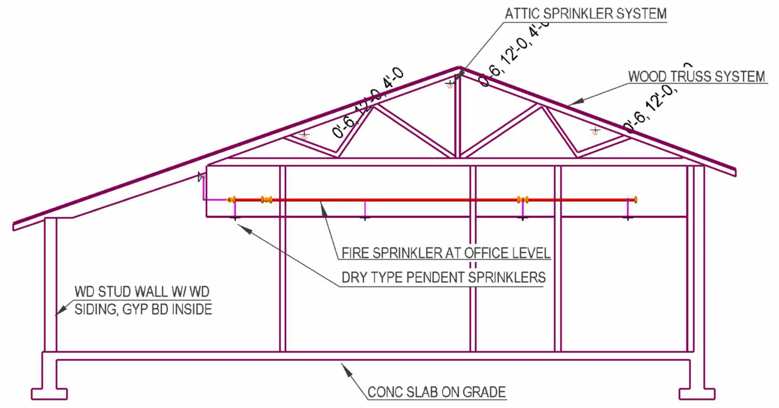
MECHANICAL SHEET INDEX

M-1 MECHANICAL LEGENDS & SCHEDULES
M-2 MECHANICAL PLAN - PLUMBING
M-3 MECHANICAL PLAN - HVAC
M-4 MECHANICAL DETAILS & DIAGRAMS

REGISTERED PROFESSIONAL ENGINEER 4901 OREGON JULY 9, 1982 CARL L. URBEN — EXPIRES 6-30-96

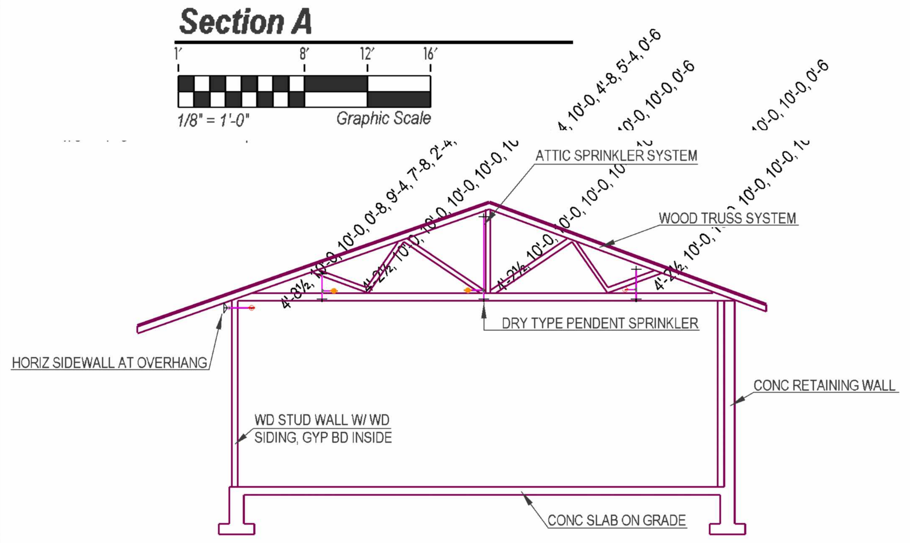
DESIGNED:	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
GAT	M1	MECH. LEGENDS & SCHEDULES CONSTRUCTION DRAWINGS MAINTENANCE FACILITY	177 41,010B
DRAWN: SMH			PKG. NO. / SHEET 20
TECH. REVIEW: CLU		JOHN DAY FOSSIL BEDS NATIONAL MONUMENT, OREGON	OF 27
DATE: 7/20/95			

JDFB_M1 • xref: TBJDFBW • by: CM



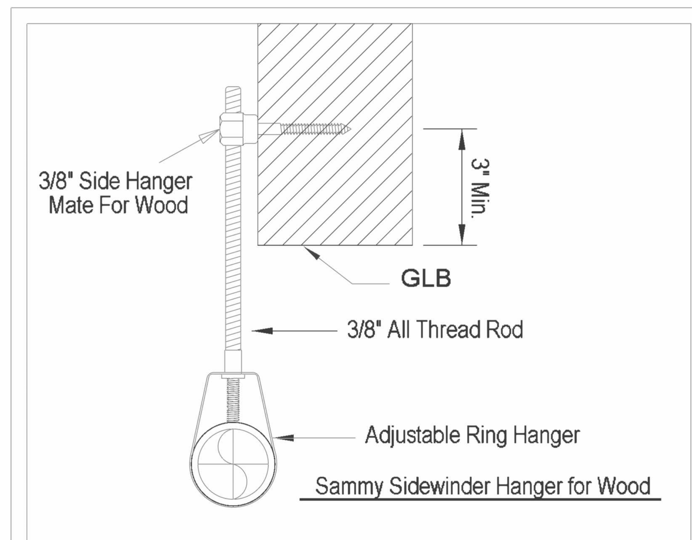
Section A

1/8" = 1'-0" Graphic Scale

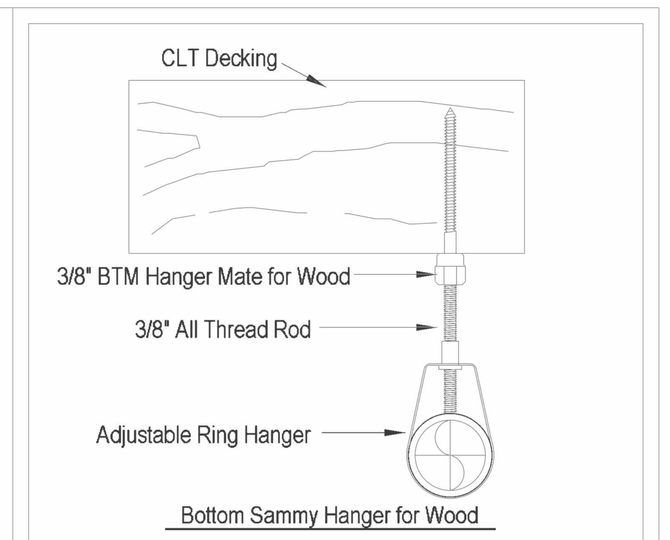


Section B

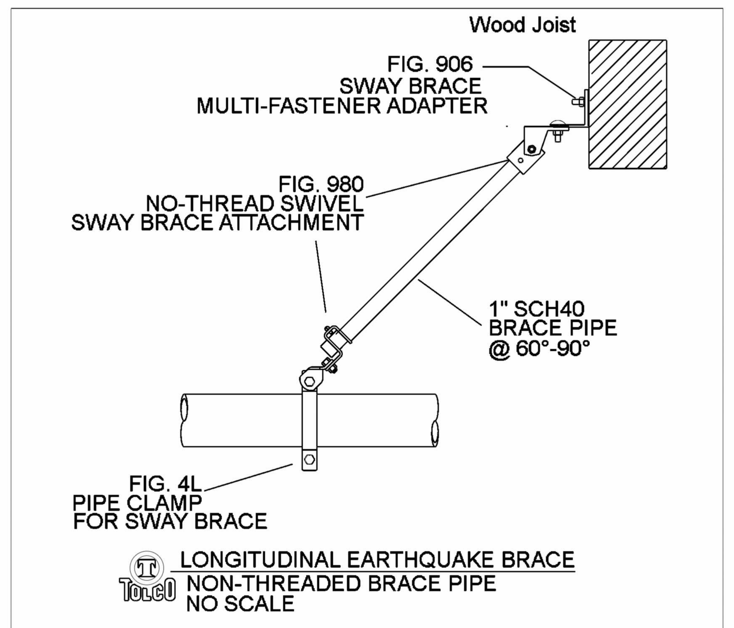
1/8" = 1'-0" Graphic Scale



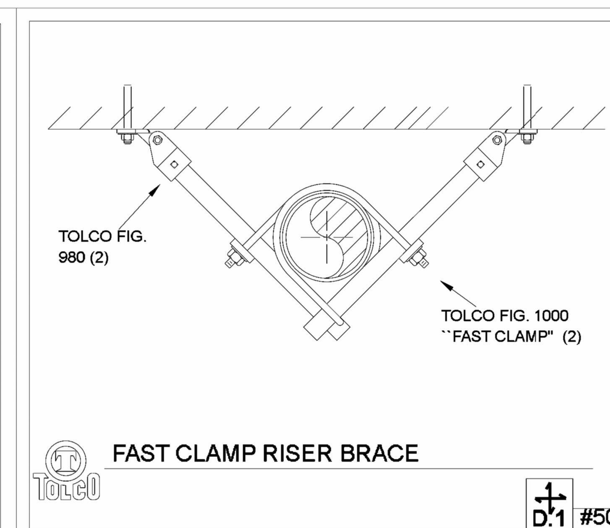
Sammy Sidewinder Hanger for Wood



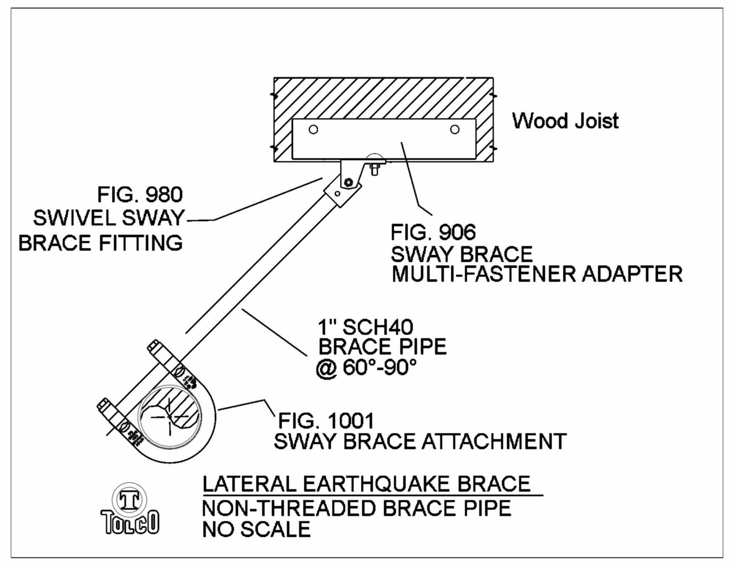
Bottom Sammy Hanger for Wood



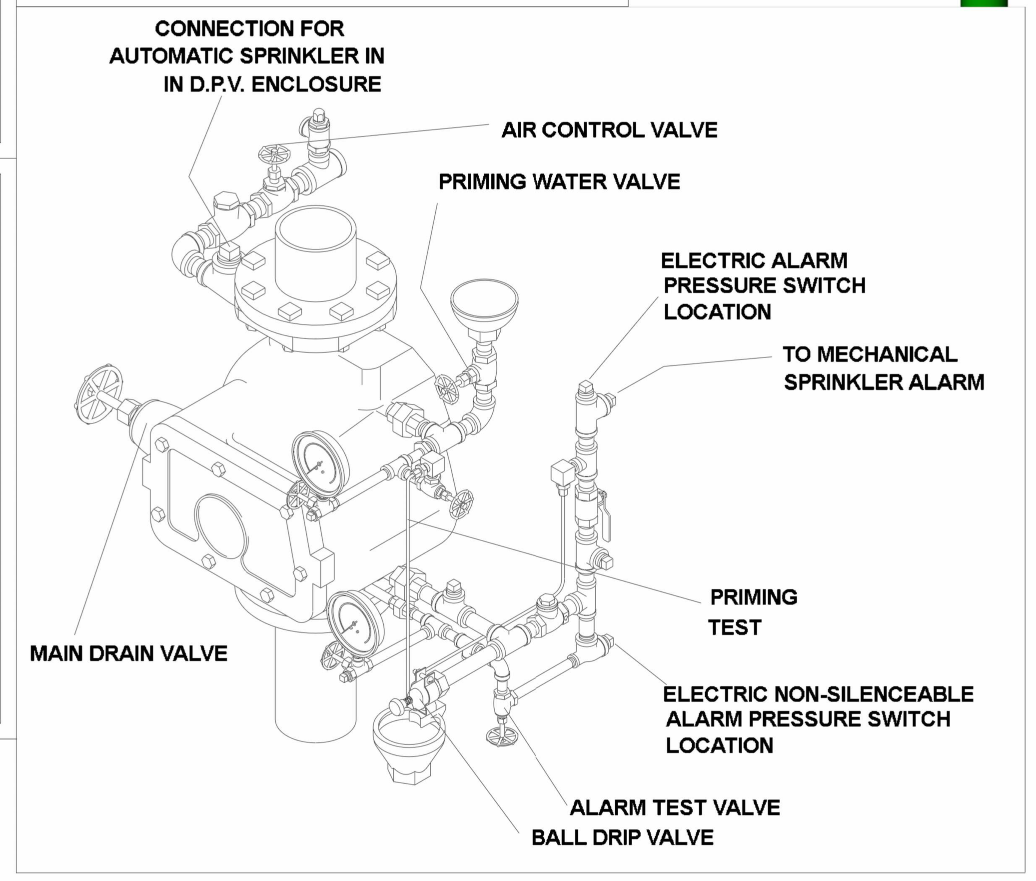
LONGITUDINAL EARTHQUAKE BRACE
NON-THREADED BRACE PIPE
NO SCALE

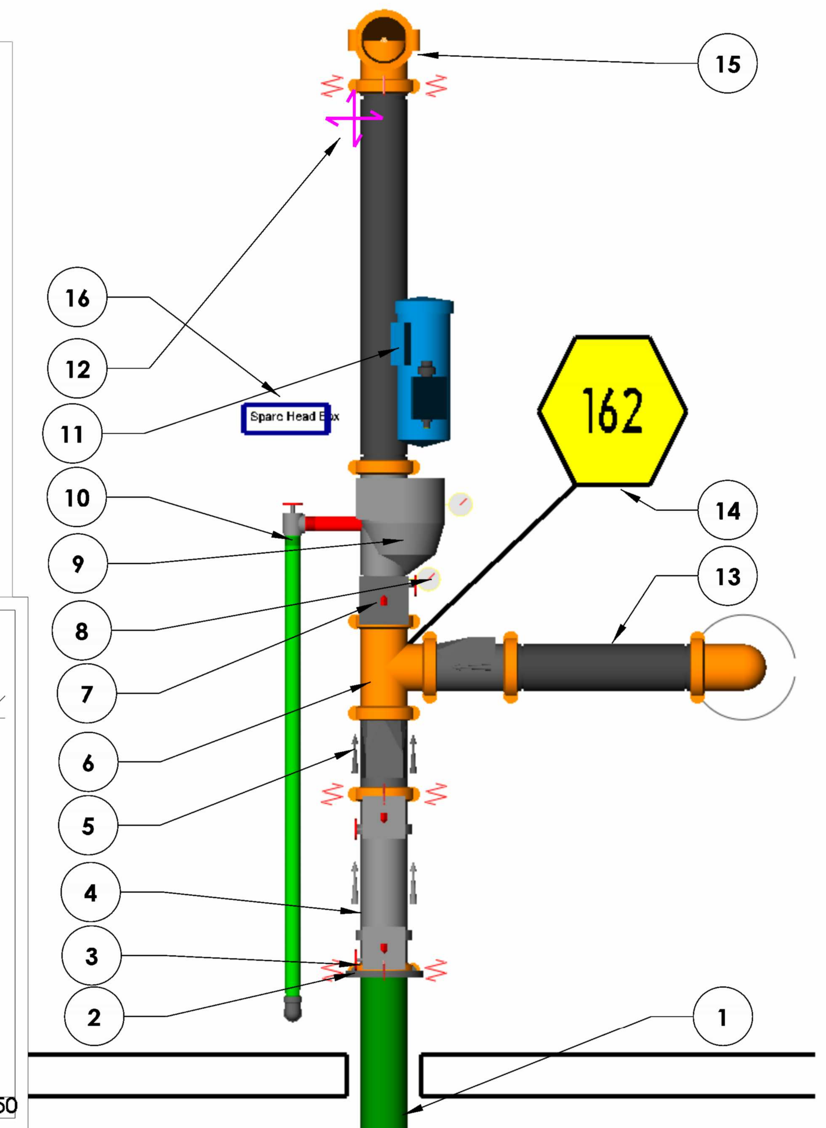


FAST CLAMP RISER BRACE



LATERAL EARTHQUAKE BRACE
NON-THREADED BRACE PIPE
NO SCALE



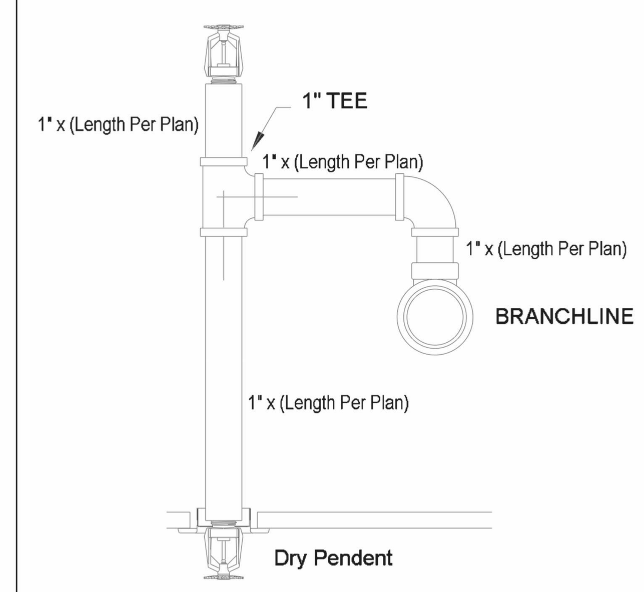


Floor Control Detail

Scale: N.T.S.

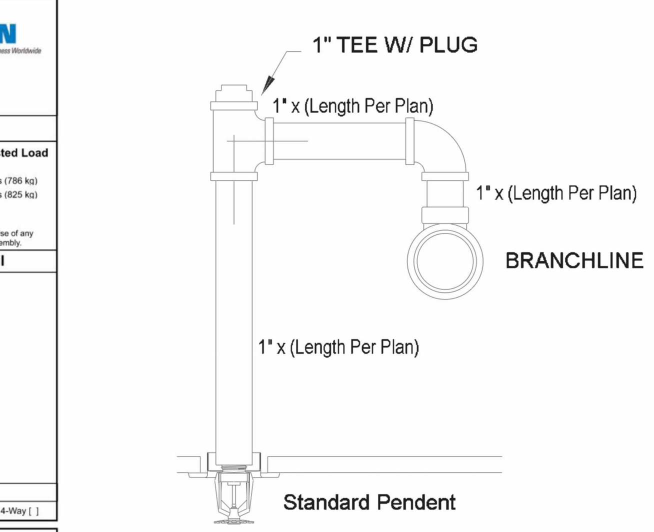
1. Existing 6" Underground supply
2. 6" Flange
3. 6" Flexible Coupling
4. AMES/WATTS Deringer 30 double detector check valve assembly with butterfly control valves with tamper switches
5. 6" Check Valve
6. 6" Grooved Tee
7. 6" Control Valve
8. Gauge
9. TYCO DPV-1 Dry Valve w/ trim and inspectors test
10. 2" Main Drain
11. Riser mounted air compressor
12. 4-Way Seismic Bracing
13. To Fire Department Connection Outside
14. Node Tag
15. 6" to Dry System at 12'-6 AFF
16. Spare Sprinkler Box

RESERVED FOR AHJ STAMP



Dry Pendent Return Bend Detail

Not to Scale



Standard Pendent Return Bend Detail

Not to Scale

TOLBrace™ Seismic Bracing Calculations V8.8.141

Project Address: John Day Maintenance Shop TI, 32651 Highway 19, Kimberly, Oregon 97848, Job # 24062
Contractor: Swift Fire Protection; Address: 2017 NW Vaughn St #10087, Portland, OR 97296; Phone: ; License: 245762
Calculations based on 2019 NFPA Pamphlet #13

Brace Information

Maximum Brace Length	7' 0" (2.134 m)
Diameter of Brace	1"
Type of Brace	Sch.40
Angle of Brace	60° Min.
Least Rad. of Gyration	0.42" (11 mm)
L/R Value	200
Max Horizontal Load	1604 lbs (728 kg)

TOLCO™ Brace Components

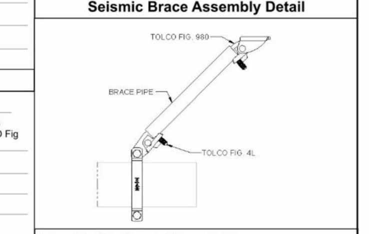
TOLCO™ Component	Listed Load	Adjusted Load
Fig. 4L Clamp	2000 lbs (907 kg)	1732 lbs (786 kg)
Fig.980 - 1/2" Universal Swivel	2100 lbs (953 kg)	1819 lbs (825 kg)
See Fastener Information		

*Calculation Based on CONCENTRIC Loading
*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.

Fastener Information

Orientation to Connecting Surface	NFPA Type C
Fastener Type	1/2 (13 mm) Dual Through-Bolts Perpendicular to Beam - TOLCO Fig 906
Diameter	1/2in. (13 mm)
Length	Minimum 4x Wood Member
Maximum Load	734 lbs (333 kg)
Prying Factor	N/A

Seismic Brace Assembly Detail



Brace Identification on Plans: SB-2 6 Long
Brace Type: Lateral [ ] Longitudinal [X] 4-Way [ ]

Sprinkler System Load Calculation (Fpw = CpWp) Cp = 0.35

Diameter	Type	Length	Total Length	Weight Per Unit Length	Total Weight
6" (150 mm)	Sch. 10	30 ft (9.1 m)	30 ft (9.1 m)	23.03 lb/ft (34.27 kg/m)	691 lbs (313 kg)

Main Size	Type/Sch.	Spacing (ft)		
6"	Sch. 10	30	Subtotal Weight	691 lbs (313 kg)
			Wp (incl. 15%)	795 lbs (360 kg)
			Total (Fpw)	278 lbs (126 kg)
			Maximum Fpw per 18.5.5.2 (if applicable)	N/A

(TOLBrace™ Version 8) Use of TOLBrace™ is subject to terms and conditions per the end user license agreement

TOLBrace™ Seismic Bracing Calculations V8.8.141

Project Address: John Day Maintenance Shop TI, 32651 Highway 19, Kimberly, Oregon 97848, Job # 24062
Contractor: Swift Fire Protection; Address: 2017 NW Vaughn St #10087, Portland, OR 97296; Phone: ; License: 245762
Calculations based on 2019 NFPA Pamphlet #13

Brace Information

Maximum Brace Length	7' 0" (2.134 m)
Diameter of Brace	1"
Type of Brace	Sch.40
Angle of Brace	60° Min.
Least Rad. of Gyration	0.42" (11 mm)
L/R Value	200
Max Horizontal Load	1604 lbs (728 kg)

TOLCO™ Brace Components

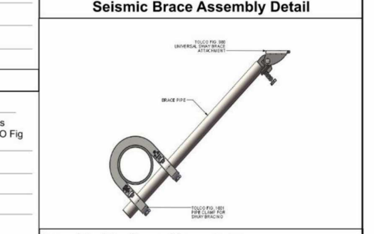
TOLCO™ Component	Listed Load	Adjusted Load
Fig. 1001 Clamp	2000 lbs (907 kg)	1732 lbs (786 kg)
Fig.980 - 1/2" Universal Swivel	2100 lbs (953 kg)	1819 lbs (825 kg)
See Fastener Information		

*Calculation Based on CONCENTRIC Loading
*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.

Fastener Information

Orientation to Connecting Surface	NFPA Type C
Fastener Type	1/2 (13 mm) Dual Through-Bolts Perpendicular to Beam - TOLCO Fig 906
Diameter	1/2in. (13 mm)
Length	Minimum 4x Wood Member
Maximum Load	734 lbs (333 kg)
Prying Factor	N/A

Seismic Brace Assembly Detail



Brace Identification on Plans: SB-1 6 Lat
Brace Type: Lateral [X] Longitudinal [ ] 4-Way [ ]

Sprinkler System Load Calculation (Fpw = CpWp) Cp = 0.35

Diameter	Type	Length	Total Length	Weight Per Unit Length	Total Weight
6" (150 mm)	Sch. 10	20 ft (6.1 m)	20 ft (6.1 m)	23.03 lb/ft (34.27 kg/m)	461 lbs (209 kg)
2" (50 mm)	Sch. 10	194 ft (59.1 m)	194 ft (59.1 m)	4.22 lb/ft (6.28 kg/m)	819 lbs (372 kg)

Main Size	Type/Sch.	Spacing (ft)		
6"	Sch. 10	20	Subtotal Weight	1280 lbs (581 kg)
			Wp (incl. 15%)	1472 lbs (668 kg)
			Total (Fpw)	515 lbs (234 kg)
			Maximum Fpw per 18.5.5.2 (if applicable)	4039 lb (1832 kg)

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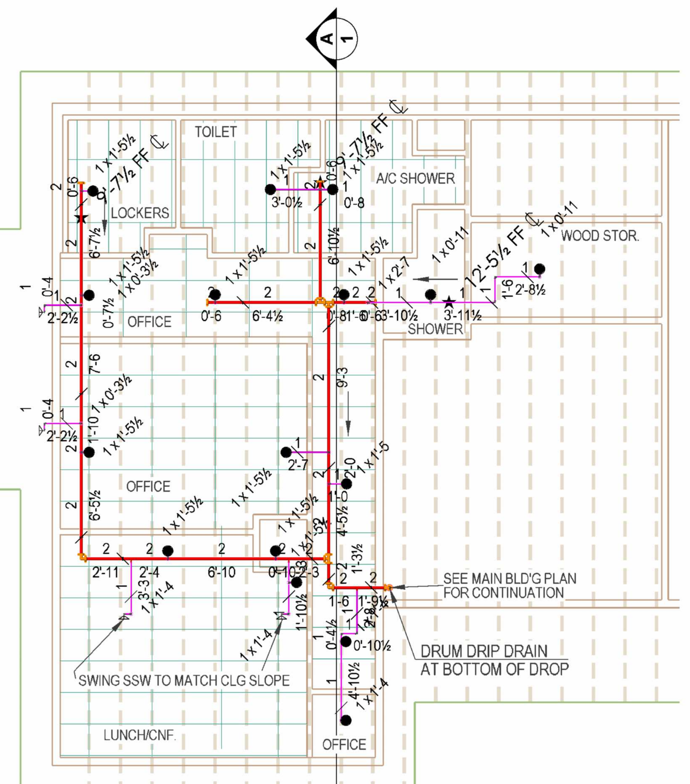


Fire Sprinkler Office Plan

1/8" = 1'-0" Graphic Scale

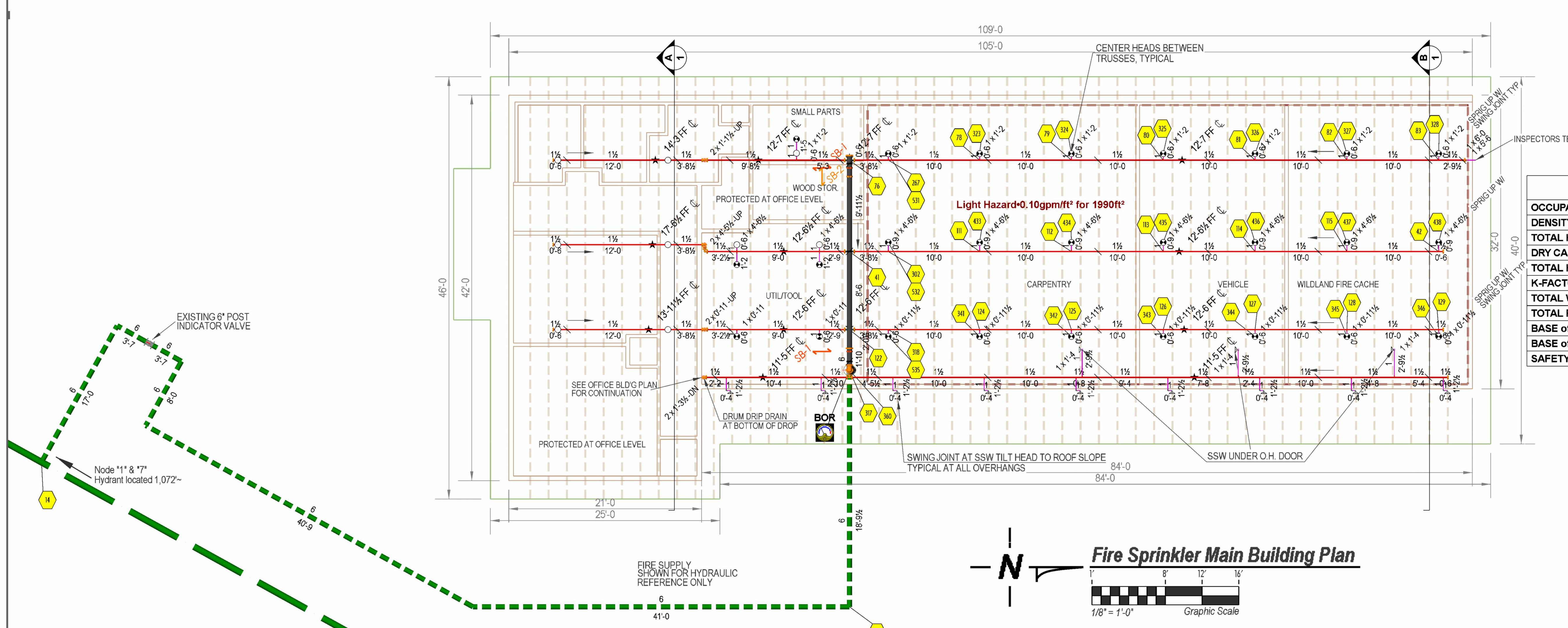
Scope of Work

Demo the existing sprinkler system then configure and install of a new hydraulically designed NFPA 13 automatic dry type sprinkler system. The system shall be connected to the potable water system in a dedicated sprinkler pipe. This is a 4,410 square foot non historic maintenance shop building with two small offices, two bathrooms, one small kitchen, micro conference room and three garage bays. Demo all existing fire sprinkler components prior to the installation of the new sprinkler system and remove the old components from John Day Fossil Beds National Monument and deliver to the appropriate recycle or disposal facility. The building shall be protected by quick response dry and standard pendents, quick response uprights, and quick response sidewall sprinklers.

- The system has been designed to Ordinary Hazard II occupancy with a density of 0.20 gpm over 2000ft² in combustible void and in office areas.
- Dry system to be pitched to drain ½" in 10'-0 for lines and ¼" in 10-0 for mains, direction of pitch to drain ⟵

General Notes

1. This is a design-build contract. System to be designed and installed per NFPA 13 (2019 edition).
2. Swift Fire Protection scope of work to begin from terminus of underground fire line (balance of underground, including all testing, is by others).
3. Earthquake bracing to be standard per NFPA 13. All ends of branch lines to have end of line restraint per NFPA 13 when required.
4. Provide spare head cabinet with a minimum of 3 of each type of sprinkler head.
5. Low points of the piping systems shall have provisions for proper drainage.
6. Systems to be hydrostatic tested at working pressure.
7. Systems shall be monitored and supervised at all times (by others).
8. All electrical wiring, preparation for and/or painting of pipe to be provided by others.
9. Pipe sizing is per hydraulic calculations. C factor for Dry Steel Pipe is C=100. C factor for underground cement lined cast or ductile iron pipe is C=140. C factor for all galvanized pipe is C=120.
10. Main piping 6" 4" 3" & 2½" to be ANSI / ASTM A-795 Schedule 10 black steel pipe with welded outlets, grooved couplings and fittings.
11. Branch line piping for 2" 1½" 1¼" pipe shall be ANSI / ASTM A-795 Schedule 40 sprinkler piping with welded outlets, grooved couplings & fittings.
12. Branch line piping for 1" shall be ANSI / ASTM A-795 Schedule 40 sprinkler piping with threaded ends and cast iron or ductile iron fittings.



Fire Sprinkler Main Building Plan

1/8" = 1'-0" Graphic Scale

Hydraulic Information	
OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft²)	0.10 for 1500ft² (Actual 1990ft²)
TOTAL HOSE STREAMS	100.00
DRY CAPACITY	110.15gal
TOTAL HEADS FLOWING	21
K-FACTOR	5.6
TOTAL WATER REQUIRED	465.90
TOTAL PRESSURE REQUIRED	18.851
BASE of RISER (gpm)	365.90
BASE of RISER (psi)	29.042
SAFETY MARGIN (psi)	+2.836 (13.1%)

WATER FLOW INFORMATION

STATIC P.S.I.	68 P.S.I.
RESIDUAL P.S.I.	20 P.S.I.
G.P.M.	475 gpm
LOCATION	32651 Highway 19 Kimberly, OR 97848
BY WHO	Swift Fire Protection 09/16/2024

STAMP

WASHINGTON STATE CERTIFICATE OF COMPETENCY FIRE PROTECTION SPRINKLER SYSTEMS
Jeremy Ryan Bradfield
3710-0212-CEG Level 3
Swift Fire Protection
SWIFTFP77300
Signature 10-29-24 Date Expires DEC 31, 24

FIRE PROTECTION SYMBOL LEGEND

Symbol	Description	Symbol	Description
0 (hexagon)	HYDRAULIC REFERENCE NODE		SEISMIC TAG
★ 0'-0 " TS ℄	ELEVATION BELOW TOP OF STEEL		BRANCH LINE RESTRAINT
★ 0'-0 " FF ℄	ELEVATION ABOVE FINISHED FLOOR		4-WAY SEISMIC BRACE
T.O.S. = 0'-0"	ELEVATION OF TOP OF STEEL		
0'-0"	CEILING HEIGHT		
	DENOTES HANGER LOCATION		

GENERAL NOTES

1) ALL SPRINKLERS AND PIPING SHALL BE DESIGNED AND INSTALLED TO CONFORM TO NFPA 13
2) STRUCTURAL ADEQUACY OF THE BLDG. TO SUPPORT THE SPRINKLER PIPING IS THE RESPONSIBILITY OF THE BUILDING OWNER AND/OR THEIR STRUCTURAL REPRESENTATIVE.
3) ALL ELEVATIONS ARE SHOWN TO THE CENTER LINE OF PIPE
4) Lines supported by A.T.R. less than 6" omit branch line restraint. A.T.R. to be measured from top of pipe to point of attachment to structure
5) OWNER TO PROVIDE ADEQUATE HEAT IN AREAS WITH A WET PIPE SPRINKLER SYSTEM TO PREVENT PIPES FROM FREEZING
6) ALL SPRINKLERS IN UNCONDITIONED CONCEALED SPACES SHALL BE INTERMEDIATE OR HIGH TEMPERATURE.

NO.	DATE	REVISIONS
1		

Sprinkler Legend

Symbol	Manufacturer	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temperature	Note
⊗	Victaulic	V3614	FL-QR/DRY	33	5.6	Pendent	1	Quick	Chrome	200°F	
○	Victaulic	V2704	FL-QR	38	5.6	Upright	½	Quick	Brass	200°F	
●	Victaulic	V2708	FL-QR	16	5.6	Pendent	½	Quick	Chrome	155°F	
▷	Victaulic	V2710	FL-QR/SW	18	5.6	Horizontal Sidewall	½	Quick	Chrome	200°F	
				Total = 105							

Approved for the NPS By:
Ibzan O. Ortiz, CFO
Regional Fire Marshal

SWIFT FIRE PROTECTION
OR CCB#245762
WA# SWIFTFP77300

SWIFT FIRE PROTECTION
2017 NW VAUGHN ST. # 10087
PORTLAND, OR 97296
PH: (360) 605-1133

PROJECT NAME: John Day National Monument Maintenance Shop TI
32651 Highway 19
Kimberly, Oregon 97848

DRAWING TITLE: FIRE PROTECTION PLAN

DATE	10/29/24
SCALE	1/8' = 1'-0"
JOB #	24062
DRAWN BY	CL
CHECKED BY	KF
SHEET	FP-01
	1 OF 1