

**Figure 1.3-1 – Production Building Subfloor Plans Preliminary Arrangement**

*Security-Related Information – Withhold Under 10 CFR 2.390*

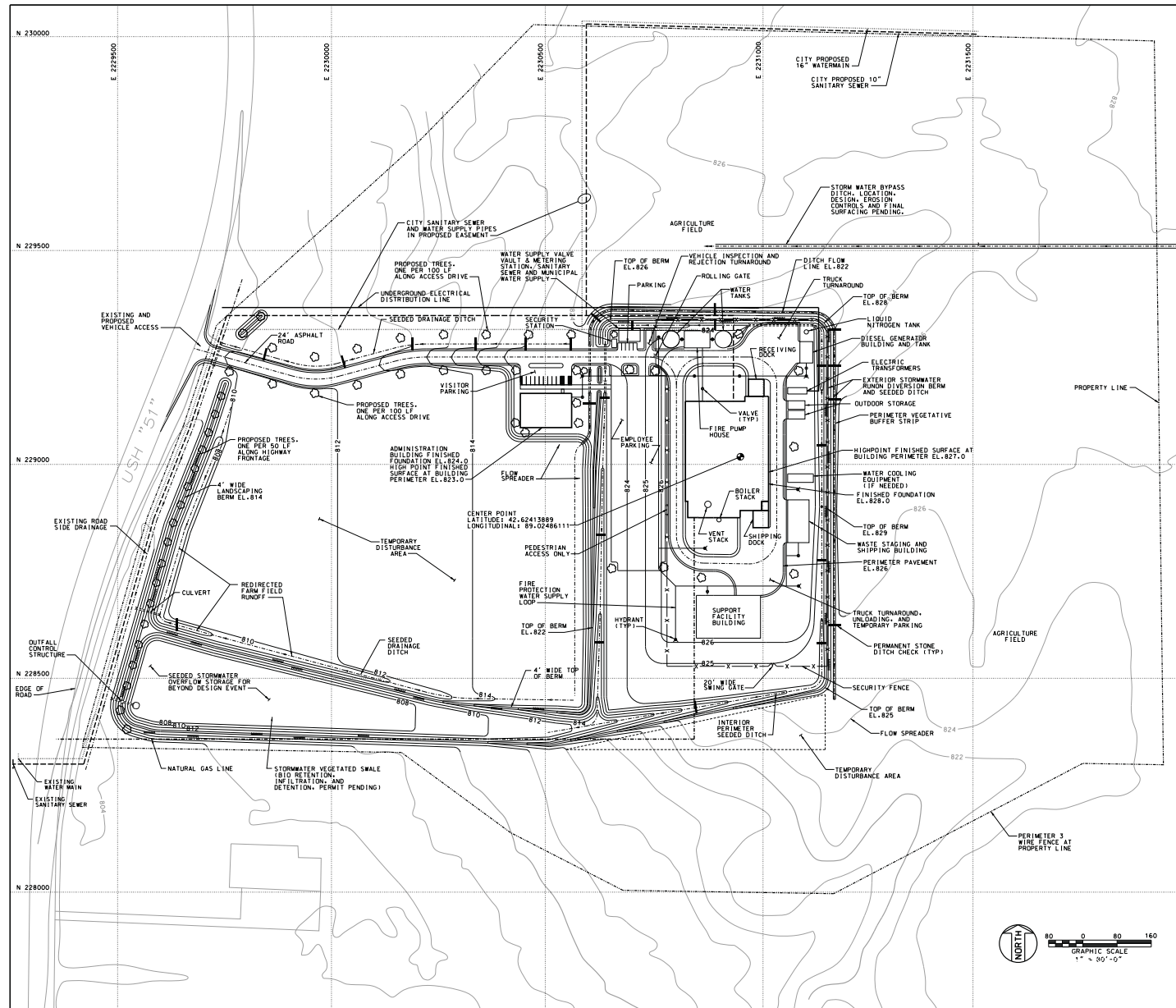
**Figure 1.3-2 – Production Building Floor Plans Preliminary Arrangement**

*Security-Related Information – Withhold Under 10 CFR 2.390*

**Figure 1.3-3 – Production Building Sections Preliminary Arrangement**

*Security-Related Information – Withhold Under 10 CFR 2.390*

Figure 1.3-4 – SHINE Facility Site Layout



**Figure 1.3-5 – RCA Boundaries**

*Security-Related Information – Withhold Under 10 CFR 2.390*

Sheet 1 of 2

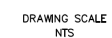
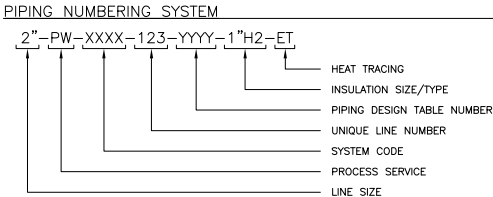


Figure 1.3-6 – Legend for Process Flow Diagrams  
(Sheet 2 of 2)



PROCESS SERVICE IDENTIFICATION

A	- AIR	MS	- MEDIUM PRESSURE STEAM
AH	- AMMONIUM HYDROXIDE	NG	- NATURAL GAS
AV	- ATMOSPHERIC VENT	N	- NITROGEN
BA	- BREATHING AIR	NA	- CAUSTIC
BD	- BLOWDOWN	NH	- AMMONIA
BFW	- BOILER FEED WATER	NT	- NITRIC ACID
C	- CHEMICAL FEED (MISC.)	OX	- OXYGEN
CD	- CONDENSATE	OWS	- OILY WATER SEWER
CG	- COVER GAS	PA	- PLANT AIR
CHS	- CHEMICAL SEWER	PC	- PROCESS CONDENSATE
CHW	- CHILLED WATER	PG	- PROCESS GAS
CO2	- CARBON DIOXIDE	PP	- POTASSIUM PERMANGANATE
CWR	- COOLING WATER RETURN	PTW	- POTABLE WATER
CWS	- COOLING WATER SUPPLY	PW	- PROCESS WATER
DMW	- DEMINERALIZED WATER	RV	- RELIEF VENT
DR	- DRAIN	RW	- RADIOACTIVE LIQUID WASTE
FF	- FLUSHING FLUID	SA	- SULFURIC ACID
FO	- FUEL OIL	SC	- STEAM CONDENSATE
FW	- FIRE WATER	SL	- UREX SOLVENT
GLR	- GLYCOL RETURN	SO	- SEAL OIL
GLS	- GLYCOL SUPPLY	SS	- SANITARY SEWER
H	- HYDROGEN	STS	- STORM SEWER
HA	- HOT FLUE GAS	TS	- TARGET SOLUTION
HS	- HIGH PRESSURE STEAM	UN	- URANYL NITRATE
IA	- INSTRUMENT AIR	V	- VACUUM
LO	- LUBE OIL	WW	- WASTE WATER
LN	- LIQUID NITROGEN		
LS	- LOW PRESSURE STEAM		

ABBREVIATIONS

AG	- ABOVE GROUND
ATM	- ATMOSPHERE
BYP	- BYPASS
CC	- CHEMICAL CLEANOUT
CL	- CENTERLINE
CO	- CLEANOUT
CONN	- CONNECTION
DES	- DESIGN
D/P	- DIFFERENTIAL PRESSURE
EL	- ELEVATION
ESD	- EMERGENCY SHUTDOWN
FOF	- FACE OF FLANGE
FLG	- FLANGE
FP	- FULL PORT
FV	- FULL VACUUM
GO	- GEAR OPERATED
GR	- GRADE
HC	- HOSE CONNECTION
HH	- HAND HOLE
HP	- HIGH PRESSURE
IAS	- INSTRUMENT AIR SUPPLY
ISBL	- INSIDE BATTERY LIMITS
LP	- LOW PRESSURE
MOC	- MATERIALS OF CONSTRUCTION
NNF	- NORMALLY NO FLOW
OSBL	- OUTSIDE BATTERY LIMITS
OVHD	- OVERHEAD
R	- RELOCATED
REQD	- REQUIRED
SC	- SAMPLE CONNECTION
SCH	- SCHEDULE
SD	- SHUTDOWN
SG	- SPECIFIC GRAVITY
SP	- SET POINT
SS	- STAINLESS STEEL
STD	- STANDARD
T/C	- THERMOCOUPLE
TEMP	- TEMPERATURE
THRD	- THREADED
TL	- TANGENT LINE
T/T	- TANGENT TO TANGENT
TYP	- TYPICAL
UG	- UNDERGROUND
VF	- VENDOR FURNISHED

VALVE LIST KEY

1st LETTER	2nd NO TYPE	3rd NO CLASS	4th NO END CONNECTION	5th NO MATERIAL
V - VALVE	1 - BALL 2 - CHECK 3 - GATE 4 - GLOBE 5 - BUTTERFLY 6 - PLUG 7 - TRIPLE OFFSET	0 - 125 1 - 150 2 - 300 3 - 600 4 - 800 5 - 900 6 - 1500	1 - SW 2 - SW/BW 3 - BW 4 - BW/FLG 5 - FLG 6 - THREADED 7 - LUGGED 8 - NON-LUGGED 9 - WAFER 0 - SWxFLG	1 - CAST IRON/DUCTILE IRON 2 - LOW CARBON STEEL 3 - STAINLESS 4 - KILLED CARBON STEEL (NACE MR0175 COMPLIANT) 5 - LOW & INTERMEDIATE ALLOY STEEL

ABBREVIATIONS FOR VALVES

FO	- FAIL OPEN	FTV	- FAIL TO VENT	HPT	- HIGH POINT	LPT	- LOW POINT
FC	- FAIL CLOSED	CSO	- CAR SEAL OPEN	LO	- LOCK OPEN	NO	- NORMALLY OPEN
FL	- FAIL IN LAST POSITION	CSC	- CAR SEAL CLOSED	LC	- LOCK CLOSED	NC	- NORMALLY CLOSED

ABBREVIATIONS FOR HAND SWITCHES

HOA	- HAND OFF AUTOMATIC	F/R	- FORWARD REVERSE	OCA	- OPEN CLOSED AUTOMATIC	S/S	- START/STOP
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ABBREVIATIONS FOR EQUIPMENT TAGS

A	- EXCHANGERS, CONDENSERS
C	- (LATER)
D	- COMPRESSORS, BLOWERS, VACUUM PUMPS, FANS, EXHAUSTERS, REFRIGERATION UNITS AND THEIR DRIVES, GEARS, AND FLUID DRIVES
E	- DEMINERALIZERS, ABSORBERS, CLARIFIERS, AIR DRYERS, EVAPORATORS, AERATORS, DECARBONATORS, AND DEGASIFIERS
F	- ELECTRICAL EQUIPMENT (INCLUDING SWITCHGEAR, MOTOR CONTROL CENTERS, TRANSFORMERS, SWITCH BOARDS, ETC.)
G	- FILTERS, STRAINERS, PURIFIERS, CENTRIFUGES, AND SILENCERS
H	- HANDLING EQUIPMENT, CRANES, HOISTS, AND DRIVERS
I	- HUMIDIFICATION/DEHUMIDIFICATION EQUIPMENT
J	- INSTRUMENT AND CONTROL BOARDS, PANELS, AND CABINETS
K	- DIESEL GENERATORS, DIESEL ENGINES
M	- PIPING SPECIALTIES (TRAPS, HOSES, EXPANSION JOINTS, RESTRICTION ORIFICES, ETC.)
P	- PUMPS AND THEIR DRIVES, GEARS, AND FLUID DRIVES
R	- RACKS
S	- SPECIAL PACKAGED ITEMS OR SYSTEMS
T	- TANKS AND RESERVOIRS
V	- VESSELS
X	- MISCELLANEOUS AIR HANDLING DEVICES (INCLUDING AIR MIXING BOXES, DUCT SILENCERS, DAMPERS, ETC.)
Y	- (LATER)
Z	- MISCELLANEOUS EQUIPMENT

INSULATION/HEAT TRACING

AC	- ACOUSTIC CONTROL INSULATION	HJ	- HOT FLUID JACKETED
CC	- COLD SERVICE INSULATION	HT	- HOT FLUID TRACED
CJ	- CHILLED FLUID JACKETED	PF	- PREVENTION FROM FREEZING INSULATION
CP	- CONDENSATION CONTROL	PI	- PERSONNEL PROTECTION INSULATION
CT	- CHILLED FLUID TRACED	PS	- PROCESS STABILITY INSULATION
ET	- ELECTRIC TRACED	SJ	- STEAM JACKETED
FP	- FIRE PROTECTION INSULATION	ST	- STEAM TRACED
HC	- HEAT CONSERVATION INSULATION		

INSTRUMENT IDENTIFICATION TABLE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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