SYSTEM DESIGNATOR

	MAIN POWER CYCLE AND AUXILIARIES	NO. OF SHEETS SFD	P&ID
AB	MAIN STEAM	1	3
AC	MAIN TURBINE	1	4
AD	CONDENSATE	1	6
AE	FEEDWATER	1	2
AF	FEEDWATER HEATER EXTRACTION, DRAINS & VENTS	3	4
AK	CONDENSATE DEMINERALIZER	1	3
AL	AUXILIARY FEEDWATER	1	1
AN	DEMINERALIZED WATER STORAGE & TRANSFER	1	1
AP	CONDENSATE STORAGE AND TRANSFER	1	1
AQ	CONDENSATE AND FEEDWATER CHEMICAL ADDITION	2	2

	REACTOR AND STEAM GENERATOR CONTROLS AND AUXILIARIES	NO. OF SHEETS SFD	P&ID
BB	REACTOR COOLANT	3	4
BG	CHEMICAL AND VOLUME CONTROL	5	5
BL	REACTOR MAKEUP WATER	1	1
BM	STEAM GENERATOR BLOWDOWN	3	5
BN	BORATED REFUELING WATER STORAGE	1	1

	TURBINE GENERATOR CONTROLS AND AUXILIARIES	NO. OF SHEETS SFD	P&ID
CA	STEAM SEAL	1	1
CB	MAIN TURBINE LUBE OIL	1	2
CC	GENERATOR HYDROGEN AND CO_2	1	1
CD	GENERATOR SEAL OIL	1	1
CE	STATOR COOLING WATER	1	1
CF	LUBE OIL STORAGE, TRANSFER & PURIFICATION	1	2
CG	CONDENSER AIR REMOVAL	1	1
CH	MAIN TURBINE CONTROL OIL	1	2

4

	CIRCULATING WATER	NO. OF SHEETS SFD	P&ID
EA	CIRCULATING WATER, WATER BOX DRAINS & VENTS	2	2

	EQUIPMENT & EMERGENCY CORE COOLING WATER	NO. OF SHEETS SFD	P&ID
EB	SERVICE WATER	2	2
EB	CLOSED COOLING WATER	1	1
EC	FUEL POOL COOLING & CLEANUP	2	2
EF	ESSENTIAL SERVICE WATER	1	3
EG	COMPONENT COOLING WATER	2	3
EJ	RESIDUAL HEAT REMOVAL	1	1
EM	HIGH PRESSURE COOLANT INJECTION	2	2
EN	CONTAINMENT SPRAY	2	1
EP	ACCUMULATOR SAFETY INJECTION	1	1

	AUXILIARY STEAM	NO. OF SHEETS SFD	P&ID
FA	AUXILIARY BOILER	1	1
FB	AUXILIARY STEAM	1	2
FC	AUXILIARY TURBINES	2	3
FE	AUXILIARY STEAM CHEMICAL ADDITION SYSTEM	1	1

	HVAC	NO. OF SHEETS SFD	P&ID
GA	PLANT HEATING	3	2
GB	CENTRAL CHILLED WATER	3	1
GD	ESSENTIAL SERVICE WATER PUMP HOUSE BUILDING HVAC	1	1
GE	TURBINE BUILDING HVAC	6	5
GF	MISCELLANEOUS BUILDINGS HVAC	2	2
GG	FUEL BUILDING HVAC	1	2
GH	RADWASTE BUILDING HVAC	3	2
GK	CONTROL BUILDING HVAC	5	4
GL	AUXILIARY BUILDING HVAC	3	3
GM	DIESEL GENERATORS BUILDING HVAC	1	1
GN	CONTAINMENT COOLING	2	2
GP	CONTAINMENT INTEGRATED LEAK RATE TEST	NONE	1
GR	CONTAINMENT ATMOSPHERIC CONTROL	1	1
GS	CONTAINMENT HYDROGEN CONTROL	1	1
GT	CONTAINMENT PURGE HVAC	1	1

	RADWASTE	NO. OF SHEETS SFD	P&ID
HA	GASEOUS RADWASTE	2	3
HB	LIQUID RADWASTE	5	5
HC	SOLID RADWASTE	5	4
HD	DECONTAMINATION	1	1
HE	BORON RECYCLE	2	3
HF	SECONDARY LIQUID WASTE	3	4

	FUEL	NO. OF SHEETS SFD	P&ID
JE	EMERGENCY FUEL OIL	1	1

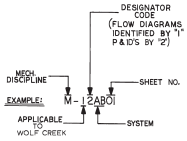
	SERVICES	NO. OF SHEETS SFD	P&ID
KA	COMPRESSED AIR	2	6
KB	BREATHING AIR	NONE	1
KC	FIRE PROTECTION	3	7
KD	DOMESTIC WATER	NONE	2
KE	FUEL HANDLING, FUEL STORAGE & REACTOR VESSEL SERVICE	NONE	NONE
KF	CRANES HOISTS & ELEVATORS	NONE	NONE
KH	SERVICE GAS	2	2
KJ	STANDBY DIESEL GENERATOR	NONE	6
KT	ESW CHLORINATION SYSTEM	1	1

	DRAINS	NO. OF SHEETS SFD	P&ID
LA	SANITARY DRAINAGE	1	2
LB	ROOF DRAINS	NONE	NONE
LC	YARD DRAINS	NONE	1
LD	CHEMICAL AND DETERGENT WASTE	1	1
LE	OILY WASTE	4	4
LF	FLOOR & EQUIPMENT DRAIN	1	10

	SAMPLING SYSTEMS	NO. OF SHEETS SFD	P&ID
RM	PROCESS SAMPLING	NONE	3
SJ	NUCLEAR SAMPLING	NONE	4

NOTES:

1. THIS DRAWING PROVIDES THE SYSTEM DESIGNATORS USED IN THE P&ID AND FLOW DIAGRAM DRAWING NUMBERS. DRAWINGS M-120102, M-020103, AND M-120104 PROVIDE THE APPLICABLE SYMBOLS AND LEGEND.
2. DRAWING NUMBERING SYSTEM IS AS FOLLOWS:



4

USAR FIG. 1.1-1-01

ESSENTIAL DRAWING

⊙ REVISED	INCORPORATED CHG. NO.	CHANGE PKG. NO.
○ ISSUED		
TECH. ENG. SUPERVISOR BY	REV.	TECH. ENG. SUPERVISOR	REV.
REVISION NOTES	REF. CR 2007-002952 and AF 05-010, TABLE A, TYPE 2		

WOLF CREEK NUCLEAR OPERATING CORPORATION — ELECTRONIC APPROVAL

SYMBOLS & LEGEND FOR SYSTEM FLOW & PIPING & INSTRUMENTATION DIAGRAMS

SCALE	DRAWING NUMBER	SHEET	REV
NONE	M-120101		04

SIZE A

Released by Document Services - Release Date: 09/04/07

EQUIPMENT

TURBINE (SINGLE FLOW, DOUBLE FLOW)

HORIZONTAL CENTRIFUGAL PUMP (SUMP, WET PIT, CANNED, INLINE, BOTTOM SUCTION)

VERTICAL PUMPS

POSITIVE DISPLACEMENT PUMP

ROTARY GEAR PUMP

U-TUBE HEAT EXCHANGER

STRAIGHT TUBE HEAT EXCHANGER

PRESSURE VESSELS, VERTICAL (SHOWN) OR HORIZONTAL (TANKS, RECEIVERS, DRYERS SEPARATORS, ETC.)

CONE ROOF TANK

DIAPHRAGM TANK

AFTERCOOLER

RECIPROCATING AIR COMPRESSOR (INSTR AND SERVICE)

MIXER

PRESSURIZED GAS BOTTLE

HAND PUMP

VACUUM PUMP OR COMPRESSOR

REBOILER

DOUBLE DIAPHRAGM SUMP PUMP

PROCESS PIPING

MAIN PROCESS FLOW

SECONDARY PROCESS FLOW

CONCENTRIC REDUCER INCREASER

ECCENTRIC REDUCER INCREASER

BUTT WELDED CAP

SCREWED CAP (UNLESS CALLED OUT AS A WELDED CAP ON DESIGN DWG.)

HOSE CONNECTION

QUICK DISCONNECT

REMOVABLE SPOOL

FLEXIBLE CONNECTION

BLIND FLANGE

DU — INSULATING FLANGES (IF) OR DIELECTRIC UNION (DU) (SHOWN)

BREATHER CAP

LOOP SEAL

(1/8) — DOWNWARD SLOPE (1" PER 8' SHOWN)

(1/5) — UPWARD SLOPE (1" PER 5' SHOWN)

OR — ATMOSPHERIC VENT (STRAIGHT VENT IS REQ'D IN DRAINAGE SYSTEMS)

BURIED PIPE

E E — HEAT TRACING
E- ELECTRICALLY TRACED (SHOWN)
S- STEAM TRACED

PIPE TUNNEL — PIPING LOCATED WITHIN PIPE TUNNELS

HOSE CONNECTION WITH MALE THREADED DUST PLUG

PLUG CONNECTION

LINE VALVES

GATE

GLOBE

Y-PATTERN GLOBE (WHERE ONLY Y-PATTERN IS ACCEPTABLE)

ANGLE

THREE-WAY (NOTE 17 M-020104)

FOUR-WAY (NOTE 17 M-020104)

NEEDLE

2-WAY, 3-WAY, 4-WAY — PLUG

DIAPHRAGM

PACKLESS GLOBE

BALL

BUTTERFLY

HOSE

PINCH

TANDEM BLOWDOWN

CHECK

FOOT

BTV — FLOW LIMITING (OR EXCESS FLOW) CHECK

BLEEDER TRIP

BACKFLOW PREVENTER

STOP CHECK

ANGLE STOP CHECK

OPERATOR
G = GEAR(SHOWN)
A = AIR WRENCH
CH = CHAIN
X = EXTENSION STEM
S = SPECIAL TYPE

VALVE IDENTIFICATION

AD - V131
SYSTEM DISGNATION — SEQUENCE NO.

VALVE SIZE AND MATERIAL ARE IDENTIFIED WITH THE PIPING

VALVE STATUS SYMBOLS

RCDT - OR CRW — XXXXXXXX — STEM LEAKOFF RCDT-REACTOR COOLANT DRAIN TANK CRW-CLEAN RADWASTE

OPEN DURING NORMAL OPERATION (ALL VALVES EXCEPT BUTTERFLY)

CLOSED DURING NORMAL OPERATION (ALL VALVES EXCEPT BUTTERFLY)

THROTTLED DURING NORMAL OPERATION (ALL VALVES EXCEPT BUTTERFLY)

NO — OPEN DURING NORMAL OPERATION (BUTTERFLY ONLY)

NC — CLOSED DURING NORMAL OPERATION (BUTTERFLY ONLY)

MISCELLANEOUS

SPECTACLE BLIND

CIRCULAR OR HAMER BLIND

BS — SINGLE BASKET STRAINER

BS — TWIN BASKET STRAINER

YS — Y-TYPE STRAINER (SHOWN WITHOUT BLOWOFF VALVE)

SS — TEMPORARY STARTUP STRAINER

SS XXXXR — SPACER RING (REPLACEMENT FOR START-UP STRAINER)

SCREEN TYPE STRAINER

F — FILTER

XJ — EXPANSION JOINT

FA — FLAME ARRESTER

ST — TRAP
ST-STEAM TRAP (SHOWN)
AT-AIR TRAP
DT-DRAIN TRAP

HBD — GBD — PIPE CLASS CHANGE

INSIDE — OUTSIDE — CONTAINMENT PENETRATION

AIR RELEASE VALVE

S — SEISMIC CATEGORY I AND QUALITY ASSURANCE REQUIREMENTS APPLY BETWEEN FLAGS

Q — QUALITY ASSURANCE REQUIREMENTS APPLY BETWEEN FLAGS, USED ONLY IF SEISMIC CATEGORY I DOES NOT APPLY.

(NOT APPLICABLE FOR INSTRUMENT LINES)

FLEXIBLE HOSE

RETENTION SCREEN

MISCELLANEOUS (CONT.)

EJECTOR

EDUCTOR

EXHAUST HEAD

U — MANUAL HYDRO TEST DRAIN

V — MANUAL HYDRO TEST VENT

V — AUTOMATIC VENT

V V V V V — SPARGER (SHOWN WITH UPWARD FLOW)

WATER HAMMER ARRESTER

x x 6054 (D-1) x — DWG (TYP) ZONE (TYP)/ CROSS-REFERENCE

LINE BREAK OR RESUMPTION POINT.
*FOR BREAK POINT. ADD IDENTIFICATION OF EQUIPMENT TO WHICH THE LINE IS GOING.
**FOR RESUMPTION POINT. ADD IDENTIFICATION OF EQUIPMENT FROM WHICH THE LINE IS COMING

FURNISHED WITH EQUIPMENT

NSSS EQUIPMENT

( )334 — CONTAINMENT PENETRATION IDENTIFICATION NUMBER
P — — - LIQUID
V — — - HVAC

4 — IDENTIFICATION OF PIPING CONNECTION AT CONDENSER SEE M-024003/04 & 05 FOR CONNECTION LIST

VENDOR — BECHTEL — BECHTEL-VENDOR INTERFACE

DESIGNATION FOR EQUIPMENT AND PIPING WHICH APPEAR ON OTHER P&ID'S OR WHEN INDICATED BY A NOTE FOR EQUIPMENT SUPPLIED BY OPERATIONS THAT MAY OR MAY NOT BE INSTALLED.

ST 21 — PIPING SPECIALTY IDENTIFICATION

SPRAY HEADER (OPEN HEAD)

SPRINKLER HEAD (CLOSED HEAD)

INSERVICE INSPECTION BOUNDRIES

U - VOLUMETRIC (ULTRASONIC)

PIPING IDENTIFICATION

LINE IDENTIFICATION NUMBER WILL BE AS FOLLOWS

PLANT UNIT NO. — SYSTEM DESIGNATOR
2 - AD - 107 — SEQUENCE NO.

ADDITIONAL INFORMATION SUCH AS PIPE CLASS & SIZE WILL BE ADDED AS FOLLOWS:
2 - AD - 107 - EDB - 6"
PIPE CLASS — SIZE

GENERAL NOTES

1.- LINE NUMBERS AND SYSTEM DESIGNATORS WILL BE ASSIGNED IN ACCORDANCE WITH STANDARD ENGINEERING DEPARTMENT PROCEDURES LINE NUMBERS ABOVE 999 WILL BE INDICATED BY A LETTER FOLLOWED BY NUMERALS (E-G A02).

2.- UNIT NUMBER AND SYSTEM DESIGNATOR WILL APPEAR IN THE P&ID TITLE BLOCK AND NOT BE REPEATED ON THE LINES

3.- PIPE AND VALVE CLASSES ARE DESIGNATED BY THREE LETTER CODE. THE FIRST LETTER INDICATES THE PRIMARY VALVE & FLANGE RATING. THE SECOND LETTER THE TYPE OF MATERIAL AND THE THIRD LETTER THE CODE TO WHICH THE PIPING IS DESIGNED, AS FOLLOWS:

FIRST LETTER - PRIMARY PRESSURE RATING (UNLESS OTHERWISE NOTED ALL RATINGS ARE IN ACCORDANCE WITH ANSI B16.5)

A - SPECIFIC PRESSURE & SPECIFIC TEMPERATURE
B - 2500#
C - 1500#
D - 900#
E - 600#
F - 400#
G - 300#
H - 150#
J - 125# ANSI B16.1
K - 175# WOG UNDERWRITERS LAB. INC.
L - 250# ANSI B16.1
M - 200# WOG
N - 150# ANSI B16.24
P - 100# AWWA (OR MANUFACTURER'S RATING)
R - 75# AWWA (OR MANUFACTURER'S RATING)
S - 50# AWWA (OR MANUFACTURER'S RATING)
T - 25# AWWA (OR MANUFACTURER'S RATING)
X - GRAVITY RATING
Y,Z -GENERAL USE AS DESIGNATED ON PIPING CLASS SHEETS.

SECOND LETTER - MATERIAL

A - ALLOY
B - CARBON STEEL
C - AUSTENITIC STAINLESS STEEL
D - COPPER, BRASS, OR BRONZE
E - ALUMINUM
F - CARBON STEEL, COPPER BEARING
G - CARBON STEEL, LINED
H - CAST IRON
J - CONCRETE PIPE
K - VITRIFIED CLAY PIPE
L - CARBON STEEL, IMPACT TESTED
M - CAST IRON, HIGH SILICON
N - CARBON STEEL, GALVANIZED
P - CAST IRON, CEMENT-LINED
Q - ASBESTOS-CEMENT
R - DUCTILE IRON
S - 90-10 CU-NI
T - 70-30 CU-NI
07 Y,Y -SPECIAL MATERIAL SEE CLASS SHEET

THIRD LETTER - APPLICABLE CODES

A - NUCLEAR POWER PLANT COMPONENTS, ASME B & PV CODE, SEC III, CLASS 1
B - NUCLEAR POWER PLANT COMPONENTS, ASME B & PV CODE, SEC III, CLASS 2
C - NUCLEAR POWER PLANT COMPONENTS, ASME B & PV CODE, SEC III, CLASS 3
D - POWER PIPING CODE, ANSI B31.1
F - NATIONAL FIRE PROTECTION ASSOCIATION CODE
G - NATIONAL AND WISCONSIN ADMINISTRATIVE PLUMBING CODE.
H - POWER BOILERS, ASME B & PV CODE, SEC 1.
J - AWWA STANDARDS

4.- TUBING AND INSTRUMENT VALVE CLASSES ARE PROVIDED ON DRAWING J-07G10.

5.- DELETED

6.- DELETED

7.- DELETED

8.- FOR LOCKED VALVE STATUS SEE PROCEDURE AP21G-001 "CONTROL OF LOCKED COMPONENT STATUS".

USAR FIG. 1.1-1-02

ESSENTIAL DRAWING

☒ REVISED ☐ DRAWN	INCORPORATE CHG.ORD.	WP-M-120102-006-A-1	CHANGE 014582 PKG.NO.
THIS DWG. SUPERSEDES BY		REV.	THIS DWG. SUPERSEDES REV.
REVISION NOTES			

WOLF CREEK NUCLEAR OPERATING CORPORATION — ELECTRONIC APPROVAL

SYMBOLS AND LEGEND FOR SYSTEM FLOW AND PIPING & INSTRUMENTATION DIAGRAMS

SCALE	DRAWING NUMBER	SHEET	REV
NONE	M-12010 2		07

3444 1 SC
M-120102-1-D7

PCD-ELDM3100-00800 (0-00000)

HVAC LINES

- DUCTED AIR FLOW
- AIR MOVEMENT (NON-DUCTED)
- DUCTED AIR FLOW TO SPACE
- DUCTED AIR FLOW FROM SPACE
- EXHAUST HOOD
- ESSENTIAL AIR MOVEMENT (NON DUCTED) FOR NUCLEAR PLANTS

FANS

- CENTRIFUGAL BLOWER OR COMPRESSER
- CENTRIFUGAL FAN
- CENTRIFUGAL FAN WITH INLET VANES
- VANE AXIAL FAN
- PROPELLER FAN
- UNIT HEATER ELECTRIC COIL SHOWN (SEE UNDER COILS FOR DEFINITION S OF OTHER LETTER SYMBOLS)

DAMPERS

- OPPOSED BLADE
- PARALLEL BLADE
- BACKDRAFT OR GRAVITY RELIEF
- SINGLE BLADE OR BUTTERFLY
- MANUAL BALANCE
- FUSIBLE LINK FIRE DAMPER OR FIRE DOOR
- BUBBLE TIGHT
- SPRING ACTUATED BACKDRAFT DAMPER

NOTE REFER TO SHEET M020104 FOR ACTUATOR SYMBOLS

SUPPLEMENTARY INSTRUMENT DESIGNATIONS

XSN 12 — FIRE DETECTION
- ID- IONIZATION DETECTOR
- PD- PHOTOELECTRIC DETECTOR
- XD- FLAME DETECTOR
- ND- FIXED TEMPERATURE THERMAL DETECTOR
- RD- RATE OF RISE THERMAL DETECTOR
- CD- RATE COMPENSATED THERMAL DETECTOR
- LD- CONTINUOUS LINE TYPE DETECTOR

XNA BELL — FIRE ALARM BELL

XAR — PANEL MOUNTED ALARM ANNUNCIATOR
- SIGN (INDICATION)
- SYSTEM ACTUATION
- VALVE SUPERVISION

XAH DISCH HORN — DISCHARGE ALARM HORN

XAH DISCH LIGHT — DISCHARGE ALARM LIGHT

EQUIPMENT & FIXTURES

CSK	CUP SINK (SHOWN)	
DF	DRINKING FOUNTAIN	
E'EW	EMERGENCY SHOWER & EYE WASH	
EW	EYE WASH	
EWC	ELECTRIC WATER COOLER	
HB	HOSE BIB	
KSK	KITCHEN SINK	
L	LAVATORY	
LSK	LABORATORY SINK	
MSK	MOP SINK	
HMSK	HOT MOP SINK	
SH	SHOWER	
SK	SINK	
SSK	SERVICE SINK	
UR	URINAL	
US	UTILITY STATION	
WC	WATER CLOSET	
WF	WASH FOUNTAIN	
WH	WALL HYDRANT	
YH	YARD HYDRANT	
W	WASHER	
HSH	HOT SHOWER	
DW	DISHWASHER	
SGK	FIRST AID SINK	

DUCTWORK IDENTIFICATION

LINE IDENTIFICATION NUMBER WILL BE AS FOLLOWS

PLANT UNI NO — SYSTEM DESIGNATOR — SEQUENCE NO

ADDITIONAL INFORMATION SUCH AS DUCT CLASS & SIZE WILL BE ADDED AS FOLLOWS

2 - 9C - 10F - 20W - "60"

DUCT CLASS — SIZE - ROUND EQUIVALENT DUCT DIAMETER IN INCHES

GENERAL NOTES

1. LINE NUMBERS AND SYSTEMS DESIGNATORS WILL BE ASSIGNED IN ACCORDANCE WITH STANDARD ENGINEERING DEPARTMENT PROCEDURES
2. UNIT NUMBER AND SYSTEM DESIGNATOR WILL APPEAR IN THE P & ID TITLE BLOCK AND NOT BE REPEATED ON THE LINES
3. DUCTWORK AND DAMPER CLASSES ARE DESIGNATED BY A THREE CHARACTER ALPHANUMERIC CODE THE FIRST CHARACTER INDICATES THE DUCT PRIMARY PRESSURE RATING THE SECOND CHARACTER DESCRIBES THE MATERIAL AND THE THIRD INDICATES APPLICABLE STANDARDS

FIRST CHARACTER PRIMARY PRESSURE RATING

2	LESS THAN -2" WG	TOTAL PRESSURE
3	-2 TO -6" W G	TOTAL PRESSURE
4	-6 TO -9" W G	TOTAL PRESSURE
5	-9 TO +3 3/4" W G	TOTAL PRESSURE
6	+3 3/4" W G TO +6 3/4" W G	TOTAL PRESSURE
7	+6 3/4" W G TO +12 3/4" W G	TOTAL PRESSURE
8	GREATER THAN +12" WG	TOTAL PRESSURE

SECOND CHARACTER MATERIAL

- B CARBON STEEL
- C AUSTENITIC STAINLESS STEEL
- E ALUMINUM
- N CARBON STEEL GALVANIZED (FOR ADDITIONAL TYPES OF MATERIAL REFER TO DRAWING M-020102)

THIRD CHARACTER APPLICABLE BECHTEL POWER CORPORATION HVAC DUCTWORK STANDARDS

- K STANDARD CONSTRUCTION
- L GAS TIGHT WELDED CONSTRUCTION
- M - SEISMIC CATEGORY I CONSTRUCTION INCLUDING HANGER AND SUPPORTS
- N SEISMIC CATEGORY I CONSTRUCTION HANGERS AND SUPPORTS ONLY
- P SEISMIC CATEGORY I CONSTRUCTION INCLUDING HANGERS AND SUPPORTS OF GAS TIGHT WELDED DUCTWORK
- R SEISMIC CATEGORY I CONSTRUCTION HANGERS AND SUPPORTS ONLY FOR GAS TIGHT WELDED DUCTWORK
- S DUST OR MATERIAL HANDLING DUCTWORK

COILS

- (H) HEATING COIL
- (HW) HOT WATER (SHOWN)
  - (S) STEAM
  - (E) ELECTRIC
  - (G) GAS
- (C) COOLING COIL
- (CH) REFRIG CHILLED WATER (SHOWN)
- (CW) COOLING WATER
- (DX) REFRIGERANT DIRECT EXPANSION

AIR CLEANING DEVICES

- LOW EFFICIENCY ROLL TYPE FILTER
- LOW — LOW EFFICIENCY ROUGHING FILTER 10% TO 85% EFFICIENCY BY ASHRAE WEIGHT TEST
- MOD — MODERATE EFFICIENCY FILTER 80% TO 60% EFFICIENCY BY ASHRAE STAIN TEST
- HIGH — HIGH EFFICIENCY FILTER 85% EFFICIENCY BY ASHRAE STAIN TEST TO 99% EFFICIENCY FOR 0.30 MICROMETER DOP
- HEPA — HIGH EFFICIENCY PARTICULATE AIR FILTER 99.97% EFFICIENCY FOR 0.30 MICROMETER DOP
- CHAR — ACTIVATED CHARCOAL ADSORBER TRAY OR DEEP BED TYPE
- ELEC — ELECTROSTATIC PRECIPITATOR
- SU — LOW EFFICIENCY FILTER TO BE REMOVED AFTER START UP
- MS — MOISTURE SEPARATOR

FIRE PROTECTION EQUIPMENT

- FIRE HYDRANT
- FIRE HYDRANT WITH HOSE HOUSE
- HOSE REEL STATION
- HOSE RACK STATION
- DELUGE VALVE
- ALARM CHECK VALVE
- DRY PIPE VALVE
- POST INDICATOR VALVE
- BALL DRIP VALVE
- FIRE SYSTEM WATER MOTOR ALARM
- HALON SYSTEM SELECTOR VALVE
- HALON SYSTEM CYLINDER CONTROL VALVE
- HALON SYSTEM MANUAL PNEUMATIC ACTUATION VALVE
- HALON SYSTEM MANUAL MANUAL/ PNEUMATIC SWITCHING VALVE
- HALON SYSTEM DISCHARGE VALVE
- SYNDO PIPE FIRE MANGAGE CONNECTION
- SPRINKLER HEAD
- SPRAY NOZZLE
- ITC — INSPECTOR TEST CONNECTION
- AUTOMATIC DRIP CHECK
- ANGLE GLOBE VALVE

HUMIDIFIERS

- (SG) LOW PRESSURE STEAM GRID (SHOWN)
- (S) STEAM PAN
- (H) HOT WATER PAN
- (E) ELECTRIC PAN

DUST COLLECTORS

- (CDC) CYCLONE DUST COLLECTOR (SHOWN)
- (BDC) BAG TYPE DUST COLLECTOR
- DYNAMIC TYPE DUST COLLECTOR

LOUVERS

- FIXED
- ADJUSTABLE

PLUMBING LINES

CW	DOMESTIC COLD WATER
HW	DOMESTIC HOT WATER SUPPLY
HWR	DOMESTIC HOT WATER RETURN
THW	DOMESTIC TEMPERED HOT WATER SUPPLY
THWR	DOMESTIC TEMPERED HOT WATER RETURN
VAC	VACUUM
SD	STORM DRAINAGE
SAN	SANITARY DRAINAGE
V	SANITARY VENT
AW	ACID WASTE
AV	ACID VENT
OW	OILY WASTE
OV	OILY VENT
TP	TRAP PRIMER
GCS	GRAVITY COLLECTION SYSTEM
LRW	POTENTIALLY RADIOACTIVE LIQUID WASTE
LRV	POTENTIALLY RADIOACTIVE LIQUID WASTE VENT
ARW	POTENTIALLY RADIOACTIVE CHEMICAL WASTE
ARV	POTENTIALLY RADIOACTIVE CHEMICAL WASTE VENT
SRW	POTENTIALLY RADIOACTIVE DETERGENT WASTE
SRV	POTENTIALLY RADIOACTIVE DETERGENT WASTE VENT
G	NATURAL MIXED OR MANUFACTURED GAS
DRW	DIRTY RADWASTE FLOOR AND EQUIPMENT DRAINS (NORMALLY NON-TRITIATED)
CRW	CLEAN RADWASTE FLOOR AND EQUIPMENT DRAINS (NORMALLY TRITIATED)
DRV	DIRTY RADWASTE FLOOR AND EQUIPMENT DRAINS (NORMALLY NON-TRITIATED) SYS VENT
CRV	CLEAN RADWASTE FLOOR AND EQUIPMENT DRAINS (NORMALLY TRITIATED) SYS VENT

DRAINS

- DIRECT DRAIN
- INDIRECT DRAIN
- ROOF DRAIN
- FLOOR DRAIN OR SURFACE COLLECTION UNIT
- EQUIPMENT DRAIN COLLECTION UNIT
- PLUGGED FLOOR DRAIN OR SURFACE COLLECTION UNIT
- EQUIPMENT DRAIN
- 01 — CAPPED EQUIPMENT DRAIN

USAR FIG. 1.1-1-03

ESSENTIAL DRAWING

☐ REVISED	INCORPORATED CH1 00090280	CHANGE	
☐ ISSUED	CHG. NO.	PKG. NO.	
THIS DWG. SUPERSEDES	REV.	THIS DWG. SUPERSEDES	REV.
REVISION NOTES			

WOLF CREEK NUCLEAR OPERATING CORPORATION — ELECTRONIC APPROVAL

SYMBOLS AND LEGEND FOR SYSTEM FLOW AND PIPING AND INSTRUMENTATION DIAGRAMS

SCALE	DRAWING NUMBER	SHEET	REV
1/8" = 1'-0"	M-12103		01

Stanley A. Gardner
Supervisor, Mechanical Systems, Nuclear Design
Date: 2/2/2000
Wolf Creek Nuclear Operating Corporation

M-12103-1-01

FIRST LETTER (NOTE 1)

MEASURED OR INITIATING VARIABLE (NOTE 8)	SYMBOL	SENSING DEVICE (NOTE 14) PRIMARY ELEMENT	SENSING DEVICE (NOTE 14) TRANSMITTER	DISPLAY DEVICE INDICATOR	DISPLAY DEVICE RECORDER	DISPLAY DEVICE INTEGRATING INDICATOR	ALARM (NOTE 10) LOW	ALARM (NOTE 10) HIGH	ALARM (NOTE 10) HIGH & LOW
TYPICAL SYMBOL	( )	( )E	( )T	( )I	( )R	( )QI	( )AL	( )AH	( )AHL
ANALYSIS	A	AE	AT	AI	AR		AAL	AAH	AAHL
BURNER FLAME	B	BE	BT	BI	BR		BAL		
CONDUCTIVITY	C	CE	CT	CI	CR		CAL	CAH	CAHL
DENSITY (MASS) OR WEIGHT	D	DE	DT	DI	DR		DAL	DAH	DAHL
VOLTAGE (EMF)	E	EE	ET	EI	ER		EAL	EAH	EAHL
FLOW (NOTE 9)	F	FE	FT	FI	FR	FQI	FAL	FAH	FAHL
GAGING (DIMENSIONAL)	G	GE	GT	GI	GR		GAL	GAH	GAHL
HAND (MANUAL) (NOTE 13)	H								
CURRENT	I	IE	IT	II	IR	IQI	IAL	IAH	IAHL
POWER	J	JE	JT	JI	JR	JQI	JAL	JAH	JAHL
TIME	K		KT	KI		KQI	KAL	KAH	KAHL
LEVEL	L	LE	LT	LI	LR		LAL	LAH	LAHL
MOISTURE	M	ME	MT	MI	MR		MAL	MAH	MAHL
NEUTRON FLUX (NOTE 4)	N	NE	NT	NI	NR	NQI	NAL	NAH	NAHL
USER'S CHOICE (NOTE 7)	O								
PRESSURE	P	PE	PT	PI	PR		PAL	PAH	PAHL
PRESSURE DIFFERENTIAL	PD		PDT	PDI	PDR		PDAL	PDAH	PDAHL
QUANTITY OR EVENT	Q		QT	QI	QR	QQI	QAL	QAH	QAHL
RADIOACTIVITY (NOTE 4)	R	RE	RT	RI	RR	RQI	RAL	RAH	RAHL
SPEED OR FREQUENCY	S		ST	SI	SR	SQI	SAL	SAH	SAHL
TEMPERATURE	T	TE	TT	TI	TR		TAL	TAH	TAHL
MULTIVARIABLE	U			UI	UR		UAL	UAH	UAHL
VISCOSITY	V		VT	VI	VR		VAL	VAH	VAHL
WEIGHT	W	WE	WT	WI	WR	WQI	WAL	WAH	WAHL
UNCLASSIFIED (NOTE 5)	X								
VIBRATION	Y	YE	YT	YI	YR			YAH	
POSITION (NOTE 10)	Z	ZE	ZT	ZI	ZR		ZAL	ZAH	ZAHL

SUCCEEDING LETTER (NOTE 1)

MEASURED OR INITIATING VARIABLE (NOTE 8)	CONTROL STATION (MAN/AUTO) (NOTE 14)	CONTROLLER (NOTE 14)	CONTROL VALVE	SELF-ACTUATED VALVE	OTHER FINAL CONTROL ELEMENT (NOTE 6)	SWITCH (NOTE 3)	LOCAL INDICATION GLASS	TEST POINT CONNECTION (NOTE 11)	RELAY OR COMPUTER (NOTE 14)	USER'S CHOICE (NOTE 7)	INDICATING LIGHT (NOTE 20)	LOOP POWER SUPPLIES (NOTE 21)	MANIFOLD (NOTE 9)
TYPICAL SYMBOL	( )K	( )C	( )V	( )CV	( )Z	( )S	( )G	( )P	( )Y	( )B	( )L	( )Q	(M)
ANALYSIS	AK	AC	AV		AZ	AS		AP	AY	AB	AL	AQ	
BURNER FLAME		BC	BV			BS	BG	BP	BY	BB	BL	BQ	
CONDUCTIVITY	CK		CV		CZ	CS		CP	CY	CB	CL	CQ	
DENSITY (MASS) OR WEIGHT	DK	DC	DV		DZ	DS		DP	DY	DB	DL	DQ	
VOLTAGE (EMF)	EK	EC			EZ	ES			EY	EB	EL	EQ	
FLOW (NOTE 9)	FK	FC	FV	FCV	FZ	FS	FG	FP	FY	FB	FL	FQ	
GAGING (DIMENSIONAL)	GK	GC				GS			GY	GB	GL	GQ	
HAND (MANUAL) (NOTE 13)	HK	HC	HV		HZ	HS			HY		HL	HQ	
CURRENT	IK	IC			IZ	IS			IY	IB	IL	IQ	
POWER	JK	JC			JZ	JS			JY	JB	JL	JQ	
TIME		KC	KV		KZ	KS			KY	KB	KL	KQ	
LEVEL	LK	LC	LV	LCV	LZ	LS	LG	LP	LY	LB	LL	LQ	
MOISTURE	MK	MC	MV		MZ	MS		MP	MY	MB	ML	MQ	
NEUTRON FLUX (NOTE 4)	NK	NC			NZ	NS			NY	NB	NL	NQ	
USER'S CHOICE (NOTE 7)													
PRESSURE	PK	PC	PV	PCV	PZ	PS		PP	PY	PB	PL	PQ	PM
PRESSURE DIFFERENTIAL	PDK	PDC	PDV	PDCV	PDZ	PDS		PDP			PDL	PDQ	
QUANTITY OR EVENT	QK	QC	QV		QZ	QS			QY	QB	QL	QQ	
RADIOACTIVITY (NOTE 4)	RK	RC	RV		RZ	RS			RY	RB	RL	RQ	
SPEED OR FREQUENCY	SK	SC			SZ	SS			SY	SB	SL	SQ	
TEMPERATURE	TK	TC	TV	TCV	TZ	TS		TP	TY	TB	TL	TQ	
MULTIVARIABLE		UC	UV		UZ	US			UY	UB	UL	UQ	
VISCOSITY	VK	VC	VV		VZ	VS		VP	VY	VB	VL	VQ	
WEIGHT	WK	WC	WV		WZ	WS			WY	WB	WL	WQ	
UNCLASSIFIED (NOTE 5)													
VIBRATION						YS		YP	YY	YB	YL	YQ	
POSITION (NOTE 10)		ZC			ZZ	ZS			ZY	ZB	ZL	ZQ	

INSTRUMENTMENT IDENTIFICATION

WCNOC SUPPLIED EQUIPMENT (REF. NOTE 1)

PCV — P & ID SYS. 88

0 - 88 - PCV - 1
- INST. LOOP NUMBER
- FUNCTION CODE
- SYSTEM DESIGNATOR
- UNIT NUMBER

WESTINGHOUSE NSSS SUPPLIED EQUIPMENT (REF. NOTE 2)

PCV-401 — P & ID SYS. 88

0 - 88 - PCV - 401
- INST. LOOP NUMBER
- FUNCTION CODE
- SYSTEM DESIGNATOR
- UNIT NUMBER

GENERAL NOTES:

1. THE INSTRUMENT LEGEND IS BASED ON ISA STANDARD S5.1 - 1973 FOR FURTHER DETAILS AND CLARIFICATION, REFER TO ISA STANDARD.
2. INSTRUMENTS SUPPLIED BY WESTINGHOUSE FOR THE NSSS RETAIN THEIR WESTINGHOUSE INSTRUMENT NUMBERS. IN THE WESTINGHOUSE NUMBERING, THE SYSTEM IN WHICH THE INSTRUMENT FUNCTIONS IS INDICATED BY A THREE OR FOUR DIGIT INSTRUMENT LOOP NUMBER. THE WESTINGHOUSE INSTRUMENT NUMBERING SYSTEM IS PRESENTED IN WESTINGHOUSE STANDARD INFORMATION PACKAGE FOR SNUPPS, VOLUME 12-1, SECTION 1.1.
3. THE LETTERS H AND L ARE ADDED TO THE MEASURED VARIABLES FOR HIGH AND LOW RESPECTIVELY, AS FOR ALARMS.
4. THE LETTER N IS USED ONLY WHEN NEUTRON FLUX IS THE MEASURED VARIABLE. THE LETTER R IS USED ONLY WHEN RADIOACTIVITY IS THE MEASURED VARIABLE.
5. THE LETTER X IS FOR UNLISTED MEANINGS THAT WILL BE USED ONLY ONCE OR TO A LIMITED EXTENT. IT MAY HAVE ANY NUMBER OF MEANINGS AS A FIRST LETTER AND ANY NUMBER OF MEANINGS AS A SUCCEEDING LETTER, EXCEPT FOR ITS USE WITH DISTINCTIVE SYMBOLS. THE MEANINGS WILL BE DEFINED OUTSIDE THE INSTRUMENT CIRCLE.
6. THE LETTER Z WHICH FOLLOWS A MEASURED VARIABLE REPRESENTS FINAL DEVICES OTHER THAN CONTROL VALVES, SUCH AS HYDRAULIC COUPLING, VARIABLE SPEED DRIVE, ACTUATOR, ETC.
7. A USER'S CHOICE LETTER IS FOR UNLISTED MEANINGS THAT WILL BE USED REPETITIVELY ON A PARTICULAR PROJECT. THE MEANINGS WILL BE DEFINED ONLY ONCE FOR THAT PROJECT AND HAVE ONE AND ONLY ONE MEANING AS THE FIRST LETTER AND ANOTHER SINGLE MEANING AS THE SUCCEEDING LETTER.
8. ANY FIRST LETTER MAY BE MODIFIED BY ANY SUCCEEDING LETTER OR BY THE FOLLOWING LETTERS

D - DIFFERENTIAL (FD - PRESSURE DIFFERENTIAL)
J - SCAN (AJ - SCANNING ANALYZER INDICATOR)
Q - INTEGRATE OR TOTALIZE (FQI - FLOW INTEGRATING INDICATOR)

9. FO - DESIGNATES FLOW RESTRICTION
   FF - DESIGNATES FLOW RATIO (E.G., FFC
   FFC - DESIGNATES FLOW RATIO CONTROLLER
10. LAHH - DESIGNATES HIGH HIGH LEVEL ALARM
    LALL - DESIGNATES LOW LOW LEVEL ALARM
    PM - DESIGNATES PRESSURE MANIFOLD
    ZA - DESIGNATES POSITION ALARM (USUALLY VALVE POSITION)
11. A TEST POINT IS A PROCESS CONNECTION TO WHICH NO INSTRUMENT IS PERMANENTLY CONNECTED, BUT IS INTENDED FOR TEMPORARY, INTERMITTENT, OR FUTURE CONNECTION OF AN INSTRUMENT.
    (TEST POINTS GENERALLY DO NOT REQUIRE BALLOONS)
    TW - DESIGNATES THERMOWELL (REQUIRES BALLOON)
    AN - DESIGNATES SAMPLE NOZZLE.
12. ELECTRICAL SAFETY RELATED SEPARATION GROUPS 1 THROUGH 4 ARE NOTED IN A SQUARE □ LOCATED IN THE UPPER QUADRANT OUTSIDE OF THE APPLICABLE INSTRUMENT BALLOON (E.G. AN X IN A SQUARE □ INDICATES NON CLASS 1E LOADS WHICH ARE FED FROM THE CLASS 1E POWER SYSTEM. THESE LOADS ARE SHED WITH THE INITIATION OF SIS.
13. HIS - DESIGNATES A HAND SWITCH WITH INDICATION LIGHTS.
14. A CONTROL OR SENSING DEVICE OR RELAY HAVING A DISPLAY FUNCTION SHOULD HAVE THE APPROPRIATE DISPLAY LETTERS ADDED AFTER THE REQUIRED VARIABLE DESIGNATION. E.G., AIC, DESIGNATES ANALYSIS INDICATING CONTROL STATION.
15. THE DESCRIPTION DENOTING A RELAY FUNCTION SHOULD BE SHOWN ON THE P & ID EXCEPT WHEN USED WITH DISTINCTIVE SYMBOLS SUCH AS A SOLENOID VALVE.
16. A DOUBLE SOLENOID VALVE IS DRAWN WITH TWO SINGLE SOLENOIDS.
17. FOR THREE WAY VALVES, THE PORT THAT IS CLOSED DURING NORMAL SYSTEM OPERATION WILL BE BLACKENED. THE PORT THAT IS CLOSED IN THE OTHER MODE WILL CONTAIN A DOT. THE OPERATIVE CONDITIONS SHOWN FOR ALL PROCESS VALVES BODIES CORRESPONDS TO FULL LOAD ON NORMAL OPERATION, REGARDLESS OF THE TYPE OF ACTUATOR OR WHETHER THE ACTUATOR IS ENERGIZED OR DE-ENERGIZED IN THIS MODE OF OPERATION.
18. THE SPECIFIC CONTROL BOARD AND LOCATION AT WHICH AN INSTRUMENT IS LOCATED MAY BE REFERENCED OUTSIDE THE INSTRUMENT BALLOON FOR MAIN CONTROL ROOM AND FOR FIELD OR LOCAL PANELS. SYSTEM DESIGNATORS, IN ACCORDANCE WITH EQUIPMENT IDENTIFICATION STANDARDS, SHALL BE UNDERSTOOD BUT NOT NOTED ON P & ID's.

000 - LOCAL IN MAIN CONTROL ROOM
001-099 - MAIN CONTROL ROOM PANEL
100 - LOCAL IN FIELD
101-999 - FIELD CONTROL PANEL
800-989 - PLANT COMPUTER

19. THE TYPE OF FLOW INSTRUMENT MAY BE NAMED OUTSIDE THE INSTRUMENT CIRCLE. E.G., MAGNETIC FLOW METER, DISPLACEMENT METER, MASS FLOW METER, SIGHT GLASS.
20. INDICATING LIGHTS ARE DESIGNATED BY FIRST AND/OR SECOND LETTERS FOLLOWED BY L, E.G., ZL FOR POSITION INDICATING LIGHT.
21. INSTRUMENT LOOP POWER SUPPLIES, ALTHOUGH NOT NORMALLY SHOWN ON P & ID's, ARE DESIGNATED BY Q AS THE FINAL LETTER. LOOP POWER SUPPLIES APPEAR ONLY ON EQUIPMENT LISTS, LOOP DIAGRAMS AND WIRING DIAGRAMS.
22. ALL ANNUNCIATOR INPUTS ARE RECORDED BY THE PLANT COMPUTER. THESE ARE NOT SHOWN ON THE P & ID's. SUPPORT DOCUMENTATION (INSTRUMENT INDEX DWG. NO. J-L10001) PROVIDES SPECIFIC REFERENCE.

GENERAL INSTRUMENTS

- INSTRUMENT FOR SINGLE MEASURED VARIABLE AND ANY NUMBER OF FUNCTIONS. INSTRUMENT IS LOCALLY MOUNTED.
- INSTRUMENT FOR ASME TEST ONLY
- INSTRUMENT FOR ASME TEST PLUS NORMAL USE
- INSTRUMENT FOR TWO MEASURED VARIABLES OR MORE THAN ONE FUNCTION. INSTRUMENT IS LOCALLY MOUNTED.
- INSTRUMENT IS MOUNTED BEHIND A PANEL (TYPICAL)
- INSTRUMENT IS MOUNTED ON THE FRONT OF A PANEL (TYPICAL)

SUPPLEMENTARY NOTATION

(NOTE 12) (REF. MISC. DEVICES M-120104)

000 (NOTE 18)

COMPUTER OR DATA LOGGER

- COMPUTER OR DATA LOGGER INPUT OR OUTPUT, AN IDENTIFICATION MAY BE INSCRIBED. 3/4" 30° ELLIPSE

SIGNALS AND LINES

- CONNECTION TO PROCESS OR MECHANICAL LINK, OR INSTRUMENT SUPPLY
- PNEUMATIC SIGNAL, OR UNDEFINED SIGNAL FOR PROCESS FLOW DIAGRAMS
- ELECTRIC SIGNAL
- CAPILLARY TUBING (FILLED SYSTEM)
- HYDRAULIC SIGNAL
- ELECTROMAGNETIC, SONIC, OR RADIATION (WITHOUT WIRING OR TUBING)

SENSORS-ANALYSIS

- AE — THROUGH-FLOW TYPE
- AE — NON-THROUGH FLOW TYPE

DIGITAL SYSTEMS

DIGITAL LOGIC SIGNAL — 2,3,4,5 TRIPS TURBINE — CONTROL SHEET * — TASK * — DROP * — DCS — DIGITAL CONTROL SYSTEM — CABINET LOCATION — ELECTRICAL SIGNAL — PR — REXOR — INDICATING TRANSMITTER — PM(116) — PRESSURE MANIFOLD *

SENSORS-FLOW

- FE — ORIFICE PLATE
- FE — ORIFICE PLATE IN QUICK-CHANGE FITTING
- FE — VENTURI TUBE OR FLOW NOZZLE
- FE — PITOT OR PITOT-VENTURI TUBE
- FE — FORWARD-REVERSE PITOT TUBE
- FE — FLUME
- FE — WEIR
- FE — TURBINE OR PROPELLER TYPE
- ROTAMETER
- FX — IN LINE INSTRUMENT (NOTE 19)
- FX — FLOW STRAIGHTENING VANES
- FO — FO - RESTRICTION ORIFICE

SENSORS-LEVEL

- LE — GAUGE GLASS OR FLOAT OR DISPLACEMENT TYPE LEVEL INSTRUMENT
- LE — DIFFERENTIAL-PRESSURE TYPE (DELETE REFERENCE TAP ON ATMOSPHERIC VENTED TANKS)
- LE — TANK MOUNTED DIFFERENTIAL-PRESSURE TYPE
- LE — INTERNAL BALL-FLOAT TYPE
- LE — CABLE/FLOAT TYPE

SENSORS-PRESSURE

- PI — DIRECT CONNECTED
- PI — WITH DIAPHRAGM SEAL, PIPED
- PI — WITH DIAPHRAGM SEAL, LINE OR EQPT. MOUNTED

SENSORS-TEMPERATURE

- TE — TEMPERATURE ELEMENT
- TI — FILLED SYSTEM

SENSOR - RADIOACTIVITY (NOTE 4)

- RI — RADIATION MONITOR (IN-LINE)

VALVES-BODIES

- FO — GLOBE, GATE, OR OTHER IN-LINE TYPE NOT OTHERWISE IDENTIFIED
- FO — INDICATES *FAIL OPEN*
- FC — INDICATES *FAIL CLOSED*
- FL — INDICATES *FAIL LOCKED (POSITION DOES NOT CHANGE)*
- FI — INDICATES *FAIL INDETERMINATE*
- FO — THREE - WAY
- FO — FOUR - WAY
- SOLENOID CONTROL VALVES

PROCESS VALVES

- OPEN / CLOSED — THREE-WAY WITH ONE PORT OPEN AND ONE PORT CLOSED. (NOTE 17)

FOR OTHER TYPES OF VALVE BODIES SEE M-120102

VALVES-ACTUATORS

- PNEUMATIC DIAPHRAGM
- DIAPHRAGM, PRESSURE-BALANCED
- ROTARY MOTOR (SHOWN TYPICALLY WITH ELECTRIC SIGNAL)
- PNEUMATIC CYLINDER, SINGLE-ACTING
- HYDRAULIC OR PNEUMATIC CYLINDER, DOUBLE-ACTING
- PNEUMATIC CYLINDER, DOUBLE-ACTING, WITH SOLENOID PILOT VALVE
- SINGLE SOLENOID (NOTE 16) RESET AFTER LATCH (OPTIONAL)
- ELECTRO-HEI OR PNEUM-IP) HYDRAULIC (H)
- HAND ACTUATOR (MOUNTED AT TOP, SIDE OR BOTTOM OF ACTUATED DEVICE AS APPLICABLE)
- UNCLASSIFIED (TYPE OF ACTUATOR TO BE WRITTEN ADJACENT TO THE SYMBOL)

VALVE BODY WITH ACTUATOR (TYPICAL)

- TV

SELF-ACTUATED DEVICES-FLOW

- FCV — FLOW REGULATOR

SELF-ACTUATED DEVICES-LEVEL

- LCV — LEVEL REGULATOR, WITH MECHANICAL LINKAGE.

SELF-ACTUATED DEVICES-PRESSURE

- PCV — PRESSURE REDUCING REGULATOR, SELF CONTAINED
- PCV — PRESSURE REDUCING REGULATOR, WITH EXTERNAL PRESSURE TAP
- PCV — DIFFERENTIAL PRESSURE REDUCING REGULATOR WITH INTERNAL AND EXTERNAL PRESSURE TAPS
- PCV — BACKPRESSURE REGULATOR, SELF-CONTAINED
- PCV — BACKPRESSURE REGULATOR, WITH EXTERNAL PRESSURE TAP
- PRESSURE RELIEF OR SAFETY VALVE, ANGLE PATTERN SPRING OR WEIGHT LOADED, OR WITH INTEGRAL PILOT
- VACUUM RELIEF VALVE, ANGLE PATTERN, SPRING OR WEIGHT LOADED, OR WITH INTEGRAL PILOT
- PRESSURE RELIEF OR SAFETY VALVE, ANGLE PATTERN, TRIPPED BY INTEGRAL SOLENOID
- PSE — RUPTURE DISK OR SAFETY HEAD FOR PRESSURE RELIEF
- PSE — RUPTURE DISK OR SAFETY HEAD FOR VACUUM RELIEF

SELF-ACTUATED DEVICES-TEMP

- TCV — TEMPERATURE REGULATOR, FILLED-SYSTEM TYPE

HAND ACTUATED DEVICES

- HCV — TWO-WAY HAND CONTROL VALVE IN PROCESS LINE
- HO — MANUALLY ADJUSTABLE RESTRICTION ORIFICE IN SIGNAL LINE
- HS — TWO-WAY HAND-ACTUATED SWITCHING VALVE IN PNEUMATIC SIGNAL LINE

FOR OTHER STYLES OF VALVE BODIES, SEE "VALVES-BODIES" ON THIS SHEET

MISCELLANEOUS DEVICES

- IP — SIGNAL RELAY (NOTE 15)
- VOLUME BOOSTER (NOTE 15)
- SQUARE ROOT EXTRACTOR (NOTE 15)
- HIGH SELECTOR (NOTE 15)
- LOW SELECTOR (NOTE 15)
- I/P — CURRENT-TO PNEUMATIC (NOTE 15) CONVERTER

FOR ADDITIONAL RELAY SYMBOLS, SEE ISA S5.1, TABLE 2.

- INTERLOCK (USE IS OPTIONAL)
- PANEL-MOUNTED PATCH-BOARD OR MATRIX CONNECTION
- PURGE DEVICE (MEANS OF REGULATING PURGE MAY BE SHOWN IN PLACE OF THE SYMBOL). PURGE FLUID AND POWER SUPPLIES ARE:
  - AS AIR SUPPLY
  - ES ELECTRIC SUPPLY
  - GS GAS SUPPLY
  - HS HYDRAULIC FLUID SUPPLY
  - NS NITROGEN SUPPLY
  - SS STEAM SUPPLY
  - WA WATER SUPPLY
- PILOT LIGHT

USAR FIG. 1.1-1-04

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SYMBOLS AND LEGEND FOR SYSTEM FLOW AND PIPING AND INSTRUMENTATION DIAGRAMS

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USAR FIG. 1.2-1-00

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WOLF CREEK NUCLEAR OPERATING CORPORATION

ELECTRONIC APPROVAL

PENINSULAR PLANT ARRANGMENT
STANDARD POWER SYSTEMS
& STRUCTURE INTERFACE

SCALE	DRAWING NUMBER	SHEET	REV
1"=50'-0"	M-10001		02

36 X 48 E SIZE

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ELECTRONIC APPROVAL

CATION
LDING
EL.1976'-0"

SCALE	DRAWING NUMBER	SHEET	REV.
1/8"=1'-0"	M-1G010		04

24X36 (.SB)

[redacted]

IG.-1.2-3, -00

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WOLF CREEK NUCLEAR OPERATING CORPORATION

ELECTRONIC APPROVAL

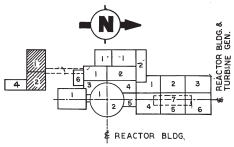
EQUIPMENT LOCATION
RADWASTE BUILDING
EL. 2000'-0"

SCALE	DRAWING NUMBER	SHEET	REV
1/8"=1'-0"	M-1G011		08

DRAW. E SIZE

M-1G011-1-08

[redacted]



KEY PLAN

0

USAR FIG. 1.2-4

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① ISSUED		
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REVISION NOTES:	REF. CR 2007-0002952	

WOLF CREEK NUCLEAR OPERATING CORPORATION

ELECTRONIC APPROVAL

EQUIPMENT LOCATION
RADWASTE BUILDING
PARTIAL PLAN EL. 2022'-0"

SCALE	DRAWING NUMBER	SHEET	REV
1/4" = 1'-0"	M-1G012		00

DRAW E SIZE

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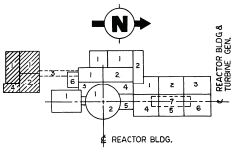

KEY PLAN

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DATE

WOLF CREEK NUCLEAR OPERATING CORPORATION

ELECTRONIC APPROVAL

EQUIPMENT LOCATIONS
RADWASTE BUILDING
EL. 2031'-6" & ROOF PLAN

SCALE	DRAWING NUMBER	SHEET	REV
1/4" = 1'-0"	M-1G013	1	05

24X36 (SE)

[redacted]

USAR FIG. 1.2-6

ESSENTIAL DRAWING

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WOLF CREEK NUCLEAR OPERATING CORPORATION — ELECTRONIC APPROVAL

EQUIPMENT LOCATIONS
RADWASTE BUILDING
SECTIONS A & B

SCALE	DRAWING NUMBER	SHEET	REV
1/4" = 1'-0"	M-1G014	1	04

36IN (.9E)

[redacted]

USAR FIG. 1.2-7-00

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WOLF CREEK NUCLEAR OPERATING CORPORATION

ELECTRONIC APPROVAL

EQUIPMENT LOCATION
RADWASTE BUILDING
SECTIONS C & E

SCALE	DRAWING NUMBER	SHEET	REV
1/8"=1'-0"	M-1G015		03

JRHM E 32

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USAR FIG. 1.2-8

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WOLF CREEK NUCLEAR OPERATING CORPORATION

ELECTRONIC APPROVAL

EQUIPMENT LOCATION
RADWASTE BUILDING
SECTION D & F

SCALE	DRAWING NUMBER	SHEET	REV
1/16"=1'-0"	M-1G016		03

SIGNAL & SIZE

PRC-

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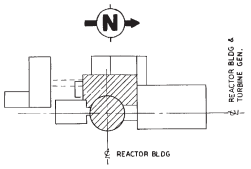

KEY PLAN

NOTES

1 THIS DRAWING WAS MADE FROM SK-M-180.

2 HKF24 TO BE SHARED FOR LIFTING BEAMS LOCATED ABOVE THE FOLLOWING EQUIPMENTS. DORIN METER, REACTANT COOLANT ACTIVITY MONITOR, SEAL WATER HEAT EXCHANGER, LETDOWN CHILLER HEAT EXCHANGER, LETDOWN REHEAT HEAT EXCHANGER, MODERATING HEAT EXCHANGER, LETDOWN HEAT EXCHANGER AND CHILLER.

BLOCKOUT

BLOCK WALL

USAR FIG. 1.2-9 -00

REVISED / CHANGE	EQUIPMENT NO. D.B. NO.	CHANGE NO. / PKG. NO.	04524
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REVISION NOTES			

WOLF CREEK NUCLEAR OPERATING CORPORATION — ELECTRONIC APPROVAL

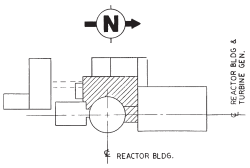
EQUIPMENT LOCATION
REACTOR AND AUXILIARY BLDGS.
PLAN-BASEMENT EL.1974'-0"

SCALE	DRAWING NUMBER	REV.
1/8"=1'-0"	M-1G020	09

34344 1 SUS

Released By Document Services Release Date: 06/03/97

[redacted]



KEY PLAN

BLOCK WALL

BLOCKOUT

USAR FIG. 1.2-10

ESSENTIAL DRAWING

◉ REVISED ○ ISSUED	INCORPORATED CHG. DOC.	WP-M-10021-002-A-1, R-1	CHANGE 012057 PKG. NO.
THIS DWG. SUPERSEDES BY	REV.	THIS DWG. SUPERSEDES	REV.
REVISION NOTES			

WOLF CREEK NUCLEAR OPERATING CORPORATION — ELECTRONIC APPROVAL

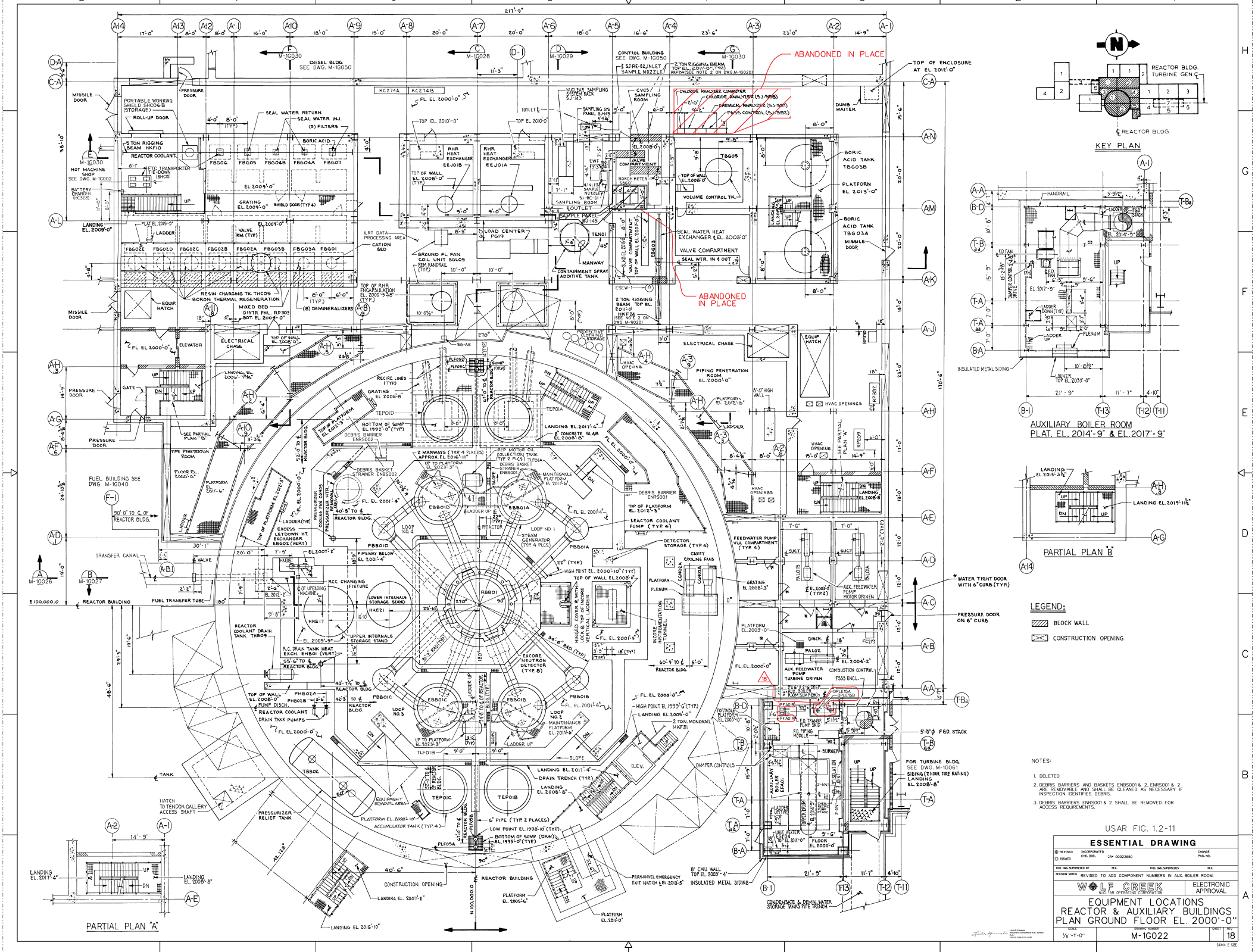
EQUIPMENT LOCATION
AUXILIARY BUILDING
PARTIAL PLAN EL.1988'-0" & EL.2013'-6"

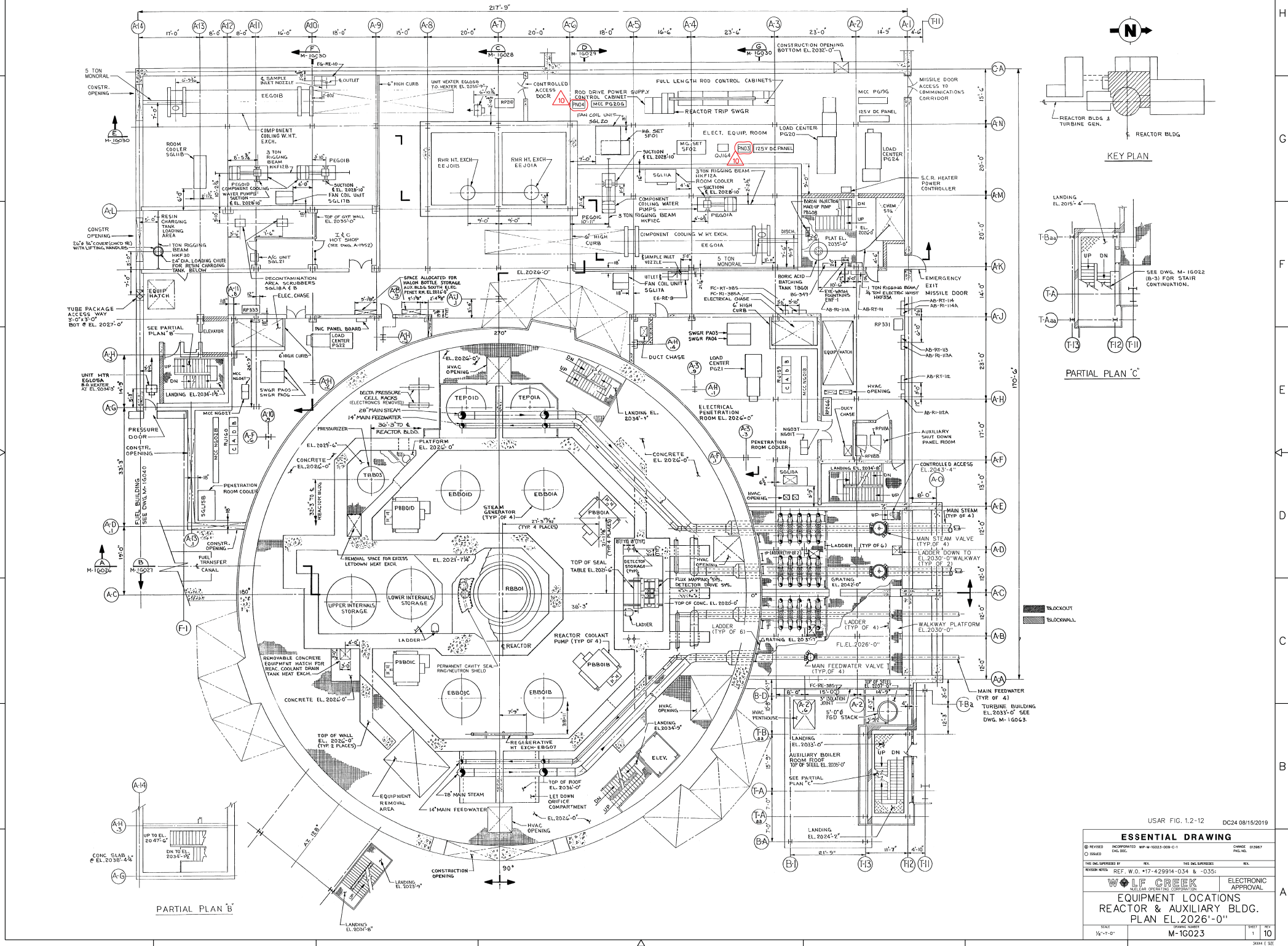
SCALE	DRAWING NUMBER	SHEET	REV.
1/8"=1'-0"	M-1G021	1	03

Tracks & Handles
Advanced by Document Services, Bolivar
Date
24 JAN 09 (0.4.62) 08:00

34444 E SIZE

M-10021-1-03


ABANDONED IN PLACE
ABANDONED IN PLACE
KEY PLAN
REACTOR BLDG.
TURBINE GEN.
REACTOR BLDG.
AUXILIARY BOILER ROOM
PLAT. EL. 2014'-9" & EL. 2017'-9"
PARTIAL PLAN "B"
PARTIAL PLAN "A"
LEGEND:
BLOCK WALL
CONSTRUCTION OPENING
NOTES:
1. DELETED
2. DEBRIS BARRIERS AND BASKETS ENBS001 & 2, ENRS001 & 2 ARE REMOVABLE AND SHALL BE CLEANED AS NECESSARY IF INSPECTION IDENTIFIES DEBRIS.
3. DEBRIS BARRIERS ENRS001 & 2 SHALL BE REMOVED FOR ACCESS REQUIREMENTS.
USAR FIG. 1.2-11
ESSENTIAL DRAWING
WOLF CREEK NUCLEAR OPERATING CORPORATION
ELECTRONIC APPROVAL
EQUIPMENT LOCATIONS
REACTOR & AUXILIARY BUILDINGS
PLAN GROUND FLOOR EL. 2000'-0"
SCALE 1/8"=1'-0"
DRAWING NUMBER M-1G022
SHEET
REV 18
34944 E SIZE



USAR FIG. 1.2-12 DC24 08/15/2019

ESSENTIAL DRAWING

⊗ REVISED ○ ISSUED	INCORPORATED CHG. DOC.	WBF-M-1G023-009-C-1	CHANGE 013967 PKG. NO.
THIS DWG. SUPERSEDES BY	REV.	THIS DWG. SUPERSEDES	REV.
REVISION NOTES: REF. W.O. #17-429914-034 & -035;			

WOLF CREEK NUCLEAR OPERATING CORPORATION — ELECTRONIC APPROVAL

EQUIPMENT LOCATIONS REACTOR & AUXILIARY BLDG. PLAN EL.2026'-0"

SCALE	DRAWING NUMBER	SHEET	REV
1/8"=1'-0"	M-1G023	1	10

34X44 E 92E

[redacted]

NOTES

1. THE FOLLOWING EQUIP REQUIRES STORAGE SPACE IN REFUELING POOL.

   A-CONTROL ROD DRIVE SHAFT STORAGE RACK
   B-DELETED
   C-CONTROL ROD DRIVE SHAFT UNLATCHING TOOL
   D-THIMBLE PLUG HANDLING TOOL
   E-IRRADIATION SAMPLE HANDLING TOOL UPPER
   F-IRRADIATION SAMPLE HANDLING TOOL LOWER

2. SHIELD WALL OPTIONAL

REMOVABLE WALL FOR STEAM GENERATOR REMOVAL

BLOCK WALL

USAR FIG. 1.2-13

ESSENTIAL DRAWING

REVISED	INCORPORATED DCL-SUL-	WP-M-10224-017-A-1	CHANGE CH-403 PKG. NO.
ISSUED			

[redacted]

ELECTRONIC APPROVAL

EQUIPMENT LOCATION
REACTOR AND AUXILIARY BUILDINGS
PLAN OPERATING FLOOR EL. 2047'-6"

SCALE	DRAWING NUMBER	SHEET	REV
1/8" = 1'-0"	M-10024	1	18

34X44 C SIZE
M-10024-1-18

[redacted]

USAR FIG. 1.2-14-00

ESSENTIAL DRAWING

☒ REVISED	INCORPORATED CHG. SUSC.	CHANGE PKG. NO.	045579
☐ ISSUED			
THIS DWG. SUPERSEDES BY	REV.	THIS DWG. SUPERSEDES	REV.
REVISION NOTES:			

WOLF CREEK NUCLEAR OPERATING CORPORATION

ELECTRONIC APPROVAL

EQUIPMENT LOCATIONS
REACTOR & AUXILIARY BUILDINGS
PLAN EL. 2068'-8"

SCALE	DRAWING NUMBER	SHEET	REV
1/4" = 1'-0"	M-10025	1	08

M-10025-1-08

[redacted]

USAR FIG. 1.2-15

ESSENTIAL DRAWING

ELECTRONIC
AIM-10V.IN

EQUIPMENT LOCATIONS
REACTOR & AUXILIARY BLDG.
SECTION A

M-10026

09

Released by Document Services Release Date: 04/02/09

[redacted]

USAR FIG. 1.2-16

ESSENTIAL DRAWING

⊗ REVISED ○ ISSUED	INCORPORATED CHG. DOC. WCP-M-1G027-D00-A-1, R-0	DRAWING NO. 91957
THIS DWG. SUPERSEDED BY	REV.	THIS DWG. SUPERSEDES REV.
REVISION NOTES		

WOLF CREEK NUCLEAR OPERATING CORPORATION

ELECTRONIC APPROVAL

EQUIPMENT LOCATIONS
REACTOR & AUXILIARY BUILDINGS
SECTION B

SCALE	DRAWING NUMBER	SHEET
1/16" = 1'-0"	M-1G027	1 of 09

Timothy A. Fletcher
Senior Engineer, Nuclear Design/Architect Engineer
Bechtel
Date: 2010-06-15 (Version: 0000)

M-1G027-1-1-09

PAGE - - - - - -

SHEET 1 OF 1

[redacted]

USAR FIG. 1.2-17

06

ESSENTIAL DRAWING

REVISED PER AR 05 MODIFIABLE A TYPE 3

ELECTRONIC APPROVAL

EQUIPMENT LOCATIONS
REACTOR & AUXILIARY BUILDING
SECTION C

M-10028

06

Released by Document Services: Release Date: 02/11/99

[redacted]

USAR FIG. 1.2-18

ESSENTIAL DRAWING

☐ REVISED INCORPORATED CHG. DEC.	WPF-M-10023-0314-R-1 REV. 00
☐ ISSUED	
TKO CALC. SUPERSEDED BY	REV.
REVISION NOTES:	

DWNGS. - 12069
PG. NO.

TKO CALC. SUPERSEDES | REV.

WOLF CREEK
NUCLEAR OPERATING CORPORATION

ELECTRONIC APPROVAL

EQUIPMENT LOCATIONS
REACTOR & AUXILIARY BUILDING
SECTION D

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

DRAWING NUMBER: M-1G029

SHEET | REV: 06

SHEET 1 OF 1

PSC

Released by Document Services Release Date: 04/12/07

[redacted]

USAR FIG. 1.2-19-00

ESSENTIAL DRAWING

☒ REVISED INCORPORATES CHG/DEC. WP-M-10030-3030-X-1 REV. 00	DRAWN: GB187 PKG. NO.
☐ ISSUED	
TKO DWG. SUPERSEDED BY: REV.	TKO DWG. SUPERSEDES: REV.
REVISION NOTES: ALSO CORRECTED ABANDONED IN PLACE CALLOUT IN AREA G-9.	

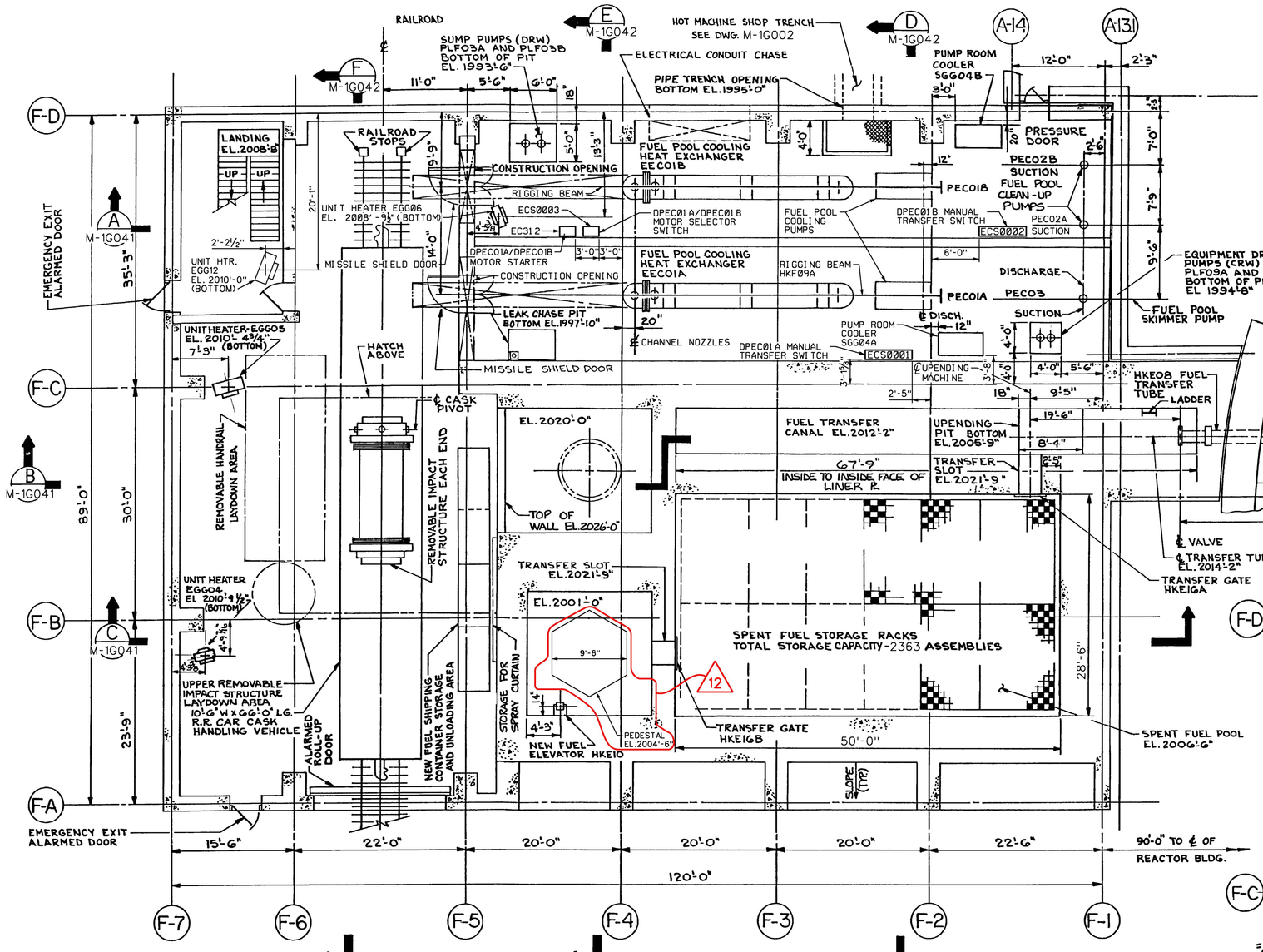
WOLF CREEK NUCLEAR OPERATING CORPORATION — ELECTRONIC APPROVAL

EQUIPMENT LOCATIONS
AUXILIARY BUILDING
SECTIONS E,F & G

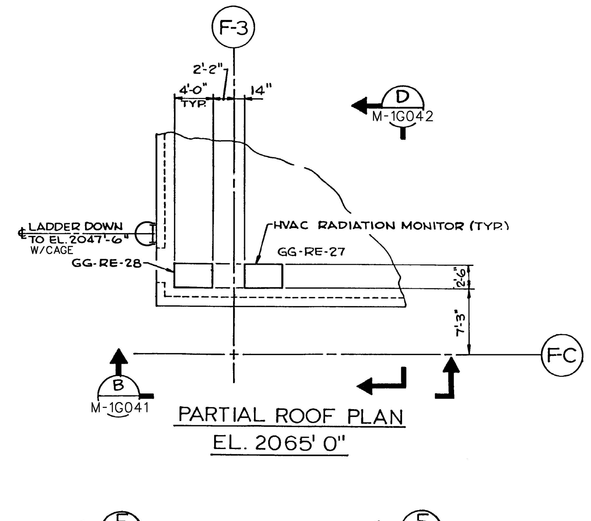
SCALE	DRAWING NUMBER	SHEET / REV
1/8"=1'-0"	M-1G030	09

SIZE E SIZE

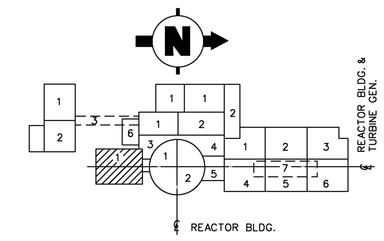
Released by Document Services Release Date: 02/16/07



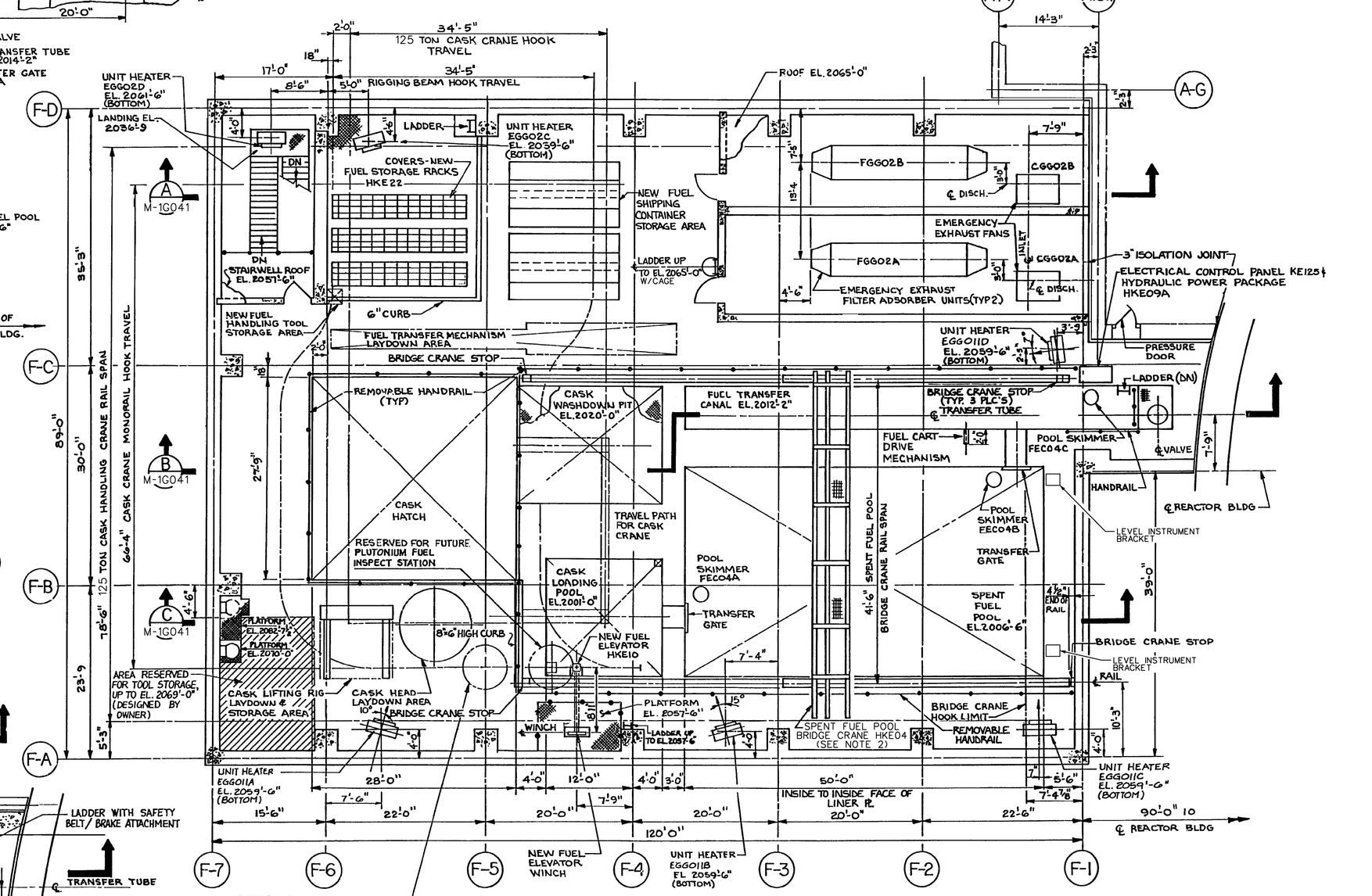
PLAN
GROUND FLOOR EL.2000'-0"



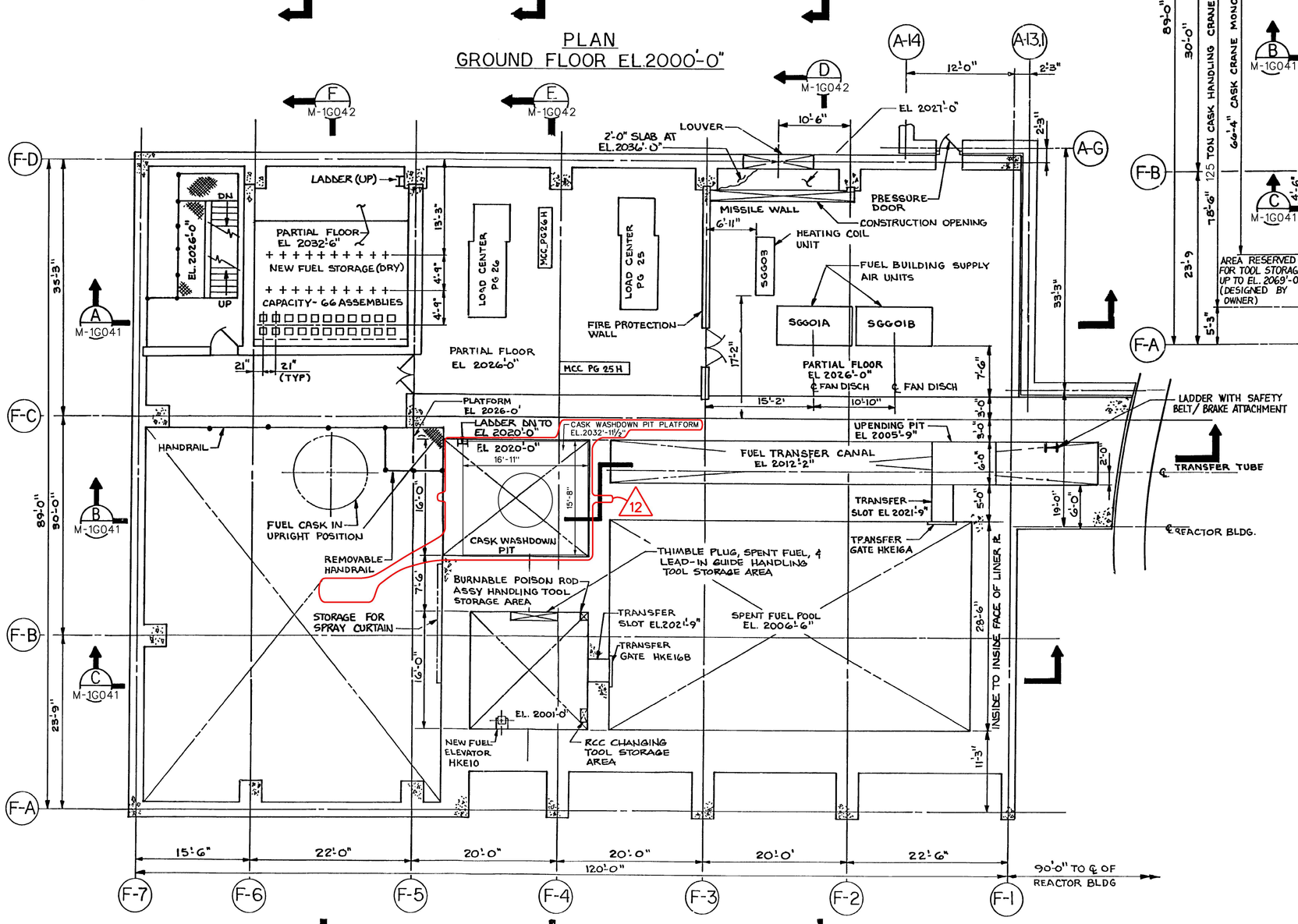
PARTIAL ROOF PLAN
EL. 2065' 0"



KEY PLAN



PLAN
OPERATING FLOOR EL 2047'6"



PLAN
INTERMEDIATE FLOOR EL 2026'-0"

NOTES:

1. DELETED.
2. FOR INFORMATION REGARDING SPENT FUEL BRIDGE CRANE ACCESS TO THE FAR NORTH EDGE OF FUEL POOL, SEE CCP 09356.

DC24 09/21/2021

USAR FIG. 1.2-20-00

ESSENTIAL DRAWING

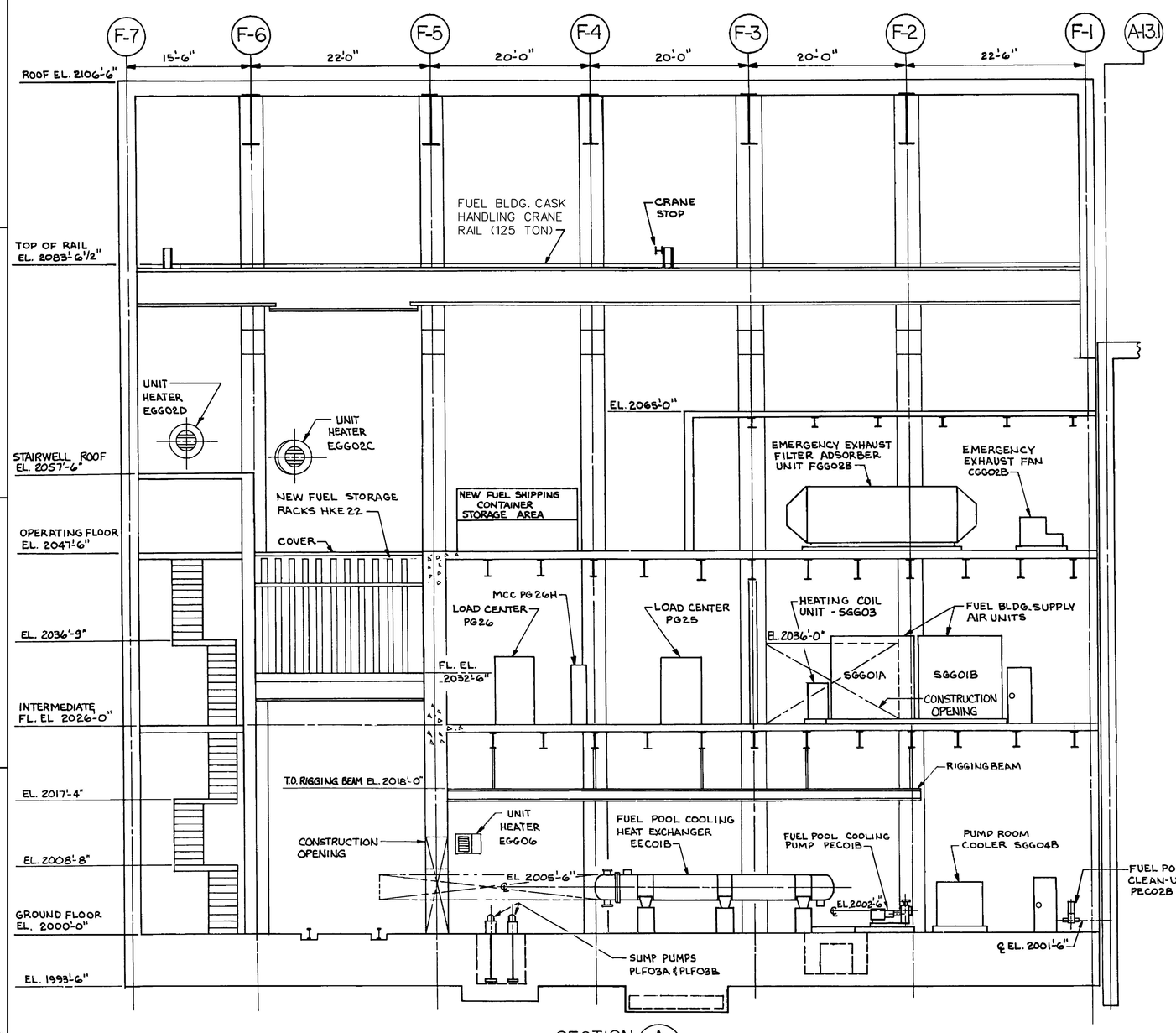
⊗ REVISED ○ ISSUED	INCORPORATED CHG. DOC.	WIP-M-1G040-011-A-1	CHANGE PKG. NO. 020381
THIS DWG. SUPERSEDED BY	REV.	THIS DWG. SUPERSEDES	REV.
REVISION NOTES:			

WOLF CREEK NUCLEAR OPERATING CORPORATION — ELECTRONIC APPROVAL

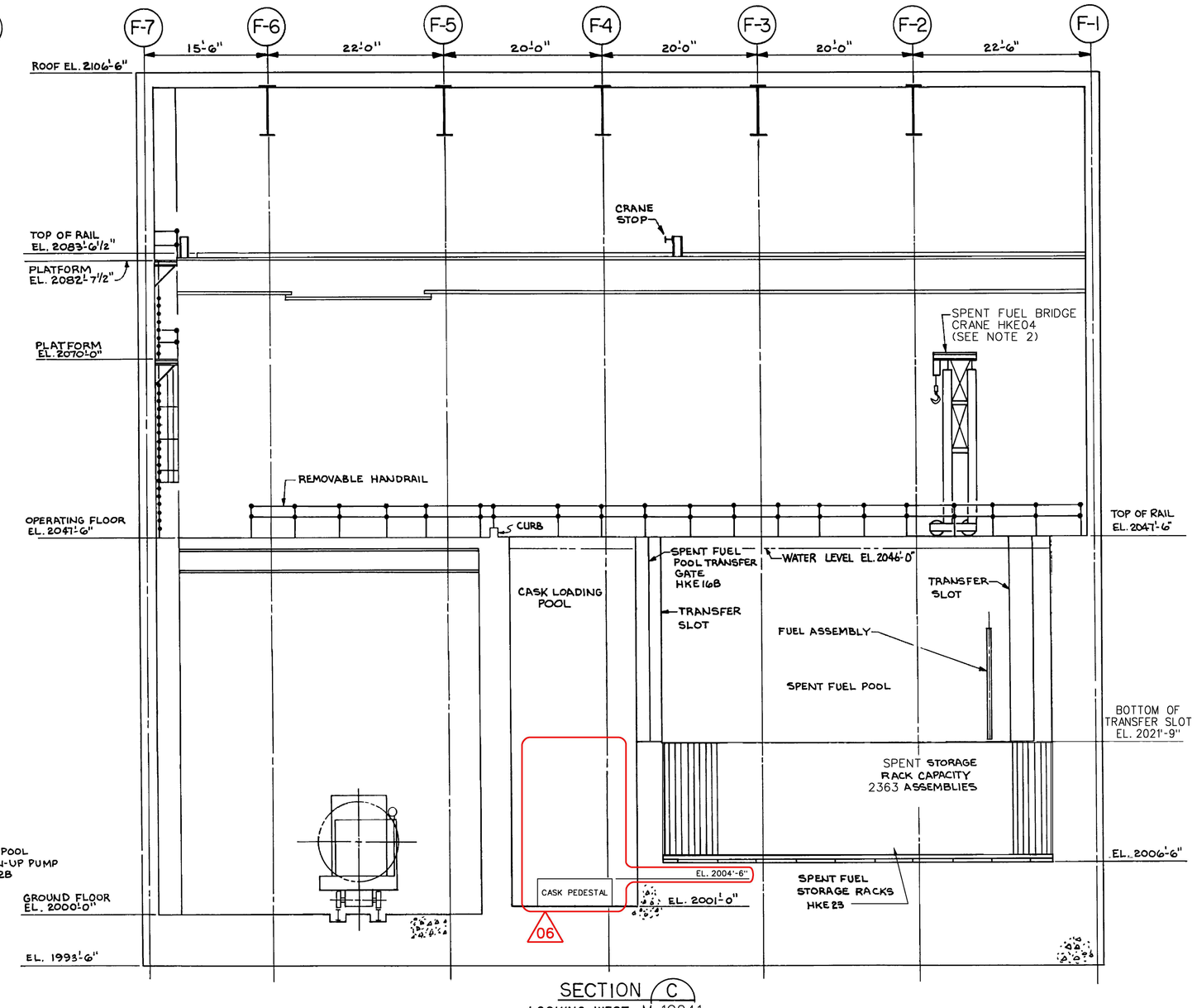
EQUIPMENT LOCATIONS
FUEL BLDG. PLANS EL. 2000'-0"
EL. 2026'-0" & EL. 2047'-6"

SCALE	DRAWING NUMBER	SHEET	REV
1/8"=1'-0"	M-1G040	1	12

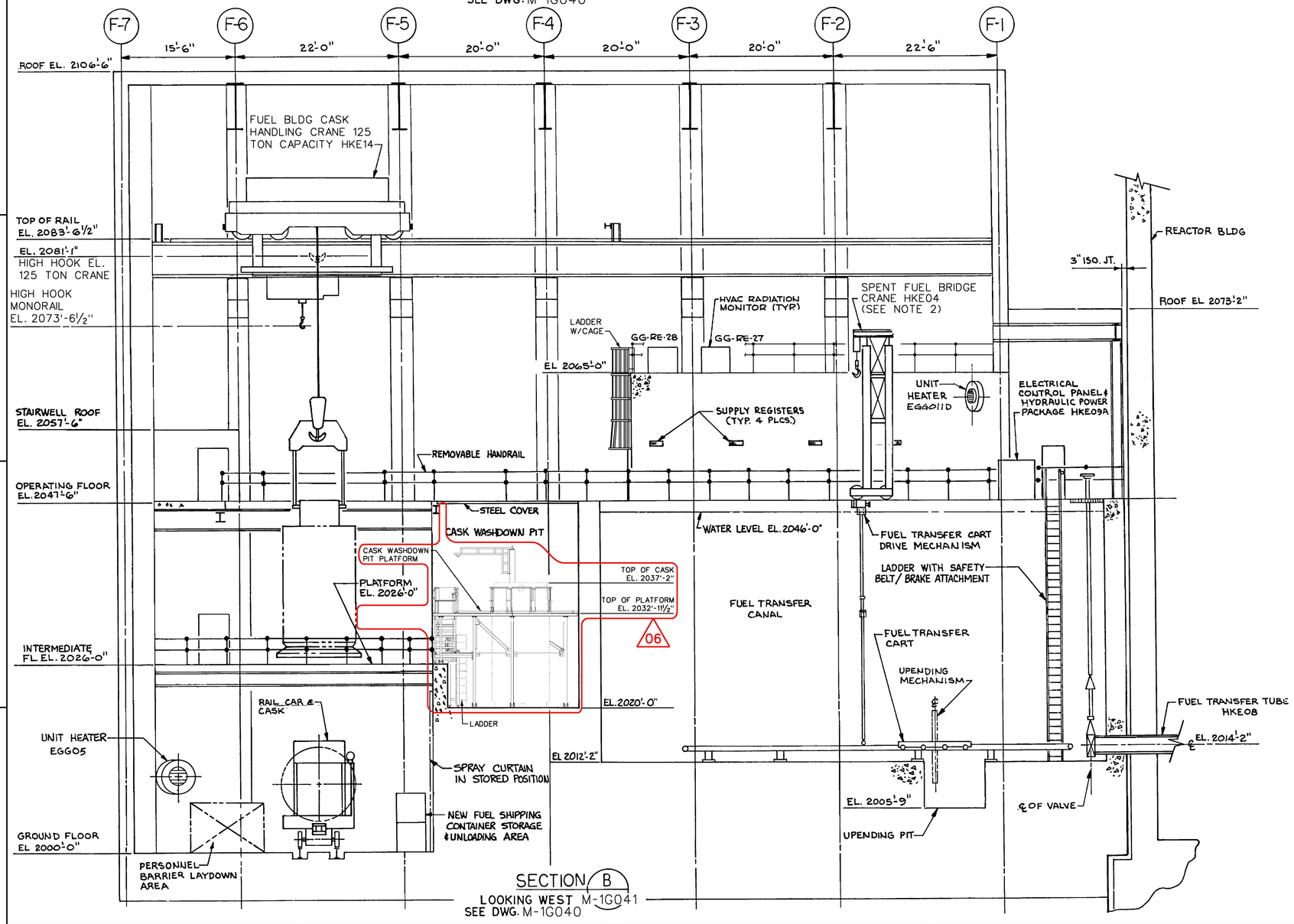
34X44 E SIZE



SECTION A
LOOKING WEST M-1G041
SEE DWG. M-1G040



SECTION C
LOOKING WEST M-1G041
SEE DWG. M-1G040



SECTION B
LOOKING WEST M-1G041
SEE DWG. M-1G040

NOTES:

1. DELETED.
2. FOR INFORMATION REGARDING SPENT FUEL BRIDGE CRANE ACCESS TO THE FAR NORTH EDGE OF FUEL POOL, SEE CCP 09356.

DC24 09/21/2021

USAR FIG. 1.2-21-00

ESSENTIAL DRAWING

REVISED / ISSUED — INCORPORATED CHG. DOC. WIP-M-1G041-005-A-1 — CHANGE PKG. NO. 020381

THIS DWG. SUPERSEDED BY — REV. — THIS DWG. SUPERSEDES — REV.

REVISION NOTES:

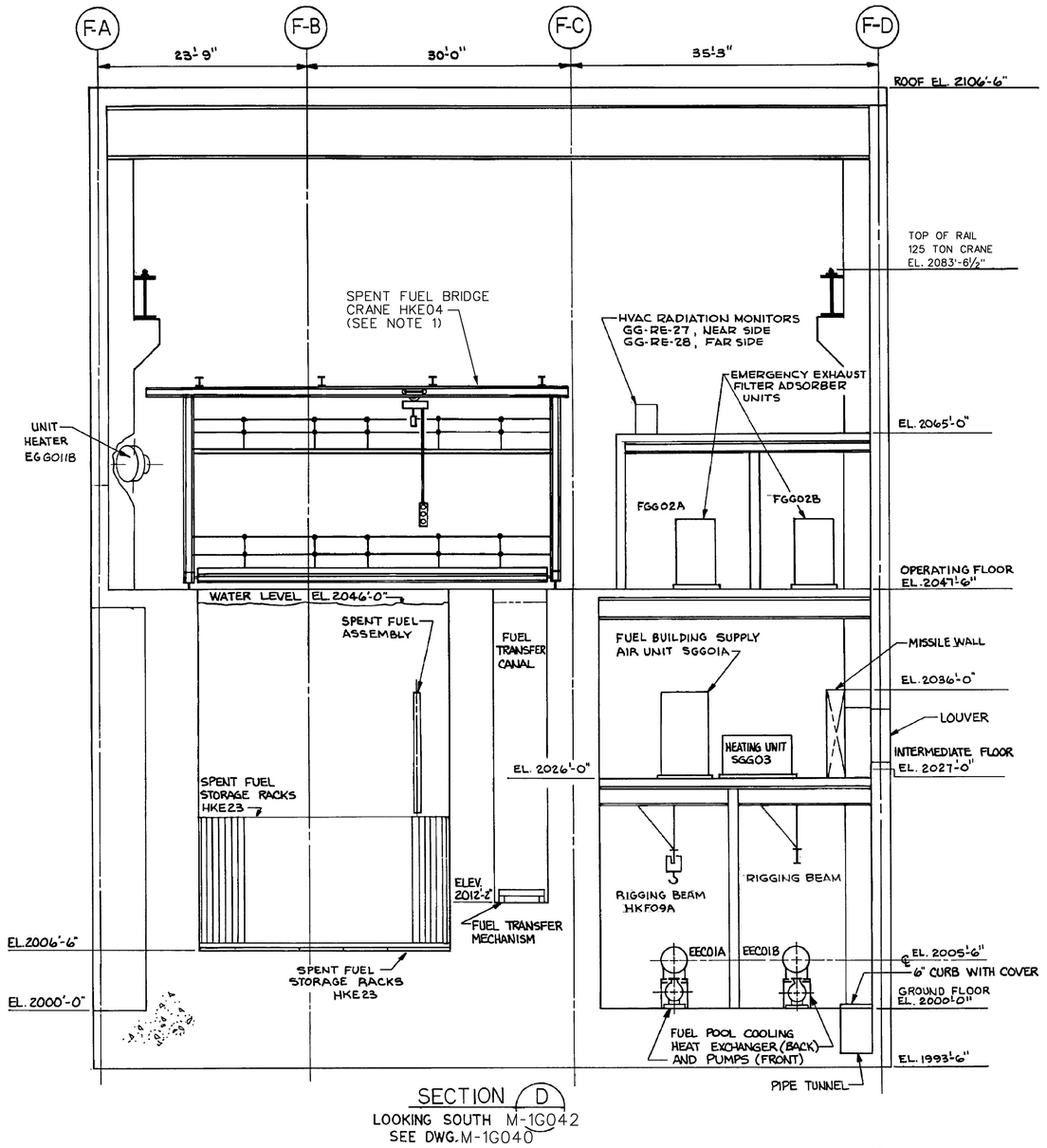
WOLF CREEK NUCLEAR OPERATING CORPORATION

ELECTRONIC APPROVAL

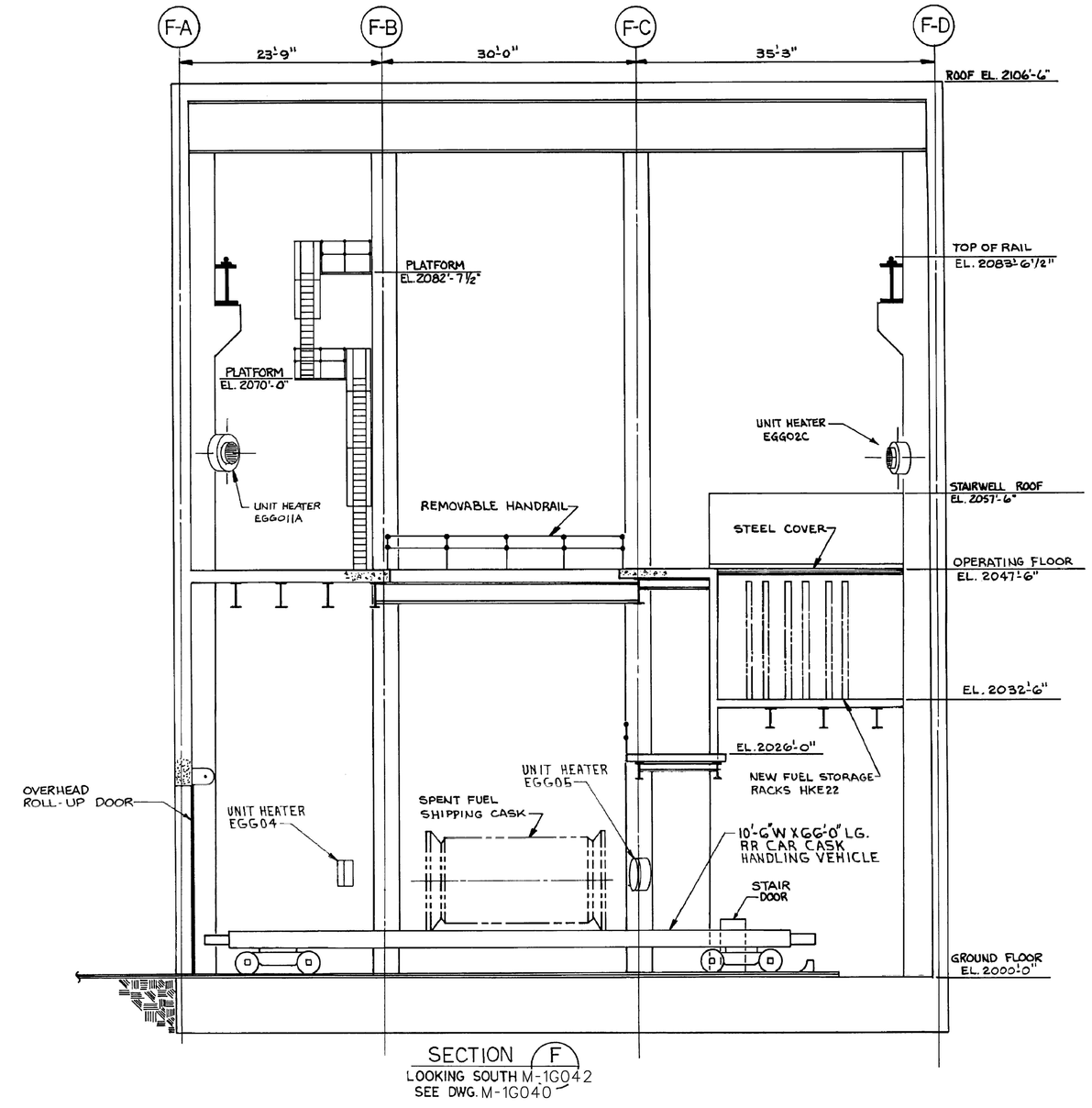
EQUIPMENT LOCATIONS FUEL BUILDING SECTIONS A,B,&C

SCALE	DRAWING NUMBER	SHEET	REV
1/8" = 1'-0"	M-1G041		06

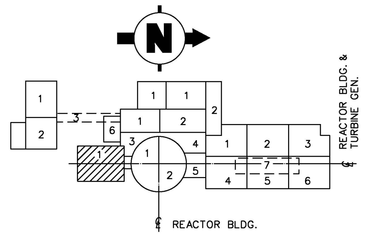
34X44 E SIZE



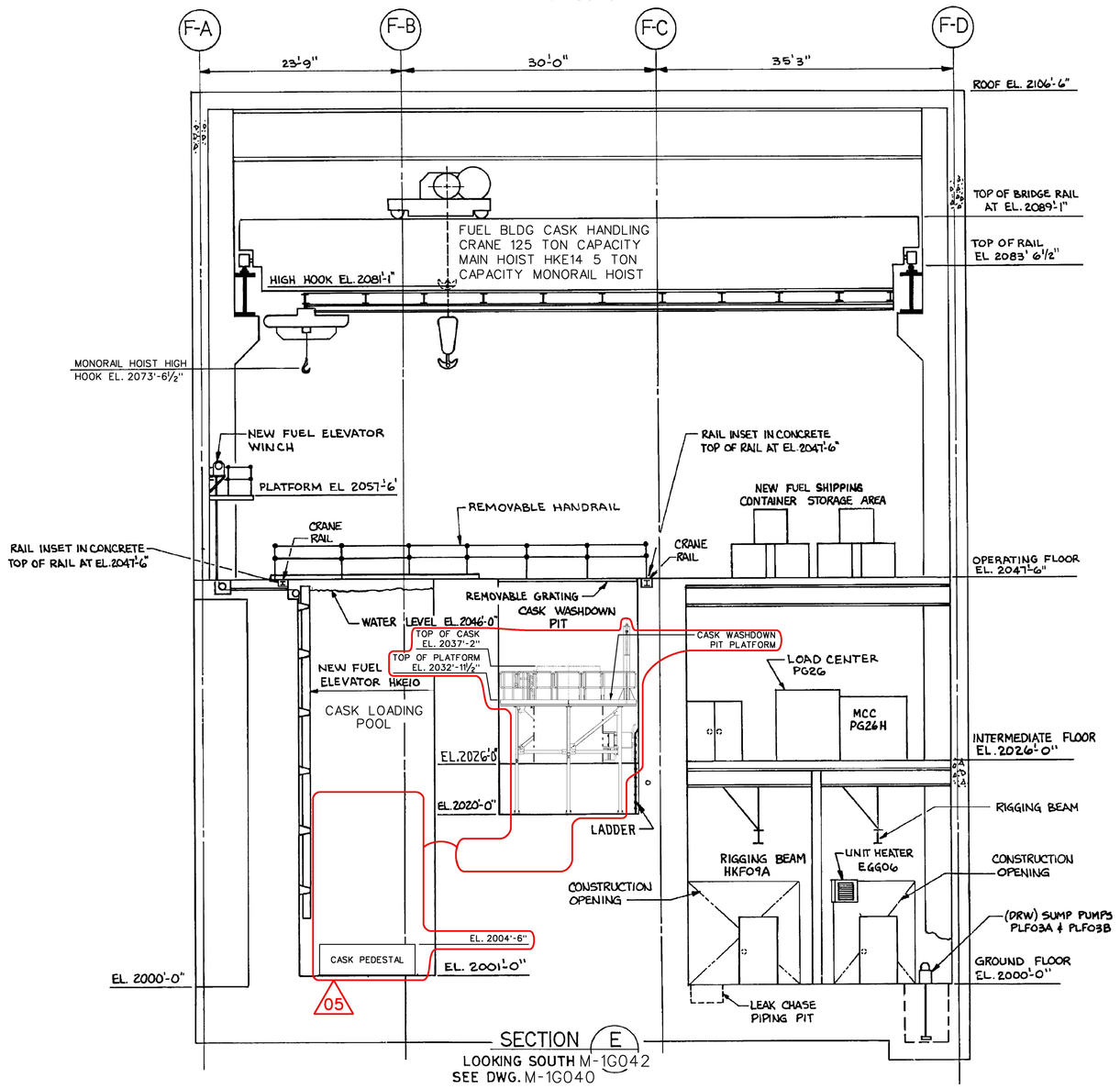
SECTION D
LOOKING SOUTH M-1G042
SEE DWG. M-1G040



SECTION F
LOOKING SOUTH M-1G042
SEE DWG. M-1G040



KEY PLAN



SECTION E
LOOKING SOUTH M-1G042
SEE DWG. M-1G040

NOTES:

1. FOR INFORMATION REGARDING SPENT FUEL BRIDGE CRANE ACCESS TO THE FAR NORTH EDGE OF FUEL POOL, SEE CCP 09356.

DC24 09/21/2021

USAR FIG. 1.2-22-00

ESSENTIAL DRAWING

⊗ REVISED ○ ISSUED	INCORPORATED CHG. DOC.	WIP-M-1G042-004-A-1	CHANGE PKG. NO. 020381
THIS DWG. SUPERSEDED BY	REV.	THIS DWG. SUPERSEDES	REV.
REVISION NOTES:			

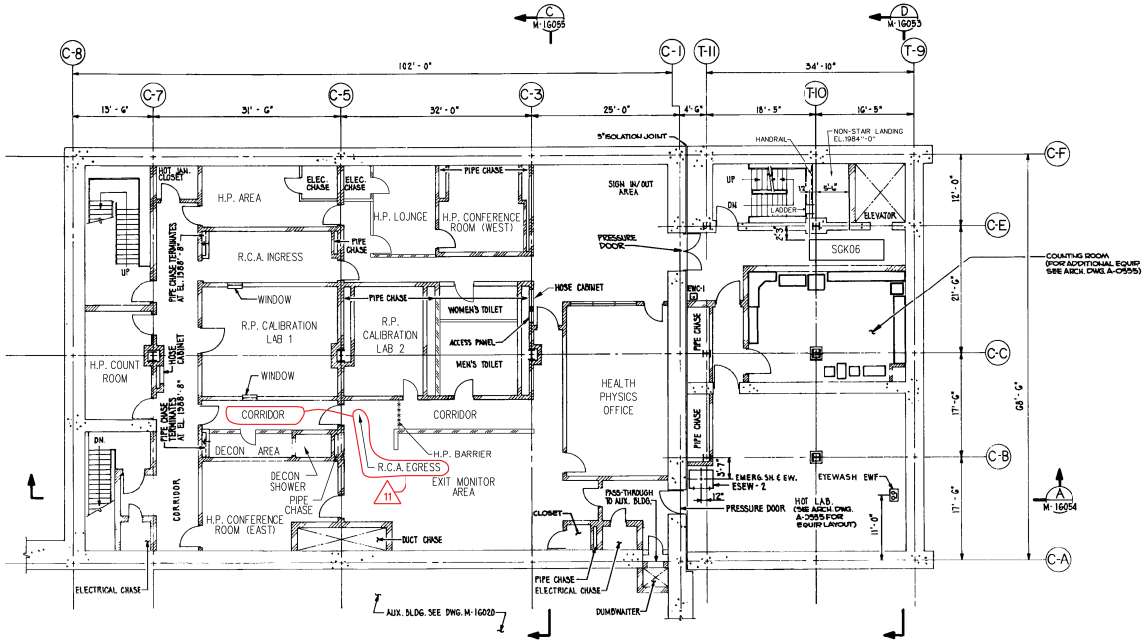
WOLF CREEK NUCLEAR OPERATING CORPORATION

ELECTRONIC APPROVAL

EQUIPMENT LOCATIONS
FUEL BUILDING
SECTIONS "D", "E" & "F"

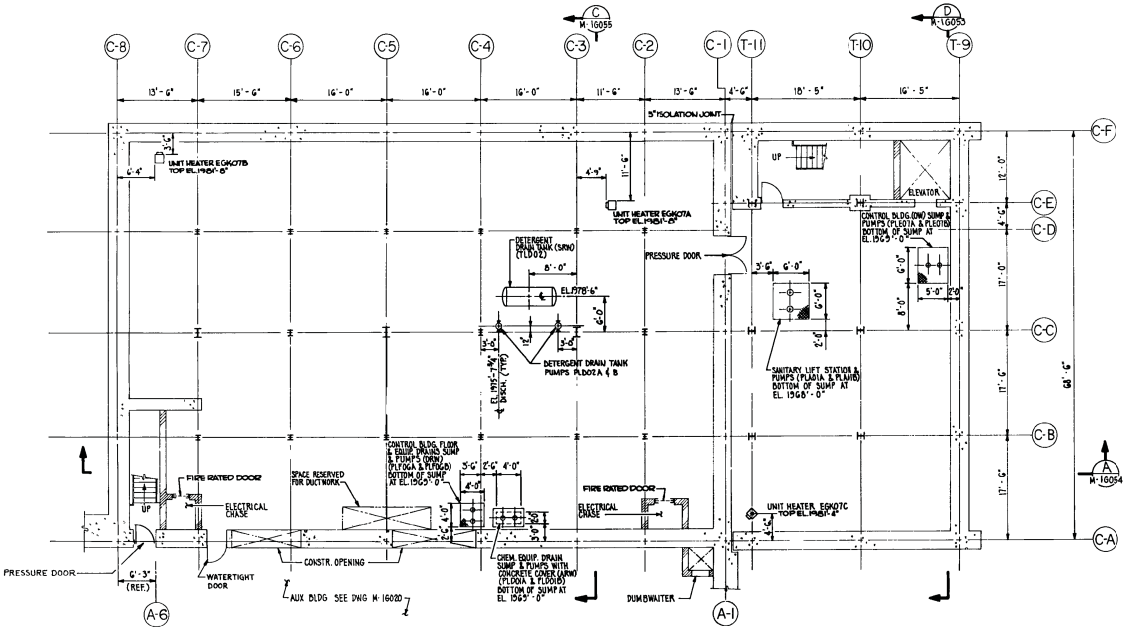
SCALE	DRAWING NUMBER	SHEET	REV
1/8"=1'-0"	M-1G042	1	05

34X44 E SIZE

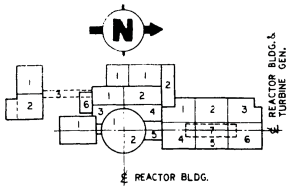


ACCESS CONTROL PLAN EL. 1984'-0"

(SEE ARCH. DWG. A-0330 FOR ACCESS CONTROL DETAILS AND ARCH DWG. A-0335 FOR HOT LAB DETAILS)



PIPE CHASE AND STORAGE AREA PLAN EL. 1974'-0"



KEY PLAN

LEGEND:

- BLOCK WALL
- CONSTRUCTION OPENING

USAR FIG. 1.2-23-00

ESSENTIAL DRAWING

⊗ REVISED ○ ISSUED	INCORPORATED CHG. DISC.	CHANGE 013979 PKGS. NO.
THIS DWG. SUPERSEDES BY	REV.	THIS DWG. SUPERSEDES REV.
REVISION NOTES	ADMINISTRATION CORRECTION, CORRECT ROOM LABEL FOR 3204 AND 3206.	

WOLF CREEK NUCLEAR OPERATING CORPORATION — ELECTRONIC APPROVAL

Linda D Kunkenski
Approved by Document Service Release
Date:
2019.02.05 10:08:29 -06'00'

EQUIPMENT LOCATIONS
CONTROL BLDG. & COMM. CORRIDOR PLAN
EL. 1974'-0" & EL. 1984'-0"

SCALE	DRAWING NUMBER	SHEET	REV
1/8" = 1'-0"	M-1G050		11

34X44 E SIZE

[redacted]

Digitally signed by Jason Pankaskie
Date: 2021.12.15 12:15:27 -06'00'

Kayla Snovelle
Digitally signed by Kayla Snovelle
Date: 2021.12.16 11:19:07 -06'00'

USAR FIG. 1.2-24-00

ESSENTIAL DRAWING

⊗ REVISED ○ ISSUED	INCORPORATED CHG. DOC. WIP-M-1G051-014-A-1	CHANGE PKG. NO.	020396
THIS DWG. SUPERSEDED BY	REV.	THIS DWG. SUPERSEDES	REV.
REVISION NOTES: ALSO REVISED TO INCORPORATE AS-BUILT INFORMATION.			

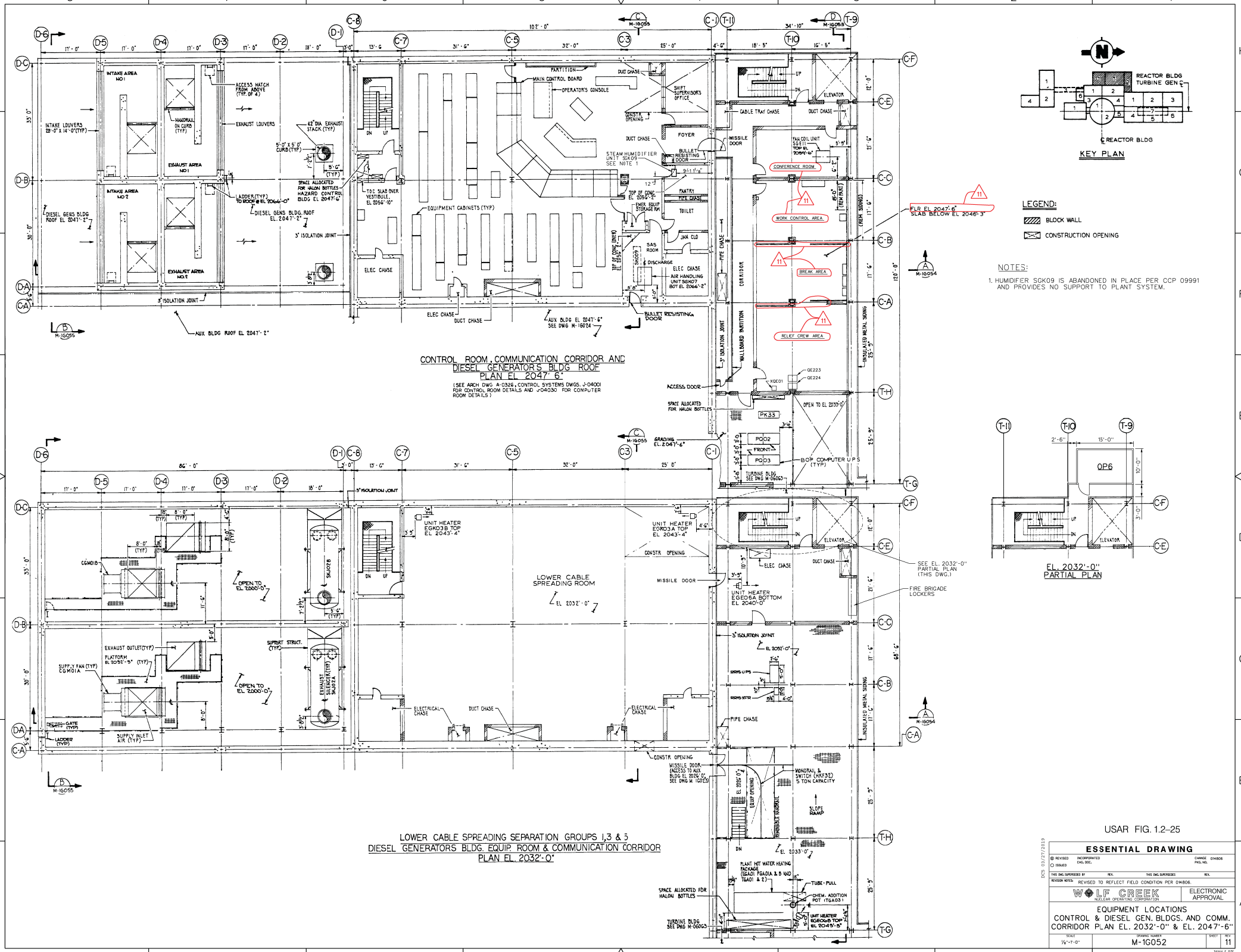
WOLF CREEK NUCLEAR OPERATING CORPORATION

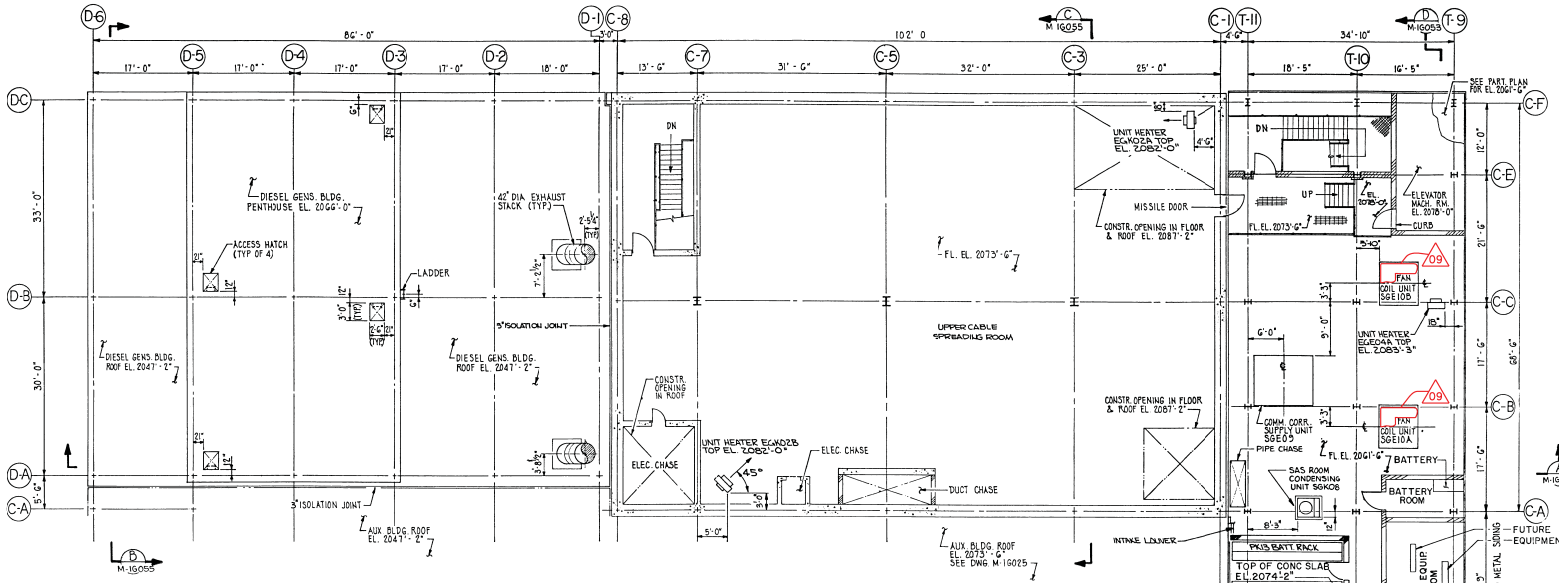
ELECTRONIC APPROVAL

EQUIPMENT LOCATIONS
CONTROL & DIESEL GENS. BLDGS. & COMM. CORRIDOR PLAN EL. 2000'-0" & EL. 2016'-0"

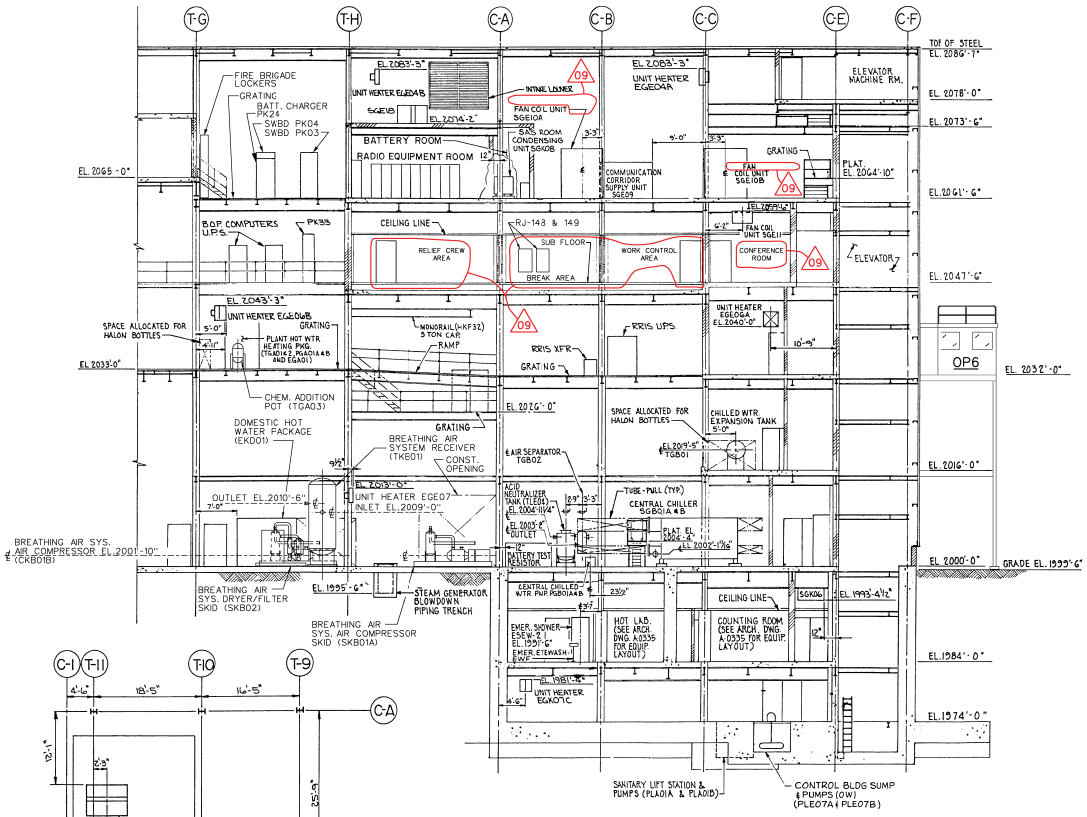
SCALE	DRAWING NUMBER	SHEET	REV
1/8"=1'-0"	M-1G051		15

34X44 E SIZE

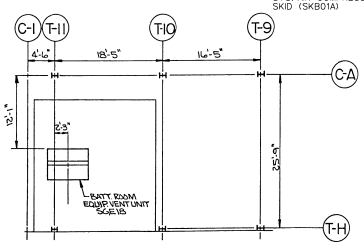

CONTROL ROOM, COMMUNICATION CORRIDOR AND DIESEL GENERATOR'S BLDG ROOF PLAN EL 2047' 6"
(SEE ARCH DWG A-0326, CONTROL SYSTEMS DWGS. J-04001 FOR CONTROL ROOM DETAILS AND J-04030 FOR COMPUTER ROOM DETAILS)
LOWER CABLE SPREADING SEPARATION GROUPS 1,3 & 5
DIESEL GENERATORS BLDG. EQUIP. ROOM & COMMUNICATION CORRIDOR PLAN EL. 2032'-0"
KEY PLAN
REACTOR BLDG
TURBINE GEN.
LEGEND:
BLOCK WALL
CONSTRUCTION OPENING
NOTES:
1. HUMIDIFIER SGK09 IS ABANDONED IN PLACE PER CCP 09991 AND PROVIDES NO SUPPORT TO PLANT SYSTEM.
EL. 2032'-0" PARTIAL PLAN
USAR FIG. 1.2-25
ESSENTIAL DRAWING
REVISED
ISSUED
INCORPORATED CHG. DOC.
CHANGE 014806
PKG. NO.
THIS DWG. SUPERSEDES BY
REV.
THIS DWG. SUPERSEDES
REV.
REVISION NOTES: REVISED TO REFLECT FIELD CONDITION PER 014806.
WOLF CREEK NUCLEAR OPERATING CORPORATION
ELECTRONIC APPROVAL
EQUIPMENT LOCATIONS
CONTROL & DIESEL GEN. BLDGS. AND COMM. CORRIDOR PLAN EL. 2032'-0" & EL. 2047'-6"
SCALE 1/8"=1'-0"
DRAWING NUMBER M-1G052
SHEET
REV 11
DCS 03/27/2019
34X44 E 92E



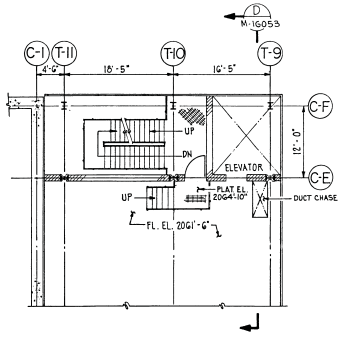
DIESEL GENS. BLDG. ROOF EL. 2066'-0"
UPPER CABLE SPREADING SEPARATION GROUPS 2, 4 & 6 EL. 2073'-6"
AND COMMUNICATION CORRIDOR EL. 2061'-6"
(SEE DWG. M-1H3721 FOR HVAC EQUIPS. IN COMMUNICATION CORRIDOR)



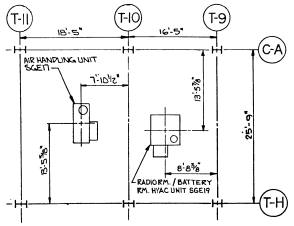
SECTION D M-16053
LOOKING SOUTH
(SEE DWGS. M-16050 THRU M-16053)



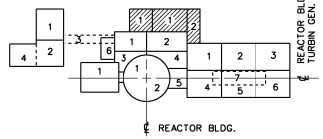
CEILING PLAN AT EL. 2074' 2"



PART. PLAN EL. 2061'-6"



ROOF PLAN AT EL. 2087'-2"



KEY PLAN

LEGEND:
- BLOCKWALL
- CONTRUCTION OPENING

USAR FIG. 1.2-26

DCS 03/27/2019

ESSENTIAL DRAWING

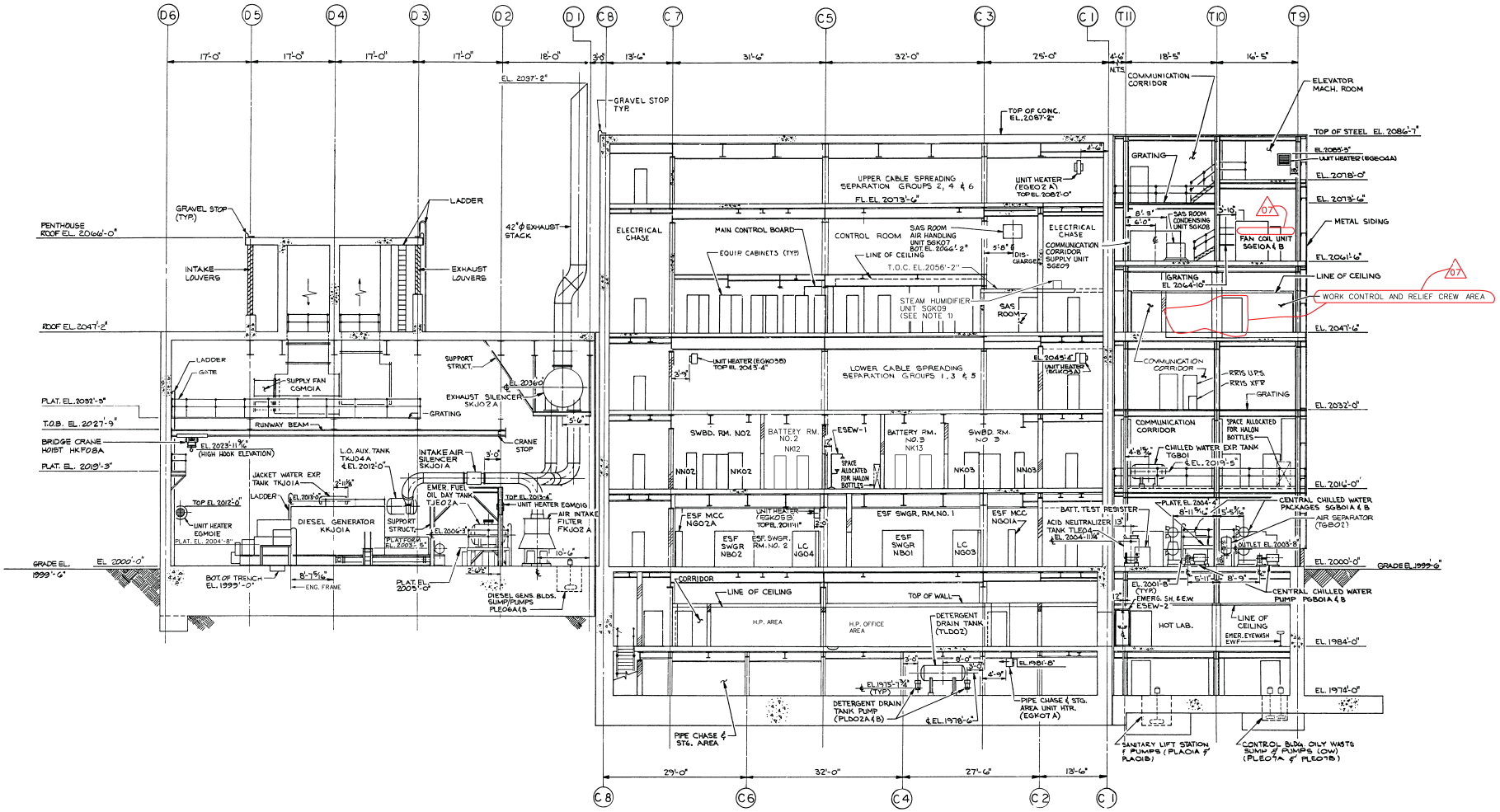
REVISED / ISSUED	INCORPORATED CHG. DISC.	CHANGE 014806 PKG. NO.
THIS DWG. SUPERSEDES BY	REV.	THIS DWG. SUPERSEDES REV.
REVISION NOTES: REFLECT CHANGES PER 014806.		

WOLF CREEK NUCLEAR OPERATING CORPORATION — ELECTRONIC APPROVAL

EQUIPMENT LOCATIONS
CONTROL, DIESEL GEN. & COMM. CORR. BLDG'S PLAN EL. 2061'-6", 2065'-0", 2073'-6" & SECT. "D"

SCALE	DRAWING NUMBER	SHEET	REV
1/8"=1'-0"	M-1G053	01	09

34X44 E SIZE



SECTION A
LOOKING WEST M-1G054
(SEE DWG'S. M-1G050 THRU M-1G053)

NOTES:

1 HUMIDIFIER SGK09 IS ABANONED IN PLACE PER CCP 09991 AND PROVIDES NO SUPPORT TO PLANT SYSTEM.

USAR FIG.-1.2-27-00

DCS 03/27/2019

⊗ REVISED ○ ISSUED	INCORPORATED CHG. DOC.	CHANGE 014806 PKG. NO.
THIS DWG. SUPERSEDES BY	REV.	THIS DWG. SUPERSEDES REV.
REVISION NOTES: REFLECT CHANGES PER 014806.		

WOLF CREEK NUCLEAR OPERATING CORPORATION — ELECTRONIC APPROVAL

EQUIPMENT LOCATIONS
CONTROL & DIESEL GENS. BLDG. &
COMM. CORRIDOR SECTION "A"

SCALE	DRAWING NUMBER	SHEET	REV
1/8"=1'-0"	M-1G054	07	

34X44 E 92E

[redacted]

REVISED: INCORPORATED WIP-M-1G055-01-A R/G
ISSUED: CHG. ORIG.
CHANGE: S-7701
PKG. NO.

THIS DWG. SUPERSEDES: REV.
THIS DWG. SUPERSEDED: REV.

REVIEW-WITN

WOLF CREEK
NUCLEAR OPERATING CORPORATION

DRN. LDL | CK. JT | DES. JT | APPROVED: R. POLK | DATE: 1/1/1

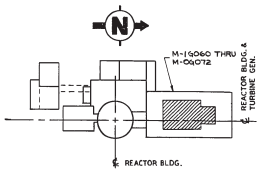
EQUIPMENT LOCATIONS
CONTROL AND DIESEL GENS. BLDGS.
SECTION "B" & "C"

SCALE: 1/8" = 1'-0"
DRAWING NUMBER: M-1G055
SHEET | REV: 04

USAR FIG. 1.2-28-00

DATA | SEC

[redacted]



KEY PLAN

GENERAL NOTES

1. ✱ PROVISION FOR FUTURE CONDENSER TUBE CLEANING EQUIPMENT.
2. DELETED
3. DELETED

04

USAR FIG. 1.2-29-00

ESSENTIAL DRAWING

⊙ REVISED	INCORPORATED CHG. ORD.	#WP-M-10060-002-A-1	CHANGE DI3009 PKG. NO.
⊙ ISSUED			
THIS DWG. SUPERSEDED BY	REV.	THIS DWG. SUPERSEDES	REV.
REVISION NOTES:	REVISED NOTE #2 AS PER APOS-0140, TABLE A, TYPE 2.		

WOLF CREEK GENERATING STATION — ELECTRONIC APPROVAL

EQUIPMENT LOCATION
TURBINE BUILDING
CONDENSER PIT-PLAN EL. 1983'-0"

SCALE	DRAWING NUMBER	REV	SHEET
1/4" = 1'-0"	M-10060	04	

SHEET 1 OF
M-10060-1-04

[redacted]

USAR FIG. 1.2-30-00

ESSENTIAL DRAWING

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THIS DWG. SUPERSEDES BY — REV. — THIS DWG. SUPERSEDES — REV.

REVISION NOTES: REVISED TO ADD PANEL RM171 PER AF 05-010, SECTION 8.10 TABLE A, TYPE 3.

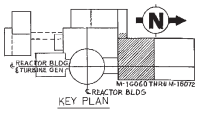
WOLF CREEK NUCLEAR OPERATING CORPORATION — ELECTRONIC APPROVAL

EQUIPMENT LOCATION
TURBINE BUILDING
GROUND FLOOR - PLAN EL.2000'-0"

SCALE: 1/8"=1'-0" — DRAWING NUMBER: M-1G061 — SHEET — REV. 13

24X44 E SIZE

[redacted]



KEY PLAN

02 USAR FIG. 1.2-31

ESSENTIAL DRAWING

⊗ REVISED ○ ISSUED	INCORPORATED CHG. DOC.	CHANGE PKG. NO.	
THIS DWG. SUPERSEDED BY	REV.	THIS DWG. SUPERSEDES	REV.
REVISION NOTES: REF. CR 2007-000952			

WOLF CREEK NUCLEAR OPERATING CORPORATION

ELECTRONIC APPROVAL

EQUIPMENT LOCATION
TURBINE BUILDING
PARTIAL PLAN EL. 2015'-4"

SCALE	DRAWING NUMBER	SHEET	REV
1/8"=1-0"	M-1G062		02

17X22 C SIZE

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[redacted]

USAR FIG. 1.2-32-00

ESSENTIAL DRAWING

⊙ REVISED	INCORPORATED CHG. DOC.	WP-M-10063-D09-A-1	CHANGE DATA/DCD PKG. NO.
⊙ ISSUED			
THIS DWG. SUPERSEDES OF	REV.	THIS DWG. SUPERSEDES	NO.
REVISION NOTES			

WOLF CREEK NUCLEAR OPERATING CORPORATION

ELECTRONIC APPROVAL

EQUIPMENT LOCATION
TURBINE BUILDING
MEZZANNINE FLOOR PLAN EL. 2033'-0"

SCALE	DRAWING NUMBER	SHEET	REV
1/8"=1'-0"	M-10063		07

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Eric L. Swain
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Center
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34.44 X 32.0

[redacted]

00

NG

CHANGE	CN 373
PKG. NO.	
REV.	

WOLF CREEK NUCLEAR OPERATING CORPORATION

ELECTRONIC APPROVAL

EQUIPMENT LOCATION
TURBINE BUILDING
OPERATING FLOOR-PLAN EL 2065'-0"

SCALE	DRAWING NUMBER	SHEET	REV
1/8"=1'-0"	M-1G064	1	15

36444 (32)

[redacted]

USAR FIG. 1.2-34-00

ESSENTIAL DRAWING

◉ REVISED ○ ISSUED	INCORPORATED CHG. DOC. WP-M-12C63-G05-a-1	CHANGE PKG. NO. G14776
THIS DWG. SUPERSEDES BY	REV.	THIS DWG. SUPERSEDES REV.
REVISION NOTES:		

WOLF CREEK NUCLEAR OPERATING CORPORATION — ELECTRONIC APPROVAL

EQUIPMENT LOCATION
TURBINE BUILDING
SECTION "A"

SCALE	DRAWING NUMBER	SHEET	REV
1/8" = 1'-0"	M-1G065		09

34944 E SIZE

2C03 09/26/2018

[redacted]

01 USAR FIG. 1.2-35

ESSENTIAL DRAWING

☒ REVISED INCORPORATES CHG. DOC. CHANGE PG. NO.

☐ ISSUED

TECH. ENG. SUPERVISOR: BY REV. TECH ENG. SUPERVISOR: REV.

REVISION NOTES: REF. CR 2007-000952

WOLF CREEK NUCLEAR OPERATING CORPORATION

ELECTRONIC APPROVAL

EQUIPMENT LOCATION
TURBINE BUILDING
SECTION "B"

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

DRAWING NUMBER: M-1G066

SHEET: 1 REV: 01

SIZE: A

Released by Document Services Release Date: 08/31/07

[redacted]

USAR FIG. 1.2-36-00

ESSENTIAL DRAWING

☒ ROUTINE/ ☐ ISSUED | INCORPORATED CHG. NOTE: | APP-M-1067-001-A & R-0 | CHANGE NO. 016228 PKG. NO.

THIS DWG. SUPERSEDES SY: REV: | THIS DWG. SUPERSEDES: REV:

REVISION NOTES:

WOLF CREEK NUCLEAR OPERATING CORPORATION | ELECTRONIC APPROVAL

EQUIPMENT LOCATION
TURBINE BUILDING
SECTION "C"

SCALE: 1/8" = 1'-0" | DRAWING NUMBER: M-1Q067 | SHT. | REV. 02

5014 (7-93)

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USAR FIG. 1.2-37

ESSENTIAL DRAWING

REVISED	INCORPORATED CHG. DOC.	DWNREC PCL. RCL.
ISSUED		
THIS DWG. SUPERSEDES:	RDL	THIS DWG. SUPERSEDES: H-RDBM RDL-1
REVISION NOTES:	REF. CR 2007-00829512	

WOLF CREEK NUCLEAR OPERATING CORPORATION

ELECTRONIC APPROVAL

EQUIPMENT LOCATION
TURBINE BUILDING
SECTION "D"

SCALE	DRAWING NUMBER	SHEET	REV
1/8" = 1'-0"	M-1G068		01

DRAWN E SIZE

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USAR FIG. 1.2-38-00

ESSENTIAL DRAWING

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REVISION NOTES:

WOLF CREEK NUCLEAR OPERATING CORPORATION — ELECTRONIC APPROVAL

EQUIPMENT LOCATION
TURBINE BUILDING
SECTION "E"

SCALE 1/4"=1'-0" — DRAWING NUMBER M-1G069 — SHEET 01 — REV. 01

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M-1G069-1-01

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USAR FIG. 1.2-39-00

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REVISION NOTES:

WOLF CREEK NUCLEAR OPERATING CORPORATION

ELECTRONIC APPROVAL

EQUIPMENT LOCATION
TURBINE BUILDING
SECTION "F"

SCALE: 1/8"=1'-0" DRAWING NUMBER: M-1G070 SHEET: 02 REV: 1

Released by Document Services Release Area
DOCSRLSE15.06.00-0FF8F

M-1G070-1-02

[redacted]

USAR FIG. 1.2-40

ESSENTIAL DRAWING

○ REVISED	INCORPORATED CHG. ORD.	DRAWING PKG. NO.
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REVISION NOTES:	REF. CR 2007-000952	

WOLF CREEK NUCLEAR OPERATING CORPORATION

ELECTRONIC APPROVAL

EQUIPMENT LOCATION
TURBINE BUILDING
SECTION "G"

SCALE	DRAWING NUMBER	SHEET	REV
AS NOTED	M-1G071		00

SIZE A

Released by Document Services Release Date: 10/19/07

[redacted]

USAR FIG. 1.2-41

ESSENTIAL DRAWING

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REVISION NOTES: REF. CR 2007-008952

WOLF CREEK
NUCLEAR OPERATING CORPORATION

ELECTRONIC APPROVAL

EQUIPMENT LOCATION
TURBINE BUILDING
SECTION - "H"

SCALE: 1/8" = 1'-0" | DRAWING NUMBER: M-1G072 | SHEET | REV: 02

34144 C SIZE

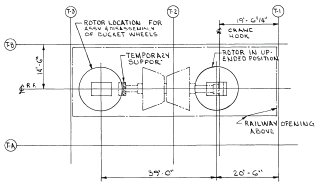
Released by Document Services Released Date: 08/31/07

[redacted]

[redacted]

REFERENCES:

1. C-014512 TURBINE BLDG. OPERATING FLOOR EL 2065'-0" FLOOR LAYOUT
2. G.E. DWG. 169C4150 (M-800-1771) LAGGING-H.P. SHELL (DIMS. AND EST. WEIGHTS).
3. G.E. DWG. 278A4576 (M-800-168) SHIPPING DIMENSIONS (GEN. FIELD)
4. G.E. DWG. 14E5569 (M-800-00229) **MAJOR COMPONENTS LIFT & LAY DOWN**
5. **DELETE**
6. GL BL-219 DATED JANUARY 17, 1977 EXCITER DIMENSIONS & WEIGHTS.
7. **DELETE**



ROTOR LAYDOWN & UPENDING AREA
EL. 2000'-0"
(N.T.S.)

[redacted]

42

CHANGE ON 373
PROJ. NO.
REV.

WOLF CREEK NUCLEAR OPERATING CORPORATION

ELECTRONIC APPROVAL

EQUIPMENT LOCATION
TURBINE COMPONENTS LAYDOWN
OPERATING FLOOR EL.2065'-0"

SCALE	DRAWING NUMBER	SHEET	REV
1/8"=1'-0"	M-1G073	01	04

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Key to Symbols
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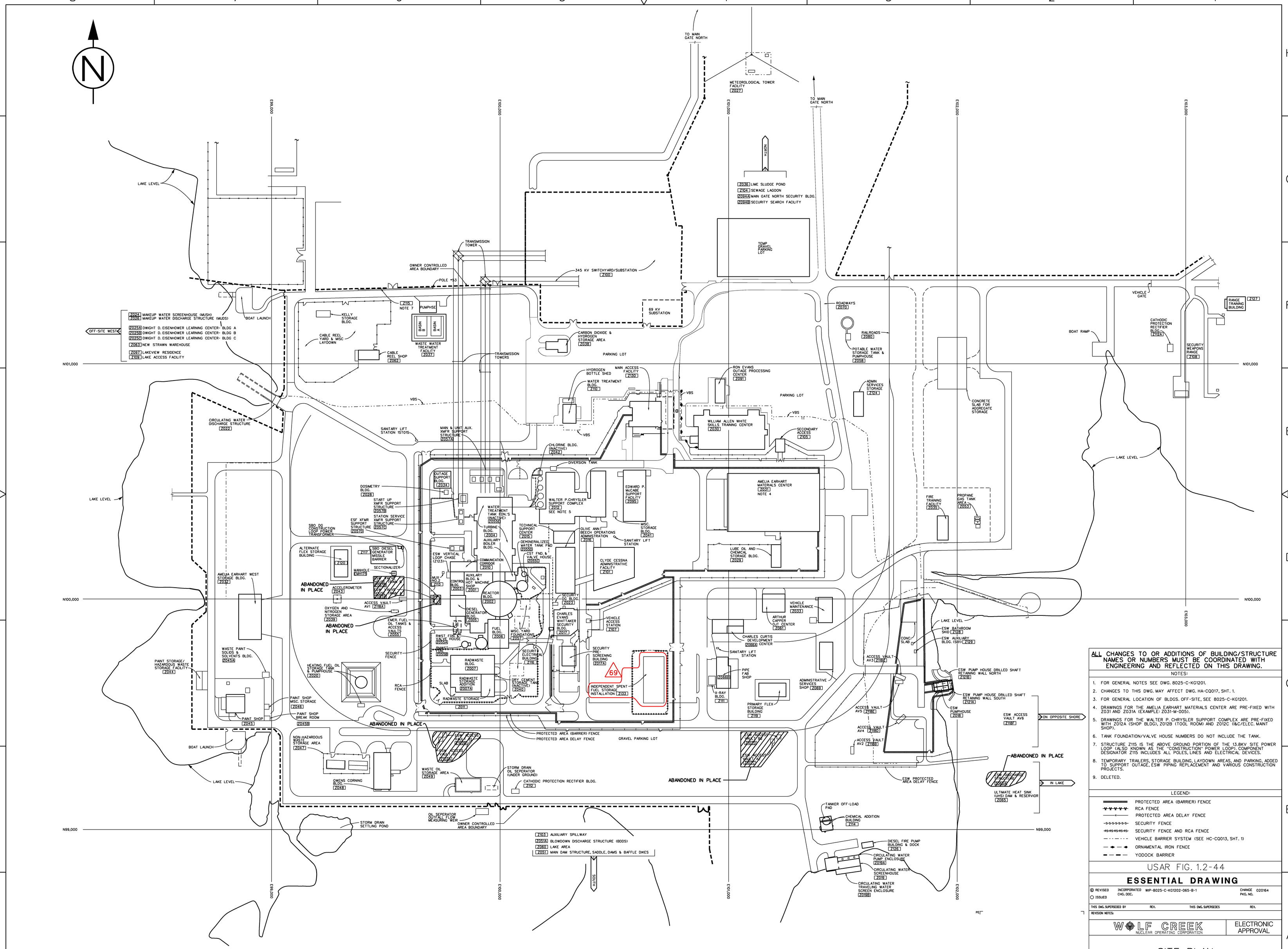
24444 E SIZE



ALL CHANGES TO OR ADDITIONS OF BUILDING/STRUCTURE NAMES OR NUMBERS MUST BE COORDINATED WITH ENGINEERING AND REFLECTED ON THIS DRAWING.

NOTES:

1. FOR GENERAL NOTES SEE DWG. 8025-C-KG1201.
2. CHANGES TO THIS DWG. MAY AFFECT DWG. HA-CQ017, SHT. 1.
3. FOR GENERAL LOCATION OF BLDGS. OFF-SITE, SEE 8025-C-KG1201.
4. DRAWINGS FOR THE AMELIA EARHART MATERIALS CENTER ARE PRE-FIXED WITH Z031 AND Z031A (EXAMPLE: Z031-M-005).
5. DRAWINGS FOR THE WALTER P. CHRYSLER SUPPORT COMPLEX ARE PRE-FIXED WITH Z012A (SHOP BLDG), Z012B (TOOL ROOM) AND Z012C (I&C/ELEC. MAINT SHOP).
6. TANK FOUNDATION/VALVE HOUSE NUMBERS DO NOT INCLUDE THE TANK.
7. STRUCTURE Z115 IS THE ABOVE GROUND PORTION OF THE 13.8KV SITE POWER LOOP (ALSO KNOWN AS THE "CONSTRUCTION" POWER LOOP). COMPONENT DESIGNATOR Z115 INCLUDES ALL POLES, LINES AND ELECTRICAL DEVICES.
8. TEMPORARY TRAILERS, STORAGE BUILDING, LAYDOWN AREAS, AND PARKING, ADDED TO SUPPORT OUTAGE, ESW PIPING REPLACEMENT AND VARIOUS CONSTRUCTION PROJECTS.
9. DELETED.

LEGEND:

- PROTECTED AREA (BARRIER) FENCE
- RCA FENCE
- PROTECTED AREA DELAY FENCE
- SECURITY FENCE
- SECURITY FENCE AND RCA FENCE
- VEHICLE BARRIER SYSTEM (SEE HC-CQ013, SHT. 1)
- ORNAMENTAL IRON FENCE
- YODOCK BARRIER

USAR FIG. 1.2-44

ESSENTIAL DRAWING

⊗ REVISED ○ ISSUED	INCORPORATED CHG. DOC.	WIP-8025-C-KG1202-065-B-1	CHANGE PKG. NO. 020164
THIS DWG. SUPERSEDED BY	REV.	THIS DWG. SUPERSEDES	REV.

REVISION NOTES:

WOLF CREEK NUCLEAR OPERATING CORPORATION

ELECTRONIC APPROVAL

SITE PLAN

SCALE	DRAWING NUMBER	SHEET	REV
1"=132'-0"	8025-C-KG1202		69

34X44 E SIZE

SCALE 1570