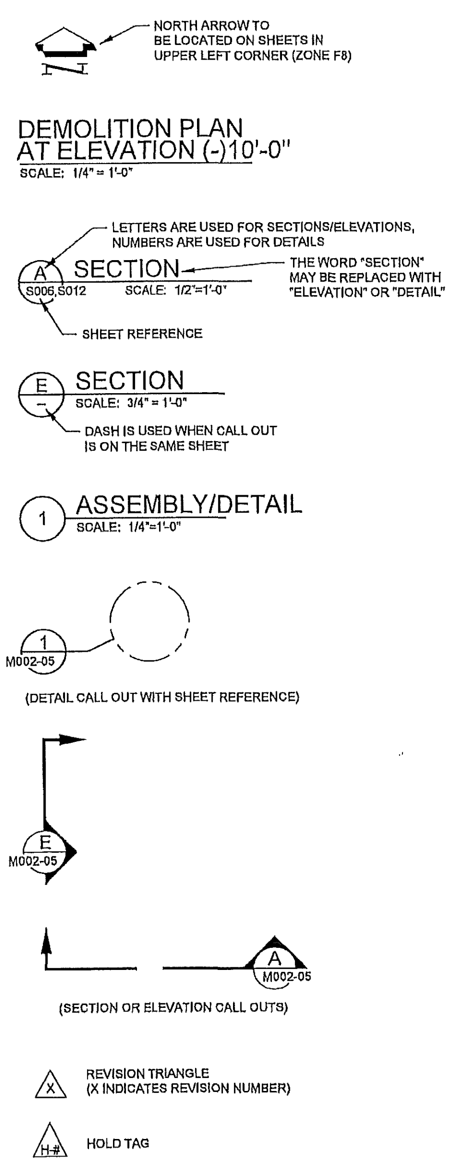
CIMARRON
PUMP AND TREAT SYSTEM PROJECT
WESTERN AREA TREATMENT FACILITY AND BURIAL AREA-1
ENVIRONMENTAL PROPERTY MANAGEMENT
OKLAHOMA CITY, OKLAHOMA

GENERAL SYMBOL LEGEND



GENERAL NOTES:

1. FLAG NOTE EXAMPLE.
2. GENERAL NOTE EXAMPLE.

DRAWING INDEX

INDEX AND GENERAL SYMBOLS

VFS-EPM-000-DWG-G-001		DRAWING INDEX AND GENERAL SYMBOLS

WATF SITE

VFS-EPM-000-DWG-C-101		CIVIL SYMBOLS, NOTES, AND ABBREVIATIONS
VFS-EPM-000-DWG-C-110		WESTERN AREA TREATMENT FACILITY SITE PLAN
~~VFS-EPM-000-DWG-C-113~~		~~WESTERN AREA TREATMENT FACILITY SITE UTILITY PLAN~~
VFS-EPM-000-DWG-C-130	(2 SHEETS)	WESTERN AREA TREATMENT FACILITY SITE UTILITY ELEVATIONS
~~VFS-EPM-000-DWG-C-150~~	~~(2 SHEETS)~~	~~CIVIL DETAILS~~

WATF BUILDING

VFS-EPM-000-DWG-S-101	(2 SHEETS)	WESTERN AREA TREATMENT FACILITY STRUCTURAL NOTES AND ABBREVIATIONS
VFS-EPM-000-DWG-S-110	(2 SHEETS)	WESTERN AREA TREATMENT FACILITY STRUCTURAL FOUNDATION PLAN
VFS-EPM-000-DWG-S-114		WESTERN AREA TREATMENT FACILITY TANK FOUNDATION PLAN VIEW/DETAIL
VFS-EPM-000-DWG-S-115	(5 SHEETS)	WESTERN AREA TREATMENT FACILITY STRUCTURAL DETAILS
VFS-EPM-000-DWG-A-010	(2 SHEETS)	WESTERN AREA TREATMENT FACILITY NOTES AND LEGEND
VFS-EPM-000-DWG-A-100	(6 SHEETS)	WESTERN AREA TREATMENT FACILITY ARCHITECTURAL PLANS
VFS-EPM-000-DWG-A-110	(3 SHEETS)	WESTERN AREA TREATMENT FACILITY ELEVATIONS AND SECTIONS
VFS-EPM-000-DWG-A-120	(SHEET 1)	WESTERN AREA TREATMENT FACILITY RESTROOM PLAN
VFS-EPM-000-DWG-A-120	(SHEET 2)	WESTERN AREA TREATMENT FACILITY ARCHITECTURAL PLAN
VFS-EPM-000-DWG-A-130	(SHEET 1)	WESTERN AREA TREATMENT FACILITY ARCHITECTURAL DETAILS
VFS-EPM-000-DWG-A-130	(SHEET 2)	WESTERN AREA TREATMENT FACILITY ARCHITECTURAL DOOR, WIN., & FINISH SCH.
VFS-EPM-000-DWG-E-101		ELECTRICAL SYMBOLS, NOTES, AND ABBREVIATIONS
VFS-EPM-000-DWG-E-110		WESTERN AREA TREATMENT FACILITY SINGLE LINE DIAGRAM
VFS-EPM-000-DWG-E-111		WESTERN AREA TREATMENT FACILITY GROUNDING DIAGRAM
VFS-EPM-000-DWG-E-112		WESTERN AREA TREATMENT FACILITY ELECTRICAL SITE PLAN
VFS-EPM-000-DWG-E-113		WESTERN AREA TREATMENT FACILITY UNDERGROUND CONDUIT PLAN
VFS-EPM-000-DWG-E-114	(SHEET 1)	WESTERN AREA TREATMENT FACILITY GROUNDING PLAN
VFS-EPM-000-DWG-E-114	(SHEET 2)	WESTERN AREA TREATMENT FACILITY ENLARGED GROUNDING PLAN
VFS-EPM-000-DWG-E-114	(SHEET 3)	WESTERN AREA TREATMENT FACILITY GROUNDING DETAILS
VFS-EPM-000-DWG-E-115	(3 SHEETS)	WESTERN AREA TREATMENT FACILITY BUILDING POWER PLAN
VFS-EPM-000-DWG-E-117		WESTERN AREA TREATMENT FACILITY RECEPTACLE PLAN
VFS-EPM-000-DWG-E-118		WESTERN AREA TREATMENT FACILITY LIGHTNING PROTECTION PLAN
VFS-EPM-000-DWG-E-120	(2 SHEETS)	WESTERN AREA TREATMENT FACILITY LIGHTING PLAN
VFS-EPM-000-DWG-E-130	(4 SHEETS)	WESTERN AREA TREATMENT FACILITY ELECTRICAL DETAILS AND SECTIONS
VFS-EPM-000-DWG-G-100		WESTERN AREA TREATMENT FACILITY GENERAL ARRANGEMENT
VFS-EPM-000-DWG-G-105		WESTERN AREA TREATMENT FACILITY INFLUENT HANDLING PLAN
VFS-EPM-000-DWG-G-106	(2 SHEETS)	WESTERN AREA TREATMENT FACILITY INFLUENT HANDLING
VFS-EPM-000-DWG-G-130		WESTERN AREA TREATMENT FACILITY EFFLUENT HANDLING PLAN
VFS-EPM-000-DWG-G-131	(2 SHEETS)	WESTERN AREA TREATMENT FACILITY EFFLUENT HANDLING
VFS-EPM-000-DWG-J-110		WESTERN AREA TREATMENT FACILITY INSTRUMENTATION AND CONTROL PLAN
VFS-EPM-000-DWG-J-111		WESTERN AREA TREATMENT FACILITY SITE SECURITY PLAN
VFS-EPM-000-DWG-J-112		WESTERN AREA TREATMENT FACILITY BUILDING SECURITY PLAN
VFS-EPM-000-DWG-J-115		INSTRUMENTATION AND CONTROL SYSTEM NETWORK INTERCONNECTION DIAGRAM
VFS-EPM-000-DWG-M-100		WESTERN AREA TREATMENT FACILITY MECHANICAL PLAN
VFS-EPM-000-DWG-P-100		WESTERN AREA TREATMENT FACILITY PLUMBING & COMPRESS AIR
VFS-EPM-000-DWG-P-500		WESTERN AREA TREATMENT FACILITY P&ID DOMESTIC WATER

WATF PROCESS SUMMARY

VFS-EPM-000-DWG-P-001		PROCESS SYMBOLS, NOTES, AND ABBREVIATIONS
VFS-EPM-000-DWG-P-110	(2 SHEETS)	WESTERN AREA TREATMENT FACILITY OVERALL PROCESS FLOW DIAGRAM
VFS-EPM-000-DWG-P-111	(2 SHEETS)	WESTERN AREA TREATMENT FACILITY RESIN HANDLING PROCESS FLOW DIAGRAM

WATF IX TREATMENT

VFS-EPM-000-DWG-M-110	(6 SHEETS)	MECHANICAL WESTERN AREA TREATMENT FACILITY URANIUM TRAIN SKID ARRANGEMENT
VFS-EPM-000-DWG-M-111	(4 SHEETS)	MECHANICAL WESTERN AREA TREATMENT FACILITY SKID FRAME
VFS-EPM-000-DWG-P-115	(5 SHEETS)	WESTERN AREA TREATMENT FACILITY P&ID URANIUM IX TREATMENT

WATF SPENT RESIN HANDLING

VFS-EPM-000-DWG-G-120		WESTERN AREA TREATMENT FACILITY GEN. ARRANGEMENT SPENT RESIN HANDLING
VFS-EPM-000-DWG-G-121	(3 SHEETS)	WESTERN AREA TREATMENT FACILITY SPENT RESIN HANDLING SECTIONS
VFS-EPM-000-DWG-S-120	(SHEET 1)	WESTERN AREA TREATMENT FACILITY SPENT RESIN HANDLING MEZZANINE - PLAN
VFS-EPM-000-DWG-S-120	(SHEET 2)	WESTERN AREA TREATMENT FACILITY SPENT RESIN HANDLING MEZZANINE - FRAMING
VFS-EPM-000-DWG-S-120	(2 SHEETS)	WESTERN AREA TREATMENT FACILITY SPENT RESIN HANDLING MEZZANINE - STAIR DETAILS
VFS-EPM-000-DWG-S-120	(SHEET 5)	WESTERN AREA TREATMENT FACILITY SPENT RESIN HANDLING MEZZANINE - FRAME DETAILS
VFS-EPM-000-DWG-P-125		WESTERN AREA TREATMENT FACILITY P&ID SPENT RESIN HANDLING

BURIAL AREA #1

VFS-EPM-000-DWG-C-201		CIVIL SYMBOLS, NOTES, AND ABBREVIATIONS
VFS-EPM-000-DWG-C-210		BURIAL AREA #1 SITE PLAN
VFS-EPM-000-DWG-C-220		BURIAL AREA #1 SITE UTILITY PLAN
VFS-EPM-000-DWG-C-230		BURIAL AREA #1 CIVIL DETAILS
VFS-EPM-000-DWG-S-201		STRUCTURAL NOTES, AND ABBREVIATIONS
VFS-EPM-000-DWG-S-210	(3 SHEETS)	BURIAL AREA #1 STRUCTURAL FOUNDATION PLAN VIEWS
VFS-EPM-000-DWG-G-200		BURIAL AREA #1 GENERAL ARRANGEMENT PLAN
VFS-EPM-000-DWG-G-220	(2 SHEETS)	BURIAL AREA #1 GENERAL ARRANGEMENT SECTIONS
VFS-EPM-000-DWG-E-201		ELECTRICAL SYMBOLS, NOTES, AND ABBREVIATIONS
VFS-EPM-000-DWG-E-205		BURIAL AREA #1 GROUNDING DIAGRAM
VFS-EPM-000-DWG-E-210		BURIAL AREA #1 SINGLE LINE DIAGRAM
VFS-EPM-000-DWG-E-211		BURIAL AREA #1 ELECTRICAL UTILITY PLAN
VFS-EPM-000-DWG-E-220	(SHEET 1)	BURIAL AREA #1 ELECTRICAL INSTALLATION DETAILS
VFS-EPM-000-DWG-E-220	(SHEET 2)	BURIAL AREA #1 ELECTRICAL ASSEMBLY AND DETAILS
VFS-EPM-000-DWG-J-211		BURIAL AREA #1 SITE SECURITY PLAN
VFS-EPM-000-DWG-P-210	(2 SHEETS)	BURIAL AREA #1 PROCESS FLOW DIAGRAM
VFS-EPM-000-DWG-P-215	(2 SHEETS)	BURIAL AREA #1 PROCESS P&ID

CONCEPTUAL DESIGN

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DRAFTING CHECKER: J PIERCE	VNSFS
ENGINEERING CHECKER: E LLOYD	VNSFS
PROJECT MANAGER: E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

DRAWING INDEX AND GENERAL SYMBOLS

SIZE F | DWG NO VFS-EPM-000-DWG-G-001 | REV H
SCALE NONE | EDT | SHEET 1 OF 1

DWG NO | TITLE
DRAWING TRACEABILITY LIST

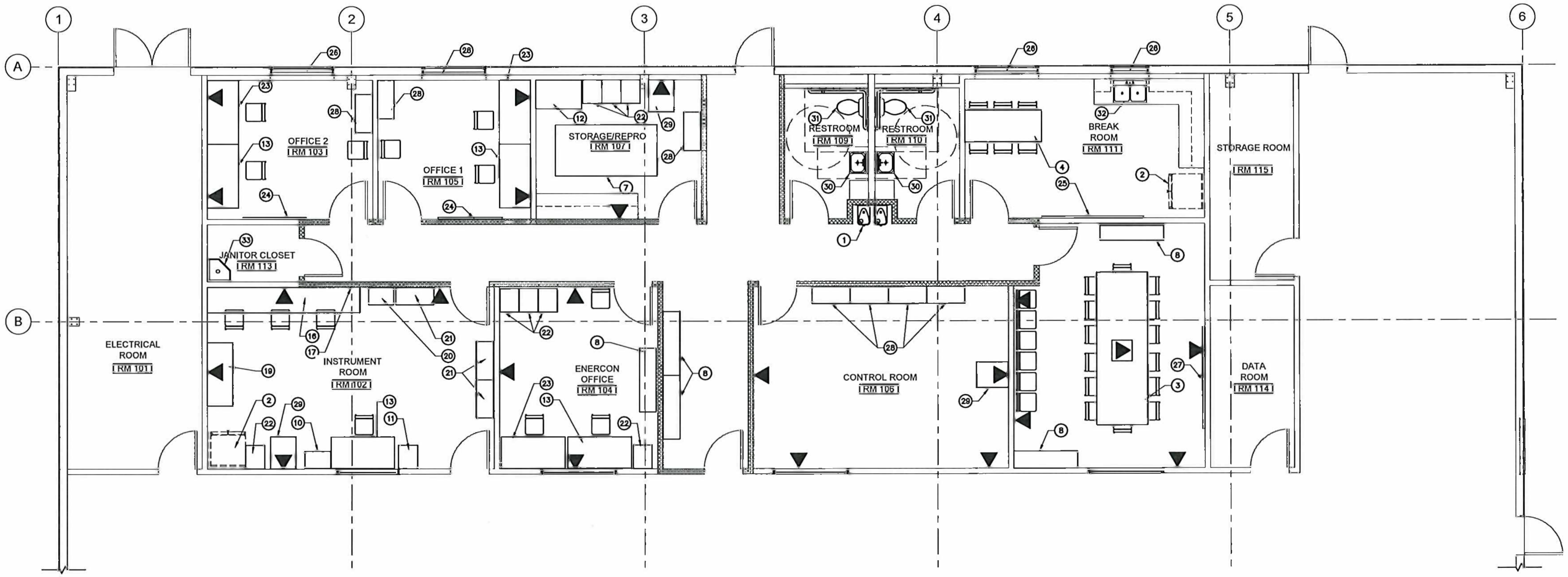
REF NUMBER | TITLE
REFERENCES
NEXT USED ON

DESCRIPTION | REVISIONS | ENGR / COMPANY

DWG NO VFS-EPM-000-DWG-G-001 | SH 1 OF 1 | REV H

KEY NOTES:

1	DRINKING FOUNTAIN- ELKAY MODEL EMABFTL8WSLK
2	REFRIGERATOR
3	CONFERENCE TABLE (144" X 48")
4	BREAK ROOM TABLE (72" X 30")
5	TABLE (42" X 18")
6	TABLE (72" X 30")
7	4'x8' WORK COUNTER W/OPEN SHELVING
8	BOOKCASE (60"L X 16"D X 78"H)
9	BOOKCASE (72"L X 16"D X 78"H)
10	BOOKCASE (24"L X 16"D X 78"H)
11	FRISK
12	MOBILE DRAWING HANGING RACK (43" X 27")
13	DESK (60" X 29 1/2")
14	NOT USED
15	NOT USED
16	WORKBENCH (144" X 24" X 6")
17	SMALL TOOL PEGBOARD
18	NOT USED
19	STORAGE SHELVES (60"W X 24"D X 72"H)
20	FIRE-RATED CABINET (23.25"W X 18"D X 64"H)
21	STORAGE CABINET (36" X 16")
22	VERTICAL FILE CABINET (18"W X 22"D X 52"H)
23	COMPUTER STATION (60" X 29 1/2")
24	WHITEBOARD (72"L X 48"H)
25	BULLETIN BOARD (96"L X 48" H)
26	ROLLER WINDOW SHADE-INTERIOR OF JAMBS
27	WHITEBOARD (96"L X 48"H)
28	BOOKCASE (36"W X 16"D X 78"H)
29	COPIER/PRINTER
30	LAVATORY- KOHLER K-2084-N-0 WITH AMERICAN STANDARD MODEL 6053.204.002 FAUCET
31	ADA WATER CLOSET- AMERICAN STANDARD MODEL 3043.528.020
31	STAINLESS STEEL DOUBLE BOWL KITCHEN SINK- AMERICAN STANDARD MODEL 22DB.6332283C.075
33	MOP SINK- MUSTEE MODEL 63M WITH CHICAGO FAUCETS 897-RCF FAUCET



WATF FURNISHINGS LAYOUT

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

NOTES

1. SEE VFS-EMP-000-DWG-A-010 SHEET 1 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.
2. REFER TO ELECTRICAL DRAWINGS FOR EQUIPMENT IN ELECTRICAL ROOM 101
3. DOORS, WALLS, AND WINDOWS BETWEEN PROCESS AND NON PROCESS ARE FIRE SEPARATION RATED.
4. FURNISHINGS ARE FOR ILLUSTRATION PURPOSES ONLY AND WILL VARY BASED ON OCCUPANT NEEDS.

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

CONCEPTUAL DESIGN

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J PIERCE		VNSFS
M CORBIN		IV2
J WILSON		VNSFS
E LLOYD		VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY FURNISHINGS LAYOUT

SIZE F | DWG NO VFS-EPM-000-DWG-A-100 | REV E

SCALE 1/4" = 1'-0" | SHEET 6 OF 6

REF NUMBER	TITLE
	REFERENCES
NEXT USED ON	

DWG NO | TITLE
DRAWING TRACEABILITY LIST

REVISIONS

VFS-EPM-000-DWG-A-100 SH 6 OF 6 REV E

LEGEND

- ROOM NUMBER
- DOOR NUMBER
- WALL TYPE
- WINDOW / OPENING NUMBER
- NEW WALL
- 1-HR RATED WALL
- LIGHTING FIXTURE, LED
- EXIT LIGHT
- LIGHTING FIXTURE, WALL MOUNT
- 2A:10B:C RATED FIRE EXTINGUISHER MOUNTED NO HIGHER THAN 40" A.F.F.
- TEMPERED GLASS
- NUMBER (DETAIL REFERENCE) SHEET NUMBER REFERENCE
- NUMBER (DETAIL REFERENCE) REFERENCE ON SAME SHEET AS DETAIL CALLOUT
- VFS-XXX-XXX-DWG-X-XXX NUMBER (DETAIL REFERENCE) DRAWING NUMBER REFERENCE
- LETTER (SECTION/ELEVATION REFERENCE) DRAWING OR SHEET NUMBER REFERENCE
- METAL WALL PANEL
- COMBINATION EMERGENCY LIGHTING AND EXIT SIGN PER I.B.C./NFPA/IFC. (BATTERY BACK UP)
- EXTERIOR SIGNAGE LIGHTING
- EXTERIOR SECURITY LIGHT FIXTURE
- INDICATES ROOF DRAIN AND OVERFLOW
- INDICATES SLOPE
- 2 PORT CAT6 ETHERNET WALL PORT
- 2 PORT CAT6 ETHERNET FLOOR PORT
- 2'X4' ACOUSTICAL CEILING TILE
- INDICATES ROOF ELEVATION CHANGE
- METAL ROOF PANEL

ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE	MISC	MISCELLANEOUS
ADA	AMERICANS WITH DISABILITIES ACT	MTL	METAL
		NIC	NOT IN CONTRACT
AFF	ABOVE FINISHED FLOOR	NTS	NOT TO SCALE
ALUM	ALUMINUM	OF	OVERFLOW DRAIN
ANDZ	ANODIZED	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
BOB	BOTTOM OF BEAM		
C/C	CENTER TO CENTER	OFOI	OWNER FURNISHED, OWNER INSTALLED
CFMS	COLD FORMED METAL STUD		
CJ	CONTROL JOINT	OSB	ORIENTED STRAND BOARD
C.I.	CONTINUOUS INSULATIONS	P-#	PAINT TYPE NUMBER
CLG	CEILING	PLAM	PLASTIC LAMINATE
C-BRD	CEMENT BOARD	PLN	PLAN
CG	CORNER GUARD	PLWD	PLYWOOD
CLR	CLEAR	PRE	PRE FINISHED
CMU	CONCRETE MASONRY UNIT	PT	PRESSURE TREATED
CONC	CONCRETE	RBR	RUBBER
CONST	CONSTRUCTION	RD	ROOF DRAIN
CONT	CONTINUOUS	REFR	REFRIGERATOR
CPT	CARPET	RM	ROOM
CT	CERAMIC TILE	RO	ROUGH OPENING
DS	DOWN SPOUT	RWL	RAIN WATER LEADER
EIFS	EXTERIOR INSULATION FINISH SYSTEM	S-TRD	STAIR TREAD
		SAI	SOUND ATTENUATION INSULATION
ELEV	ELEVATION		
ENAM	ENAMEL	SATC	SUSPENDED ACOUSTICAL TILE CEILING
EQP	EQUIPMENT		
EWC	ELECTRIC WATER COOLER	SC	SOLID CORE
EXPD	EXPOSED	SD	SOAP DISPENSER
FD	FLOOR DRAIN	SF	SQUARE FEET
FE	FIRE EXTINGUISHER	SHT	SHEET
FEC	FIRE EXTINGUISHER CABINET	SHT-V	SHEET VINYL
		SIM	SIMILAR
FF	FINISHED FLOOR	SLR	SEALER
FFIN	FACTORY FINISH	SPEC	SPECIFICATION
FS	FINISHED SURFACE	STL	STEEL
GA	GAUGE	TBD	TO BE DETERMINED
GALV	GALVANIZED	THK	THICKNESS
GB	GRAB BAR	TPD	TOILET PAPER DISPENSER
GWB	GYPSUM WALL BOARD	TOC	TOP OF CONCRETE
HB	HOSE BIB	TYP	TYPICAL
HM	HOLLOW METAL	UNO	UNLESS NOTED OTHERWISE
HORIZ	HORIZONTAL	UR	URINAL
HR	HOUR	VERT	VERTICAL
INSPN	INSPECTION	VCT	VINYL COMPOSITION TILE
LAV	LAVATORY	VGB	VERTICAL GRAB BAR
LS	LANDSCAPING	VIN	VINYL
MATL	MATERIAL	WC	WATER CLOSET
MAX	MAXIMUM	WD	WOOD
MCJ	MASONRY CONTROL JOINT	WH	WATER HEATER
MFRS	MANUFACTURERS	"X"	FIRE RESISTANT LABELED GWB
MIN	MINIMUM		

BUILDING ENVELOPE NOTES

CLIMATE ZONE 5B

INSULATION VALUES:

ROOF:	R-25+ R-11 LINER SYSTEM WITH SPACER BLOCKS
WALLS:	R-19 CONTINUOUS INSULATION
SLAB:	R-10, 24 INCH MIN FROM TOP OF SLAB

OPENINGS:

OPAQUE DOORS:	U 0.37
NON-SWING DOORS:	R-4.75

VAPOR RETARDER: PROVIDE ON WARM SIDE OF THE WALLS, SEAL SEAMS.

AIR BARRIER: PROVIDE AIR BARRIER AT BUILDING ENVELOPE ON ALL WALLS, ROOFS, AND FLOORS.

BUILDING ENVELOPE: SEAL, CAULK GASKET AND/OR WEATHER SEAL ALL EXTERIOR PENETRATIONS.

BUILDING AIR INFILTRATION REQUIREMENT - PER WA 51-11C-40609 AIR INFILTRATION SHALL BE VERIFIED BY WHOLE BUILDING PRESSURIZATION TESTING CONDUCTED IN ACCORDANCE WITH ASTM E779 OR ASTM E1827 BY AN INDEPENDENT THIRD PARTY ENGAGED BY THE GENERAL CONTRACTOR. THE MEASURED AIR LEAKAGE RATE OF THE BUILDING ENVELOPE SHALL NOT EXCEED 0.40 CFM/FT2 (2.0 L/S•M2) UNDER A PRESSURE DIFFERENTIAL OF 0.3 IN. WATER (75 PA), WITH THE CALCULATED SURFACE AREA BEING THE SUM OF THE ABOVE AND BELOW GRADE BUILDING ENVELOPE. A REPORT THAT INCLUDES THE TESTED SURFACE AREA, FLOOR AREA, AIR BY VOLUME, STORIES ABOVE GRADE, AND LEAKAGE RATES SHALL BE SUBMITTED TO THE CODE OFFICIAL AND THE BUILDING OWNER.

GENERAL NOTES (UNLESS OTHERWISE SPECIFIED)

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2015 INTERNATIONAL BUILDING CODE (IBC), NFPA 101, 2017 NATIONAL ELECTRIC CODE, UNIFORM PLUMBING CODE, AND LOCAL JURISDICTION REQUIREMENTS.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF SITE CONDITIONS, INSTALLATION STANDARDS, AND CONSTRUCTION CONDITIONS. FIELD VERIFY ALL NECESSARY DIMENSIONS. DISCREPANCIES BETWEEN SITE CONDITIONS AND THE CONSTRUCTION DRAWINGS SHALL BE CALLED TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. WORK DONE WITHOUT THE OWNER REPRESENTATIVE'S APPROVAL IS THE RESPONSIBILITY OF THE CONTRACTOR.
3. DRAWINGS MAY BE REDUCED, VERIFY SCALE.
4. THE CONTRACTOR ALONE SHALL BE RESPONSIBLE FOR SAFETY. THE CONTRACTOR SHALL PROVIDE ADEQUATE SAFEGUARDS, SAFETY DEVICES, AND PROTECTIVE EQUIPMENT, AND TAKE ANY OTHER NEEDED ACTIONS NECESSARY TO PROTECT THE LIFE, HEALTH AND SAFETY OF THE PUBLIC AND TO PROTECT PROPERTY IN CONNECTION WITH THE WORK COVERED BY THE CONTRACT.
5. REFER TO ELECTRICAL AND MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION PERTAINING TO EACH DISCIPLINE.
6. REFER TO PROJECT CONSTRUCTION SPECIFICATIONS FOR ADDITIONAL INFORMATION.
7. ALL METAL BUILDING DETAILS AND CALLOUTS ARE FOR REFERENCE ONLY. METAL BUILDING MANUFACTURER DETAILS SHALL SUPERCEDE DETAILS IN THIS SET.

CONCEPTUAL DESIGN

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DRAFTING CHECKER S MOORE	VNSFS
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER F LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY NOTES AND LEGEND

SIZE F | DWG NO VFS-EPM-000-DWG-A-010 | REV E
SCALE NONE | ECT | SHEET 1 OF 2

DWG NO | TITLE — DRAWING TRACEABILITY LIST
REF NUMBER | TITLE — REFERENCES
NEXT USED ON
REVISIONS: REV NO | DESCRIPTION | REV BY DATE | ENGR / COMPANY

CODE ANALYSIS:

GENERAL INFORMATION

AUTHORITY HAVING JURISDICTION:	CITY OF CIMARRON
CODE:	IBC
PROJECT ADDRESS:	N/A
ZONING:	
PROJECT DESCRIPTION:	
PARKING REQUIRED:	
EV PARKING INFRASTRUCTURE:	NO

CHAPTER 3

OCCUPANCY CLASSIFICATION:	F-2 (LOW HAZARD FACTORY)

CHAPTER 5

ALLOWABLE HEIGHT (FT.), TABLE 504.3:	55 FT. (NON-SPRINKLERED)
ALLOWABLE STORIES ABOVE GRADE, TABLE 504.4:	F-2: 3 STORIES (NON-SPRINKLERED)
ALLOWABLE AREA (SQ. FT.), TABLE 506.2:	F-2: 23,000 SQ. FT. (NON-SPRINKLERED)
ALLOWABLE AREA INCREASE, SECTION 506: <A = (A + (NS X I)> <W = (L1 X w1 + L2 X w2...) / F> <I = (F/P - 0.25) W / 30>	PER SECTION 507.3 BUILDING IS ALLOWED TO BE UNLIMITED AREA
PROPOSED HEIGHT (FT.):	25'-8"
PROPOSED STORIES ABOVE GRADE:	1 STORY
PROPOSED AREA, PER FLOOR:	16,100
PROPOSED TOTAL BUILDING AREA:	16,100
REQUIRED OCCUPANCY SEPARATION, TABLE 508.4:	PRE ENGINEERED MTL. BLDG.

CHAPTER 6

CONSTRUCTION TYPE, TABLE 601:	TYPE II-B CMU W/INTERIOR METAL STUDS WALLS
EXTERIOR WALL FIRE RATING REQUIREMENT, TABLE 602:	N/A, NOT REQUIRED

CHAPTER 7

ALLOWED EXTERIOR WALL OPENINGS, TABLE 705.8	NO LIMIT
PARAPET EXCEPTION, SECTION 705.11:	NOT REQD, EXCEPTION 1

CHAPTER 9

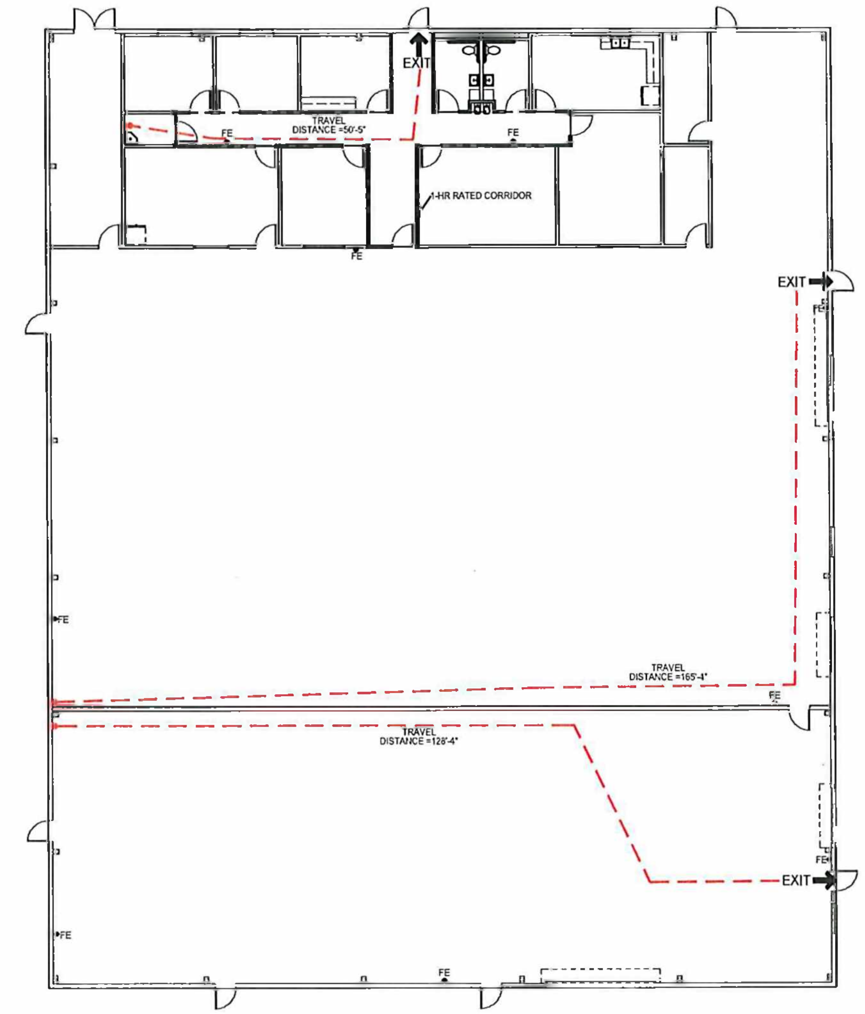
FIRE SPRINKLER SYSTEM REQUIRED, IBC SECTION 903/IEBC SECTION 804.2.2:	NO
FIRE SPRINKLER SYSTEM INSTALLED:	N/A
FIRE EXTINGUISHERS REQUIRED, SECTION 906:	YES SEE EXIT PLAN
FIRE ALARM SYSTEM, SECTION 907:	YES
IF REQUIRED, SYSTEM SHALL MEET NFPA 72 REQUIREMENTS	

CHAPTER 10

OCCUPANT LOAD, TABLE 1004.1.2:	
NON PROCESS OCCUPANCY:	41 OCCUPANTS
F-2 PROCESS OCCUPANCY:	78 OCCUPANTS
TOTAL BUILDING OCCUPANCY:	119 OCCUPANTS
MEANS OF EGRESS CAPACITY, SECTION 1005:	
MEANS OF EGRESS COMPONENTS:	B/M: 119 OCCUPANTS X 0.2" = 23.8" REQ'D WIDTH
MEANS OF EGRESS, STAIRWAYS:	N/A
NUMBER OF EXITS, SECTION 1006:	NON-PROCESS 41<49 = 1 EXIT REQ'D, 2 PROVIDED F-2 (PROCESS) 78>49 = 2 EXITS REQ'D, 7 PROVIDED (TOTAL OF 9 EXITS PROVIDED)
PANIC HARDWARE REQUIRED, SECTION 1010.1.10:	NO
EXIT SIGNS SHOWN ON PLANS, SECTION 1013:	VFS-EMP-000-DWG-E-120 SHEET 1&2 (REFLECTED CEILING & LIGHTING PLAN)
HANDRAIL TYPE, SECTION 1014.3:	
MAXIMUM EXIT TRAVEL DISTANCE, TABLE 1017.2:	F-2: 300'-0" TRAVEL DISTANCE

CHAPTER 29

MINIMUM NUMBER OF PLUMBING FIXTURES, TABLE 2902.1:	
OCCUPANCY CLASSIFICATION:	F-2 (*USING REQUIREMENTS OF M OCCUPANCY)
OCCUPANTS (PER GENDER):	TOTAL OCCUPANTS: 119 / 2 = 60
WATER CLOSETS:	
FEMALE:	(1:100) = 1 REQ'D, 1 PROVIDED
MALE:	(1:100) = 1 REQ'D, 1 PROVIDED
LAVATORIES:	
FEMALE:	(1:100) = 1 REQ'D, 1 PROVIDED
MALE:	(1:100) = 1 REQ'D, 1 PROVIDED



LEGEND

1-HR FIRE RATED CORRIDOR WALLS

FIRE AND LIFE SAFTEY PLAN

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

CONCEPTUAL DESIGN

VEOLIA

VEOLIA NUCLEAR SOLUTIONS
FEDERAL SERVICES, LLC
295 Bradley, Suite 300
Richland, WA 99352

NAME	DATE / COMPANY
DRAWN BY G GREEN	10/17/21 WOG
ARCHITECT M CORBIN	WOG
DRAFTING CHECKER S MOORE	VNSFS
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA
TREATMENT FACILITY
CODE INFORMATION

SIZE	DWG NO	REV
F	VFS-EPM-000-DWG-A-010	E

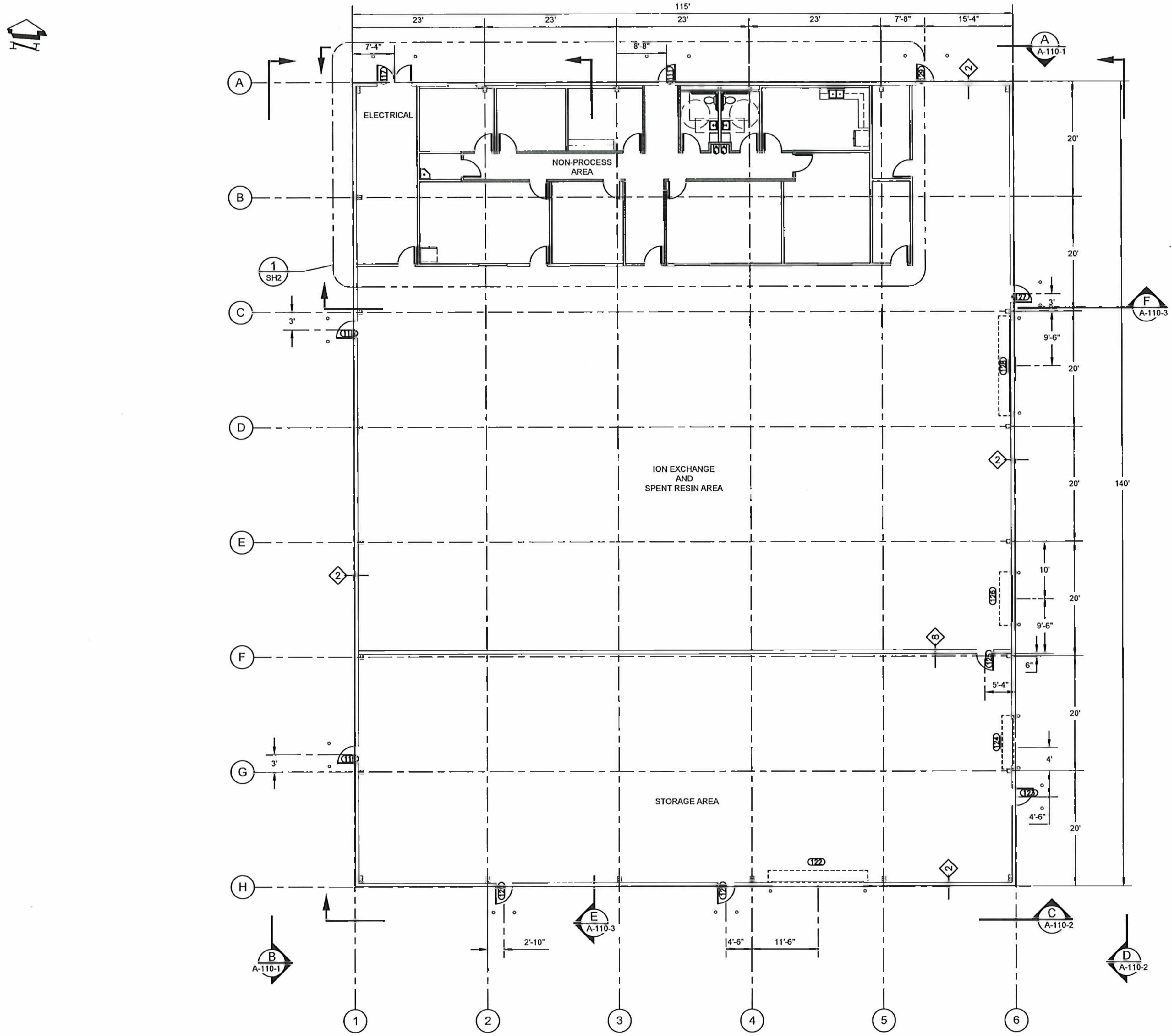
SCALE SHOWN EDT SHEET 2 OF 2

DWG NO VFS-EPM-000-DWG-A-010 SH 2 OF 2 REV E

DWG NO	TITLE	REF NUMBER	TITLE	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES		REVISIONS		

NOTE

1. SEE VFS-EMP-000-DWG-A-010 SHEET 1 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.



WATF OVERALL ARCHITECTURAL PLAN

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

1/8" = 1'-0" 0' 4' 8' 16' 24' SCALE FEET

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REV	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS			

CONCEPTUAL DESIGN

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M CORRIN	IYQ
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY ARCHITECTURAL PLAN

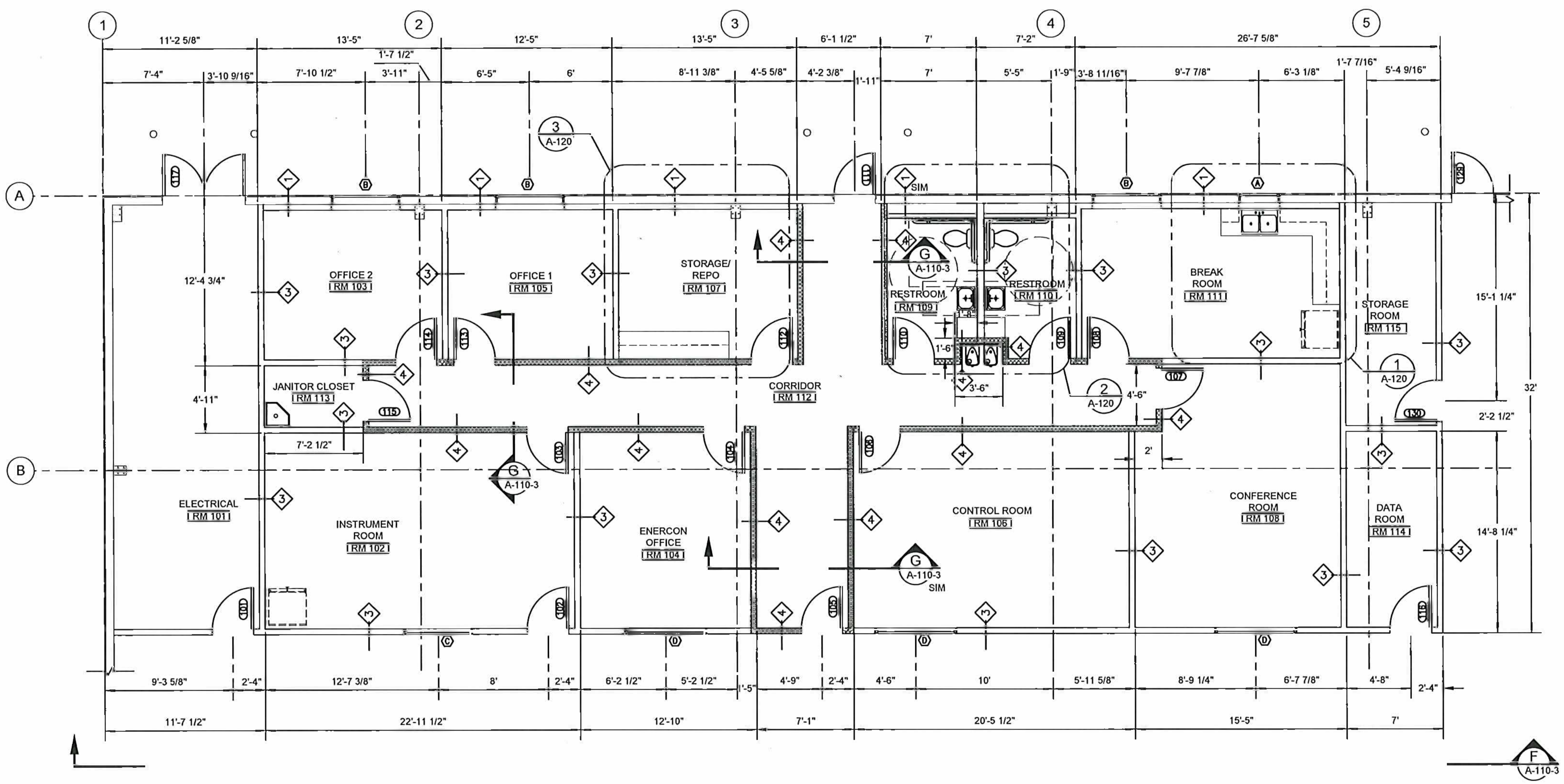
SIZE F | DWG NO VFS-EPM-000-DWG-A-100 | REV E

SCALE AS SHOWN | EDT | SHEET 1 OF 6

DWG NO VFS-EPM-000-DWG-A-100 SH 1 OF 6 REV E

NOTE

1. SEE VFS-EMP-000-DWG-A-010 SHEET 1 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.
2. SEE VFS-EMP-000-DWG-A-130 SHEET 1 FOR ASSEMBLY TYPES.



1 SH 1 ENLARGED NON PROCESS AREA PLAN
SCALE: 1/4"=1'-0"

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

CONCEPTUAL DESIGN

VEOLIA

VEOLIA NUCLEAR SOLUTIONS
FEDERAL SERVICES, LLC
295 Bradley, Suite 300
Richland, WA 99352

NAME
V DAVISON
J PIERCE
M CORRIN
J WILSON
E LLOYD

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA
TREATMENT FACILITY
ARCHITECTURAL PLAN

F VFS-EPM-000-DWG-A-100 D

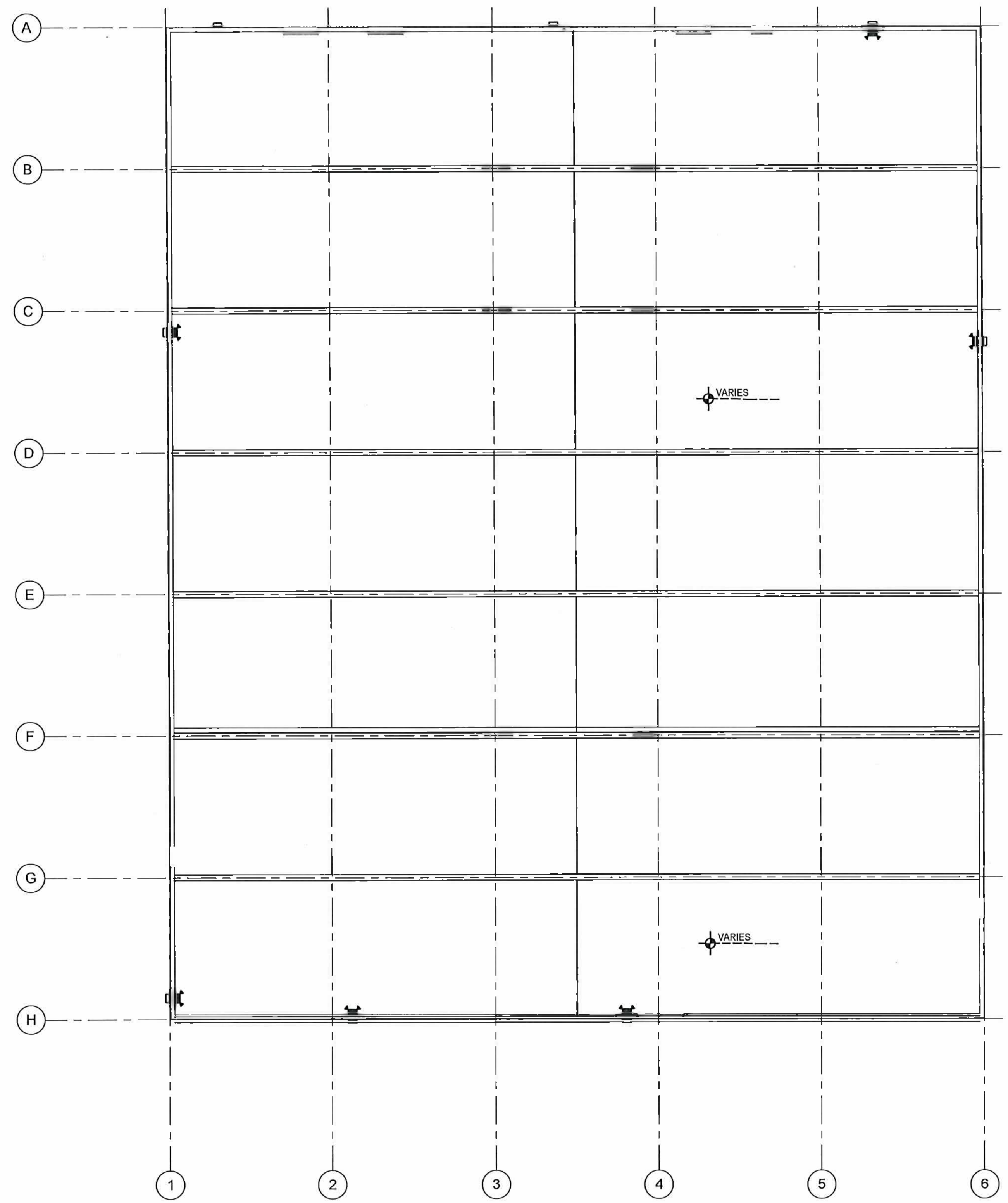
SCALE AS SHOWN SHEET 2 OF 6

DWG NO | TITLE — DRAWING TRACEABILITY LIST
REF NUMBER | TITLE — REFERENCES — NEXT USED ON
DESCRIPTION — REVISIONS

VFS-EPM-000-DWG-A-100 SH 2 OF 6 REV D

NOTE

1. SEE VFS-EMP-000-DWG-A-010 SHEET 1 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.
2. CEILING IN PROCESS AREA IS 5/8" DENSGLASS SHEATHING ON RESILIENT CHANNELS ATTACHED TO ROOF PURLINS AT 16" OC.
3. REFER TO ELECTRICAL DRAWINGS FOR LIGHT FIXTURE LAYOUT.



REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"

1/8" = 1'-0" 0' 4' 8' 16' 24' SCALE FEET

CONCEPTUAL DESIGN

VEOLIA

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DRAFTING CHECKER J PIERCE	VNSFS
ARCHITECT M CORBIN	WO
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA
TREATMENT FACILITY
REFLECTED CEILING PLAN

SIZE F | DWG NO VFS-EPM-000-DWG-A-100 | REV E
SCALE AS SHOWN | EDT | SHEET 3 OF 6

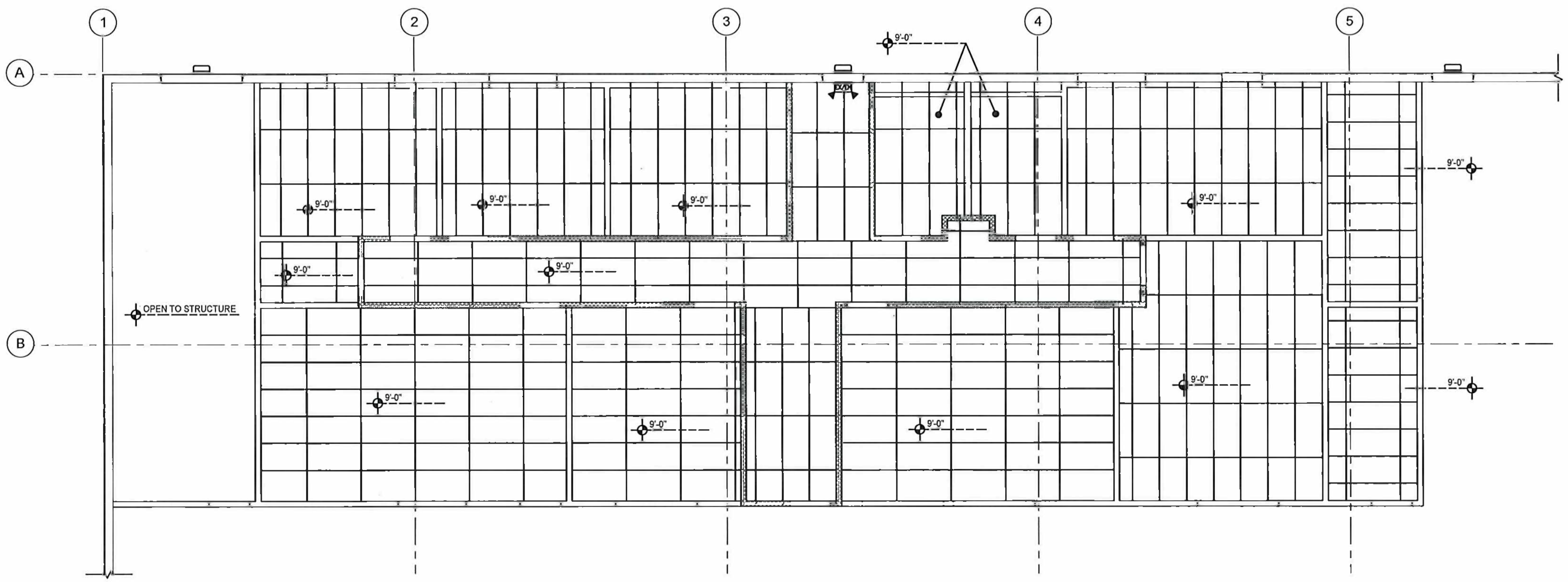
DWG NO VFS-EPM-000-DWG-A-100 SH 3 OF 6 REV E

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REVISIONS: MFD | REV NO | DESCRIPTION | REV BY DATE | ENGR / COMPANY | REV AUTH

NOTE

1. SEE VFS-EMP-000-DWG-A-010 SHEET 1 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.
2. SEE ELECTRICAL DRAWINGS FOR LIGHT FIXTURE LAYOUT.
3. 9'-0" ACT CEILING IN CORRIDORS. BOTTOM OF JOISTS ABOVE (2'-0" ABOVE ACT CEILING) WILL HAVE 2 LAYERS 5/8" TYPE 'X' GWB APPLIED ABOVE CORRIDOR ONLY.



1 ENLARGED REFLECTED CEILING PLAN
SHEET 1 SCALE: 1/4"=1'-0"

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

CONCEPTUAL DESIGN

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M CORBIN	IVO
J WILSON	VNSFS
E LLOYD	VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY ENLARGED CEILING PLAN

SIZE F | DWG NO VFS-EPM-000-DWG-A-100 | REV D

SCALE AS SHOWN | EDT | SHEET 4 OF 6

DWG NO VFS-EPM-000-DWG-A-100 SH 4 OF 6 REV D

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

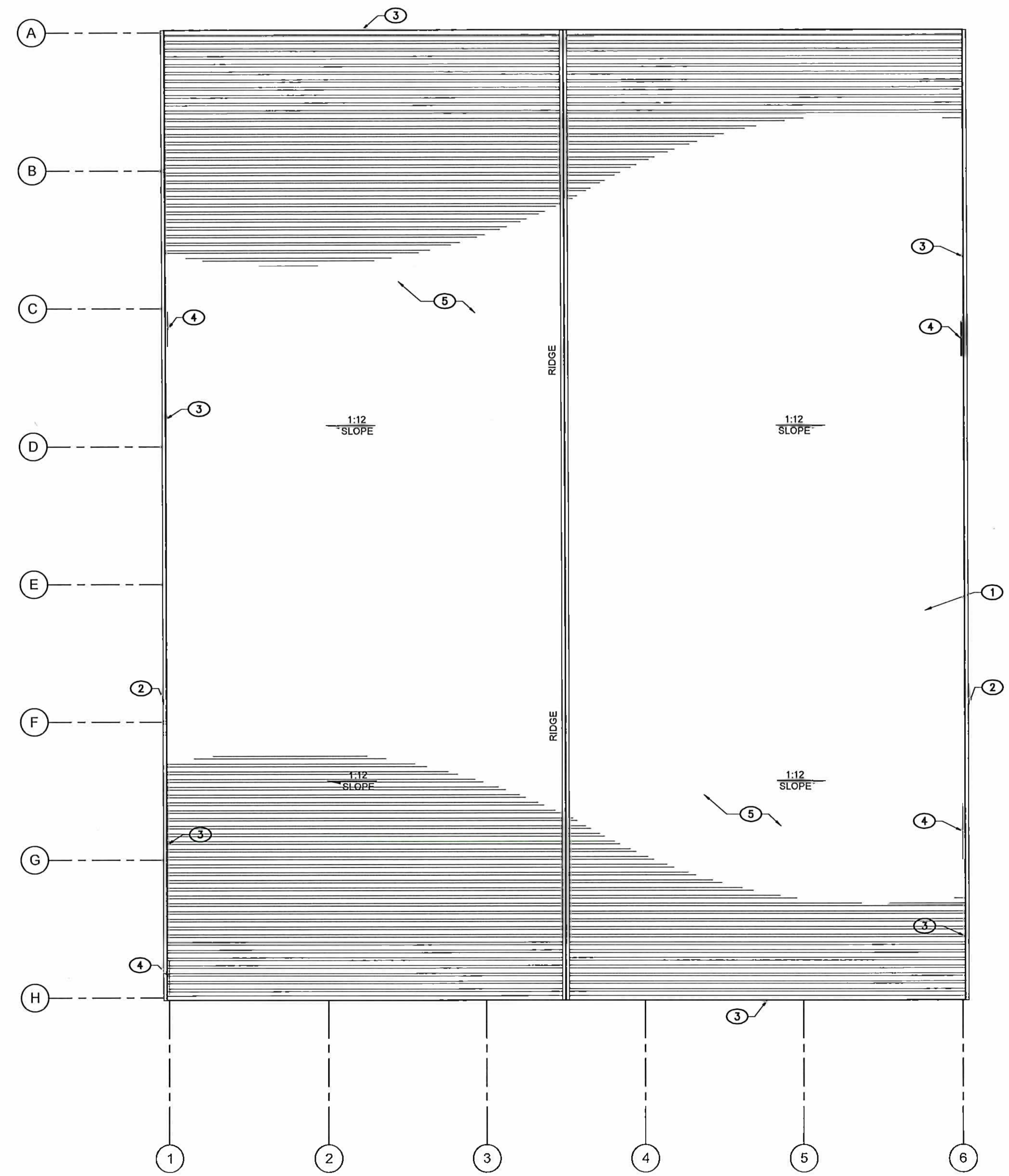
REV NO | DESCRIPTION | REV BY DATE | ENGR / COMPANY | DESIGN AUTHORITY
REVISIONS

ROOF CALLOUTS:

1	PRE-FINISHED METAL ROOF PANELS
2	GUTTER
3	WALL OUTLINE BELOW
4	SNOW / ICE RETENTION BAR TO BE INSTALLED ABOVE ALL SWINGING DOORS ALONG GRIDLINES 1 & 6
5	PREFINISHED METAL ROOF PANELS, TYP

NOTE

1. SEE VFS-EMP-000-DWG-A-010 SHEET 1 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.



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

1/8" = 1'-0" 0' 4' 8' 16' 24" SCALE FEET

CONCEPTUAL DESIGN

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ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY ROOF PLAN

SIZE F | DWG NO VFS-EPM-000-DWG-A-100 | REV E
SCALE AS SHOWN | EDT | SHEET 5 OF 6

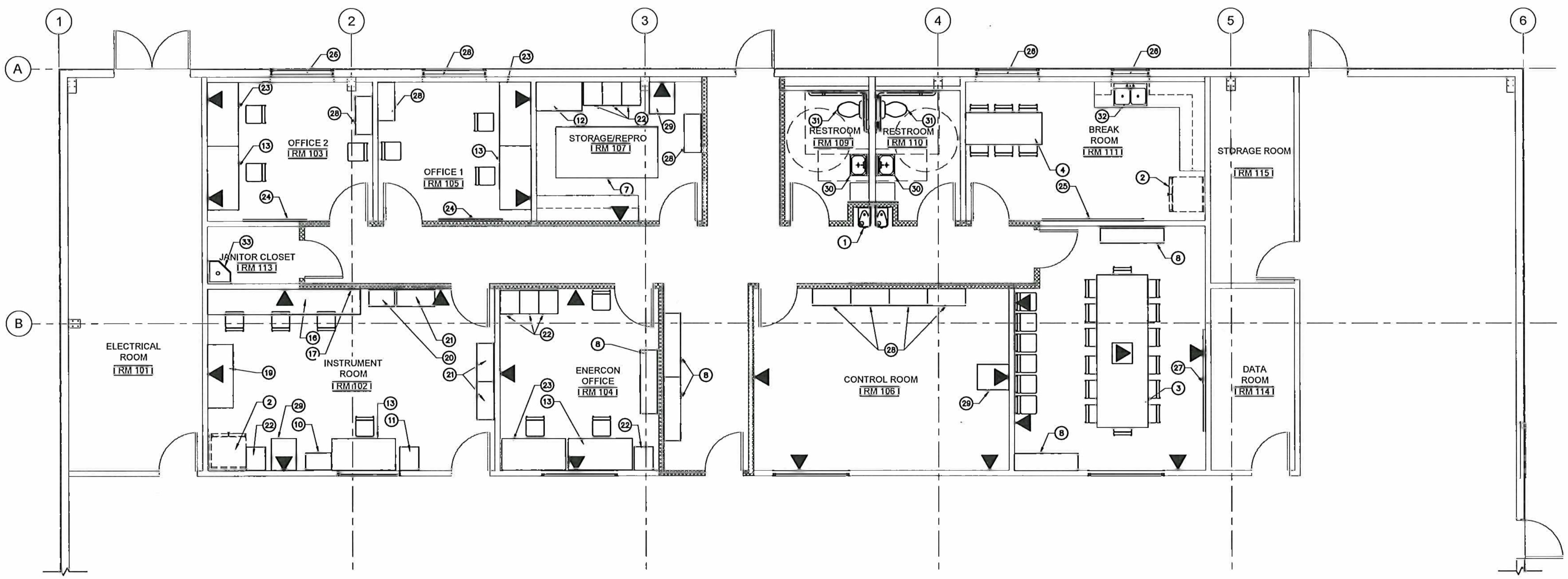
DWG NO VFS-EPM-000-DWG-A-100 SH 5 OF 6 REV E

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
NEXT USED ON			

MFD / REV NO / DESCRIPTION / REV BY DATE / ENGR COMPANY — REVISIONS

KEY NOTES:

1	DRINKING FOUNTAIN- ELKAY MODEL EMABFTL8WSLK
2	REFRIGERATOR
3	CONFERENCE TABLE (144" X 48")
4	BREAK ROOM TABLE (72" X 30")
5	TABLE (42" X 18")
6	TABLE (72" X 30")
7	4'x8' WORK COUNTER W/OPEN SHELVING
8	BOOKCASE (60"L X 16"D X 78"H)
9	BOOKCASE (72"L X 16"D X 78"H)
10	BOOKCASE (24"L X 16"D X 78"H)
11	FRISK
12	MOBILE DRAWING HANGING RACK (43" X 27")
13	DESK (60" X 29 1/2")
14	NOT USED
15	NOT USED
16	WORKBENCH (144" X 24" X 6")
17	SMALL TOOL PEGBOARD
18	NOT USED
19	STORAGE SHELVES (60"W X 24"D X 72"H)
20	FIRE-RATED CABINET (23.25"W X 18"D X 64"H)
21	STORAGE CABINET (36" X 16")
22	VERTICAL FILE CABINET (18"W X 22"D X 52"H)
23	COMPUTER STATION (60" X 29 1/2")
24	WHITEBOARD (72"L X 48"H)
25	BULLETIN BOARD (96"L X 48" H)
26	ROLLER WINDOW SHADE-INTERIOR OF JAMBS
27	WHITEBOARD (96"L X 48"H)
28	BOOKCASE (36"W X 16"D X 78"H)
29	COPIER/PRINTER
30	LAVATORY- KOHLER K-2084-N-0 WITH AMERICAN STANDARD MODEL 6053.204.002 FAUCET
31	ADA WATER CLOSET- AMERICAN STANDARD MODEL 3043.528.020
31	STAINLESS STEEL DOUBLE BOWL KITCHEN SINK- AMERICAN STANDARD MODEL 22DB.6332283C.075
33	MOP SINK- MUSTEE MODEL 63M WITH CHICAGO FAUCETS 897-RCF FAUCET



WATF FURNISHINGS LAYOUT

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

NOTES

1. SEE VFS-EMP-000-DWG-A-010 SHEET 1 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.
2. REFER TO ELECTRICAL DRAWINGS FOR EQUIPMENT IN ELECTRICAL ROOM 101
3. DOORS, WALLS, AND WINDOWS BETWEEN PROCESS AND NON PROCESS ARE FIRE SEPARATION RATED.
4. FURNISHINGS ARE FOR ILLUSTRATION PURPOSES ONLY AND WILL VARY BASED ON OCCUPANT NEEDS.

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

CONCEPTUAL DESIGN

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J WILSON	VNSFS
E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA
TREATMENT FACILITY
FURNISHINGS LAYOUT

SIZE F | DWG NO VFS-EPM-000-DWG-A-100 | REV E

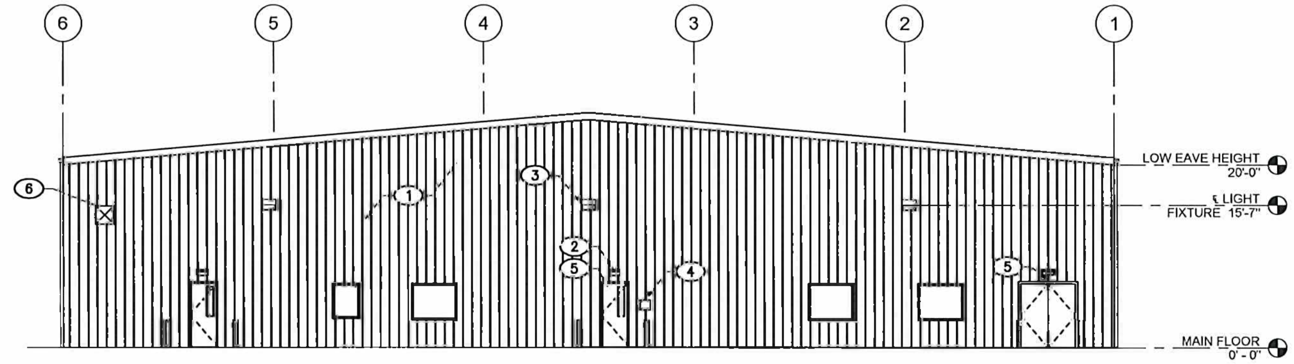
SCALE 1/4"=1'-0" | EDT | SHEET 6 OF 6

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

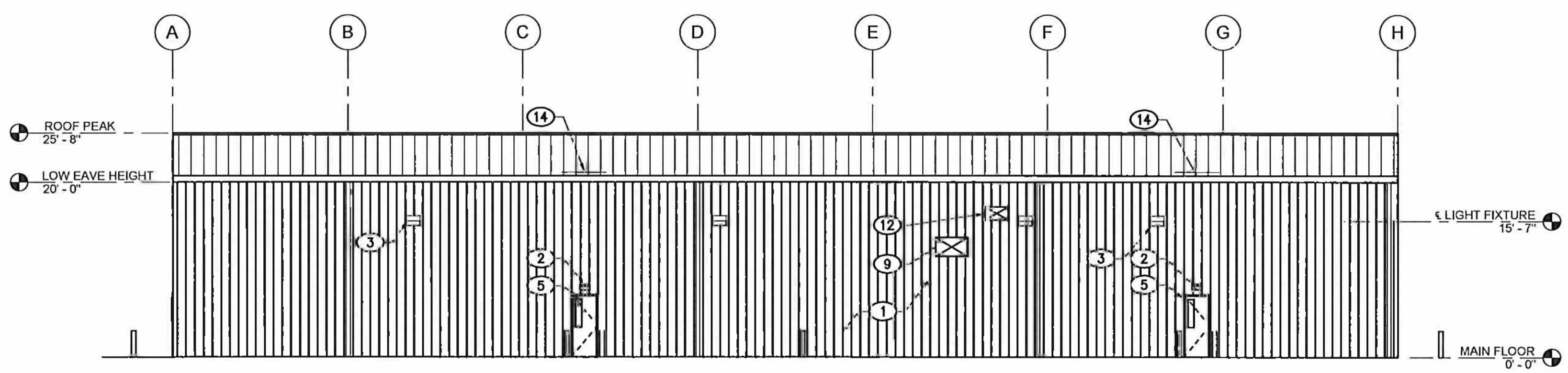
REVISIONS

DWG NO VFS-EPM-000-DWG-A-100 SH 6 OF 6 REV E

ELEVATION KEY NOTES:	
1	PRE-FINISHED METAL WALL PANEL, TYP.
2	SECURITY LIGHTING OVER DOOR (PROVIDE EMERGENCY BACKUP POWER), TYP.
3	EXTERIOR LIGHT FIXTURE, TYP.
4	KNOX BOX
5	HOLLOW METAL DOOR, TYP.
6	24"x24" OPENING FOR FAN, REFER TO MECHANICAL
7	OVERHEAD DOOR
8	DOWNSPOUT
9	44"x26" DUCT PENETRATION
10	22"x26" COMPRESSOR DUCT PENETRATION (REFER TO MECHANICAL)
11	32"x20" COMPRESSOR DUCT PENETRATION (REFER TO MECHANICAL)
12	32"x18" DUCT PENETRATION
13	18"x26" DUCT PENETRATION
14	SNOW GUARD



A NORTH ELEVATION
A-100-1 SCALE: 1/8"=1'-0"



B WEST ELEVATION
A-100-1 SCALE: 1/8"=1'-0"

1/8" = 1'-0" 0' 4' 8' 16' 24" SCALE FEET

CONCEPTUAL DESIGN

VEOLIA

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ARCHITECT M CORBIN	WO
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY BUILDING ELEVATIONS

SIZE F | DWG NO VFS-EPM-000-DWG-A-110 | REV E
SCALE AS SHOWN | EDT | SHEET 1 OF 3

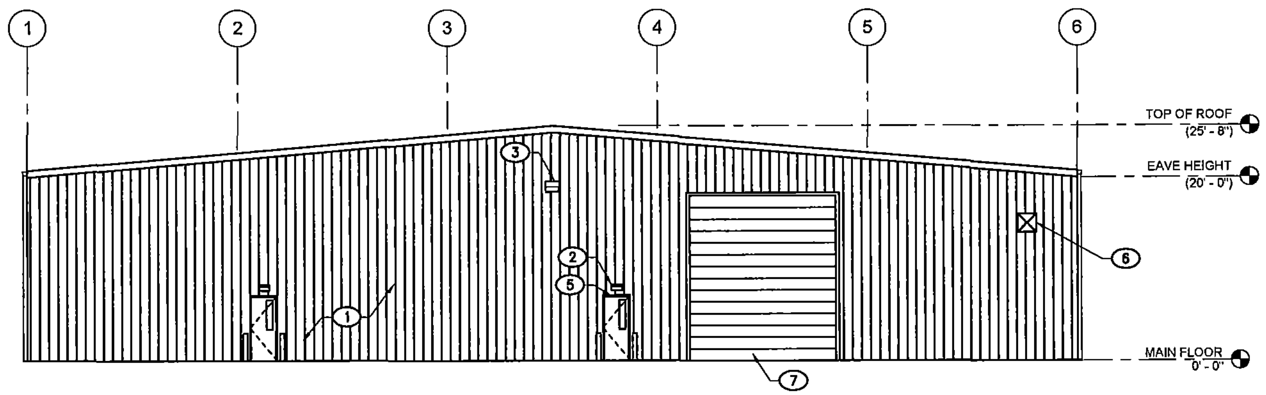
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REVISIONS

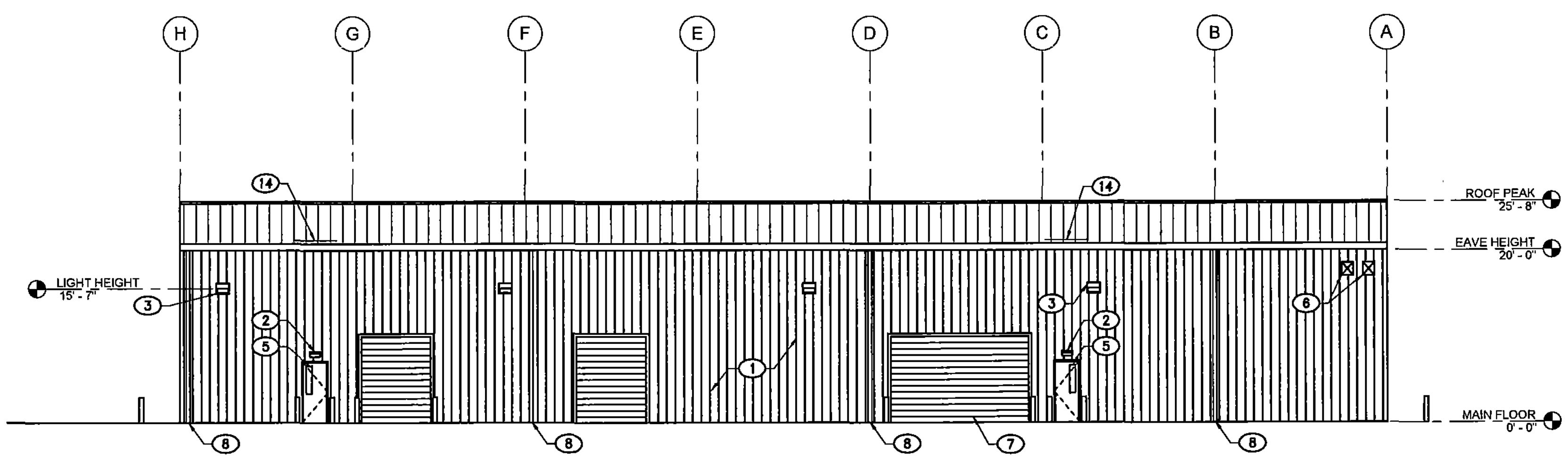
DWG NO VFS-EPM-000-DWG-A-110 SH 1 OF 3 REV E

ELEVATION KEY NOTES:

1	PRE-FINISHED METAL WALL PANEL, TYP.
2	SECURITY LIGHTING OVER DOOR (PROVIDE EMERGENCY BACKUP POWER), TYP.
3	EXTERIOR LIGHT FIXTURE, TYP.
4	KNOX BOX
5	HOLLOW METAL DOOR, TYP.
6	24"x24" OPENING FOR FAN, REFER TO MECHANICAL
7	OVERHEAD DOOR
8	DOWNSPOUT
9	44"x26" DUCT PENETRATION
10	NOT USED
11	NOT USED
12	32"x18" DUCT PENETRATION
13	NOT USED
14	SNOW GUARD



C
A-100-1
SOUTH ELEVATION
SCALE: 1/8"=1'-0"



D
A-100-1
EAST ELEVATION
SCALE: 1/8"=1'-0"

1/8" = 1'-0" SCALE 0' 4' 8' 16' 24" FEET

CONCEPTUAL DESIGN

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ARCHITECT M CORBIN	WG
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA
TREATMENT FACILITY
BUILDING ELEVATIONS

SIZE F | DWG NO VFS-EPM-000-DWG-A-110 | REV D

SCALE AS SHOWN | EDT | SHEET 2 OF 3

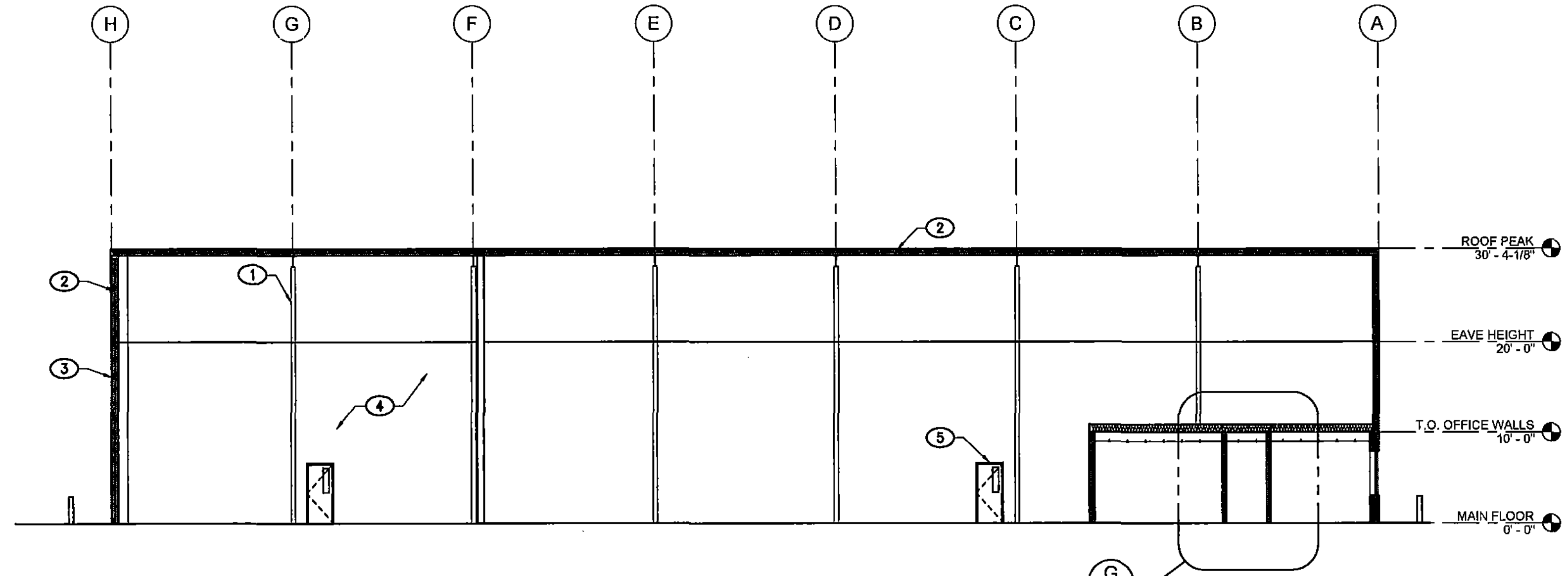
DWG NO VFS-EPM-000-DWG-A-110 | SH 2 OF 3 | REV D

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

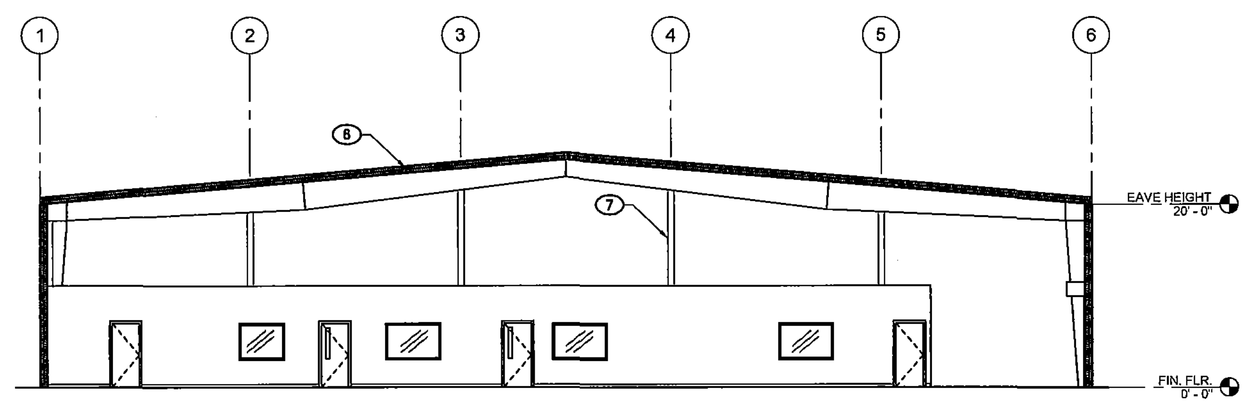
REVISIONS: MFD / REV NO / DESCRIPTION / REV BY DATE / ENGR COMPANY

ELEVATION KEY NOTES:

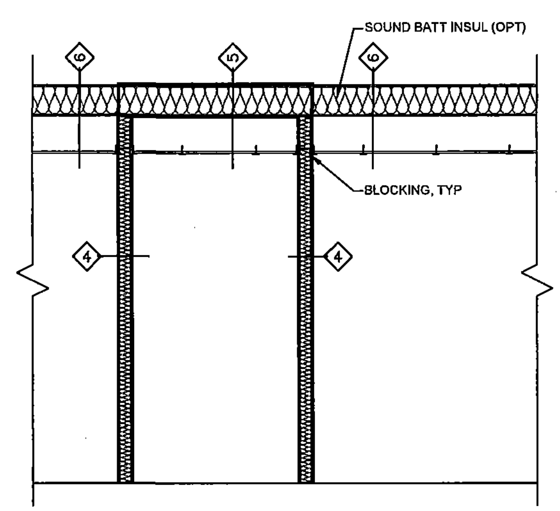
1	PRE-ENGINEERED BUILDING FRAME, TYP.
2	BATT INSULATION, TYP.
3	8" WALL GIRT, TYP.
4	DENSGLASS WALL SHEATHING, TYP.
5	HOLLOW METAL DOOR, TYP.
6	8" ROOF PURLIN, TYP.
7	ENDWALL BUILDING COLUMNS, TYP.



E SECTION
A-100-2 SCALE: 1/8"=1'-0"



F SECTION
A-100-2 SCALE: 1/8"=1'-0"



G ENLARGED SECTION
A-110-3 SCALE: 1/2"=1'-0"

CONCEPTUAL DESIGN

VEOLIA

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NAME	DATE	COMPANY
V DAVISON		VNSFS
J PIERCE		VNSFS
M CORBIN		
J WILSON		VNSFS
E LLOYD		VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA
TREATMENT FACILITY
BUILDING SECTIONS

SIZE F DWG NO VFS-EPM-000-DWG-A-110 REV D

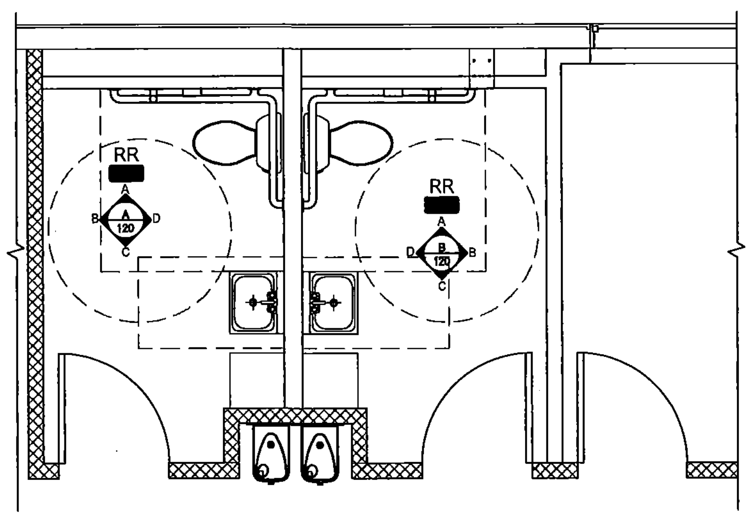
SCALE AS SHOWN SHEET 3 OF 3

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

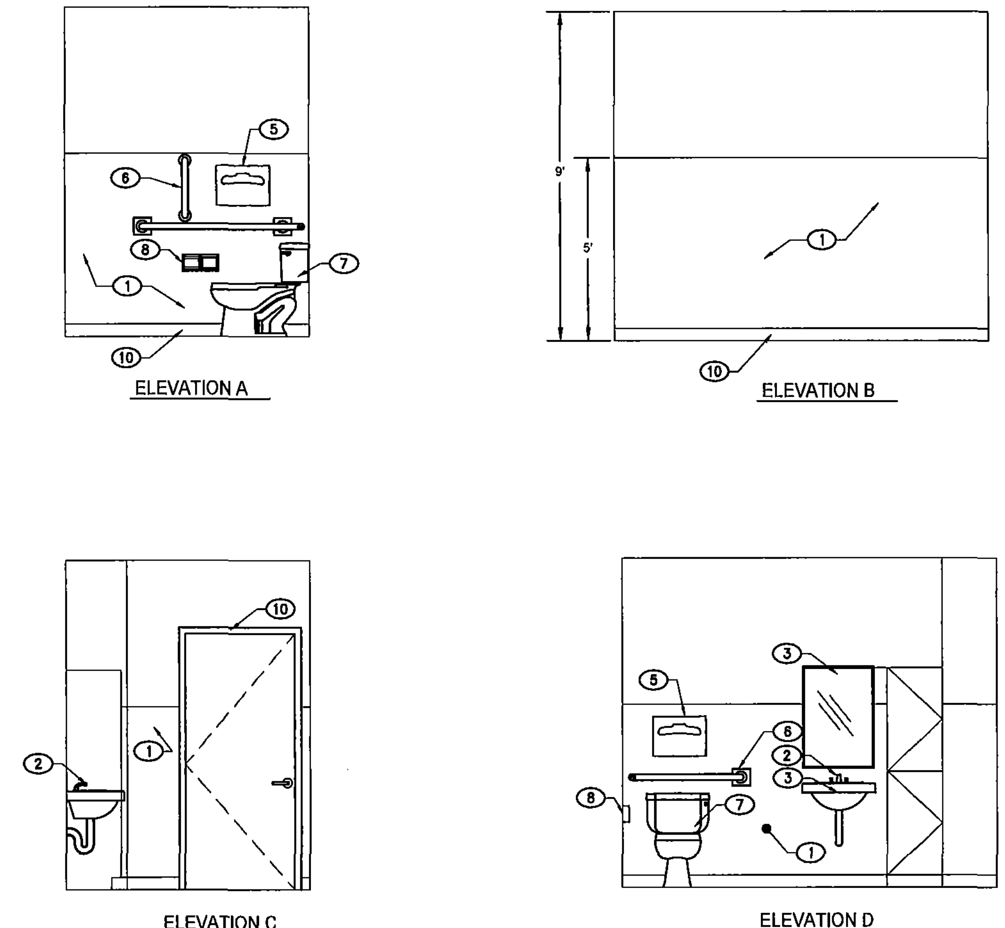
REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

REVISIONS

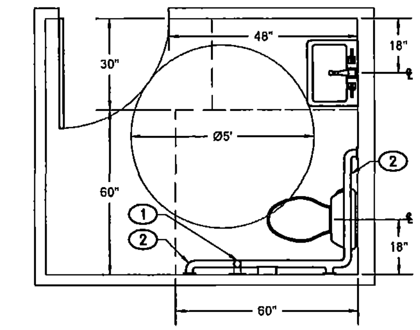
DWG NO VFS-EPM-000-DWG-A-110 SH 3 OF REV D



ENLARGED RESTROOM PLAN
SCALE: 1/2" = 1'-0"



RESTROOM ELEVATION A
SCALE: 1/4" = 1'-0"



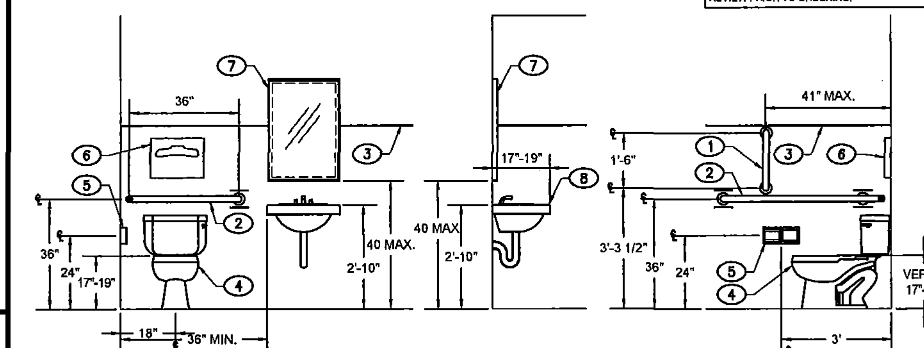
TYPICAL ADA RESTROOM PLAN
SCALE: 1/2" = 1'-0"

RESTROOM KEY NOTES:	
1	FIBER REINFORCED PLASTIC PANEL, SEE INTERIOR FINISH SCHEDULE SHEET VFS-EPM-100-DWG-A-130
2	FAUCET-AMERICAN STANDARD MODEL 6053-204-002
3	MIRROR
4	LAVATORY-KOHLER K-2084-N-D
5	TOILET SEAT COVER DISPENSER
6	S.S. GRAB BAR
7	ADA WATER CLOSET-AMERICAN STANDARD MODEL 3043.528.020
8	TOILET PAPER DISPENSER
9	DOOR
10	6" RESILIENT WALLBASE

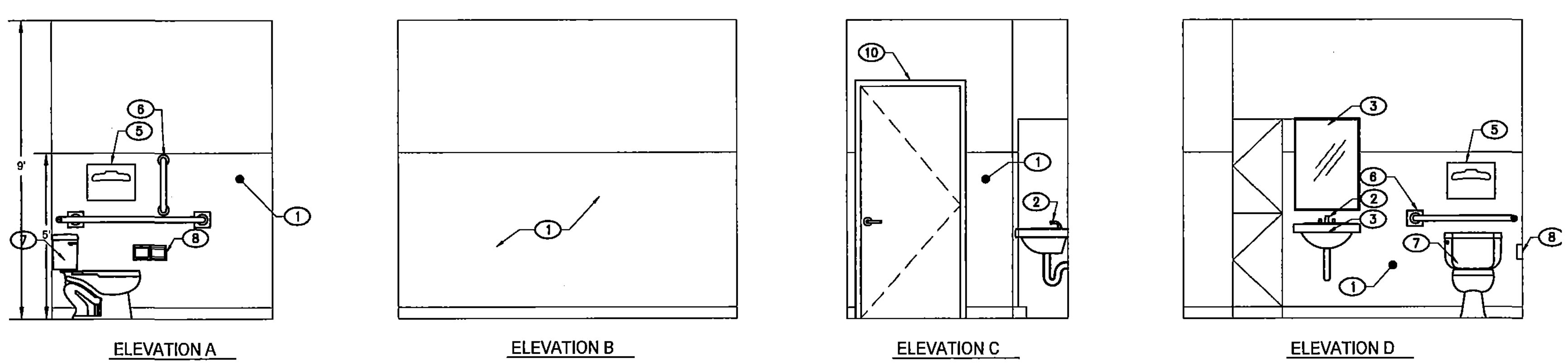
NOTES:	
1	ALL FIXTURES TO MEET ADA REQUIREMENTS
2	CONTRACTOR TO SUBMIT ALL ADA CASEWORK AND HARDWARE FOR REVIEW PRIOR TO ORDERING.

KEYED NOTES:	
1	A.D.A. S.S. VERTICAL GRAB BAR
2	S.S. GRAB BAR. MOUNT W/ CENTERLINE AT 36+" A.F.F.
3	FRP TO 5'-0" A.F.F. (VERIFY)
4	A.D.A. APPROVED TOILET (PROVIDE SUBMITTAL)
5	RECESSED TOILET TISSUE DISPENSER.
6	A.D.A. PAPER DISPENSER
7	A.D.A. APPROVED MIRROR
8	A.D.A. APPROVED SINK

NOTE: CONTRACTOR TO PROVIDE SHOP DRAWINGS AND HARDWARE SUBMITTALS FOR REVIEW PRIOR TO ORDERING.



TYPICAL ADA RESTROOM SECTION
SCALE: 1/2" = 1'-0"



RESTROOM ELEVATION B
SCALE: 1/4" = 1'-0"

CONCEPTUAL DESIGN

VEOLIA

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FEDERAL SERVICES, LLC
295 Bradley, Suite 300
Richland, WA 99352

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ARCHITECT M CORBIN	WO
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

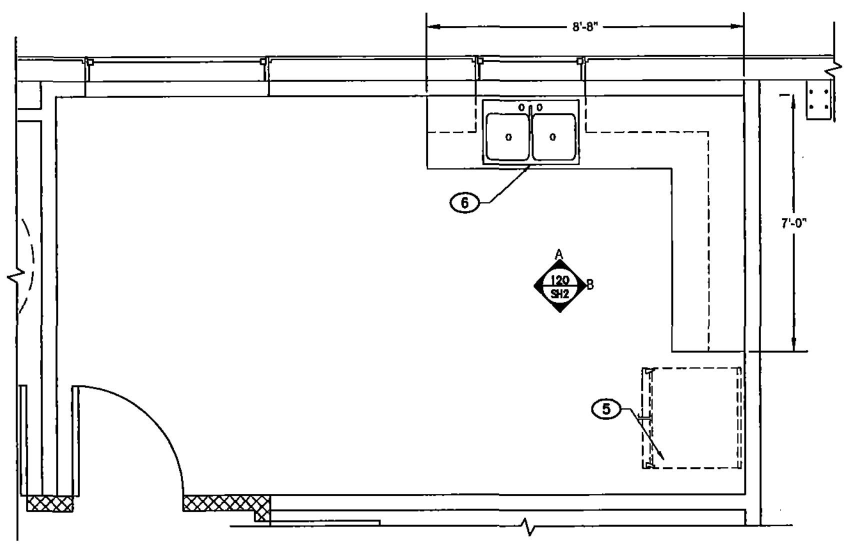
WESTERN AREA
TREATMENT FACILITY
RESTROOM PLAN

SIZE F | DWG NO VFS-EPM-000-DWG-A-120 | REV D
SCALE AS SHOWN | EDT | SHEET 1 OF 2

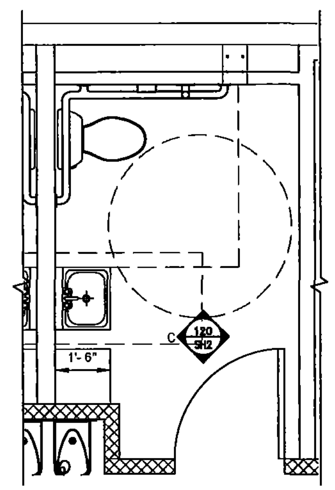
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS			

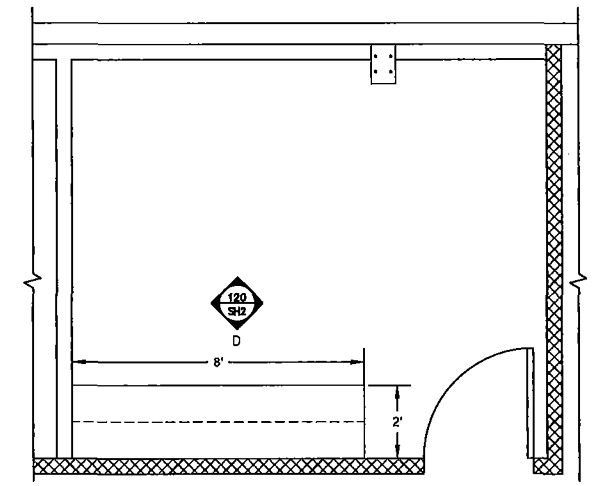
DWG NO VFS-EPM-000-DWG-A-120 SH 1 OF 2 REV D



1 A-100-2 ENLARGED BREAKROOM PLAN
SCALE: 1/2"=1'-0"



2 A-100-2 ENLARGED RESTROOM PLAN
SCALE: 1/2"=1'-0"

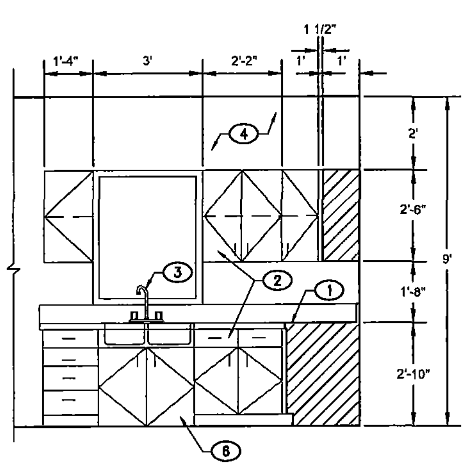


3 A-100-2 ENLARGED STORAGE/REPRO PLAN
SCALE: 1/2"=1'-0"

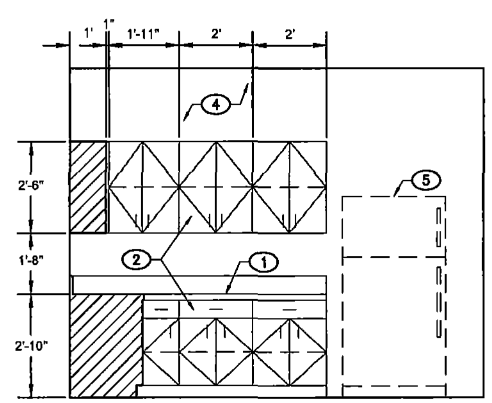
KITCHEN CASEWORK KEY NOTES:

1	PLASTIC LAMINATE COUNTER/ 6" BACKSPLASH
2	PLASTIC LAMINATE CASEWORK
3	SINK
4	WALL PAINT. SEE FINISH SCHEDULE
5	REFRIGERATOR BY OTHERS
6	ADA ACCESSIBLE CABINET

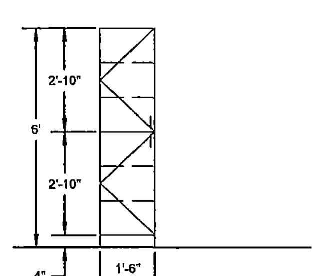
NOTE:
1. ALL FIXTURES TO BE ADA APPROVED
2. CONTRACTOR TO SUBMIT ALL ADA CASEWORK AND HARDWARE FOR REVIEW PRIOR TO ORDERING
3. INSTALL BLOCKING IN WALLS FOR ALL WALL MOUNTED EQUIPMENT
4. FIELD VERIFY SITE DIMENSIONS FOR ALL CASEWORK



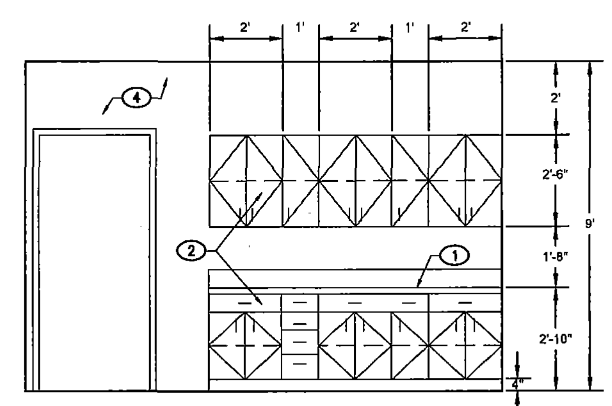
ELEVATION A
SCALE: 1/2" = 1'-0"



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



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



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

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

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

MFD	REV BD	DESCRIPTION	REV BY DATE	ENGR COMPANY
REV REL		REVISIONS		

CONCEPTUAL DESIGN

VEOLIA

VEOLIA NUCLEAR SOLUTIONS
FEDERAL SERVICES, LLC
295 Bradley, Suite 300
Richland, WA 99352

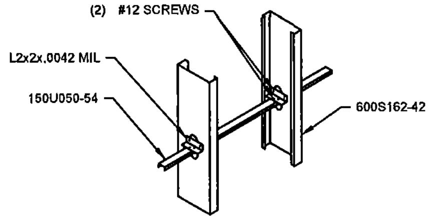
NAME	DATE / COMPANY
DRAWN BY G GREEN	10/13/21 WO
DRAFTING CHECKER J PIERCE	VNSFS
ARCHITECT M CORBIN	WO
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

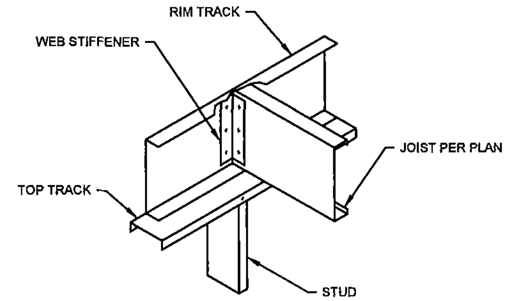
WESTERN AREA
TREATMENT FACILITY
ARCHITECTURAL PLAN

SIZE F | DWG NO VFS-EPM-000-DWG-A-120 | REV D
SCALE AS SHOWN | EDT | SHEET 2 OF 2

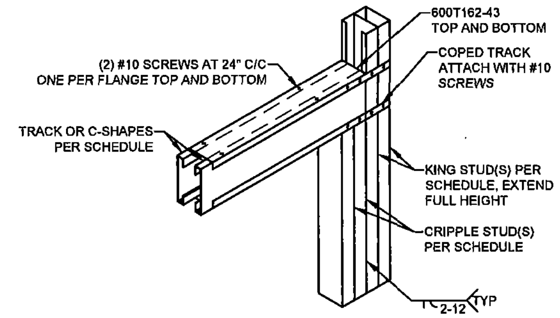
DWG NO VFS-EPM-000-DWG-A-120 SH 2 OF 2 REV D



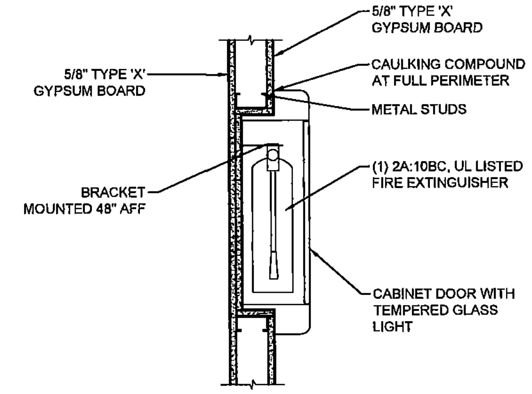
LATERAL BRACING DETAIL-TYPICAL
(1) SCALE: NONE



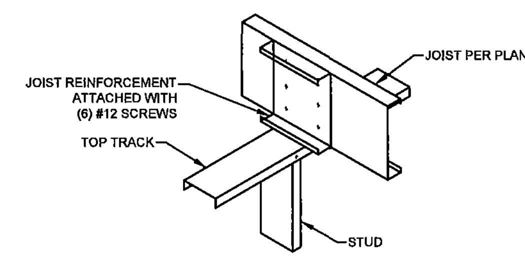
CLIP ANGLE STIFFENER - BACK OF JOIST DETAIL-TYPICAL
(2) SCALE: NONE

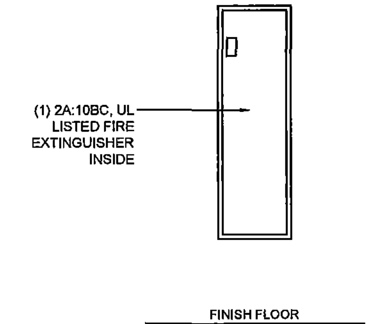


METAL STUD HEADER DETAIL-TYPICAL
(3) SCALE: NONE



SECTION



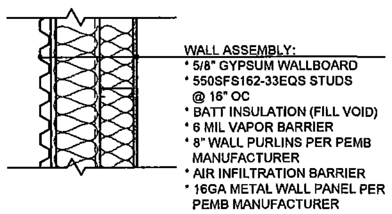


FINISH FLOOR

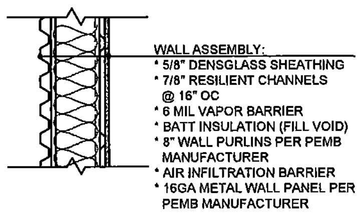
ELEVATION VIEW

WEB REINFORCEMENT - DOUBLE WEB DETAIL-TYPICAL
(4) SCALE: NONE

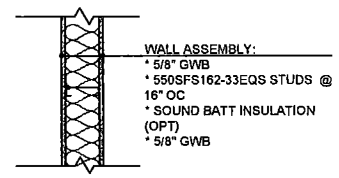
FIRE EXTINGUISHER CABINET DETAILS
(5) SCALE: NONE



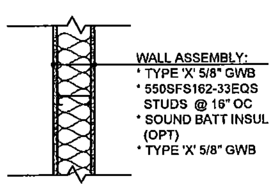
EXTERIOR WALL AT OFFICE AREA
(1)



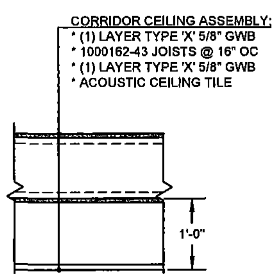
EXTERIOR WALL AT PROCESS AREA
(2)



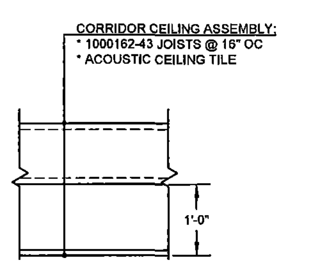
INTERIOR WALL AT OFFICE AREA
(3)



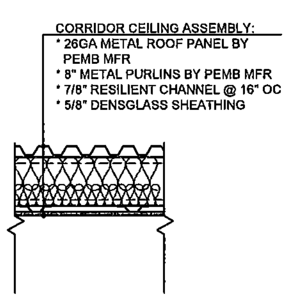
1-HR RATED INTERIOR WALL AT OFFICE AREA
(4) GA FILE: WP 1072



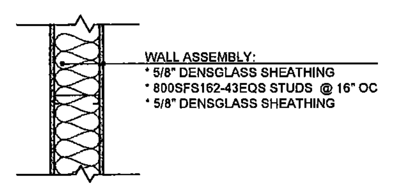
1-HR RATED CEILING AT OFFICE AREA
(5) GA FILE: WP 1072 (SIM)



TYPICAL CEILING AT OFFICE AREA
(6)



TYPICAL ROOF AT PROCESS AREA
(7)



TYPICAL WALL BETWEEN PROCESS AREAS
(8)

WALL/ROOF/CEILING ASSEMBLIES
SCALE: 1" = 1'-0"

CONCEPTUAL DESIGN

VEOLIA

VEOLIA NUCLEAR SOLUTIONS
FEDERAL SERVICES, LLC
295 Bradley, Suite 300
Richland, WA 99352

NAME	DATE	COMPANY
DRAWN BY G GREEN	10/13/21	VNSFS
J PIERCE		VNSFS
M CORBIN		TRD
J WILSON		VNSFS
E LLOYD		VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY ARCHITECTURAL DETAILS

SIZE F | DWG NO VFS-EPM-100-DWG-A-130 | REV B
SCALE AS SHOWN | SHEET 1 OF 2

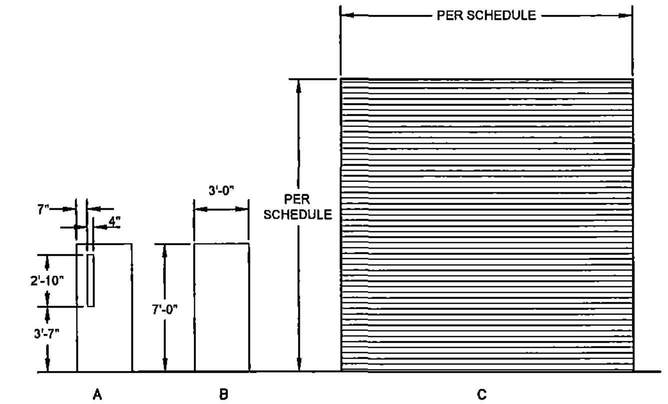
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

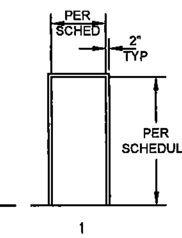
REVISIONS

VFS-EPM-000-DWG-A-130 | SH 1 OF 2 | REV B

DOOR SCHEDULE

REMARKS	SHEET NO	DOOR NO	NO OF DOORS	DOOR SIZE WIDTH	DOOR SIZE HEIGHT	DOOR SIZE THK	DOOR TYPE	DOOR MATL	DOOR FINISH	FRAME TYPE	FRAME MATL	FRAME FINISH	LOUVER SIZE	LABEL	DETAIL NO	CLOSER	PANIC DEVICE	OFFICE LOCKSET	ENTRY LOCKSET	PASSAGE SET	STORE RM LOCKSET	PRIVACY LOCKSET	OVERHEAD STOP	WEATHER STRIP/GASKET	THRESHOLD IN SEALANT	KICK PLATE	PUSH/PULL
	A-100-SH2	101	1	3'-0"	7'-0"	1-3/4"	B	MTL	PAINT	1	MTL	PAINT	-	-	-	●					●		●			●	
	A-100-SH2	102	1	3'-0"	7'-0"	1-3/4"	A	MTL	PAINT	1	MTL	PAINT	-	-	-	●		●					●			●	
	A-100-SH2	103	1	3'-0"	7'-0"	1-3/4"	A	MTL	PAINT	1	MTL	PAINT	-	45 MIN	-			●					●				
	A-100-SH2	104	1	3'-0"	7'-0"	1-3/4"	A	MTL	PAINT	1	MTL	PAINT	-	45 MIN	-			●					●				
	A-100-SH2	105	1	3'-0"	7'-0"	1-3/4"	A	MTL	PAINT	1	MTL	PAINT	-	45 MIN	-	●				●			●			●	
	A-100-SH2	106	1	3'-0"	7'-0"	1-3/4"	A	MTL	PAINT	1	MTL	PAINT	-	45 MIN	-			●					●				
	A-100-SH2	107	1	3'-0"	7'-0"	1-3/4"	B	MTL	PAINT	1	MTL	PAINT	-	45 MIN	-			●					●				
	A-100-SH2	108	1	3'-0"	7'-0"	1-3/4"	A	MTL	PAINT	1	MTL	PAINT	-	45 MIN	-					●			●				
	A-100-SH2	109	1	3'-0"	7'-0"	1-3/4"	B	MTL	PAINT	1	MTL	PAINT	-	45 MIN	-	●						●	●				
	A-100-SH2	110	1	3'-0"	7'-0"	1-3/4"	B	MTL	PAINT	1	MTL	PAINT	-	45 MIN	-	●						●	●				
	A-100-SH2	111	1	3'-0"	7'-0"	1-3/4"	A	MTL	PAINT	1	MTL	PAINT	-	-	-	●	●		●				●		●	●	
	A-100-SH2	112	1	3'-0"	7'-0"	1-3/4"	A	MTL	PAINT	1	MTL	PAINT	-	45 MIN	-			●			●		●			●	
	A-100-SH2	113	1	3'-0"	7'-0"	1-3/4"	A	MTL	PAINT	1	MTL	PAINT	-	45 MIN	-			●					●				
	A-100-SH2	114	1	3'-0"	7'-0"	1-3/4"	A	MTL	PAINT	1	MTL	PAINT	-	45 MIN	-			●					●				
	A-100-SH2	115	1	3'-0"	7'-0"	1-3/4"	B	MTL	PAINT	1	MTL	PAINT	-	45 MIN	-						●		●			●	
	A-100-SH2	116	1	3'-0"	7'-0"	1-3/4"	B	MTL	PAINT	1	MTL	PAINT	-	-	-	●					●		●			●	
	A-100-SH2	117	2	3'-0"	7'-0"	1-3/4"	A	MTL	PAINT	1	MTL	PAINT	-	-	-		●		●				●	●	●	●	
	A-100-SH1	118	1	3'-0"	7'-0"	1-3/4"	A	MTL	PAINT	1	MTL	PAINT	-	-	-	●	●		●				●	●	●	●	
	A-100-SH1	119	1	3'-0"	7'-0"	1-3/4"	A	MTL	PAINT	1	MTL	PAINT	-	-	-	●	●		●				●	●	●	●	
	A-100-SH1	120	1	3'-0"	7'-0"	1 3/4"	A	MTL	PAINT	1	MTL	PAINT	-	-	-	●	●		●				●	●	●	●	
	A-100-SH1	121	1	3'-0"	7'-0"	1-3/4"	A	MTL	PAINT	1	MTL	PAINT	-	-	-	●	●		●				●	●	●	●	
HARDWARE BY MANUFACTURER	A-100-SH1	122	1	16'-0"	18'-0"	1"	C	MTL	FFIN	1	MTL	PAINT	-	-	-												
	A-100-SH1	123	1	3'-0"	7'-0"	1-3/4"	A	MTL	PAINT	1	MTL	PAINT	-	-	-	●	●		●				●	●	●	●	
HARDWARE BY MANUFACTURER	A-100-SH1	124	1	8'-0"	10'-0"	1"	C	MTL	FFIN	-	MTL	PAINT	-	-	-												
	A-100-SH1	125	1	3'-0"	7'-0"	1-3/4"	B	MTL	PAINT	1	MTL	PAINT	-	-	-	●	●						●			●	
HARDWARE BY MANUFACTURER	A-100-SH1	126	1	8'-0"	10'-0"	1"	C	MTL	FFIN	1	MTL	PAINT	-	-	-												
	A-100-SH1	127	1	3'-0"	7'-0"	1-3/4"	A	MTL	PAINT	-	MTL	PAINT	-	-	-	●	●		●				●	●	●	●	
HARDWARE BY MANUFACTURER	*A-100-SH1*	128	1	*16'-0"*	*10'-0"*	1"	C	*MTL*	*FFIN*	1	*MTL*	*PAINT*	-	-	-												
	A-100-SH1	129	1	3'-0"	7'-0"	1 3/4"	A	MTL	PAINT	-	MTL	PAINT	-	-	-	●	●		●				●	●	●	●	
	A-100-SH2	130	1	3'-0"	7'-0"	1-3/4"	B	MTL	PAINT	1	MTL	PAINT	-	-	-	●					●		●			●	





DOOR TYPES

NOTE:

T = TEMPERED GLASS

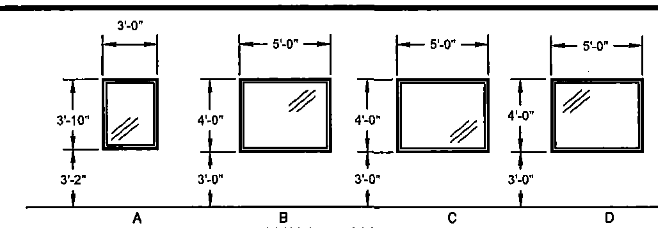
FRAME TYPES

NOTES

1. SEE VFS-EMP-DWG-000-A-110 SHEET 2 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. DOOR AND FRAME FINISH COLORS SHALL BE DETERMINED BY THE OWNER. CONTRACTOR SHALL SUBMIT SAMPLES FOR APPROVAL.
3. TABLE SHOWS MINIMUM DESIRED HARDWARE FUNCTIONS. ALL HARDWARE SHALL HAVE ALL OPERABLE PARTS, A SHAPE THAT IS EASY TO GRASP WITH ONE HAND, AND DOES NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST TO OPERATE AS PER *ICC/ANSI* 117.1.
4. ALL HARDWARE TO BE CONFIRMED WITH OWNER PRIOR TO PROCUREMENT.
5. PROVIDE TEMPERED GLASS IN ALL DOORS, 24" OF DOOR SWING IN ANY ADJACENT PLANE; ANY PANE LARGER THAN 9 SQUARE FEET, AT EXPOSED BOTTOM EDGE LESS THAN 18 INCHES ABOVE FINISHED FLOOR, EXPOSED EDGE MORE THAN 36" ABOVE FINISHED FLOOR AND WITHIN 36 INCHES OF ADJACENT WALKWAY AND ABOVE DOORS.
6. INSULATED DOOR, GASKET AT PERIMETER OF DOOR AND FRAME, RETRACTABLE DOOR SEAL AT THE DOOR BOTTOM.

WINDOW SCHEDULE

SHEET NUMBER	WINDOW TYPE	WINDOW SIZ MIN (WXH)	WINDOW MATL	WINDOW THK	WINDOW TYPE	FRAME MATL	FRAME FINISH	FIRE RATING	DETAILS	REMARKS
A-100-SH2	A	3'-0"x3'-10"	INSULATED	1"	-	ALUM	CLEAR	-	-	-
A-100-SH2	B	5'-0"x4'-0"	INSULATED	1"	-	ALUM	CLEAR	-	-	-
A-100-SH2	C	5'-0"x4'-0"	INSULATED	1"	-	HM	PAINT	-	-	-
A-100-SH2	D	6'-0"x4'-0"	INSULATED	1"	-	HM	PAINT	-	-	-



WINDOW TYPES

INTERIOR FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR FINISH	NORTH BASE	NORTH MATERIAL	NORTH FINISH	EAST BASE	EAST MATERIAL	EAST FINISH	SOUTH BASE	SOUTH MATERIAL	SOUTH FINISH	WEST BASE	WEST MATERIAL	WEST FINISH	CEILING MATERIAL	CEILING FINISH	CEILING HEIGHT	REMARKS
101	ELECTRICAL	CONC	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	ACT	-	9'-0"	-
102	INSTRUMENT ROOM	CONC	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	ACT	-	9'-0"	-
103	OFFICE 2	CONC	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	ACT	-	9'-0"	-
104	ENERCON OFFICE	CONC	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	ACT	-	9'-0"	-
105	OFFICE 1	CONC	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	ACT	-	9'-0"	-
106	CONTROL ROOM	CONC	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	ACT	-	9'-0"	-
107	STORAGE/ REPO	CONC	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	ACT	-	9'-0"	-
108	CONFERENCE	CP	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	ACT	-	9'-0"	-
109	RESTROOM	CONC	B2	GWB	FRP/P1	B2	GWB	FRP/P1	B2	GWB	FRP/P1	B2	GWB	FRP/P1	ACT	-	9'-0"	-
110	RESTROOM	CONC	B2	GWB	FRP/P1	B2	GWB	FRP/P1	B2	GWB	FRP/P1	B2	GWB	FRP/P1	ACT	-	9'-0"	-
111	BREAKROOM	CONC	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	ACT	-	9'-0"	-
112	CORRIDOR	CONC	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	ACT	-	±10'-0"	-
113	JANITOR CLOSET	CONC	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	ACT	-	±10'-0"	-
114	DATA ROOM	CONC	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	ACT	-	9'-0"	-
115	STORAGE ROOM	CONC	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	B1	GWB	P1	ACT	-	9'-0"	-

FINISH MATERIALS

MATERIAL	SPECIFICATIONS
B1	4"H RUBBER BASE
B2	6"H RUBBER BASE
CONC	SEALED CONCRETE
FRP	FIBER REINFORCED PLASTIC PANELS
P1	GENERAL WALL PAINT, SHERWIN WILLIAMS OR EQUAL
CP	CARPET

CONCEPTUAL DESIGN

VEOLIA

VEOLIA NUCLEAR SOLUTIONS
FEDERAL SERVICES, LLC
295 Bradley, Suite 300
Richland, WA 99352

NAME	DATE / COMPANY
DRAWN BY G GREEN	10/13/21 / WO
DRAFTING CHECKER J PIERCE	VNSFS
ARCHITECT M CORBIN	WO
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY ARCHITECTURAL DOOR, WIN., & FINISH SCH.

SIZE F | DWG NO VFS-EPM-100-DWG-A-130 | REV B

SCALE AS SHOWN | EDT | SHEET 2 OF 2

DWG NO VFS-EPM-000-DWG-A-130 SH 2 OF 2 REV B

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

MFD / REV REL	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS				

GENERAL NOTES:

1. CONTRACTOR SHALL HAVE A FULL SET OF THE CURRENT APPROVED CONSTRUCTION DOCUMENTS INCLUDING ANY APPROVED CHANGE DOCUMENTATION ON THE PROJECT AT ALL TIMES.
2. CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OR PROPER RESETTING OF ALL EXISTING STRUCTURES, MONUMENTS AND FACILITIES UNLESS OTHERWISE NOTED ON THE PLANS. ANY EXISTING STRUCTURES, MONUMENTS, OR FACILITIES THAT ARE DAMAGED DURING CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN ORIGINAL AT CONTRACTOR'S EXPENSE.
3. ANY DEVIATION FROM THESE PLANS WITHOUT PRIOR APPROVAL FROM THE ENGINEER AND OWNER SHALL BE AT THE CONTRACTOR'S OWN RISK AND EXPENSE.
4. SITE CONDITIONS SHALL BE CONFIRMED BY CONTRACTOR PRIOR TO STARTING WORK.
5. IT IS CONTRACTOR'S RESPONSIBILITY TO CONTACT UTILITIES TO IDENTIFY UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.
6. EROSION AND SEDIMENT CONTROL BMP'S INSTALLATION AND MAINTENANCE IS THE RESPONSIBILITY OF CONTRACTOR THROUGHOUT THE DURATION OF THE CONSTRUCTION ACTIVITIES.
7. CONTRACTOR SHALL MAINTAIN CONSTRUCTION REDLINES TO DOCUMENT AS-BUILT CONDITION. REDLINES WILL BE AVAILABLE FOR ENGINEERING REVIEW AT ALL TIMES. AT THE COMPLETION OF CONSTRUCTION ACTIVITIES REDLINES SHALL BE DELIVERED TO ENGINEER.

ABBREVIATIONS:

BMP	BEST MANAGEMENT PRACTICES
EL	ELEVATION
EP	EDGE OF PAVEMENT
FG	FINISHED GRADE
FF	FINISHED FLOOR
GB	GRADE BREAK
LF	LINEAR FEET
R	RADIUS
RG	ROUGH GRADE
TOE	TOE OF SLOPE
TOF	TOP OF FOUNDATION
TOP	TOP OF SLOPE

LEGEND:

—— E ——	ELECTRICAL CONDUIT/CABLE
—— I ——	COMMUNICATION CONDUIT/CABLE
—— FO ——	FIBER OPTIC CABLE
—— IS ——	INJECTION SKID
—— W ——	DOMESTIC WATER LINE
—— SAN ——	SANITARY SEWER LINE
—— X ——	FENCE LINE
— — — —	GRADE BREAK
	ANGULAR STONE
	CONCRETE
	TRUEGRID PERMABLE PAVERS
	GRAVEL
	COMPACTED SOIL OR STRUCTURAL FILL
	ELECTRICAL POLE
	DOMESTIC WATER VALVE
BFP	BACK FLOW PREVENTER
	FIRE HYDRANT
#	SITE ELECTRICAL NOTES
#	COMMUNICATION NOTES
#	SANITARY SEWER NOTES
#	DOMESTIC WATER NOTES

CONCEPTUAL DESIGN

VEOLIA

VEOLIA NUCLEAR SOLUTIONS
FEDERAL SERVICES, LLC
295 Bradley, Suite 300
Richland, WA 99352

NAME	DATE / COMPANY
DRAWN BY S MOORE	[illegible]/21/2021 VNSFS
DRAFTING CHECKER J PIERCE	VNSFS
ENGINEER D NELSON	VTDG
ENGINEER CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

CIVIL SYMBOLS, NOTES AND ABBREVIATIONS

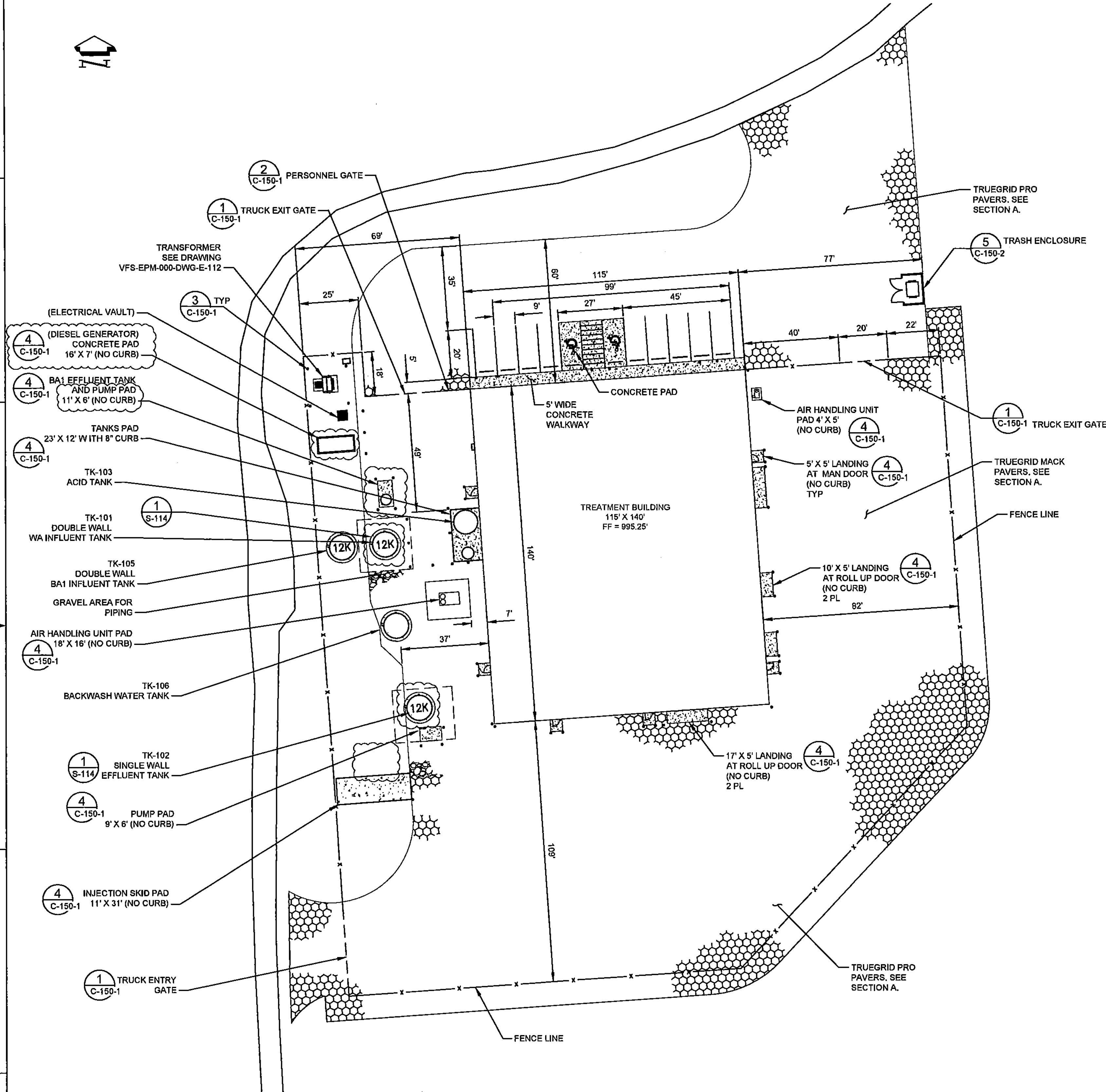
SIZE F | DWG NO VFS-EPM-000-DWG-C-101 | REV C
SCALE NONE | EDT | SHEET 1 OF 1

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

MFD	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS				

DWG NO VFS-EPM-000-DWG-C-101 SH 1 OF 1 REV C

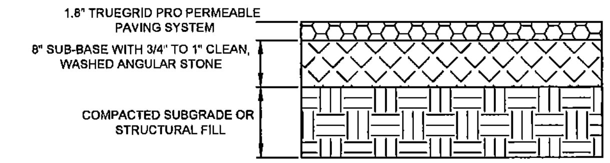


SITE PLAN

SCALE: 1" = 20'-0"

GENERAL NOTES:

1. SEE BMCD-GWREMED-C006 FOR WATF GRADING PLAN AND LAYOUT.
2. SEE VFS-EPM-000-DWG-C-113 FOR SITE UTILITY PLAN.
3. SEE VFS-EPM-000-DWG-S-101 FOR STRUCTURAL NOTES.



TRUEGRID PRO NOTES:

1. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION OF TRUEGRID PRODUCT
2. USE 5/8" TO 3/4" AGGREGATE FOR GRAVEL FILL-IN OF GRID.

TRUEGRID PRO PAVING SECTION A

SCALE: NONE

CONCEPTUAL DESIGN

VEOLIA

VEOLIA NUCLEAR SOLUTIONS
FEDERAL SERVICES, LLC
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Richland, WA 99352

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J PIERCE		VNSFS
D NELSON		VNSFS
J WILSON		VNSFS
E LLOYD		VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY SITE PLAN

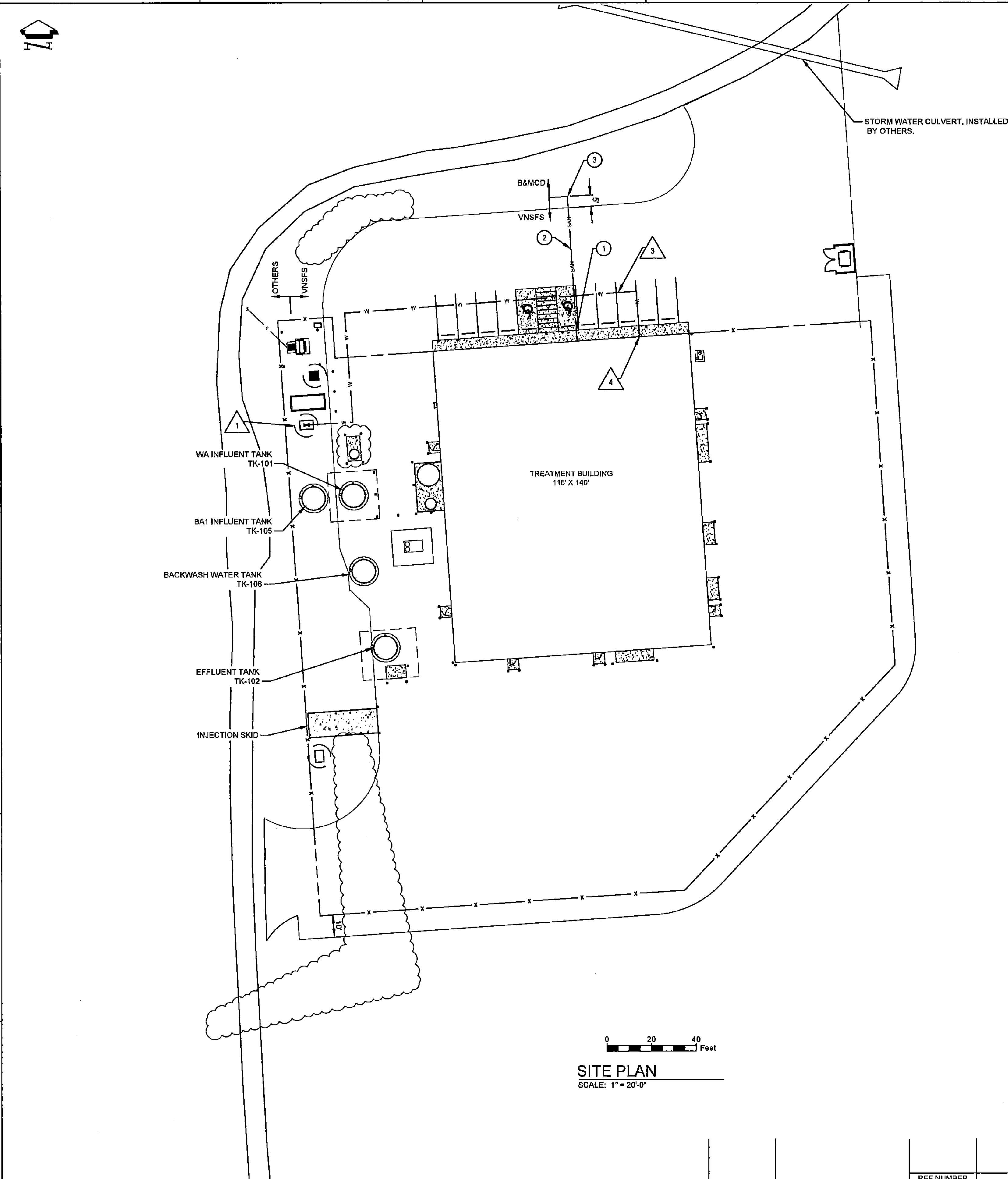
SIZE F | DWG NO VFS-EPM-000-DWG-C-110 | REV J

SCALE AS SHOWN | SHEET 1 OF 1

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REVISIONS

DWG NO VFS-EPM-000-DWG-C-110 SH 1 OF 1 REV J



SITE PLAN
SCALE: 1" = 20'-0"

GENERAL NOTES:

1. CONSTRUCTION OF ALL SITE UTILITIES SHALL CONFORM TO LOCAL JURISDICTION REQUIREMENTS AND APPROVED CONSTRUCTION SPECIFICATIONS.
2. SEE VFS-EPM-000-DWG-C-101 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.

SITE ELECTRICAL/COMMS/SECURITY NOTES:

1. SEE VFS-EPM-000-DWG-E-112 FOR ELECTRICAL SITE PLAN.
2. SEE VFS-EPM-000-DWG-J-111 FOR SECURITY SITE PLAN.

SANITARY SEWER NOTES:

1. CONNECT TO INTERIOR PLUMBING LINE. INSTALL CLEANOUT. SEE VFS-EPM-000-DWG-P-100 FOR FURTHER DETAILS.
2. INSTALL 3" SANITARY SEWER AT A MINIMUM SLOPE OF 2%.
3. INSTALL SANITARY SEWER LINE FOR CONTINUATION TO SEPTIC SYSTEM. CLEANOUT AND LOCATION OF SEPTIC SYSTEM BY OTHERS.

DOMESTIC WATER NOTES:

1. DOMESTIC WATER FROM WATER METER TO VALVE BY OTHERS. POINT OF CONNECTION AT VALVE FLANGE.
2. NOT USED.
3. INSTALL 160 LF OF 3" DOMESTIC WATER SERVICE. ALL JOINTS TO BE FULLY RESTRAINED.
4. STUB DOMESTIC WATER AT BUILDING. SEE VFS-EPM-000-DWG-P-100 FOR FURTHER DETAILS.

CONCEPTUAL DESIGN

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D NELSON		
J WILSON		VNSFS
E LLOYD		VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

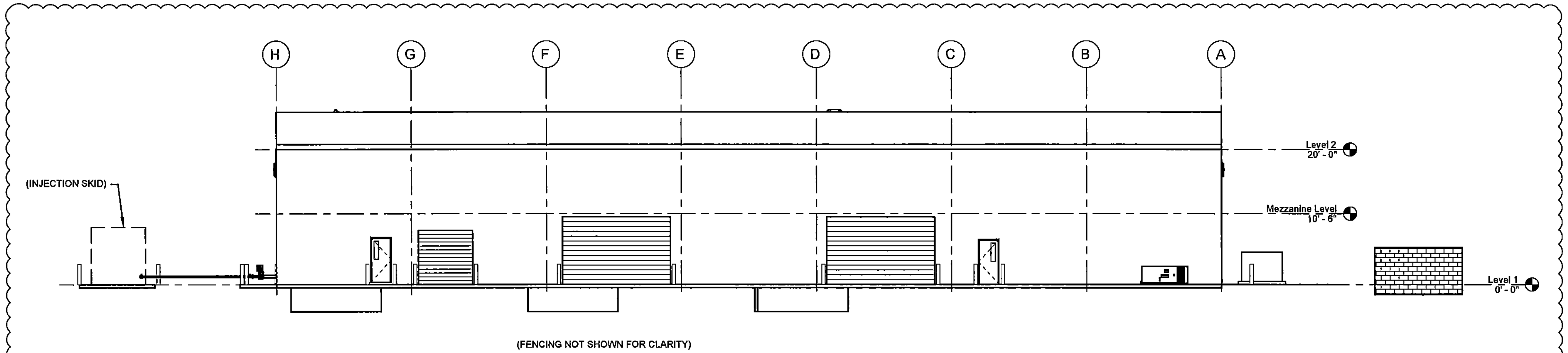
WESTERN AREA
TREATMENT FACILITY
SITE UTILITY PLAN

SIZE F DWG NO VFS-EPM-000-DWG-C-113 REV H
SCALE AS SHOWN SHEET 1 OF 1

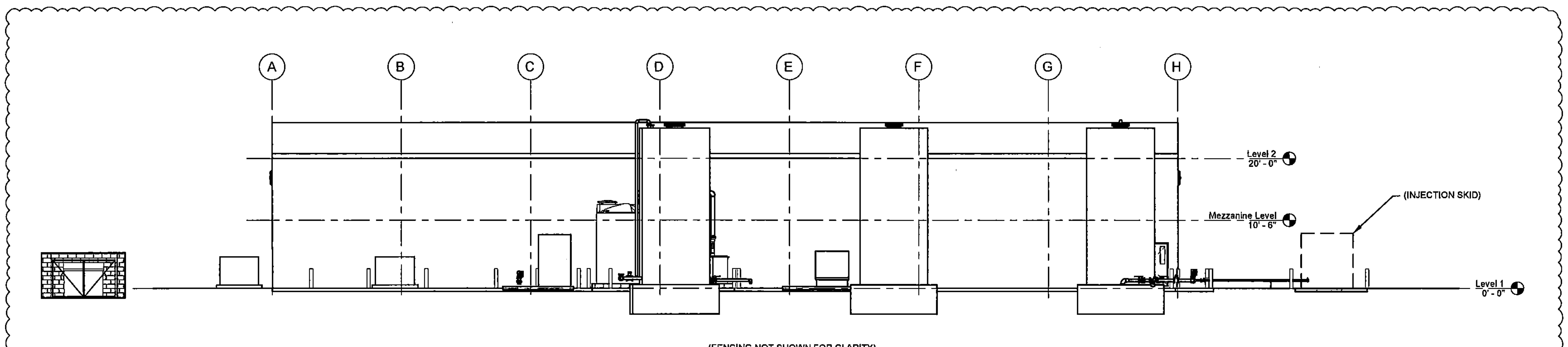
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REVISIONS

DWG NO VFS-EPM-000-DWG-C-113 SH 1 OF 1 REV H



A C-110 EAST ELEVATION
SCALE: 1/8"=1'-0"



B C-110 WEST ELEVATION
SCALE: 1/8"=1'-0"

1/8" = 1'-0" 0' 4' 8' 16' 24" SCALE FEET

CONCEPTUAL DESIGN

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CIMARRON
PUMP AND TREAT SYSTEM PROJECT

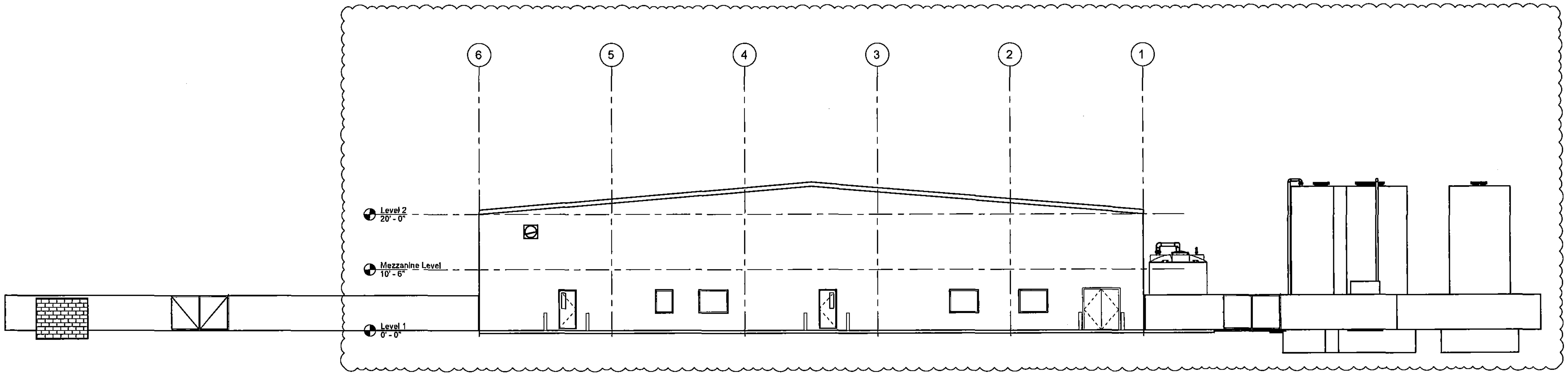
WESTERN AREA
TREATMENT FACILITY
ELEVATIONS

SIZE F | DWG NO VFS-EPM-000-DWG-C-130 | REV D
SCALE AS SHOWN | EDT | SHEET 1 OF 2

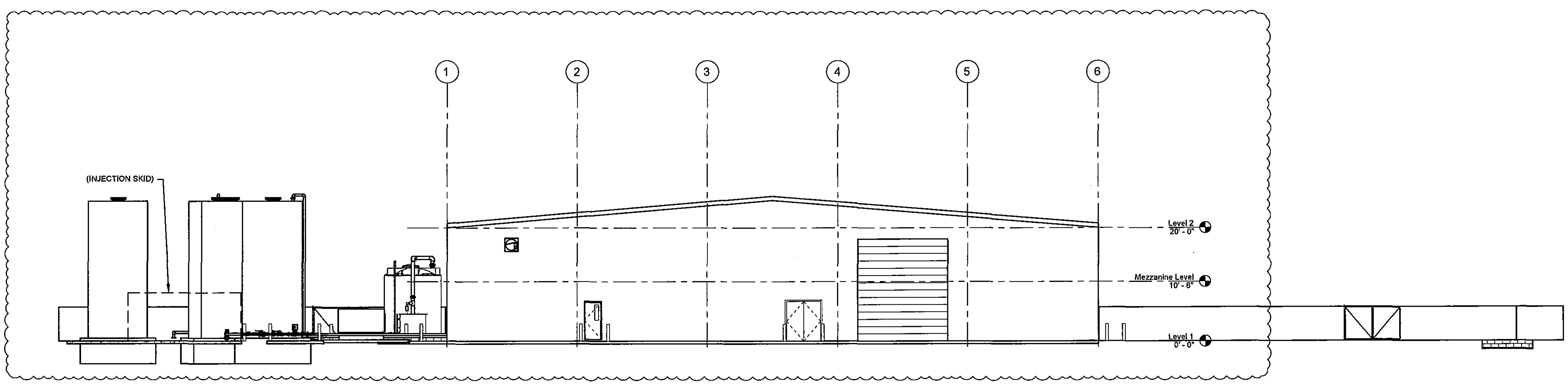
DWG NO VFS-EPM-000-DWG-C-130 SH 1 OF 2 REV D

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

MFD NO	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REV REL		REVISIONS		



C
C-110
NORTH ELEVATION
SCALE: 1/8"=1'-0"



D
C-110
SOUTH ELEVATION
SCALE: 1/8"=1'-0"

1/8" = 1'-0" 0' 4' 8' 16' 24"
SCALE FEET

DWG NO	TITLE	REF NUMBER	TITLE
		REFERENCES	
DRAWING TRACEABILITY LIST		NEXT USED ON	

INFO	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REV REL		REVISIONS		

CONCEPTUAL DESIGN

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ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA
TREATMENT FACILITY
ELEVATIONS

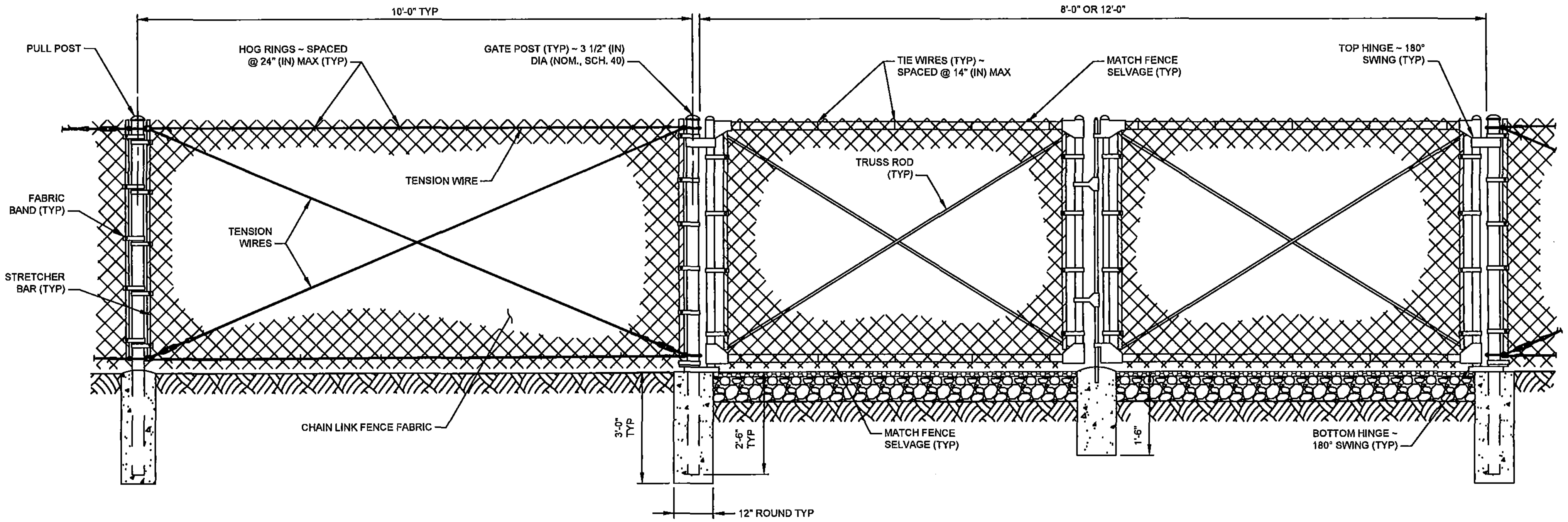
SIZE F | DWG NO VFS-EPM-000-DWG-C-130 | REV D

SCALE AS SHOWN | EDT | SHEET 2 OF 2

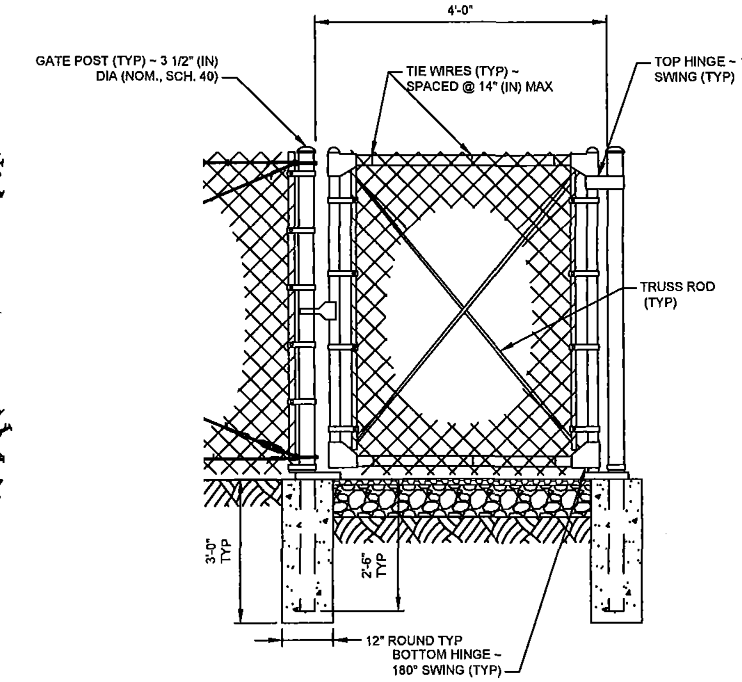
DWG NO VFS-EPM-100-DWG-C-130 | SH 2 OF 2 | REV D

GENERAL NOTES:

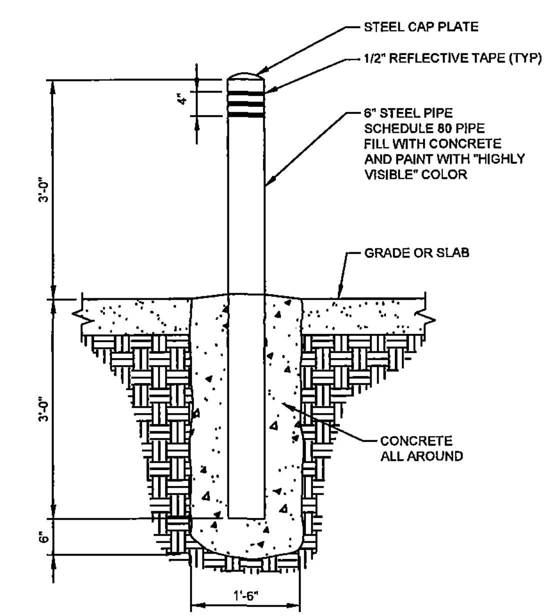
1. SEE VFS-EPM-000-DWG-C-101 FOR SYMBOLS, NOTES, AND ABBREVIATIONS.



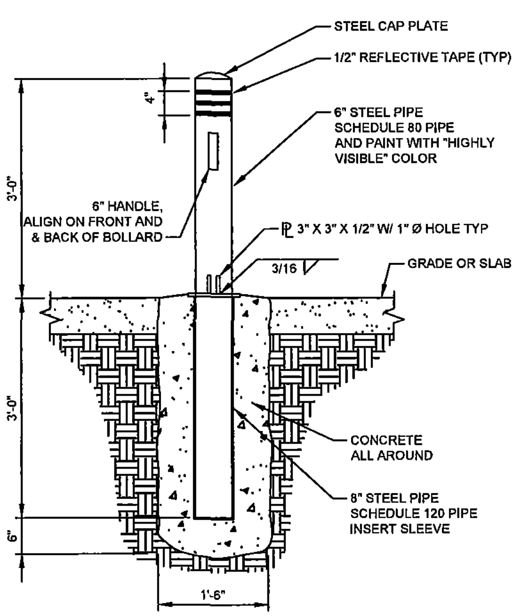
1 C-110 CHAIN-LINK FENCE WITH GATE DETAIL
SCALE: NONE



2 C-110 CHAIN-LINK FENCE WITH PERSONNEL GATE DETAIL
SCALE: NONE

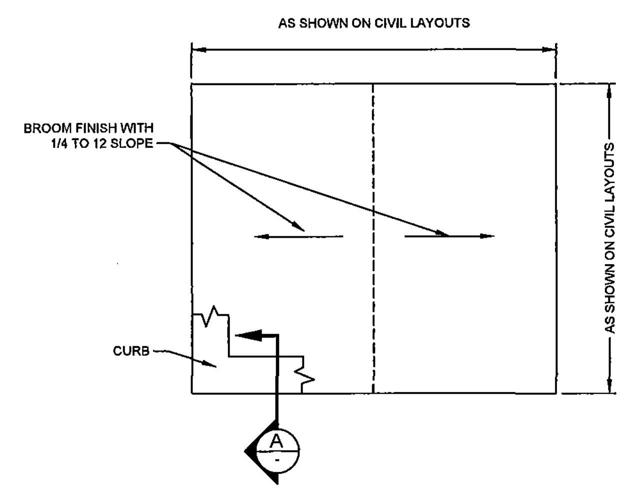


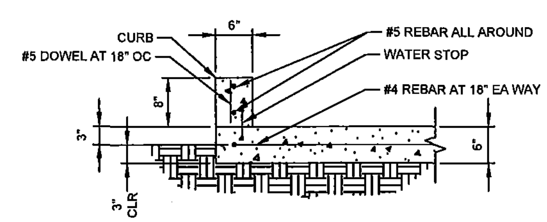
BOLLARD DETAIL



REMOVABLE BOLLARD DETAIL

3 C-110 BOLLARD DETAILS
SCALE: NONE





A SECTION
SCALE: NONE

(CURB ONLY REQUIRED IN LOCATIONS INDICATED ON CIVIL LAYOUTS)

4 C-110 MISCELLANEOUS EQUIPMENT PAD
SCALE: NONE

CONCEPTUAL DESIGN

VEOLIA

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Richland, WA 99352

NAME	DATE	COMPANY
DRAWN BY S MOORE		VNSFS
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ENGINEER D NELSON		WDG
ENGINEER CHECKER J WILSON		VNSFS
PROJECT MANAGER E LLOYD		VNSFS
DESIGN AUTHORITY		

CIMARRON
PUMP AND TREAT SYSTEM PROJECT
CIVIL DETAILS

SIZE F | DWG NO VFS-EPM-000-DWG-C-150 | REV C
SCALE NONE | SHEET 1 OF 2

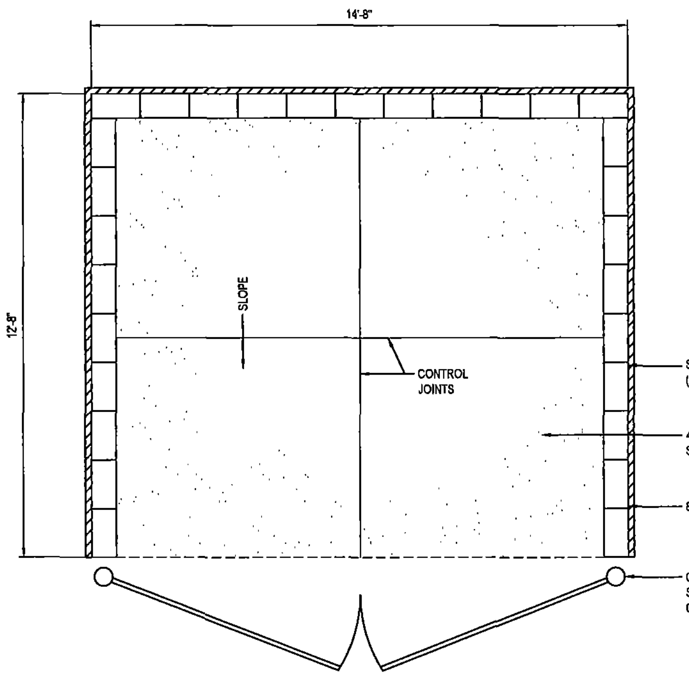
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

REVISIONS

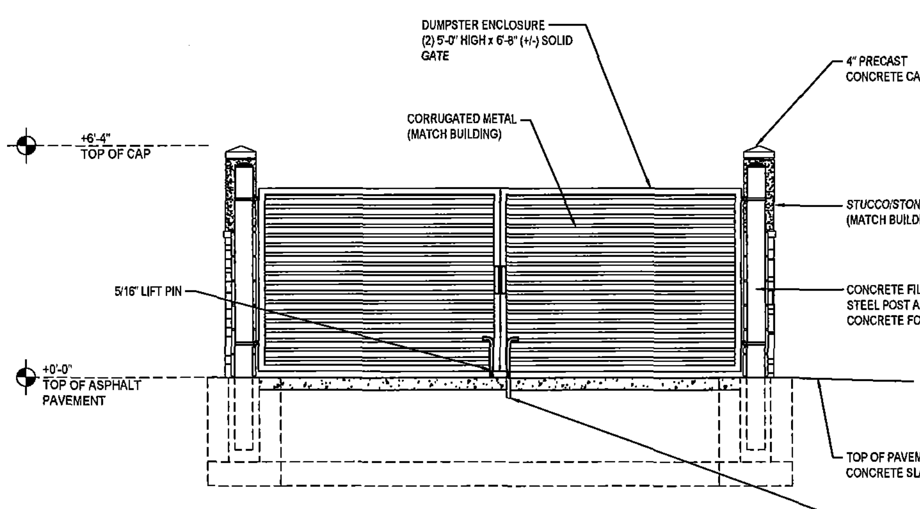
DWG NO VFS-EPM-000-DWG-C-150 SH 1 OF 2 REV C

GENERAL NOTES:

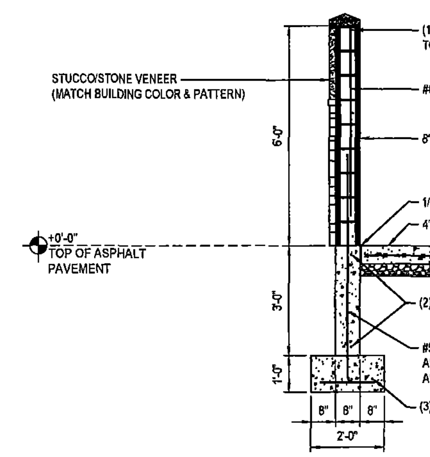
1. SEE VFS-EPM-000-DWG-C-101 FOR SYMBOLS, NOTES, AND ABBREVIATIONS.



PLAN



ELEVATION



WALL SECTION

5 / C-110 TRASH ENCLOSURE DETAIL

SCALE: NONE

CONCEPTUAL DESIGN

VEOLIA NUCLEAR SOLUTIONS
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295 Bradley, Suite 300
Richland, WA 99352

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ENGINEER CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

CIVIL DETAILS

SIZE F | DWG NO VFS-EPM-000-DWG-C-150 | REV C
SCALE NONE | EDT | SHEET 2 OF 2

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

WO	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REV REL	REVISIONS			

DWG NO VFS-EPM-000-DWG-C-150 | SH 2 OF 2 | REV C

LINES:

- CONDUCTOR/CONDUIT
- UNDERGROUND CONDUIT
- E — ELECTRICAL CONDUCTOR/CONDUIT
- G — GROUNDING CONDUCTOR
- EMBEDDED REBAR
- PHASE
- SWITCHED
- NEUTRAL
- GROUND

SYMBOLS:

- CORD & PLUG/RECEPTACLE
- NON-FUSED DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH
- FUSE
- ~ LINE BREAK
- CONNECTION POINT/ GROUND ROD
- EXOTHERMIC BOND OR COMPRESSION FITTING CONNECTION
- 20A CIRCUIT BREAKER (TRIP)
- 1500/2000 CIRCUIT BREAKER (TRIP/FRAME)
- CURRENT TRANSFORMER
- X MOTOR X=HP
- TRANSFORMER
- GROUND
- KWH KILOWATT HOUR METER
- 225/225 SPD PP-1 POWER PANEL, MAIN BREAKER
- 100 SPD LP-A LIGHTING PANEL, MLO, NUMBER INDICATES PANEL SIZE
- ENCLOSURE/SKID
- VFD VARIABLE FREQUENCY DRIVE
- SPD SURGE PROTECTION DEVICE, EXTERNAL
- METER MODULE DIGITAL POWER METER
- 22,100 AVAILABLE 3Ø FAULT CURRENT (RMS, SYM. AMPS).

SYMBOLS: (CONTINUED)

- SPD SURGE PROTECTION DEVICE, INTERNAL
- DUPLEX RECEPTACLE
- DOUBLE DUPLEX RECEPTACLE
- GFCI DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER
- GFCI WP DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER WITH WEATHERPROOF COVER
- MULTI-OUTLET ASSEMBLY
- A 2' X 4" LUMINAIRE A = FIXTURE TYPE
- A 4' X 4" LUMINAIRE A = FIXTURE TYPE
- A 1' X 4' LUMINAIRE A = FIXTURE TYPE
- A 2' X 4' LUMINAIRE A = FIXTURE TYPE
- A 1' X 4' LUMINAIRE W/ EMERGENCY BATTERY PACK A = FIXTURE TYPE
- A 2' X 4' LUMINAIRE W/ EMERGENCY BATTERY PACK A = FIXTURE TYPE
- A HIGH BAY LUMINAIRE A = FIXTURE TYPE
- A HIGH BAY LUMINAIRE WITH EMERGENCY BATTERY PACK A = FIXTURE TYPE
- A WALL MOUNTED LUMINAIRE A = FIXTURE TYPE
- A WALL MOUNTED EXIT SIGN A = FIXTURE TYPE
- A CEILING MOUNTED EXIT SIGN A = FIXTURE TYPE
- \$ SWITCH
- $\$_3$ 3-WAY SWITCH

ABBREVIATIONS:

A	AMPERES
BA1	BURIAL AREA 1
CBL	CABLE
CKT	CIRCUIT
CTRL	CONTROL
DP	DISTRIBUTION PANEL
DS	DISCONNECT SWITCH
EGC	EQUIPMENT GROUNDING CONDUCTOR
FACP	FIRE ALARM CONTROL PANEL
F.O.	FIBER OPTIC
G	GROUND
GEC	GROUNDING ELECTRODE CONDUCTOR
GES	GROUNDING ELECTRODE SYSTEM
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFEP	GROUND FAULT EQUIPMENT PROTECTOR
GND	GROUNDING CONDUCTOR
HMI	HUMAN MACHINE INTERFACE
HP	HORSE POWER
HVAC	HEATING, VENTILATION & AIR CONDITIONING
HZ	HERTZ
I/O	INPUT/OUTPUT
IX	ION EXCHANGE
KV	KILO-VOLT
KVA	KILO-VOLT AMPERES
KW	KILO-WATT
KWH	KILO-WATT HOUR
LED	LIGHT EMITTING DIODE
LP	LIGHTING PANEL
LSI	LONG SHORT INSTANTANEOUS
LSIG	LONG SHORT INSTANTANEOUS GROUND FAULT
MCC	MOTOR CONTROL CENTER
MLO	MAIN LUGS ONLY
N	NEUTRAL
NEC	NATIONAL ELECTRICAL CODE
P	PUMP/POLE BREAKER
PH	PHASE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PLG	PLUG
PP	POWER PANEL
PWR	POWER
RCPT	RECEPTACLE
SKD	SKID
SPD	SURGE PROTECTIVE DEVICE
SWBD	SWITCHBOARD
V	VOLTS
VA	VOLT AMPERES
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS/WIRE
WATF	WESTERN AREA TREATMENT FACILITY
WP	WEATHERPROOF
XFMR	TRANSFORMER
XO	TRANSFORMER SECONDARY NEUTRAL

INSTRUMENT/FUNCTION SYMBOLS:

PRIMARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR

- XXX XXX DISCRETE INSTRUMENTS
- XXX XXX SHARED DISPLAY, SHARED CONTROL

GENERAL NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, 2017 EDITION.

CONCEPTUAL DESIGN

VEOLIA

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295 Bradley, Suite 300
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ENGINEERING CHECKER R JENSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

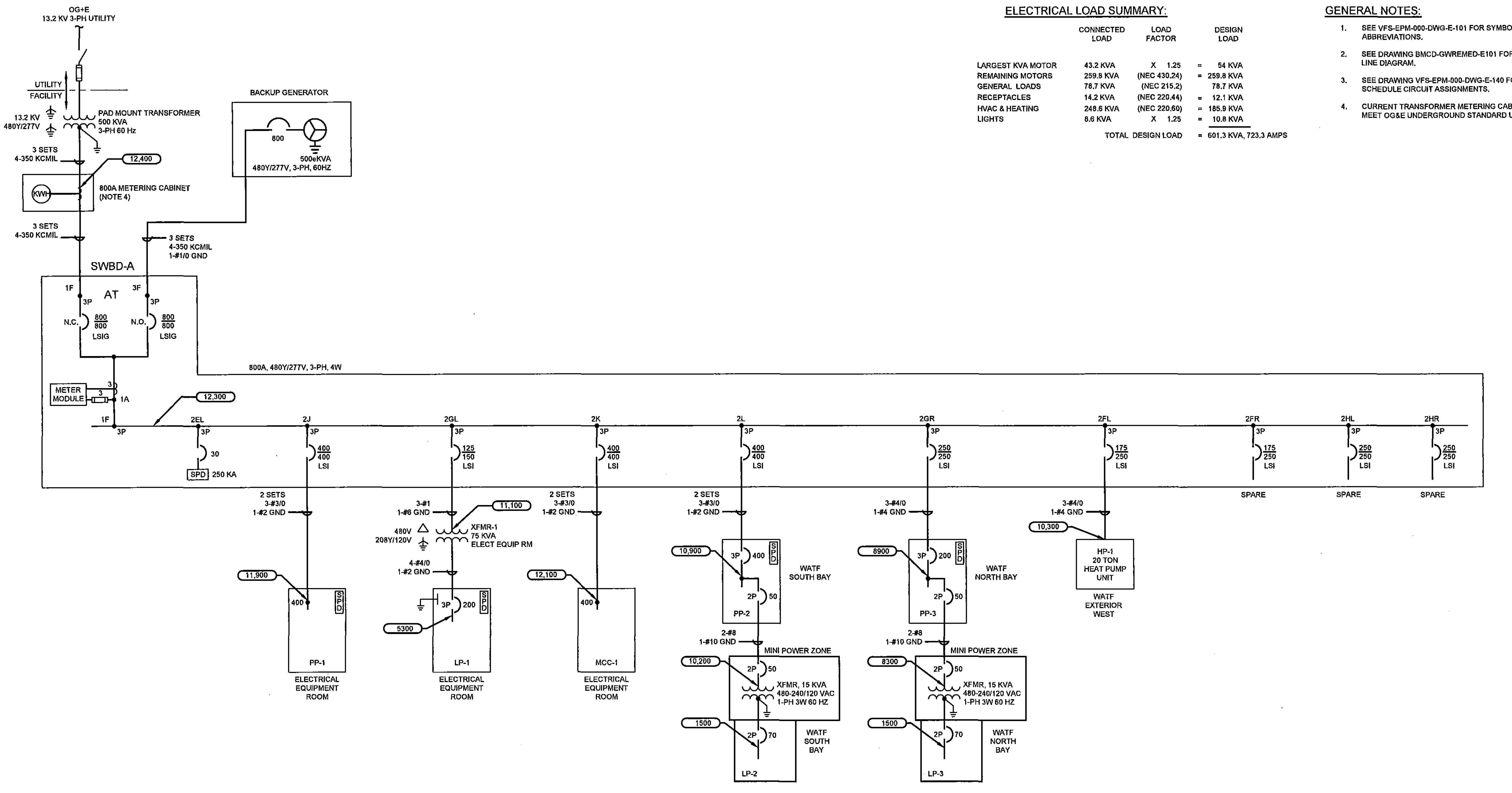
CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WATF ELECTRICAL SYMBOLS, NOTES, AND ABBREVIATIONS

SIZE F | DWG NO VFS-EPM-000-DWG-E-101 | REV C
SCALE NONE | EDT | SHEET 1 OF 1

DWG NO | TITLE — DRAWING TRACEABILITY LIST
REF NUMBER | TITLE — REFERENCES
NEXT USED ON
REV | DESCRIPTION | REV BY DATE | ENGR / COMPANY — REVISIONS

VFS-EPM-000-DWG-E-101 SH 1 OF 1 REV C



ELECTRICAL LOAD SUMMARY:

	CONNECTED LOAD	LOAD FACTOR		DESIGN LOAD
LARGEST KVA MOTOR	43.2 KVA	X 1.25	=	54 KVA
REMAINING MOTORS	259.8 KVA	(NEC 430.24)	=	259.8 KVA
GENERAL LOADS	78.7 KVA	(NEC 215.2)		78.7 KVA
RECEPTACLES	14.2 KVA	(NEC 220.44)	=	12.1 KVA
HVAC & HEATING	248.6 KVA	(NEC 220.60)	=	185.9 KVA
LIGHTS	8.6 KVA	X 1.25	=	10.8 KVA
		TOTAL DESIGN LOAD	=	601.3 KVA, 723.3 AMPS

GENERAL NOTES:

1. SEE VFS-EPM-000-DWG-E-101 FOR SYMBOLS, NOTES, AND ABBREVIATIONS.
2. SEE DRAWING BMCD-GWREMED-E101 FOR MCC-1 SINGLE LINE DIAGRAM.
3. SEE DRAWING VFS-EPM-000-DWG-E-140 FOR PANEL SCHEDULE CIRCUIT ASSIGNMENTS.
4. CURRENT TRANSFORMER METERING CABINET SHALL MEET OG&E UNDERGROUND STANDARD U765.

WESTERN AREA TREATMENT FACILITY SINGLE LINE DIAGRAM

SCALE: NOT TO SCALE

CONCEPTUAL DESIGN

DWG NO	TITLE	REF NUMBER	TITLE	REV	DESCRIPTION	REV BY DATE	ENGR COMPANY
DRAWING TRACEABILITY LIST		REFERENCES			REVISIONS		
		NEXT USED ON					

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ENGINEERING CHECKER R JENSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

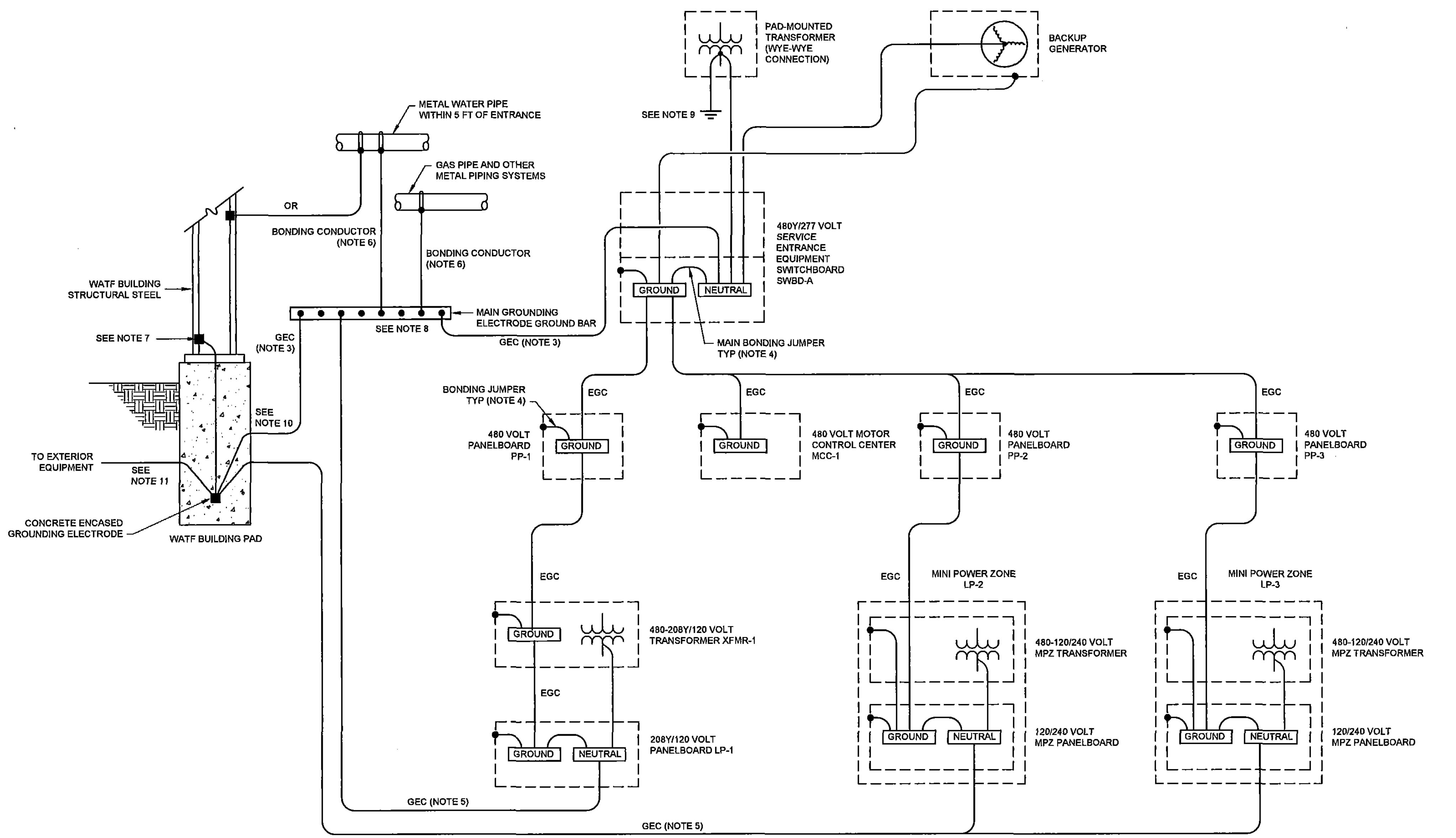
CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA
TREATMENT FACILITY
SINGLE LINE DIAGRAM

SIZE F | DWG NO VFS-EPM-000-DWG-E-110 | REV D

SCALE NONE | EDT | SHEET 1 OF 1

DWG NO VFS-EPM-000-DWG-E-110 | SH 1 OF 1 | REV D



WATF GROUNDING DIAGRAM

GENERAL NOTES:

1. GROUNDING SHALL BE IN ACCORDANCE WITH THE 2017 NATIONAL ELECTRICAL CODE.
2. SEE SINGLE LINE DIAGRAM DRAWINGS FOR SIZES OF NEUTRAL CONDUCTORS AND EQUIPMENT GROUNDING CONDUCTORS (EGC).
3. INSTALL GROUNDING ELECTRODE CONDUCTORS, SIZED BASED ON NEC TABLE 250.66 USING THE SERVICE PHASE CONDUCTOR EQUIVALENT SIZE; BUT NOT SMALLER THAN #4 AWG.
4. INSTALL BONDING JUMBER THAT IS SIZED BASED ON NEC TABLE 250.66 USING THE LARGEST SERVICE OR SEPARATELY DERIVED SYSTEM PHASE CONDUCTOR.
5. INSTALL GROUNDING ELECTRODE CONDUCTOR (GEC) THAT IS SIZED BASED ON NEC TABLE 250.66 USING THE SEPARATELY DERIVED SYSTEM PHASE CONDUCTOR SIZE.
6. INSTALL BONDING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250.66 USING THE SERVICE PHASE CONDUCTOR SIZE.
7. IRREVERSIBLE COMPRESSION CONNECTOR OR EXOTHERMIC WELD.
8. *INSTALL MAIN GROUND ELECTRODE GROUND BAR FOR SINGLE POINT* GROUNDING. LOCATE AT AN ACCESSIBLE AND VISIBLE POINT NEAR THE SERVICE ENTRANCE EQUIPMENT. MAKE CONNECTIONS TO THE GROUND BAR USING TWO-HOLE COMPRESSION SPADE LUGS THAT MEET IEEE 837 REQUIREMENTS.
9. LOW VOLTAGE GROUNDING AT PAD-MOUNTED UTILITY TRANSFORMER .
10. CONNECTION OF GROUNDING ELECTRODE SYSTEM TO MAIN GROUNDING ELECTRODE GROUND BAR.
11. GROUNDING CONNECTION TO EXTERIOR PAD-MOUNTED ELECTRICAL EQUIPMENT. SEE GROUNDING PLAN FOR LOCATIONS.

CONCEPTUAL DESIGN

VEOLIA NUCLEAR SOLUTIONS
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NAME	DATE / COMPANY
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ENGINEER D KING	VNSFS
DRAFTING CHECKER S MOORE	VNSFS
ENGINEERING CHECKER R JENSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY GROUNDING DIAGRAM

SIZE F | DWG NO VFS-EPM-000-DWG-E-111 | REV B
SCALE NONE | EDT | SHEET 1 OF 1

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

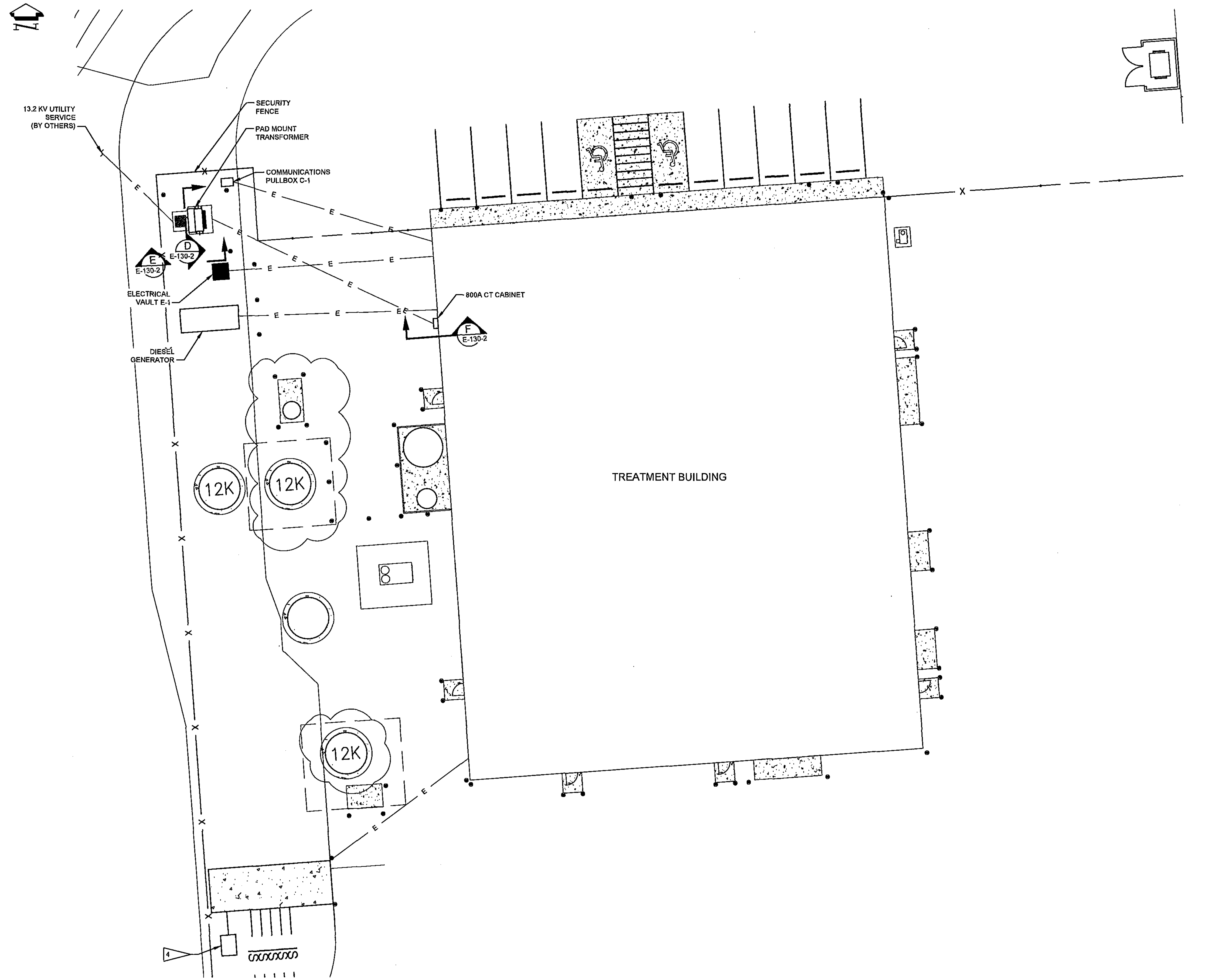
REVISIONS: REV NO | DESCRIPTION | REV BY DATE | ENGR COMPANY

DWG NO VFS-EPM-000-DWG-E-111 SH 1 OF 1 REV B

GENERAL NOTES:

1. SEE VFS-EPM-000-DWG-E-101 FOR SYMBOLS, NOTES, AND ABBREVIATIONS.
2. SEE DRAWING VFS-EPM-000-DWG-E-113 FOR UNDERGROUND CONDUIT PLAN.
3. CURRENT TRANSFORMER (CT) METERING CABINET SHALL MEET OG&E UNDERGROUND STANDARD U765. CT CABINET WIRING SHALL BE IN ACCORDANCE WITH DIAGRAM U765.1.

4 — PULL BOX FOR WELL FIELD INSTRUMENTATION THAT CONNECTS TO INJECTION SKID.



1" = 10'
0' 5' 10' 20' 30'
SCALE FEET

ELECTRICAL SITE PLAN

SCALE: 1" = 10'-0"

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REVISIONS

CONCEPTUAL DESIGN

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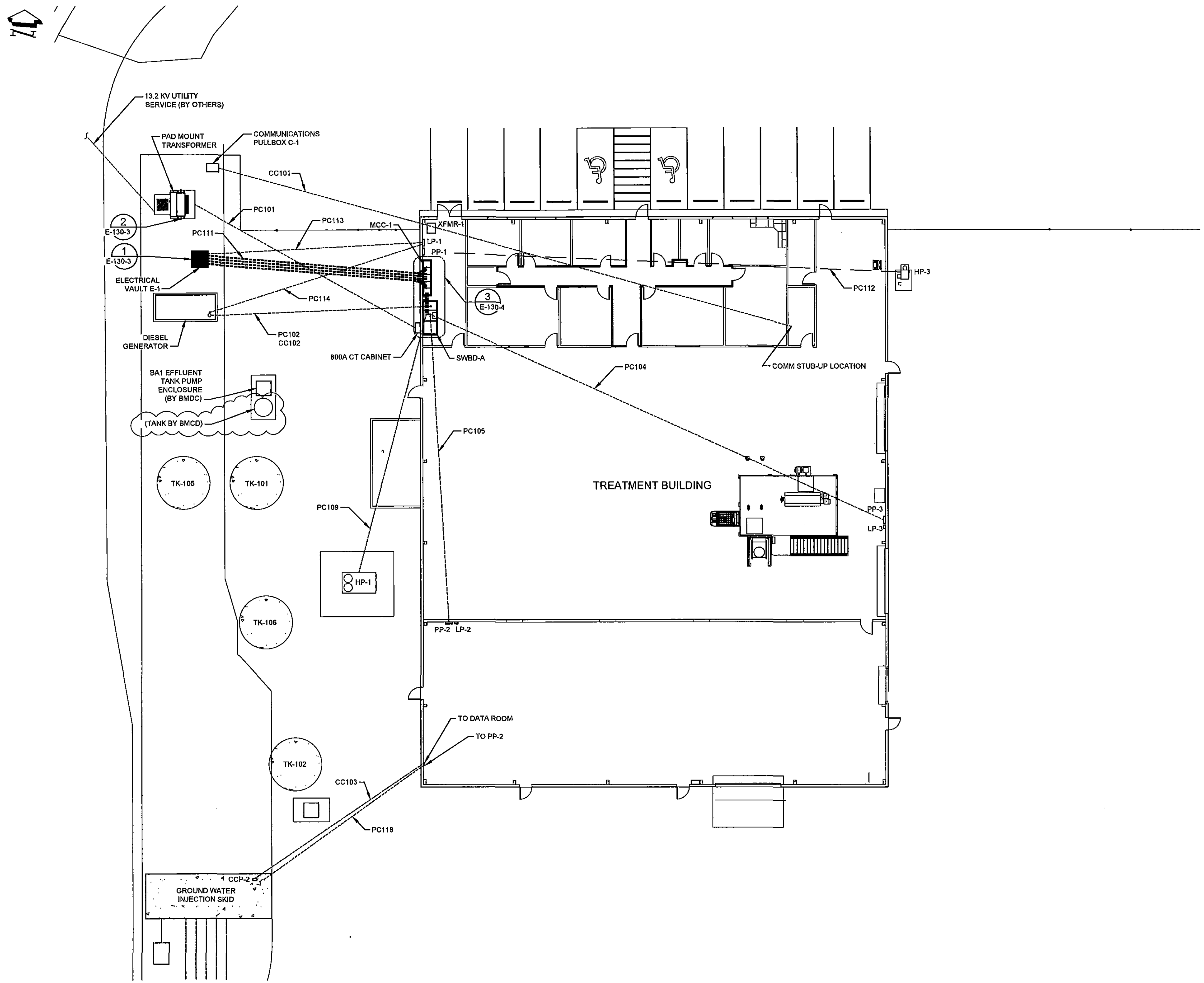
CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA
TREATMENT FACILITY
ELECTRICAL SITE PLAN

SIZE F | DWG NO VFS-EPM-000-DWG-E-112 | REV E

SCALE AS SHOWN | EDT | SHEET 1 OF 1

DWG NO VFS-EPM-000-DWG-E-112 SH 1 OF 1 REV E



ELECTRICAL UNDERGROUND CONDUIT PLAN

SCALE: 1" = 10'-0"

1" = 10' 0' 5' 10' 20' 30' SCALE FEET

GENERAL NOTES:

1. SEE VFS-EPM-000-DWG-E-141 FOR CONDUIT SCHEDULE.
2. SEE DRAWING BMCD-GWREMED-E101 FOR MCC-1 SINGLE LINE DIAGRAM.
3. SEE DRAWING VFS-EPM-000-DWG-E-115 FOR CIRCUIT ASSIGNMENTS.
4. CONDUIT ROUTING IS SHOWN DIAGRAMMATICALLY. FIELD ROUTE AS REQUIRED TO AVOID INTERFERENCES WITH STRUCTURAL FOUNDATIONS. INSTALL CONDUIT SHOWN PRIOR TO POURING CONCRETE.
5. MINIMUM CONDUIT DEPTH SHALL BE PER NEC REQUIREMENTS. COORDINATE UNDERGROUND CONDUIT INSTALLATION DEPTHS TO AVOID INTERFERENCES AT INTERSECTIONS SHOWN.
6. TRANSITION PVC CONDUIT BELOW GRADE TO RMC ABOVE GRADE USING 90 DEGREE RMC SWEEPS.

CONCEPTUAL DESIGN

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E LLOYD	VNSFS

DESIGN AUTHORITY

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY UNDERGROUND CONDUIT PLAN

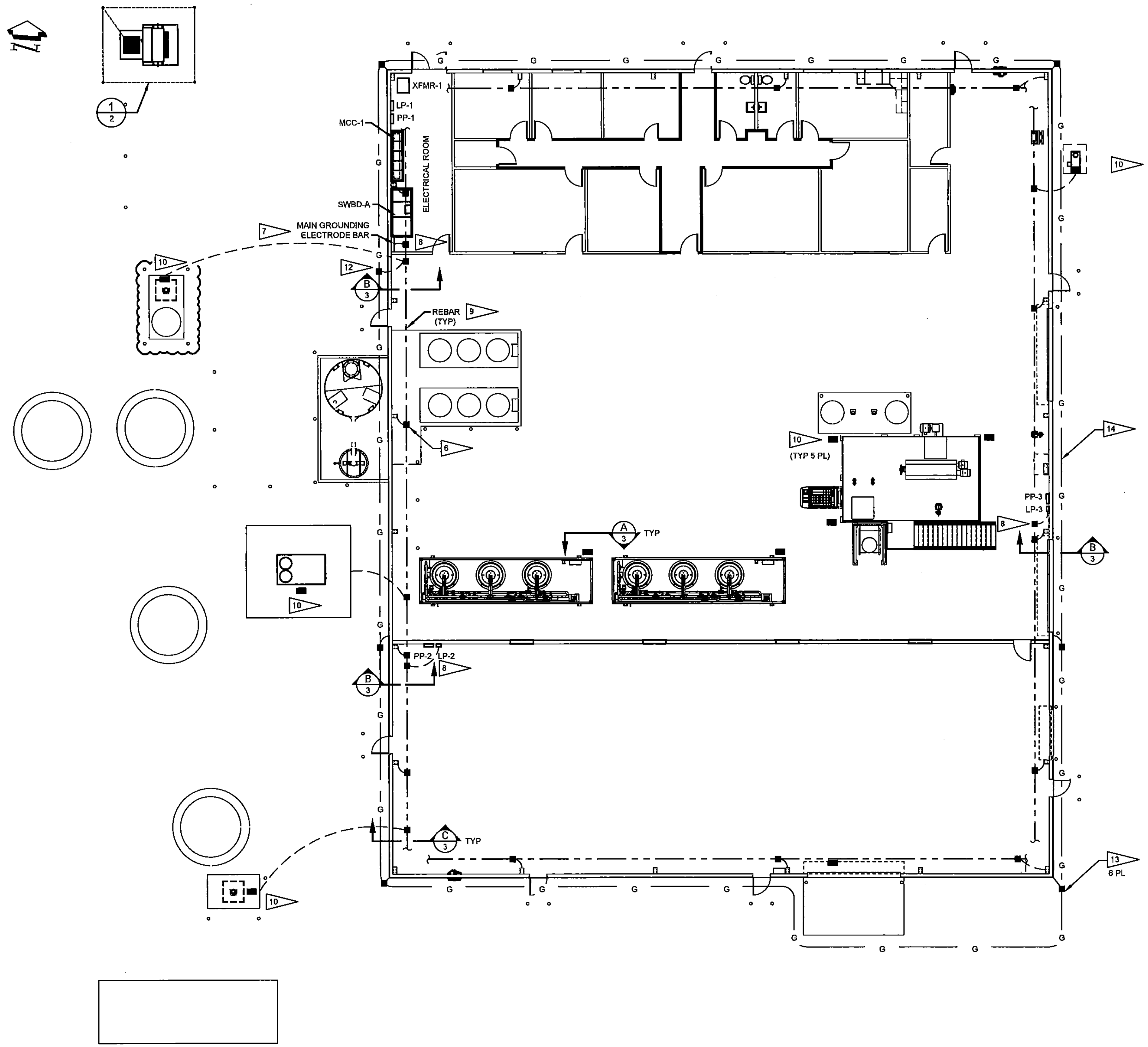
SIZE F DWG NO VFS-EPM-000-DWG-E-113 REV E

SCALE AS SHOWN SHEET 1 OF 1

VFS-EPM-000-DWG-E-113 SH 1 OF 1 REV E

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

MFG	REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY
REVISIONS				



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

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

GENERAL NOTES:

1. SEE VFS-EPM-000-DWG-E-101 FOR SYMBOLS, NOTES, AND ABBREVIATIONS.
2. BUILDING GROUNDING ELECTRODE SYSTEM IS COMPRISED OF CONCRETE-EMBEDDED REBAR BONDED TOGETHER.
3. ALL GROUNDING SYSTEM CONDUCTORS ARE #4/0 AWG COPPER UNLESS OTHERWISE SPECIFIED.
4. BOND ALL METAL WATER PIPES WITHIN 5 FEET OF SERVICE ENTRANCE TO GROUNDING ELECTRODE SYSTEM.
5. TIE 1/2 INCH MINIMUM DIAMETER EMBEDDED REBAR SECTIONS TOGETHER USING STEEL WIRE TIES OR WELDING TO FORM A CONTINUOUS GROUNDING ELECTRODE.
6. BOND EVERY OTHER STEEL COLUMN TO GROUNDING ELECTRODE SYSTEM.
7. INSTALL MAIN GROUNDING ELECTRODE GROUND BAR IN APPROXIMATE LOCATION SHOWN. CONNECT TO GROUNDING ELECTRODE SYSTEM.
8. PROVIDE 5 FEET OF GROUNDING ELECTRODE CONDUCTOR ABOVE FINISHED FLOOR FOR BONDING TO MAIN GROUNDING ELECTRODE GROUND BAR AND MINI POWER CENTERS.
9. REBAR BONDED TOGETHER IN CONCRETE SLAB.
10. INSTALL GROUNDING PLATES IN APPROXIMATE LOCATION SHOWN AND BOND TO GROUNDING ELECTRODE SYSTEM.
11. ALL LIGHTNING PROTECTION SYSTEM COUNTERPOISE CONDUCTORS ARE #2 AWG UNLESS OTHERWISE SPECIFIED.
12. BOND LIGHTNING PROTECTION SYSTEM COUNTERPOISE TO GROUNDING ELECTRODE SYSTEM.
13. CONNECT LIGHTNING PROTECTION SYSTEM DOWN CONDUCTORS TO COUNTERPOISE. SEE SHEET E-118 FOR LIGHTNING PROTECTION SYSTEM AIR TERMINAL LAYOUT.
14. INSTALL LIGHTNING PROTECTION SYSTEM GROUND RING (COUNTERPOISE) AROUND THE PERIMETER OF THE BUILDING FOUNDATION. COUNTERPOISE SHALL BE INSTALLED A MINIMUM OF 3'-0" BELOW GRADE, A MINIMUM OF 5'-0" FROM THE FOUNDATION FOOTING AND A MINIMUM OF 6'-0" FROM ANY ELECTRICAL SYSTEM OR COMMUNICATION SYSTEM GROUND ELECTRODE.

CONCEPTUAL DESIGN

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PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY GROUNDING PLAN

SIZE F | DWG NO VFS-EPM-000-DWG-E-114 | REV E
SCALE SHOWN | EDT | SHEET 1 OF 3

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

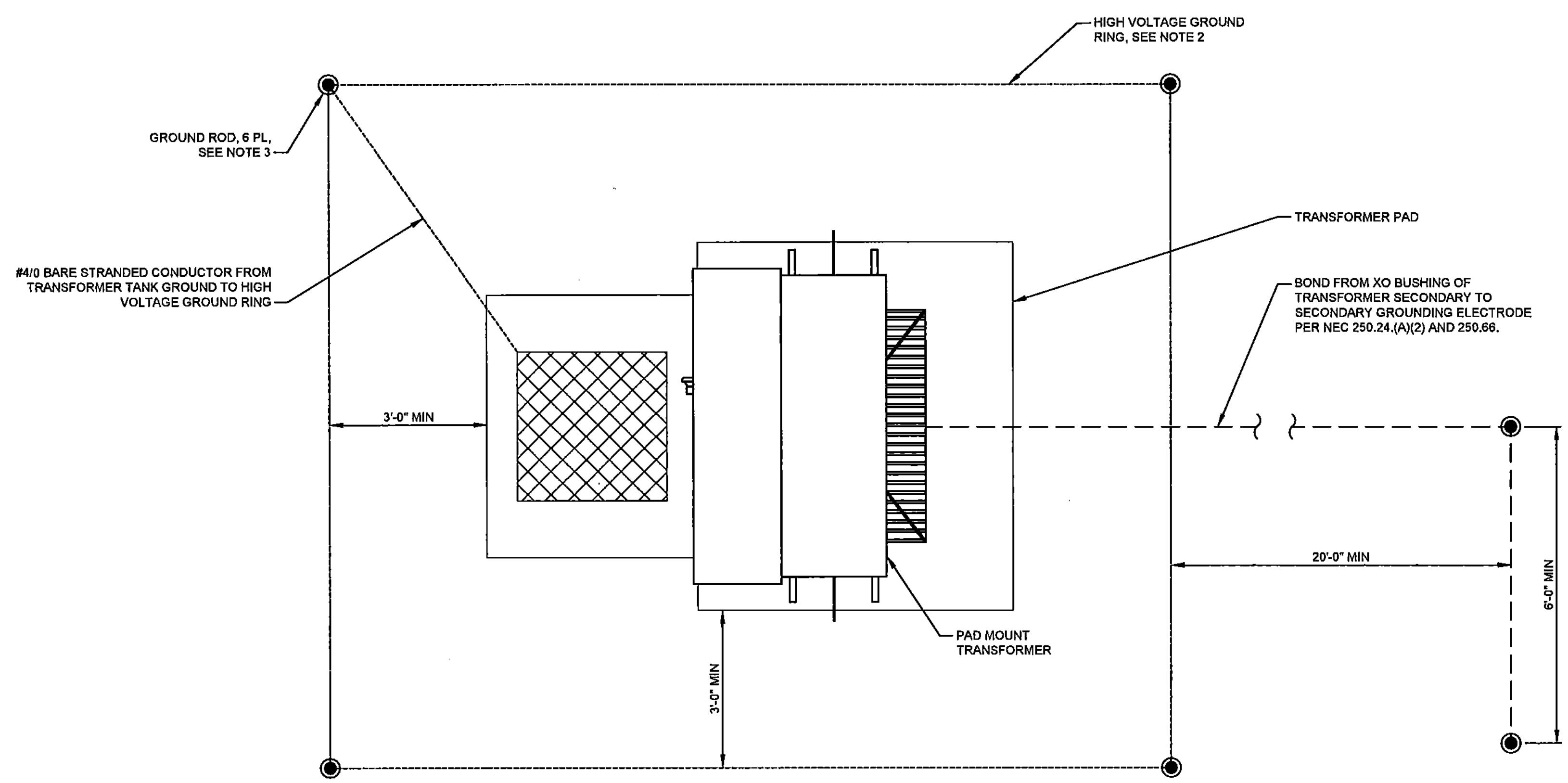
REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

NFO	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS				

DWG NO VFS-EPM-000-DWG-E-114 SH 1 OF 3 REV E

NOTES

1. GROUNDING SHALL BE IN ACCORDANCE WITH THE 2017 NATIONAL ELECTRICAL CODE.
2. INSTALL #4/0 AWG BARE STRANDED COPPER A MINIMUM OF 30" UNDERGROUND FOR HIGH VOLTAGE GROUND RING, AT LEAST 36" FROM EDGE OF TRANSFORMER.
3. INSTALL 8' LONG UL LISTED GROUND RODS IN LOCATIONS SHOWN. CONNECT GROUND RING TO GROUND ROD USING UL LISTED CLAMP SUITABLE FOR DIRECT BURIAL OR EXOTHERMAL WELD.
4. PROVIDE A MINIMUM SEPARATION OF 20' FROM SECONDARY GROUNDING ELECTRODE TO HIGH VOLTAGE GROUND RING.



1 / 1 ENLARGED GROUNDING PLAN
SCALE: 3/4" = 1'-0"

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

CONCEPTUAL DESIGN

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PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA
TREATMENT FACILITY
ENLARGED GROUNDING PLAN

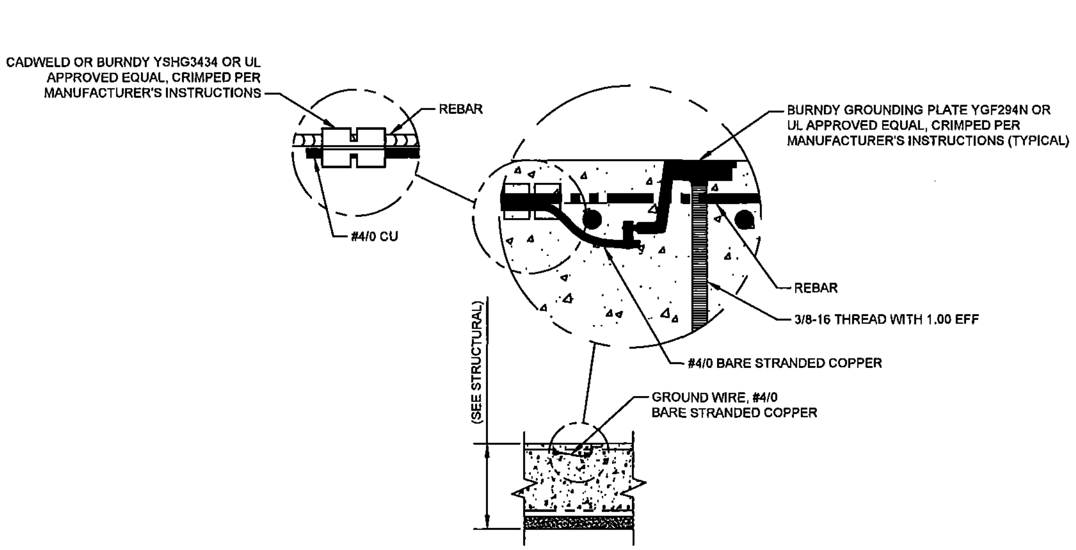
SIZE F | DWG NO VFS-EPM-000-DWG-E-114 | REV C
SCALE SHOWN | EDT | SHEET 2 OF 3

DWG NO | TITLE — DRAWING TRACEABILITY LIST
REF NUMBER | TITLE — REFERENCES
NEXT USED ON
DESCRIPTION — REVISIONS

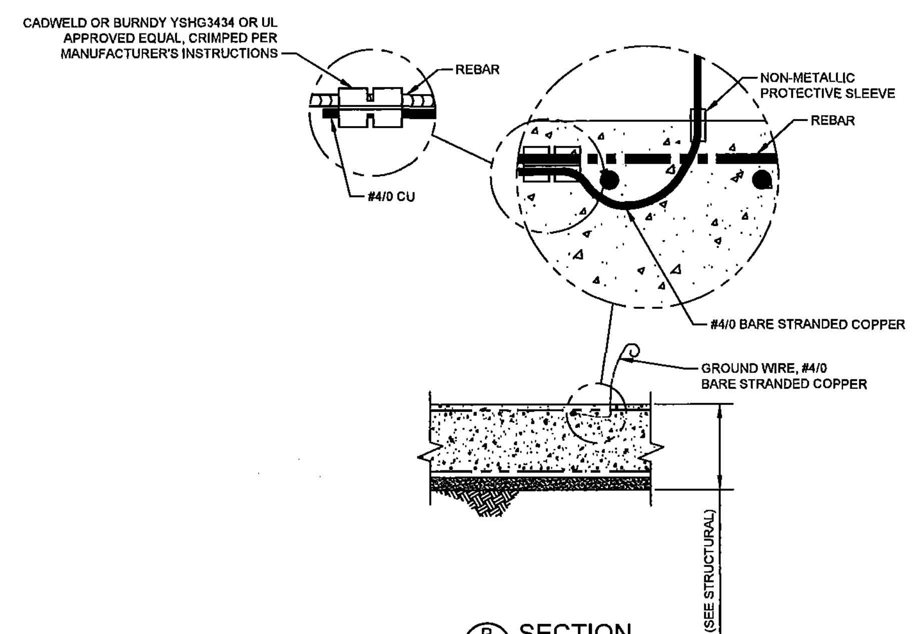
VFS-EPM-000-DWG-E-114 SH 2 OF 3 REV C

NOTES:

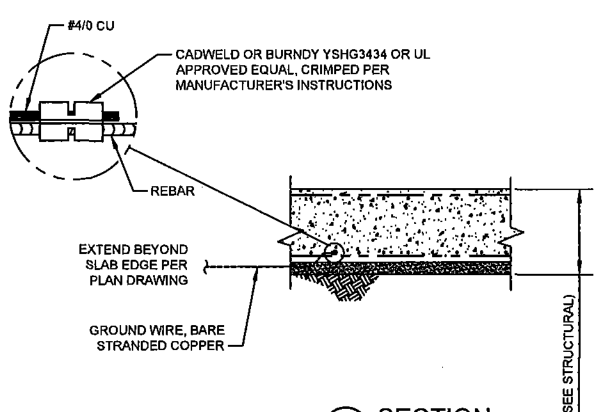
1. SEE SHEET 1 FOR GENERAL NOTES.



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



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



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

CONCEPTUAL DESIGN

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CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY GROUNDING DETAILS

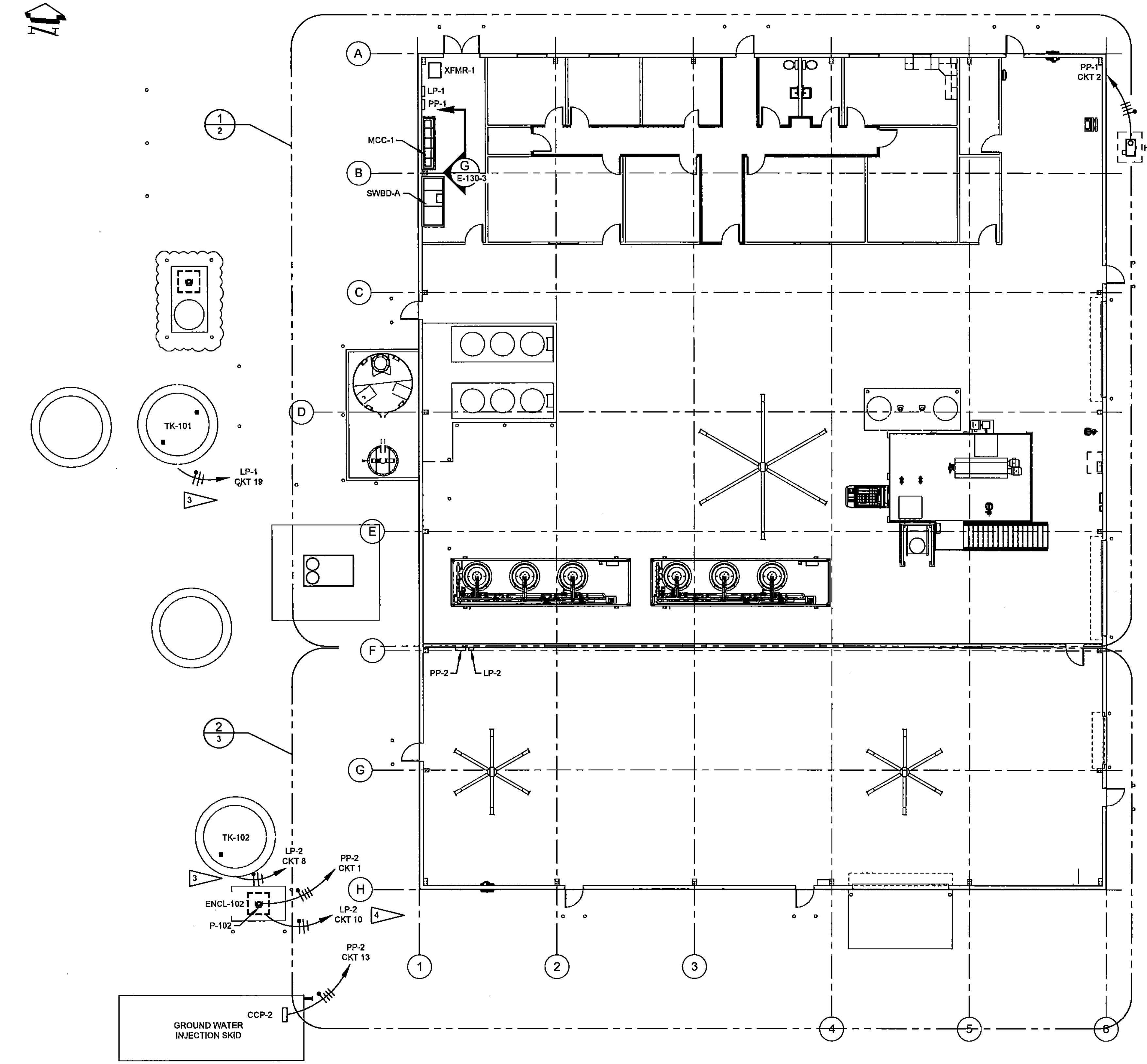
SIZE F | DWG NO VFS-EPM-000-DWG-E-114 | REV C
SCALE SHOWN | EDT | SHEET 3 OF 3

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

MFG	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS				

DWG NO VFS-EPM-000-DWG-E-114 SH 3 OF 3 REV C



GENERAL NOTES:

1. SEE VFS-EPM-000-DWG-E-101 FOR SYMBOLS, NOTES, AND ABBREVIATIONS.
2. REFER TO SINGLE LINE DIAGRAM VFS-EPM-000-DWG-E-110 FOR CONNECTION DETAILS.

3 HEAT TRACE CIRCUIT.

4 POWER FOR PUMP ENCLOSURE FREEZE PROTECTION HEATER.

POWER PLAN

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

1/8" = 1'-0" 0' 4' 8' 16' 24' SCALE FEET

CONCEPTUAL DESIGN

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DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY BUILDING POWER PLAN

SIZE F | DWG NO VFS-EPM-000-DWG-E-115 | REV E

SCALE SHOWN | EDT | SHEET 1 OF 3

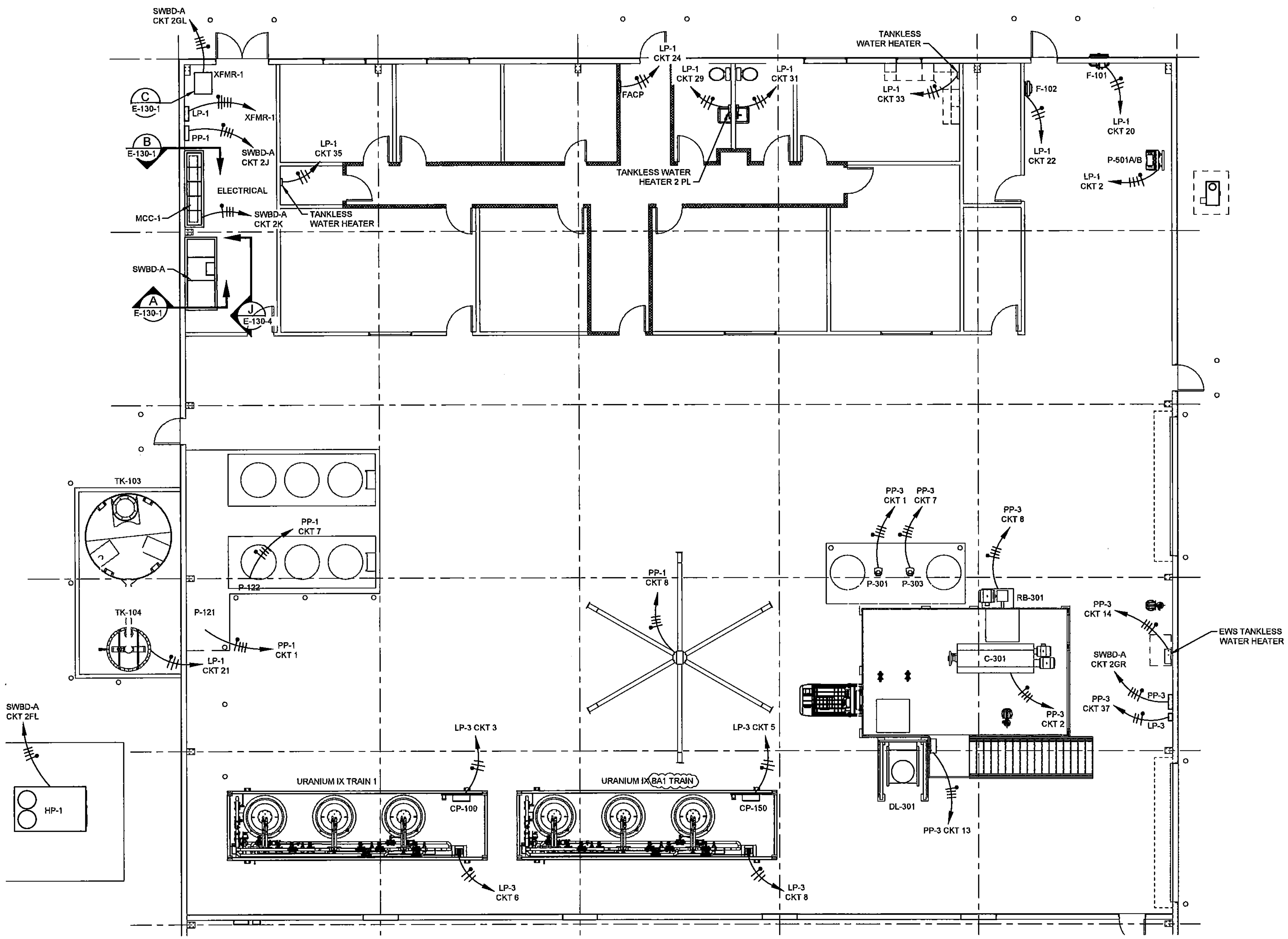
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS			

DWG NO VFS-EPM-000-DWG-E-115 SH 1 OF 3 REV E

NOTES:

1. SEE SHEET 1 FOR GENERAL NOTES.



1 SHEET-1 ENLARGED POWER PLAN
SCALE: 3/16"=1'-0"

3/16 = 1'-0" SCALE 0' 2' 4' 8' 12' 16' FEET

CONCEPTUAL DESIGN

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J WILSON	VNSFS
E LLOYD	VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY BUILDING POWER PLAN

SIZE F | DWG NO VFS-EPM-000-DWG-E-115 | REV E
SCALE SHOWN | SHEET 2 of 3

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

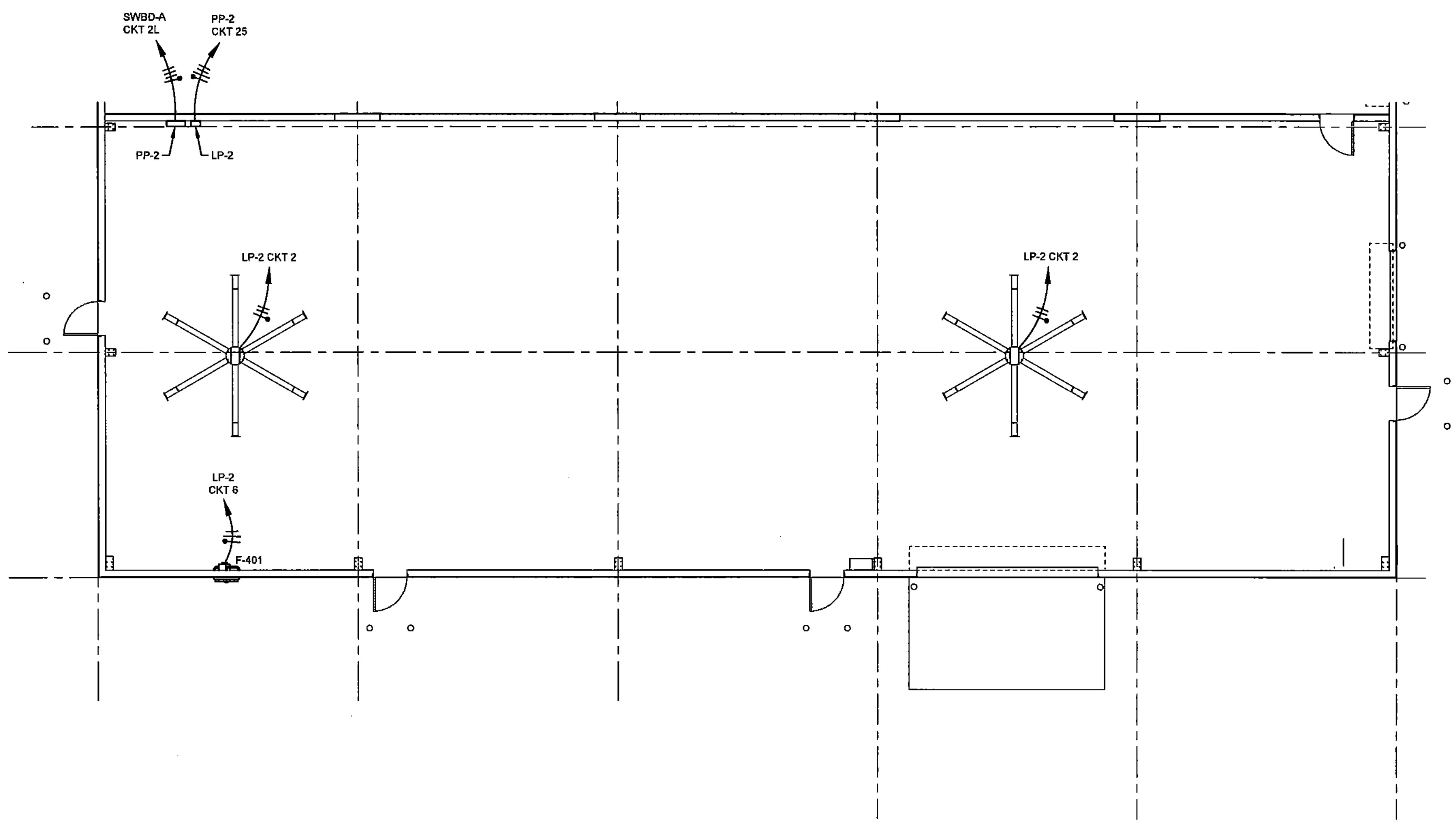
REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

REVISIONS

VFS-EPM-000-DWG-E-115 SH 2 OF 3 REV E

NOTES:

1. SEE SHEET 1 FOR GENERAL NOTES.



2 ENLARGED POWER PLAN
SHEET-1 SCALE: 3/16"=1'-0"

3/16 = 1'-0" 0' 2' 4' 8' 12' 16' SCALE FEET

CONCEPTUAL DESIGN

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CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY BUILDING POWER PLAN

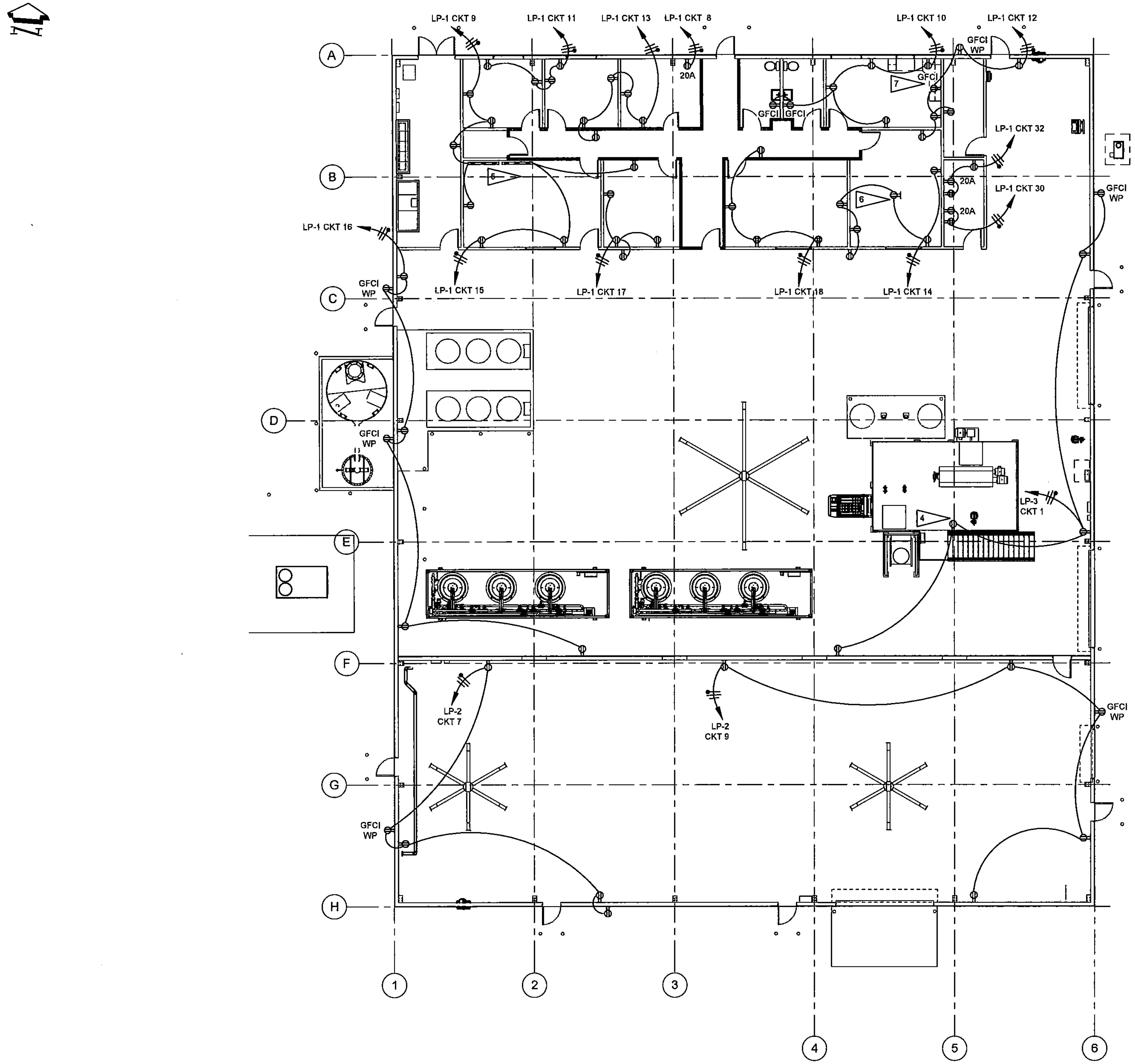
SIZE F | DWG NO VFS-EPM-000-DWG-E-115 | REV D
SCALE SHOWN | EDT | SHEET 3 OF 3

DWG NO VFS-EPM-000-DWG-E-115 | SH 3 OF 3 | REV D

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

MFG	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS				



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

1/8" = 1'-0" SCALE 0' 4' 8' 16' 24" FEET

GENERAL NOTES:

1. SEE VFS-EPM-000-DWG-E-101 FOR SYMBOLS, NOTES, AND ABBREVIATIONS.
2. INSTALL RECEPTACLES IN APPROXIMATE LOCATIONS SHOWN.
3. MOUNT RECEPTACLES AT 16" AFF TO BOTTOM OF RECEPTACLE UNLESS OTHERWISE NOTED.

4 INSTALL RECEPTACLE ON TOP OF MEZZANINE.

5 INSTALL 5' LONG MULTI-OUTLET ASSEMBLY AT 48" AFF FOR WORKBENCH, 2 PLACES.

6 INSTALL RECEPTACLE IN FLOOR WITH SINGLE GANG FLOOR KIT.

7 INSTALL GFCI RECEPTACLES ABOVE COUNTERTOP.

CONCEPTUAL DESIGN

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

MFG	REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY
REVISIONS				

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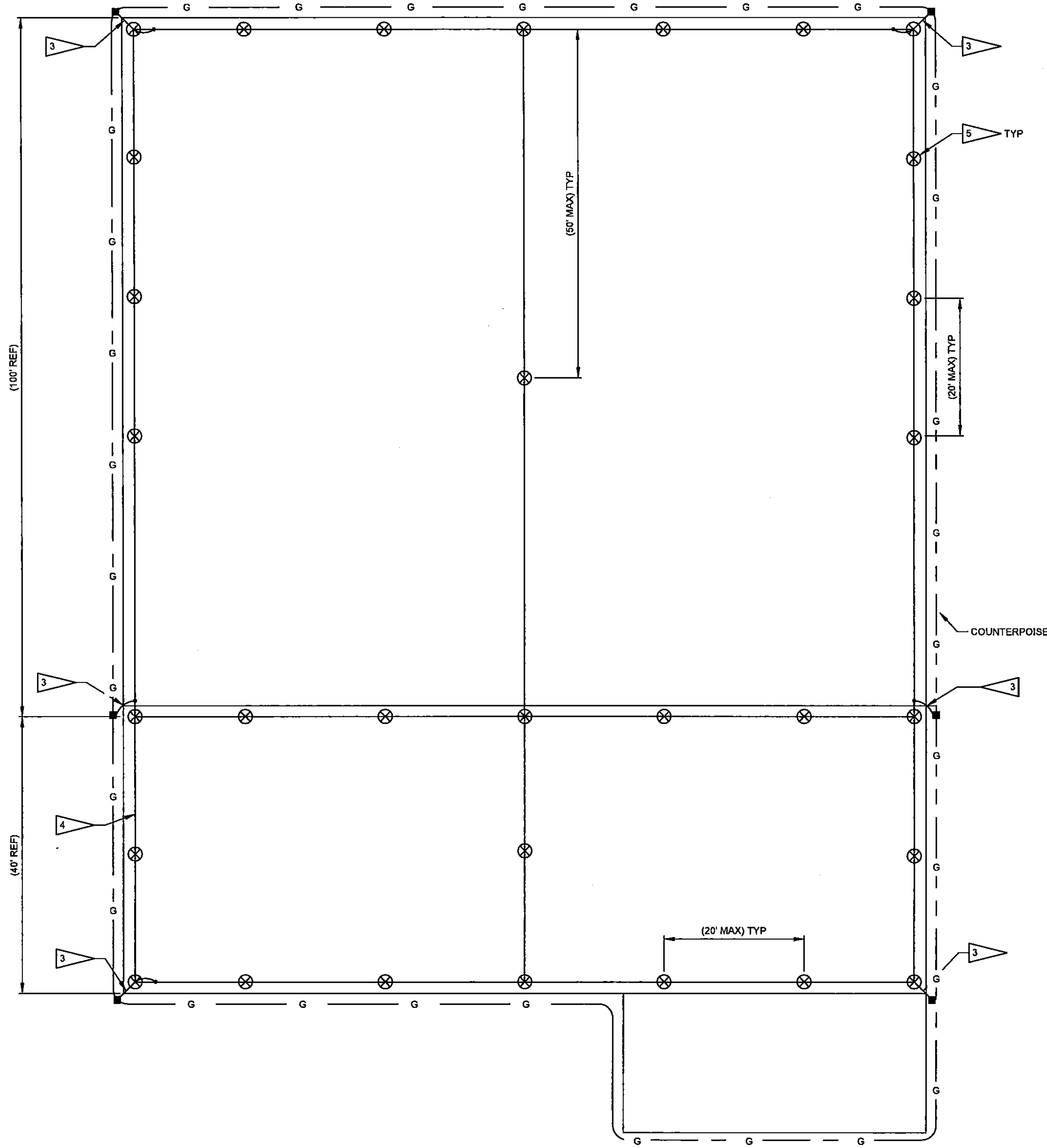
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY RECEPTACLE PLAN

SIZE F | DWG NO VFS-EPM-000-DWG-E-117 | REV C
SCALE SHOWN | EDT | SHEET 1 OF 1

DWG NO VFS-EPM-000-DWG-E-117 | SH 1 OF 1 | REV C



LIGHTNING PROTECTION PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. INSTALLATION SHALL COMPLY IN ALL RESPECTS TO LIGHTNING PROTECTION INSTITUTE CODE 175. INSTALLATION SHALL BE MADE UNDER THE SUPERVISION OF A LIGHTNING PROTECTION INSTITUTE CERTIFIED MASTER INSTALLER.
2. ALL LIGHTNING PROTECTION CONDUCTORS SHALL BE COPPER.
3. INSTALL #2 AWG COPPER DOWN CONDUCTOR AND BOND TO COUNTERPOISE. ALL TELECOMMUNICATION CONDUIT/WIRE SHALL MAINTAIN 6'-0" MINIMUM CLEARANCE FROM LIGHTNING PROTECTION DOWN CONDUCTORS.
4. MAIN CONDUCTOR SHALL BE #2 AWG COPPER MINIMUM.
5. INSTALL AIR TERMINALS IN LOCATION SHOWN. AIR TERMINALS SHALL BE NOT LESS THAN 10" IN LENGTH .
6. EDGE AIR TERMINALS SHALL BE LOCATED WITHIN 2'-0" OF ENDS OF EDGES.

1/8" = 1'-0" SCALE 0' 4' 8' 16' 24" FEET

CONCEPTUAL DESIGN

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ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA
TREATMENT FACILITY
LIGHTNING PROTECTION PLAN

SIZE	DWG NO	REV
F	VFS-EPM-000-DWG-E-118	B

SCALE SHOWN | EDT | SHEET 1 OF 1

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

MFD	REV	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS				

DWG NO VFS-EPM-000-DWG-E-118 SH 1 OF 1 REV B

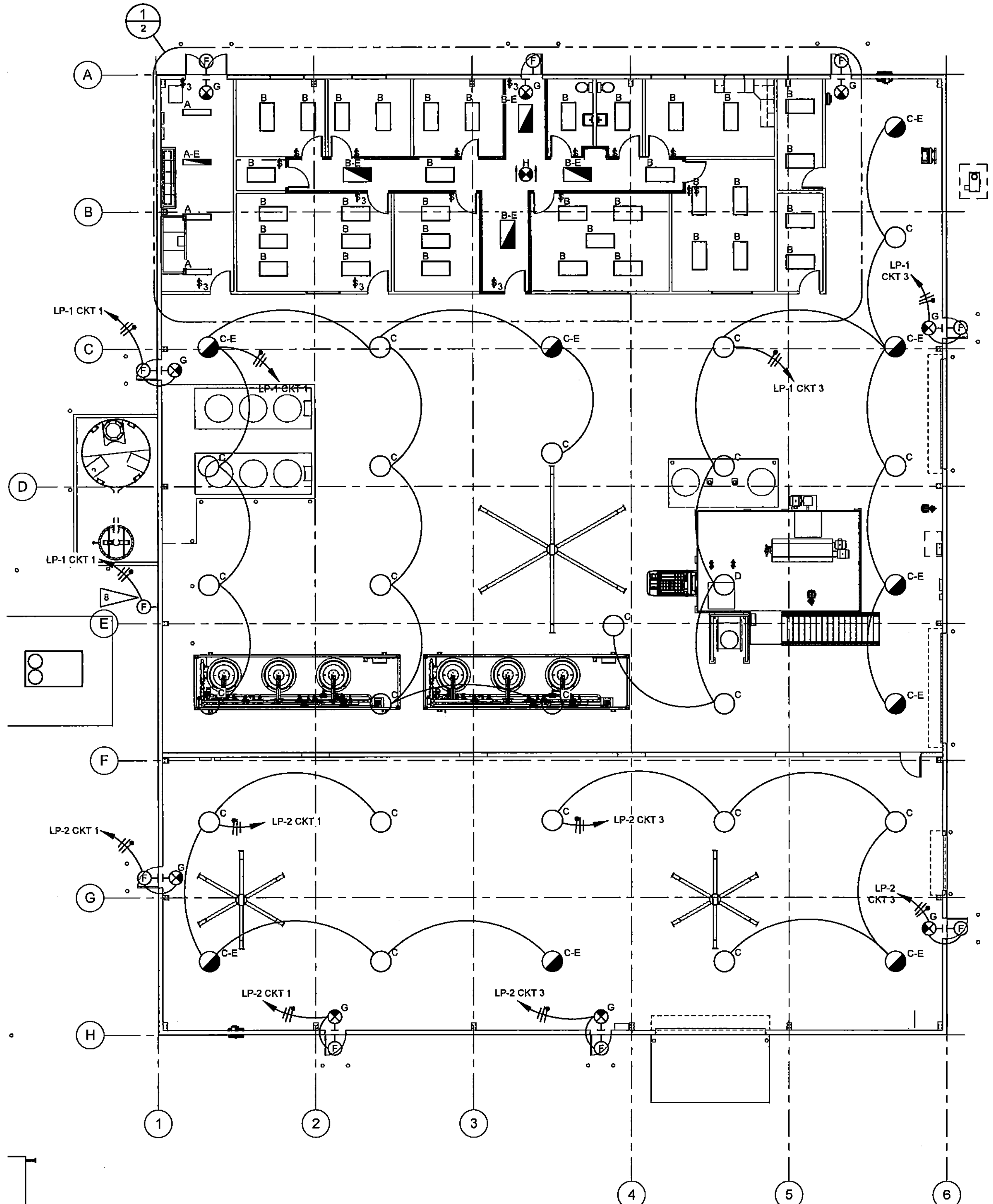
GENERAL NOTES:

1. SEE VFS-EPM-000-DWG-E-101 FOR SYMBOLS, NOTES, AND ABBREVIATIONS.
2. INSTALL EXTERIOR LIGHTS IN LOCATIONS SHOWN AT 8' ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED.
3. PROVIDE UNSWITCHED POWER TO EMERGENCY LIGHT FIXTURE BALLASTS.
4. MOUNT LIGHTS IN ELECTRICAL ROOM AT 14' AFF.
5. MOUNT LIGHTS IN LOW BAY AT 19' AFF UNLESS OTHERWISE NOTED.
6. MOUNT LIGHTS IN HIGH BAY AT 39' AFF UNLESS OTHERWISE NOTED.
7. MOUNT EXIT SIGNS DIRECTLY ABOVE DOOR FRAMES IN LOCATIONS SHOWN. SIGNS MUST BE VIEWABLE AND CLEAR OF OBSTRUCTIONS.

8 INSTALL EXTERIOR LIGHT IN LOCATION SHOWN AT 12' ABOVE FINISHED GRADE.

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	INPUT VOLTAGE	INPUT WATTS	MANUFACTURER/MODEL NO.
A	LED LOW BAY SUSPENDED LUMINAIRE, 4000 NOMINAL LUMENS, 4000K COLOR	UNIVERSAL 120-277 VAC	29.8W	LITHONIA LIGHTING MSL4000LM SBL MVOLT GZ10 40K 80CRI WH
A-E	LED LOW BAY SUSPENDED LUMINAIRE, 4000 NOMINAL LUMENS, 4000K COLOR, 10 WATT CONSTANT BATTERY PACK	UNIVERSAL 120-277 VAC	29.8W	LITHONIA LIGHTING MSL4000LM SBL MVOLT GZ10 40K 80CRI WH E10WLCP
B	2' X 4' LED RECESSED TROFFER, 3000 NOMINAL LUMENS, #19 PATTERN ACRYLIC LENS, 4000K COLOR	UNIVERSAL 120-277 VAC	23.3W	LITHONIA LIGHTING G2TL430L A19 EZ1 LP840
B-E	2' X 4' LED RECESSED TROFFER, 3000 NOMINAL LUMENS, #19 PATTERN ACRYLIC LENS, 4000K COLOR, 10 WATT CONSTANT BATTERY PACK	UNIVERSAL 120-277 VAC	23.3W	LITHONIA LIGHTING G2TL430L A19 EZ1 LP840 E10WLCP
C	HIGH BAY, LED, 18000 NOMINAL LUMENS, CLEAR ACRYLIC, WIDE DISTRIBUTION, 4000K COLOR TEMPERATURE, 90 CRI COLOR RENDERING INDEX	120 VAC	131W	LITHONIA LIGHTING JHBL 18000LM ACL WD 120 GZ10 40K 90CRI
C-E	HIGH BAY, LED, 18000 NOMINAL LUMENS, CLEAR ACRYLIC, WIDE DISTRIBUTION, 4000K COLOR TEMPERATURE, 90 CRI COLOR RENDERING INDEX, 15 W CONSTANT BATTERY PACK	120 VAC	131W	LITHONIA LIGHTING JHBL 18000LM ACL WD 120 GZ10 40K 90CRI E15WCPFMC
D	HIGH BAY, LED, 12000 NOMINAL LUMENS, CLEAR ACRYLIC, WIDE DISTRIBUTION, 4000K COLOR TEMPERATURE, 90 CRI COLOR RENDERING INDEX	120 VAC	83W	LITHONIA LIGHTING JHBL 12000LM ACL WD 120 GZ10 40K 90CRI
E	HIGH BAY, LED, 24000 NOMINAL LUMENS, CLEAR ACRYLIC, NARROW DISTRIBUTION, 4000K COLOR TEMPERATURE, 90 CRI COLOR RENDERING INDEX	120 VAC	185W	LITHONIA LIGHTING JHBL 24000LM ACL ND 120 GZ10 40K 90CRI
E-E	HIGH BAY, LED, 24000 NOMINAL LUMENS, CLEAR ACRYLIC, WIDE DISTRIBUTION, 4000K COLOR TEMPERATURE, 90 CRI COLOR RENDERING INDEX, 15 W CONSTANT BATTERY PACK	120 VAC	185W	LITHONIA LIGHTING JHBL 24000LM ACL ND 120 GZ10 40K 90CRI E15WCPFMC
F	WALL MOUNT, LED, 4000K COLOR TEMPERATURE, BUTTON PHOTOCELL	UNIVERSAL 120-277 VAC	8.4W	LITHONIA LIGHTING LIL LED 40K MVOLT PE DDBTXD
G	WALL MOUNTED EXIT SIGN, WITH BATTERY BACKUP	UNIVERSAL 120-277 VAC	41W	LITHONIA LBL4 40L EZ1 LP840
H	CEILING MOUNTED EXIT SIGN, WITH BATTERY BACKUP	UNIVERSAL 120-277 VAC	41W	LITHONIA LBL4 40L EZ1 LP840



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

1/8" = 1'-0" SCALE 0' 4' 8' 16' 24" FEET

CONCEPTUAL DESIGN

VEOLIA NUCLEAR SOLUTIONS
FEDERAL SERVICES, LLC
295 Bradley, Suite 300
Richland, WA 99352

NAME	DATE / COMPANY
DRAWN BY S MOORE	[illegible] VNSFS
ENGINEER D KING	VNSFS
DRAFTING CHECKER J PIERCE	VNSFS
ENGINEERING CHECKER R JENSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY
LIGHTING PLAN

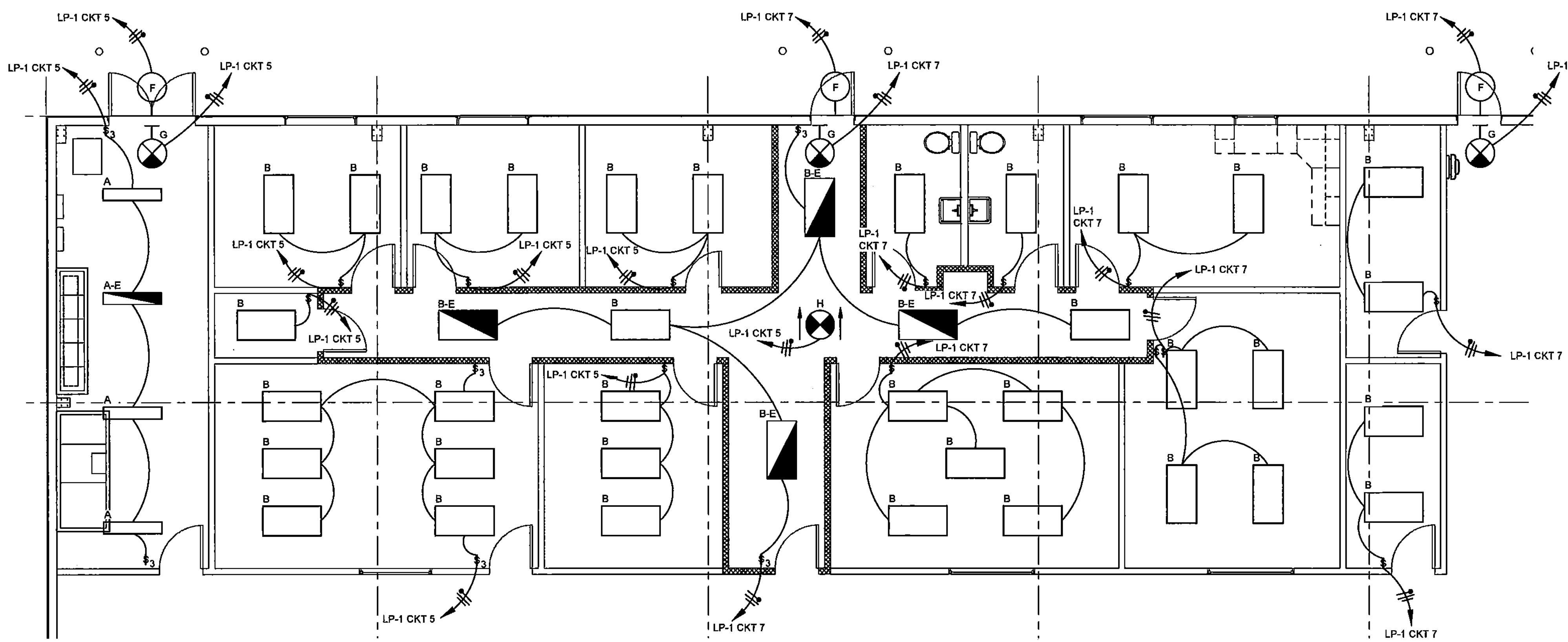
SIZE F | DWG NO VFS-EPM-000-DWG-E-120 | REV D
SCALE SHOWN | EDT | SHEET 1 OF 2

DWG NO | TITLE | DRAWING TRACEABILITY LIST | REF NUMBER | TITLE | REFERENCES | NEXT USED ON | REV NO | DESCRIPTION | REV BY DATE | ENGR COMPANY | REVISIONS | DESIGN AUTHORITY

DWG NO VFS-EPM-000-DWG-E-120 SH 1 OF 2 REV D

NOTES:

1. SEE VFS-EPM-000-DWG-E-101 FOR SYMBOLS, NOTES, AND ABBREVIATIONS.
2. FOR GENERAL NOTES AND LUMINAIRE TYPES, SEE SHEET 1.



1/1 ENLARGED LIGHTING PLAN

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

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

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REVISIONS

CONCEPTUAL DESIGN

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DRAFTING CHECKER J PIERCE	VNSFS
ENGINEERING CHECKER R JENSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY
LIGHTING PLAN

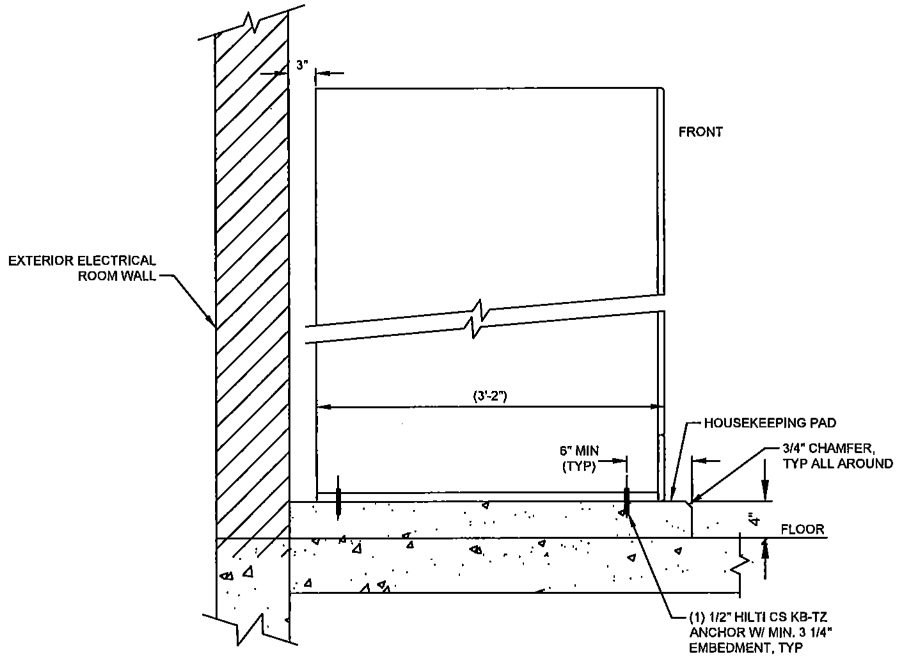
SIZE F | DWG NO VFS-EPM-000-DWG-E-120 | REV D

SCALE SHOWN | EDT | SHEET 2 OF 2

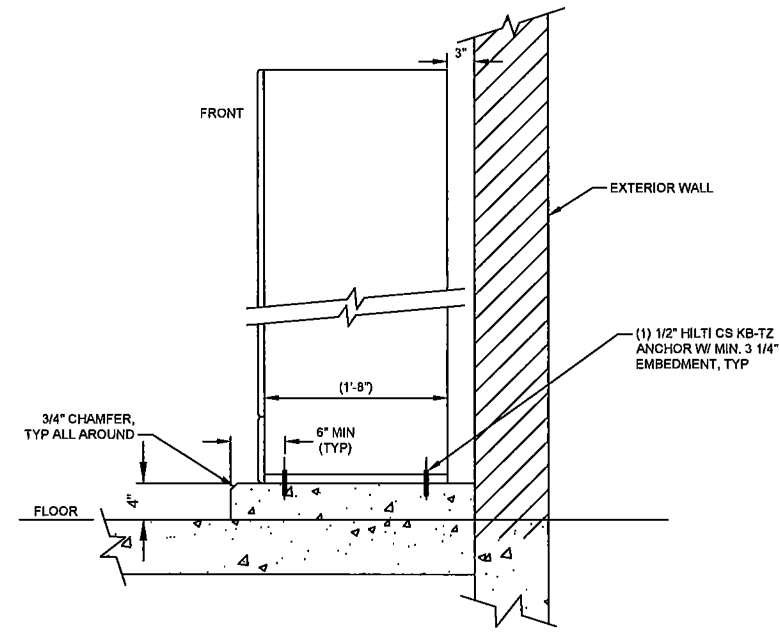
DWG NO VFS-EPM-000-DWG-E-120 SH 2 OF 2 REV D

GENERAL NOTES:

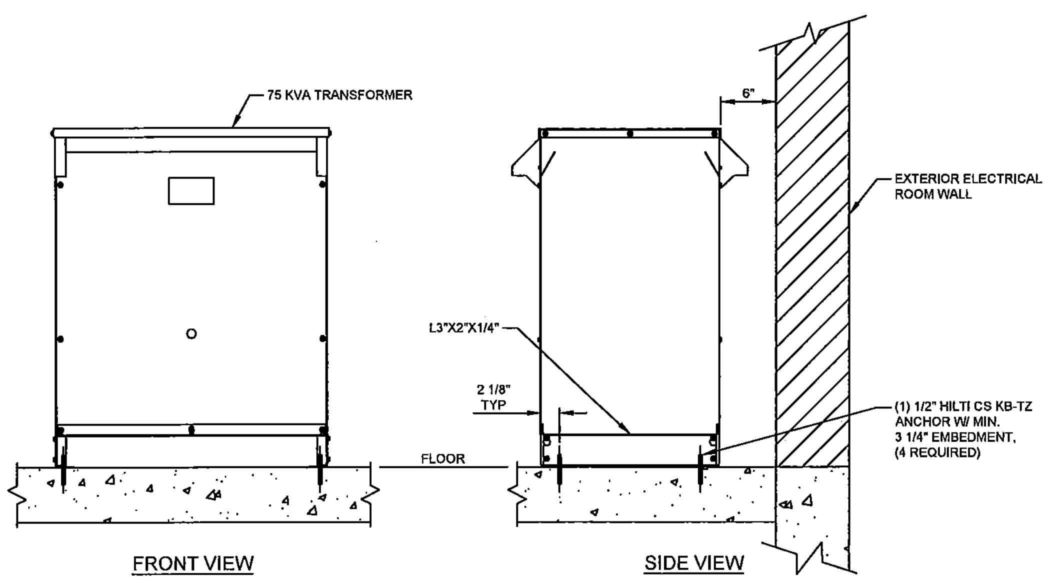
1. FOR LEGEND, NOTES AND ABBREVIATIONS SEE VFS-EPM-000-DWG-E-101.
2. EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS USING THE APPROPRIATE HARDWARE.



A E-115-2 SWITCHBOARD FLOOR MOUNTING SECTION
SCALE: NONE



B E-115-2 MCC FLOOR MOUNTING SECTION
SCALE: NONE



C E-115-2 TRANSFORMER MOUNTING
SCALE: NONE

CONCEPTUAL DESIGN

VEOLIA

VEOLIA NUCLEAR SOLUTIONS
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ENGINEERING CHECKER R JENSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREAT TREATMENT FACILITY ELECTRICAL DETAILS AND SECTIONS

SIZE F | DWG NO VFS-EPM-000-DWG-E-130 | REV C
SCALE NONE | EDT | SHEET 1 OF 4

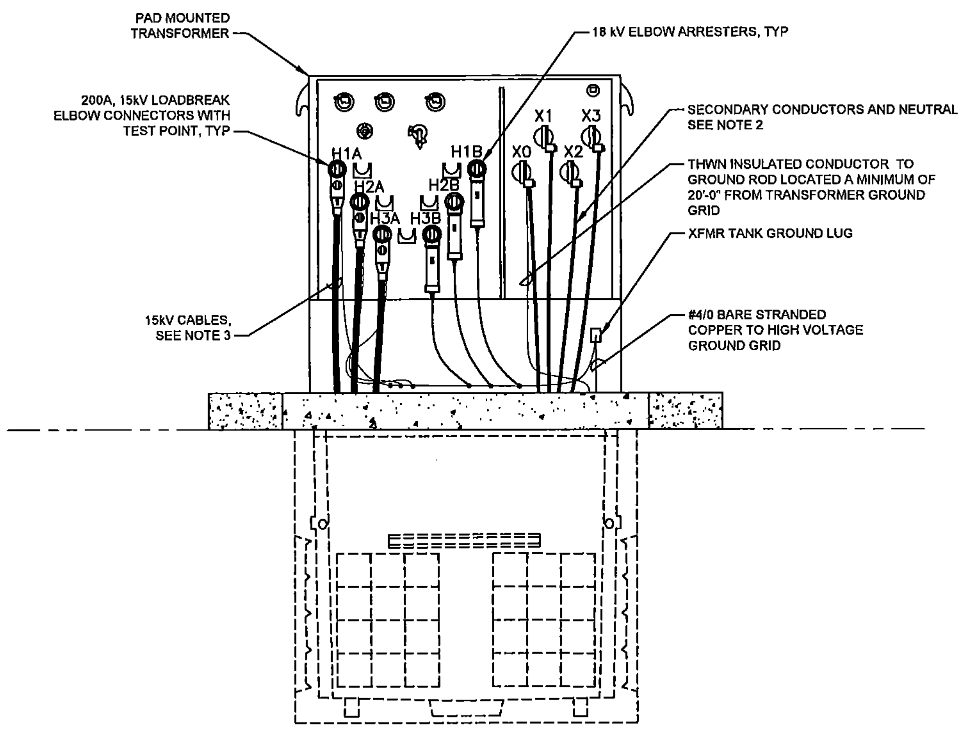
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS			

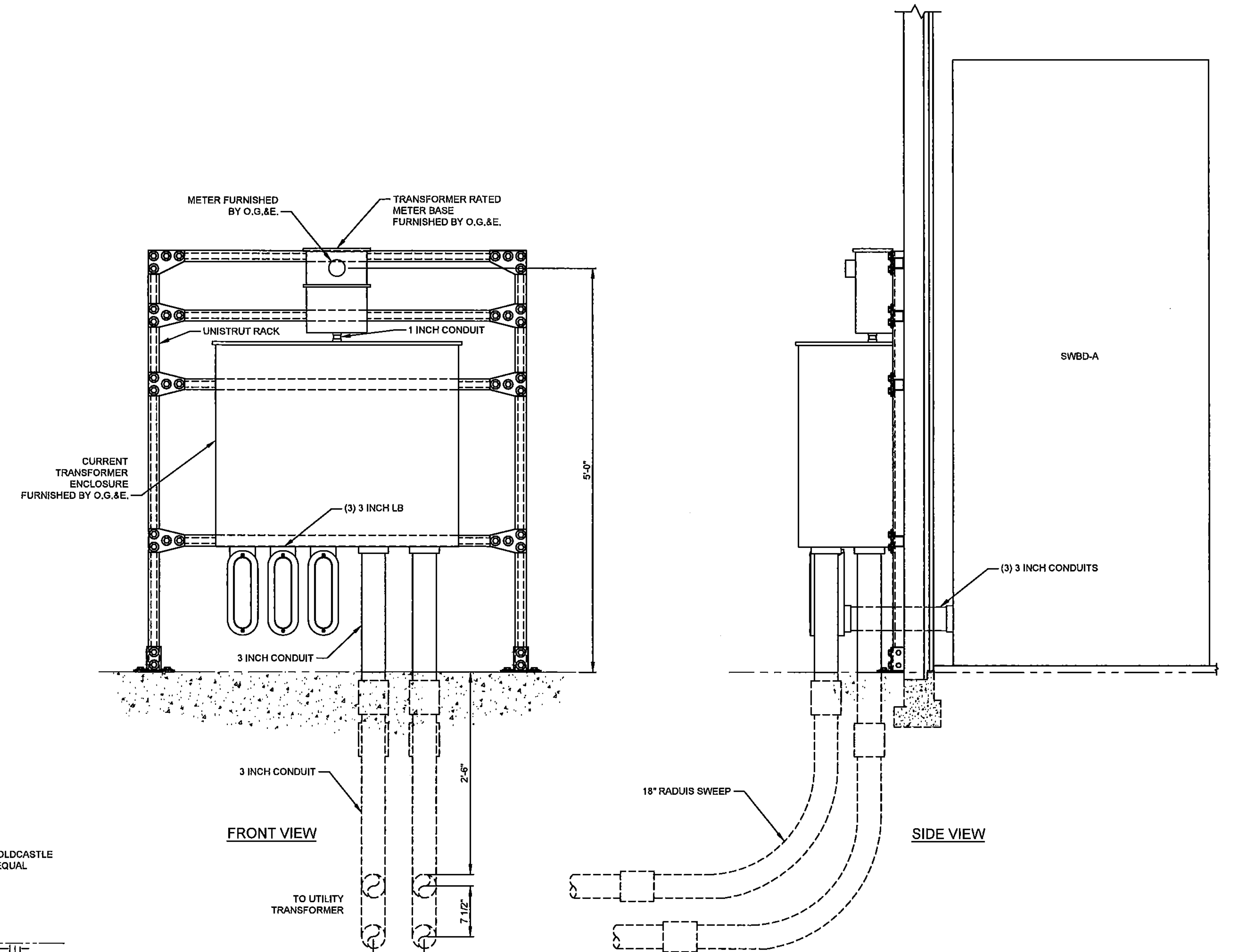
DWG NO VFS-EPM-000-DWG-E-130 SH 1 OF 4 REV C

NOTES:

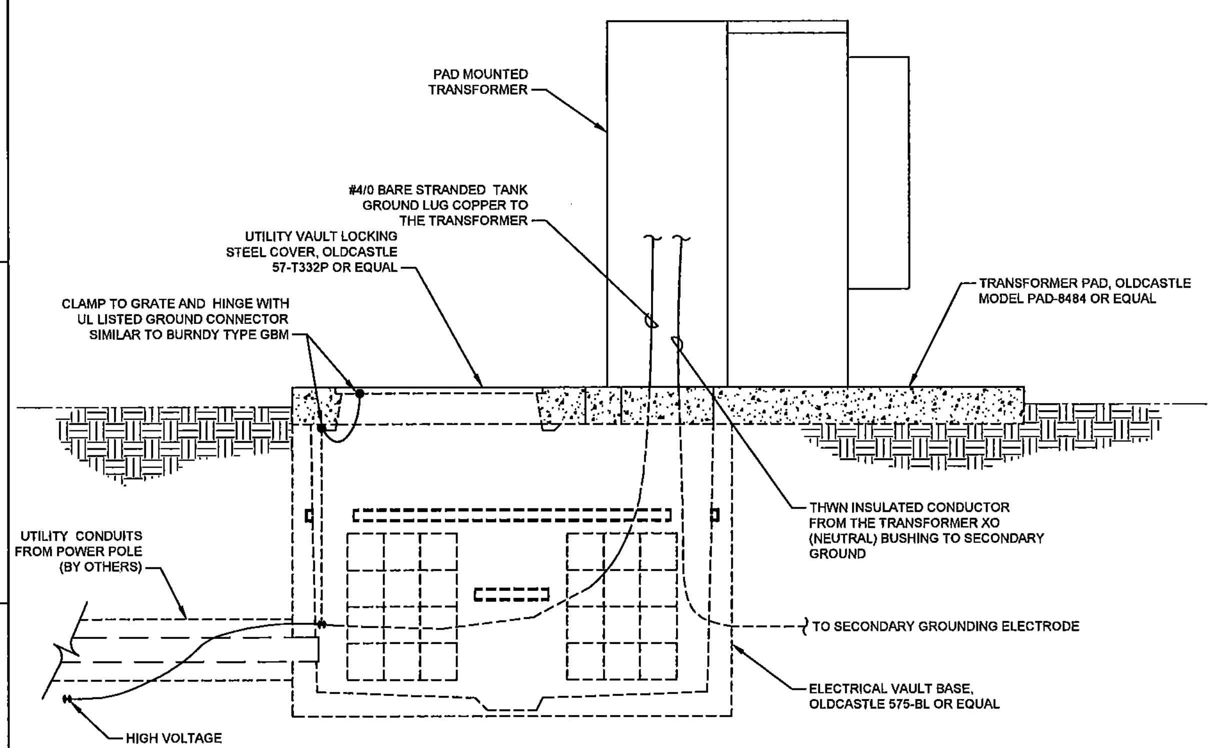
1. SEE DRAWING VFS-EPM-000-DWG-E-114 SHEET 2 FOR TRANSFORMER GROUNDING DETAILS.
2. SEE SINGLE LINE DIAGRAM FOR CONDUCTOR SIZES.
3. UTILITY CONNECTIONS PROVIDED BY OTHERS.
4. SECURE UNISTRUT RACK TO CONCRETE FOUNDATION OR PAD.



D SECTION
E-112-1 SCALE: 1" = 1'-0"



F ELEVATION
E-112-1 SCALE: 1 1/2" = 1'-0"



E SECTION
E-112-1 SCALE: 1" = 1'-0"

CONCEPTUAL DESIGN

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R JENSON		VNSFS
E LLOYD		VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREAT TREATMENT FACILITY ELECTRICAL DETAILS AND SECTIONS

SIZE F | DWG NO VFS-EPM-000-DWG-E-130 | REV C
SCALE NONE | SHEET 2 OF 4

DWG NO	TITLE	REF NUMBER	TITLE
			REFERENCES
DRAWING TRACEABILITY LIST		NEXT USED ON	

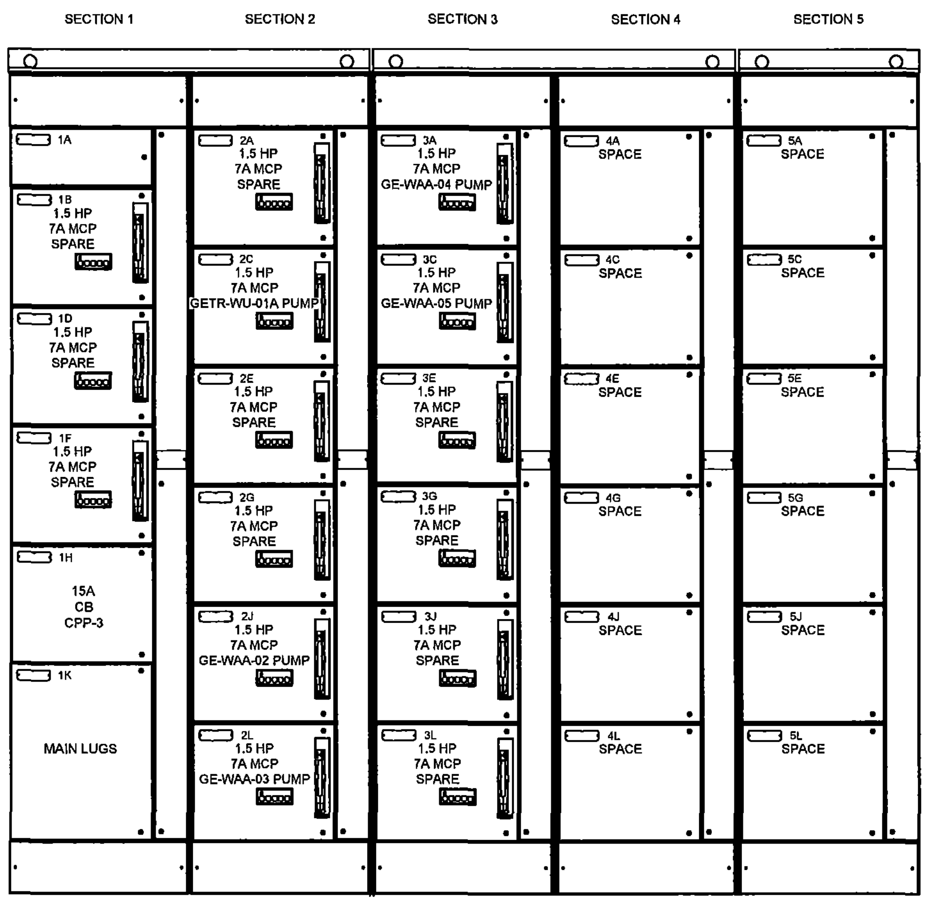
REV	DESCRIPTION	REV BY DATE	ENGR	COMPANY
	REVISIONS			

DESIGN AUTHORITY

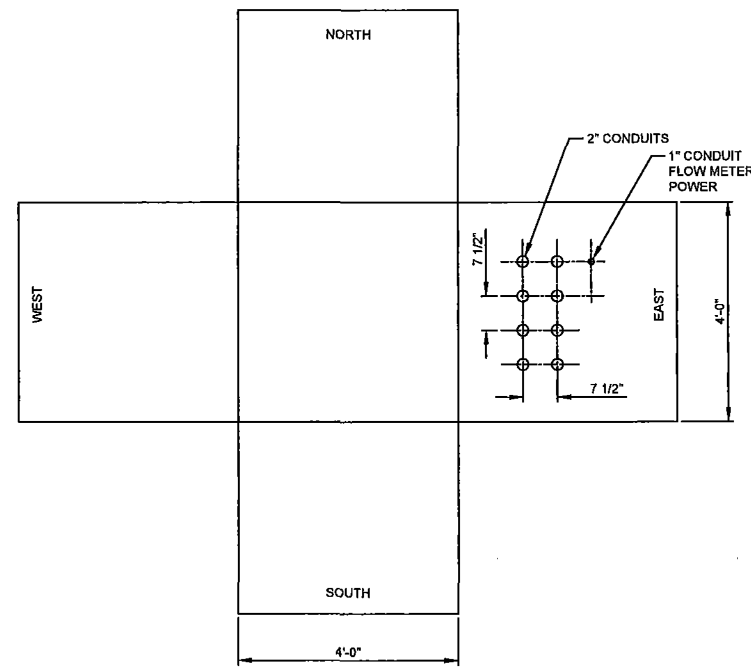
VFS-EPM-000-DWG-E-130 | SH 2 OF 4 | REV C

NOTES:

1. SEE SHEET 1 FOR GENERAL NOTES.

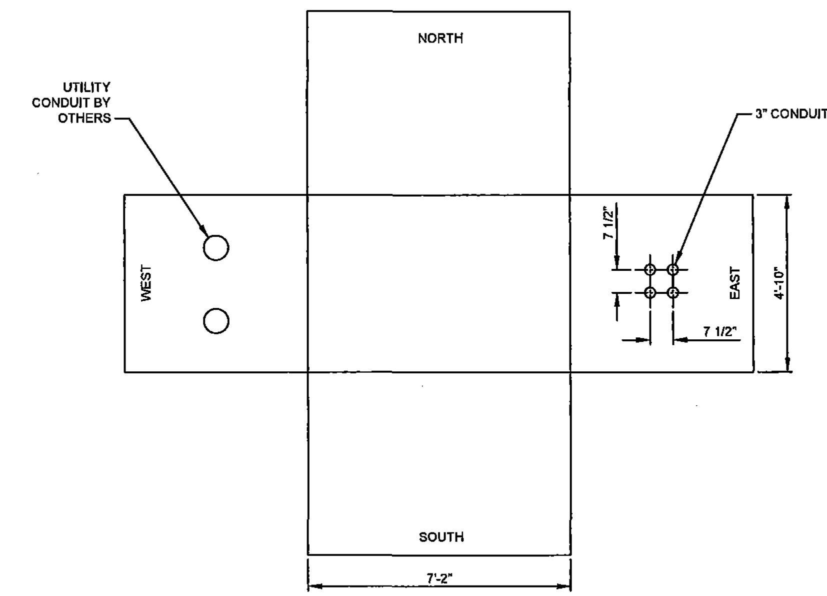


G MCC-1 ELEVATION
E-115-1 SCALE: NONE



PLAN VIEW FOLD OUT

1 ELECTRICAL VAULT E-1 DETAIL
E-113-1 SCALE: 3/4" = 1'-0"



PLAN VIEW FOLD OUT

2 TRANSFORMER VAULT DETAIL
E-113-1 SCALE: 1/2" = 1'-0"

CONCEPTUAL DESIGN

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DRAFTING CHECKER J PIERCE	VNSFS
ENGINEERING CHECKER R JENSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREAT TREATMENT FACILITY ELECTRICAL DETAILS AND SECTIONS

SIZE F | DWG NO VFS-EPM-000-DWG-E-130 | REV B
SCALE NONE | EDT | SHEET 3 OF 4

DWG NO VFS-EPM-000-DWG-E-130 SH 3 OF 4 REV B

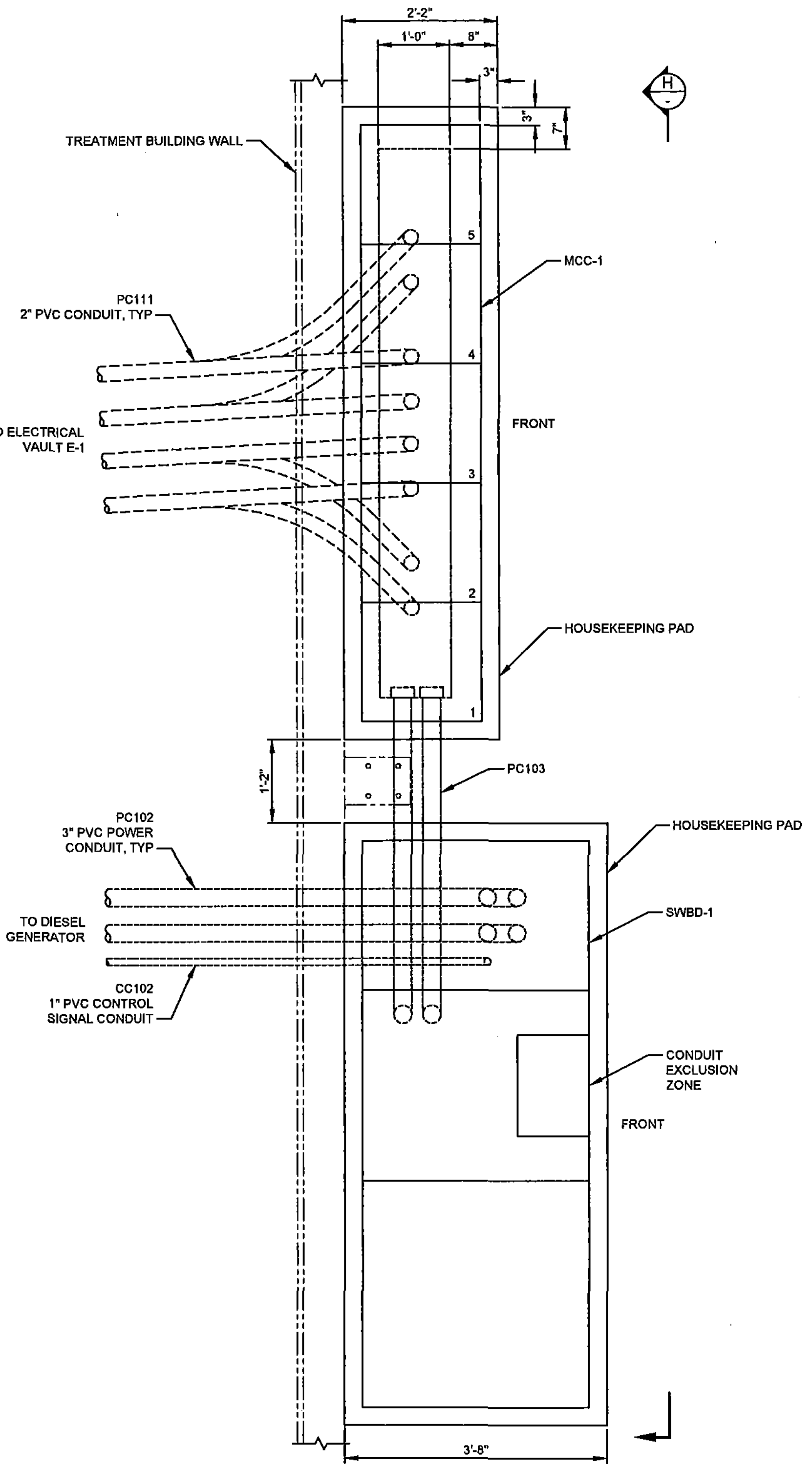
DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

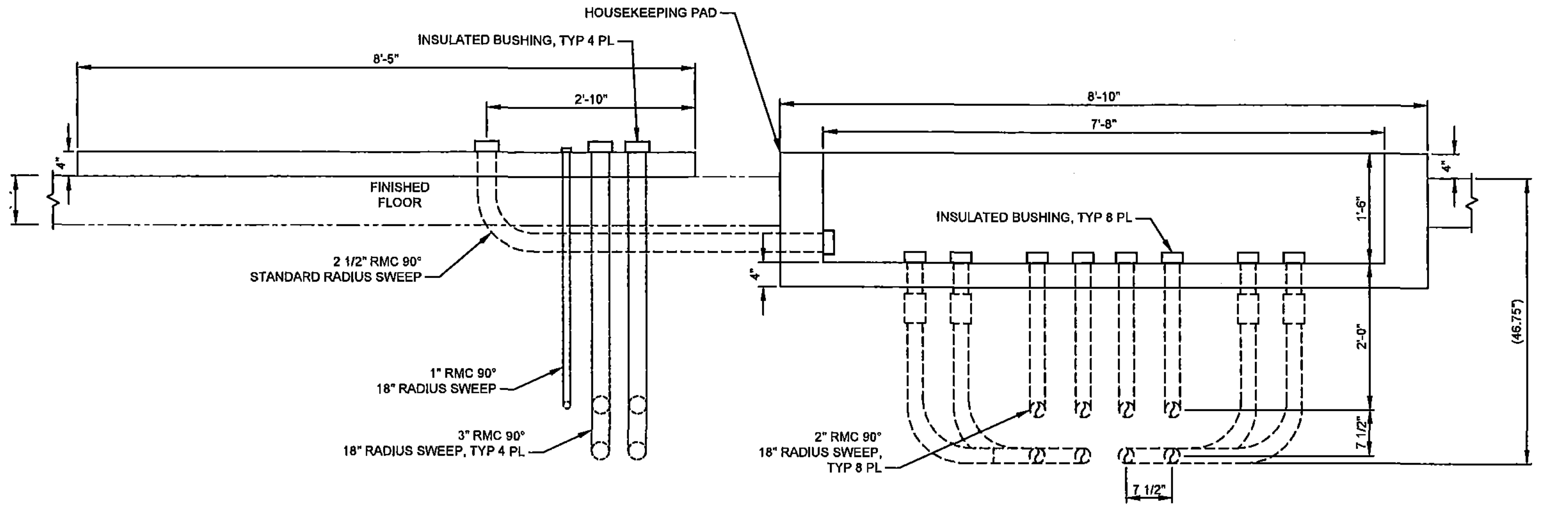
REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS			

NOTES:

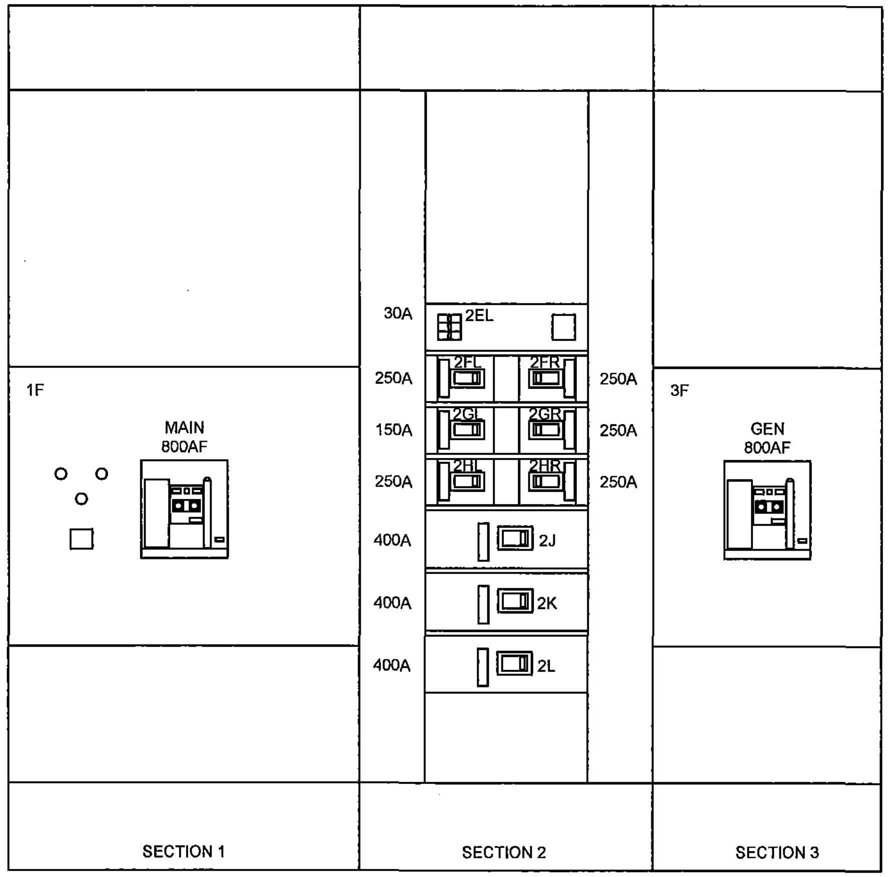
1. SEE SHEET 1 FOR GENERAL NOTES.



3 HOUSEKEEPING PAD DETAIL
E-113-1 SCALE: 1" = 1'-0"



H HOUSEKEEPING PAD DETAIL
SCALE: 1" = 1'-0"



J SWBD-A ELEVATION
E-115-2 SCALE: NONE

CONCEPTUAL DESIGN

VEOLIA

VEOLIA NUCLEAR SOLUTIONS
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S MOORE		VNSFS
D KING		VNSFS
J PIERCE		VNSFS
R JENSON		VNSFS
E LLOYD		VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREAT TREATMENT FACILITY ELECTRICAL DETAILS AND SECTIONS

SIZE F | DWG NO VFS-EPM-000-DWG-E-130 | REV B

SCALE SHOWN | SHEET 4 OF 4

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

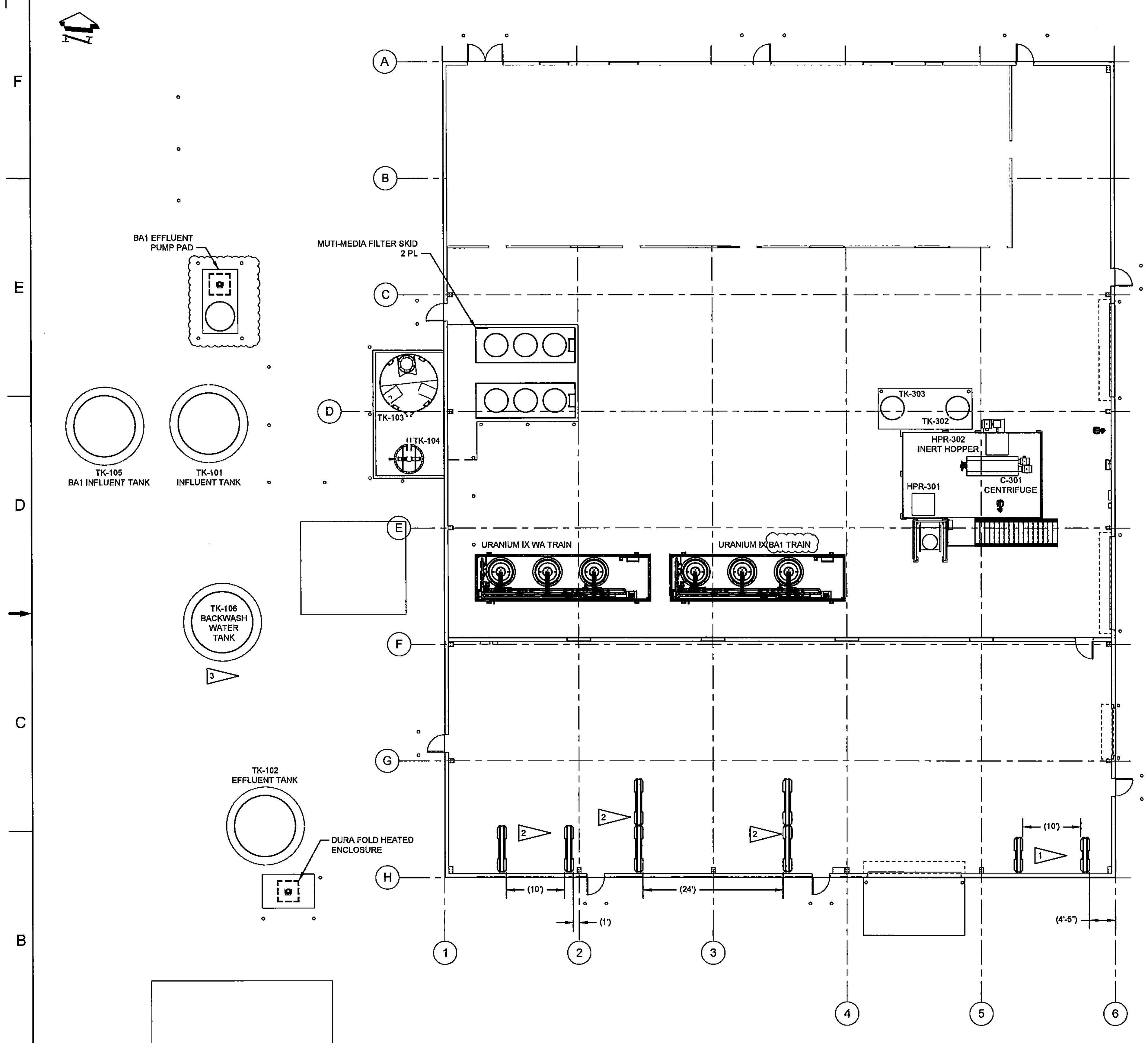
REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

REV | DESCRIPTION | REV BY DATE | ENGR COMPANY
REVISIONS

DWG NO VFS-EPM-000-DWG-E-130 SH 4 OF 4 REV B

GENERAL NOTES:

1. PLASTIC JERSEY BARRIER, 6 FT, TYP.
2. PLASTIC JERSEY BARRIER, 8 FT, TYP.
3. THE LOCATION OF THE BACKWASH WATER TANK IS TBD, THE FINAL LOCATION WILL BE DETERMINED DURING FINAL DESIGN.



GENERAL ARRANGEMENT

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

1/8" = 1'-0" 0' 4' 8' 16' 24" SCALE FEET

CONCEPTUAL DESIGN

VEOLIA

VEOLIA NUCLEAR SOLUTIONS FEDERAL SERVICES, LLC
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NAME	DATE	COMPANY
S MOORE		VNSFS
J WILSON		VNSFS
J PIERCE		VNSFS
J WILSON		VNSFS
E LLOYD		VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA
TREATMENT FACILITY
GENERAL ARRANGEMENT

SIZE F | DWG NO VFS-EPM-000-DWG-G-100 | REV F
SCALE SHOWN | SHEET 1 of 1

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

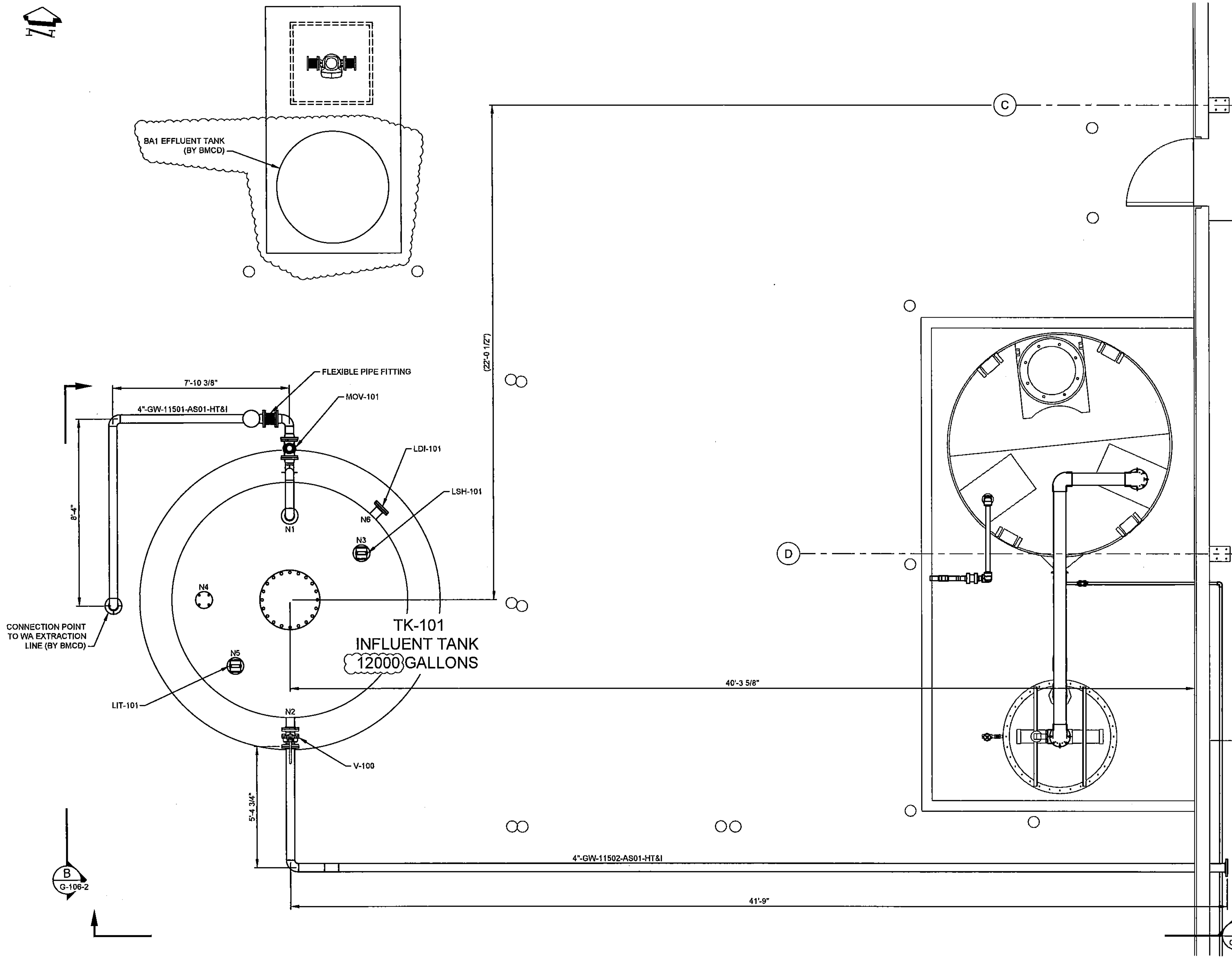
REVISIONS

VFS-EPM-000-DWG-G-100 SH 1 OF 1 REV F

GENERAL NOTES:

1. NOZZLE LOCATIONS SHOWN ON TANK TK-101 ARE FOR INFORMATION ONLY, ACTUAL NOZZLE LOCATIONS TO BE DETERMINED BY VENDOR'S FINAL SUBMITTAL.
2. FOR PIPE SUPPORT DETAILS SEE DRAWING VFS-EPM-000-DWG-S-115. INSTALL PER SPECIFICATION SECTION 22 05 29 - HANGERS AND SUPPORTS FOR PIPING AND EQUIPMENT.

NOZZLE SCHEDULE FOR TANK TK-101				
MARK	QTY	RATING	SIZE	LOCATION
N1 - FILL	1	150#	4"	ROOF (NOTE A)
N2 - DISCHARGE	1	150#	4"	8" ABOVE TOC
N3 - HIGH LEVEL SWITCH	1	150#	(NOTE 1.)	ROOF
N4 - VENT	1	150#	(NOTE 1.)	ROOF
N5 - LEVEL DETECTION	1	150#	(NOTE 1.)	ROOF
N6 - LEAK DETECTION	1	N/A	(NOTE 1.)	BETWEEN SHELLS
MANWAY	1	(NOTE 1.)	24"	20" TO 60" ABOVE TOC
MANWAY	1	(NOTE 1.)	24"	ROOF
SCHEDULE NOTES:				
A. INFLUENT PIPE RUN IS TO BE SUPPORTED DOWN THE SIDE OF THE TANK.				



INFLUENT HANDLING PLAN

SCALE: 1/2" = 1'-0"
(INSULATION AND HEAT TRACE NOT SHOWN FOR CLARITY)

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

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

REVISIONS: MFD | REV NO | DESCRIPTION | REV BY DATE | ENGR COMPANY

CONCEPTUAL DESIGN

VEOLIA NUCLEAR SOLUTIONS
FEDERAL SERVICES, LLC
295 Bradley, Suite 300
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NAME	DATE / COMPANY
DRAWN BY S MOORE	VNSFS
ENGINEER E LLOYD	VNSFS
DRAFTING CHECKER J PIERCE	VNSFS
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA
TREATMENT FACILITY
INFLUENT HANDLING PLAN

SIZE F | DWG NO VFS-EPM-000-DWG-G-105 | REV C
SCALE SHOWN | EDT | SHEET 1 OF 1

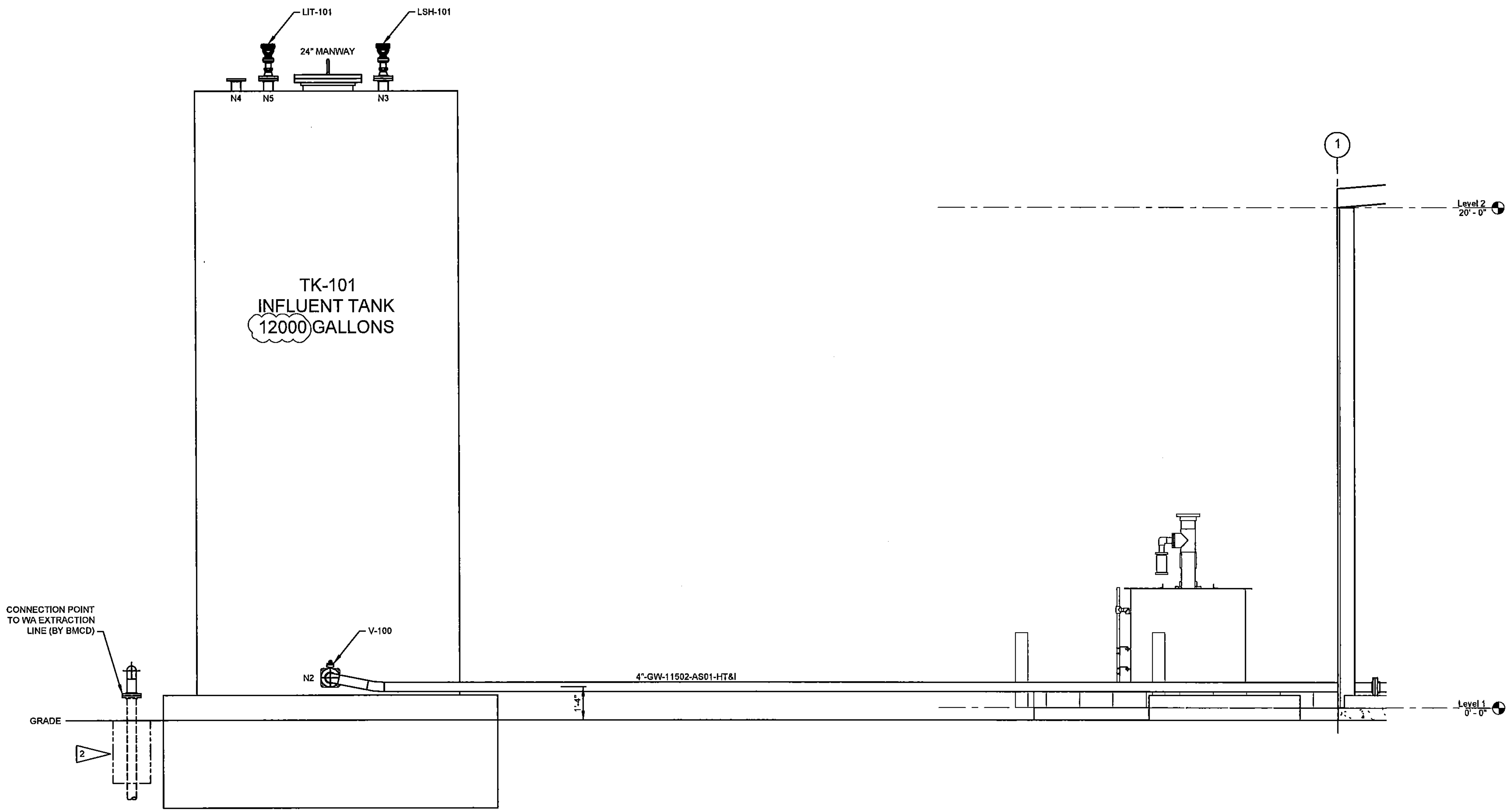
DWG NO VFS-EPM-000-DWG-G-105 SH 1 OF 1 REV C

GENERAL NOTES:

1. NOZZLE LOCATIONS SHOWN ON TANK TK-101 ARE FOR INFORMATION ONLY, ACTUAL NOZZLE LOCATIONS TO BE DETERMINED BY VENDOR'S FINAL SUBMITTAL.

2. INTERFACE FLANGE TO BE 12" ABOVE GRADE, CENTER CONNECTION POINT PIPE IN 18" SONNET TUBE X 30" DEEP. FILL SONNET TUBE WITH SAND OR CRUSHED ROCK AFTER HEAT TRACE HAS BEEN INSTALLED.

3. FOR PIPE SUPPORT DETAILS SEE DRAWING VFS-EPM-000-DWG-S-115. INSTALL PER SPECIFICATION SECTION 22 05 29 - HANGERS AND SUPPORTS FOR PIPING AND EQUIPMENT.



A INFLUENT HANDLING ELEVATION
G-105-1
SCALE: 1/2" = 1'-0"
(INSULATION AND HEAT TRACE NOT SHOWN FOR CLARITY)

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

CONCEPTUAL DESIGN

VEOLIA

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295 Bradley, Suite 300
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ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA
TREATMENT FACILITY
INFLUENT HANDLING

SIZE	DWG NO	REV
F	VFS-EPM-000-DWG-G-106	C

SCALE SHOWN | EDT | SHEET 1 OF 2

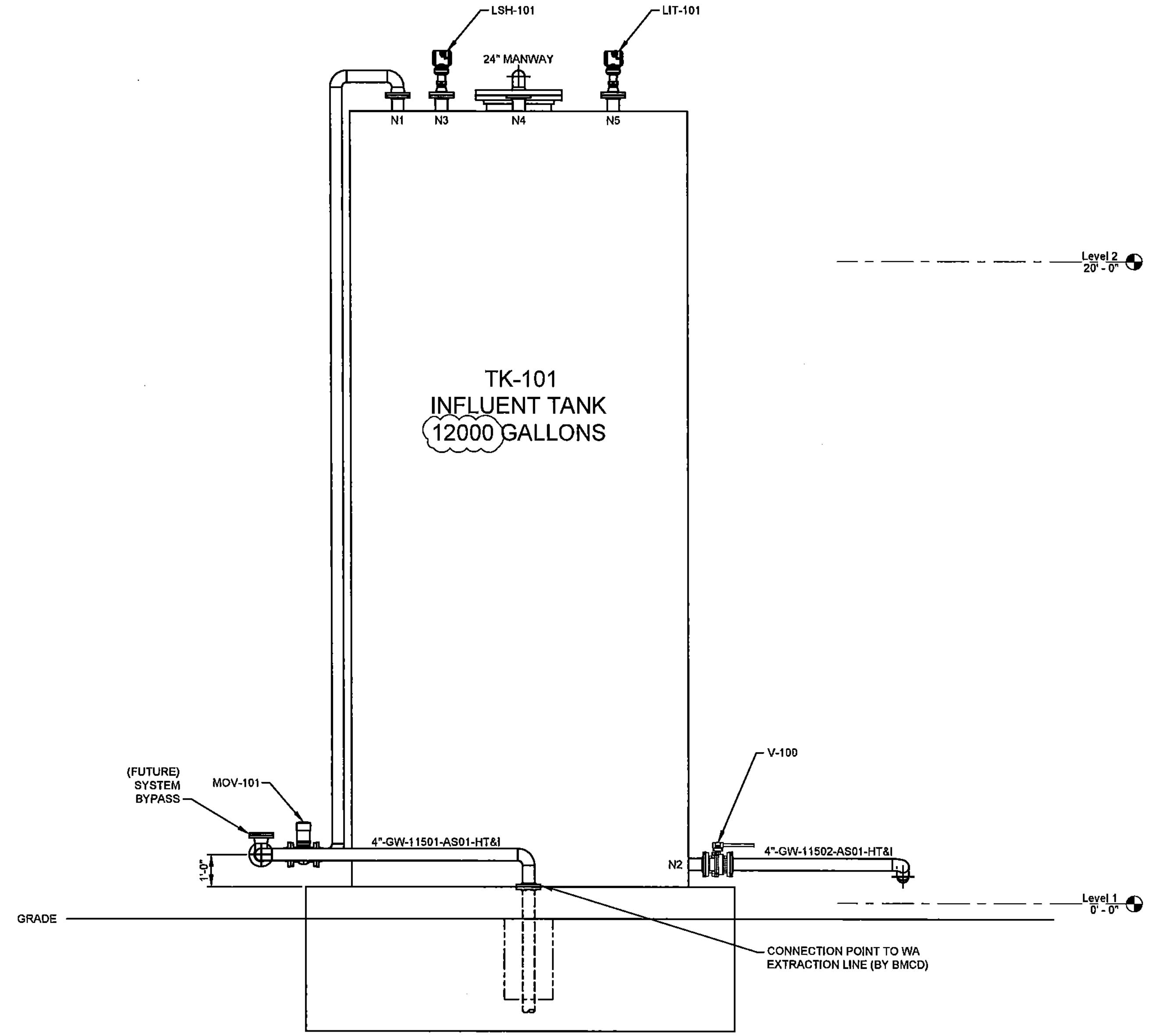
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

MFD	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS				

DWG NO VFS-EPM-000-DWG-G-106 SH 1 OF 2 REV C

NOTES:

1. SEE SHEET 1 FOR GENERAL NOTES.



B G-105-1 INFLUENT HANDLING ELEVATION

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

(INSULATION AND HEAT TRACE NOT SHOWN FOR CLARITY)

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

CONCEPTUAL DESIGN

VEOLIA NUCLEAR SOLUTIONS
FEDERAL SERVICES, LLC
295 Bradley, Suite 300
Richland, WA 99352

NAME	DATE / COMPANY
DRAWN BY S MOORE	10/11/2022 VNSFS
ENGINEER E LLOYD	VNSFS
DRAFTING CHECKER J PIERCE	VNSFS
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA
TREATMENT FACILITY
INFLUENT HANDLING

SIZE F | DWG NO VFS-EPM-000-DWG-G-106 | REV C

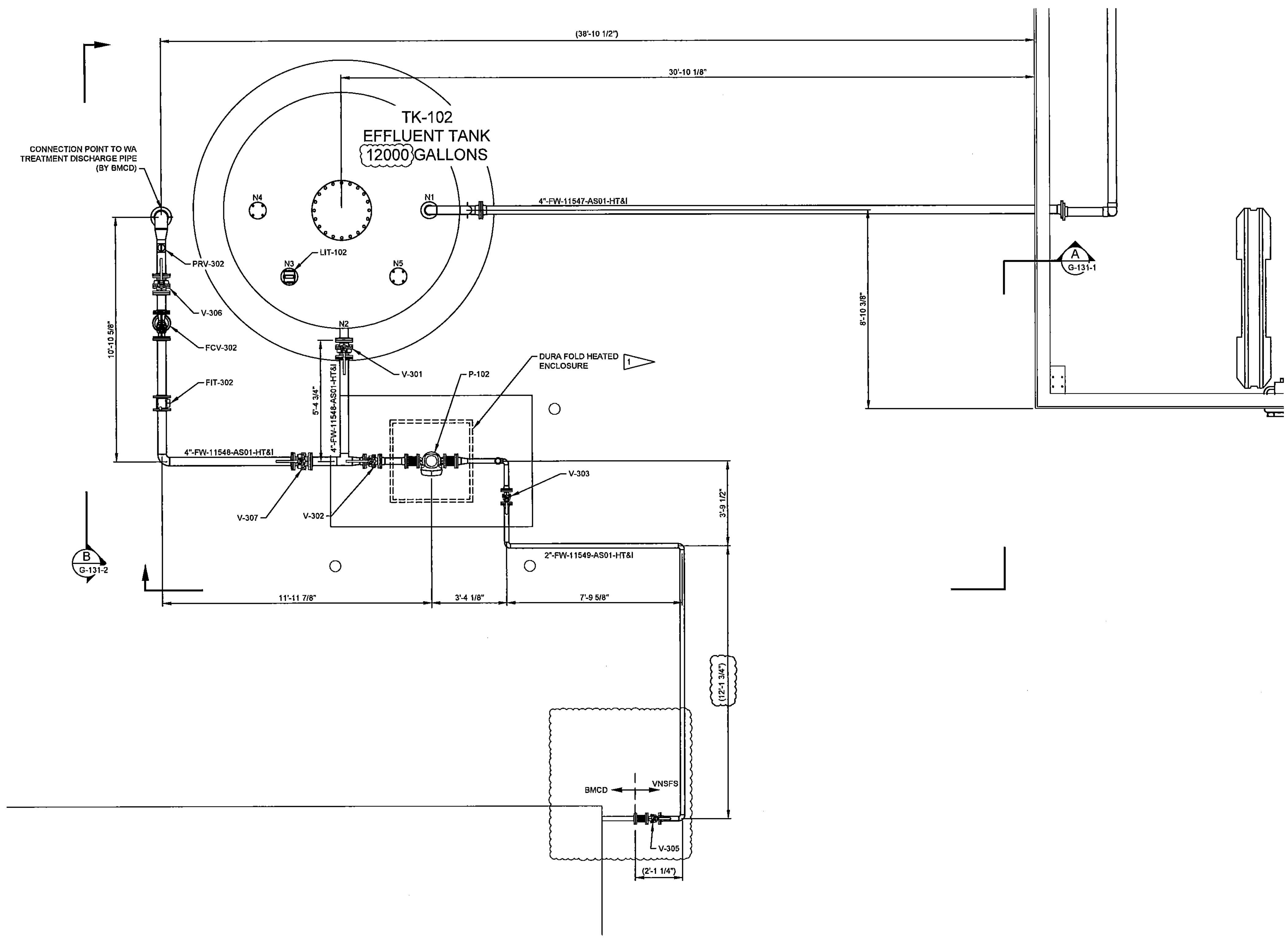
SCALE SHOWN | EDT | SHEET 2 OF 2

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

MFD	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS				

DWG NO VFS-EPM-000-DWG-G-106 SH 2 OF 2 REV C



EFFLUENT HANDLING PLAN

SCALE: 1/2" = 1'-0"
(INSULATION AND HEAT TRACE NOT SHOWN FOR CLARITY)

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

GENERAL NOTES:

1. PUMP ENCLOSURE SHALL BE HUBBELL HOT BOX MODEL NUMBER DF4FEH, PART NUMBER HD041041045 WITH 1000W HEATER AND VENTILATION FAN. CENTER ENCLOSURE OVER CENTER OF PUMP AND ATTACH TO CONCRETE PAD USING SUPPLIED HARDWARE. ENSURE THAT THERE IS 12" OF CLEARANCE FROM INSIDE DIMENSIONS OF ENCLOSURE TO EDGE OF CONCRETE FOR ENCLOSURE MOUNTING. CONTRACTOR TO CUT HOLES IN SIDES OF ENCLOSURE FOR PIPE, HOLES SHALL BE 1/2" LARGER THAN PIPE SIZE. AFTER INSTALLATION APPLY EXPANDING FOAM AROUND THE PERIMETER OF THE PENETRATIONS.
2. NOZZLE LOCATIONS SHOWN ON TANK TK-102 ARE FOR INFORMATION ONLY, ACTUAL NOZZLE LOCATIONS TO BE DETERMINED BY VENDOR'S FINAL SUBMITTAL.
3. FOR PIPE SUPPORT DETAILS SEE DRAWING VFS-EPM-000-DWG-S-115. INSTALL PER SPECIFICATION SECTION 22 05 29 - HANGERS AND SUPPORTS FOR PIPING AND EQUIPMENT.

NOZZLE SCHEDULE FOR TANK TK-102

MARK	QTY	RATING	SIZE	LOCATION
N1 - FILL	1	150#	4"	ROOF (NOTE A)
N2 - DISCHARGE	1	150#	4"	BOTTOM, 8" ABOVE TOC
N3 - DETECTION	1	150#	(NOTE 2)	ROOF
N4 - VENT	1	150#	(NOTE 2)	ROOF
N5 - SPARE	1	150#	(NOTE 2)	ROOF
N6 - SPARE	1	150#	(NOTE B)	ROOF
MANWAY	1	(NOTE 1.)	24"	20" TO 60" ABOVE TOC
MANWAY	1	(NOTE 1.)	24"	ROOF

SCHEDULE NOTES:

A. EFFLUENT PIPE RUN IS TO BE SUPPORTED DOWN THE SIDE OF THE TANK.
B. NOZZLE ADDED FOR FUTURE SYSTEM BYPASS ONCE MCL IS ACHIEVED FOR URANIUM AND NITRATE.

CONCEPTUAL DESIGN

VEOLIA

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Richland, WA 99352

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ENGINEER E LLOYD	VNSFS
DRAFTING CHECKER J PIERCE	VNSFS
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA
TREATMENT FACILITY
EFFLUENT HANDLING PLAN

SIZE F | DWG NO VFS-EPM-000-DWG-G-130 | REV C
SCALE SHOWN | EDT | SHEET 1 OF 1

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

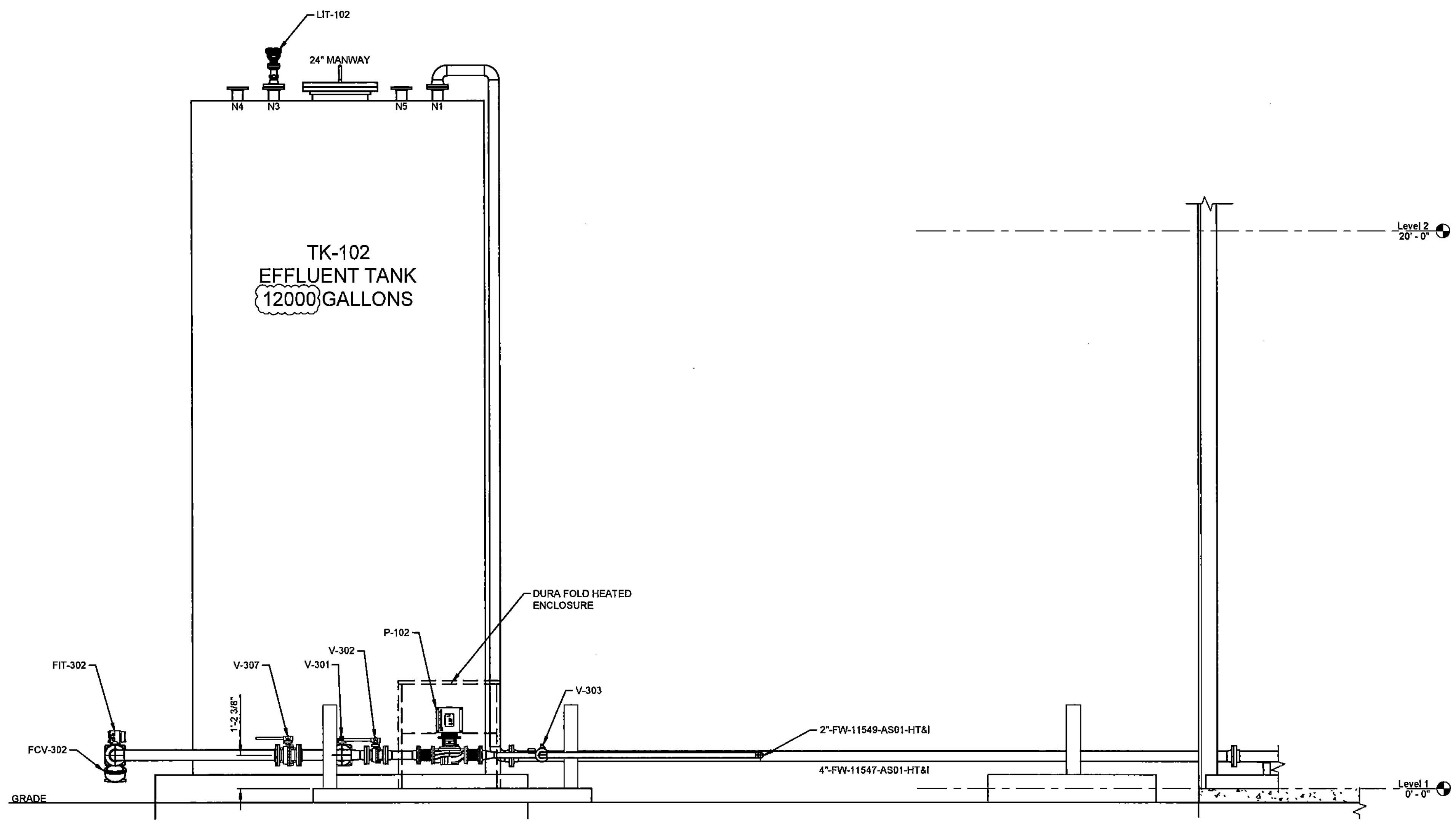
REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

MFD | REV NO | DESCRIPTION | REV BY DATE | ENGR COMPANY
REV REL | REVISIONS

DWG NO VFS-EPM-000-DWG-G-130 SH 1 OF 1 REV C

GENERAL NOTES:

1. NOZZLE LOCATIONS SHOWN ON TANK TK-102 ARE FOR INFORMATION ONLY, ACTUAL NOZZLE LOCATIONS TO BE DETERMINED BY VENDOR'S FINAL SUBMITTAL.
2. FOR PIPE SUPPORT DETAILS SEE DRAWING VFS-EPM-000-DWG-S-115. INSTALL PER SPECIFICATION SECTION 22 05 29 - HANGERS AND SUPPORTS FOR PIPING AND EQUIPMENT.



A G-130-1 EFFLUENT HANDLING ELEVATION
SCALE: 1/2" = 1'-0"
(INSULATION AND HEAT TRACE NOT SHOWN FOR CLARITY)

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

CONCEPTUAL DESIGN

VEOLIA

VEOLIA NUCLEAR SOLUTIONS
FEDERAL SERVICES, LLC
295 Bradley, Suite 300
Richland, WA 99352

NAME	COMPANY
DRAWN BY BM EKAR	VNSFS
ENGINEER E LLOYD	VNSFS
DRAFTING CHECKER J PIERCE	VNSFS
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA
TREATMENT FACILITY
EFFLUENT HANDLING

SIZE F | DWG NO VFS-EPM-000-DWG-G-131 | REV C
SCALE SHOWN | SHEET 1 OF 2

DWG NO VFS-EPM-000-DWG-G-131 SH 1 OF 2 REV C

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

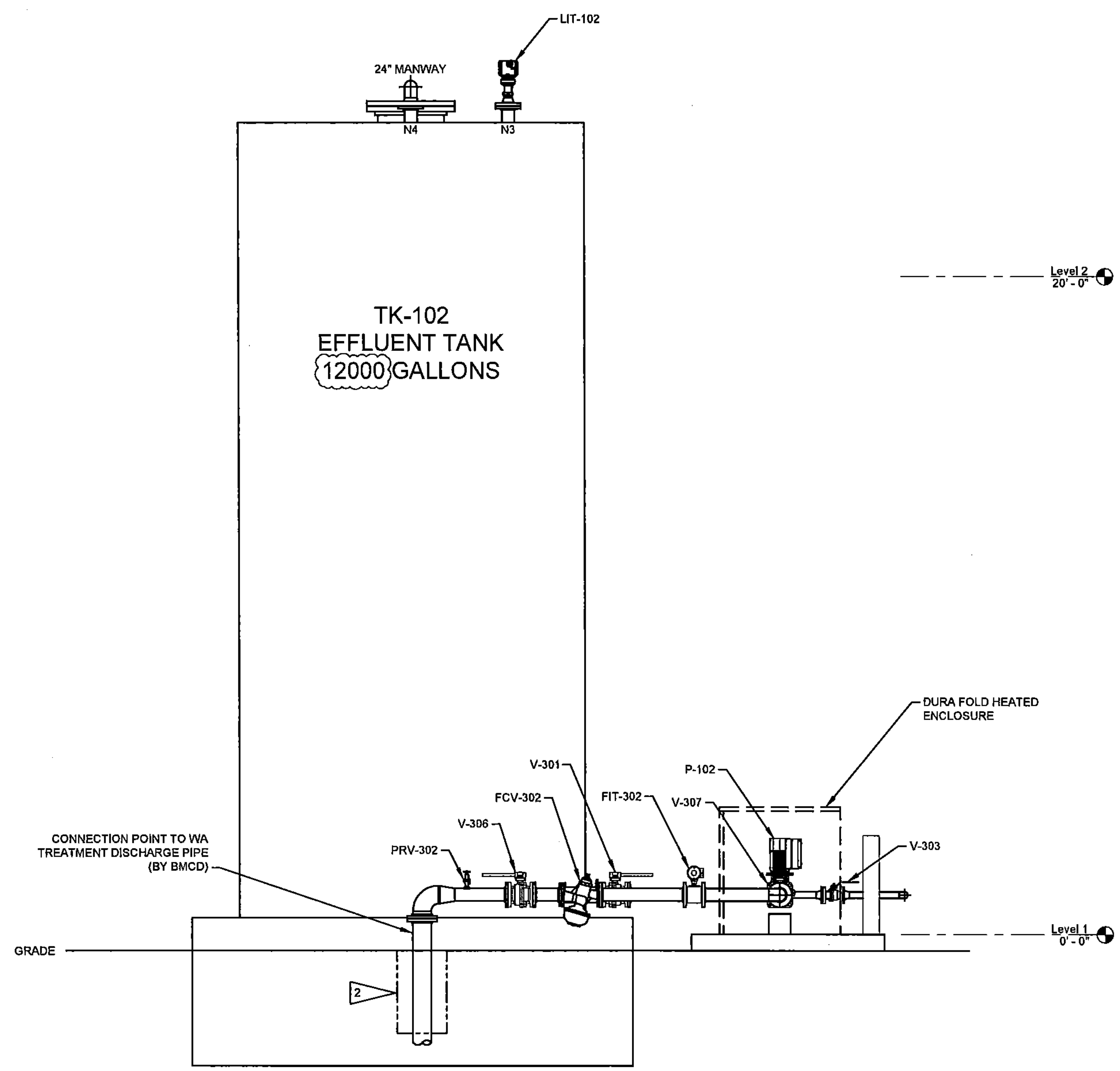
REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

MFD	REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY
REVISIONS				

NOTES:

1. SEE SHEET 1 FOR GENERAL NOTES.

2 INTERFACE FLANGE TO BE 12" ABOVE GRADE, CENTER CONNECTION POINT PIPE IN 18" SONNET TUBE X 30" DEEP. FILL SONNET TUBE WITH SAND OR CRUSHED ROCK AFTER HEAT TRACE HAS BEEN INSTALLED.



B / G-130-1 EFFLUENT HANDLING ELEVATION

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

(INSULATION AND HEAT TRACE NOT SHOWN FOR CLARITY)

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

CONCEPTUAL DESIGN

VEOLIA

VEOLIA NUCLEAR SOLUTIONS
FEDERAL SERVICES, LLC
295 Bradley, Suite 300
Richland, WA 99352

NAME	DATE / COMPANY
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ENGINEER E LLOYD	VNSFS
DRAFTING CHECKER J PIERCE	VNSFS
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

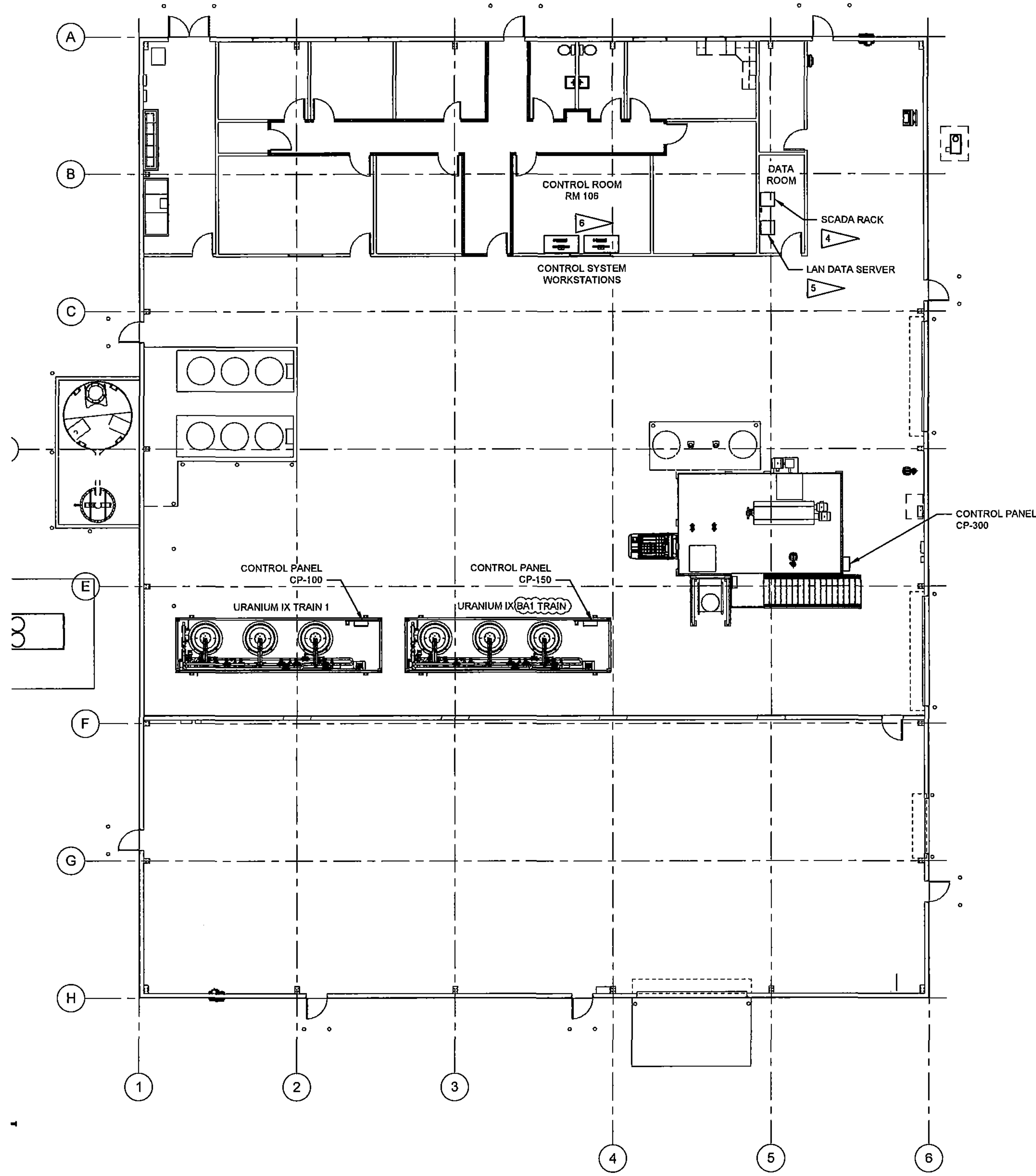
WESTERN AREA TREATMENT FACILITY EFFLUENT HANDLING

SIZE F | DWG NO VFS-EPM-000-DWG-G-131 | REV C

SCALE SHOWN | EDT | SHEET 2 OF 2

DWG NO	TITLE	REF NUMBER	TITLE	MFD	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
DRAWING TRACEABILITY LIST		REFERENCES				REVISIONS		
		NEXT USED ON		REV REL				

DWG NO VFS-EPM-000-DWG-G-131 SH 2 OF 2 REV C



GENERAL NOTES:

1. SEE VFS-EPM-000-DWG-E-101 FOR SYMBOLS, NOTES, AND ABBREVIATIONS.
2. SEE VFS-EPM-000-DWG-J-115 FOR REQUIRED CONTROL SYSTEM INTERCONNECTIONS.
3. FIELD ROUTE CAT-6 ETHERNET CABLE FROM CONTROL PANELS TO DATA ROOM SCADA RACK AND FROM SCADA RACK TO CONTROL SYSTEM WORKSTATION COMPUTERS.

4 EQUIPMENT RACK CONTAINING CONTROL SYSTEM PLC'S, ETHERNET SWITCHES, MEDIA CONVERTERS, PATCH PANELS, AND UPS.

5 CABINET FOR LOCAL AREA NETWORK SERVER, ROUTERS, AND UPS.

6 LOCATION FOR COMPUTER WORKSTATIONS FED BY DESKTOP UPS UNITS.

INSTRUMENTATION AND CONTROL PLAN

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

1/8" = 1'-0" SCALE 0' 4' 8' 16' 24" FEET

CONCEPTUAL DESIGN

VEOLIA

VEOLIA NUCLEAR SOLUTIONS
FEDERAL SERVICES, LLC
295 Bradley, Suite 300
Richland, WA 99352

NAME	DATE / COMPANY
DRAWN BY S MOORE	VNSFS
DRAFTING CHECKER J PIERCE	VNSFS
ENGINEER D KING	VNSFS
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY INSTRUMENTATION AND CONTROL PLAN

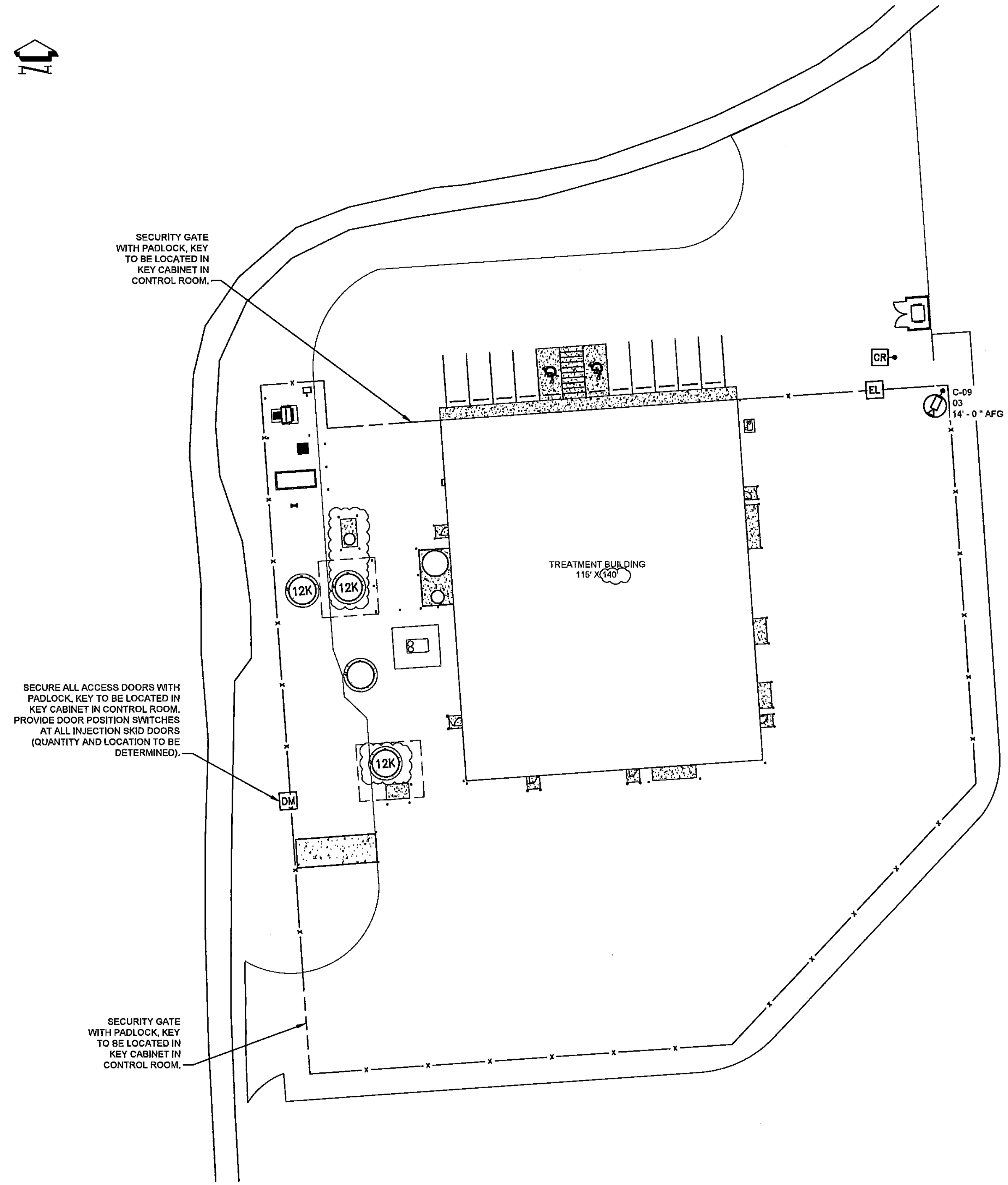
SIZE F | DWG NO VFS-EPM-000-DWG-J-110 | REV E

SCALE AS SHOWN | EDT | SHEET 1 OF 1

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

REVISIONS

DWG NO VFS-EPM-000-DWG-J-110 SH 1 OF 1 REV E



0 20 40 Feet

SECURITY SITE PLAN

SCALE: 1" = 20'-0"

SYMBOLS LEGEND:

DM	DOOR POSITION SWITCH
EL	ELECTRIFIED LOCK, DOOR POSITION SWITCH, REX
CR	CARD READER - PEDESTAL MOUNTED
	FIXED DOME CAMERA - POLE MOUNTED
C-XX 01	CAMERA NUMBER/TYPE (DEFINED IN SPECIFICATION SECTION 282000)
AFG	ABOVE FINISHED GRADE

CONCEPTUAL DESIGN

VEOLIA

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FEDERAL SERVICES, LLC
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NAME	DATE / COMPANY
DRAWN BY S MOORE	VNSFS
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ENGINEER D KING	VNSFS
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA
TREATMENT FACILITY
SITE SECURITY PLAN

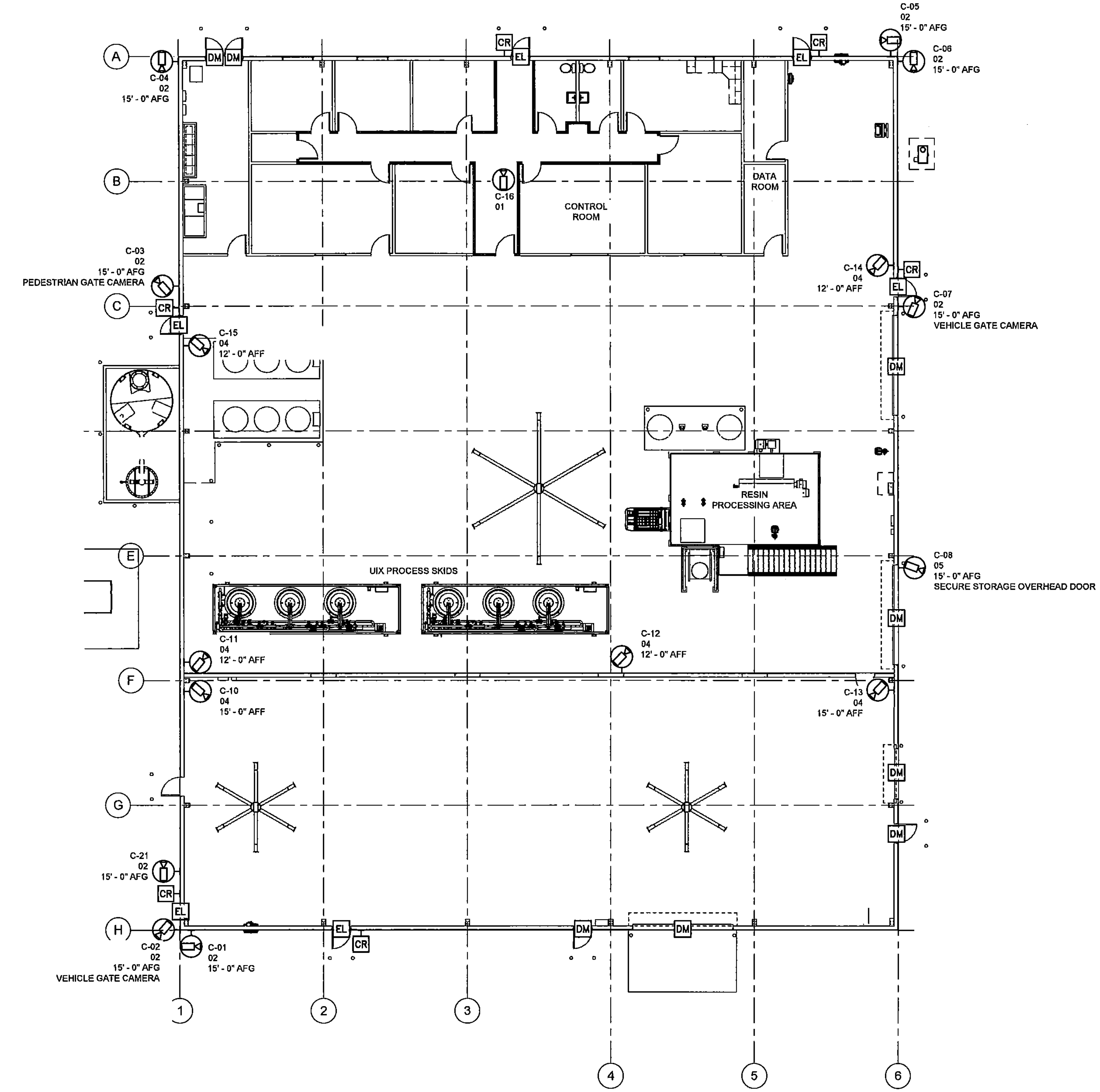
SIZE F | DWG NO VFS-EPM-000-DWG-J-111 | REV D

SCALE AS SHOWN | EDT | SHEET 1 OF 1

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY
REVISIONS			

DWG NO VFS-EPM-000-DWG-J-111 SH 1 OF 1 REV D



BUILDING SECURITY PLAN

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

1/8" = 1'-0" 0' 4' 8' 16' 24" SCALE FEET

GENERAL NOTES:

1. ACCESS CONTROL SYSTEM SERVER TO BE INSTALLED IN DATA ROOM, SECURITY SYSTEM, CCTV CONTROLLER, AND MONITORS TO BE INSTALLED IN THE CONTROL ROOM.

SYMBOLS LEGEND:

DM	DOOR POSITION SWITCH
EL	ELECTRIFIED LOCK, DOOR POSITION SWITCH, REX
CR	CARD READER - WALL MOUNTED
	FIXED DOME CAMERA - CEILING MOUNTED
	FIXED DOME CAMERA - WALL MOUNTED
C-XX 01	CAMERA NUMBER/TYPE (DEFINED IN SPECIFICATION SECTION 282000)
AFG	ABOVE FINISHED GRADE
AFF	ABOVE FINISHED FLOOR

CONCEPTUAL DESIGN

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NAME	DATE / COMPANY
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ENGINEER D KING	VNSFS
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA
TREATMENT FACILITY
BUILDING SECURITY PLAN

SIZE F | DWG NO VFS-EPM-000-DWG-J-112 | REV C
SCALE SHOWN | EDT | SHEET 1 OF 1

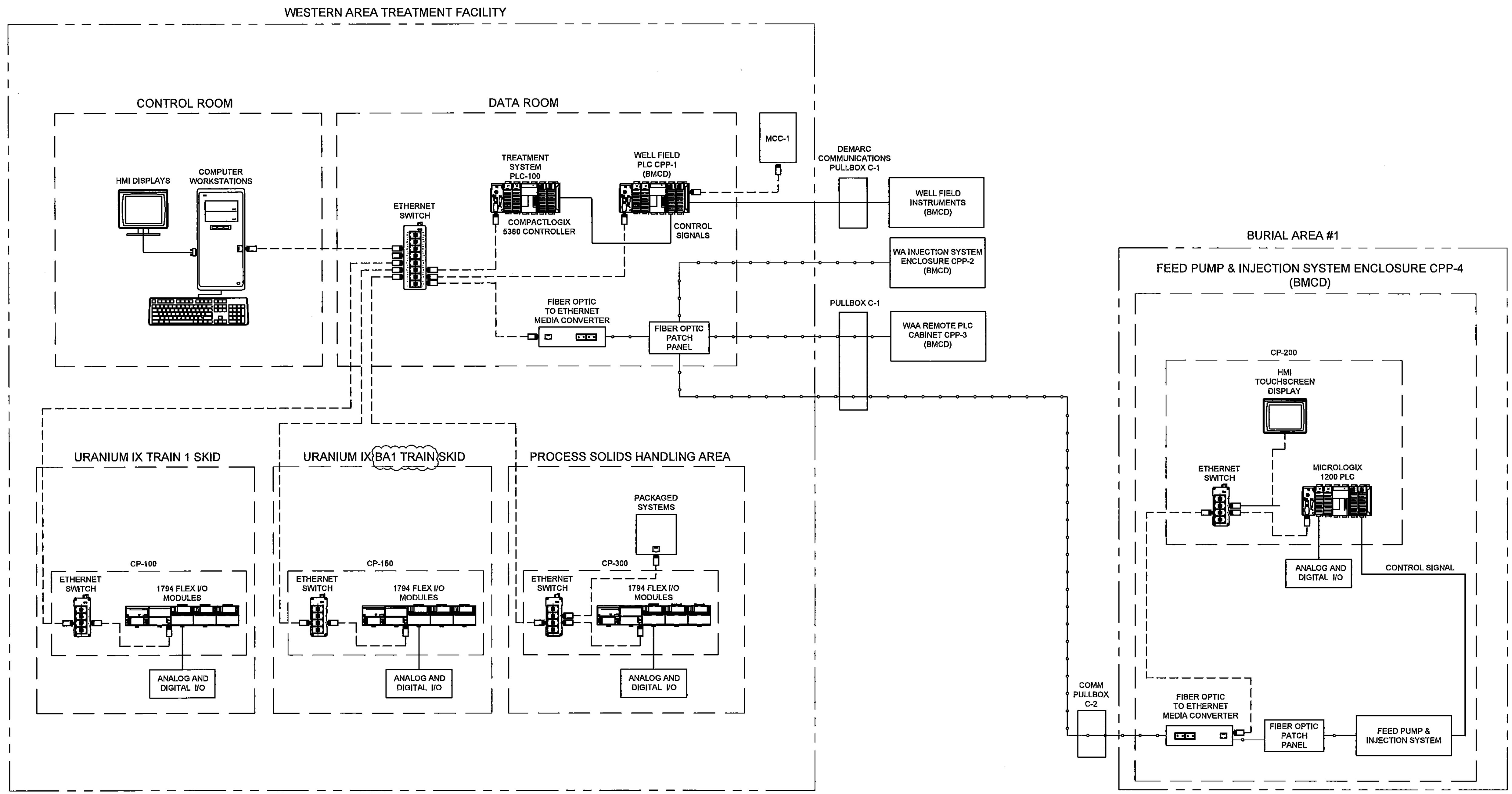
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

MFG	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
		REVISIONS		

DWG NO VFS-EPM-000-DWG-J-112 SH 1 OF 1 REV C

GENERAL NOTES:

1. SEE VFS-EPM-000-DWG-E-101 FOR SYMBOLS, NOTES, AND ABBREVIATIONS.
2. ETHERNET CABLE RUNS LENGTHS SHALL NOT EXCEED 328 FEET. FOR LONGER RUNS, UTILIZE FIBER OPTIC CABLE WITH MEDIA CONVERTERS.
3. SEE BMCD-GWREMED-E109 AND BMCD-GWREMED-E110 FOR WELL FIELD AND INJECTION SYSTEMS COMMUNICATION SYSTEM ARCHITECTURE.



CONTROL SYSTEM NETWORK INTERCONNECTION DIAGRAM

LEGEND

———	ANALOG
– – –	ETHERNET
–o–o–	FIBER

CONCEPTUAL DESIGN

VEOLIA

VEOLIA NUCLEAR SOLUTIONS
FEDERAL SERVICES, LLC
295 Bradley, Suite 300
Richland, WA 99352

NAME	DATE / COMPANY
DRAWN BY D KING	09/14/2022 VNSFS
ENGINEER D KING	VNSFS
DRAFTING CHECKER J PIERCE	VNSFS
ENGINEERING CHECKER R JENSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

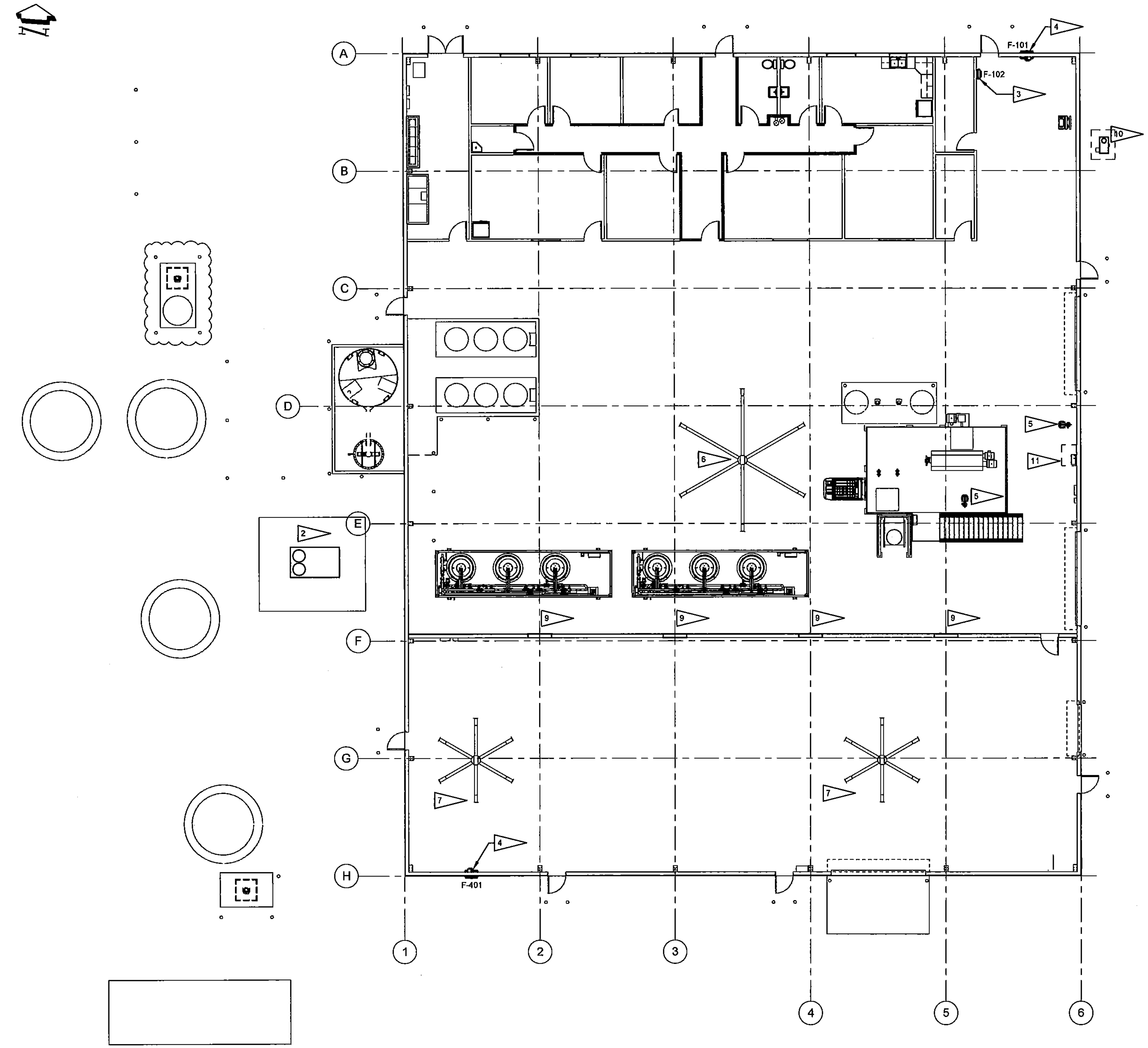
INSTRUMENTATION AND CONTROL SYSTEM NETWORK INTERCONNECTION DIAGRAM

SIZE F | DWG NO VFS-EPM-000-DWG-J-115 | REV H
SCALE NONE | EDT | SHEET 1 OF 1

DWG NO VFS-EPM-000-DWG-J-115 SH 1 OF 1 REV H

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

REV	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS			



GENERAL NOTES:

1. FOR DOMESTIC WATER PLUMBING SEE DRAWING VFS-EPM-000-DWG-P-100 AND VFS-EPM-000-DWG-P-500.

2. HEAT PUMP, CARRIER SERIES 50TCQ-17-24-03PD, 20 TON UNIT.
3. FAN, 12" AXIAL DIRECT DRIVE, DAYTON MODEL DR12HFA.
4. FAN, 24" TPI MODEL CE 24-DS.
5. EYEWASH, PEDESTAL MOUNT, BRADLEY SERIES S19214.
6. FAN, 24 FT, BIG ASS FAN BASIC MODEL 6.
7. FAN, 14 FT, BIG ASS FAN BASIC MODEL 6.
8. NOT USED.
9. LOUVER, 36" x 36", GRAINGER MODEL 3HHN9.
10. HEAT PUMP, CARRIER 50TC SERIES, 5 TON UNIT.
11. TANKLESS WATER HEATER, BRADLEY CLE SERIES.

MECHANICAL PLAN

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

1/8" = 1'-0" 0' 4' 8' 16' 24" SCALE FEET

CONCEPTUAL DESIGN

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FEDERAL SERVICES, LLC
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NAME	DATE / COMPANY
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ENGINEER N HERTELENDY	VNSFS
DRAFTING CHECKER S MOORE	VNSFS
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA
TREATMENT FACILITY
MECHANICAL PLAN

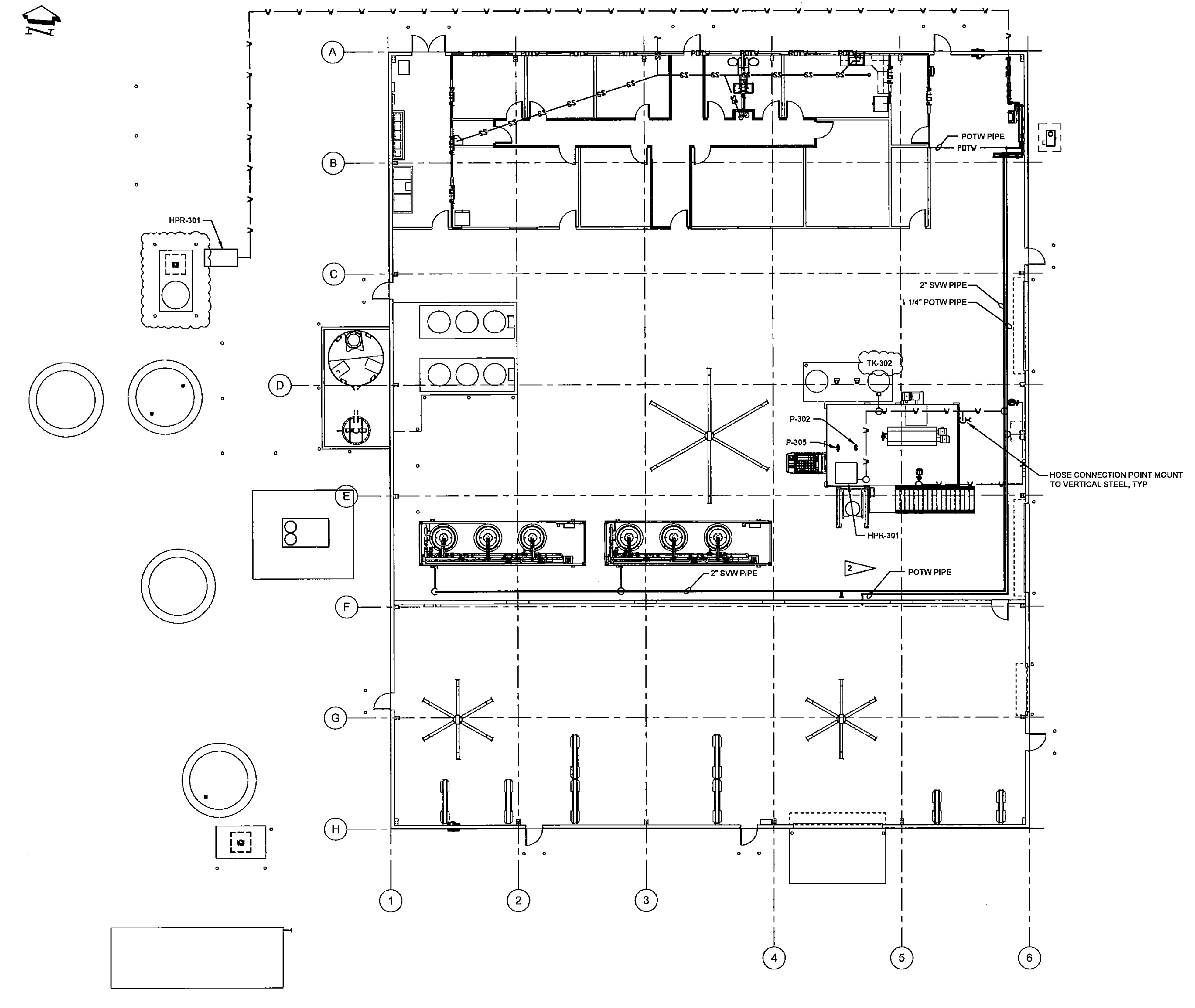
SIZE F | DWG NO VFS-EPM-000-DWG-M-100 | REV E
SCALE SHOWN | EDT | SHEET 1 OF 1

DWG NO VFS-EPM-000-DWG-M-100 SH 1 OF 1 REV E

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	

REFERENCES

REVISIONS: REV NO | DESCRIPTION | REV BY DATE | ENGR / COMPANY



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

1/8" = 1'-0" SCALE 0' 4' 8' 16' 24' FEET

GENERAL NOTES:

1. SEE DRAWINGS VFS-EPM-000-DWG-P-400 AND VFS-EPM-000-DWG-P-500 FOR DOMESTIC WATER AND INSTRUMENT AIR P&ID'S.
2. RUN WATER MAIN LINE THROUGH WALL. ROUTING AND DROP LOCATIONS TO BE DETERMINED BASED ON EQUIPMENT AND PROCESS NEEDS.
3. NOT USED.
4. INTERIOR/ EXTERIOR HOSE BIB LOCATIONS NOT SHOWN.
5. FOR PIPE SUPPORT DETAILS SEE DRAWING VFS-EPM-000-DWG-S-115. INSTALL PER SPECIFICATION SECTION 22 05 29 - HANGERS AND SUPPORTS FOR PIPING AND EQUIPMENT.
6. OFFICE SPACE PLUMBING SPECIFICS ARE IN CONSTRUCTION SPECIFICATIONS 223300, 221119, AND 221113.

LEGEND

—V—V—V—V— DOMESTIC WATER LINE

—SS—SS—SS—SS— SANITARY SEWER LINE

— POTW — POTW — POTABLE WATER LINE

PIPE RISER UP

OR PIPE DOWN

PIPE DOWN WITH HOSE CONNECTION

ABBREVIATIONS

POTW - POTABLE WATER
SVW - SERVICE WATER

CONCEPTUAL DESIGN

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

MFD	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REV		REVISIONS		

VEOLIA NUCLEAR SOLUTIONS
FEDERAL SERVICES, LLC
295 Bradley, Suite 300
Richland, WA 99352

NAME	DATE / COMPANY
DRAWN BY S MOORE	08/12/2022 VNSFS
ENGINEER J WILSON	VNSFS
DRAFTING CHECKER J PIERCE	VNSFS
ENGINEERING CHECKER B GARRETT	VNSFS
PROJECT MANANGER E LLOYD	VNSFS
DESIGN AUTHORITY	

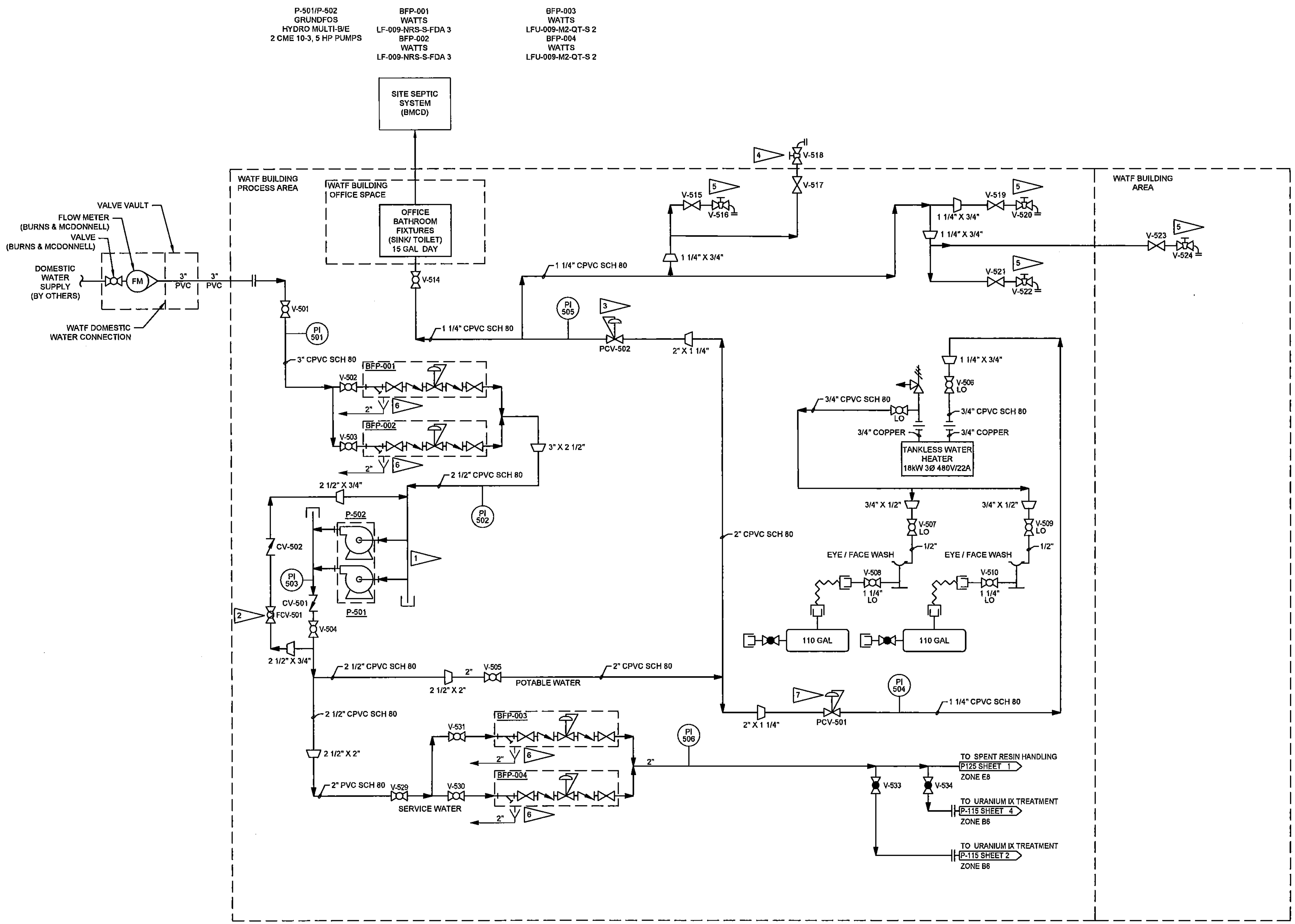
CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY PLUMBING & COMPRESS AIR

SIZE	DWG NO	REV
F	VFS-EPM-000-DWG-P-100	E

SCALE SHOWN | EDT | SHEET 1 OF 1

DWG NO VFS-EPM-000-DWG-P-100 SH 1 OF 1 REV E



GENERAL NOTES

1. INITIAL SETTING 80 PSIG, DETERMINE SETTING DURING STARTUP TESTING.
2. INITIAL SETTING 35% OPEN, DETERMINE SETTING TO MAINTAIN A PUMP RUNNING DURING STARTUP TESTING.
3. INITIAL SETTING 45 PSIG, DETERMINE SETTING DURING STARTUP TESTING.
4. WOODFORD FREEZELESS UNDERCOVER WALL HYDRANT MODEL 68.
5. SMITH-COOPER INTERNATIONAL BRASS NO-KINK HOSE BIBB, MODEL 01901681L (3/4" FIP), OR MODEL 01901691L (3/4" MIP) OR EQUIVALENT LEAD FREE NSF 61. INSTALL LEAD FREE HOSE END VACUUM BREAKER (SMITH-COOPER INTERNATIONAL MODEL 0190167IIL OR EQUIVALENT).
6. WATTS 909AGF AIR GAP DISCHARGE OUTSIDE.
7. INITIAL SETTING 70 PSIG.

CONCEPTUAL DESIGN

VEOLIA

VEOLIA NUCLEAR SOLUTIONS
FEDERAL SERVICES, LLC
295 Bradley, Suite 300
Richland, WA 99352

NAME	DATE	COMPANY
V DAVISON	10/20/21	VNSFS
S MOORE		VNSFS
J WILSON		VNSFS
D SMITH		VNSFS
E LLOYD		VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY P&ID DOMESTIC WATER

SIZE F | DWG NO VFS-EPM-000-DWG-P-500 | REV E

SCALE NONE | SHEET 1 OF 1

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

REV	DESCRIPTION	REV BY DATE	ENGR COMPANY
REVISIONS			

DWG NO VFS-EPM-000-DWG-P-500 SH 1 OF 1 REV E

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 2015 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC), LOCAL RULES AND STANDARDS OF GOVERNING AGENCIES HAVING JURISDICTION.

2. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF SITE CONDITIONS, INSTALLATION STANDARDS AND CONSTRUCTION CONDITIONS. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO SHOP FABRICATION AND/OR FIELD ERECTION. DISCREPANCIES BETWEEN SITE CONDITIONS AND THE CONSTRUCTION DRAWINGS SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER. WORK DONE WITHOUT THE ENGINEERS APPROVAL IS THE RESPONSIBILITY OF THE CONTRACTOR.

3. ALL SPECIAL INSPECTION AND TESTING SHALL BE PERFORMED BY AN INDEPENDENT INSPECTION AND TESTING AGENCY HIRED BY THE OWNER. CONTRACTOR TO COORDINATE WITH INSPECTION AND TESTING AGENCY FOR REQUIRED CONSTRUCTION INSPECTIONS AND MATERIAL TESTING.

4. ELEVATIONS ON THE STRUCTURAL DRAWINGS REFERENCE THE FINISHED FLOOR ELEVATION, ASSIGNED THE DATUM 0'-0".

5. THE DIMENSIONS, LOCATIONS, AND ELEVATIONS OF ANY EXISTING STRUCTURES WHICH RELATE TO OR INFLUENCES NEW CONSTRUCTION SHALL BE VERIFIED BY FIELD MEASUREMENT BY THE CONTRACTOR PRIOR TO PREPARATION AND SUBMISSION OF CHECKED SHOP DRAWINGS TO THE ENGINEER OF RECORD FOR REVIEW.

6. PROTECTION OF EXISTING STRUCTURES DURING THE COURSE OF THE CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

7. THIS BUILDING SHALL BE CONSTRUCTED USING THE STANDARD DETAILS CONTAINED WITHIN THIS DRAWING SET UNLESS NOTED OTHERWISE. WHERE NO DETAIL IS NOTED IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CHOOSE THE APPROPRIATE STANDARD DETAIL FROM THOSE PROVIDED.

8. PRIOR TO DIGGING VERIFY LOCATION AND DEPTH OF UTILITIES AND OTHER UNDERGROUND INTERFERENCES. CALL TWO BUSINESS DAYS BEFORE YOU DIG AT 811.

9. FOUNDATION DESIGN REACTIONS AND FINAL COLUMN LOCATIONS ARE BASED UPON PRE-ENGINEERED METAL BUILDING CALCULATIONS. ALL BUILDING MODIFICATIONS PRIOR TO CONSTRUCTION MUST BE REVIEWED BY MANUFACTURER AND ENGINEER OF RECORD.

10. CONTRACTOR SHALL PROVIDE "UFER" GROUND CONNECTIONS TO BUILDING STEEL, EQUIPMENT, AND MAIN GROUNDING ELECTRODE GROUND BAR, REFER TO ELECTRICAL DRAWINGS FOR DETAILS. ELECTRICAL CONTRACTOR SHALL COORDINATE INSTALLATION WITH BUILDING FOUNDATION CONTRACTOR.

11. DESIGN CRITERIA (PER 2018 IBC AND ASCE 7-16)

- VERTICAL LOADS:
  SEE LOADING PLAN SHEETS FOR UNIFORM DEAD LOADS, UNIFORM LIVE LOADS, UNIFORM SNOW LOADS, DRIFT SNOW LOADS, AND COMPONENT WIND UPLIFT LOADS.

A. DEAD LOADS:	
ROOF (FLAT)	10 PSF + FRAMING WEIGHT
COLLATERAL	10 PSF
B. LIVE LOADS (IBC 1607):	
ROOF LIVE LOAD	20 PSF
MEZZANINE	60 PSF
C. SNOW LOADS (IBC 1608):	
GROUND SNOW LOAD	Pg=15 PSF
UNIFORM ROOF SNOW LOAD	Pm=20 PSF
D. SNOW EXPOSURE FACTOR: Ce=1.0	
SNOW LOAD IMPORTANCE FACTOR:	Is=1.0
THERMAL FACTOR:	Ct=1.0

- LATERAL LOADS:

A. WIND DESIGN LOAD DATA: (PER ASCE 7-16 AND IBC 2018)	
VELOCITY (3-SEC.-GUST)	V = 110 MPH
EXPOSURE	C
RISK CATEGORY	II
INTERNAL PRESSURE COEFFICIENT	±0.18
B. SEISMIC DESIGN LOAD DATA: (PER ASCE 7-16 AND IBC 2018)	
RISK CATEGORY	II
IMPORTANCE FACTOR	1.00
RHO (N-S)	1.0
RHO (E-W)	1.0
MAPPED SPECTRAL RESPONSE ACCELERATIONS:	
Ss =	0.245
S1 =	0.070
SEISMIC SITE CLASS	D
DESIGN SPECTRAL RESPONSE COEFFICIENTS:	
Sds =	0.262
Sd1 =	0.118
SEISMIC DESIGN CATEGORY	B
SEISMIC FORCE RESISTING SYSTEM AND RESPONSE MODIFICATION FACTOR:	
SPECIAL STEEL MOMENT FRAME	R= 8.0
SPECIAL STEEL CONCENTRICALLY BRACED FRAMES	R= 6.0
SEISMIC RESPONSE COEFFICIENT	
Cs	0.139
DESIGN BASED SHEAR	0.139W

ANALYSIS PROCEDURE:
EQUIVALENT LATERAL FORCE PER ASCE 7-16, 12.8

FOUNDATION NOTES:

1. FOR SLAB ON GRADE AND FOUNDATION SUBGRADE PREPARATION THE CONTRACTOR SHALL REFERENCE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEERING REPORT.

2. FOUNDATION DESIGN BASED ON AN ALLOWABLE SOIL BEARING OF 2,000 PSF.

3. EXCAVATE FOOTING TRENCHES AND AREA BELOW SLABS TWO FEET WIDER THAN FOOTING WIDTH AND ONE FOOT DEEPER THAN DESIGN FOOTING GRADE. PROOF ROLL THE EXPOSED TRENCH BOTTOM TO 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557. PLACE MIRAFI 500X ON COMPACTED NATIVE SOIL. PLACE A 12" THICK LAYER OF 3/4" MINUS CRUSHED ROCK OVER FABRIC.

CONCRETE NOTES:

1. CONCRETE SLABS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS WITH A WATER TO CEMENT RATIO OF 0.45. ALL OTHER CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS WITH A WATER TO CEMENT RATIO OF 0.5. CONCRETE DESIGN IS BASED UPON ACI 318-14 COMPRESSIVE STRENGTH OF 2500 PSI WITH NO SPECIAL INSPECTION REQUIRED PER IBC 1705.3 REQUIRED.

2. CAST IN PLACE CONCRETE SHALL MEET THE FOLLOWING REQUIREMENTS:
   - ACI 117 - STANDARD SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS.
   - ACI 301 - SPECIFICATIONS FOR STRUCTURAL CONCRETE.
   - ACI 302 - GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION.
   - ACI 305 - HOT WEATHER CONCRETING.
   - ACI 306 - COLD WEATHER CONCRETING.

3. UNLESS NOTED OTHERWISE, ALL CONCRETE FLAT WORK SHALL CONFORM TO THE FOLLOWING FINISHING TOLERANCES 1/8" GAP UNDER A 10'-0" STRAIGHT EDGE MEASURED AS PER ASTM E1155:
   OVERALL FLATNESS NUMBER, Ff≥20
   MINIMUM LOCAL FLATNESS NUMBER, Ff≥15
   OVERALL LEVELNESS NUMBER, Fl≥15
   MINIMUM LOCAL LEVELNESS NUMBER, Fl≥10

4. ALL SAWN CONTROL JOINTS ARE TO BE CUT WITHIN 12 HOURS AFTER THE FLOOR SLAB IS POURED, SUCH THAT NO SURFACE DEFECTS ARE MADE FROM FLOOR TRAFFIC AS PER ACI 302.

5. ALL CONCRETE FLOORS ARE TO BE WET CURED FOR 7 DAYS IMMEDIATELY AFTER PLACEMENT, AS PER THE RECOMMENDATIONS OF ACI 302, UNLESS NOTED OTHERWISE.

6. ALL REINFORCING STEEL SHALL BE GRADE 60 DEFORMED BARS COMPLYING WITH ASTM SECTION A615. REINFORCING STEEL WHICH IS INDICATED ON THE PLANS AS BEING WELDED SHALL COMPLY WITH ASTM A706, AND SHALL ALSO BE DEFORMED. WELDING OF REINFORCING BARS SHALL BE PER AWS D1.4. SPECIAL INSPECTION SHALL BE PREPARED PER AWS D1.1 AND IBC 1705.2.2.1

7. ANCHOR RODS SHALL CONFORM TO ASTM F1554 Fy=36 KSI WITH HEAVY HEX HEADED END OR THREADED WITH NUT UNLESS NOTED OTHERWISE ON PLANS. TACK WELD NUT TO ANCHOR ROD.

8. REINFORCEMENT LAP HOOKS, ETC.; SHALL BE PER THE REINFORCEMENT TABLE ON VFS-EPM-000-DWG-S-101-2 UNLESS NOTED OTHERWISE.

9. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT: (MIN. COVER LISTED)
   (A) CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
   (B) CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 THROUGH #18 BARS: 2"
   #5 BAR, W31 OR D31 WIRE AND SMALLER: 1 1/2"
   (C) CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
   SLABS, WALLS, JOISTS
   #14 AND 18 BARS: 1 1/2"
   #11 BAR AND SMALLER: 3/4"
   BEAMS, COLUMNS
   PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS: 1 1/2"
   SHELLS, FOLDED PLATE MEMBERS
   #6 BAR AND LARGER: 3/4"
   #5 BAR, W31 OR D31 WIRE, AND SMALLER: 1/2"

10. CONCRETE ADHESIVE ANCHORS SHALL USE A36 ALL-THREAD ROD WITH HILTI HIT HY.200 ADHESIVE OR SIMPSON SET ADHESIVE, OR ENGINEER APPROVED EQUAL. SPECIAL INSPECTION OF ADHESIVE ANCHORS IS REQUIRED.

11. CONCRETE EXPANSION ANCHORS SHALL BE HILTI KWIK BOLT TZ OR SIMPSON STRONG BOLT OR ENGINEER APPROVED EQUAL. STAINLESS STEEL ANCHORS SHALL BE USED AT ALL EXTERIOR APPLICATIONS. SPECIAL INSPECTION OF EXPANSION ANCHORS REQUIRED.

12. REINFORCING DOWEL ADHESIVE SHALL BE HILTI HIT HY.200 ADHESIVE, OR SIMPSON SET-XP ADHESIVE. SPECIAL INSPECTION OF ADHESIVE DOWELS IS REQUIRED.

13. ALL EXPOSED CORNERS OF CONCRETE SHALL BE FORMED INTO A 3/4" x 45 DEGREE CHAMFER, OR SCRIBED WITH A CONCAVE TOOLING DEVICE UNLESS NOTED OTHERWISE PER ACI 318.

14. THOROUGHLY CLEAN FORMS AND ADJACENT SURFACES TO RECEIVE CONCRETE. REMOVE CHIPS, WOOD, SAWDUST, DIRT, OR ANY OTHER DEBRIS PRIOR TO CONCRETE PLACEMENT.

15. CLEAN REINFORCING OF LOOSE RUST, MILL SCALE, DIRT, OR ANY OTHER FOREIGN MATERIAL. ACCURATELY POSITION, SUPPORT AND SECURE REINFORCEMENT PER ACI 302.

16. PROPORTION AND DESIGN MIXES TO RESULT IN CONCRETE SLUMP AT POINT OF PLACEMENT NOT LESS THAN 3" AND NOT MORE THAN 5" PRIOR TO SUPERPLASTICIZER. ADDITION OF WATER TO READY-MIX CONCRETE IN THE FIELD SHALL BE ALLOWED IF ON TRIP TICKET BEFORE DISCHARGE AND TESTING.

17. DEPOSIT CONCRETE IN A CONTINUOUS OPERATION UNTIL THE PLACING OF CONCRETE IS COMPLETE. IF THE POUR IS TO BE DISCONTINUOUS, CONTRACTOR SHALL USE CONSTRUCTION JOINTS, AS DETAILED ON THE DRAWINGS OR APPROVED BY THE ENGINEER.

18. UNLESS NOTED OTHERWISE, REINFORCING IS NOT TO EXTEND THROUGH CONSTRUCTION JOINTS OF FLOOR SLABS-ON-GRADE.

19. REPAIR ALL SURFACE DEFECTS INCLUDING TIE HOLES, MINOR HONEYCOMBING AND OTHER VISUAL IRREGULARITIES WITH CEMENT MORTAR. MORTAR FOR PATCHING SHALL BE THE SAME COMPOSITION AS THAT USED IN THE CONCRETE. PATCHING SHALL BE DONE AS SOON AS THE FORMS ARE REMOVED.

20. PROVIDE (1) 2'-0" LONG #4 REBAR AT ALL RE-ENTRANT CORNERS FOR SLABS, PITS, RECESSES, OR SLAB THICKNESS CHANGES IN THE TOP 1/3 OF THE SLAB-ON-GRADE.

21. GROUT MATERIAL FOR BASE PLATES, SLEEVES, AND EMBEDDED STEEL SHALL BE NONMETALLIC, NON-SHRINK, PREPACKAGED GROUT CONFORMING TO ASTM C 1107.

22. REINFORCEMENT SHALL BE CONTINUOUS BENT AROUND CORNERS, OR CORNER BARS OF THE SAME SIZE MAY BE INSTALLED WITH MINIMUM LEG LENGTH THAT CONFORMS TO ACI 318-11, CLASS "B" SPLICES.

23. EMBEDDED ANGLES CONFORM TO ASTM A36 OR EQUAL.

24. AVOID HOT AND WINDY CONDITIONS FOR CURING SLABS. SLABS MUST BE SEALED WITH CURING COMPOUND OR "WATER CURED".

CONCRETE - ADHESIVE ANCHORED REINFORCEMENT AND THREADED RODS NOTES:

1. SPECIAL INSPECTION IS REQUIRED AND SHALL BE PER IBC APPROVED ESR REPORT.

2. MATERIALS:
   ADHESIVE: HILTI-HIT-HY-200

3. INSTALLATION:
   A. INSTALL PER ESR REPORT IN CLEAN HOLES.

4. DO NOT INSTALL REINFORCEMENT OR ANCHORS IN CONCRETE THAT IS LESS THAN 7 DAYS OLD.

CONCRETE - EXPANSION ANCHORS NOTES:

1. SPECIAL INSPECTION IS REQUIRED AND SHALL BE PER ICC ESR 1917.

2. MATERIALS:
   HILTI ANCHORS: KWIK-BOLT TZ

3. INSTALLATION:
   A. USE CARBIDE-TIPPED DRILL BITS CONFORMING TO ANSI B212.15-1994. DRILL BIT SIZE IS EQUAL TO ANCHOR DIAMETER.
   B. CLEAN HOLES OF DUST AND DEBRIS USING OIL-FREE COMPRESSED AIR AND A NYLON BRUSH. HOLE DEPTH TO EXCEED EMBEDMENT DEPTH BY TWO ANCHOR DIAMETERS.

4. DO NOT INSTALL ANCHORS IN CONCRETE THAT IS LESS THAN 7 DAYS OLD.

5. PROVIDE STAINLESS STEEL ANCHORS OR MECHANICALLY GALVANIZED ANCHORS (PER ASTM B-695) WHERE ANCHORS ARE USED IN EXTERIOR CONDITIONS.

STEEL NOTES:

1. STRUCTURAL STEEL MATERIALS SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS:
   A. ALL W & WT SHAPES SHALL CONFORM TO A992 (50 KSI)
   B. ALL PLATES, CHANNELS, ANGLES, BARS AND FLATS SHALL CONFORM TO A36 (36 KSI)
   C. ALL HOLLOW STRUCTURAL SECTIONS (HSS) SHALL CONFORM TO A500, GRADE B (46 KSI) (46 KSI FOR SHAPED & 42 KSI FOR ROUND)
   D. ALL STEEL PIPE SHALL CONFORM TO A53, GRADE B (35 KSI)

2. ALL DETAILING, FABRICATION, AND ERECTION OF STRUCTURAL STEEL SHALL COMPLY WITH THE REQUIREMENTS OF THE AISC LOAD AND RESISTANCE FACTOR DESIGN SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, AND THE AISC REPORT NO. 13.

3. ALL FIELD CONNECTIONS SHALL BE MADE WITH 3/4" DIAMETER HIGH STRENGTH BOLTS (A325) UNLESS OTHERWISE NOTED ON THE DRAWING. THE MINIMUM NUMBER OF BOLTS PER CONNECTION SHALL BE TWO (2). BOLTED CONNECTIONS SHALL BE "SNUG TIGHT" WITH SPECIAL INSPECTION PERIODIC MONITORING PER IBC 1705.2. CONNECTIONS SHALL BE DESIGNED AS BEARING TYPE WITH THREADS IN SHEAR PLANE. UNLESS NOTED OTHERWISE, ALL CONNECTIONS ARE TO BE STANDARD, SIMPLE SHEAR FRAMED CONNECTIONS WITH A SHEAR CAPACITY OF AT LEAST 50% OF THE TOTAL CAPACITY OF THE MEMBER. IF MEMBER FRAMING CONNECTIONS ARE NOT SPECIFICALLY DESIGNED AND DETAILED ON THE CONTRACT DRAWINGS BY THE ENGINEER OF RECORD, THE FABRICATOR IS ALLOWED TO SELECT CONNECTION TYPES WHEN PREPARING SHOP DRAWINGS. THE FABRICATOR'S DETAILERS AND CHECKERS MAY DETERMINE THE APPROPRIATE CONNECTION EITHER BY SIMPLE CALCULATION OR BY SELECTION FROM TABLES SHOWN IN A.I.S.C. PUBLICATIONS. THESE CONNECTIONS SHALL BE INDICATED AS FABRICATOR SELECTED ON THE SHOP DRAWINGS AND APPROVED BY ENGINEER OF RECORD PRIOR TO FABRICATION.

4. ERECTION AND FABRICATION SHOP DRAWINGS FOR STRUCTURAL STEEL WILL BE REVIEWED BY THE ENGINEER OF RECORD PRIOR TO COMMENCING FABRICATION. ALL DRAWINGS ARE TO BE CHECKED BY THE CONTRACTOR PRIOR TO BEING SUBMITTED FOR THE ENGINEER OF RECORD'S REVIEW.

5. BOLT HOLES SHALL BE BOLT DIAMETER + 1/16". BOLT END AND EDGE DISTANCES AND BOLT LENGTHS SHALL BE PER AISC SPECIFICATION 360, SECTION J3.3 AND J3.4, UNLESS NOTED OTHERWISE. BASE PLATE BOLT HOLES MAY BE OVERSIZED BY 1/8".

6. ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS AND PROCEDURES OF THE AMERICAN WELDING SOCIETY BY AWS CERTIFIED WELDERS AND SHALL CONFORM TO AWS D1.1:2010. WELDERS PERFORMING THE WORK SHALL HAVE BEEN RE-TESTED WITHIN 6 MONTHS PRIOR TO THE START OF STEEL FABRICATION. WELDING FOR STRUCTURAL STEEL SHALL BE MADE WITH E70XX LOW HYDROGEN ELECTRODES. WELDING FOR ATTACHING STEEL DECKING MAY BE MADE WITH E60 ELECTRODES. ALL WELDS SHALL BE SPECIAL INSPECTED PER IBC 1705.2 AND AWS 101.1.

7. FIELD WELDING SYMBOLS HAVE NOT NECESSARILY BEEN INDICATED ON THE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE USE OF SHOP AND FIELD WELDING.

8. ENDS OF HOLLOW STRUCTURAL SECTION COLUMNS AND EXPOSED MEMBERS SHALL HAVE 3/16" CAP PLATES AND SEAL WELDS ALL ROUND.

9. WELDED STEEL GRATING SHALL HAVE 1 1/4" x 3/16" BEARING BARS AT 1 3/16" C/C WITH CROSS BARS AT 4" C/C. BEARING BARS SHALL CONFORM TO ASTM A-569. GRATING LIMITS ARE TO BE THE CENTER LINE OF WIDE FLANGE MEMBERS, OR EDGE OF CHANNEL MEMBERS UNLESS NOTED OTHERWISE. WELD GRATING TO SUPPORTING MEMBERS EVERY 6TH BAR WITH 3/16" x 2" LONG FILLET WELDS, 4 WELDS PER PANEL MINIMUM.

10. HOLES SHALL NOT BE CUT THROUGH BEAMS UNLESS INDICATED OR PRE-APPROVED BY THE ENGINEER OF RECORD.

11. THE MINIMUM THICKNESS OF ANY GUSSET PLATE IS TO BE 3/8 INCH.

12. IN ADDITION TO THE STANDARDS OUTLINED IN THE MANUAL FOR STEEL CONSTRUCTION, THE FOLLOWING TOLERANCES MUST ALSO BE FOLLOWED, AS OUTLINED IN AISC TECHNICAL REPORT NO. 13; SWEEP IS NOT TO EXCEED 1/4" IN A 50 FOOT BEAM LENGTH, CAMBER IS NOT TO VARY FROM THE CAMBER GIVEN ON THE DRAWING BY MORE THAN 1/4" IN A 50 FOOT BEAM, SQUARENESS IS TO BE WITHIN 18 INCHES OF EACH GIRDER END, THE FLANGE SHALL BE FREE OF CURVATURE AND NORMAL TO THE GIRDER WEB.

13. COLUMN BASE PLATES SHALL BE WITHIN 1/16 IN OF THEORETICAL ELEVATION AND BE LEVEL WITHIN 0.01 INCHES ACROSS THE PLATE LENGTH OR WIDTH.

14. PAINT ALL FERROUS METALS FOR EXTERIOR EXPOSURE OR PER PLANT STANDARDS.

STAINLESS STEEL NOTES:

1. STAINLESS STEEL TUBES (HSS) SHALL BE TYPE 304 STAINLESS STEEL. STAINLESS STEEL PLATE SHALL BE TYPE 304/304L CONFORMING TO ASTM A240 OR EQUAL.

2. ALL WELDING OF STAINLESS STEEL SHALL BE DONE BY AWS CERTIFIED WELDERS AND SHALL CONFORM TO AWS D1.6:2007, WITH APPROPRIATE STAINLESS STEEL ELECTRODES.

ANCHOR RODS NOTES:

1. ANCHOR RODS SHALL BE ASTM F1554 GRADE 36 WITH CLASS 1A THREADS, UNLESS NOTED OTHERWISE.

2. FURNISH ANCHOR RODS PREFABRICATED WITH MATCHING DOUBLE HEAVY HEX NUTS JAMMED AT THE END EMBEDDED IN CONCRETE.

3. FURNISH HARDENED PLATE WASHERS AND MATCHING HEAVY HEX NUTS FOR SECURING THE BASE PLATE TO THE ANCHOR RODS.

4. A RIGID TEMPLATE SHALL BE USED TO LOCATE ANCHOR RODS WHILE PLACING CONCRETE.

5. NO HEATING OR BENDING OF THE ANCHOR RODS IS PERMITTED.

6. HOLES IN THE BASE MATERIAL SHALL NOT BE ENLARGED BY BURNING.

COLD-FORMED STEEL NOTES:

1. ALL COLD FORMED STEEL MEMBERS SHALL HAVE A MINIMUM YIELD STRESS OF 33 KSI.

2. METAL STUDS SHALL BE ATTACHED TO TOP AND BOTTOM TRACKS WITH (2) #10 SCREWS. METAL STUD MEMBERS IN CONTINUOUS CONTACT SHALL BE CONNECTED WITH #10 SCREWS AT 12" C/C MINIMUM, FY = 33 KSI.

3. CONTRACTOR SHALL SUBMIT A SET OF MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES FOR METAL STUD FRAMING FOR APPROVAL. DESIGN DOCUMENTS ALONG WITH THE APPROVED INSTALLATION PROCEDURES SHALL BE THE BASIS FOR ACCEPTANCE OF METAL STUD FRAMING.

4. BOTTOM TRACK AT NON-SHEARWALLS SHALL BE CONNECTED TO CONCRETE FOUNDATION OR FLOORS WITH POWER ACTUATED FASTENERS AT 12" C/C. POWER ACTUATED FASTENERS SHALL BE HILTI X-U WITH 1" EMBEDMENT OR SIMPSON PDPH WITH 1" EMBEDMENT. ALL WELDS SHALL BE TOUCHED UP WITH ZINC-RICH PAINT. METAL STUDS AND TOP AND BOTTOM TRACK OF FASTENERS AT SHEAR WALLS SHALL BE PER PROVIDED SHEAR WALL SCHEDULE. ATTACHMENT OF STUDS OR TRACK TO ADJACENT STRUCTURE SHALL BE PER PROVIDED DETAILS.

5. UNLESS NOTED OTHERWISE, ALL HEADERS FOR OPENINGS UP TO 4'-0" WIDE SHALL BE HDR1 PER THE PROVIDED SCHEDULE. ALL OTHER COLD FORMED STEEL HEADERS SHALL BE PER THE PROVIDED SCHEDULE AS NOTED ON THE DESIGN DRAWINGS.

6. SPLICE ALL TOP LIGHT GAUGE TRACKS PER TYPICAL STEEL TRACK SPLICE DETAIL. SPLICES IN FRAMING COMPONENTS, OTHER THAN TOP TRACKS, SHALL NOT BE PERMITTED.

7. ALL STEEL WALL STUDS SHALL BE 600S162-33 OR 600S162-43, UNLESS NOTED OTHERWISE.

8. ALL STUDS AND ACCESSORIES SHALL BE MADE OF THE TYPE, SIZE, GAUGE AND SPACING SHOWN ON THE DRAWINGS WITH 1 5/8" FLANGES, UNLESS NOTED OTHERWISE.

9. STEEL STUD DESIGNATIONS BASED ON STEEL STUD MANUFACTURERS ASSOCIATION (SSMA) DESIGNATIONS FROM ICC ESR-3064P.

10. ALL METAL STUD FRAMING MEMBERS SHALL BE ZINC COATED AND BEAR PROPER IDENTIFICATION MARKINGS IN ACCORDANCE WITH SSMA STANDARDS.

CONCEPTUAL DESIGN

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

REVISIONS

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ENGINEER D NELSON	WDG
CHECKER S MOORE	VNSFS
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY STRUCTURAL NOTES AND ABBREVIATIONS

SIZE F | DWG NO VFS-EPM-000-DWG-S-101 | REV B
SCALE NONE | EDT | SHEET 1 OF 2

COLD-FORMED STEEL NOTES: (CONTINUED)

11. LENGTH OF UNTHREADED "DRILLING" PORTION OF SELF-DRILLING SCREWS USED WITH METAL STUD FRAMING SHALL BE GREATER THAN THE COMBINED THICKNESS OF CONNECTED MATERIALS. IN ADDITION, A MINIMUM OF THREE FULL SCREW THREADS SHALL BE EXPOSED ON SCREWS INSTALLED IN METAL STUD FRAMING MEMBERS.
12. ALL STRUCTURAL MEMBERS SHALL BE INSTALLED IN ACCORDANCE WITH AMERICAN IRON AND STEEL INSTITUTE (AISI) "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", LATEST EDITION.
13. ALL METAL STUDS SHALL BE FORMED FROM CORROSION-RESISTANT STEEL, CORRESPONDING TO THE REQUIREMENTS OF ASTM C955, WITH A MINIMUM YIELD STRENGTH OF 33 KSI FOR STUDS AND TRACKS, UNLESS OTHERWISE NOTED.
14. ALL METAL STUDS AND TRACKS SHALL BE ZINC COATED MEETING ASTM A653, G-60, OR EQUIVALENT.
15. PREFABRICATED PANELS SHALL BE SQUARE, WITH COMPONENTS ATTACHED IN A MANNER TO PREVENT RACKING AND TO MINIMIZE DISTORTION WHILE LIFTING AND TRANSPORTING.
16. ALL FRAMING COMPONENTS SHALL BE CUT SQUARE FOR ATTACHMENT TO PERPENDICULAR MEMBERS OR, AS REQUIRED, FOR AN ANGULAR FIT AGAINST ABUTTING MEMBERS.
17. ALL FRAMING COMPONENTS SHALL BE PLUMBED, ALIGNED AND LEVELED.
18. TEMPORARY BRACING, WHERE REQUIRED, SHALL BE PROVIDED UNTIL ERECTION IS COMPLETE.
19. COMPLETE, UNIFORM AND LEVEL BEARING SUPPORT SHALL BE PROVIDED FOR THE BOTTOM RUNNER.
20. WHERE SUB-FLOORS OR DECKING DO NOT PROVIDE LATERAL SUPPORT, FLOOR JOISTS MUST BE BRACED AT ALL BEARING POINTS AND AT INTERVALS WITHIN SPANS. FOR JOISTS IN CONTINUOUS SPAN CONDITIONS, PORTIONS OF THE BOTTOM FLANGES ARE IN COMPRESSION AND MUST BE LATERALLY BRACED, BASED ON DESIGN REQUIREMENTS, BETWEEN SOLID BLOCKING.
21. METAL STUD SHEAR WALLS SHALL BE CONSTRUCTED WITH 1/2" APA STRUCTURAL 1 RATED PLYWOOD PLACED WITH THE LONG DIMENSION PERPENDICULAR TO STUDS. FASTEN SHEATHING WITH NO.8 SELF-DRILLING FLAT OR WAFER HEAD SCREWS AT 6" C/C AT ALL PANEL EDGES AND BLOCKING LINES AND 12" C/C AT STUDS IN PANEL FIELD. PANEL EDGES MAY BE BLOCKED WITH 1 1/2" X 33 MIL CONTINUOUS STRAP WITH (1) NO. 8 AT EACH STUD.
22. LENGTH UNTHREADED "DRILLING" PORTION OF SELF-DRILLING SCREWS USED WITH METAL STUD FRAMING SHALL BE GREATER THAN THE COMBINED THICKNESS OF CONNECTED MATERIALS. IN ADDITION, A MINIMUM OF THREE FULL SCREW THREADS SHALL BE EXPOSED ON SCREWS INSTALLED IN METAL STUD FRAMING MEMBERS.

STATEMENT OF SPECIAL INSPECTION NOTES:

1. IN ACCORDANCE WITH THE 2015 INTERNATIONAL BUILDING CODE SECTION 1704, THE OWNER SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK AND AS SPECIFIED BELOW. CONTRACTOR SHALL COORDINATE WITH INSPECTION AND TESTING AGENCY(S) FOR REQUIRED CONSTRUCTION INSPECTIONS AND MATERIAL TESTING. SPECIAL INSPECTION REPORTS SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER AND THE AUTHORITY HAVING JURISDICTION WEEKLY FOR REVIEW.
2. WELDING OF CONSTRUCTION OTHER THAN STRUCTURAL STEEL: SPECIAL INSPECTION PER TABLE 1705.2.2 OF THE IBC.
3. STEEL: SPECIAL INSPECTION SHALL BE PER SECTION 1705.2 OF THE IBC AND AISC 360 AND AISC 341.
4. CONCRETE CONSTRUCTION: SPECIAL INSPECTION PER SECTION 1705.3 AND TABLE 1705.3 OF THE IBC. EXCEPTIONS: NO SPECIAL INSPECTION IS REQUIRED FOR THE FOUNDATIONS IF THE DESIGN STRENGTH OF THE FOUNDATIONS IS BASED ON A COMPRESSIVE STRENGTH OF 2500 PSI.
5. SEISMIC RESISTANCE: SPECIAL INSPECTION FOR SEISMIC RESISTANCE SHALL BE PER SECTION 1705.11 OF THE IBC AND AISC 341.
6. POST INSTALLED ANCHORS: SPECIAL INSPECTION SHALL BE PER THE ANCHORS ASSOCIATED ICC-ES ESR.

METAL BUILDING NOTES:

1. INSTALL PRE-ENGINEERED METAL BUILDING PER MANUFACTURER.

ABBREVIATIONS:

AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
AFF	ABOVE FINISH FLOOR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATE
AR	ANCHOR ROD
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
BM	BEAM
BOB	BOTTOM OF BEAM
BOBP	BOTTOM OF BASE PLATE
BOD	BOTTOM OF DECK
BOF	BOTTOM OF FOOTING
BP#	BASE PLATE NUMBER
C/C	CENTER TO CENTER
CIP	CAST-IN-PLACE
CJ	CONSTRUCTION JOINT
CL	CLEARANCE
CLR	CLEAR
COC	CENTER LINE OF COLUMN
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
COTF	CLEAN OUT TO FLOOR
CTR	CENTER
CP	CONTROL POINT
DB	DOUBLE
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DICA	DRILLED IN CONCRETE ANCHOR
DIM	DIMENSION
DJ	DUMMY JOINT
DL	DEAD LOAD
DN	DOWN
DSL	DRIFT SNOW LOAD
DWL	DOWEL
(E)	EXISTING
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
EL OR ELEV	ELEVATION
EMBED	EMBEDMENT
EQ SP	EQUALLY SPACED
EW	EACH WAY
FD	FLOOR DRAIN
FDN	FOUNDATION
FF	FINISH FLOOR
FIN	FINISHED
FL	FLOOR
FOS	FACE OF STUD
FOW	FACE OF WALL
FS	FLOOR SINK
FT	FOOT; FEET
FT#	FOOT TYPE - NUMBER
FTG	FOOTING
GB	GYPSUM BOARD
H	HIGH
HP	HIGH POINT
HSS	HOLLOW STRUCTURAL SECTION
ICBO	INTERNATIONAL COUNCIL OF BUILDING OFFICIALS
IN	INCH; INCHES
INT	INTERIOR
JB	JOIST BEARING
JST	JOIST
JT	JOINT
K	KIP; KIPS
KSI	KIPS PER SQUARE INCH
L	ANGLE
LB	POUND; POUNDS
LF	LINEAR FOOT
LL	DOUBLE ANGLE
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
MAX	MAXIMUM
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
N	NORTH
N-S	NORTH-SOUTH
NS	NEAR SIDE
NTS	NOT TO SCALE
OPP	OPPOSITE HAND
OVS	OVERSIZE
OWJ	OPEN WEB JOIST
P	PRESSURE
PAF	POWER ACTUATED FASTENER
PCF	PER CUBIC FOOT
PEMB	PRE-ENGINEERED METAL BUILDING
PERP	PERPENDICULAR
PL	PLATE
PLF	PER LINEAR FOOT
PP	PANEL POINT
PREFAB	PREFABRICATED
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT
R	RADIUS
REF	REFERENCE
REINF	REINFORCEMENT; REINFORCING
REQD	REQUIRED
SC	SCALE
SCJ	SAWN CONTROL JOINT
SECT	SECTION
SIM	SIMILAR
SJ	STEEL JOIST
SL	SNOW LOAD
SOG	SLAB ON GRADE
STD	STANDARD
SPEC	SPECIFICATION
SQ	SQUARE
SSL	STAINLESS STEEL
STIFF	STIFFENER
STL	STEEL
STRUC	STRUCTURAL
T&B	TOP AND BOTTOM
TEMP	TEMPORARY
TOC	TOP OF CONCRETE
TOD	TOP OF DECK
TOF	TOP OF FOOTING
TOS	TOP OF STEEL
TOSW	TOP OF STEM WALL
TOT	TOP OF TRACK
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W	WIDE; WIDTH
W/	WITH
W/O	WITHOUT
WF	WIDE FLANGE
WP	WORK POINT
WUL	WIND UPLIFT LOAD

SYMBOLS:

NEW CMU WALL

SHEAR WALL

METAL DECK SPAN DIRECTION

STEEL COLUMN

NEW CONCRETE SLAB

(UP)
(DN)
BRACED FRAME

EXPANSION ANCHOR SCHEDULE

ANCHOR DIAMETER	HILTI KWIK BOLT TZ			SIMPSON STRONG BOLT		
	SHALLOW	STANDARD	DEEP	SHALLOW	STANDARD	DEEP
1/2"	2"	3 1/4"	-	2 3/4"	3 7/8"	5"
5/8"	3 1/8"	4"	-	3 3/8"	5 1/8"	6 1/8"
3/4"	3 3/4"	5"	-	4 1/8"	5 3/4"	7 1/2"
1"	-	-	-	-	5 1/4"	9 3/4"

CONCEPTUAL DESIGN

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NAME	DATE / COMPANY
DRAWN BY J KIENHOLZ	10/13/21 WDG
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CHECKER S MOORE	VNSFS
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY STRUCTURAL NOTES AND ABBREVIATIONS

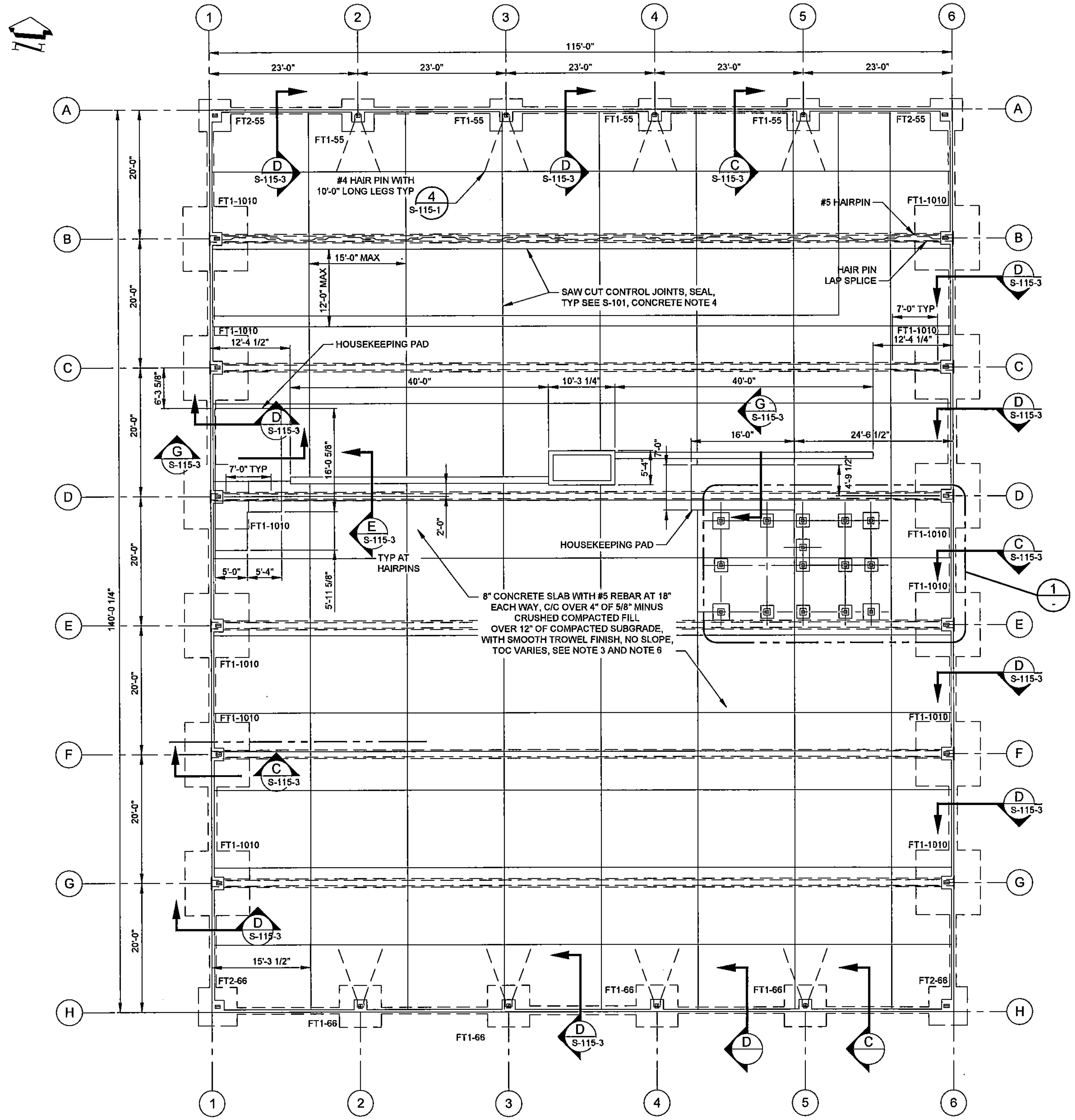
SIZE F | DWG NO VFS-EPM-000-DWG-S-101 | REV B

SCALE NONE | EDT | SHEET 2 OF 2

DWG NO VFS-EPM-000-DWG-S-101 SH 2 OF REV B

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS			



WATF FOUNDATION - PLAN

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

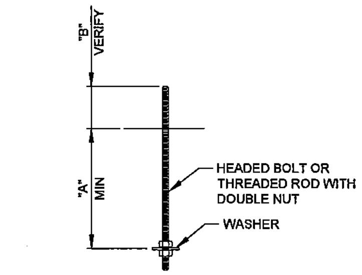
NOTES:

1. SEE VFS-EPM-000-DWG-S-101 FOR NOTES, ABBREVIATIONS AND SCHEDULE.
2. FIELD LOCATE HOUSEKEEPING PADS. SEE SECTION G ON VFS-EPM-000-DWG-S-115 SHEET 3 FOR REINFORCEMENT.
3. SEE BURNS & McDONALD CIVIL DRAWINGS FOR FINISH FLOOR ELEVATION.
4. SEE VFS-EPM-000-DWG-S-120 FOR STEEL FRAMING FOR MEZZANINE.
5. LOCATE PIPE SUPPORTS PER GENERAL ARRANGEMENT DRAWING. SEE VFS-EPM-000-DWG-S-115 SHEET 4 FOR PIPE SUPPORT.
6. SEE SHEET 2 FOR TRENCH AND SUMP LOCATIONS, AND SLOPE OF SLAB.

FOOTING SCHEDULE

KEY: FOOTING TYPE, DIMENSION WIDTH, FTX-XX, DIMENSION LENGTH

FOOTING	DIMENSIONS				REINFORCEMENT EQ SP EW	PEDESTAL				REMARKS/DETAILS
	L	W	T	TOF, UNO		A	B	C	D	
FT1-55	5'-0"	5'-0"	2'-0"	(-)2'-0"	(6) #5, TOP & BOTTOM	0'-9"	1'-0"	1'-3"	-	DETAIL 3/S-115 SHEET 1 (END COLUMNS)
FT2-55	5'-0"	5'-0"	2'-0"	(-)2'-0"	(6) #5, TOP & BOTTOM	1'-0"	1'-0"	1'-0"	1'-0"	DETAIL 2/S-115 SHEET 1 (CORNER COLUMNS)
FT1-66	6'-6"	6'-6"	2'-0"	(-)2'-0"	(7) #5, TOP & BOTTOM	0'-9"	1'-0"	1'-3"	-	DETAIL 3/S-115 SHEET 1 (END COLUMNS)
FT2-66	6'-0"	6'-0"	2'-0"	(-)2'-0"	(7) #5, TOP & BOTTOM	1'-0"	1'-0"	1'-0"	1'-0"	DETAIL 2/S-115 SHEET 1 (CORNER COLUMNS)
FT1-1010	10'-0"	10'-0"	2'-0"	(-)2'-0"	(11) #5, TOP & BOTTOM	0'-9"	1'-0"	1'-3"	-	DETAIL 1/S-115 SHEET 1

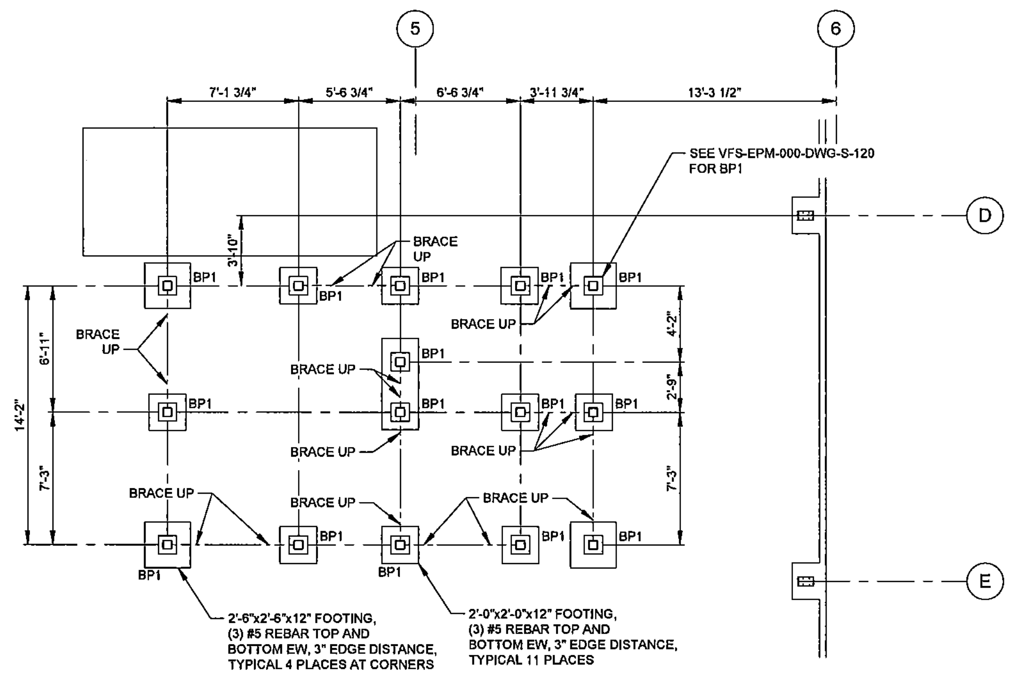


BOLT DIA	A	B
1/2"	6"	2"
5/8"	8"	2"
3/4"	10"	2"
7/8"	12"	2"
1"	14"	3"
1 1/8"	16"	3"
1 1/4"	18"	3"
1 1/2"	20"	3"

ANCHOR BOLT DETAIL

SCALE: NONE

NOTE:
1. ANCHOR RODS SHALL BE ASTM F1554 GRADE 36.



1 DETAIL - RESIN HANDLING MEZZANINE

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

CONCEPTUAL DESIGN

VEOLIA

VEOLIA NUCLEAR SOLUTIONS
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NAME	DATE / COMPANY
DRAWN BY J KIENHOLZ	10/13/21 WDG
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CHECKER S MOORE	VNSFS
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

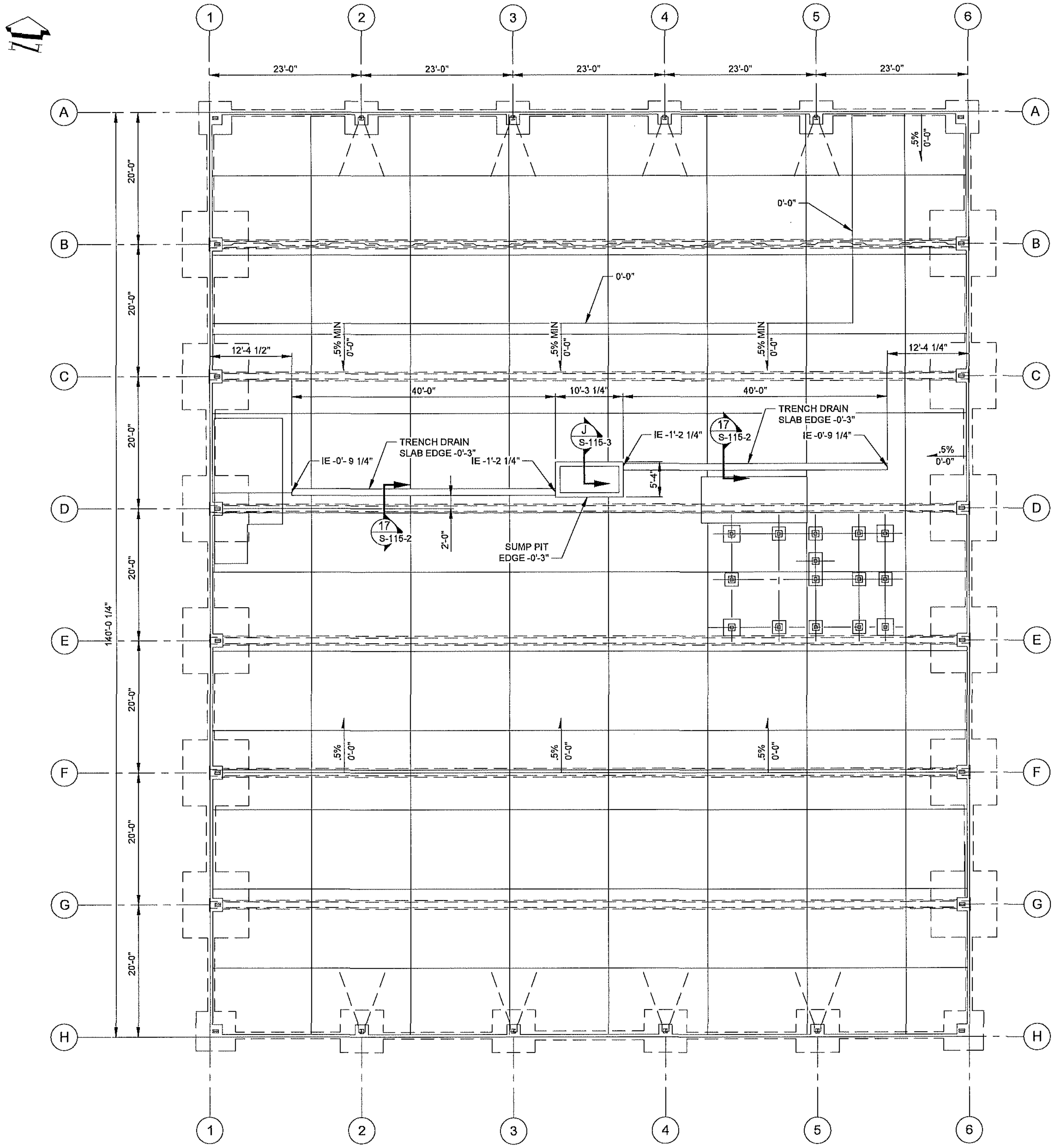
WESTERN AREA TREATMENT FACILITY STRUCTURAL FOUNDATION PLAN

SIZE F | DWG NO VFS-EPM-000-DWG-S-110 | REV C
SCALE SHOWN | EDT | SHEET 1 OF 2

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

REV NO | DESCRIPTION | REV BY DATE | ENGR / COMPANY — REVISIONS

DWG NO VFS-EPM-000-DWG-S-110 | SH 1 OF 1 | REV C



TRENCH AND SUMP PLAN

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

1/8" = 1'-0" 0' 4' 8' 16' 24" SCALE FEET

NOTES:

1. SEE VFS-EPM-000-DWG-S-101 FOR NOTES, ABBREVIATIONS AND SCHEDULE.
2. FIELD LOCATE HOUSEKEEPING PADS. SEE SECTION G ON VFS-EPM-000-DWG-S-115 SHEET 3 FOR REINFORCEMENT.
3. SEE BURNS & McDONALD CIVIL DRAWINGS FOR FINISH FLOOR ELEVATION.
4. SEE VFS-EPM-000-DWG-S-120 FOR STEEL FRAMING FOR MEZZANINE.

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY
REVISIONS			

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PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

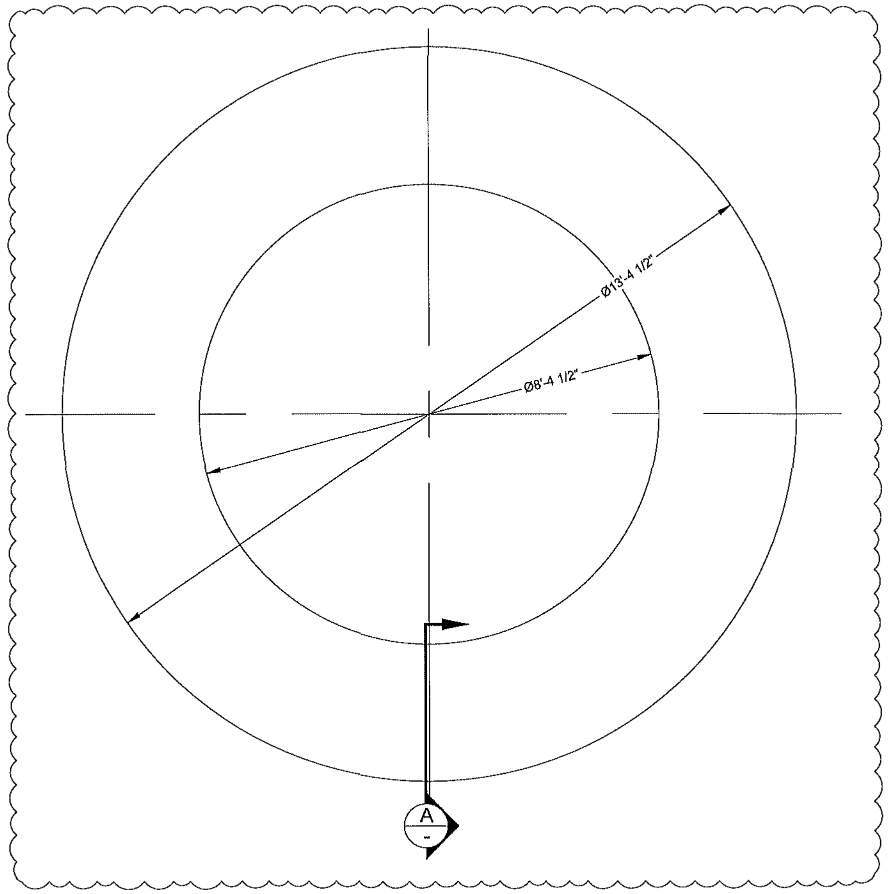
WESTERN AREA TREATMENT FACILITY STRUCTURAL FOUNDATION PLAN

SIZE	DWG NO	REV
F	VFS-EPM-000-DWG-S-110	C
SCALE SHOWN	EDT	SHEET 2 OF 2

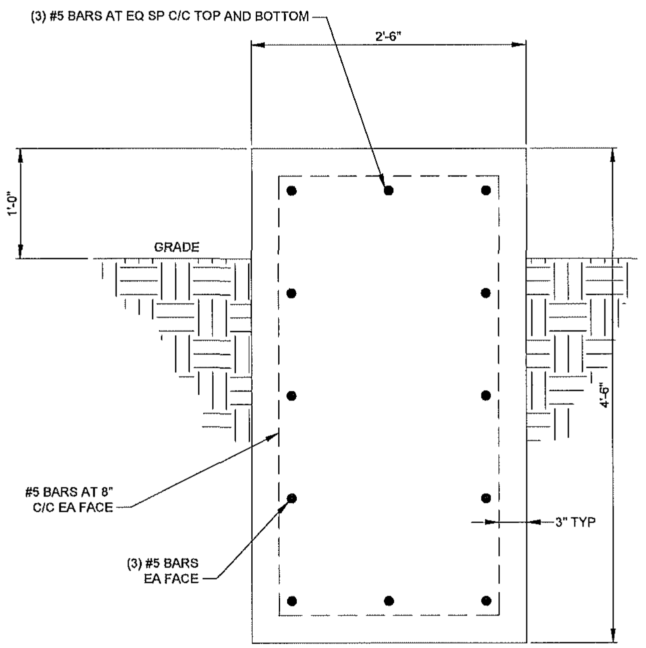
DWG NO VFS-EPM-000-DWG-S-110 SH 1 OF 1 REV C

NOTES:

1. SEE VFS-EPM-000-DWG-S-101 FOR NOTES, ABBREVIATIONS AND SCHEDULE.
2. SEE CIVIL FOR PLAN LOCATIONS, VFS-EPM-000-DWG-C-110.



1 C-110 12K TANK FOUNDATIONS
SCALE: 3/4" = 1'-0"



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

CONCEPTUAL DESIGN

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ENGINEER CHECKER J WILSON	VNSFS
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DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY TANK FOUNDATION PLAN VIEW /DETAIL

SIZE F | DWG NO VFS-EPM-000-DWG-S-114 | REV C

SCALE SHOWN | EDT | SHEET 1 OF 1

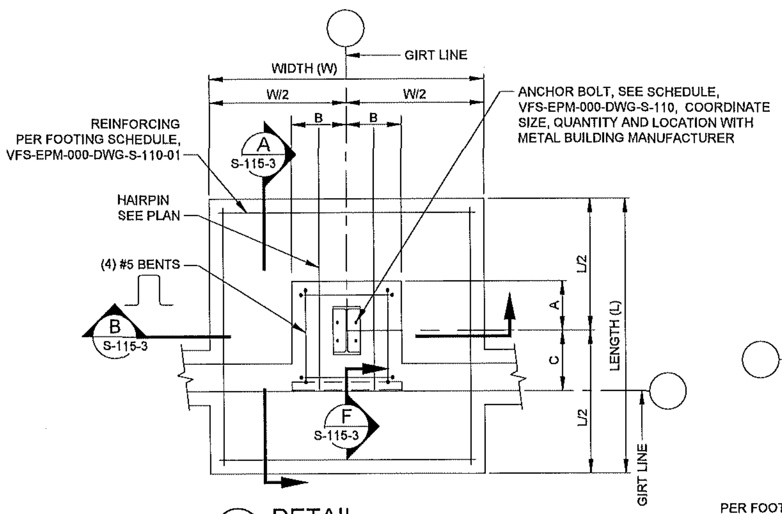
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY
REVISIONS			

DWG NO VFS-EPM-000-DWG-S-114 SH 1 OF 1 REV C

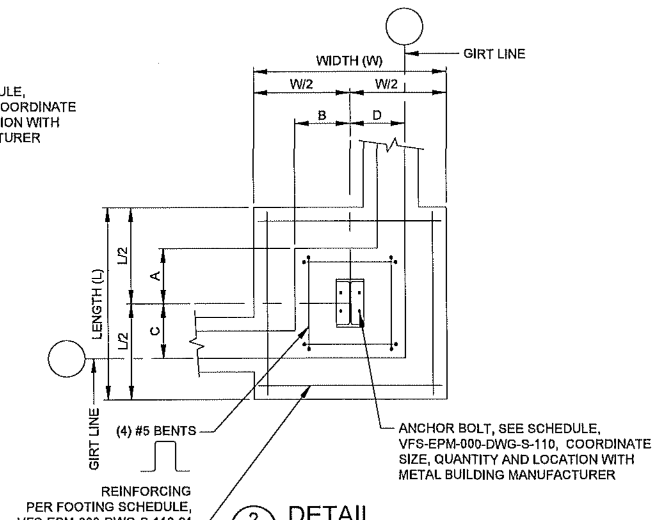
NOTES:

1. SEE VFS-EPM-000-DWG-S-101 FOR NOTES, ABBREVIATIONS AND SCHEDULE.
2. UNO, USE MINIMUM CONCRETE EMBEDMENT, SPLICES, REBAR, ETC. PER ACI 318.



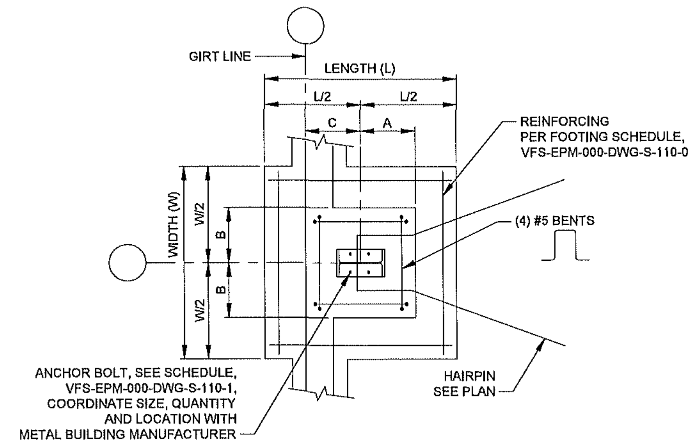
DETAIL 1 (S-110-1) SCALE: 3/4"=1'-0"

NOTE:
1. SEE FOOTING SCHEDULE TABLE ON DRAWING VFS-EPM-000-DWG-S-110 FOR DETAIL CALLOUT.



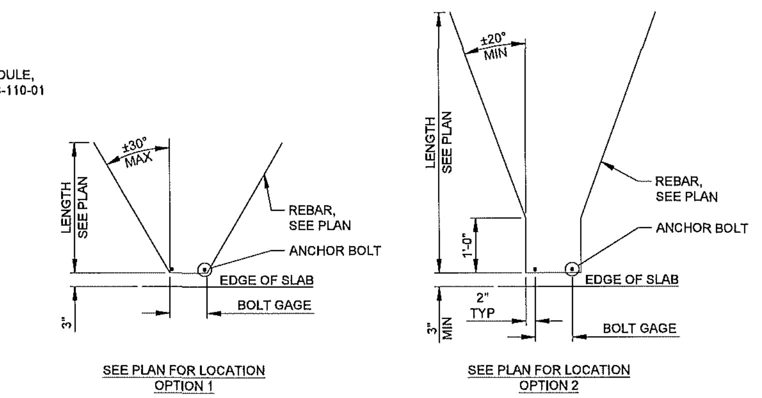
DETAIL 2 (S-110-1) SCALE: 3/4"=1'-0"

NOTE:
1. SEE FOOTING SCHEDULE TABLE ON DRAWING VFS-EPM-000-DWG-S-110 FOR DETAIL CALLOUT.



DETAIL 3 (S-110-1) SCALE: 3/4"=1'-0"

NOTE:
1. SEE FOOTING SCHEDULE TABLE ON DRAWING VFS-EPM-000-DWG-S-110 FOR DETAIL CALLOUT.



DETAIL 4 (S-110-1) SCALE: 3/4"=1'-0"

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REVIEWER S MOORE	VNSFS
ENGINEER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY STRUCTURAL DETAILS

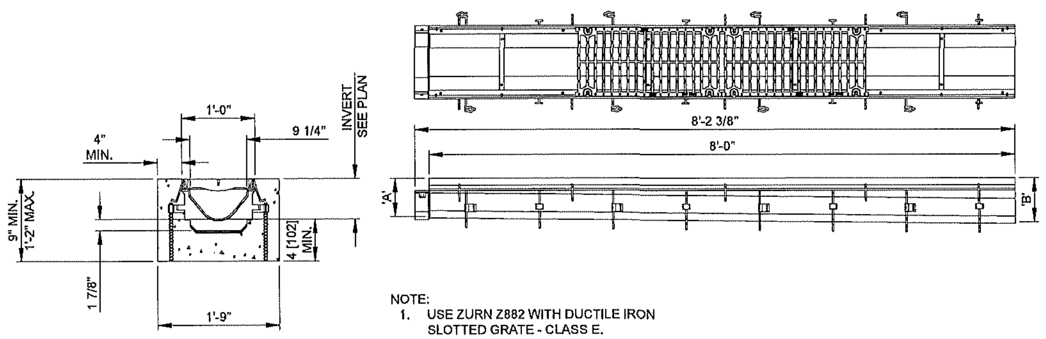
SIZE F | DWG NO VFS-EPM-000-DWG-S-115 | REV C
SCALE SHOWN | SHEET 1 OF 5

DWG NO	TITLE	REF NUMBER	TITLE	REV	DESCRIPTION	REV BY DATE	ENGR COMPANY
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES		REVISIONS		

VFS-EPM-000-DWG-S-115 SH 1 OF 2 REV C

NOTES:

1. SEE VFS-EPM-000-DWG-S-101 FOR NOTES, ABBREVIATIONS AND SCHEDULE.
2. UNO, USE MINIMUM CONCRETE EMBEDMENT, SPLICES, REBAR, ETC. PER ACI 318.



NOTE:
1. USE ZURN Z882 WITH DUCTILE IRON SLOTTED GRATE - CLASS E.
2. DIMENSION "A" IS MINIMUM 6.25"
DIMENSION "B" IS MAXIMUM 11.25"

17 DETAIL
S-110-3 SCALE: 1"=1'-0"

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ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY STRUCTURAL DETAILS

SIZE F | DWG NO VFS-EPM-000-DWG-S-115 | REV C
SCALE SHOWN | EDT | SHEET 2 OF 5

DWG NO VFS-EPM-000-DWG-S-115 | SH 1 OF 2 | REV C

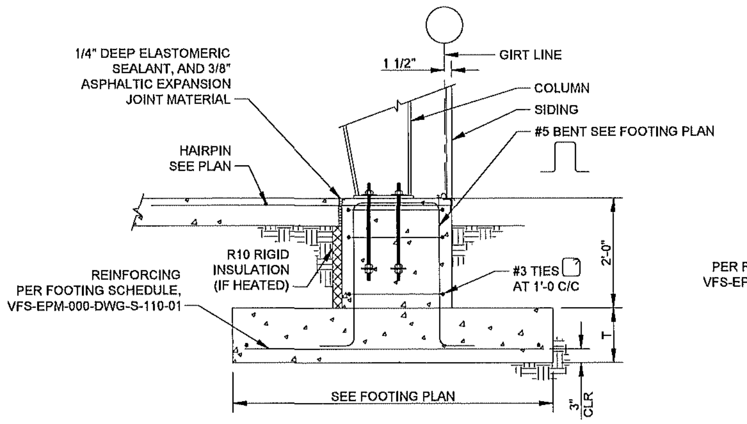
DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

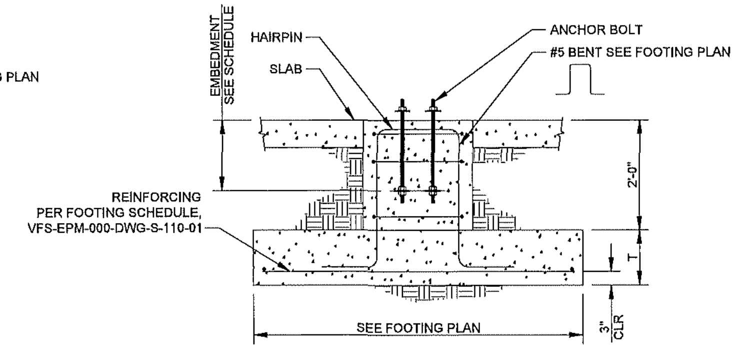
RFD	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS				

NOTES:

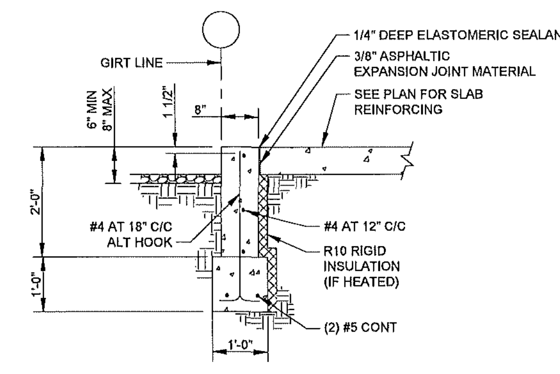
1. SEE VFS-EPM-000-DWG-S-101 FOR NOTES, ABBREVIATIONS AND SCHEDULE.
2. SEE VFS-EPM-000-DWG-S-110 SHEET 1 FOR FOUNDATION PLAN.
3. UNO, USE MINIMUM CONCRETE EMBEDMENT, SPLICES, REBAR, ETC. PER ACI 318.



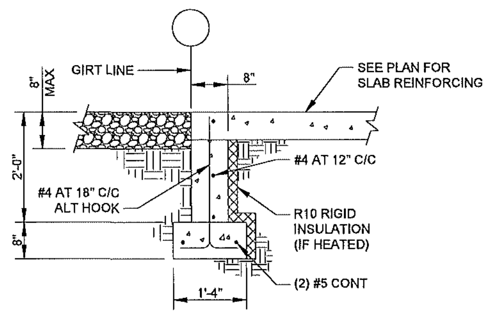
SECTION A (S-115-1) SCALE: 3/4" = 1'-0"



SECTION B (S-115-1) SCALE: 3/4" = 1'-0"

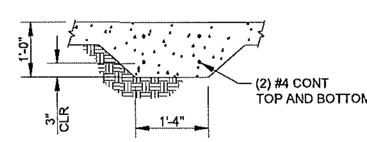


SECTION C (S-110-1) SCALE: 3/4" = 1'-0"

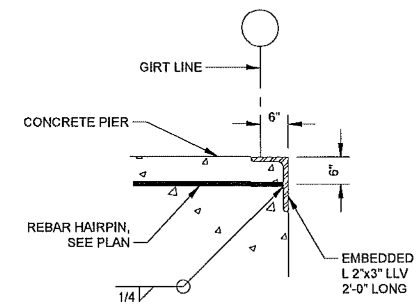


SECTION D (S-110-1) SCALE: 3/4" = 1'-0"

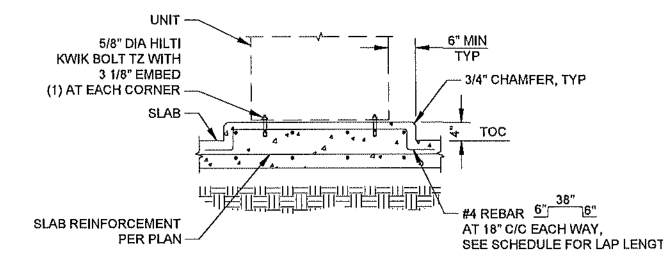
NOTE:
1. TYPICAL AT DOORS.



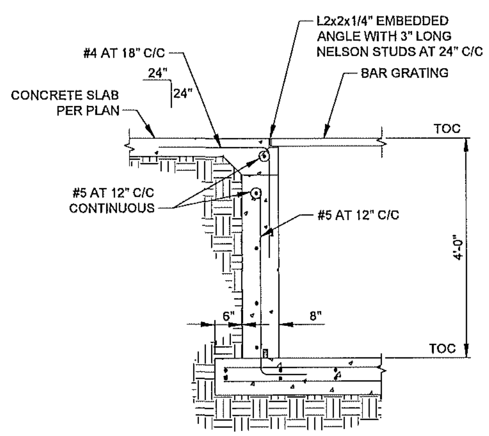
SECTION E (S-110-1) SCALE: 3/4" = 1'-0"



SECTION F (S-115-1) SCALE: NONE

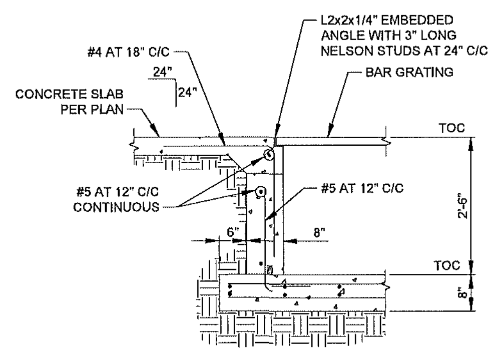


SECTION G (S-110-1, -2) SCALE: 3/4" = 1'-0"



NOTE:
1. ALL JOINTS BELOW GRADE SHALL HAVE BENTONITE WATERSTOP.

SECTION H (S-110-1) SCALE: 3/4" = 1'-0"



NOTE:
1. ALL JOINTS BELOW GRADE SHALL HAVE BENTONITE WATERSTOP.

SECTION J (S-110-3) SCALE: 3/4" = 1'-0"

CONCEPTUAL DESIGN

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S MOORE	
J WILSON	
E LLOYD	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY STRUCTURAL DETAILS

SIZE F DWG NO VFS-EPM-000-DWG-S-115 REV B

SCALE SHOWN SHEET 3 OF 6

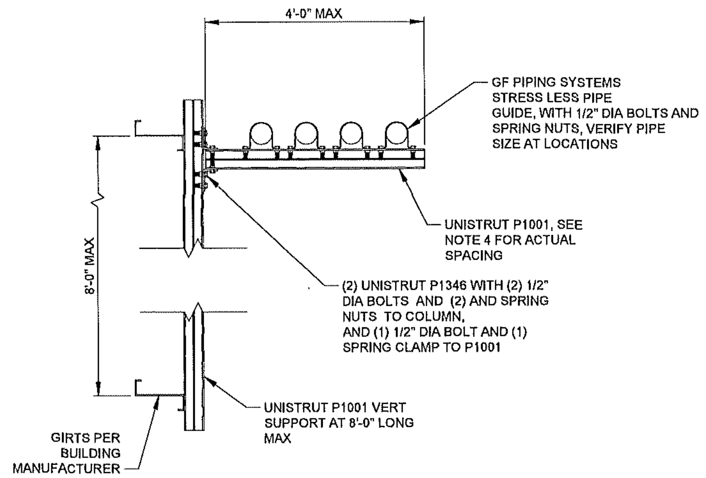
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REVISIONS

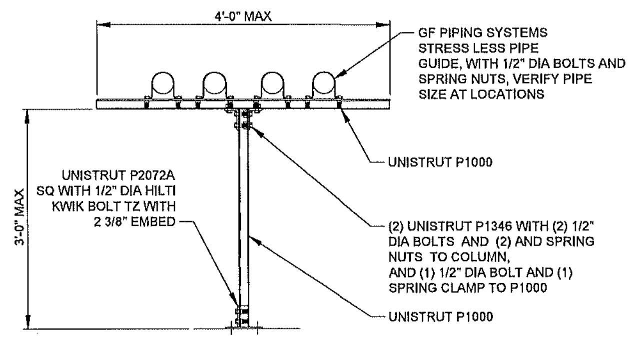
DWG NO VFS-EPM-000-DWG-S-115 SH 2 OF 2 REV B

NOTES:

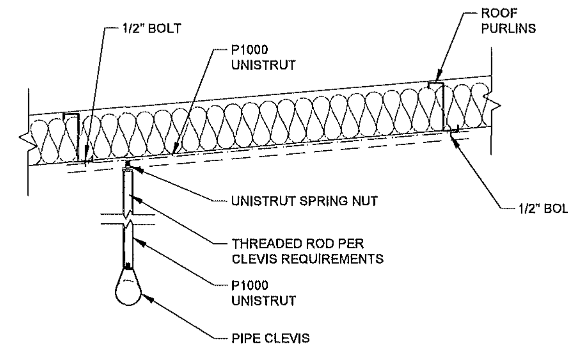
1. SEE VFS-EPM-000-DWG-S-101 FOR NOTES, ABBREVIATIONS AND SCHEDULE.
2. SEE VFS-EPM-000-DWG-S-110 SHEET 1 FOR FOUNDATION PLAN.
3. UNO, USE MINIMUM CONCRETE EMBEDMENT, SPLICES, REBAR, ETC. PER ACI 318.



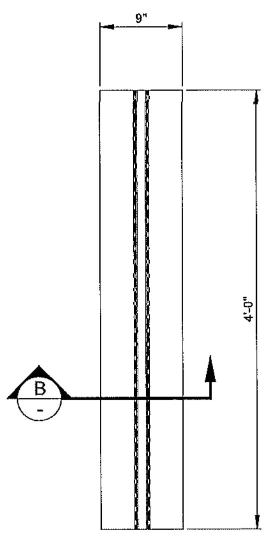
12 DETAIL - WALL PIPE SUPPORTS
SCALE: 1" = 1'-0"

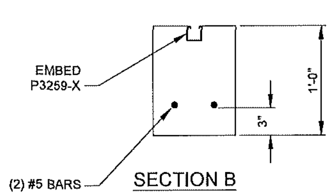


13 DETAIL - FLOOR PIPE SUPPORTS
SCALE: 1" = 1'-0"



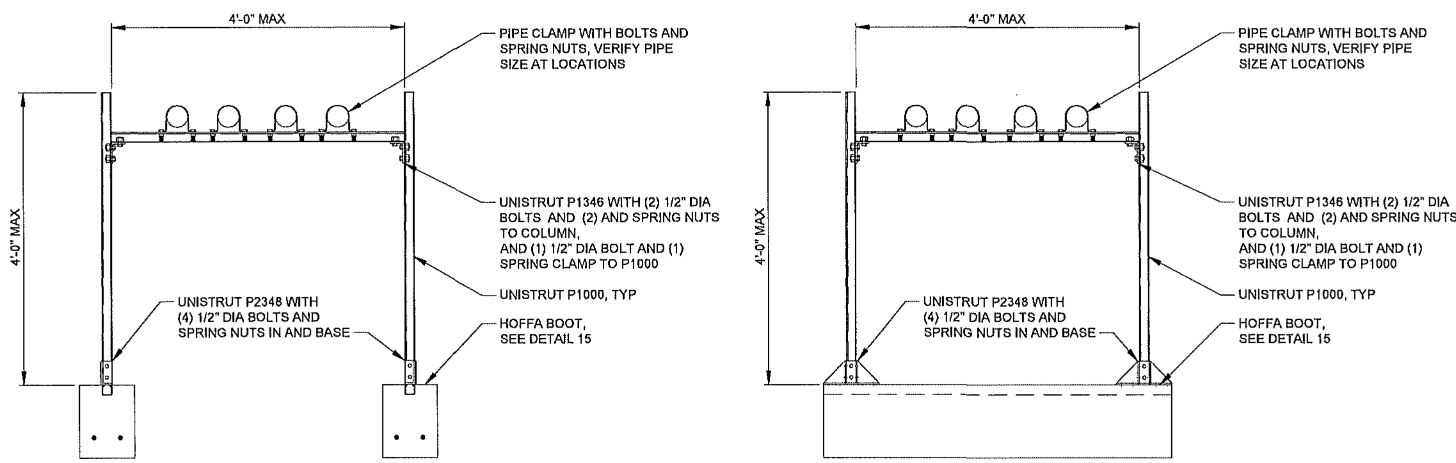
14 DETAIL - ROOF PIPE SUPPORTS
SCALE: 1" = 1'-0"



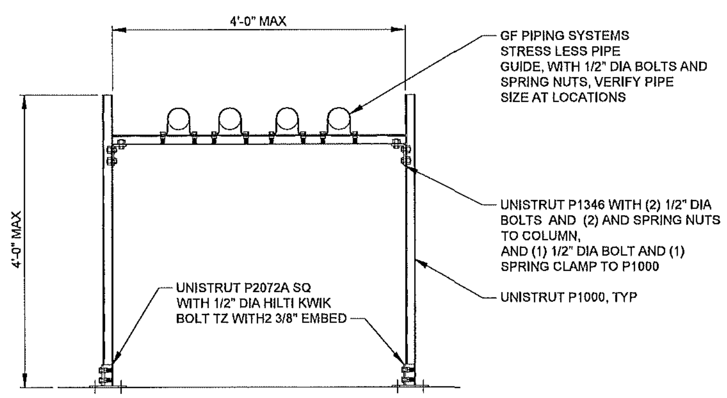


SECTION B

15 DETAIL-PIPE SUPPORT EXTERIOR
SCALE: 1 1/2" = 1'-0"



16 DETAIL - PIPE SUPPORTS - EXTERIOR
SCALE: 1" = 1'-0"



17 DETAIL - FLOOR PIPE SUPPORTS - INTERIOR
SCALE: 1" = 1'-0"

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S MOORE		VNSFS
J WILSON		VNSFS
E LLOYD		VNSFS
DESIGN AUTHORITY		

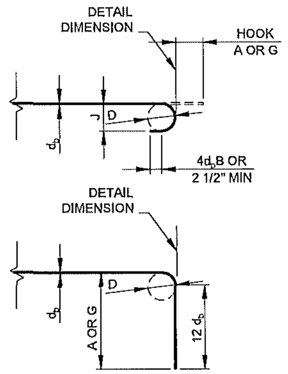
CIMARRON
PUMP AND TREAT SYSTEM PROJECT
WESTERN AREA TREATMENT FACILITY STRUCTURAL DETAILS

SIZE F | DWG NO VFS-EPM-000-DWG-S-115 | REV B
SCALE SHOWN | SHEET 4 OF 5

DWG NO VFS-EPM-000-DWG-S-115 | SH 2 OF 2 | REV B

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

REVISIONS



RECOMMENDED END HOOKS, ALL GRADES OF STEEL

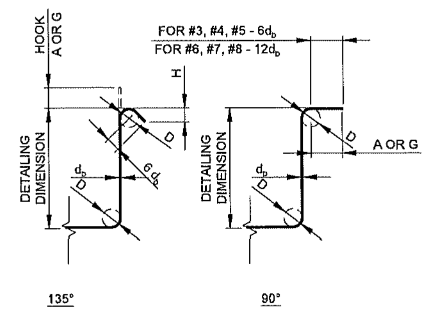
BAR SIZE	D	180° HOOKS		90° HOOKS
		A OR G	J	A OR G
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	1'-0"
#7	5 1/4"	10"	7"	1'-2"
#8	6"	11"	8"	1'-4"
#9	9 1/2"	1'-3"	11 3/4"	1'-7"
#10	10 3/4"	1'-5"	1'-1 1/4"	1'-10"
#11	12"	1'-7"	1'-2 3/4"	2'-0"
#14	18 1/4"	2'-3"	1'-9 3/4"	2'-7"
#18	24"	3'-0"	2'-4 1/2"	3'-5"

ALL GRADES OF STEEL:

1. D = FINISHED INSIDE BEND DIAMETER.
2. d_b = NOMINAL BAR DIAMETER.
3. MIN. D = $6\ d_b$ FOR #3 THROUGH #8.
4. MIN. D = $8\ d_b$ FOR #9, 10 AND #11.
5. MIN. D = $10\ d_b$ FOR #14 AND #18.

1 STANDARD BAR BENDS

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



BAR SIZE	D	90° HOOKS	135° HOOKS	
		A OR G	A OR G	H*
#3	1 1/2"	4"	4"	2 1/2"
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	1'-0"	8"	4 1/2"
#7	5 1/4"	1'-2"	9"	5 1/4"
#8	6"	1'-4"	10 1/2"	6"

* - H DIMENSION IS APPROXIMATE

2 STANDARD BAR BENDS

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

f'c = 2500 psi		LENGTH (INCHES)	
BAR SIZE	LAP CLASS	TOP BARS	OTHER BARS
#3	A	24	18
	B	31	24
#4	A	32	24
	B	41	32
#5	A	39	30
	B	51	39
#6	A	47	36
	B	61	47
#7	A	55	42
	B	71	55
#8	A	63	48
	B	82	63
#9	A	71	54
	B	92	71
#10	A	78	60
	B	102	78
#11	A	86	66
	B	112	86

f'c = 3000 psi		LENGTH (INCHES)	
BAR SIZE	LAP CLASS	TOP BARS	OTHER BARS
#3	A	22	17
	B	28	22
#4	A	29	22
	B	38	29
#5	A	36	28
	B	47	36
#6	A	43	33
	B	56	43
#7	A	50	39
	B	65	50
#8	A	57	44
	B	75	57
#9	A	65	50
	B	84	65
#10	A	72	55
	B	93	72
#11	A	79	61
	B	102	79

NOTES

1. TABULATED VALUES ARE BASED ON GRADE 60 REINFORCING BARS AND NORMAL WEIGHT CONCRETE.

2. TENSION DEVELOPMENT LENGTHS AND TENSION LAP SPLICE LENGTHS ARE CALCULATED PER ACI 318-14, SECTIONS 25.4.2 AND 25.5.2, RESPECTIVELY. TABULATED VALUES FOR BEAMS OR COLUMNS ARE BASED ON TRANSVERSE REINFORCEMENT AND CONCRETE COVER MEETING MINIMUM CODE REQUIREMENTS. LENGTHS ARE IN INCHES.

3. CASES 1 AND 2, WHICH DEPEND ON THE TYPE OF STRUCTURAL ELEMENT, CONCRETE COVER, AND THE CENTER-TO-CENTER SPACING OF THE BARS, ARE DEFINED AS BEAMS OR COLUMNS:

   CASE 1 COVER AT LEAST $1.0d_b$ AND C.-C. SPACING AT LEAST $2.0\ d_b$.

   CASE 2 COVER LESS THAN $1.0\ d_b$ OR C.-C. SPACING LESS THAN $2.0\ d_b$.

   ALL OTHERS:

   CASE 1 COVER AT LEAST $1.0\ d_b$ AND C.-C. SPACING AT LEAST $3.0\ d_b$.

   CASE 2 COVER LESS THAN $1.0\ d_b$ OR C.-C. SPACING LESS THAN $3.0\ d_b$.

4. LAP SPLICE LENGTHS ARE MULTIPLES OF TENSION DEVELOPMENT LENGTHS; CLASS A = 1.0 l AND CLASS B = $1.3\ l_d$ (ACI 318-14, SECTION 20.5.2).

5. ACI 318-14 DOES NOT ALLOW LAP SPLICES OF #14 OR #18 BARS AND ARE NOT SHOWN FOR CLARITY.

6. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.

7. FOR LIGHTWEIGHT AGGREGATE CONCRETE, MULTIPLY THE TABULATED VALUES BY 1.3.

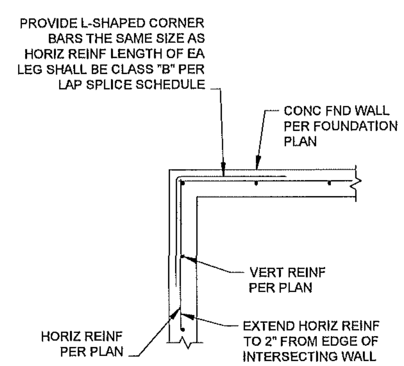
8. FOR EPOXY-COATED BARS, MULTIPLY THE TABULATED VALUES BY ONE OF THE FOLLOWING FACTORS

CONCRETE COVER AND SPACING	TOP BARS	OTHER BARS
COVER < $3.0\ d_b$ OR C. -C. SPACING < $7.0\ d_b$	1.7/1.3 = 1.31	1.50
COVER $\geq 3.0\ d_b$ OR C. -C. SPACING $\geq 7.0\ d_b$	1.20	1.20

9. ALL CALCULATIONS SHOWN ABOVE ARE ASSUMED TO BE CASE 2.

3 LAP SPLICE AND DEVELOPMENT LENGTH

SCALE: NOT TO SCALE



4 REINF CORNER WALL LAP SPLICE

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

CONCEPTUAL DESIGN

DWG NO	TITLE	REF NUMBER	TITLE	MFD NO	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
DRAWING TRACEABILITY LIST		REFERENCES						
		NEXT USED ON		REV REL		REVISIONS		

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NAME	DATE / COMPANY
DRAWN BY J KIENHOLZ	10/13/21 WDG
ENGINEER D NELSON	WDG
CHECKER S MOORE	VNSFS
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY STRUCTURAL DETAILS

SIZE F | DWG NO VFS-EPM-000-DWG-S-115 | REV B
SCALE SHOWN | EDT | SHEET 5 OF 5

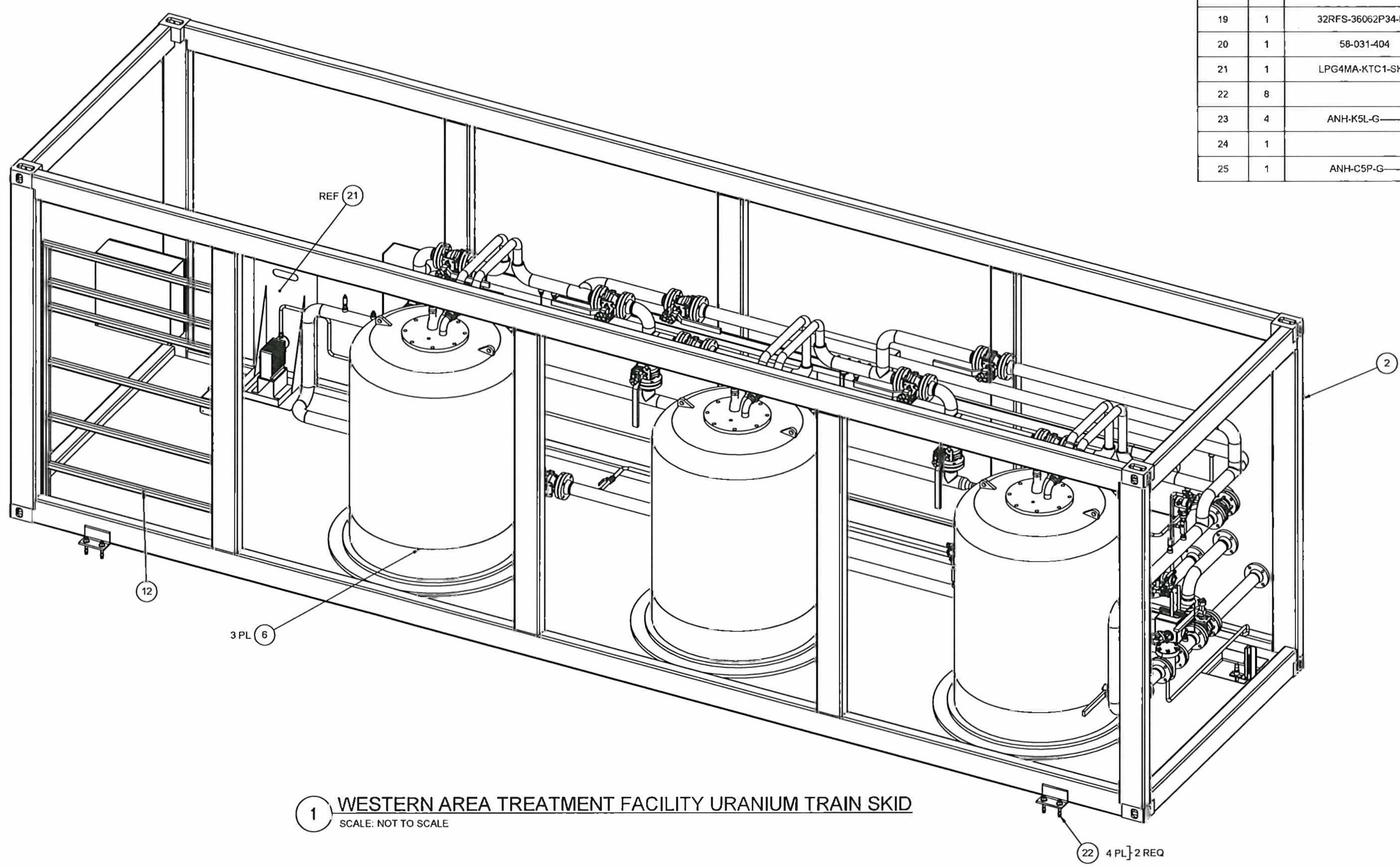
DWG NO VFS-EPM-000-DWG-S-115 | SH 5 OF 5 | REV B

NOTES & SPECIFICATIONS:

1. DIMENSIONS AND TOLERANCES PER ASME Y14.5M-94. DIMENSIONS ARE IN INCHES.
   TOLERANCES: .X ± .1, .XX ± .03, .XXX ± .005
   FRACTIONAL: ± 1/8
   ANGULAR: ± 2°
2. INTERIOR PROCESS AREA SURFACES SHALL BE NON-POROUS. AVOID USE OF ZINC ON INTERIOR SURFACES IN THE PROCESS AREA.
3. FOR PENETRATIONS AND MOUNTING OF PANELS SEE ELECTRICAL INSTALLATION DRAWINGS.
4. BREAK SHARP EDGES, REMOVE BURRS.
5. WELDING PER AWS D1.6. PROCEDURE AND WELDER QUALIFICATIONS PER ASME SECTION IX ARE ACCEPTABLE.
6. FABRICATION DETAILS AND STANDARDS PER NORMAL AND CUSTOMARY FOR INTERMODAL CONSTRUCTION.
7. PIPE AND COMPONENTS TO BE WELDED OR FLANGE CONNECTIONS USING FLEXITALLIC CGI-150
8. APPROXIMATE DRY WEIGHT 14,303 LBS

PARTS/MATERIAL LIST

ITEM NO.	QTY.	PART NUMBER	TITLE	DESCRIPTION	MATERIAL/REFERENCE
1	-		WESTERN AREA TREATMENT FACILITY URANIUM TRAIN SKID	N/A	N/A
2	1	VFW-EPM-000-DWG-M-110	SKID FRAME	WESTERN AREA TREATMENT FACILITY SKID FRAME	N/A
3	AR	20893104	FLEXIBLE HOSE	2", CORRUGATED EPDM	CONTINENTAL
4	6	1700DL SERIES	COUPLER	2" DRY DISCONNECT	KAMVALOK
5	6	1600AN SERIES	ADAPTER	2" ADAPTER FOR DRY DISCONNECT	KAMVALOK
6	3		PROCESS VESSEL	48" DIA.	TBD
7	2	EJA-530E	PRESSURE TRANSDUCER	WITH VALVE	YOKOGAWA
8	1	A242408LP	PLC ENCLOSURE	24x24x8	HOFFMAN
9	1	FLT93B-AB00	LEAK DETECTOR	FLT93B FLEXSWITCH	FCI
10	1	52005381	PH ELEMENT	NPT THREADED INPRO4260I	METTLER TOLEDO
11	1	52402401	PH HOUSING	INTRAC 787 INPRO	METTLER TOLEDO
12	1		I&C RACK	HSS2X2X.25	OTS STAINLESS STEEL
13	4	EJA110E-JHS5G-912DJ/FF1/D1/N4	DIFFERENTIAL PRESSURE TRANSMITTER	WITH VALVE BLOCK	YOKOGAWA
14	1	MH4BF07-60-2SH	MOTOR OPERATED VALVE	3" FLANGED VALVE	INDELAC
15	1	DS3-3	INLINE STATIC MIXER	3IN X 19IN LG	JDMIX
16	2	3" DL2R-36-36-5-36	CHECK VALVE	3IN FLANGED SWING TYPE	KECKLEY
17	12	ANH-K5L-G—03	BALL VALVE	3IN FLANGE WITH POSITION SWITCH	PMB
18	1	AFX	FLOW METER	MAGNETIC	YOKAGAWA
19	1	32RFS-36062P34-BK	SIMPLEX BASKET STRAINER	3IN RF FLANGE	KECKLEY
20	1	58-031-404	UNICOND CONDUCTIVITY SENSOR	2-ELECTRODE	METTLER TOLEDO
21	1	LPG4MA-KTC1-SKO	ACID DOSING SKID	41 GPD @ 250 PSI 115 VAC	NOVATECH
22	8			1/2" DIA HILTI KWIK BOLT TZ WITH 3 5/8" EMBED	
23	4	ANH-K5L-G——	BALL VALVE	3IN FLANGE	PMB
24	1		SAMPLE BOX ASSEMBLY		
25	1	ANH-C5P-G——	BALL VALVE	1/2" FULL-PORT, FNPT, SS	PMB



1 WESTERN AREA TREATMENT FACILITY URANIUM TRAIN SKID
SCALE: NOT TO SCALE

CONCEPTUAL DESIGN

VEOLIA
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NAME	DATE / COMPANY
J PIERCE	VNSFS
E LLOYD	VNSFS
S MOORE	VNSFS
J WILSON	VNSFS
E LLOYD	VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

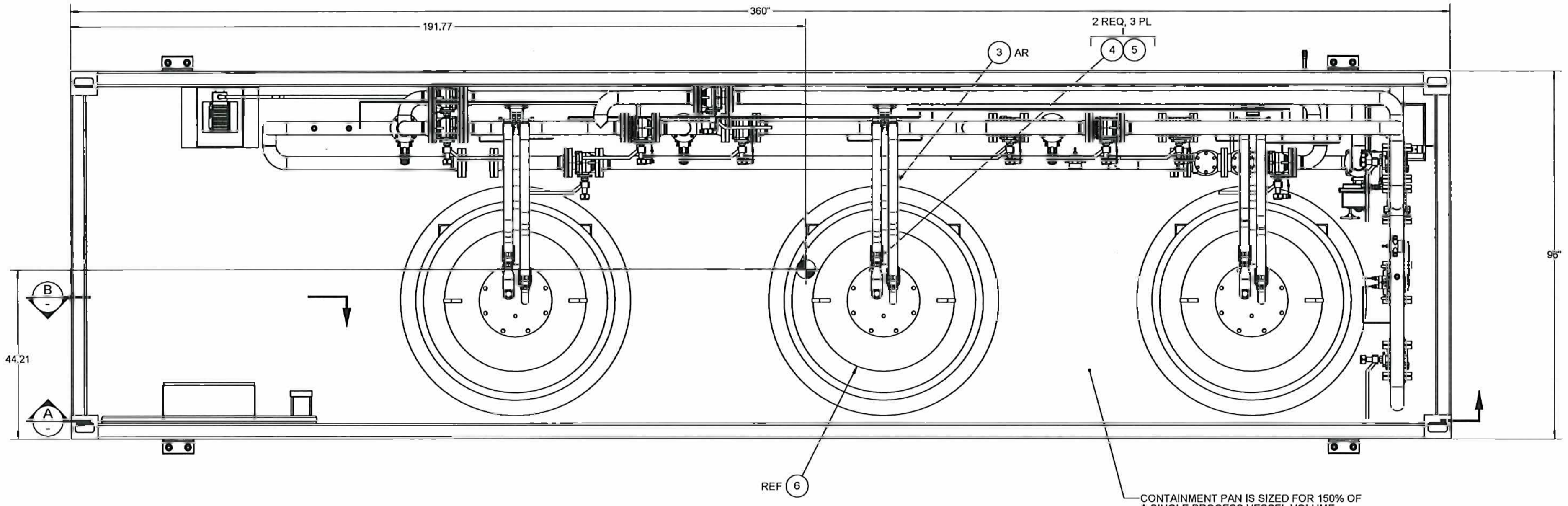
MECHANICAL
WESTERN AREA TREATMENT FACILITY
URANIUM TRAIN SKID ARRANGEMENT

SIZE F | DRAWING NO VFS-EPM-000-DWG-M-110 | REV D
SCALE SHOWN | SHEET 1 OF 6

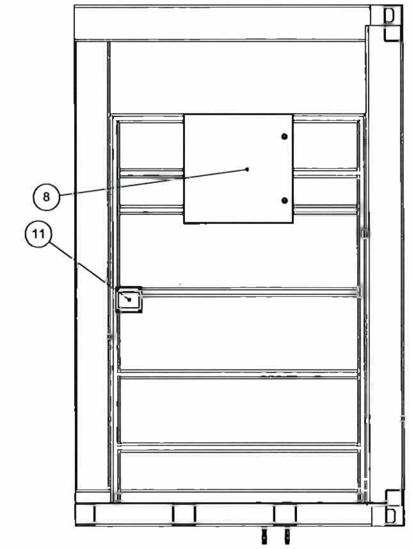
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
	REVISIONS		

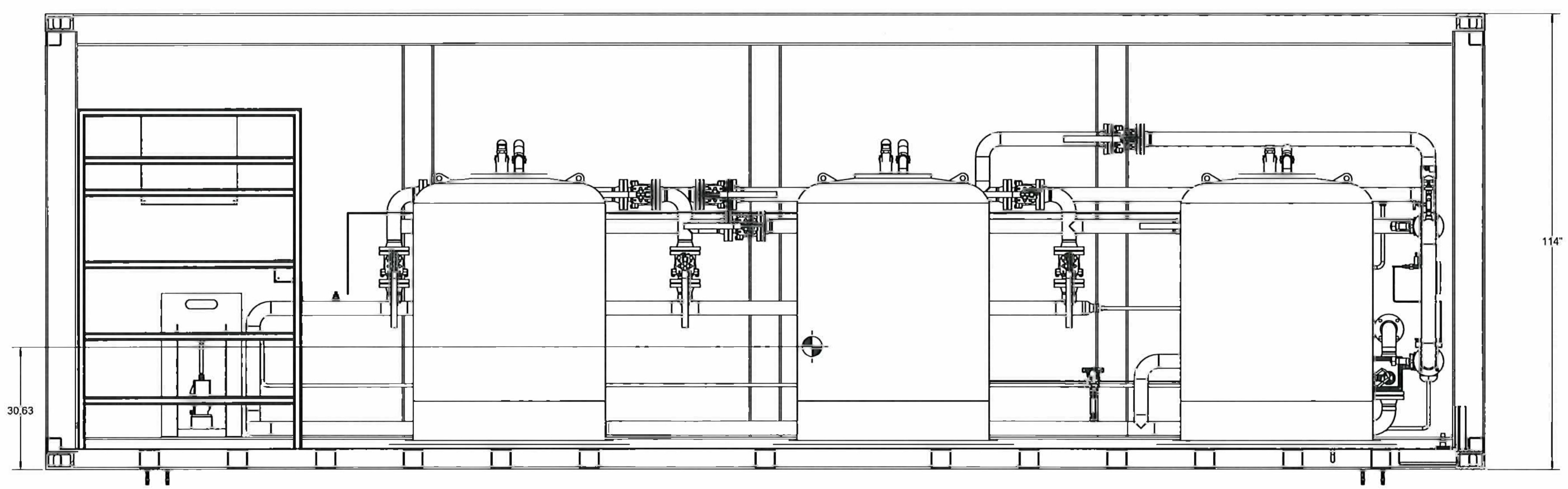
DWG NO VFS-EPM-000-DWG-M-110 SH 1 OF 6 REV D



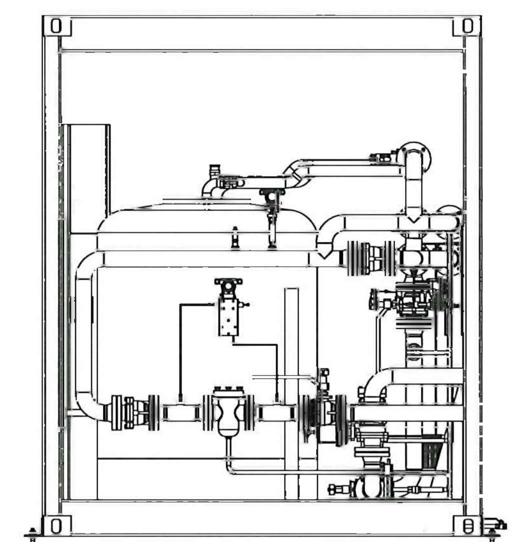
PLAN VIEW
SCALE 1:16
ITEMS NOT SHOWN FOR CLARITY



B SECTION
SCALE 1:16



A SECTION
SCALE 1:16



RIGHT SIDE
SCALE 1:16
ITEMS NOT SHOWN FOR CLARITY

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DRAFTING CHECKER S MOORE	VNSFS
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS

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MECHANICAL
WESTERN AREA TREATMENT FACILITY
URANIUM TRAIN SKID ARRANGEMENT

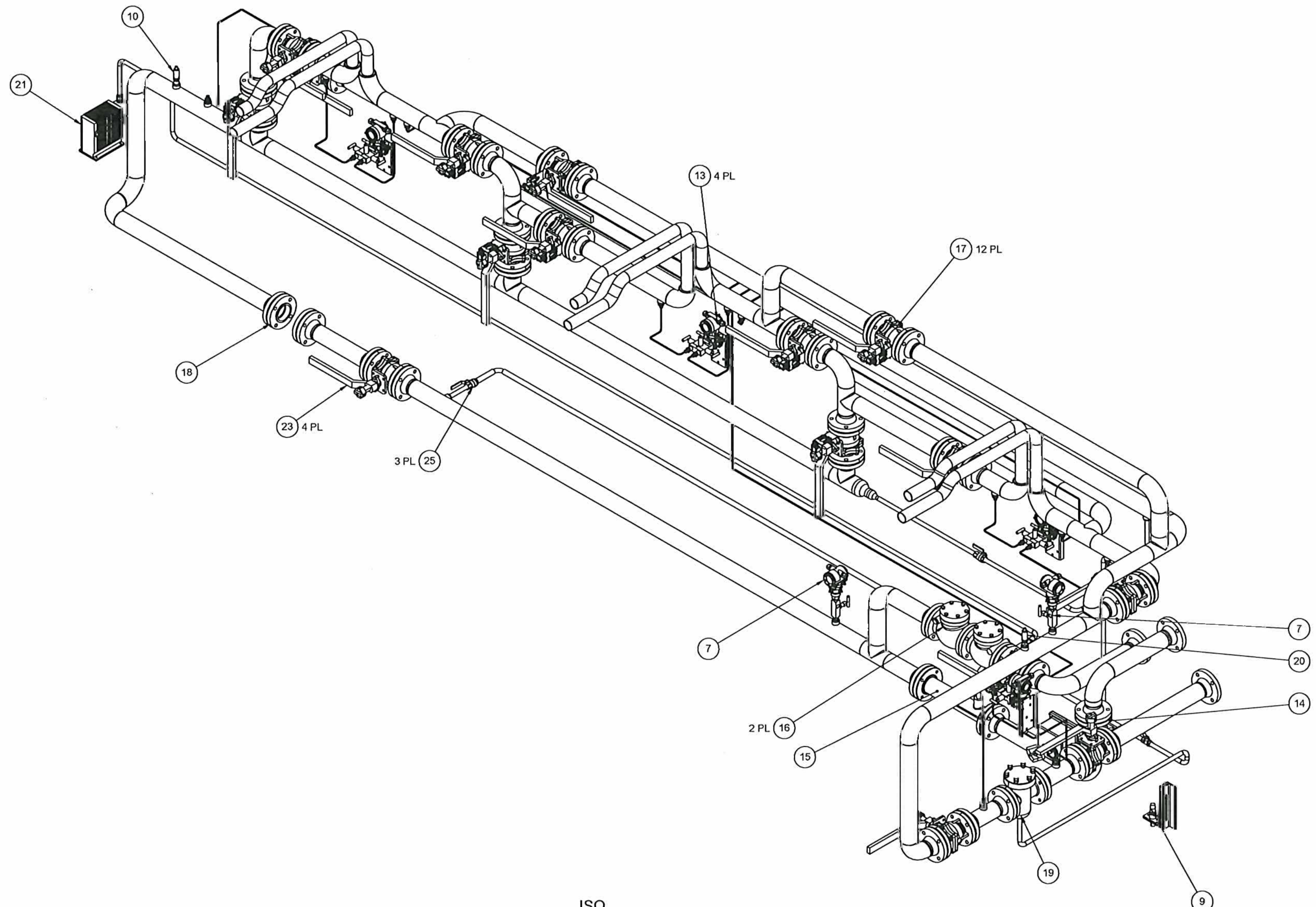
SIZE F | DRAWING NO VFS-EPM-000-DWG-M-110 | REV D
SCALE SHOWN | SHEET 2 OF 6

DWG NO VFS-EPM-000-DWG-M-110 SH 2 OF 6 REV D

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY
REVISIONS			



ISO
SCALE: NOT TO SCALE

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PUMP AND TREAT SYSTEM PROJECT

MECHANICAL
WESTERN AREA TREATMENT FACILITY
URANIUM TRAIN SKID ARRANGEMENT

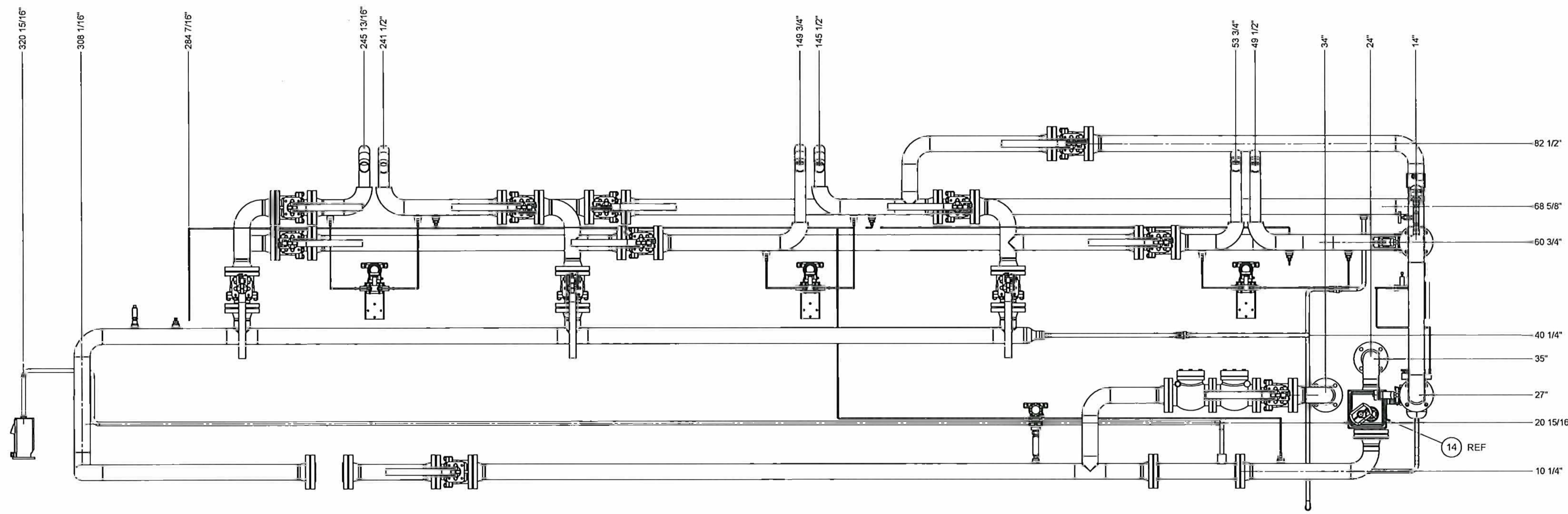
SIZE	DRAWING NO	REV
F	VFS-EPM-000-DWG-M-110	D

SCALE SHOWN | SHEET 3 OF 6

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

MFG	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS				

DWG NO VFS-EPM-000-DWG-M-110 SH 3 OF 6 REV D



FRONT
SCALE 1:12
ITEMS NOT SHOWN FOR CLARITY

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WESTERN AREA TREATMENT FACILITY
URANIUM TRAIN SKID ARRANGEMENT

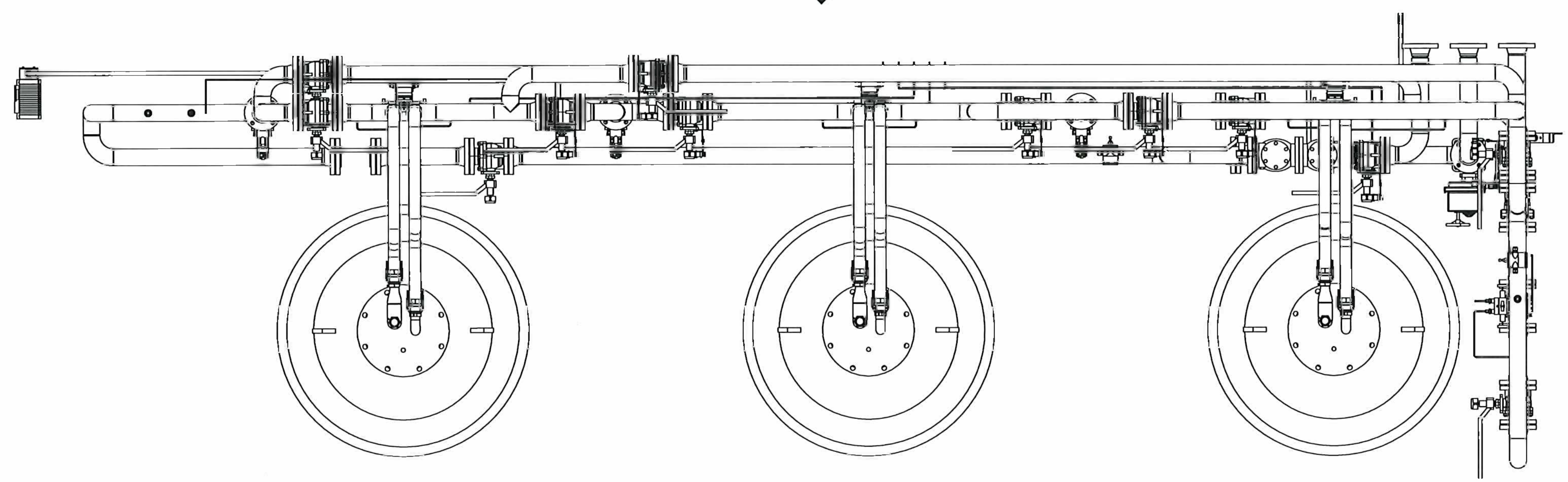
SIZE F | DRAWING NO VFS-EPM-000-DWG-M-110 | REV D
SCALE SHOWN | SHEET 4 OF 6

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

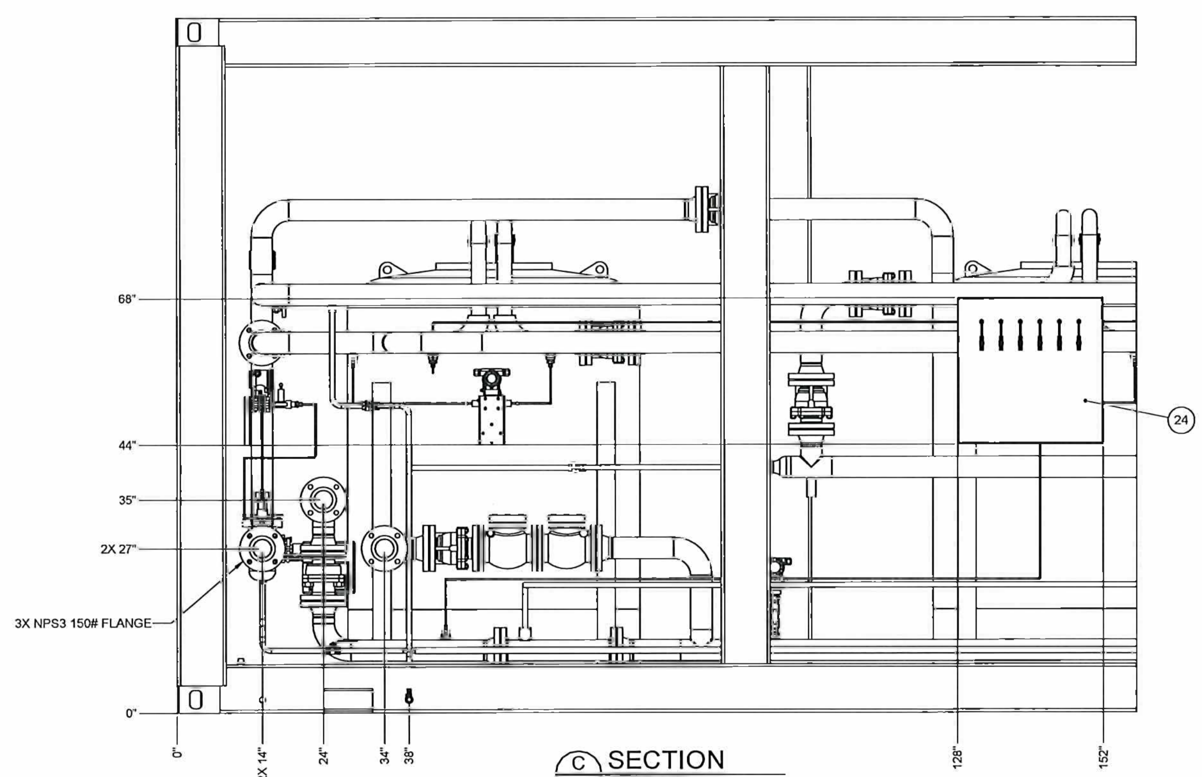
REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

REV	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS			

DWG NO VFS-EPM-000-DWG-M-110 SH 4 OF 6 REV D



PLAN VIEW
SCALE 1:12
ITEMS NOT SHOWN FOR CLARITY



C SECTION
SCALE 1:12

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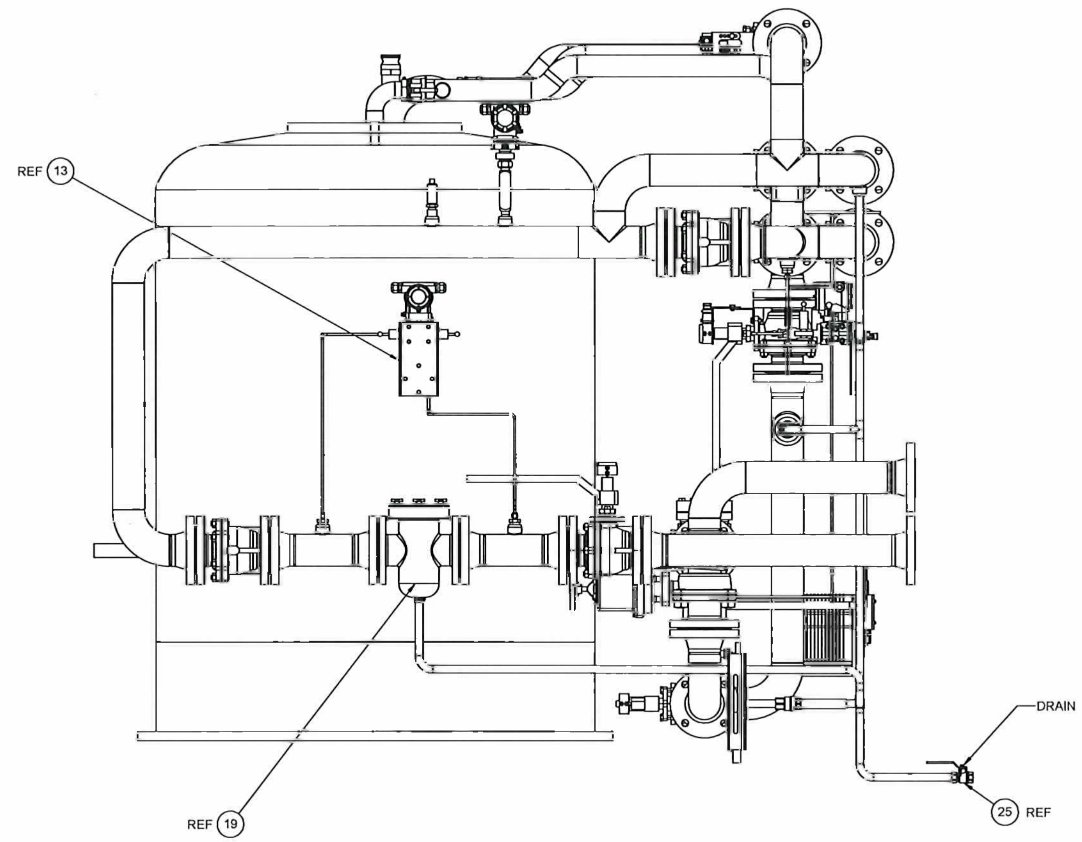
MECHANICAL
WESTERN AREA TREATMENT FACILITY
URANIUM TRAIN SKID ARRANGEMENT

SIZE F | DRAWING NO VFS-EPM-000-DWG-M-110 | REV D
SCALE SHOWN | SHEET 5 OF 6

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

MFG	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
		REVISIONS		

DWG NO VFS-EPM-000-DWG-M-110 SH 5 OF 6 REV D



RIGHT SIDE
SCALE 1:8
ITEMS NOT SHOWN FOR CLARITY

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ENGINEERING CHECKER J WILSON	VNSFS
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PUMP AND TREAT SYSTEM PROJECT

MECHANICAL
WESTERN AREA TREATMENT FACILITY
URANIUM TRAIN SKID ARRANGEMENT

SIZE F | DRAWING NO VFS-EPM-000-DWG-M-110 | REV D
SCALE SHOWN | SHEET 6 OF 6

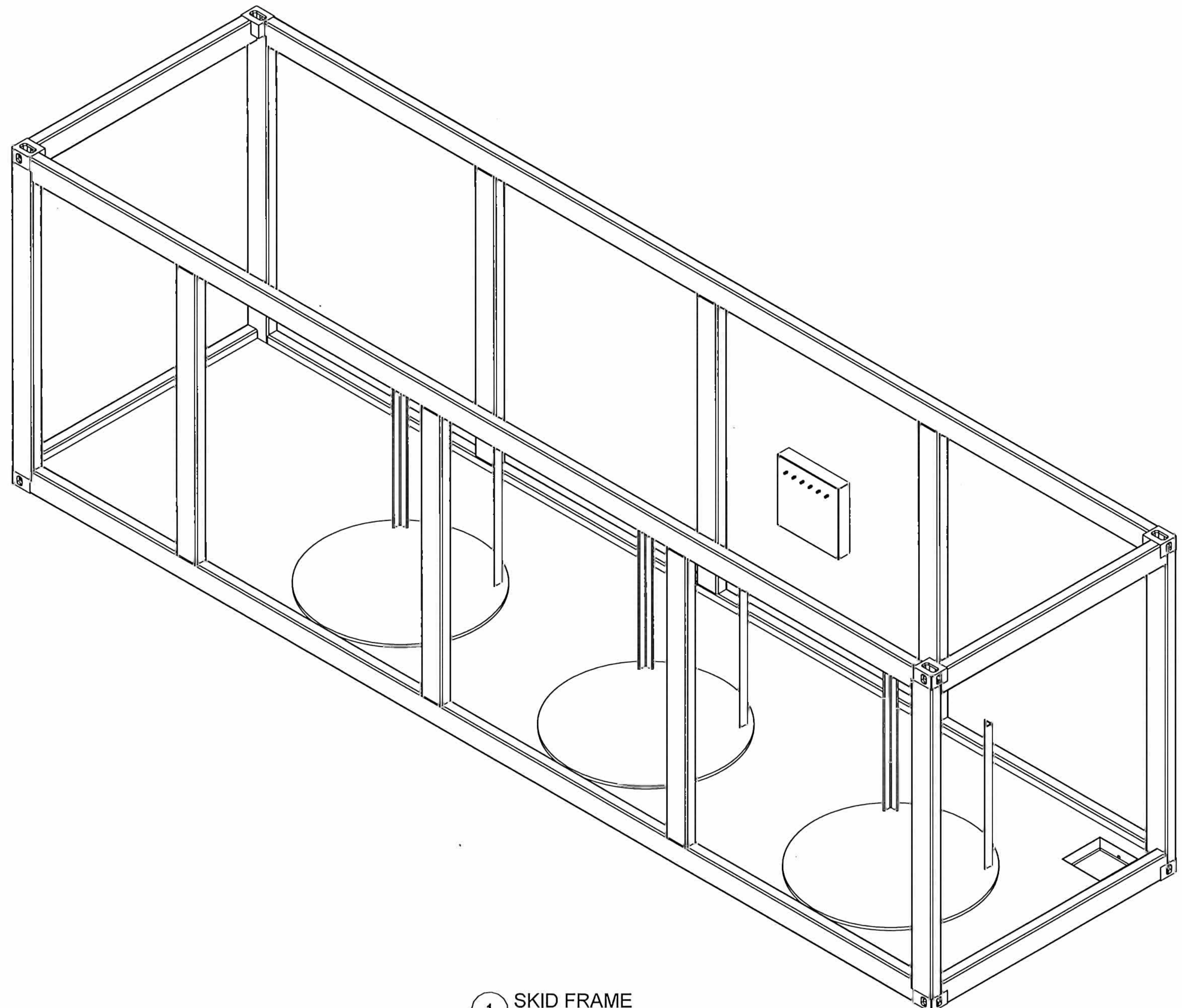
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REV	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS			

DWG NO VFS-EPM-000-DWG-M-110 SH 6 OF 6 REV D

NOTES & SPECIFICATIONS:

1. DIMENSIONS AND TOLERANCES PER ASME Y14.5M-94. DIMENSIONS ARE IN INCHES.
   TOLERANCES: .X ± .1, .XX ± .03, .XXX ± .005
   FRACTIONAL: ± 1/8
   ANGULAR: ± 2°
2. MAINTAIN STANDARD SHIPPING CONTAINER LOWER CORNERS FOR TRANSPORTATION ANCHOR POINT
3. REINFORCE FLOOR PAN FOR PUMP MOUNTING. REINFORCEMENT METHOD SHALL PRECLUDE BREACH OF FLOOR CONTAINMENT.
4. DIMENSIONS FOR PIPE CONNECTIONS ARE BASED ON PIPING LAYOUT. CONFIRM PRIOR TO FABRICATION.
5. EXTERIOR COATING SHALL BE BS12944 - C3 MARINE OR APPROVED EQUAL.
6. INTERIOR PROCESS AREA SURFACES SHALL BE NON-POROUS. AVOID USE OF ZINC ON INTERIOR SURFACES IN THE PROCESS AREA.
7. RECESSED BOXES TO BE SUPPORTED BY FABRICATOR IN FIELD
8. FLOORS IN THE PROCESS AREA SHALL DRAIN INTO THE CONTAINMENT TRAY AND BE INTEGRATED TO FRAME FOR CONTINUOUS LIQUID CONTAINMENT WITHIN THE MODULE. A METHOD MUST BE PROVIDED TO AVOID WATER PATHWAY OUTSIDE THE CONTAINMENT. ALL CONTACT AREAS SHALL BE STAINLESS STEEL.
9. FOR PENETRATIONS AND MOUNTING SEE ELECTRICAL INSTALLATION DRAWINGS.
10. TESTING WILL BE REQUIRED FOR SECONDARY CONTAINMENT
11. BREAK SHARP EDGES, REMOVE BURRS.
12. WELD AND INSPECT CARBON STEEL STRUCTURAL WELDS TO AWS D1.1-2015, WELD AND INSPECT STAINLESS STEEL STRUCTURAL WELD TO D1.6-2017. PROCEDURE AND WELDER QUALIFICATIONS PER ASME SECTION IX ARE ACCEPTABLE.
13. FABRICATION DETAILS AND STANDARDS PER NORMAL AND CUSTOMARY FOR INTERMODAL CONSTRUCTION.
14. DESIGN TO BE CERTIFIED FOR DOT HIGHWAY TRAVEL.



1 SKID FRAME
SCALE: NOT TO SCALE

CONCEPTUAL DESIGN

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NAME	DATE / COMPANY
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CIMARRON
PUMP AND TREAT SYSTEM PROJECT

MECHANICAL
WESTERN AREA TREATMENT FACILITY
SKID FRAME

SIZE	DRAWING NO	REV
F	VFS-EPM-000-DWG-M-111	A

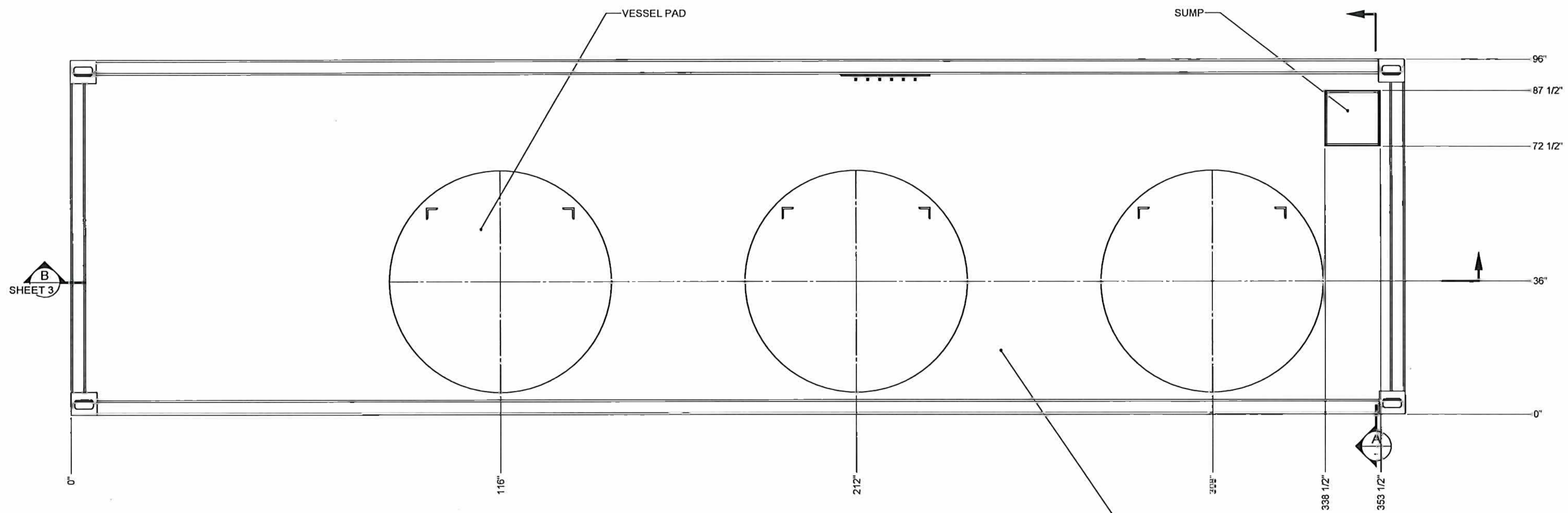
SCALE NONE SHEET 1 OF 4

DWG NO VFS-EPM-000-DWG-M-111 SH 1 OF 4 REV A

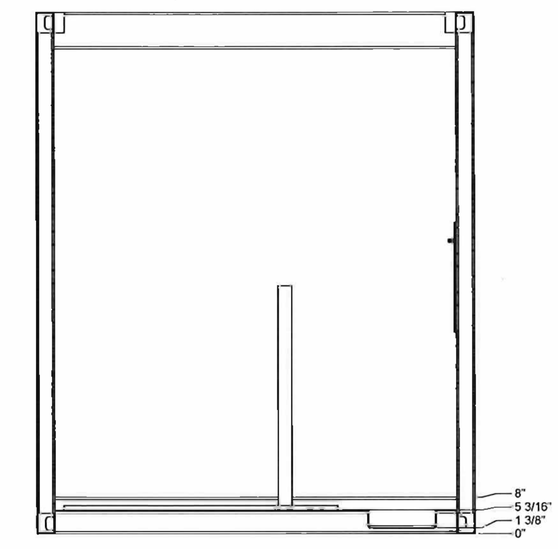
DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

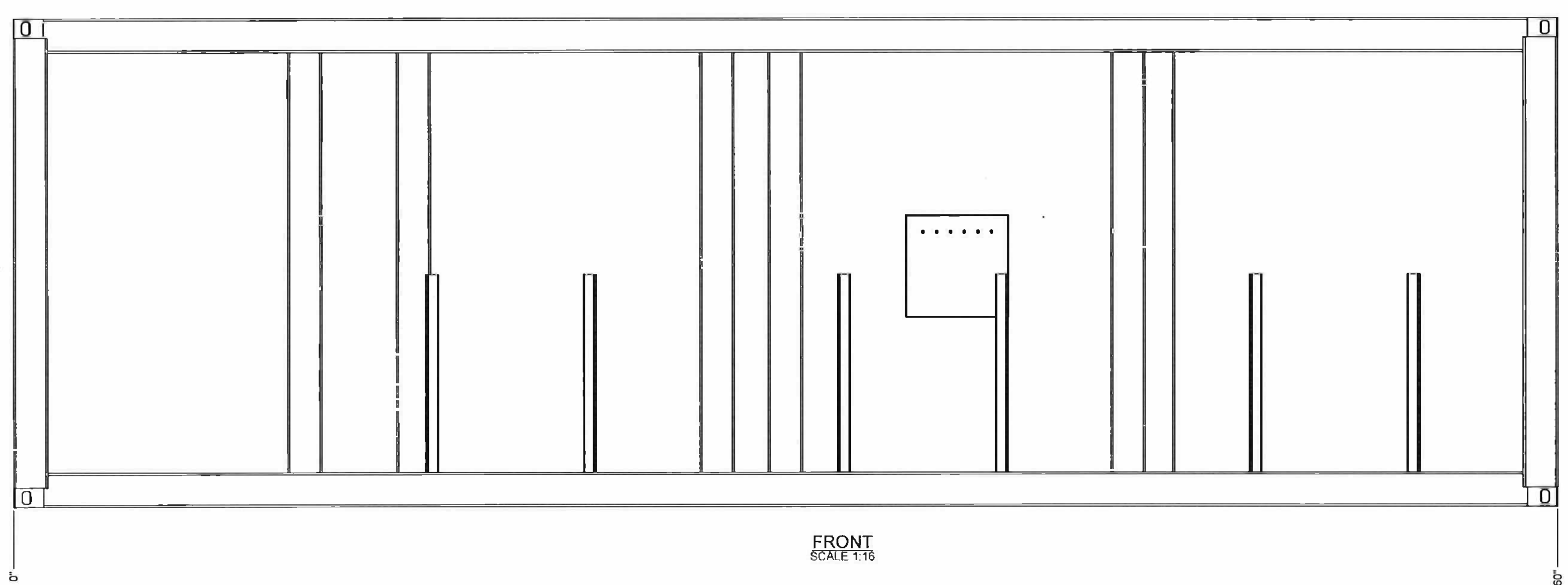
REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS			



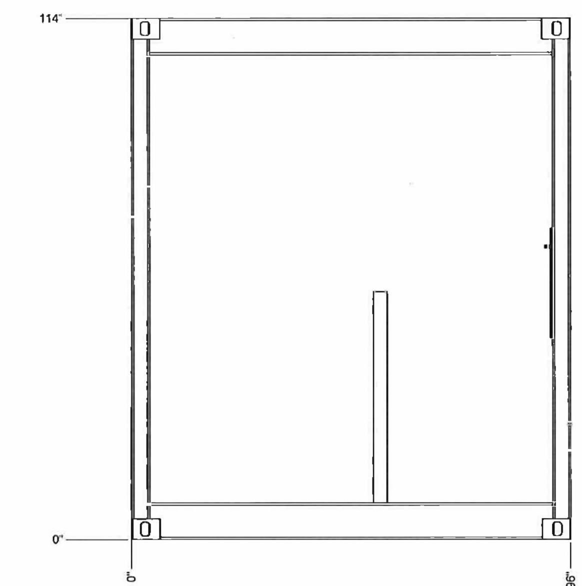
PLAN VIEW
SCALE 1:16



A SECTION
SCALE 1:16



FRONT
SCALE 1:16



SIDE
SCALE 1:16

CONCEPTUAL DESIGN

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NAME	DATE / COMPANY
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PROJECT MANAGER E LLOYD	VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

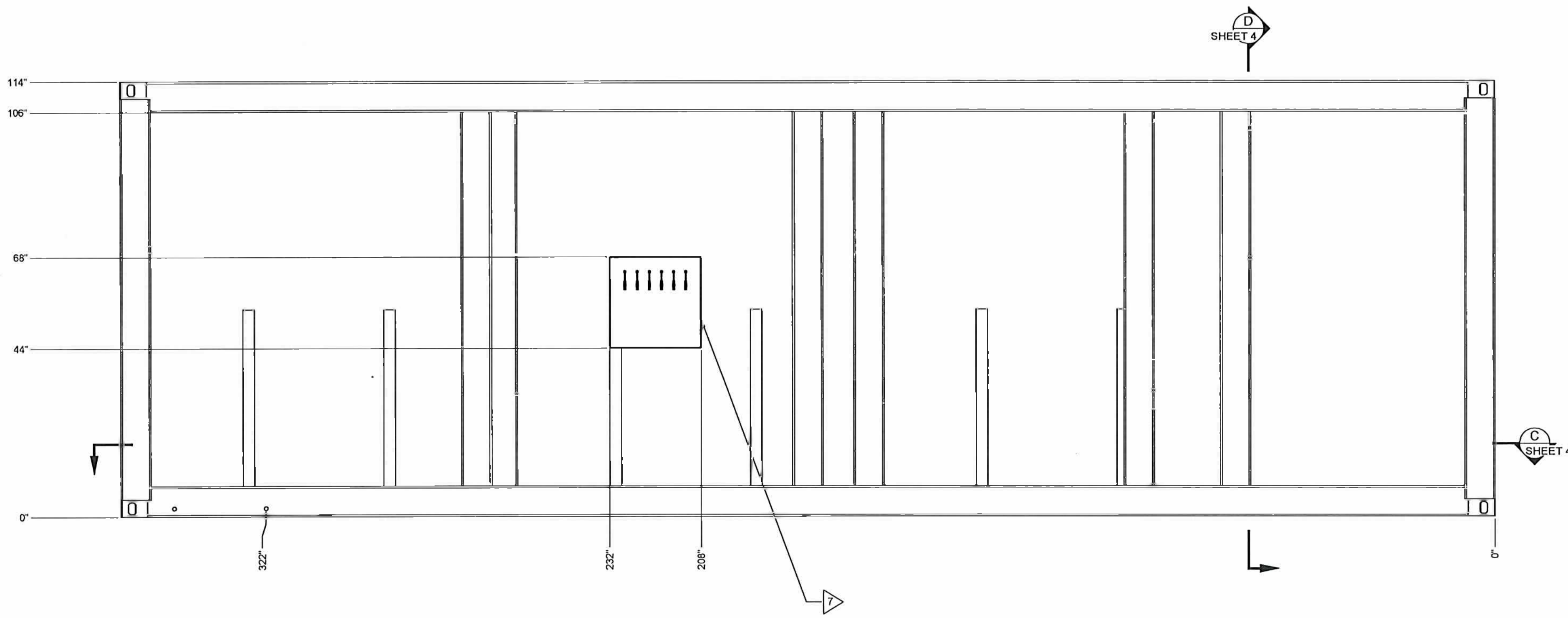
MECHANICAL
WESTERN AREA TREATMENT FACILITY
SKID FRAME

SIZE F | DRAWING NO VFS-EPM-000-DWG-M-111 | REV A
SCALE NONE | SHEET 2 OF 4

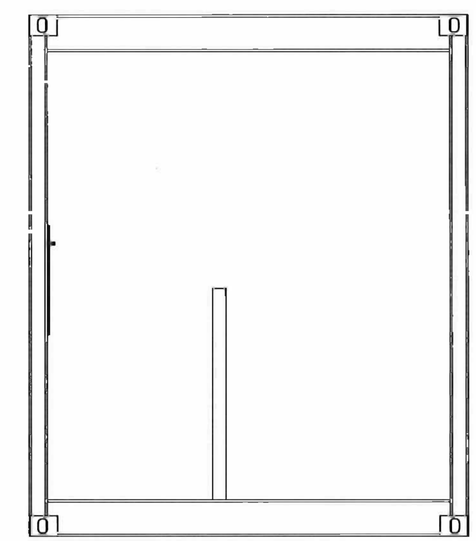
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REVISIONS

DWG NO VFS-EPM-000-DWG-M-111 SHT 2 OF 4 REV A



BACK
SCALE 1:16



SIDE
SCALE 1:16

CONCEPTUAL DESIGN

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PROJECT MANAGER F LLOYD	VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

MECHANICAL
WESTERN AREA TREATMENT FACILITY
SKID FRAME

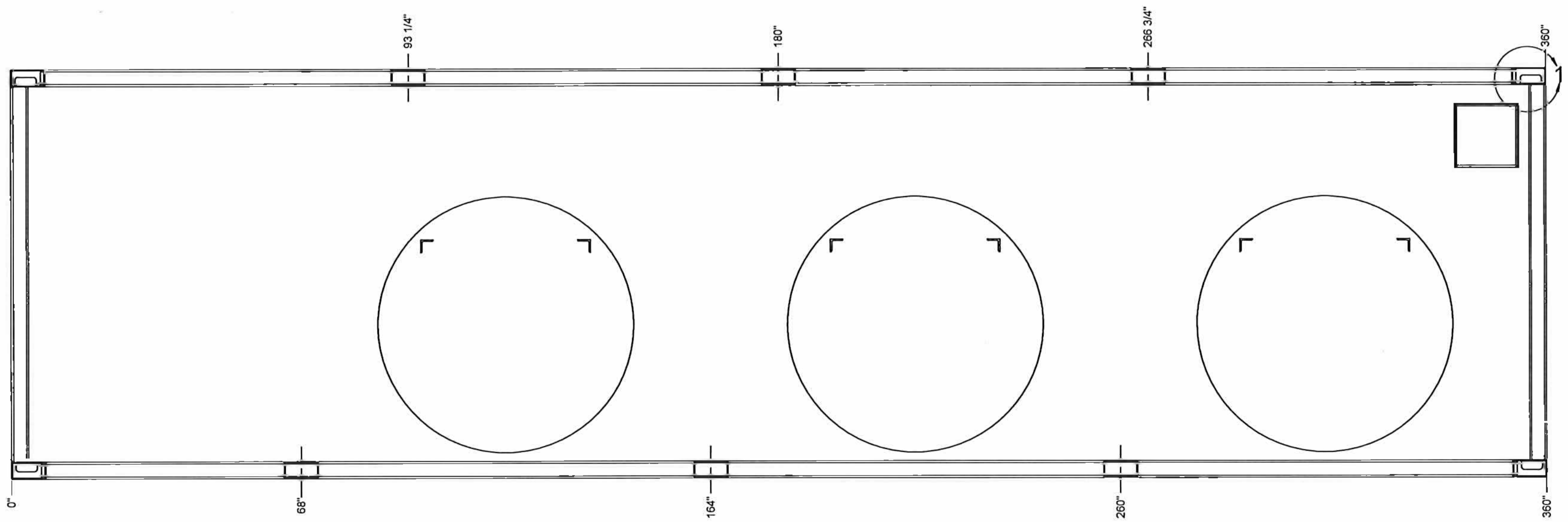
SIZE	DRAWING NO	REV
F	VFS-EPM-000-DWG-M-111	A

SCALE NONE — SHEET 3 OF 4

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS			

DWG NO VFS-EPM-000-DWG-M-111 SH 3 OF 4 REV A



C SECTION
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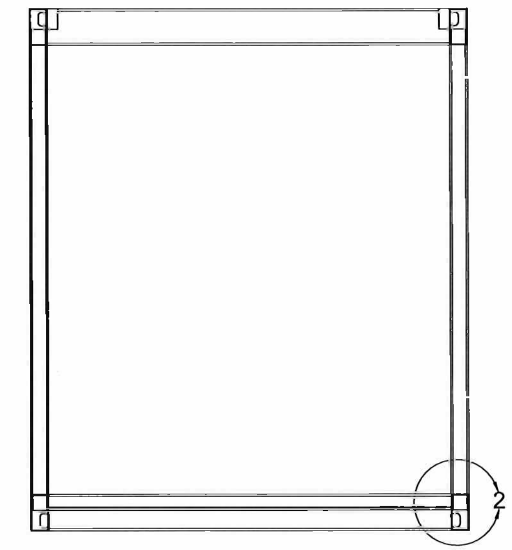

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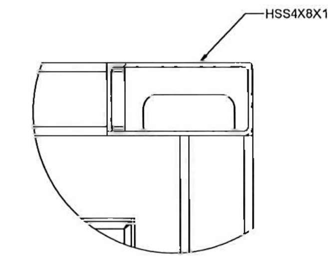
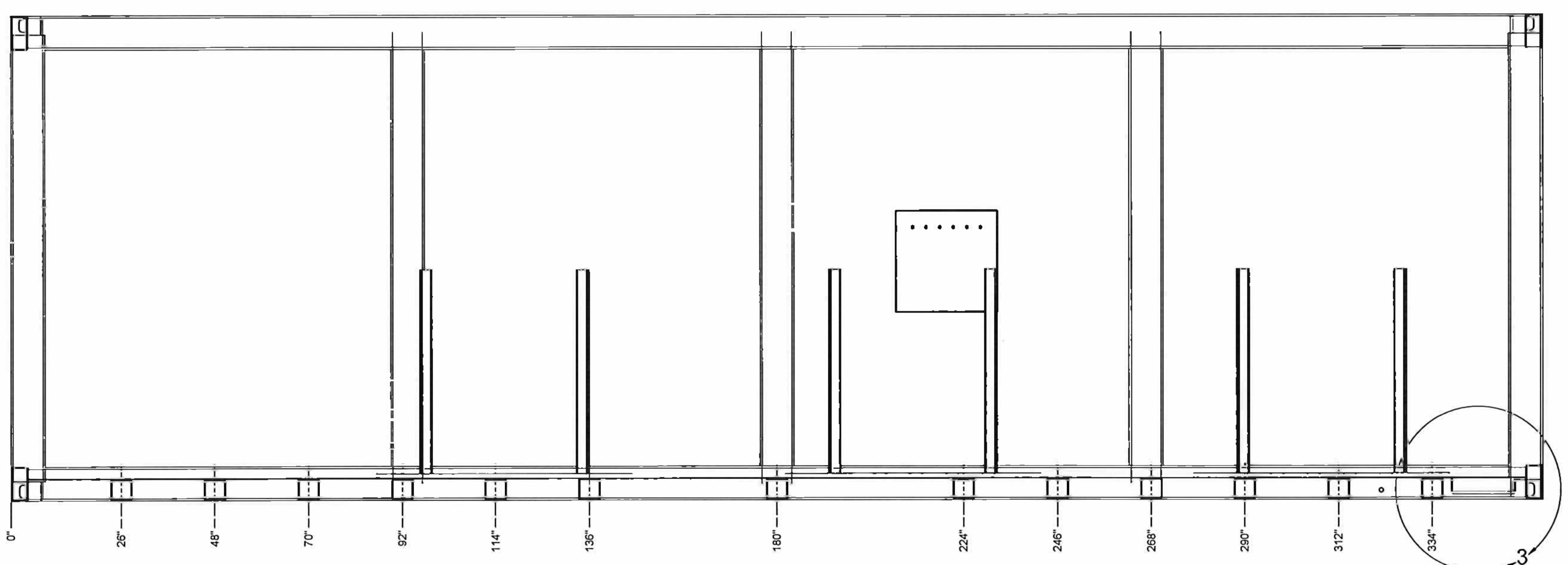
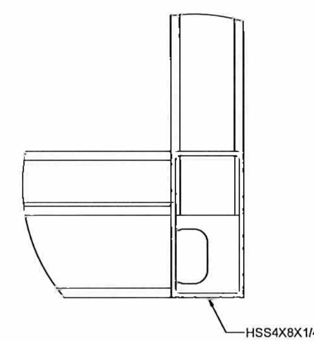


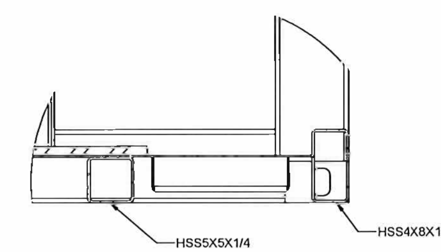
1 DETAIL
SCALE 1:4



B SECTION
SHEET 2 SCALE: 1:16



2 DETAIL
SCALE 1:4



3 DETAIL
SCALE 1:8

CONCEPTUAL DESIGN

VEOLIA
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NAME	DATE / COMPANY
DRAWN BY J PIERCE	VNSFS
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ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER F LLOYD	VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

MECHANICAL
WESTERN AREA TREATMENT FACILITY
SKID FRAME

SIZE F | DRAWING NO VFS-EPM-000-DWG-M-111 | REV A
SCALE NONE | SHEET 4 OF 4

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

MFD	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS				

DWG NO VFS-EPM-000-DWG-M-111 SH 4 OF 4 REV A

LINES:

- PRIMARY PIPING
- INSTRUMENTATION OR OTHER PIPING
- TANKS/PITS/BUILDINGS
- ELECTRICAL POWER OR SIGNAL
- SKID BOUNDARY
- DATA LINK
- FLEX HOSE
- PROCESS BOUNDARY
- OPERATIONAL FLOW

INSTRUMENT SYMBOLS:

XXX XXX — COMPUTER DIALOG/CONTROL FIELD LOCATED

IDENTIFICATION NUMBER — XX XXX — INSTRUMENT IDENTIFICATION (SEE INSTRUMENT IDENTIFICATION TABLE)

MAIN SHARED CONTROL OR DISPLAY

ELECTRICAL OR CONTROL SIGNAL

IDENTIFICATION NUMBER — XX XXX — INSTRUMENT IDENTIFICATION (SEE INSTRUMENT IDENTIFICATION TABLE)

LOCAL MOUNTED INSTRUMENT

DRAWING CONTINUATION ARROW:

XXX — DRAWING CONTINUATION ARROW USED ONLY FOR LINES ENTERING OR LEAVING THE FACE OF THE DRAWING

CONTINUATION DRAWING AND/OR SHEET NUMBER

ABBREVIATIONS:

B	POSITIVE DISPLACEMENT BLOWER
BA	BURIAL AREA
BMCD	BURNS & MCDONNELL
BS	BASKET STRAINER
C	CENTRIFUGE
CMPR	COMPRESSOR
CS	CARBON STEEL
CV	CHECK VALVE
DV	DISCONNECT VALVE
DOE	DEPARTMENT OF ENERGY
FL	FAIL LOCKED
FC	FAIL CLOSE
FDR	SOLIDS FEEDER
FH	FLEX HOSE
FLT	FILTER
FO	FAIL OPEN
GV	GAUGE VALVE
GPD	GALLONS PER DAY
H	INTERCONNECTING HOSE
HPR	HOPPER
IX	ION EXCHANGE
LC	LOCKED CLOSED
LO	LOCKED OPEN
MCL	MAXIMUM CONTAMINANT LEVEL
MOV	MOTOR OPERATED VALVE
MVD	MANUAL VALVE DOUBLE
MPa	MEGA-PASCALS
NC	NORMALLY CLOSED
NO	NORMALLY OPENED
P	PUMP
P&ID	PIPING AND INSTRUMENTATION DIAGRAM
PRV	PRESSURE RELIEF VALVE
PSE	PRESSURE SAFETY ELEMENT
PVC	POLYVINYL CHLORIDE
RB	RIBBON BLENDER
S	SAMPLE PORT
T/TK	TANK
V	VALVE
VFD	VARIABLE FREQUENCY DRIVE
VNSFS	VEOLIA NUCLEAR SOLUTIONS FEDERAL SERVICES
VSL	VESSEL/ ION EXCHANGE VESSEL
WA	WESTERN AREA
W/AA	WESTERN ALLUVIAL AREA
WATF	WESTERN AREA TREATMENT FACILITY
YS	WYE STRAINER

PIPING/EQUIPMENT:

- BALL VALVE
- BALL VALVE
- V-PORT BALL VALVE
- GATE VALVE
- PINCH VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- SLIDE VALVE
- M — MAGNETIC FLOW METER
- FLT — FILTER
- VFD — VARIABLE FREQUENCY DRIVE
- S — GRAB SAMPLE
- SAMPLE PORT
- M — MOTOR
- PRESSURE OR VACUUM RELIEF
- QUICK CONNECT
- HOSE CONNECTION
- PIPE CAP
- PIPE FLANGE
- PIPE REDUCER
- DRY DISCONNECT WITH SHUTOFF
- FULL PORT DRY DISCONNECT
- M — ROTARY VALVE
- EDUCTOR
- BASKET STRAINER
- WYE STRAINER
- S — IN-LINE SILENCER
- IN-LINE MIXER
- MECHANICAL VIBRATOR
- NEEDLE VALVE
- GAUGE VALVE
- M — MOTOR OPERATED VALVE
- PRESSURE CONTROL VALVE
- BACK-PRESSURE VALVE
- XXX — FLOW CONTROL VALVE
- XXX — ROTAMETER
- AIR GAP
- PRESSURE RELIEF VALVE
- UNION
- COMBINATION VACUUM AND PRESSURE REFIEF VALVE
- TANK VENT
- TANK VENT WITH BIRD / INSECT SCREEN
- CENTRIFUGAL PUMP
- PERISTALTIC PUMP
- DIAPHRAGM PUMP
- METERING PUMP
- POSITIVE DISPLACEMENT BLOWER
- SPARGE VESSEL
- TANK
- HOPPER
- M — RIBBON BLENDER
- SACK UNLOADER
- SCROLLING CENTRIFUGE
- SOLIDS DRUM
- AIR COMPRESSOR
- SAFETY SHOWER
- EYE / FACE WASH
- PULSATION DAMPENER
- INSULATION WITH HEAT TRACE
- HOSE BIB
- VACUUM RELIEF VALVE
- X — STREAM NUMBER
- SCREW CONVEYOR
- AUTOMATIC DRAIN VALVE
- REFRIGERATED AIR DRYER
- HOPPER
- OIL / WATER SEPARATOR
- WET / DRY AIR RECEIVER

LINE NUMBERING:

TAG SEQUENCE NUMBER: (BASED ON P&ID NUMBER)

LINE SERVICE CODE:

PIPE SIZE:

PIPING CLASS CODE:

INSULATION CODE:

1-BRS-10000-AS01-HT&I

LINE SERVICE CODES:

CA	COMPRESSED AIR
DR	DRAIN
FW	FILTERED WATER
GW	GROUNDWATER
HCL	HYDROCHLORIC ACID (37%)
IA	INSTRUMENT AIR
POTW	POTABLE WATER
RV	RELIEF VENT
SVW	SERVICE WATER
VAP	VAPOR
WW	WASTE WATER
WWO	WASH/WASTE OIL

PIPING CLASS CODES:

1ST CHARACTER - NOMINAL PRESSURE RATING
A - CLASS 150
B - CLASS 300
C - CLASS 600
C - CLASS 900
E - CLASS 1500
F - CLASS 125

2ND CHARACTER - GENERAL MATERIAL TYPE
A - PVC
B - CPVC
D - ALLOY 20
E - HASTELLOW
F - FRP
G - GALVANIZED STEEL
H - HDPE
J - POLYPROPYLENE
K - PVDF (KYNAR)
L - LINED CARBON STEEL
M - MONEL
N - DOUBLE CONTAINED (PTFE/CPVC)
P - PVC OR CPVC
R - ABS
S - STAINLESS STEEL
T - ALUMINUM

3RD AND 4TH CHARACTERS - SEQUENTIAL NUMBERING
- SEQUENTIAL TWO DIGIT NUMBER DISTINCT FOR AN INDIVIDUAL PIPE MATERIAL CLASS

5TH CHARACTER - MODIFIER
x - DESIGNATOR INDICATING MODIFICATION

NOTE: NOT NORMALLY USED IN THE PIPE MATERIAL CLASS NAME. USED ONLY WHEN A PARTICULAR PIPE MATERIAL CLASS REQUIRES MODIFICATION TO SATISFY PROJECT SPECIFIC REQUIREMENTS, EITHER DOE TO CLIENT SPECIFICATIONS AND / OR SPECIAL PROJECT REQUIREMENTS. IN THIS INSTANCE THE PIPE MATERIAL CLASSIFICATION SHALL BE MARKED WITH THE PROJECT OR TENDER NUMBER AND USED ONLY FOR THE APPLICABLE PROJECT OF TENDER.

EXAMPLE:
150# CLASS, CARBON STEEL, 2ND CARBON STEEL PIPE MATERIAL CLASS WITH 150# CLASS AC02-DESIGNATION

INSULATION CODE:

HT&I	HEAT TRACE AND INSULATE
IAC	INSULATION ACCOUSTIC
IC	INSULATION COLD
IH	INSULATION HOT
IS	INSULATION SAFETY
N	NONE

INSTRUMENT IDENTIFICATION (ISA 5.1 R2009)

	FIRST-LETTER		SUCCEEDING-LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	CONDUCTIVITY			CONTROL	CLOSE
D	USER'S CHOICE	DIFFERENTIAL	DETECTOR		DEVIATION
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW, FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER		SCAN		
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	USER'S CHOICE				MIDDLE, INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		OPEN
P	PRESSURE, VACUUM		POINT (TEST CONNECTION)		
Q	QUANTITY	INTEGRATE, TOTALIZE	INTEGRATE, TOTALIZE		
R	RADIATION		RECORD		RUN
S	SPEED, FREQUENCY	SAFETY		SWITCH	STOP
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL, PROBE		
X	UNCLASSIFIED	X AXIS	TROUBLE	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED	

NOTES:

1. LD IS USED TO DESIGNATE LEAK DETECTION INSTRUMENT.

CONCEPTUAL DESIGN

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PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

PROCESS SYMBOLS, NOTES, AND ABBREVIATIONS

SIZE F | DWG NO VFS-EPM-000-DWG-P-001 | REV B

SCALE NONE | EDT | SHEET 1 OF 1

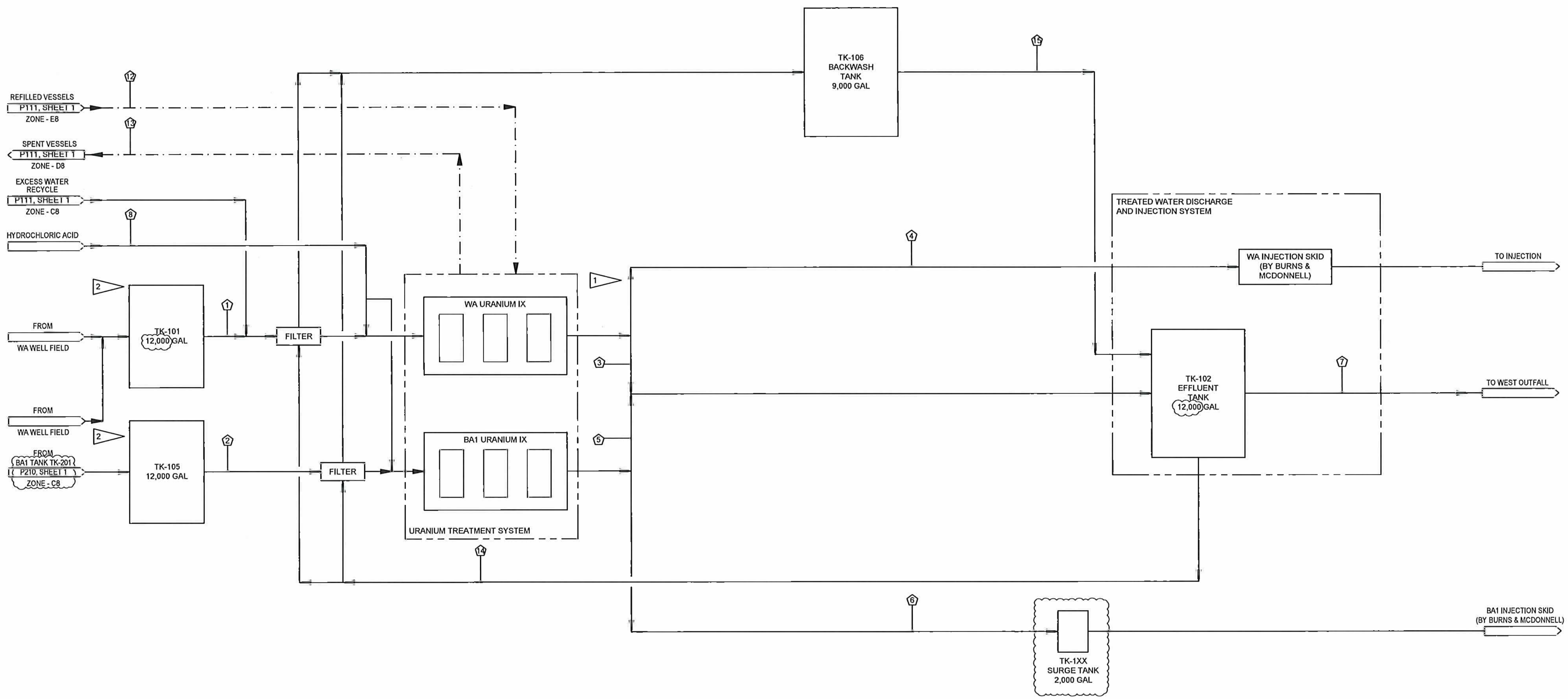
DWG NO VFS-EPM-000-DWG-P-001 | SH 1 OF 1 | REV B

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

MFD NO	REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY
REVISIONS				

GENERAL NOTES:

1. URANIUM TRAIN BYPASS IS BUILT INTO SKIDS IN CASE OPERATIONS ARE REQUIRED AFTER INFLUENT < MCL.
2. DOUBLE-WALLED INFLUENT TANK.



CONCEPTUAL DESIGN

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J WILSON		VNSFS
B GARRETT		VNSFS
E LLOYD		VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY OVERALL PROCESS FLOW DIAGRAM

SIZE F | DWG NO VFS-EPM-000-DWG-P-110 | REV D

SCALE NONE | SHEET 1 OF 2

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	

NEXT USED ON

REVISIONS

DWG NO VFS-EPM-000-DWG-P-110 SH 1 OF 2 REV D

Stream #		1	2	3	4	5	6	7	8	12A	12B	13A	13B	14	15
	Description	WA IX Feed	BA1 IX Feed	WA Uranium Treatment Effluent to TK-102	WA Uranium Treatment Effluent to Injection Skid	BA1 Uranium Treatment Effluent to TK-102	BA1 Uranium Treatment Effluent to Injection Skid	Combined Outfall from TK-102	Uranium Treatment Hydrochloric Acid (36%)	WA Refilled Vessels	BA1 Refilled Vessels	WA Spent Uranium Treatment Vessels	BA1 Spent Uranium Treatment Vessels	Effluent for Backwashing	Filter Backflush
Parameter	Units														
Liquid Streams															
Flow	gpm	107	100	99	8	82	18	181	-	-	-	-	-	195.0	3.4 - 17.7
	gpd	-	-	-	-	-	-	-	35.3	-	-	-	-	-	-
Liquid Concentrations															
Uranium (total)	ppb	159	1215	0	0	0	0	0	-	-	-	-	-	0	-
Suspended Solids	ppm (dry)	5	5	0	0	0	0	5.7	-	-	-	-	-	0	306
Solid Streams															
Flow															
Unused IX Resin	cu ft/yr	-	-	-	-	-	-	-	-	117	331	-	-	-	-
Exhausted IX Resin	cu ft/yr	-	-	-	-	-	-	-	-	-	-	161	455	-	-

Stream table based on design conditions; actual conditions will vary over the course of remediation. Design conditions result in a higher usage than actually anticipated.

CONCEPTUAL DESIGN

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PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY OVERALL PROCESS FLOW DIAGRAM

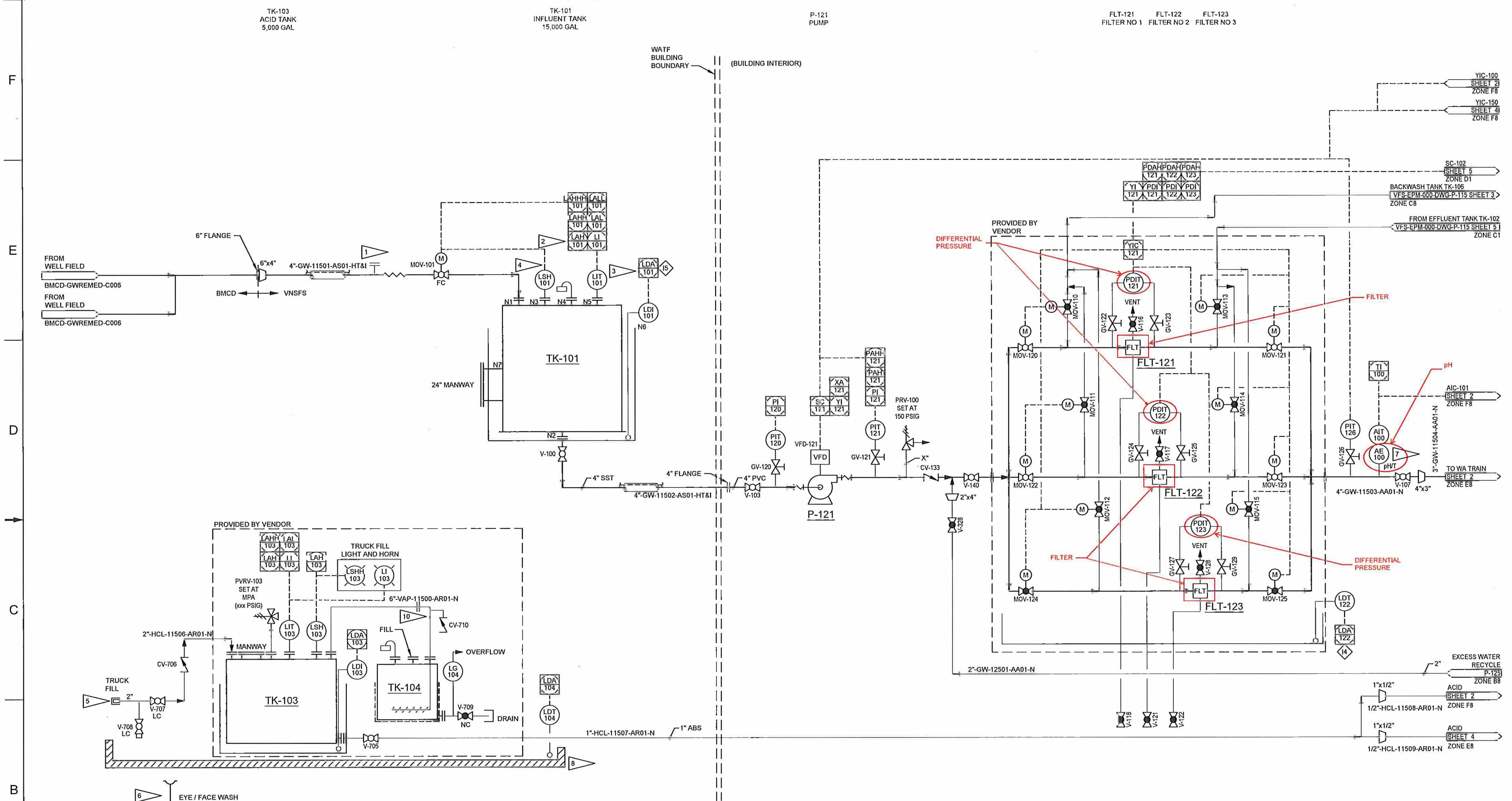
SIZE F | DWG NO VFS-EPM-000-DWG-P-110 | REV E
SCALE NONE | EDT | SHEET 2 OF 2

DWG NO VFS-EPM-000-DWG-P-110 | SH 2 OF 2 | REV E

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

MFD / REV REL	REV NO	DESCRIPTION	REV BY DATE			ENGR / COMPANY
		REVISIONS				



GENERAL NOTES:

1. ADDED FOR FUTURE SYSTEM BYPASS ONCE MCL IS ACHIEVED FOR URANIUM AND NITRATE.
2. HIGH ALARM SIGNAL SENT TO WELL FIELD HMI.
3. DETECTED LEAK (LDA-101) SHUT DOWN SIGNAL SENT TO WELL FIELD HMI.
4. STOP WELL-FIELD PUMPS.
5. TRUCK TO BE UNLOADED WITH 15 TO 20 PSIG PRESSURE (VIA AIR).
6. PORTABLE SAFETY EYEWASH REQUIRED DURING FILL.
7. pH PROBE CONNECTION VIA HOT TAP WITH ISOLATION VALVE.
8. CONCRETE BERM WITH EPOXY COAT.
9. CLEAR TUBING FOR OBSERVATION OF FILTER DRAINING.
10. PIPING RUN 6"-VAP-11500-AR01-N NOT IN VENDOR SCOPE.

INTERLOCK LIST:

11. LDA-100 : FCV-100 CLOSE, P-121 AND P-104 STOP
12. LDA-150 : FCV-150 CLOSE, P-130 AND P-154 STOP
13. LD-132 : P-130 STOP
14. LDA-122 : P-121 STOP
15. LDA-101 OR LSH-101 : MOV-101 CLOSE
16. LDA-103 OR LSH-103: MOV-103 CLOSE

CONCEPTUAL DESIGN
REVIEW AID

VEOLIA

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NAME
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D SMITH
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CIMARRON
PUMP AND TREAT SYSTEM PROJECT

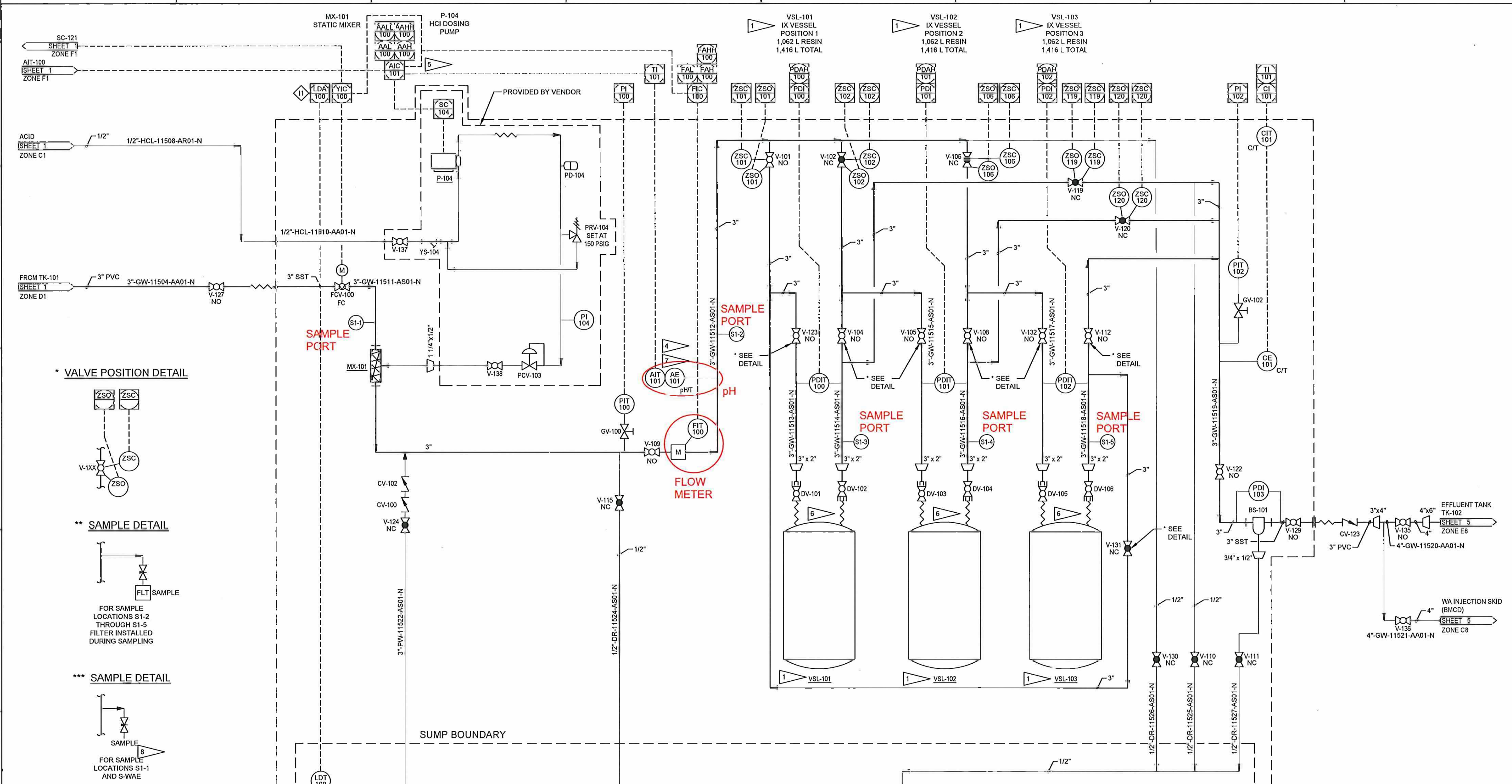
WESTERN AREA
P&ID
URANIUM IX TREATMENT

SIZE F DWG NO VFS-EPM-000-DWG-P-115 REV F
SCALE NONE SHEET 1 OF 5

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

REVISIONS



URANIUM IX WA TRAIN
ION EXCHANGE SKID

CONCEPTUAL DESIGN
REVIEW AID

GENERAL NOTES:

1. VSL-101, VSL-102, AND VSL-103 DESIGNATE THE PHYSICAL POSITION NOT THE SPECIFIC VESSEL. RESIN SWELLS DURING OPERATION. NORMAL VALVE ALIGNMENT CAN VARY BASED ON LEAD VESSEL. VALVE ALIGNMENT SHOWN IS FOR VSL-101 AS LEAD.
2. FLUSH WATER PORT. SEE DRAWING VFS-EPM-000-DWG-P-500.
3. NOT USED.
4. AE-101 TO BE LOCATED 2 TO 4 PIPE DIAMETERS DOWNSTREAM OF MX-101.
5. pH CONTROL IS FEED FORWARD WITH FEEDBACK TRIM. pH SETPOINT TO BE ADJUSTED BASED ON ACHIEVING A LCI = 0.
6. VENT, SLUICE, SPARGER, AND SAMPLE NOZZLES NOT SHOWN FOR CLARITY.
7. pH PROBE CONNECTION VIA HOT TAP WITH ISOLATION VALVE.
8. FILTER NOT PROVIDED TO ALLOW FOR TSS ANALYSIS.
9. SEE SHEET 1 FOR INTERLOCK LIST.

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CIMARRON
PUMP AND TREAT SYSTEM PROJECT

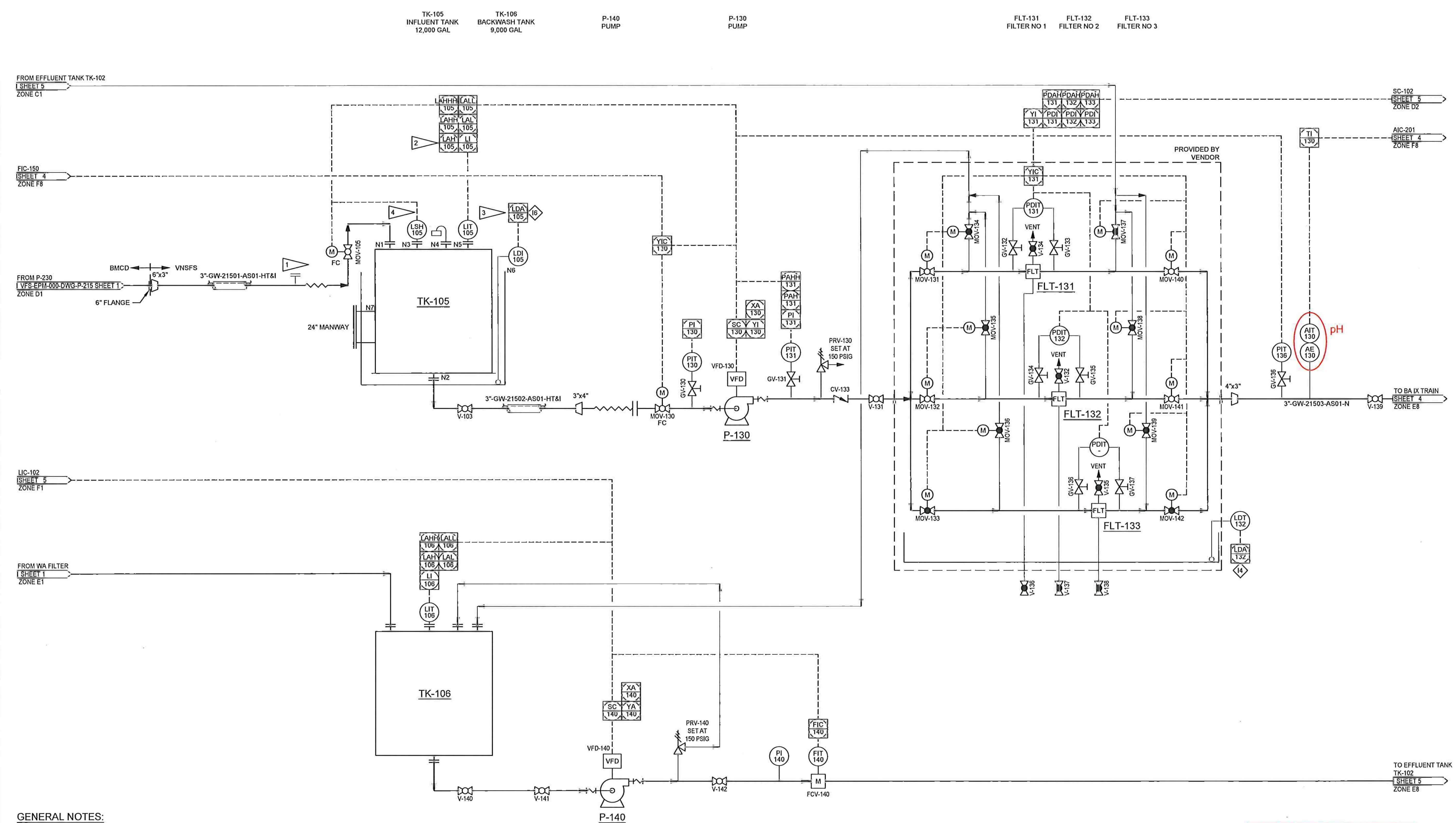
WESTERN AREA
P&ID
URANIUM IX TREATMENT

SIZE F DWG NO VFS-EPM-000-DWG-P-115 REV E
SCALE NONE SHEET 2 OF 5

DWG NO | TITLE
DRAWING TRACEABILITY LIST

REF NUMBER | TITLE
REFERENCES
NEXT USED ON

REVISIONS



GENERAL NOTES:

1. ADDED FOR FUTURE SYSTEM BYPASS ONCE MCL IS ACHIEVED FOR URANIUM.
2. HIGH ALARM SIGNAL SENT TO WELL FIELD HMI.
3. DETECTED LEAK (LDA-201) SHUT DOWN SIGNAL SENT TO WELL FIELD HMI.
4. STOP WELL FIELD PUMPS.
5. SEE DRAWING P-115 SHEET 1 FOR INTERLOCK LIST.

CONCEPTUAL DESIGN
REVIEW AID

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NAME	
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CIMARRON
PUMP AND TREAT SYSTEM PROJECT

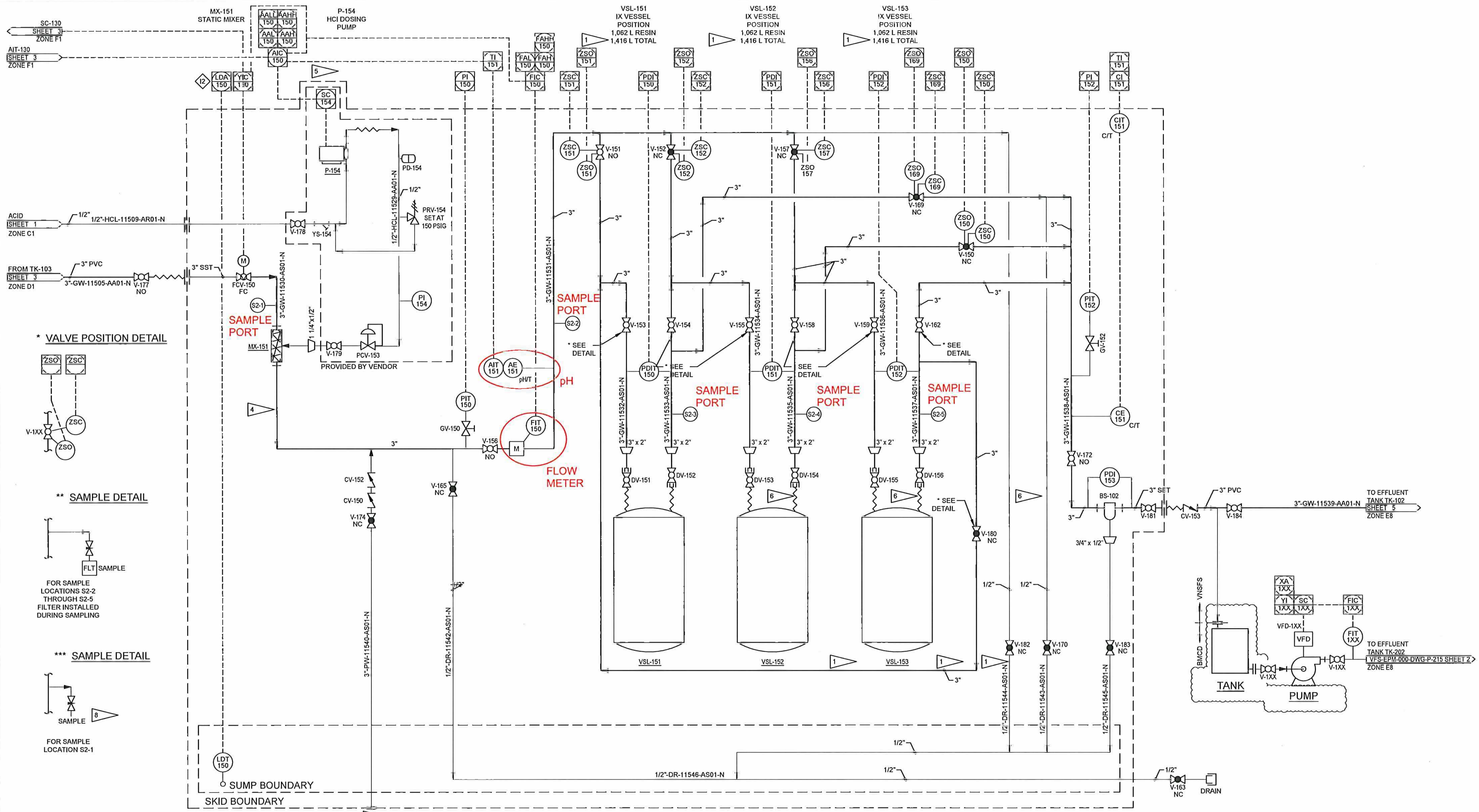
WATF
BURIAL AREA #1
PROCESS P&ID

DWG NO VFS-EPM-000-DWG-P-115 REV F
SCALE NONE SHEET 3 OF 5

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	

NEXT USED ON

REVISIONS



URANIUM IX BA1 TRAIN
ION EXCHANGE SKID

GENERAL NOTES:

1. VSL-151, VSL-152, AND VSL-153 DESIGNATE THE PHYSICAL POSITION NOT THE SPECIFIC VESSEL. RESIN SWELLS UPON LOADING WITH URANIUM. NORMAL VALVE ALIGNMENT CAN VARY BASED ON LEAD VESSEL. VALVE ALIGNMENT SHOWN IS FOR VSL-151 AS LEAD.
2. FLUSH WATER PORT, SEE DRAWING VFS-EPM-000-DWG-P-500.
3. NOT USED.
4. AE-151 TO BE LOCATED 2 TO 4 PIPE DIAMETERS DOWNSTREAM OF MX-151.
5. pH CONTROL IS FEED FORWARD WITH FEEDBACK TRIM, pH SETPOINT TO BE ADJUSTED BASED ON ACHIEVING AN LCI = 0.
6. VENT, SLUICE, SPARGER, AND SAMPLE NOZZLES NOT SHOWN FOR CLARITY.
7. NOT USED.
8. FILTER NOT PROVIDED TO ALLOW FOR TSS ANALYSIS.
9. SEE SHEET 1 FOR INTERLOCK LIST.

CONCEPTUAL DESIGN REVIEW AID

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CIMARRON
PUMP AND TREAT SYSTEM PROJECT

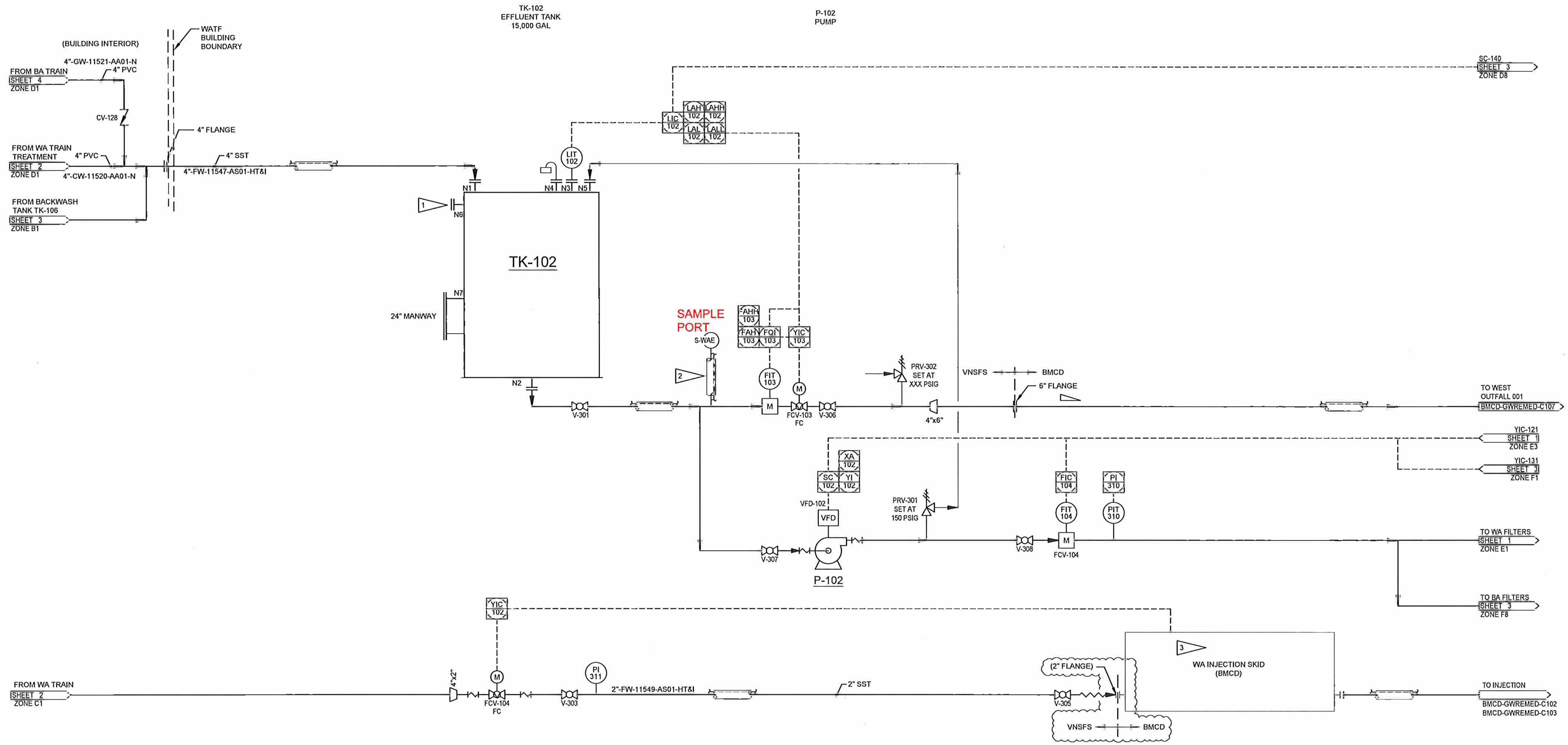
WATF
BURIAL AREA #1 P&ID
URANIUM IX TREATMENT

SIZE	DWG NO	REV
F	VFS-EPM-000-DWG-P-115	C

SCALE NONE — SHEET 4 OF 5

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REVISIONS



GENERAL NOTES:

1. SEE FLAG NOTE 1 ON SHEET 1.
2. SEE SHEET 2 FOR *** SAMPLE DETAIL.
3. FLOW METER SIGNAL FROM BMCD INJECTION SKID SENT FOR IX HMI TO CONTROL FCV-104.
4. SEE SHEET 1 FOR INTERLOCK LIST.

CONCEPTUAL DESIGN
REVIEW AID

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J WILSON	VNSFS
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E LLOYD	VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT
WESTERN AREA
P&ID
URANIUM IX TREATMENT

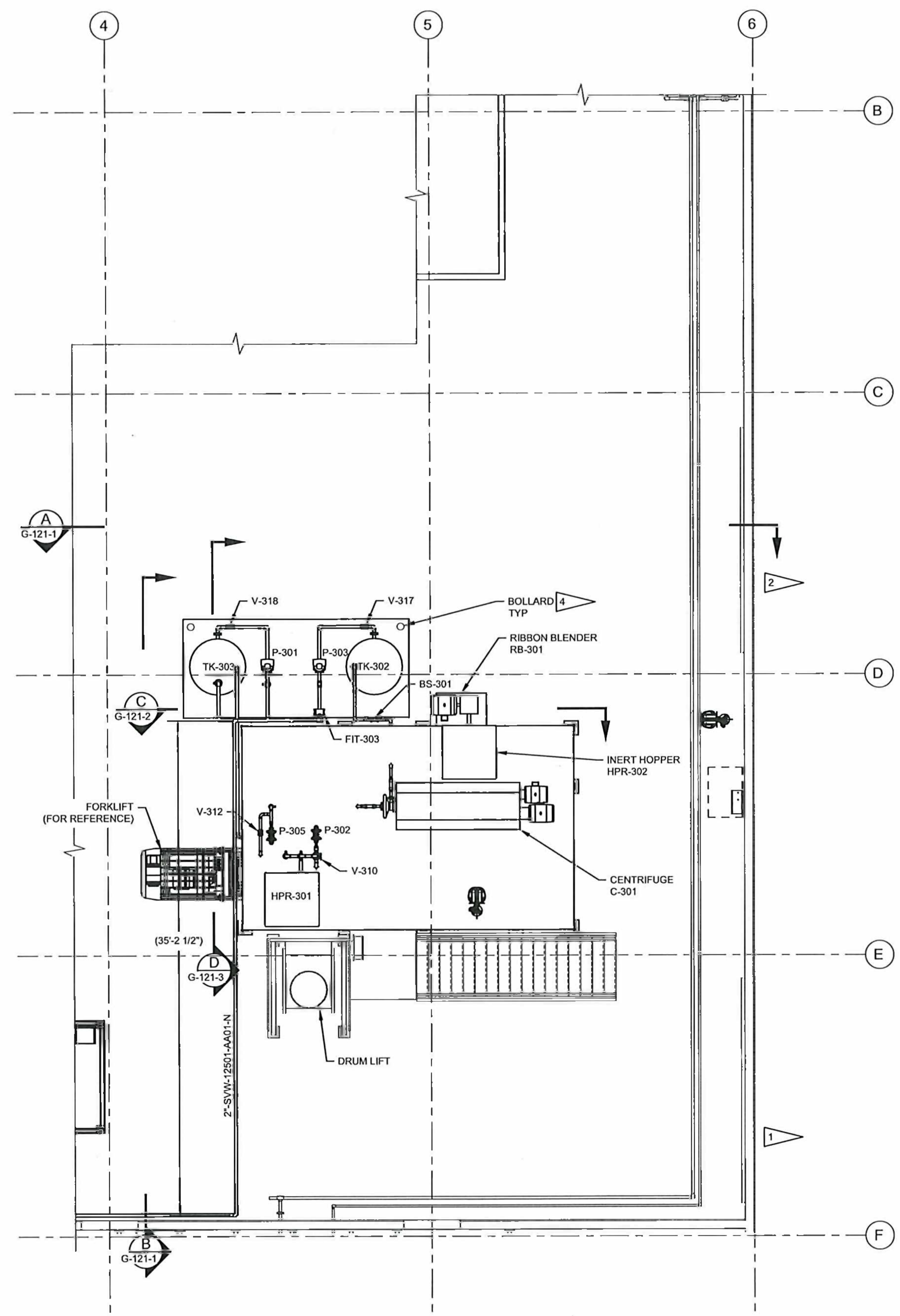
SIZE F | DWG NO VFS-EPM-000-DWG-P-115 | REV C
SCALE NONE | SHEET 5 OF 5

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
NEXT USED ON		REVISIONS	

DWG NO VFS-EPM-000-DWG-P-115 SH 5 OF 5 REV C

GENERAL NOTES:

1. ACCESS FOR CLEAN BULK MATERIAL DELIVERIES.
2. ACCESS FOR SPENT RESIN.
3. FOR PIPE SUPPORT DETAILS SEE DRAWING VFS-EPM-000-DWG-S-115. INSTALL PER SPECIFICATION SECTION 22 05 29 - HANGERS AND SUPPORTS FOR PIPING AND EQUIPMENT.
4. SEE BOLLARD DETAIL 3, ON SHEET 1, DRAWING VFS-EPM-000-DWG-C-150.



SPENT RESIN HANDLING - PLAN

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

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

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

REVISIONS

CONCEPTUAL DESIGN

VEOLIA NUCLEAR SOLUTIONS
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DRAFTING CHECKER J PIERCE	VNSFS
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PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY GEN. ARRANGEMENT SPENT RESIN HANDLING

SIZE F | DWG NO VFS-EPM-000-DWG-G-120 | REV C

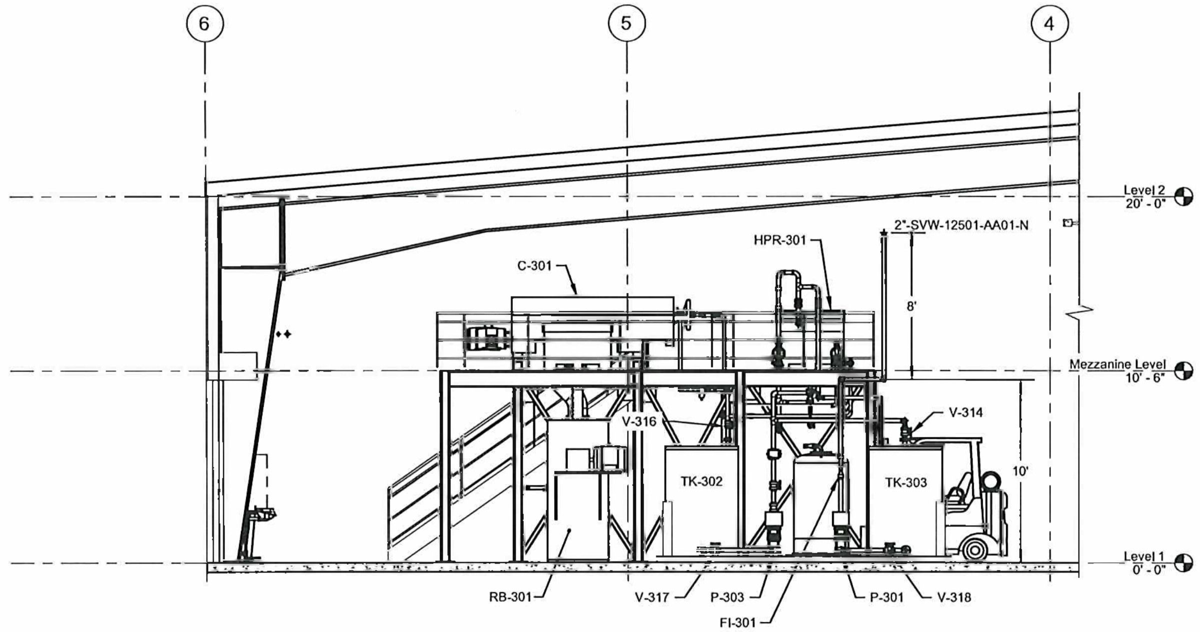
SCALE SHOWN | SHEET 1 OF 1

DWG NO VFS-EPM-000-DWG-G-120 | SH 1 OF 1 | REV C

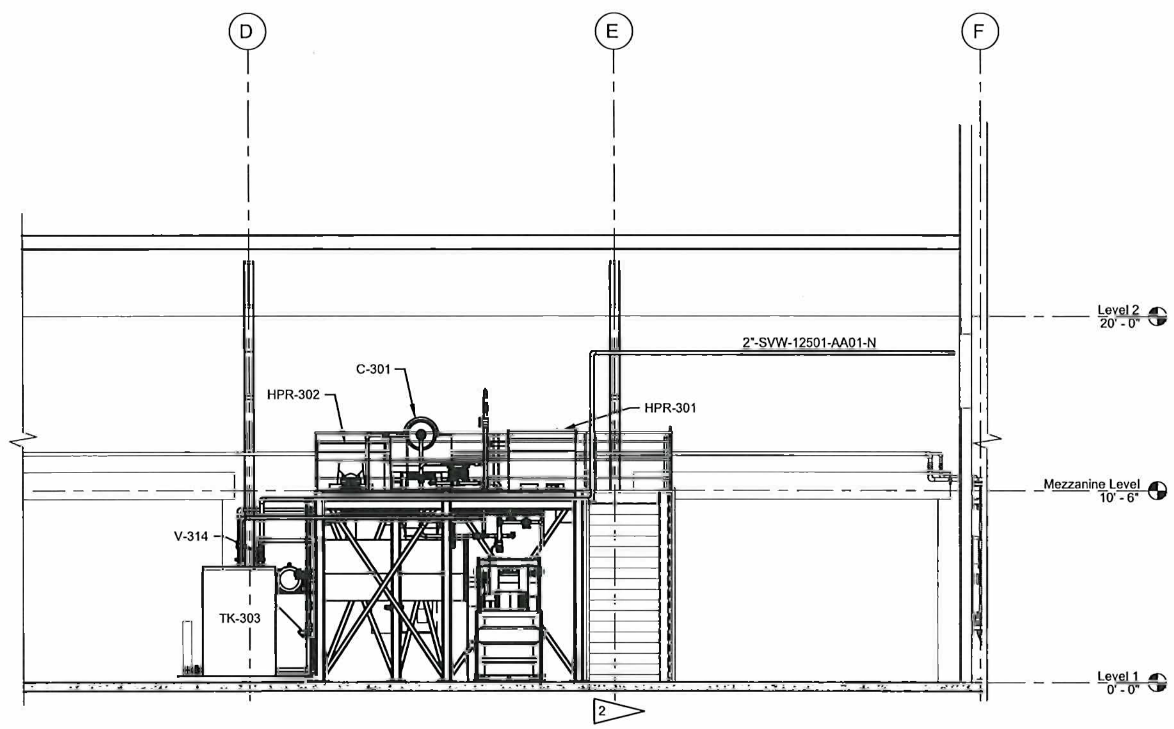
GENERAL NOTES:

1. FOR PIPE SUPPORT DETAILS SEE DRAWING VFS-EPM-000-DWG-S-115. INSTALL PER SPECIFICATION SECTION 22 05 29 - HANGERS AND SUPPORTS FOR PIPING AND EQUIPMENT.

2 DRUM LIFT NOT SHOWN.



A SECTION
G-120 SCALE: 1/4"=1'-0"



B SECTION
G-120 SCALE: 1/4"=1'-0"

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

CONCEPTUAL DESIGN

VEOLIA

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NAME	DATE
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E LLOYD	
J PIERCE	
J WILSON	
E LLOYD	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATEMENT FACILITY SPENT RESIN HANDLING SECTIONS

SIZE F DWG NO VFS-EPM-000-DWG-G-121 REV D

SCALE AS SHOWN SHEET 1 OF 3

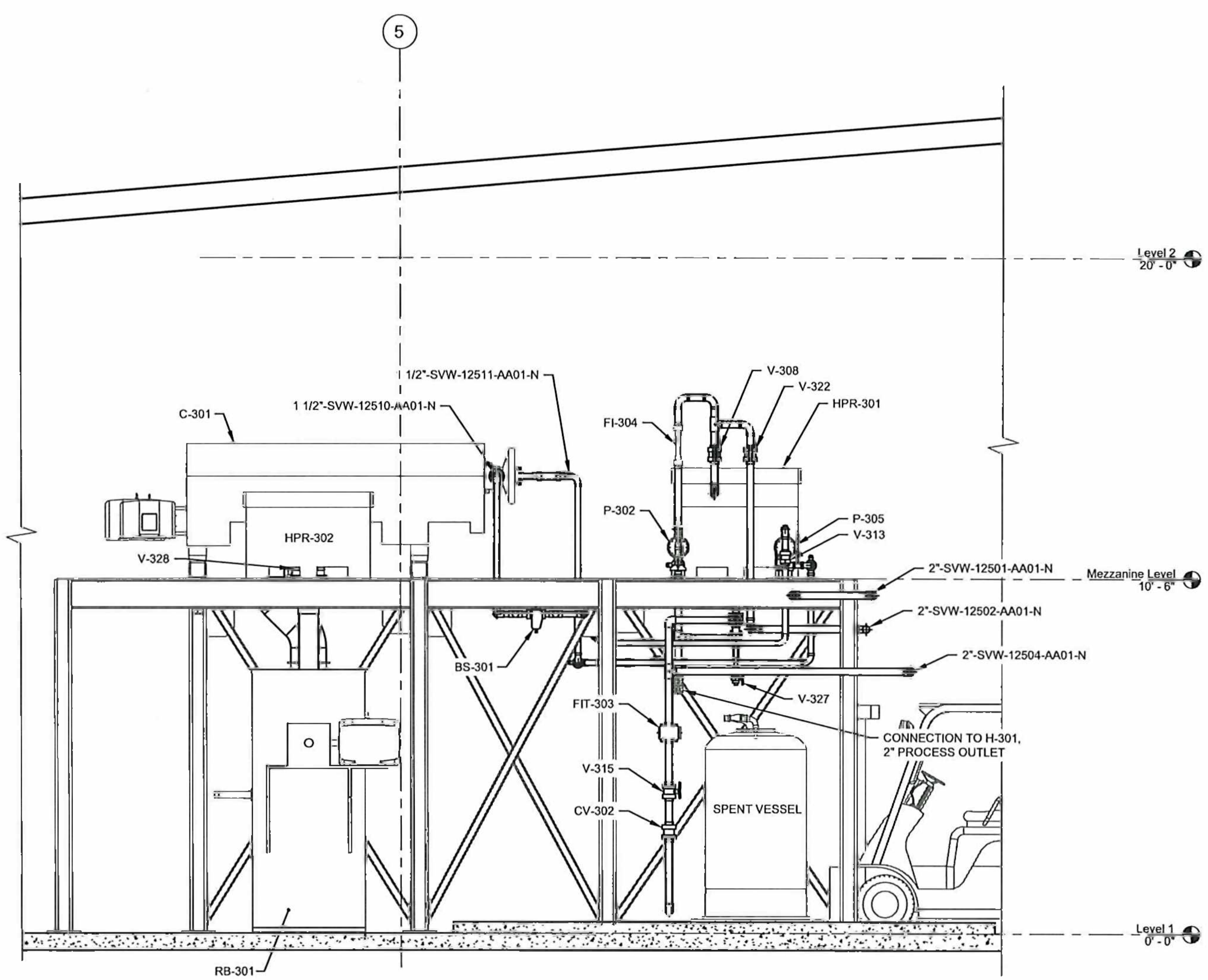
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

REVISIONS

DWG NO VFS-EPM-000-DWG-G-121 SH 1 OF 3 REV D

NOTES:

1. SEE DRAWING SHEET 1 FOR GENERAL NOTES.



MEZZANINE RAILS NOT SHOWN FOR CLARITY

C SECTION
G-120-1 SCALE: 1/2"=1'-0"

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

CONCEPTUAL DESIGN

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PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATEMENT FACILITY SPENT RESIN HANDLING SECTIONS

SIZE F DWG NO VFS-EPM-000-DWG-G-121 REV B
SCALE AS SHOWN SHEET 2 OF 3

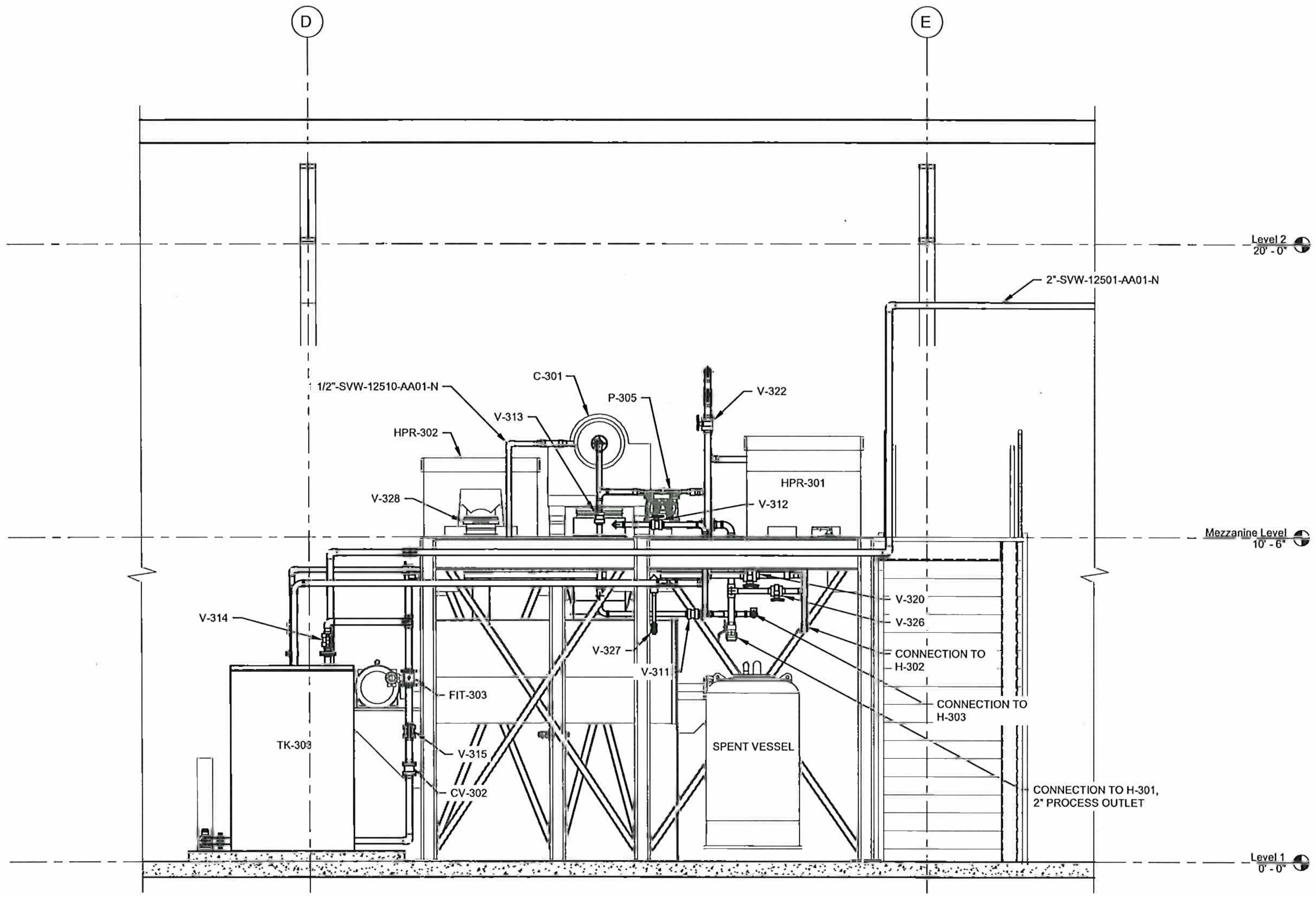
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REVISIONS

DWG NO VFS-EPM-000-DWG-G-121 SH 2 OF 3 REV B

NOTES:

1. SEE DRAWING SHEET 1 FOR GENERAL NOTES.



MEZZANINE RAILS, DRUM LIFT, AND FORKLIFT NOT SHOWN FOR CLARITY

D SECTION
G-120-1 SCALE: 1/2"=1'-0"

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

CONCEPTUAL DESIGN

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PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATEMENT FACILITY SPENT RESIN HANDLING SECTIONS

SIZE F DWG NO VFS-EPM-000-DWG-G-121 REV B

SCALE AS SHOWN SHEET 3 OF 3

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REVISIONS

DWG NO VFS-EPM-000-DWG-G-121 SH 3 OF 3 REV B

LINES:

- PRIMARY PIPING
- INSTRUMENTATION OR OTHER PIPING
- TANKS/PITS/BUILDINGS
- ELECTRICAL POWER OR SIGNAL
- SKID BOUNDARY
- DATA LINK
- FLEX HOSE
- PROCESS BOUNDARY
- OPERATIONAL FLOW

INSTRUMENT SYMBOLS:

XXX XXX — COMPUTER DIALOG/CONTROL FIELD LOCATED

IDENTIFICATION NUMBER — XX XXX — INSTRUMENT IDENTIFICATION (SEE INSTRUMENT IDENTIFICATION TABLE)

MAIN SHARED CONTROL OR DISPLAY

ELECTRICAL OR CONTROL SIGNAL — XX XXX — INSTRUMENT IDENTIFICATION (SEE INSTRUMENT IDENTIFICATION TABLE)

IDENTIFICATION NUMBER — LOCAL MOUNTED INSTRUMENT

DRAWING CONTINUATION ARROW:

XXX — DRAWING CONTINUATION ARROW USED ONLY FOR LINES ENTERING OR LEAVING THE FACE OF THE DRAWING

CONTINUATION DRAWING AND/OR SHEET NUMBER

ABBREVIATIONS:

B	POSITIVE DISPLACEMENT BLOWER
BA	BURIAL AREA
BMCD	BURNS & MCDONNELL
BS	BASKET STRAINER
C	CENTRIFUGE
CMPR	COMPRESSOR
CS	CARBON STEEL
CV	CHECK VALVE
DV	DISCONNECT VALVE
DOE	DEPARTMENT OF ENERGY
FL	FAIL LOCKED
FC	FAIL CLOSE
FDR	SOLIDS FEEDER
FH	FLEX HOSE
FLT	FILTER
FO	FAIL OPEN
GV	GAUGE VALVE
GPD	GALLONS PER DAY
H	INTERCONNECTING HOSE
HPR	HOPPER
IX	ION EXCHANGE
LC	LOCKED CLOSED
LO	LOCKED OPEN
MCL	MAXIMUM CONTAMINANT LEVEL
MOV	MOTOR OPERATED VALVE
MVD	MANUAL VALVE DOUBLE
MPa	MEGA-PASCALS
NC	NORMALLY CLOSED
NO	NORMALLY OPENED
P	PUMP
P&ID	PIPING AND INSTRUMENTATION DIAGRAM
PRV	PRESSURE RELIEF VALVE
PSE	PRESSURE SAFETY ELEMENT
PVC	POLYVINYL CHLORIDE
RB	RIBBON BLENDER
S	SAMPLE PORT
T/TK	TANK
V	VALVE
VFD	VARIABLE FREQUENCY DRIVE
VNSFS	VEOLIA NUCLEAR SOLUTIONS FEDERAL SERVICES
VSL	VESSEL/ ION EXCHANGE VESSEL
WA	WESTERN AREA
W/AA	WESTERN ALLUVIAL AREA
WATF	WESTERN AREA TREATMENT FACILITY
YS	WYE STRAINER

PIPING/EQUIPMENT:

- BALL VALVE
- BALL VALVE
- V-PORT BALL VALVE
- GATE VALVE
- PINCH VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- SLIDE VALVE
- M — MAGNETIC FLOW METER
- FLT — FILTER
- VFD — VARIABLE FREQUENCY DRIVE
- S — GRAB SAMPLE
- SAMPLE PORT
- M — MOTOR
- PRESSURE OR VACUUM RELIEF
- QUICK CONNECT
- HOSE CONNECTION
- PIPE CAP
- PIPE FLANGE
- PIPE REDUCER
- DRY DISCONNECT WITH SHUTOFF
- FULL PORT DRY DISCONNECT
- M — ROTARY VALVE
- EDUCTOR
- BASKET STRAINER
- WYE STRAINER
- S — IN-LINE SILENCER
- IN-LINE MIXER
- MECHANICAL VIBRATOR
- NEEDLE VALVE
- GAUGE VALVE
- M — MOTOR OPERATED VALVE
- PRESSURE CONTROL VALVE
- BACK-PRESSURE VALVE
- XXX — FLOW CONTROL VALVE
- XXX — ROTAMETER
- AIR GAP
- PRESSURE RELIEF VALVE
- UNION
- COMBINATION VACUUM AND PRESSURE REFIEF VALVE
- TANK VENT
- TANK VENT WITH BIRD / INSECT SCREEN
- CENTRIFUGAL PUMP
- PERISTALTIC PUMP
- DIAPHRAGM PUMP
- METERING PUMP
- POSITIVE DISPLACEMENT BLOWER
- SPARGE VESSEL
- TANK
- HOPPER
- M — RIBBON BLENDER
- SACK UNLOADER
- SCROLLING CENTRIFUGE
- SOLIDS DRUM
- AIR COMPRESSOR
- SAFETY SHOWER
- EYE / FACE WASH
- PULSATION DAMPENER
- INSULATION WITH HEAT TRACE
- HOSE BIB
- VACUUM RELIEF VALVE
- X — STREAM NUMBER
- SCREW CONVEYOR
- AUTOMATIC DRAIN VALVE
- REFRIGERATED AIR DRYER
- HOPPER
- OIL / WATER SEPARATOR
- WET / DRY AIR RECEIVER

LINE NUMBERING:

TAG SEQUENCE NUMBER: (BASED ON P&ID NUMBER)
LINE SERVICE CODE:
PIPE SIZE:
PIPING CLASS CODE:
INSULATION CODE:
1-BRS-10000-AS01-HT&I

LINE SERVICE CODES:

CA	COMPRESSED AIR
DR	DRAIN
FW	FILTERED WATER
GW	GROUNDWATER
HCL	HYDROCHLORIC ACID (37%)
IA	INSTRUMENT AIR
POTW	POTABLE WATER
RV	RELIEF VENT
SVW	SERVICE WATER
VAP	VAPOR
WW	WASTE WATER
WWO	WASH/WASTE OIL

PIPING CLASS CODES:

1ST CHARACTER - NOMINAL PRESSURE RATING
A - CLASS 150
B - CLASS 300
C - CLASS 600
D - CLASS 900
E - CLASS 1500
F - CLASS 125

2ND CHARACTER - GENERAL MATERIAL TYPE
A - PVC
B - CPVC
D - ALLOY 20
E - HASTELLOW
F - FRP
G - GALVANIZED STEEL
H - HDPE
J - POLYPROPYLENE
K - PVDF (KYNAR)
L - LINED CARBON STEEL
M - MONEL
N - DOUBLE CONTAINED (PTFE/CPVC)
P - PVC OR CPVC
R - ABS
S - STAINLESS STEEL
T - ALUMINUM

3RD AND 4TH CHARACTERS - SEQUENTIAL NUMBERING
- SEQUENTIAL TWO DIGIT NUMBER DISTINCT FOR AN INDIVIDUAL PIPE MATERIAL CLASS

5TH CHARACTER - MODIFIER
x - DESIGNATOR INDICATING MODIFICATION

NOTE: NOT NORMALLY USED IN THE PIPE MATERIAL CLASS NAME. USED ONLY WHEN A PARTICULAR PIPE MATERIAL CLASS REQUIRES MODIFICATION TO SATISFY PROJECT SPECIFIC REQUIREMENTS, EITHER DOE TO CLIENT SPECIFICATIONS AND / OR SPECIAL PROJECT REQUIREMENTS. IN THIS INSTANCE THE PIPE MATERIAL CLASSIFICATION SHALL BE MARKED WITH THE PROJECT OR TENDER NUMBER AND USED ONLY FOR THE APPLICABLE PROJECT OF TENDER.

EXAMPLE:
150# CLASS, CARBON STEEL, 2ND CARBON STEEL PIPE MATERIAL CLASS WITH 150# CLASS AC02-DESIGNATION

INSULATION CODE:

HT&I	HEAT TRACE AND INSULATE
IAC	INSULATION ACCOUSTIC
IC	INSULATION COLD
IH	INSULATION HOT
IS	INSULATION SAFETY
N	NONE

INSTRUMENT IDENTIFICATION (ISA 5.1 R2009)

	FIRST-LETTER		SUCCEEDING-LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	CONDUCTIVITY			CONTROL	CLOSE
D	USER'S CHOICE	DIFFERENTIAL	DETECTOR		DEVIATION
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW, FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER		SCAN		
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	USER'S CHOICE				MIDDLE, INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		OPEN
P	PRESSURE, VACUUM		POINT (TEST CONNECTION)		
Q	QUANTITY	INTEGRATE, TOTALIZE	INTEGRATE, TOTALIZE		
R	RADIATION		RECORD		RUN
S	SPEED, FREQUENCY	SAFETY		SWITCH	STOP
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL, PROBE		
X	UNCLASSIFIED	X AXIS	TROUBLE	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED	

NOTES:

1. LD IS USED TO DESIGNATE LEAK DETECTION INSTRUMENT.

CONCEPTUAL DESIGN

VEOLIA

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NAME	DATE / COMPANY
DRAWN BY S MOORE	10/25/21 VNSFS
DRAFTING CHECKER V DAVISON	VNSFS
ENGINEER J WILSON	VNSFS
ENGINEER CHECKER D SMITH	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

PROCESS
SYMBOLS, NOTES, AND ABBREVIATIONS

SIZE F | DWG NO VFS-EPM-000-DWG-P-001 | REV B
SCALE NONE | EDIT | SHEET 1 OF 1

DWG NO VFS-EPM-000-DWG-P-001 | SH 1 OF 1 | REV B

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

REV NO | DESCRIPTION | REV BY DATE | ENGR COMPANY
REVISIONS

GENERAL NOTES:

1. SPARE, FILLED VESSELS WILL BE AVAILABLE AND CHANGED OUT SO PROCESS CAN CONTINUE TO OPERATE QUICKLY.
2. VESSEL HUB ASSEMBLY AND RETENTION SCREENS.

SLUICE AND REFILL HOSE CONFIGURATION:

(A) SLUICE NOZZLE INLET:

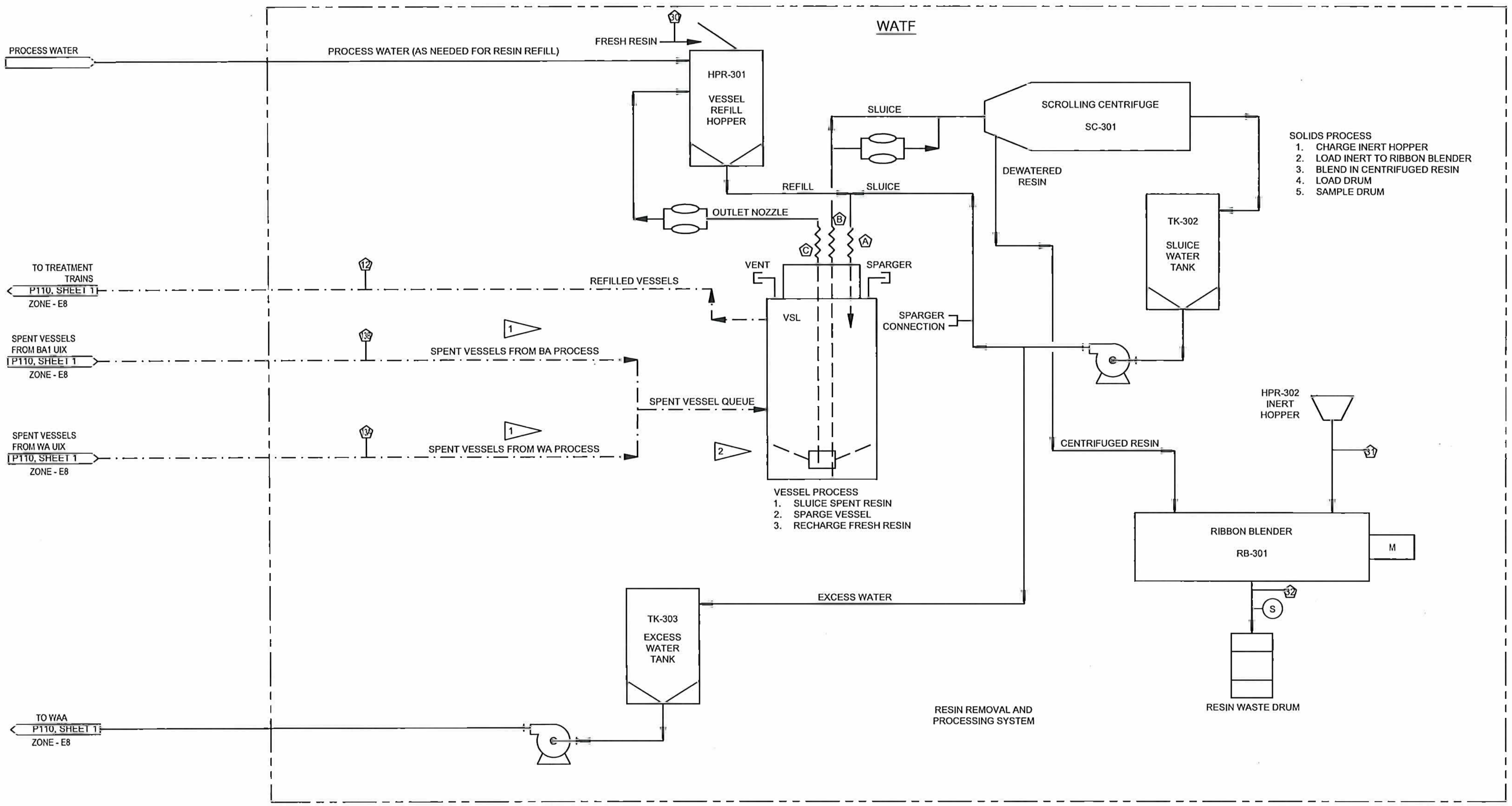
HOSE "A" CONNECTED FOR SLUICING AND FOR RESIN REFILL.

(B) SLUICE NOZZLE OUTLET:

HOSE "B" CONNECTED FOR SLUICING.

(C) WATER OUTLET:

HOSE "C" CONNECTED FOR WATER REMOVAL.



CONCEPTUAL DESIGN

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D SMITH	VNSFS
J WILSON	VNSFS
E LLOYD	VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY RESIN HANDLING PROCESS FLOW DIAGRAM

SIZE	DWG NO	REV
F	VFS-EPM-000-DWG-P-111	D

SCALE NONE SHEET 1 OF 2

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REVISIONS

DWG NO VFS-EPM-000-DWG-P111 SH 1 OF 2 REV D

	Stream #	30	31	32
	Description	Fresh Resin (Unused)	Inert	Packaged Resin
Parameter	**Units**			
Solid Streams				
Flow				
Unused IX Resin	cu ft/yr	449	-	-
Exhausted IX Resin	cu ft/yr	-	-	-
Inert	cu ft/yr		44.9	
Packaged Exhaust IX Resin	cu ft/yr	-	-	617

Stream table based on design conditions; actual conditions will vary over the course of remediation. Design conditions result in a higher usage than actually anticipated.

CONCEPTUAL DESIGN

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ENGINEER: J WILSON	VNFS
ENGINEER CHECKER: B GARRETT	VNFS
PROJECT MANAGER: E LLOYD	VNFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY RESIN HANDLING PROCESS FLOW DIAGRAM

SIZE F | DWG NO VFS-EPM-000-DWG-P-111 | REV E

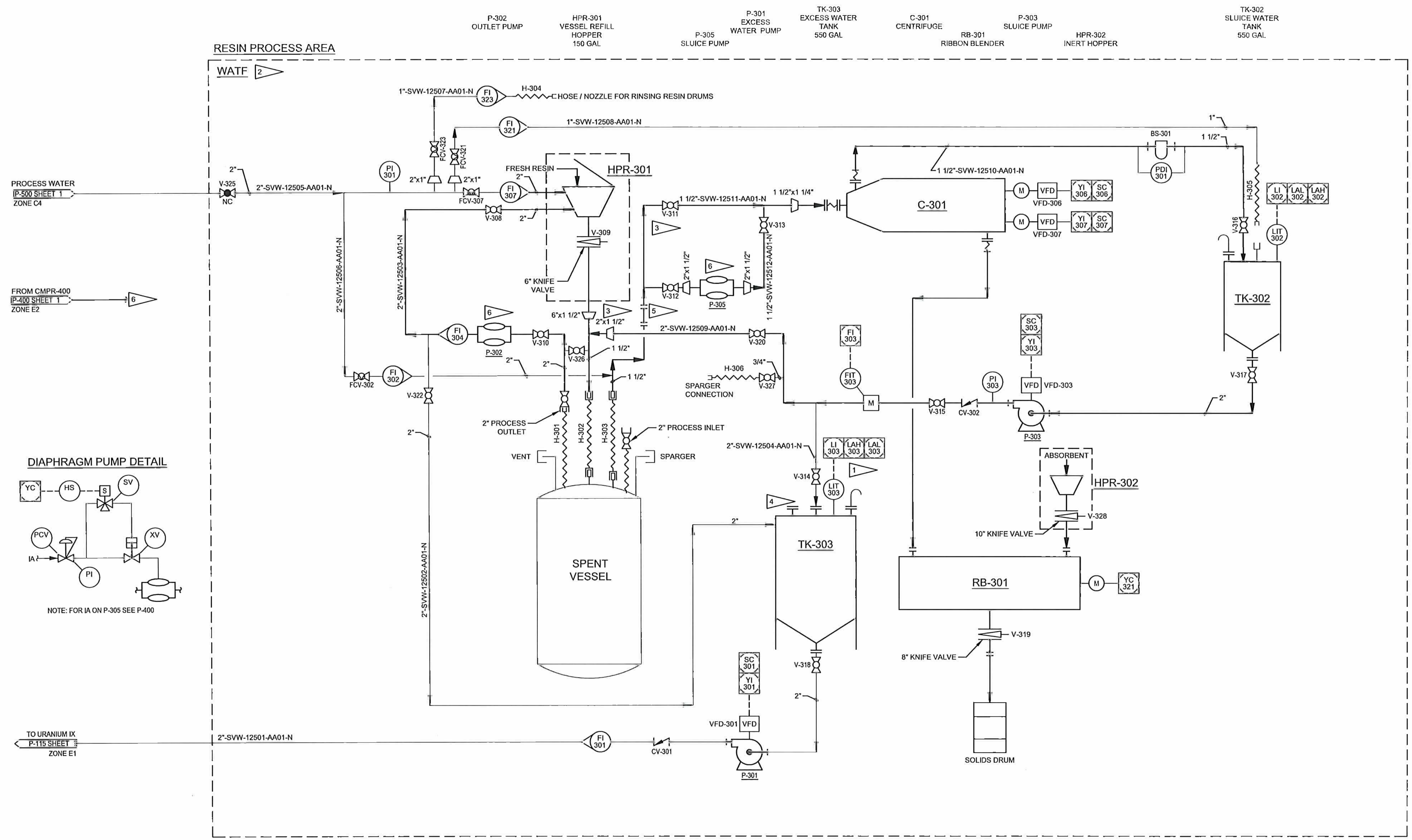
SCALE NONE | EDT | SHEET 2 OF 2

DWG NO VFS-EPM-000-DWG-P-111 | SH 2 OF 2 | REV E

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

VFD	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS				



GENERAL NOTES:

1. HIGH ALARM PUMP OUT TK-303 (OPERATOR ACTION).
2. OPERATIONS IN THE RESIN PROCESS AREA ARE CONTROLLED LOCALLY.
3. LONG RADIUS FITTINGS TO BE USED FOR LINES CARRYING RESIN.
4. PORT FOR MANUAL ADDITION OF SAMPLE PURGE WATER.
5. ADD CLEAR SECTION TO PIPE WORK FOR OBSERVATION OF SLUICING PROCESS.
6. REFER TO DIAPHRAGM PUMP DETAIL FOR INSTRUMENT AIR SUPPLY TO P-302 AND P-305.

CONCEPTUAL DESIGN

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CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY P&ID
SPENT RESIN HANDLING

SIZE F | DWG NO VFS-EPM-000-DWG-P-125 | REV D
SCALE NONE | SHEET 1 OF 1

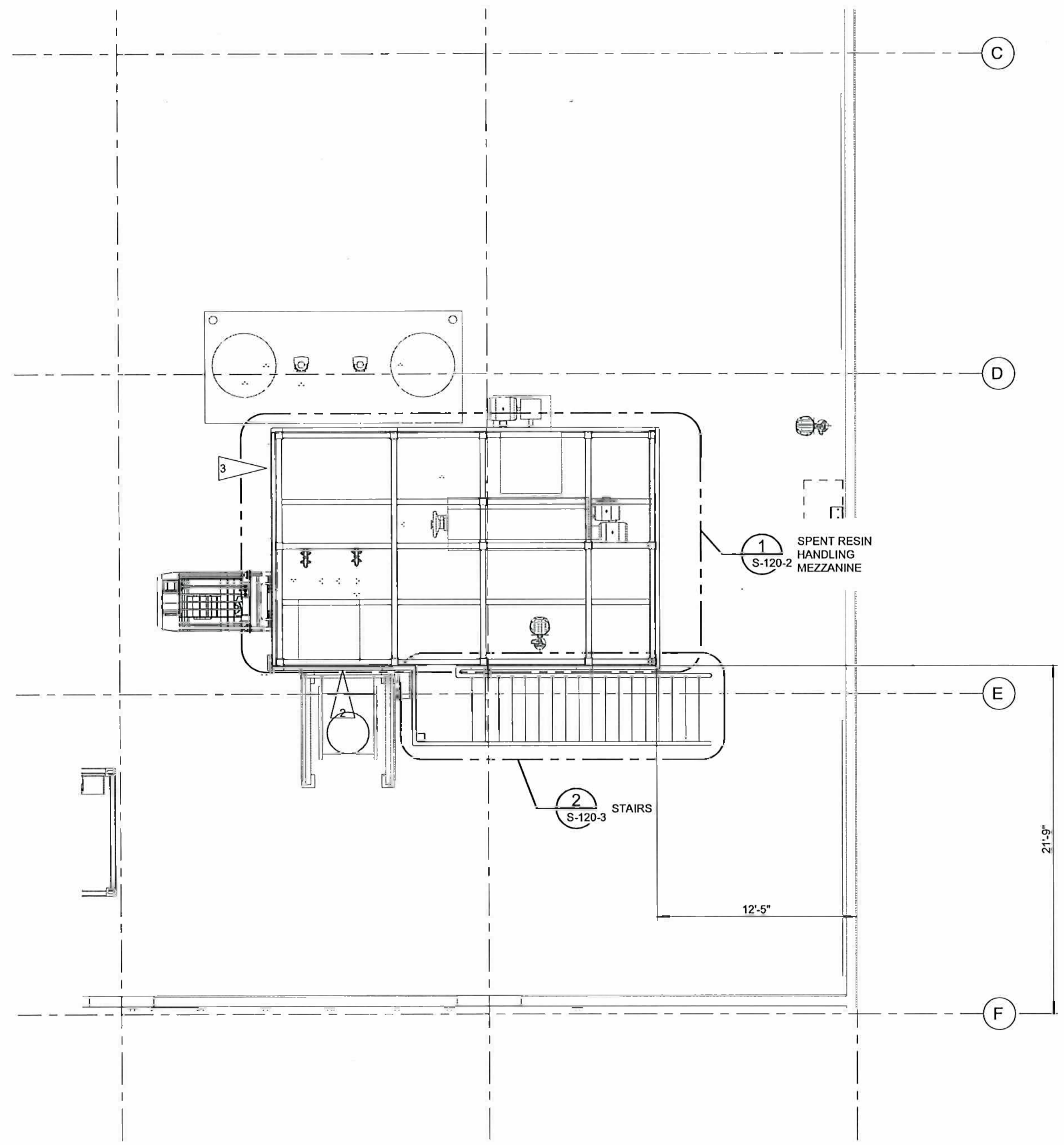
DWG NO | TITLE — DRAWING TRACEABILITY LIST
REF NUMBER | TITLE — REFERENCES
NEXT USED ON
REVISIONS

NOTES:

1. SEE VFS-EPM-000-DWG-S-101 FOR NOTES, ABBREVIATIONS AND SCHEDULE.

2 REMOVABLE RAILING SECTION FOR DRUM DUMPER OPERATION.

3 REMOVABLE RAILING FOR FORK LIFT/PALLET PLACEMENT.



MEZZANINE - PLAN

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

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

CONCEPTUAL DESIGN

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ENGINEER D NELSON	WDG
ENGINEER CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FACILITY SPENT RESIN HANDLING MEZZANINE - PLAN

SIZE F | DWG NO VFS-EPM-000-DWG-S-120 | REV B
SCALE SHOWN | EDT | SHEET 1 OF 5

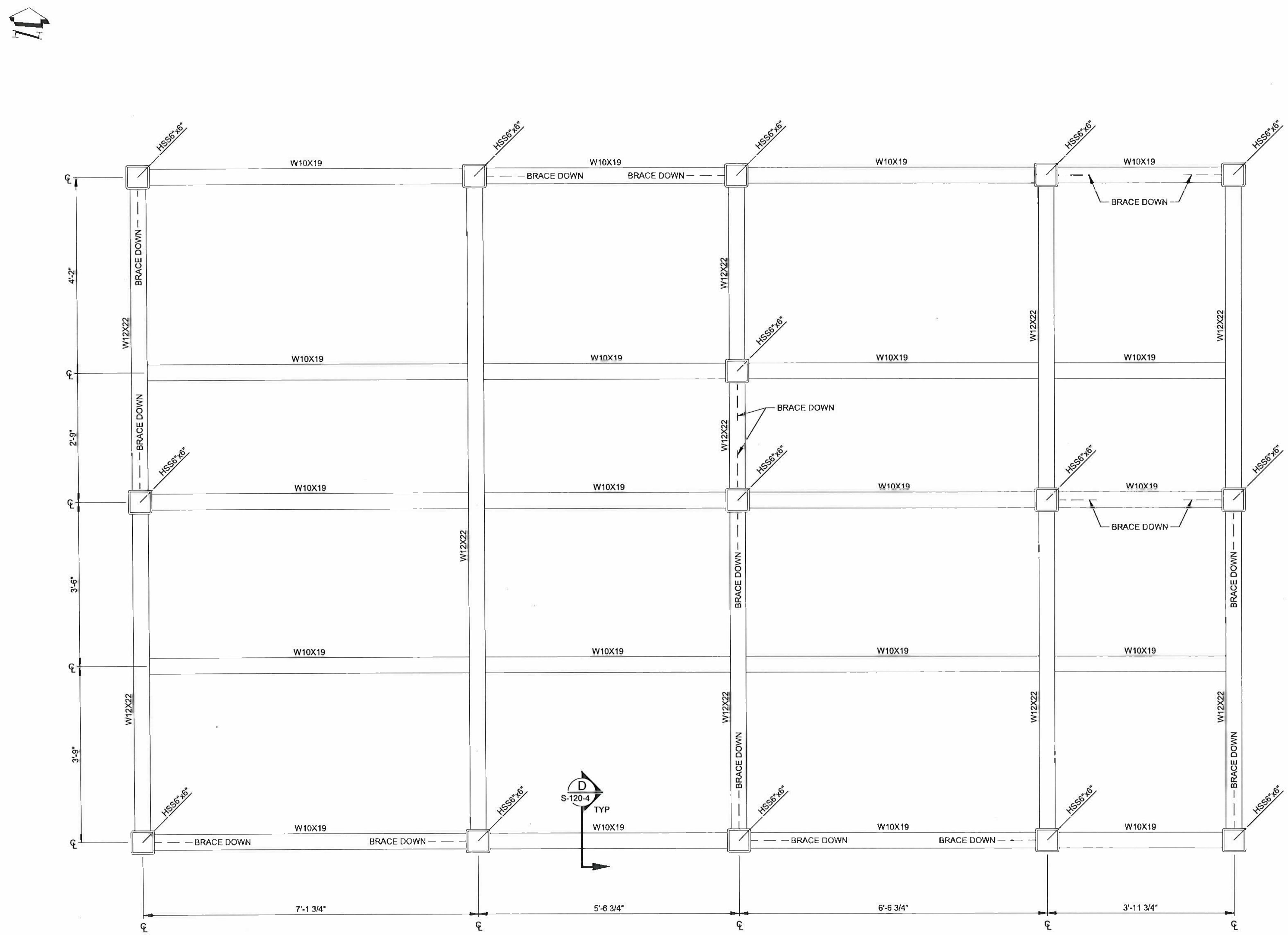
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

REVISIONS: REV NO | DESCRIPTION | REV BY DATE | ENGR / COMPANY

DWG NO VFS-EPM-000-DWG-S-120 SH 1 OF 5 REV B

NOTES:

1. SEE VFS-EPM-000-DWG-S-101 FOR NOTES, ABBREVIATIONS AND SCHEDULE.
2. SEE VFS-EPM-000-DWG-S-110-1 FOR BASE PLATE LOCATIONS.
3. ALL BRACES ARE L3x3x1/4. SEE DETAILS ON SH 5 FOR ANGLE.
4. SEE SHEET 5 FOR ALL CONNECTION DETAILS.
5. SEE SHEET 1 FOR REMOVABLE GUARDRAILS.



1 S-120-1 MEZZANINE FRAMING DETAIL (TOS +10'-6")
SCALE: 1"=1'-0"

1" = 1'-0" 0' 6" 1' 2' 3' SCALE FEET

DWG NO	TITLE	REF NUMBER	TITLE
		REFERENCES	
DRAWING TRACEABILITY LIST		NEXT USED ON	

REVISIONS

CONCEPTUAL DESIGN

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ENGINEER D NELSON	WDG
ENGINEER CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

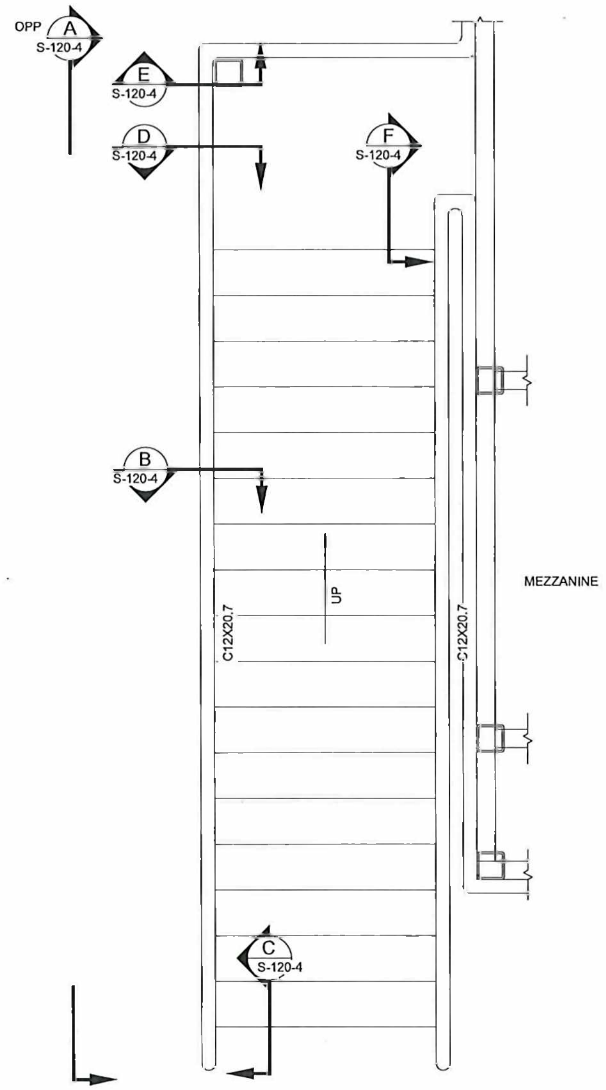
WESTERN AREA TREATMENT FAC. SPENT RESIN HANDLING MEZZANINE - FRAMING

SIZE F | DWG NO VFS-EMP-000-DWG-S-120 | REV B
SCALE SHOWN | SHEET 2 OF 5

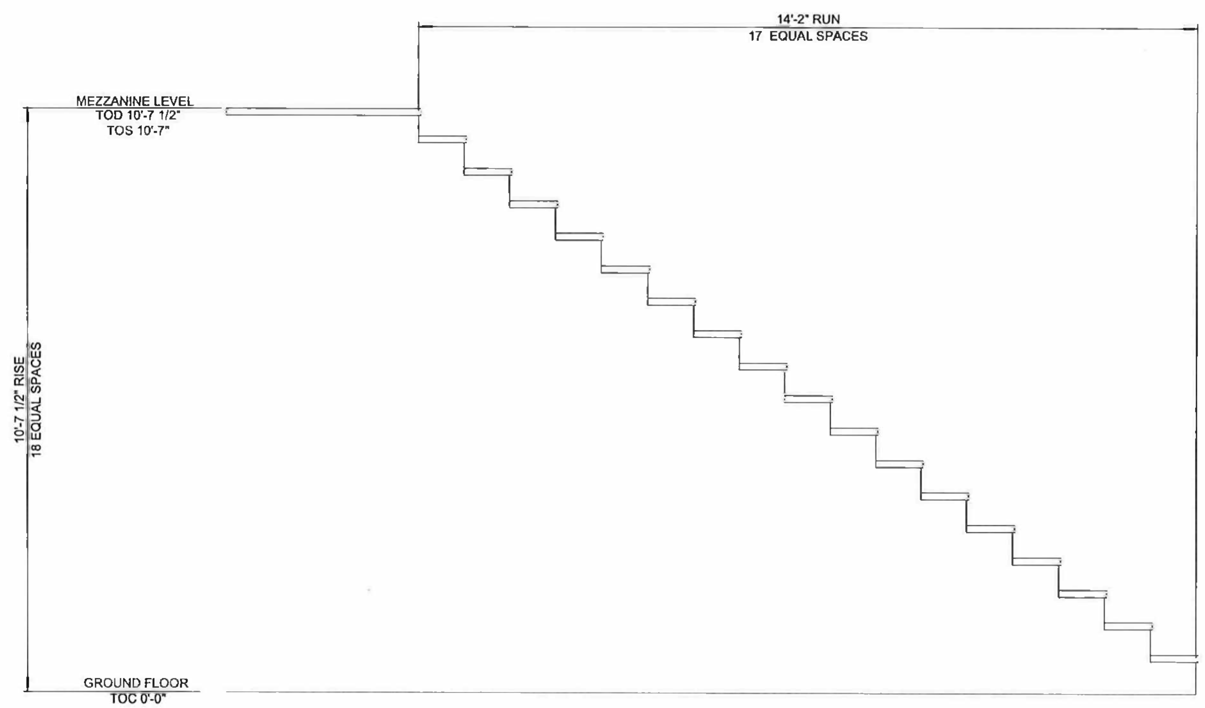
DWG NO VFS-EPM-000-DWG-S-120 SH 2 OF 5 REV B

NOTES:

1. SEE VFS-EPM-000-DWG-S-101 FOR NOTES, ABBREVIATIONS AND SCHEDULE.



2 STAIR DETAIL
S-120-1 SCALE: 3/4"=1'-0"



RISE AND RUN DETAIL
SCALE: 3/4" = 1'-0"

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CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FAC. SPENT RESIN HANDLING MEZZANINE - STAIR DETAILS

SIZE F | DWG NO VFS-EPM-000-DWG-S-120 | REV B
SCALE SHOWN | SHEET 3 OF 5

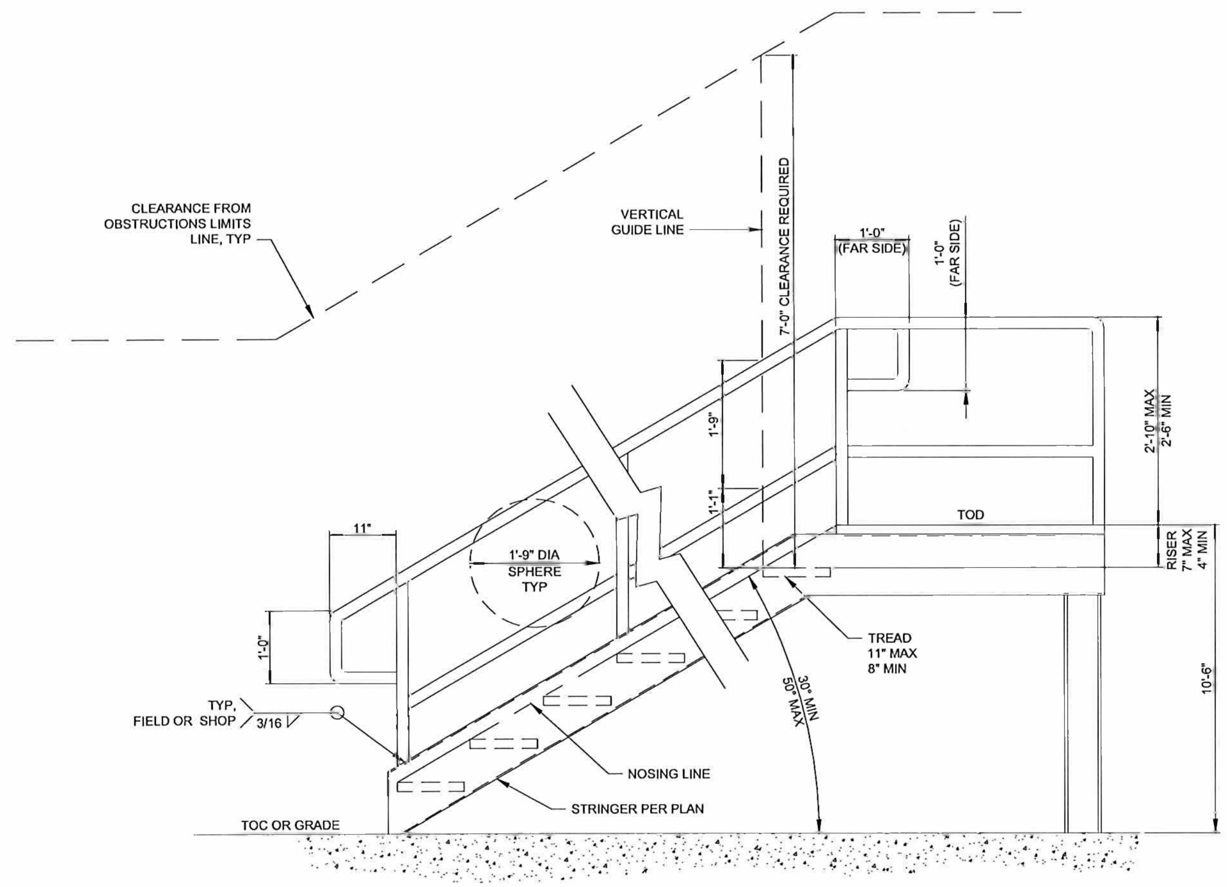
DWG NO VFS-EPM-000-DWG-S-120 SH 3 OF 5 REV B

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

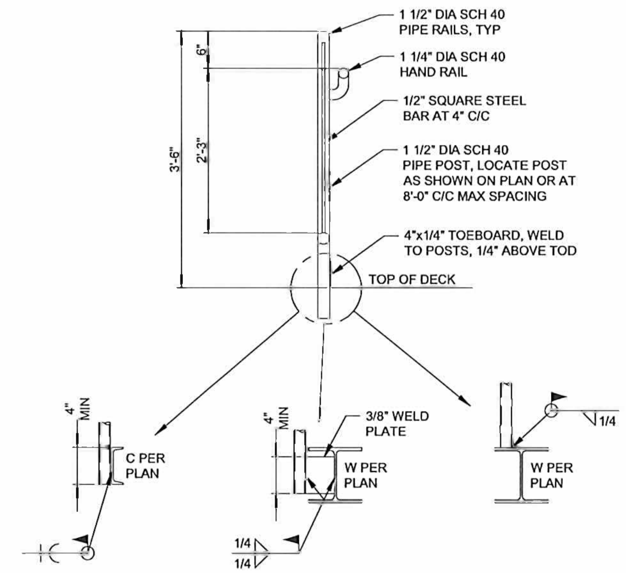
REVISIONS

NOTES:

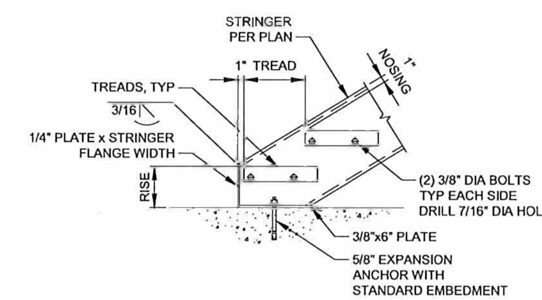
1. SEE VFS-EPM-000-DWG-S-101 FOR NOTES, ABBREVIATIONS AND SCHEDULE.



A SECTION
S-120-3 SCALE: NTS

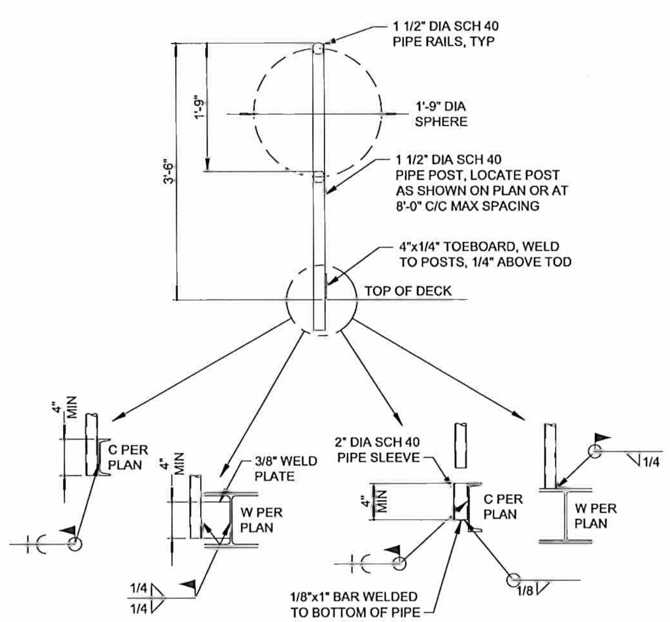


B SECTION
S-120-3 SCALE: 1"=1'-0"

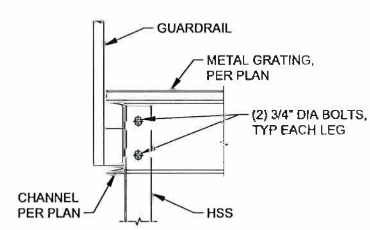


C SECTION
S-120-3 SCALE: 1"=1'-0"

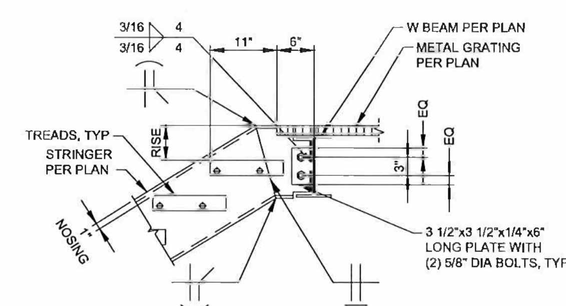
NOTE:
1. METAL TREAD STAIR (AT FINISHED FLOOR).



D SECTION
S-120-2, 3 SCALE: 1"=1'-0"



E SECTION
S-120-3 SCALE: 1"=1'-0"



F SECTION
S-120-3 SCALE: 1"=1'-0"

CONCEPTUAL DESIGN

VEOLIA

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Richland, WA 99352

NAME	DATE
S MOORE	
J PIERCE	
D NELSON	
J WILSON	
E LLOYD	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FAC. SPENT RESIN HANDLING MEZZANINE - STAIR DETAILS

SIZE F | DWG NO VFS-EPM-000-DWG-S-120 | REV B

SCALE SHOWN | SHEET 4 OF 5

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

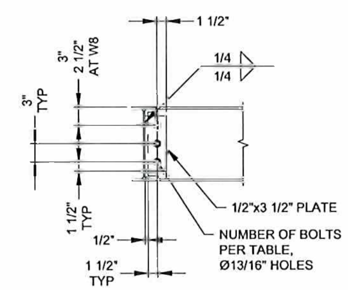
REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

REVISIONS

VFS-EPM-000-DWG-S-120 SH 4 OF 5 REV B

NOTES:

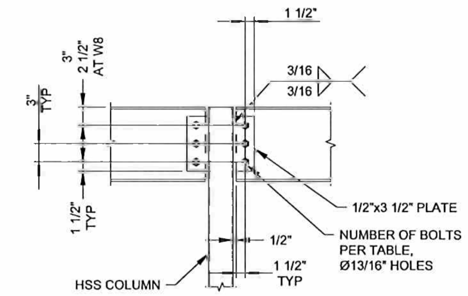
1. SEE VFS-EPM-000-DWG-S-101 FOR NOTES, ABBREVIATIONS AND SCHEDULE.



SUPPORTED BEAM SIZE	NUMBER OF 3/4" DIA BOLTS
W8	2
W10	2
W12	3
W14	3
W16	4
W18	5
W21	6
W24	7
W36	10

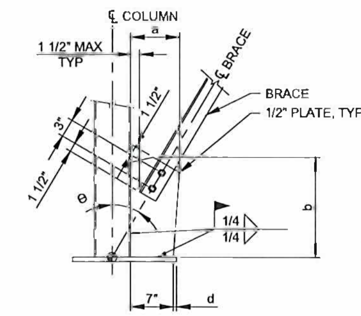
BEAM CONNECTION, TYP

SCALE: 1" = 1'-0"



BEAM TO COLUMN CONNECTION, TYP

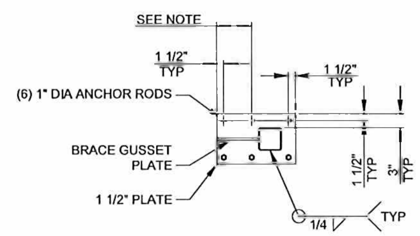
SCALE: 1" = 1'-0"



DEG θ	a	b	NOTES
3.4-36	7 1/2"	15 1/2"	
21-22	8"	20"	
15-16	8"	31"	HORIZONTAL LEG BOTTOM
29,33,35.5	9"	16"	

BRACE TO BASE PLATE CONNECTION

SCALE: 1" = 1'-0"

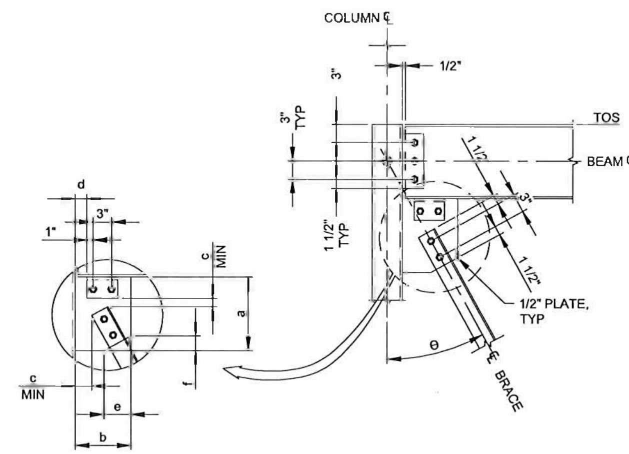


BP1 - BASE PLATE DETAIL

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

NOTE:

1. BASE PLATE DIMENSION SHALL ACCOMMODATE BRACE CONNECTOR PLATE LENGTH.
2. SEE VFS-EPM-000-DWG-S-110-01 FOR BP1 LOCATIONS.



BRACE TO BEAM/COLUMN CONNECTION - TYP

SCALE: 1" = 1'-0"

BEAM	DEG θ	a	b	c	d	e	f	NOTES
W10	21.6	21.5	6.5	1.5	0.75	7 1/2"	7 1/2"	
W10	29	13.25	7.0	1.5	1.0	8"	8"	
W10	33	11.25	8.0	1.5	1.5	8"	8"	
W10	35	11.5	9.5	1.5	2.25	9"	9"	
W12	15.5	32.75	6.5	2.75	0.75	9"	9"	
W12	34-35	12.5	11.0	1.5	3.0	9"	9"	
W12	36	11.25	11.0	1.5	3.0	9"	9"	

NOTES:

1. THE PURPOSE OF THE WHITMORE STRESS BLOCK IS TO ENSURE A PLASTIC HINGE WILL FORM IN THE BRACE CONNECTION GUSSET PLATE DURING AN EXTREME SEISMIC EVENT. IN ORDER TO ACHIEVE THIS, NO ELEMENTS MAY BE ATTACHED TO THE GUSSET PLATE WITH IN THE WHITMORE STRESS BLOCK.
2. THE WORK POINT TO WORK POINT DISTANCE FOR SPECIAL CONCENTRIC BRACED FRAME CONNECTIONS SHALL BE ESTABLISHED BY ENSURING THAT THE VERTEXES OF THE TRIANGLES SHOWN ON THE DETAIL ARE COINCIDENT WITH ADJACENT MEMBERS.
3. IF THE VERTEX OF A STRESS BLOCK DOES NOT COINCIDE WITH A COLUMN, A STIFFENER PLATE SHALL BE PROVIDED THAT EXTENDS FROM THE VERTEX OF THE WHITMORE STRESS BLOCK TO THE ADJACENT COLUMN WEB AND FLANGES.
4. UNO, USE AWS D1.1 FOR MINIMUM WELD REQUIREMENTS.
5. UNO, USE AISC 14TH EDITION FOR MINIMUM EDGE MARGINS.

CONCEPTUAL DESIGN

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CIMARRON

PUMP AND TREAT SYSTEM PROJECT

WESTERN AREA TREATMENT FAC. SPENT RESIN HANDLING MEZZANINE - FRAME DETAILS

SIZE F | DWG NO VFS-EPM-000-DWG-S-120 | REV B

SCALE SHOWN | SHEET 5 OF 5

DWG NO | TITLE | DRAWING TRACEABILITY LIST

REF NUMBER | TITLE | REFERENCES | NEXT USED ON

REV NO | DESCRIPTION | REV BY DATE | REVISIONS

DWG NO VFS-EPM-000-DWG-S-120 SH 5 OF 5 REV B

GENERAL NOTES:

1. CONTRACTOR SHALL HAVE A FULL SET OF THE CURRENT APPROVED CONSTRUCTION DOCUMENTS INCLUDING ANY APPROVED CHANGE DOCUMENTATION ON THE PROJECT AT ALL TIMES.
2. CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OR PROPER RESETTING OF ALL EXISTING STRUCTURES, MONUMENTS AND FACILITIES UNLESS OTHERWISE NOTED ON THE PLANS. ANY EXISTING STRUCTURES, MONUMENTS, OR FACILITIES THAT ARE DAMAGED DURING CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN ORIGINAL AT CONTRACTOR'S EXPENSE.
3. ANY DEVIATION FROM THESE PLANS WITHOUT PRIOR APPROVAL FROM THE ENGINEER AND OWNER SHALL BE AT THE CONTRACTOR'S OWN RISK AND EXPENSE.
4. SITE CONDITIONS SHALL BE CONFIRMED BY CONTRACTOR PRIOR TO STARTING WORK.
5. IT IS CONTRACTOR'S RESPONSIBILITY TO CONTACT UTILITIES LOCATE PROVIDER TO IDENTIFY UNDERGROUND UTILITIES PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.
6. EROSION AND SEDIMENT CONTROL BMP'S INSTALLATION AND MAINTENANCE IS THE RESPONSIBILITY OF CONTRACTOR THROUGHOUT THE DURATION OF THE CONSTRUCTION ACTIVITIES.
7. CONTRACTOR SHALL MAINTAIN CONSTRUCTION REDLINES TO DOCUMENT AS-BUILT CONDITION. REDLINES WILL BE AVAILABLE FOR ENGINEERING REVIEW AT ALL TIMES. AT THE COMPLETION OF CONSTRUCTION ACTIVITIES REDLINES SHALL BE DELIVERED TO ENGINEER.

ABBREVIATIONS:

BMP	BEST MANAGEMENT PRACTICES
EL	ELEVATION
EP	EDGE OF PAVEMENT
FG	FINISHED GRADE
FF	FINISHED FLOOR
GB	GRADE BREAK
LF	LINEAR FEET
R	RADIUS
RG	ROUGH GRADE
TOE	TOE OF SLOPE
TOF	TOP OF FOUNDATION
TOP	TOP OF SLOPE

LEGEND:

E	ELECTRICAL CONDUIT/CABLE
I	COMMUNICATION CONDUIT/CABLE
FO	FIBER OPTIC CABLE
W	DOMESTIC WATER LINE
SAN	SANITARY SEWER LINE
X	FENCE LINE
	GRADE BREAK
	ANGULAR STONE
	CONCRETE
	TRUEGRID PERMABLE PAVERS
	GRAVEL
	COMPACTED SOIL OR STRUCTURAL FILL
	ELECTRICAL POLE
	DOMESTIC WATER VALVE
BFP	BACK FLOW PREVENTER
	FIRE HYDRANT
#	SITE ELECTRICAL NOTES
#	COMMUNICATION NOTES
#	SANITARY SEWER NOTES
#	DOMESTIC WATER NOTES

CONCEPTUAL DESIGN

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ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

CIVIL SYMBOLS, NOTES AND ABBREVIATIONS

SIZE F | DWG NO VFS-EPM-000-DWG-C-201 | REV B
SCALE NONE | EDT | SHEET 1 OF 1

DWG NO VFS-EPM-000-DWG-C-201 SH 1 OF 1 REV B

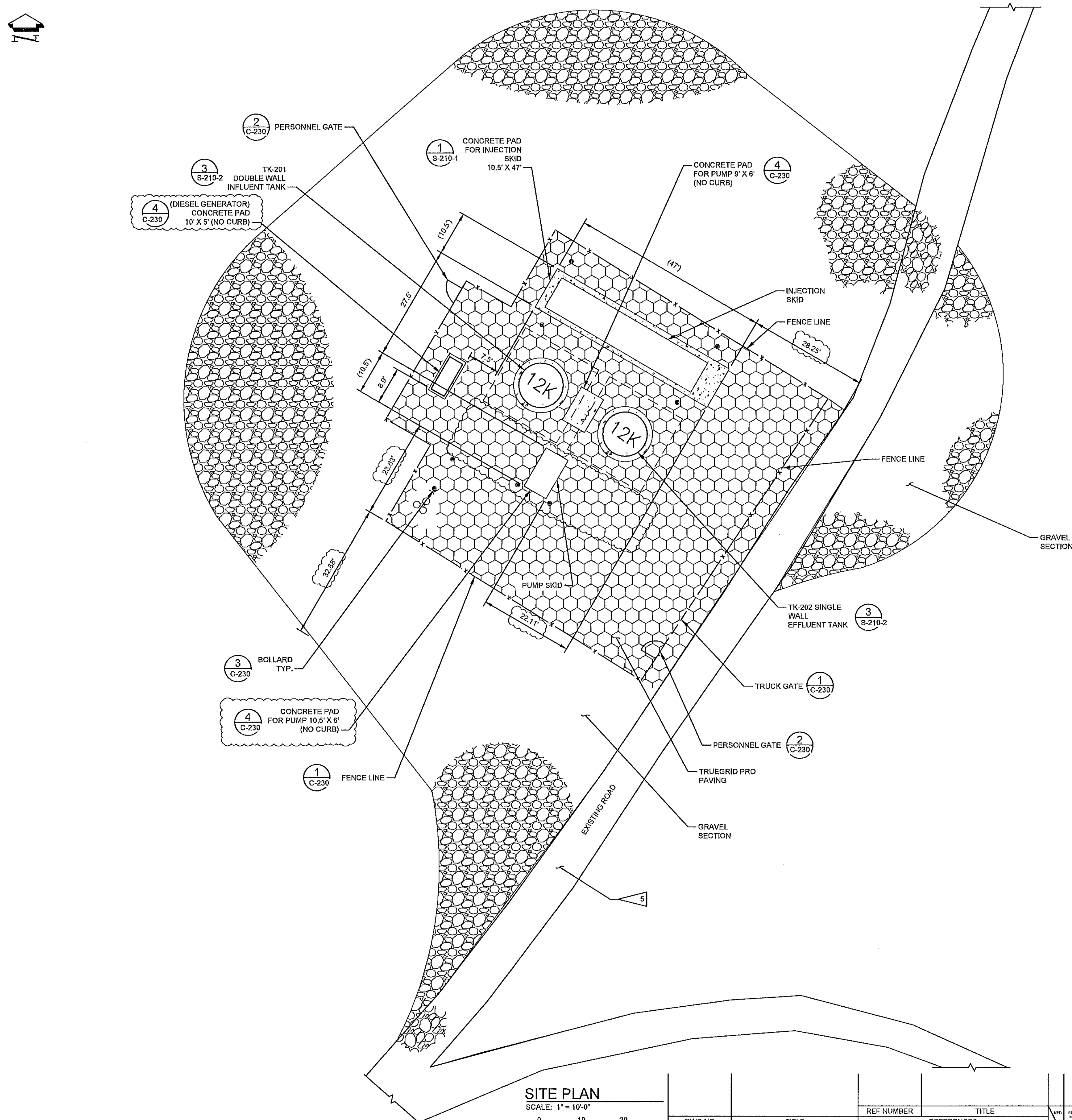
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

WPD	REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY
REVISIONS				

GENERAL NOTES:

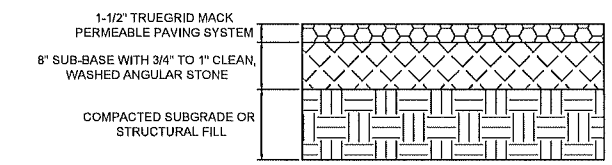
1. SEE VFS-EPM-000-DWG-C-201 FOR CIVIL NOTES.
2. SEE VFS-EPM-000-DWG-G-200 FOR GENERAL EQUIPMENT ARRANGEMENT AND PIPING.
3. SEE VFS-EPM-000-DWG-C-220 FOR SITE UTILITY PLAN. SEE BMCD-GWREMED-C006 AND BMCD-GWREMED-C008.
4. SEE VFS-EPM-000-DWG-S-201 FOR STRUCTURAL NOTES.

5 ROAD FINISH IS TO MATCH NEW SURFACE CONDITIONS, SEE SECTION B FOR DETAILS..



SITE PLAN

SCALE: 1" = 10'-0"

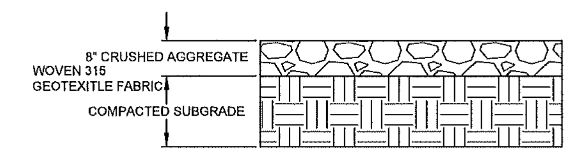


TRUEGRID PRO NOTES:

1. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION OF TRUEGRID PRODUCT
2. USE 5/8" TO 3/4" AGGREGATE FOR GRAVEL FILL-IN OF GRID.

TRUEGRID PRO PAVING SECTION

SCALE: NONE



NOTES:

1. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION OF GEI WORKS WOVEN 315 OR EQUIVALENT GEOFABRIC PRODUCT.

GRAVEL SECTION

SCALE: NONE

CONCEPTUAL DESIGN

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PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

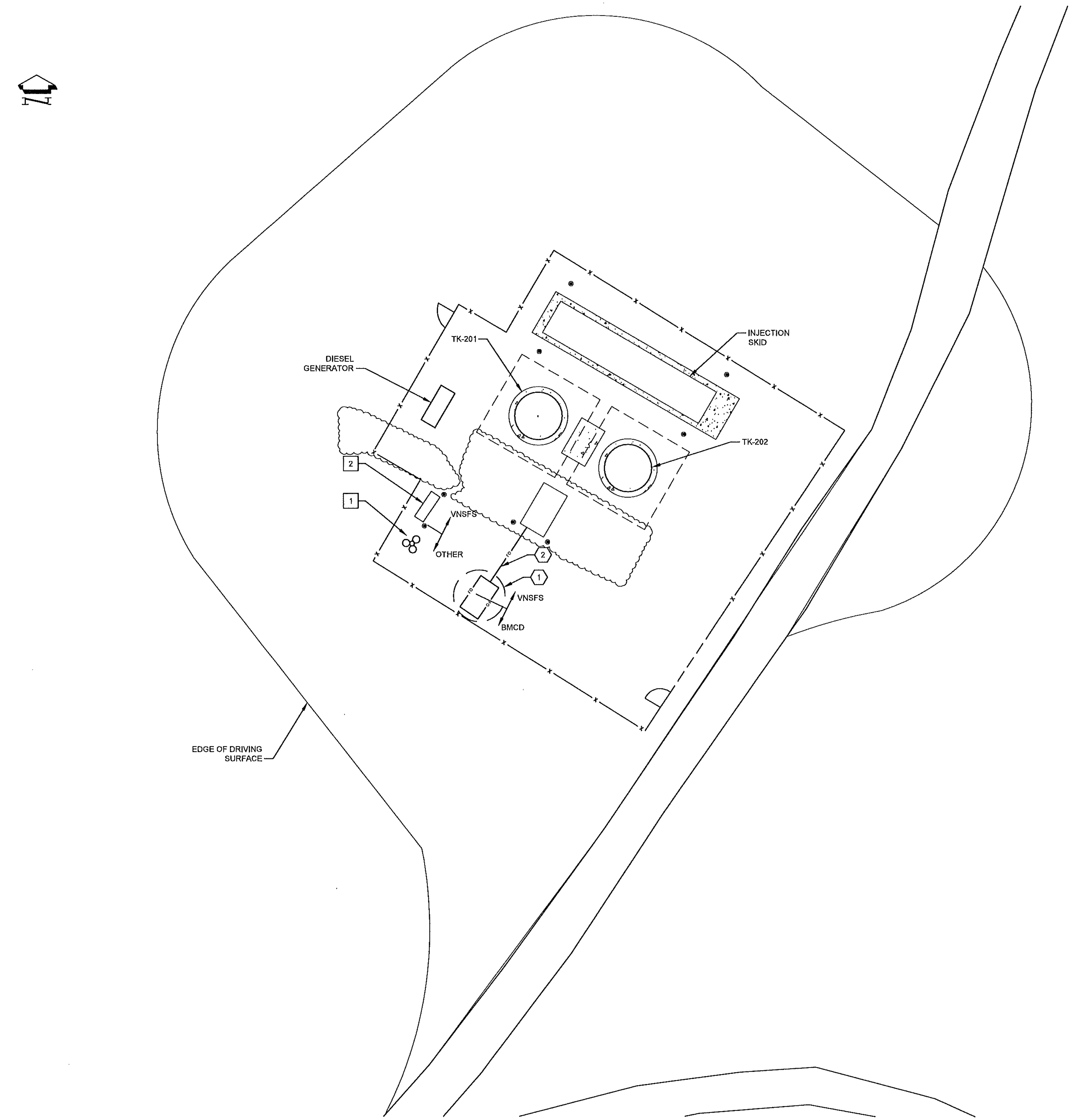
BURIAL AREA #1
SITE PLAN

SIZE F | DWG NO VFS-EPM-000-DWG-C-210 | REV G
SCALE SHOWN | EDT | SHEET 1 OF 1

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

MFD	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS				

DWG NO VFS-EPM-000-DWG-C-210 SH 1 OF 1 REV G



SITE PLAN

SCALE: 1" = 10'-0"

0 10 20 Feet

GENERAL NOTES:

1. ALL SOIL COMPACTION REQUIREMENTS SHALL BE DETERMINED BY GEOTECHNICAL INVESTIGATION.
2. ALL STRUCTURAL FILL SHALL MEET GEOTECHNICAL ENGINEERS REQUIREMENTS.
3. COMMUNICATION AND ELECTRICAL LINE FOR INJECTION SKID NOT SHOWN. DESIGN BY OTHERS.
4. CONSTRUCTION OF ALL SITE UTILITIES SHALL CONFORM TO LOCAL JURISDICTION REQUIREMENTS AND APPROVED CONSTRUCTION SPECIFICATIONS.
5. COORDINATE WITH BMCD-GWREMED-C006 FOR UTILITIES AND PROCESS LINE INTERFACE.

SITE ELECTRICAL NOTES:

1. ELECTRICAL CONNECTION AT EXISTING POLE AND POLE MOUNTED TRANSFORMERS BY OTHERS.
2. METERING RACK AND DISCONNECT SWITCHES PROVIDED BY OTHERS. POINT OF CONNECTION FOR PUMP POWER IS AT LOAD SIDE OF DISCONNECT SWITCH.

SITE COMMUNICATION NOTES:

1. COMMUNICATION PULL BOX. DESIGN AND INSTALLATION BY OTHERS.
2. CONNECT FIBER OPTIC CABLE TO POWER DISTRIBUTION RACK. DESIGN OF CONDUIT AND FIBER OPTIC CABLE BY OTHERS.

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

MFD	REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY
REV REL	REVISIONS			

CONCEPTUAL DESIGN

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PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

BURIAL AREA #1 SITE UTILITY PLAN

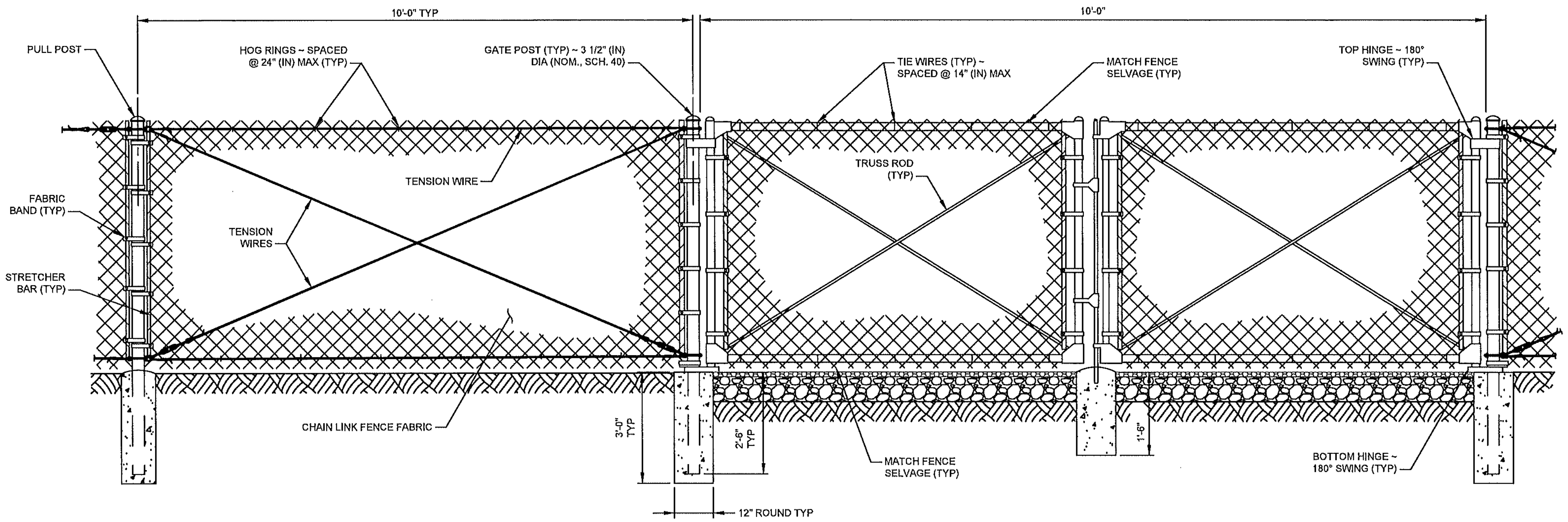
SIZE	DWG NO	REV
F	VFS-EPM-000-DWG-C-220	D

SCALE SHOWN | EDT | SHEET 1 OF 1

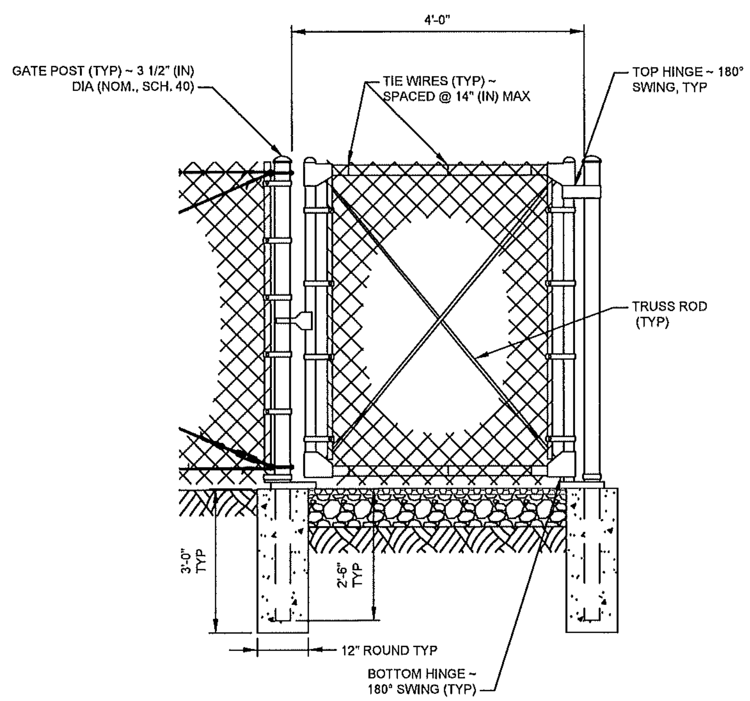
DWG NO VFS-EPM-000-DWG-C-220 SH 1 OF 1 REV D

GENERAL NOTES:

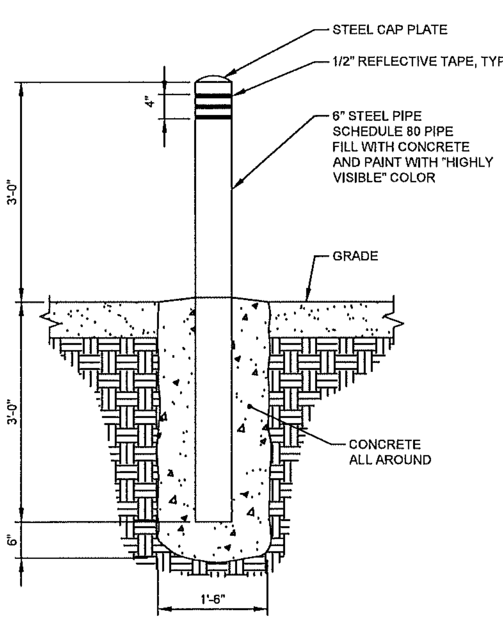
1. SEE VFS-EPM-000-DWG-C-201 FOR SYMBOLS, NOTES, AND ABBREVIATIONS.



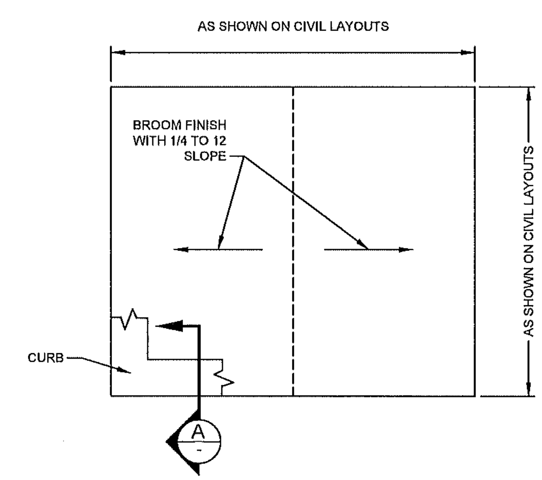
1 C-210 CHAIN-LINK FENCE WITH GATE DETAIL
SCALE: NONE

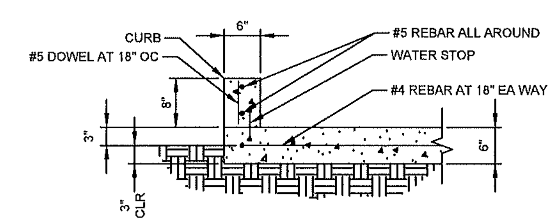


2 C-210 CHAIN-LINK FENCE WITH PERSONNEL GATE DETAIL
SCALE: NONE



3 C-210 EXTERIOR BOLLARD DETAIL
SCALE: NONE





A SECTION
SCALE: NONE

(CURB ONLY REQUIRED IN LOCATIONS INDICATED ON CIVIL LAYOUTS)

4 C-210 MISCELLANEOUS EQUIPMENT PAD
SCALE: NONE

CONCEPTUAL DESIGN

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D NELSON		WDG
J PIERCE		VNSFS
J WILSON		VNSFS
E LLOYD		VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT
BURIAL AREA #1
CIVIL DETAILS

SIZE F DWG NO VFS-EPM-000-DWG-C-230 REV C
SCALE NONE SHEET 1 OF 1

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

REVISIONS

VFS-EPM-000-DWG-C-230 SH 1 OF 1 REV C

LINES:

- ONE-LINE CONDUCTOR/CONDUIT
- UNDERGROUND CONDUIT
- GROUNDING CONDUCTOR (— — G — —)
- EMBEDDED REBAR
- PHASE
- SWITCHED
- NEUTRAL
- GROUND

SYMBOLS:

- CORD & PLUG/RECEPTACLE
- NON-FUSED DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH
- FUSE
- LINE BREAK
- CONNECTION POINT/ GROUND ROD
- EXOTHERMIC BOND OR COMPRESSION FITTING CONNECTION
- 20A — CIRCUIT BREAKER (TRIP)
- 1500/2000 — CIRCUIT BREAKER (TRIP/FRAME)
- CURRENT TRANSFORMER
- X — MOTOR X=HP
- TRANSFORMER
- GROUND
- KWH — KILOWATT HOUR METER
- 225/225, SPD, PP-1 — POWER PANEL, MAIN BREAKER
- 100, SPD, LP-A — LIGHTING PANEL, MLO, NUMBER INDICATES PANEL SIZE
- ENCLOSURE/SKID
- VFD — VARIABLE FREQUENCY DRIVE
- SPD — SURGE PROTECTION DEVICE, EXTERNAL
- METER MODULE — DIGITAL POWER METER
- FULL VOLTAGE NON REVERSING STARTER
- 22,100 — AVAILABLE 3Ø FAULT CURRENT (RMS, SYM. AMPS)

SYMBOLS: (CONTINUED)

- SPD — SURGE PROTECTION DEVICE, INTERNAL
- DUPLEX RECEPTACLE
- DOUBLE DUPLEX RECEPTACLE
- GFCI — DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER
- GFCI WP — DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER WITH WEATHERPROOF COVER
- A — 1' X 4' LUMINAIRE, A = FIXTURE TYPE
- A — 2' X 4' LUMINAIRE, A = FIXTURE TYPE
- A — 1' X 4' LUMINAIRE W/ EMERGENCY BATTERY PACK, A = FIXTURE TYPE
- A — 2' X 4' LUMINAIRE W/ EMERGENCY BATTERY PACK, A = FIXTURE TYPE
- A — WALL MOUNTED LUMINAIRE, A = FIXTURE TYPE

ABBREVIATIONS:

A	AMPERES
BA1	BURIAL AREA 1
CBL	CABLE
CKT	CIRCUIT
CTRL	CONTROL
DP	DISTRIBUTION PANEL
DS	DISCONNECT SWITCH
EGC	EQUIPMENT GROUNDING CONDUCTOR
F.O.	FIBER OPTIC
FVNR	FULL VOLTAGE NON REVERSING
G	GROUND
GEC	GROUNDING ELECTRODE CONDUCTOR
GES	GROUNDING ELECTRODE SYSTEM
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFEP	GROUND FAULT EQUIPMENT PROTECTOR
GND	GROUNDING CONDUCTOR
HMI	HUMAN MACHINE INTERFACE
HP	HORSE POWER
HVAC	HEATING, VENTILATION & AIR CONDITIONING
HZ	HERTZ
I/O	INPUT/OUTPUT
IX	ION EXCHANGE
KV	KILO-VOLT
KVA	KILO-VOLT AMPERES
KW	KILO-WATT
KWH	KILO-WATT HOUR
LED	LIGHT EMITTING DIODE
LP	LIGHTING PANEL
MCC	MOTOR CONTROL CENTER
MLO	MAIN LUGS ONLY
N	NEUTRAL
NEC	NATIONAL ELECTRICAL CODE
P	PUMP/POLE BREAKER
PLC	PROGRAMMABLE LOGIC CONTROLLER
PLG	PLUG
PP	POWER PANEL
PWR	POWER
RCPT	RECEPTACLE
SKD	SKID
SPD	SURGE PROTECTIVE DEVICE
SWBD	SWITCHBOARD
V	VOLTS
VA	VOLT AMPERES
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS/WIRE
WAFT	WESTERN AREA TREATMENT FACILITY
WP	WEATHERPROOF
XFMR	TRANSFORMER
XO	TRANSFORMER SECONDARY NEUTRAL

INSTRUMENT/FUNCTION SYMBOLS:

PRIMARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR

- XXX/XXX — DISCRETE INSTRUMENTS
- XXX/XXX — SHARED DISPLAY, SHARED CONTROL

GENERAL NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, 2017 EDITION.

CONCEPTUAL DESIGN

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DRAFTING CHECKER: S MOORE	VNSFS
ENGINEERING CHECKER: R JENSON	VNSFS
PROJECT MANAGER: E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

ELECTRICAL SYMBOLS, NOTES, AND ABBREVIATIONS

SIZE F | DWG NO VFS-EPM-000-DWG-E-201 | REV C
SCALE NONE | EDT | SHEET 1 OF 1

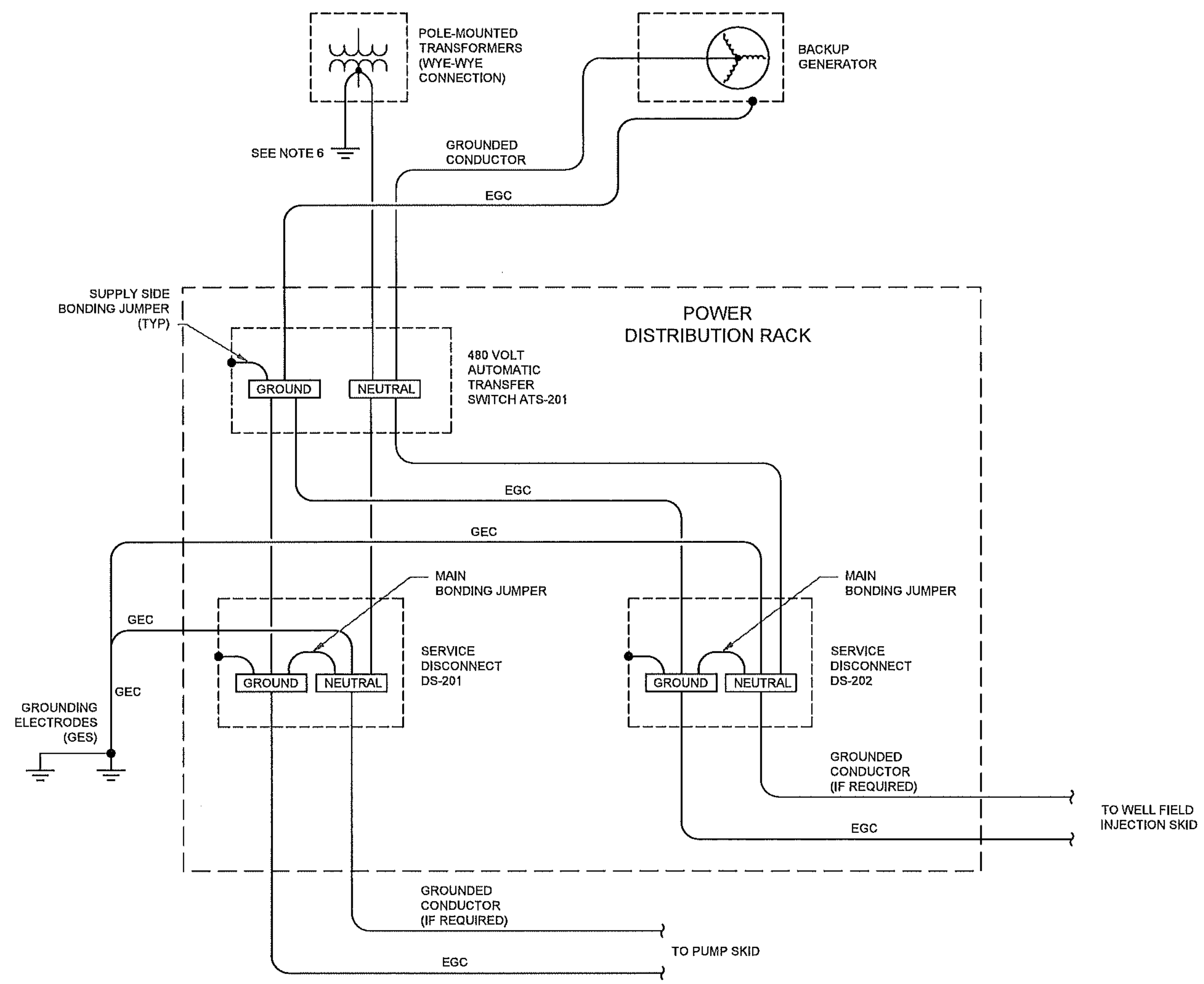
DWG NO VFS-EPM-000-DWG-E-201 SH 1 OF 1 REV C

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS			

GENERAL NOTES:

1. SEE VFS-EPM-000-DWG-E-201 FOR SYMBOLS, NOTES, AND ABBREVIATIONS.
2. GROUNDING SHALL BE IN ACCORDANCE WITH THE 2017 NATIONAL ELECTRICAL CODE.
3. INSTALL GROUNDING ELECTRODE CONDUCTOR, SIZED BASED ON NEC TABLE 250.66 USING THE SERVICE PHASE CONDUCTOR SIZE.
4. SEE DRAWING VFS-EPM-000-DWG-210 FOR CONDUCTOR SIZES.
5. INSTALL TWO 8' X 5/8" GROUND RODS SIX FEET APART, ADJACENT TO POWER DISTRIBUTION RACK FOR GROUNDING ELECTRODE SYSTEM.
6. LOW VOLTAGE GROUNDING AT UTILITY TRANSFORMER POLE.



BA1 GROUNDING DIAGRAM
SCALE: NOT TO SCALE

CONCEPTUAL DESIGN

VEOLIA

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DRAFTING CHECKER S MOORE	VNSFS
ENGINEERING CHECKER R JENSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

BURIAL AREA #1
GROUNDING DIAGRAM

SIZE	DWG NO	REV
F	VFS-EPM-000-DWG-E-205	B

SCALE NONE | EDT | SHEET 1 OF 1

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

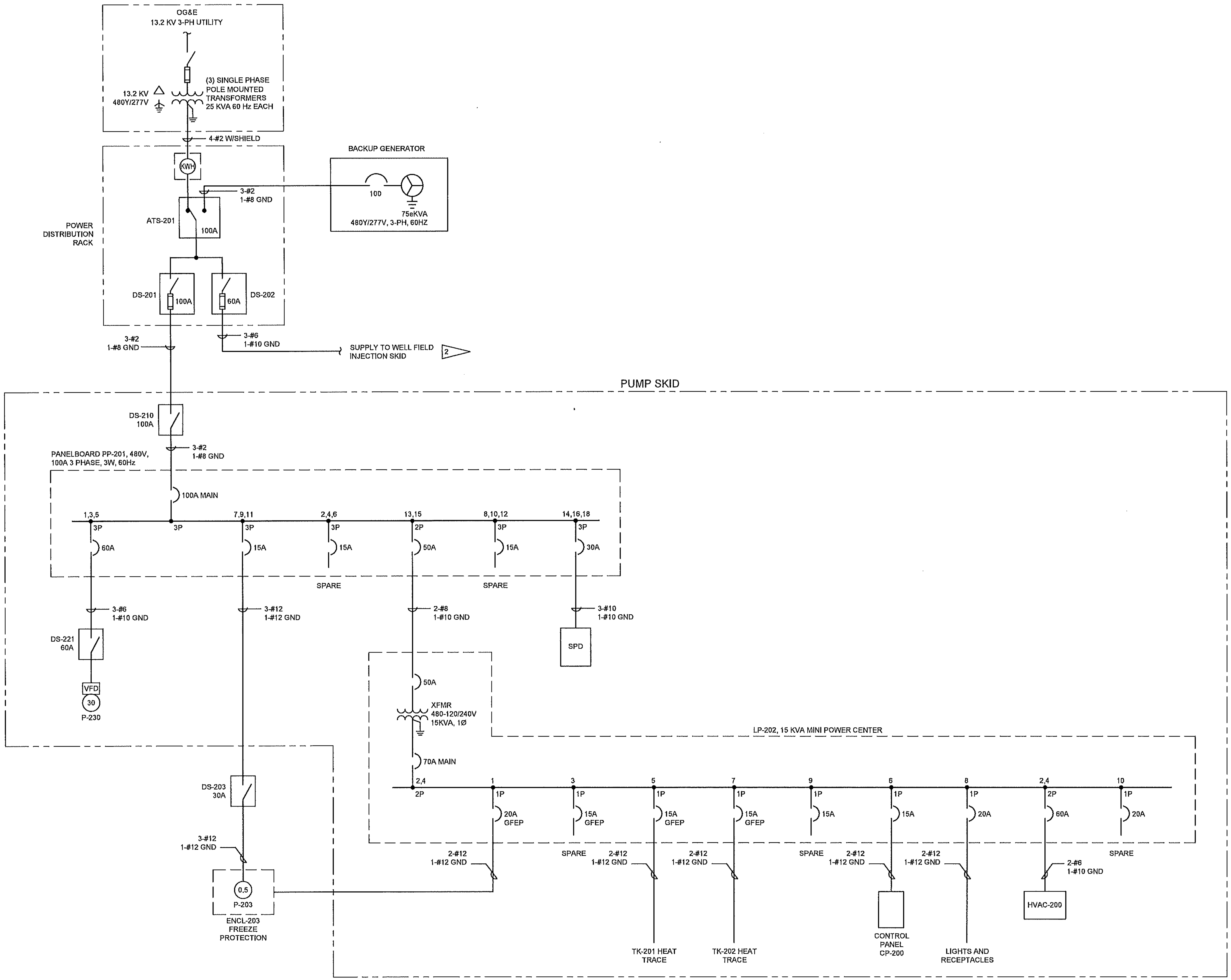
RFD	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS				

DWG NO VFS-EPM-000-DWG-E-205 SH 1 OF 1 REV B

GENERAL NOTES:

1. SEE VFS-EPM-000-DWG-E-201 FOR SYMBOLS, NOTES, AND ABBREVIATIONS.

2 SEE BMCD-GWREMED-E-102 FOR SINGLE LINE DIAGRAM.



BA1 SINGLE LINE DIAGRAM

SCALE: NOT TO SCALE

CONCEPTUAL DESIGN

VEOLIA

VEOLIA NUCLEAR SOLUTIONS
FEDERAL SERVICES, LLC
295 Bradley, Suite 300
Richland, WA 99352

NAME	DATE	COMPANY
D KING		VNSFS
D KING		VNSFS
S MOORE		VNSFS
R JENSON		VNSFS
E LLOYD		VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

BURIAL AREA #1
SINGLE LINE DIAGRAM

SIZE F | DWG NO VFS-EPM-000-DWG-E-210 | REV D

SCALE NONE | SHEET 1 OF 1

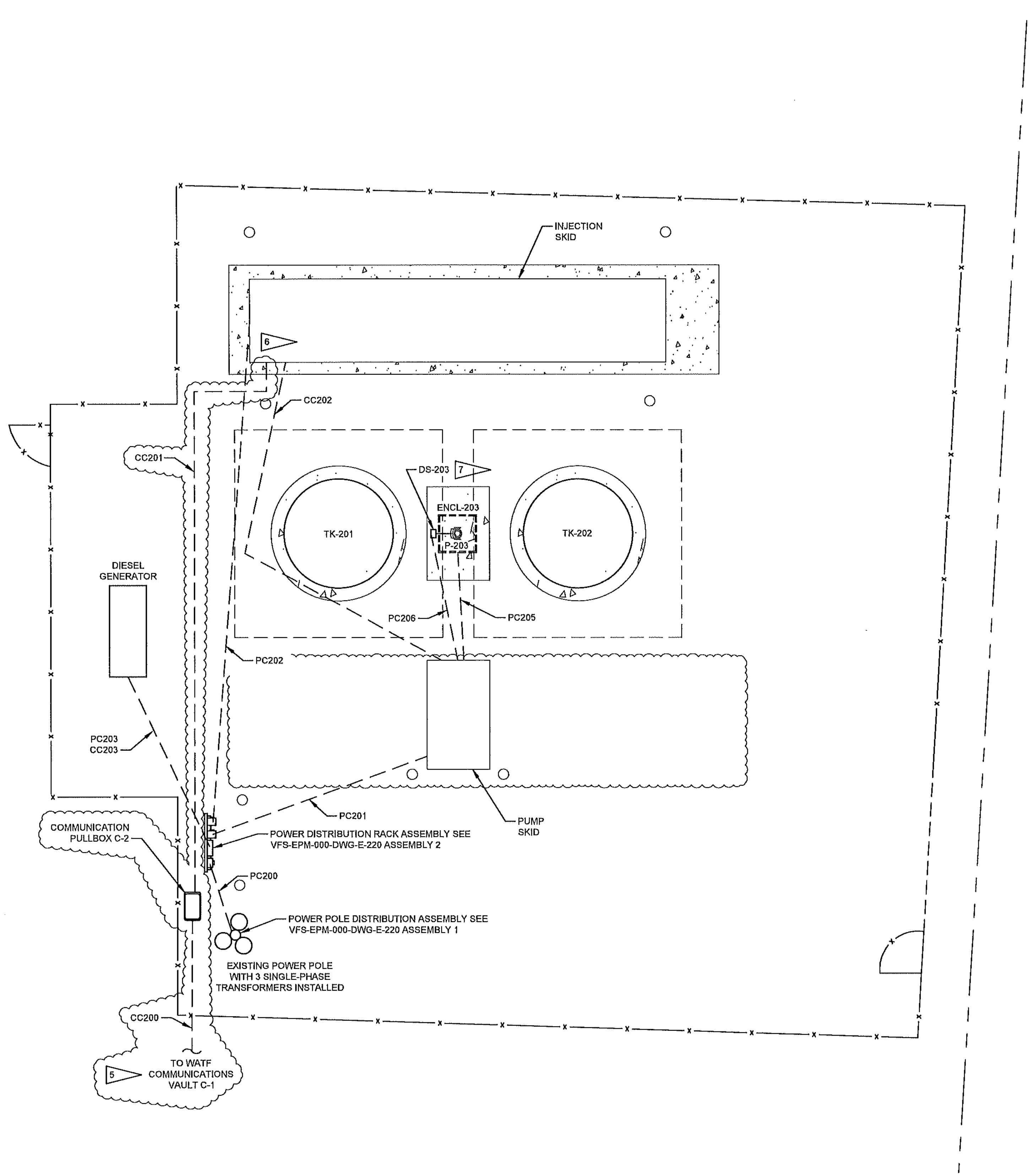
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES

REVISIONS

DWG NO VFS-EPM-000-DWG-E-210 SH 1 OF 1 REV D

GENERAL NOTES:

1. SEE DRAWING VFS-EPM-000-DWG-E-210 FOR SINGLE LINE DIAGRAM.
2. SEE DRAWING VFS-EPM-000-DWG-E-231 FOR CONDUIT SCHEDULE..
3. UNDERGROUND CONDUIT ROUTING IS SHOWN DIAGRAMMATICALLY. FIELD ROUTE AS REQUIRED TO AVOID INTERFERENCES WITH STRUCTURAL FOUNDATIONS AND EQUIPMENT.
4. MINIMUM CONDUIT DEPTH SHALL BE PER NEC REQUIREMENTS.
5. INSTALL COMMUNICATION PULLBOXES AS REQUIRED TO MAINTAIN FIBER OPTIC CABLE PULLS UNDER MAXIMUM ALLOWED CABLE TENSION.
6. SEE BMCD DRAWINGS FOR COMMUNICATIONS AND POWER STUB-UP LOCATIONS AT INJECTION SKID.
7. INSTALL 30A HEAVY DUTY NEMA-3R UNFUSED DISCONNECT SWITCH IN APPROXIMATE LOCATION SHOWN.
8. TRANSITION PVC CONDUIT BELOW GRADE TO RMC ABOVE GRADE USING 90 DEGREE RMC SWEEPS.
9. SEE DRAWING VFS-EPM-000-DWG-M-210 FOR LOCATIONS OF ELECTRICAL PANELS AND EQUIPMENT IN PUMP SKID.



ELECTRICAL UTILITY PLAN

SCALE: 1" = 5'-0"

1" = 5' SCALE 0' 5' 10' 15' FEET

CONCEPTUAL DESIGN

VEOLIA NUCLEAR SOLUTIONS
FEDERAL SERVICES, LLC
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ENGINEER D KING	VNSFS
DRAFTING CHECKER J PIERCE	VNSFS
ENGINEERING CHECKER R JENSEN	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

BURIAL AREA #1
ELECTRICAL
UTILITY PLAN

SIZE F | DWG NO VFS-EPM-000-DWG-E-211 | REV C

SCALE SHOWN | EDT | SHEET 1 OF 1

DWG NO VFS-EPM-000-DWG-E-211 | SH 1 OF 1 | REV C

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

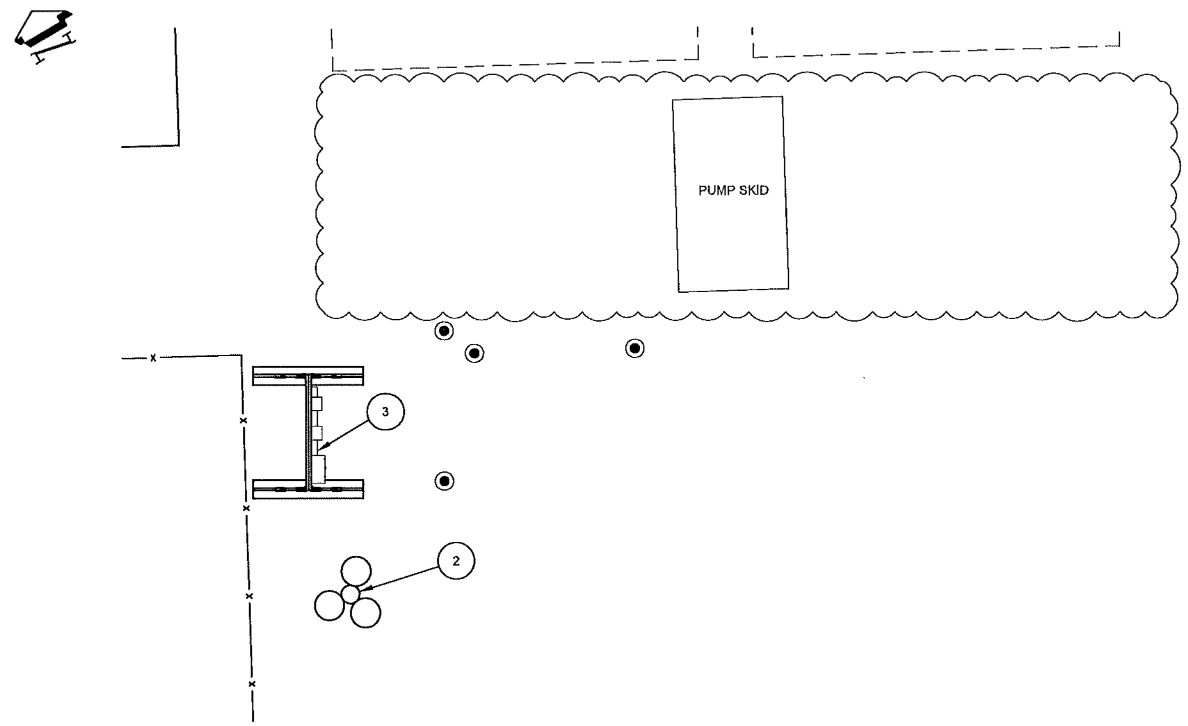
MFD	REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY
REV REL		REVISIONS		

GENERAL NOTES:

1. DIMENSIONS ARE IN INCHES.
   TOLERANCE = ± 1/4"

PARTS LIST/MATERIAL LIST

QTY REQD -030	QTY REQD -020	QTY REQD -010	PARTS/DASH NUMBER	NOMENCLATURE/DESCRIPTION	MATERIAL/REFERENCE	SHEET	ITEM NO
		X	-010	POWER SERVICE INSTALLATION		1	1
	X	1	-020	POWER POLE DISTRIBUTION ASSEMBLY		2	2
X		1	-030	POWER DISTRIBUTION RACK INSTALLATION		2	3
		1	VFS-EPM-000-DWG-E-221-010	POWER DISTRIBUTION RACK ASSEMBLY			4
							5
	1		19L551	SERVICE ENTRANCE HEAD, 1 1/2", RIGID	RACO		6
	1		H363NDS	DISCONNECT SWITCH, 100A, FUSED	SQUARE D		7
	1		HU363DS	DISCONNECT SWITCH, 100A, NON-FUSED	SQUARE D		8
	1			SERVICE DROP BRACKET (FURNISHED BY OKLAHOMA GAS & ELECTRIC)			9
	1			METER, 100 AMP (FURNISHED BY OKLAHOMA GAS & ELECTRIC)			10
	1		281047	METER BASE (FURNISHED BY OKLAHOMA GAS & ELECTRIC)			11
	2		AMPOLEMNT12	POLE MOUNT KIT, 12" WIDE (KIT CONTAINS 2 MOUNTS)	ALLIED MOULDED PRODUCTS, INC.		12
AR				CHANNEL CONDUIT CLAMP, 1 1/2", GALVANIZED	COMMERCIAL		13
AR	AR		ST5	CONDUIT HUB, 1 1/2"	CROUSE-HINDS		14
2	1			GROUND ROD CLAMP, UL LISTED	COMMERCIAL		15
AR	AR			GROUNDING ELECTRODE CONDUCTOR, #6 AWG, BARE COPPER	COMMERCIAL		16
2	1			GROUND ROD, 5/8"Ø X 8'-0" LONG, COPPER CLAD STEEL	(COPPER OR COPPER CLAD)		17
AR	AR			CONDUIT, 1 1/2", RIGID METAL, GALVANIZED	COMMERCIAL		18
	1		YCHC2C2	IRREVERSIBLE SPLICE, #2-6 RUN, #6-2 TAP	BURNDY		19



1 POWER SERVICE INSTALLATION
SCALE: NOT TO SCALE

CONCEPTUAL DESIGN

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PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

BURIAL AREA #1
ELECTRICAL
INSTALLATION DETAILS

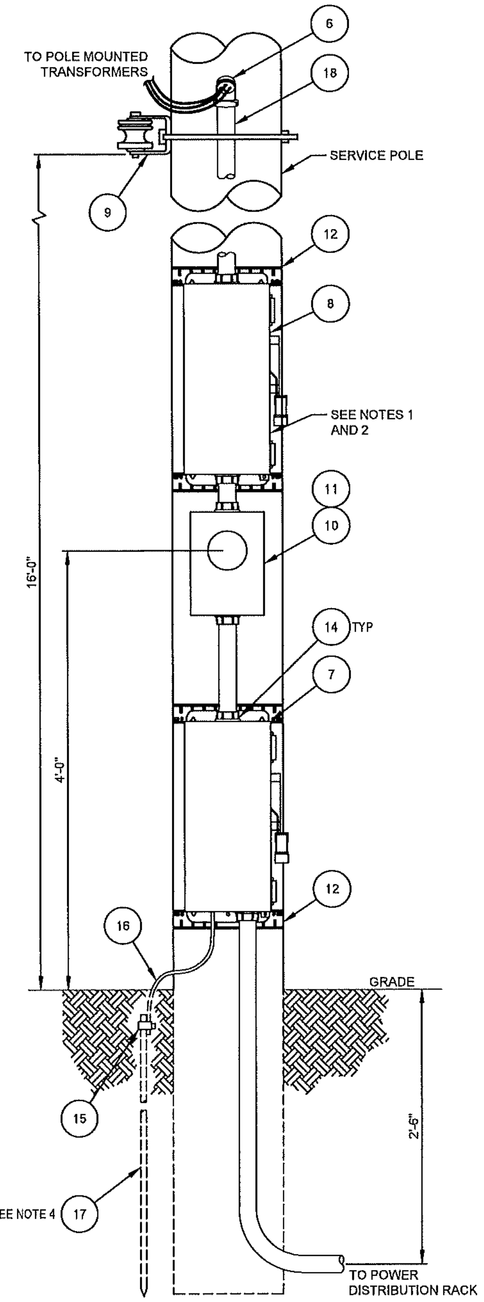
SIZE F | DWG NO VFS-EPM-000-DWG-E-220 | REV C
SCALE SHOWN | EDT | SHEET 1 OF 2

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

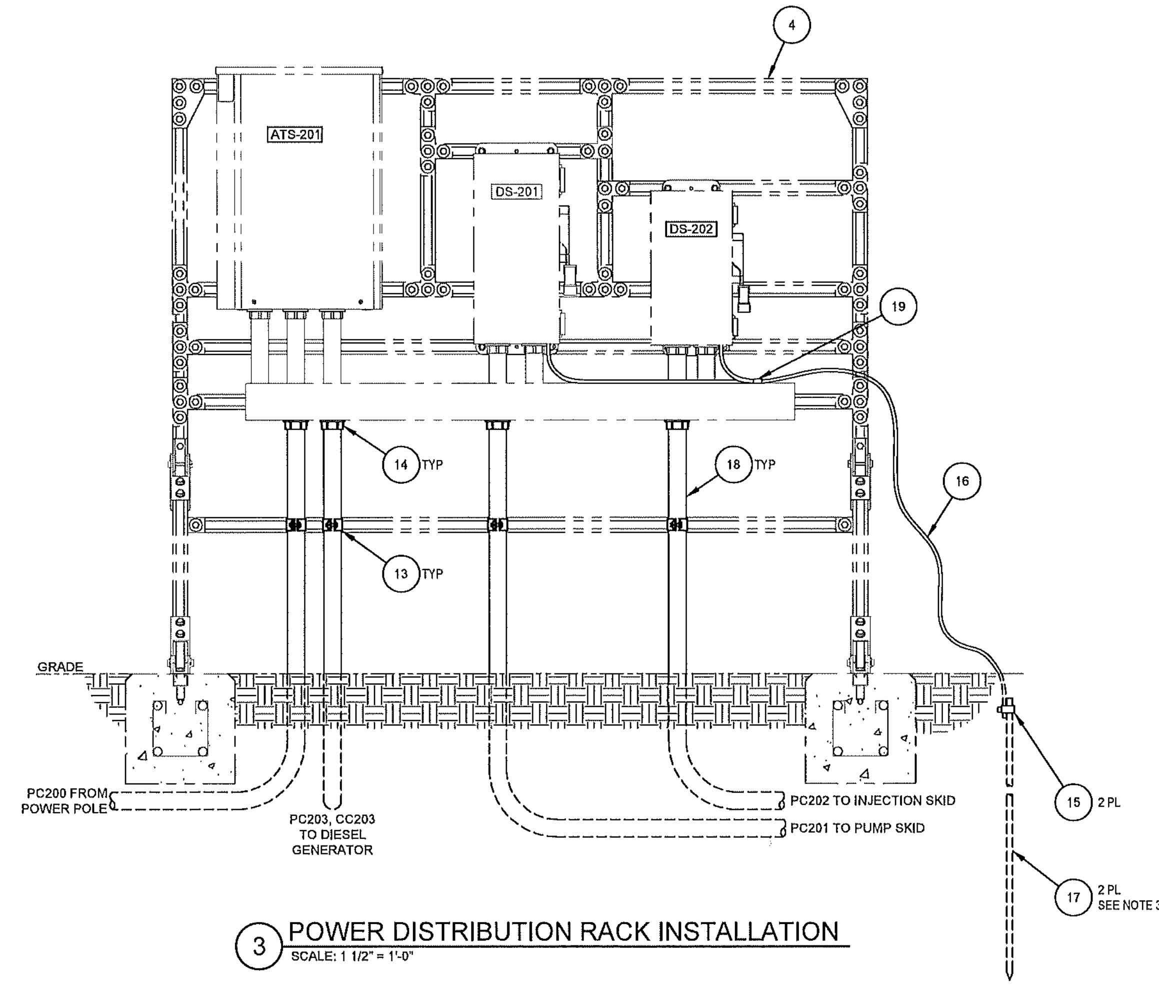
MFG REL	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS				

DWG NO VFS-EPM-000-DWG-E-220 SH 1 OF 2 REV C

NOTES:
1. DISCONNECT CABINET TO BE LOCKED BY OKLAHOMA GAS & ELECTRIC.
2. OKLAHOMA GAS & ELECTRIC TO SECURE ENERGIZED PARTS AND SWITCH POSITION WITH SERIES 1 LOCK (301236).
3. INSTALL GROUNDING ELECTRODE SYSTEM CONSISTING OF TWO GROUND RODS, 5/8"Ø X 8'-0" MINIMUM LENGTH, 6'-0" APART, WITH LISTED GROUND ROD CLAMPS. INSTALL A CONTINUOUS BARE SOLID COPPER GROUNDING ELECTRODE CONDUCTOR (SIZED PER NEC ARTICLE 250) FROM GROUND RODS TO SERVICE DISCONNECT SWITCHES AS SHOWN ON RACK. BOND CONDUCTOR TO RACK WITH LISTED CLAMP. SPLICE CONNECTIONS TO GROUNDING ELECTRODE CONDUCTOR SHALL BE BY IRREVERSIBLE COMPRESSION CLAMP.
4. INSTALL AUXILIARY GROUNDING TO POWER POLE SECONDARY DISCONNECT SWITCH AS SHOWN.



2 POWER POLE SERVICE ELECTRICAL ASSEMBLY
SCALE: 1 1/2" = 1'-0"



3 POWER DISTRIBUTION RACK INSTALLATION
SCALE: 1 1/2" = 1'-0"

CONCEPTUAL DESIGN

VEOLIA

VEOLIA NUCLEAR SOLUTIONS
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ENGINEERING CHECKER R JENSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

BURIAL AREA #1
ELECTRICAL
ASSEMBLY AND DETAILS

SIZE F | DWG NO VFS-EPM-000-DWG-E-220 | REV B
SCALE SHOWN | EDT | SHEET 2 OF 2

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS			

DWG NO VFS-EPM-000-DWG-E-220 SH 2 OF 2 REV B

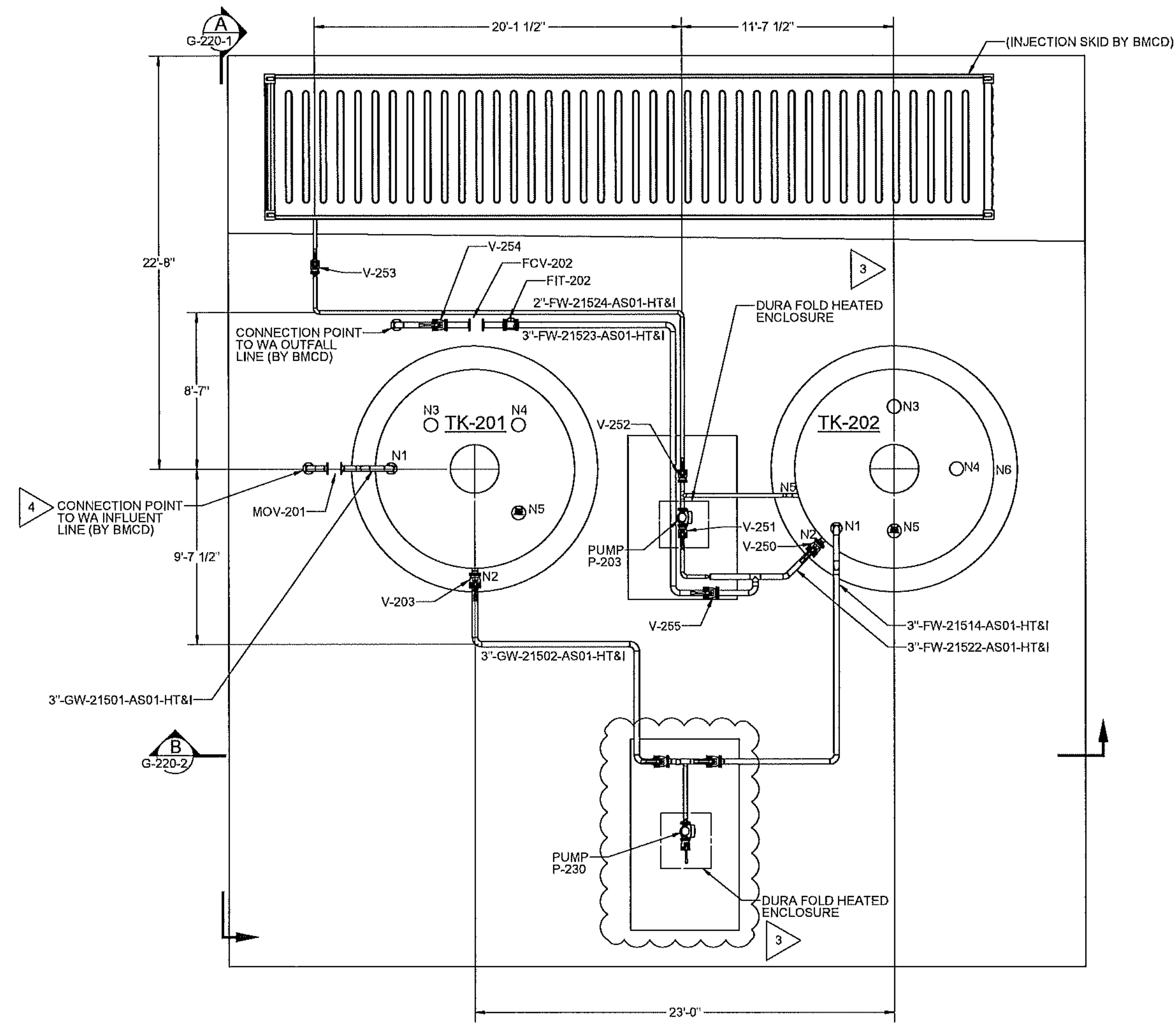
GENERAL NOTES:

1. NOZZLE LOCATIONS SHOWN ON TANKS ARE FOR INFORMATION ONLY, ACTUAL NOZZLE LOCATIONS TO BE DETERMINED BY VENDOR'S FINAL SUBMITTAL.

2. FOR PIPE SUPPORT SUPPORT DETAILS SEE DRAWING VFS-EPM-000-DWG-S-210. INSTALL PER SPECIFICATION SETION 22 05 29 - HANGERS AND SUPPORTS FOR PIPING AND EQUIPMENT.

3. PUMP ENCLOSURE SHALL BE HUBBELL HOT BOX MODEL NUMBER DF4FEH, PART NUMBER HD041041045 WITH 1000W HEATER AND VENTILATION FAN. CENTER ENCLOSURE OVER CENTER OF PUMP AND ATTACH TO CONCRETE PAD USING SUPPLIED HARDWARE. ENSURE THAT THERE IS 12" OF CLEARANCE FROM INSIDE DIMENSIONS OF ENCLOSURE TO EDGE OF CONCRETE FOR ENCLOSURE MOUNTING. CONTRACTOR TO CUT HOLES IN SIDES OF ENCLOSURE FOR PIPE, HOLES SHALL BE 1/2" LARGER THAN PIPE SIZE. AFTER INSTALLATION APPLY EXPANDING FOAM AROUND THE PERIMETER OF THE PENETRATIONS.

4. INTERFACE FLANGE TO BE 12" ABOVE GRADE, CENTER CONNECTION POINT PIPE IN 18" SONNET TUBE X 30" DEEP. FILL SONNET TUBE WITH SAND OR CRUSHED ROCK AFTER HEAT TRACE HAS BEEN INSTALLED.



TANK EQUIPMENT AND ACCESSORIES ASSEMBLY

SCALE 1/4" = 1'-0"

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

CONCEPTUAL DESIGN

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ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

MECHANICAL
BURIAL AREA #1
GENERAL ARRANGEMENT

SIZE	DRAWING NO	REV
F	VFS-EPM-000-DWG-G-200	E

SCALE SHOWN SHEET 1 OF 1

DWG NO VFS-EPM-000-DWG-G-200 SH 1 OF 1 REV E

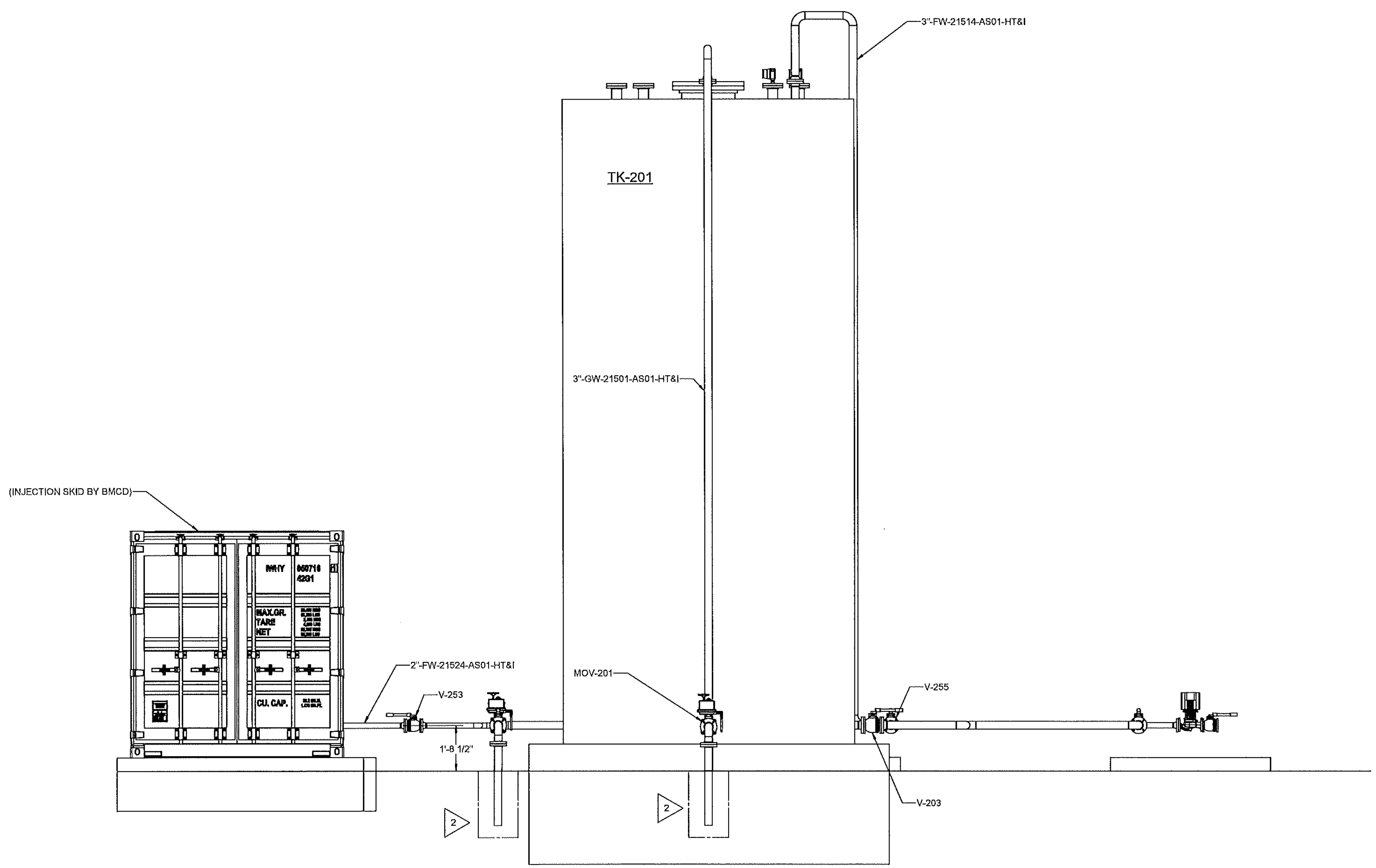
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

MFD	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS				

NOTES:

1. SEE DRAWING VFS-EPM-000-DWG-G-200 FOR NOTES.

2 INTERFACE FLANGE TO BE 12" ABOVE GRADE. CENTER CONNECTION POINT PIPE IN 18" SONNET TUBE X 30" DEEP. FILL SONNET TUBE WITH SAND OR CRUSHED ROCK AFTER HEAT TRACE HAS BEEN INSTALLED.



A SECTION
G-200-1 SCALE: 1/2" = 1'-0"

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

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

REVISIONS

CONCEPTUAL DESIGN

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DRAFTING CHECKER S MOORE	VNSFS
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

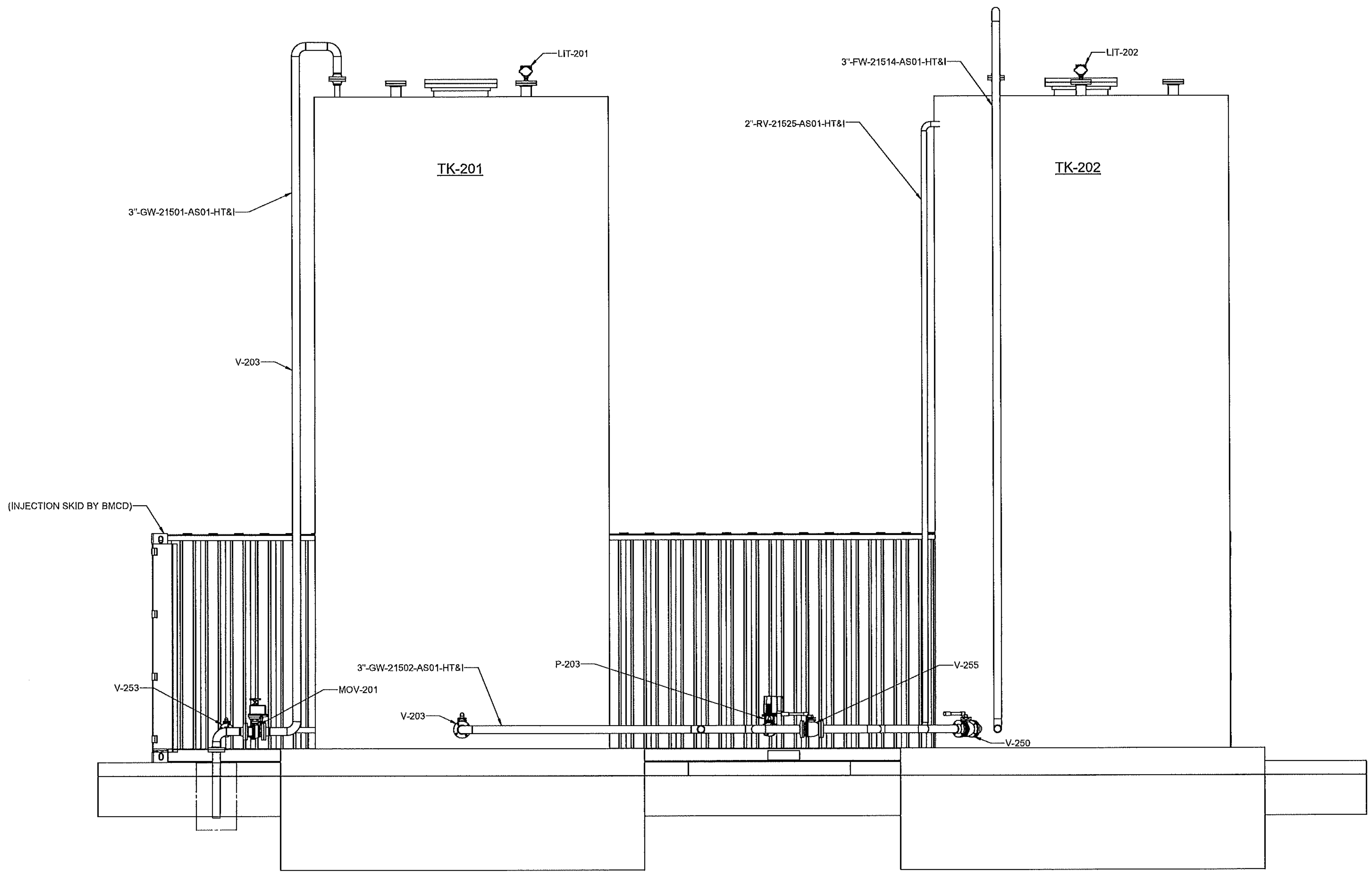
MECHANICAL
BURIAL AREA #1
GENERAL ARRANGEMENT

SIZE F | DRAWING NO VFS-EPM-000-DWG-G-220 | REV D
SCALE SHOWN | SHEET 1 OF 2

DWG NO VFS-EPM-000-DWG-G-220 SH 1 OF 2 REV D

NOTES:

1. SEE DRAWING VFS-EPM-000-DWG-G-200 FOR NOTES.



B SECTION
G-200-1 SCALE: 1/2" = 1'-0"

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

DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

MTD	REV NO	DESCRIPTION	REV BY DATE	ENGR COMPANY
REVISIONS				

CONCEPTUAL DESIGN

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DRAFTING CHECKER S MOORE	VNSFS
ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

MECHANICAL
BURIAL AREA #1
GENERAL ARRANGEMENT

SIZE F | DRAWING NO VFS-EPM-000-DWG-G-220 | REV D

SCALE SHOWN | SHEET 2 OF 2

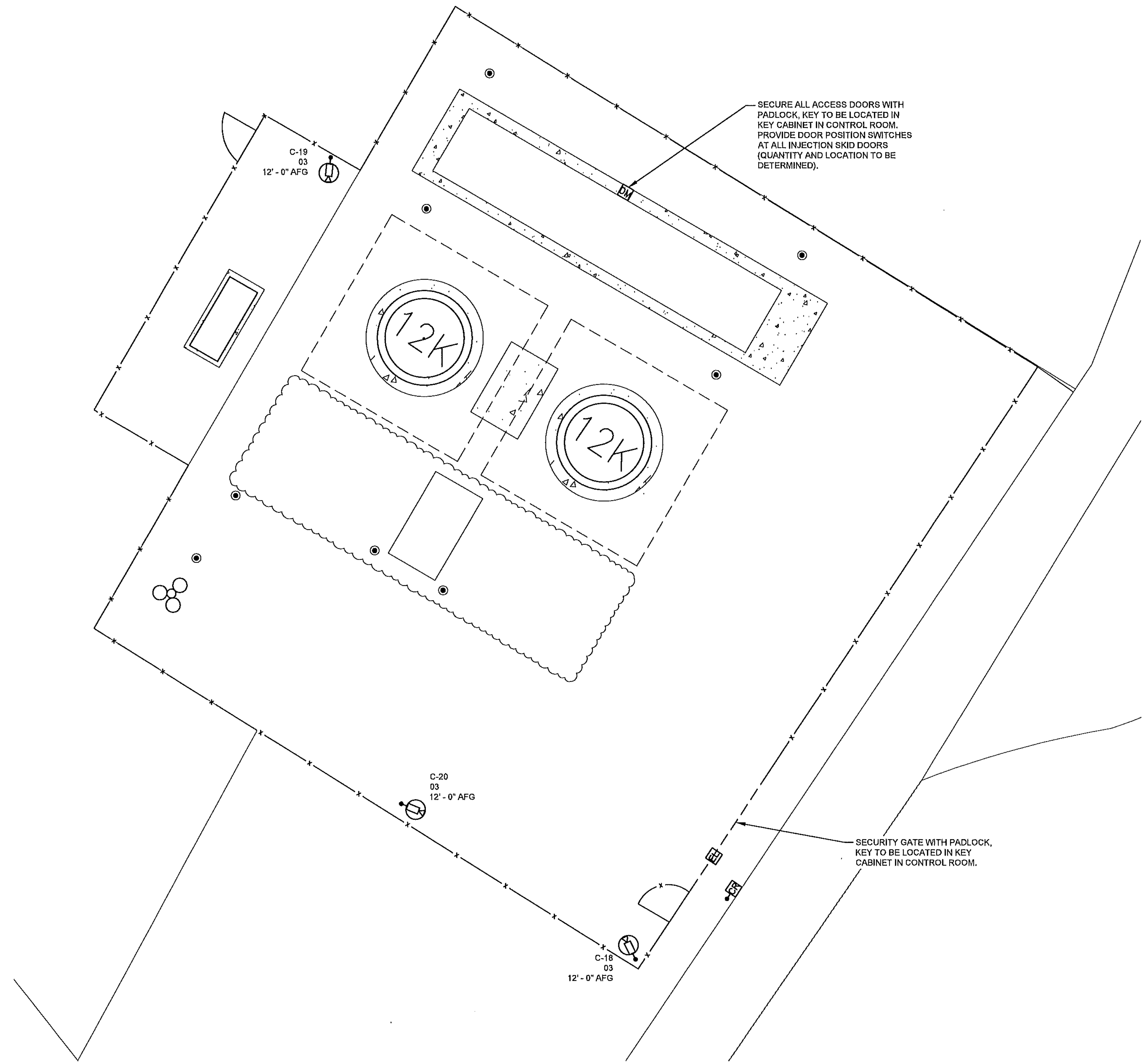
DWG NO VFS-EPM-000-DWG-G-220 SH 2 OF 2 REV D

GENERAL NOTES:

1. SEE CONSTRUCTION SPECIFICATION 28 2000 FOR SECURITY SYSTEM INSTALLATION AND INTERCONNECTION DETAILS.

SYMBOLS LEGEND:

DM	DOOR POSITION SWITCH
EL	ELECTRIFIED LOCK, DOOR POSITION SWITCH, REX
CR	CARD READER - PEDESTAL MOUNTED
	FIXED DOME CAMERA - POLE MOUNTED
C-XX 01	CAMERA NUMBER/TYPE (DEFINED IN SPECIFICATION SECTION 282000)
AFG	ABOVE FINISHED GRADE



BURIAL AREA #1 SITE SECURITY PLAN

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

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

CONCEPTUAL DESIGN

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NAME	DATE / COMPANY
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ENGINEERING CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

BURIAL AREA #1
SITE SECURITY
PLAN

SIZE F | DWG NO VFS-EPM-000-DWG-J-211 | REV C
SCALE SHOWN | EDT | SHEET 1 OF 1

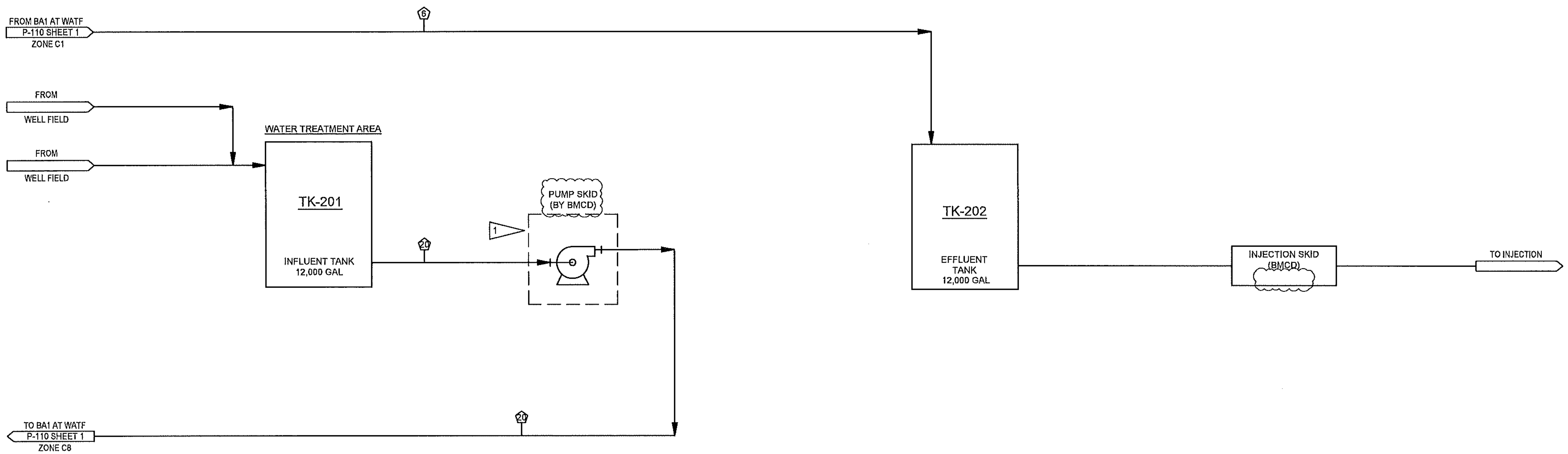
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

REV	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS			

DWG NO VFS-EPM-000-DWG-J-211 SH 1 OF 1 REV C

GENERAL NOTES:

1. BYPASS PIPING TO BE BUILT INTO SKID DESIGN.



CONCEPTUAL DESIGN

VEOLIA

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ENGINEER J WILSON	VNSFS
ENGINEER CHECKER B GARRETT	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

BURIAL AREA #1
PROCESS FLOW DIAGRAM

SIZE F | DWG NO VFS-EPM-000-DWG-P-210 | REV C

SCALE NONE | EDT | SHEET 1 OF 2

DWG NO | TITLE
DRAWING TRACEABILITY LIST

REF NUMBER | TITLE
REFERENCES
NEXT USED ON

DESCRIPTION | REV BY DATE | ENGR COMPANY
REVISIONS

DWG NO VFS-EPM-000-DWG-P-210 SH 1 OF 2 REV C

	STREAM NO	20
	DESCRIPTION	BLENDED IX FEED
PARAMETER	UNITS	
LIQUID STREAMS		
FLOW	GPM	100
	GPD	-
LIQUID CONCENTRATIONS		
NITRATE (AS N)	PPM	-
URANIUM (TOTAL)	PPB	1000
SUSPENDED SOLIDS	PPM (DRY)	-
SOLID STREAMS		
FLOW		
UNUSED IX RESIN	CUFT/YR	-
EXHAUSTED IX RESIN	CUFT/YR	-

NOTES:

1. STREAM TABLE BASED ON DESIGN CONDITIONS; ACTUAL CONDITIONS WILL VARY OVER THE COURSE OF REMEDIATION.

CONCEPTUAL DESIGN

VEOLIA

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PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

BURIAL AREA #1
PROCESS FLOW DIAGRAM

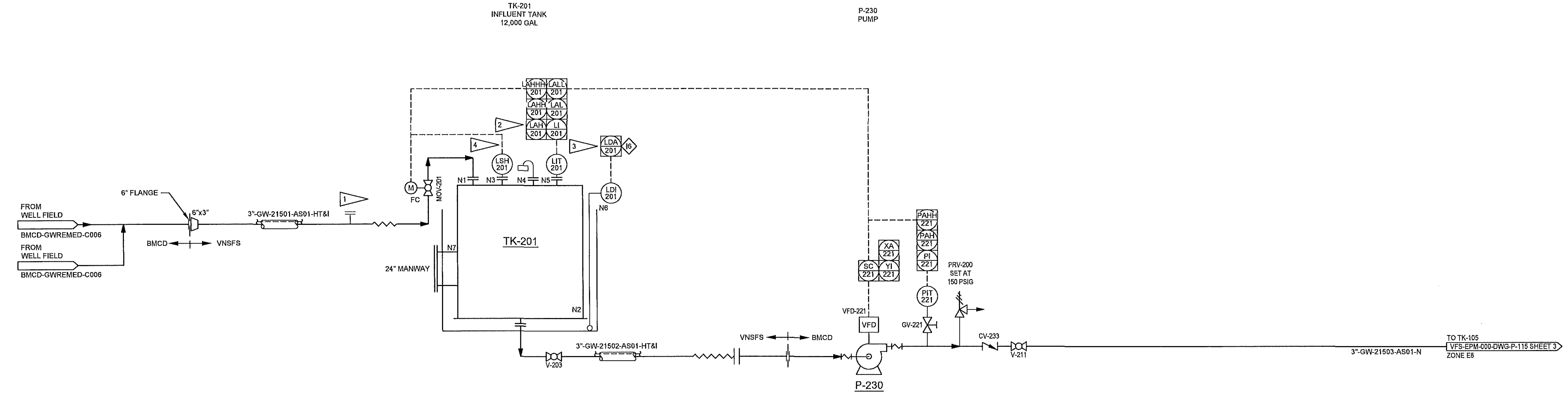
SIZE F | DWG NO VFS-EPM-000-DWG-P-210 | REV B
SCALE NONE | EDT | SHEET 2 OF 2

DWG NO VFS-EPM-000-DWG-P-210 | SH 2 OF 2 | REV B

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

MFD	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS				



GENERAL NOTES:

1. ADDED FOR FUTURE SYSTEM BYPASS ONCE MCL IS ACHIEVED FOR URANIUM.
2. HIGH ALARM SIGNAL SENT TO WELL FIELD HMI.
3. DETECTED LEAK (LDA-201) SHUT DOWN SIGNAL SENT TO WELL FIELD HMI.
4. STOP WELL FIELD PUMPS.
5. SEE DRAWING P-115 SHEET 1 FOR INTERLOCK LIST.

CONCEPTUAL DESIGN

VEOLIA

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NAME	DATE	COMPANY
V DAVISON	5/14/2021	VNSFS
S MOORE	5/14/2021	VNSFS
J WILSON	5/14/2021	VNSFS
D SMITH	5/14/2021	VNSFS
E LLOYD	5/14/2021	VNSFS

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

BURIAL AREA #1
PROCESS P&ID

SIZE F | DWG NO VFS-EPM-000-DWG-P-215 | REV E

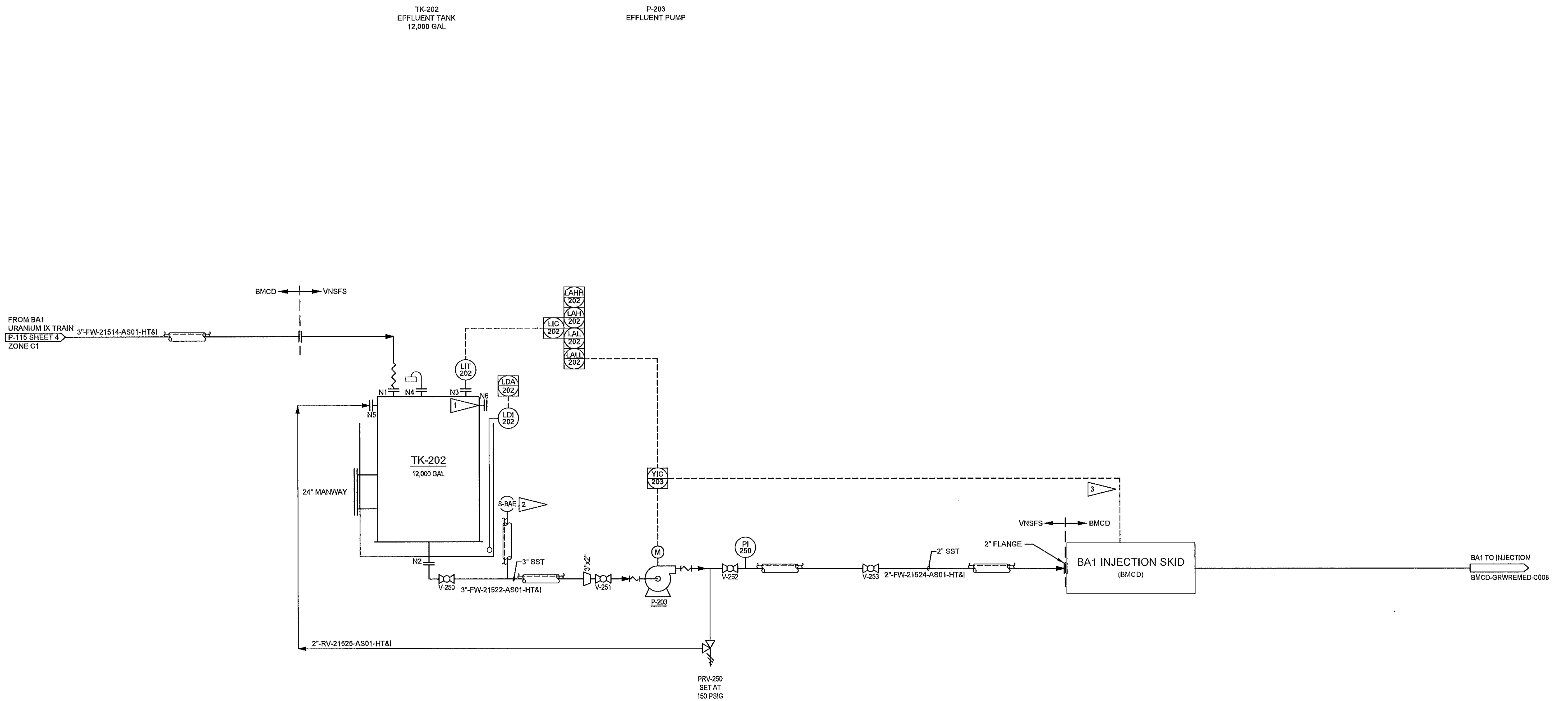
SCALE NONE | SHEET 1 OF 2

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

REVISIONS

DWG NO VFS-EPM-000-DWG-P-215 SH 1 OF 2 REV E



GENERAL NOTES:

1. ADDED FOR FUTURE SYSTEM BYPASS ONCE MCL IS ACHIEVED FOR URANIUM.
2. SEE VFS-EPM-000-DWG-P-115, SHEET 2 FOR ***SAMPLE DETAIL.
3. SIGNAL BASED ON TANK LEVEL TO CONTROL P-203.

CONCEPTUAL DESIGN

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ENGINEER CHECKER B GARRETT		VNSFS
PROJECT MANAGER E LLOYD		VNSFS
DESIGN AUTHORITY		

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

BURIAL AREA #1
PROCESS P&ID

SIZE F | DWG NO VFS-EPM-000-DWG-P-215 | REV F
SCALE NONE | SHEET 2 OF 2

DWG NO	TITLE
DRAWING TRACEABILITY LIST	

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

REVISIONS

DWG NO VFS-EPM-000-DWG-P-215 | SH 2 OF 2 | REV F

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 2015 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC), LOCAL RULES AND STANDARDS OF GOVERNING AGENCIES HAVING JURISDICTION.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF SITE CONDITIONS, INSTALLATION STANDARDS AND CONSTRUCTION CONDITIONS. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO SHOP FABRICATION AND/OR FIELD ERECTION, DISCREPANCIES BETWEEN SITE CONDITIONS AND THE CONSTRUCTION DRAWINGS SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER. WORK DONE WITHOUT THE ENGINEERS APPROVAL IS THE RESPONSIBILITY OF THE CONTRACTOR.
3. ALL SPECIAL INSPECTION AND TESTING SHALL BE PERFORMED BY AN INDEPENDENT INSPECTION AND TESTING AGENCY HIRED BY THE OWNER. CONTRACTOR TO COORDINATE WITH INSPECTION AND TESTING AGENCY FOR REQUIRED CONSTRUCTION INSPECTIONS AND MATERIAL TESTING.
4. THIS BUILDING SHALL BE CONSTRUCTED USING THE STANDARD DETAILS CONTAINED WITHIN THIS DRAWING SET UNLESS NOTED OTHERWISE. WHERE NO DETAIL IS NOTED IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CHOOSE THE APPROPRIATE STANDARD DETAIL FROM THOSE PROVIDED.
5. PRIOR TO DIGGING VERIFY LOCATION AND DEPTH OF UTILITIES AND OTHER UNDERGROUND INTERFERENCES. CALL TWO BUSINESS DAYS BEFORE YOU DIG AT 811.

FOUNDATION NOTES:

1. FOR SLAB ON GRADE AND FOUNDATION SUBGRADE PREPARATION THE CONTRACTOR SHALL REFERENCE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEERING REPORT.
2. FOUNDATION DESIGN BASED ON AN ALLOWABLE SOIL BEARING OF 2,000 PSF.
3. EXCAVATE FOOTING TRENCHES AND AREA BELOW SLABS TWO FEET WIDER THAN FOOTING WIDTH AND ONE FOOT DEEPER THAN DESIGN FOOTING GRADE. PROOF ROLL THE EXPOSED TRENCH BOTTOM TO 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557. PLACE MIRAFI 500X ON COMPACTED NATIVE SOIL. PLACE A 12" THICK LAYER OF 3/4" MINUS CRUSHED ROCK OVER FABRIC.

CONCRETE NOTES:

1. CONCRETE SLABS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS WITH A WATER TO CEMENT RATIO OF 0.45. ALL OTHER CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS WITH A WATER TO CEMENT RATIO OF 0.5. CONCRETE DESIGN IS BASED UPON ACI 318-08 COMPRESSIVE STRENGTH OF 2500 PSI WITH NO SPECIAL INSPECTION REQUIRED PER IBC 1705.3 REQUIRED.
2. CAST IN PLACE CONCRETE SHALL MEET THE FOLLOWING REQUIREMENTS:
   - ACI 117 - STANDARD SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS.
   - ACI 301 - SPECIFICATIONS FOR STRUCTURAL CONCRETE.
   - ACI 302 - GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION.
   - ACI 305 - HOT WEATHER CONCRETING.
   - ACI 306 - COLD WEATHER CONCRETING.
3. UNLESS NOTED OTHERWISE, ALL CONCRETE FLAT WORK SHALL CONFORM TO THE FOLLOWING FINISHING TOLERANCES 1/8" GAP UNDER A 10'-0" STRAIGHT EDGE MEASURED AS PER ASTM E1155:
   - OVERALL FLATNESS NUMBER, Ff≥20
   - MINIMUM LOCAL FLATNESS NUMBER, Ff≥15
   - OVERALL LEVELNESS NUMBER, Fl≥15
   - MINIMUM LOCAL LEVELNESS NUMBER, Fl≥10
4. ALL REINFORCING STEEL SHALL BE GRADE 60 DEFORMED BARS COMPLYING WITH ASTM SECTION A615. REINFORCING STEEL WHICH IS INDICATED ON THE PLANS AS BEING WELDED SHALL COMPLY WITH ASTM A706, AND SHALL ALSO BE DEFORMED. WELDING OF REINFORCING BARS SHALL BE PER AWS D1.4. SPECIAL INSPECTION SHALL BE PREPARED PER AWS D1.1 AND IBC 1705.2.2.1
5. ANCHOR RODS SHALL CONFORM TO ASTM F1554 Fy=36 KSI WITH HEAVY HEX HEADED END OR THREADED WITH NUT UNLESS NOTED OTHERWISE ON PLANS. TACK WELD NUT TO ANCHOR ROD.
6. REINFORCEMENT LAP HOOKS, ETC.; SHALL BE PER THE REINFORCEMENT TABLE UNLESS NOTED OTHERWISE.
7. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT: (MIN. COVER LISTED)
   - (A) CONCRETE CAST AGAINST AND PERMANENTLY PERMANENTLY EXPOSED TO EARTH: 3"
   - (B) CONCRETE EXPOSED TO EARTH OR WEATHER:
     - #6 THROUGH #18 BARS: 2"
     - #5 BAR, W31 OR D31 WIRE AND SMALLER: 1 1/2"
8. CONCRETE ADHESIVE ANCHORS SHALL USE A36 ALL-THREAD ROD WITH HILTI HIT HY.200 ADHESIVE OR SIMPSON SET ADHESIVE, OR ENGINEER APPROVED. SPECIAL INSPECTION OF ADHESIVE ANCHORS IS REQUIRED.
9. CONCRETE EXPANSION ANCHORS SHALL BE HILTI KWIK BOLT TZ OR SIMPSON STRONG BOLT OR ENGINEER APPROVED. STAINLESS STEEL ANCHORS SHALL BE USED AT ALL EXTERIOR APPLICATIONS. SPECIAL INSPECTION OF EXPANSION ANCHORS REQUIRED.
10. REINFORCING DOWEL ADHESIVE SHALL BE HILTI HIT HY.200 ADHESIVE, OR SIMPSON SET-XP ADHESIVE. SPECIAL INSPECTION OF ADHESIVE DOWELS IS REQUIRED.
11. ALL EXPOSED CORNERS OF CONCRETE SHALL BE FORMED INTO A 3/4" x 45 DEGREE CHAMFER, OR SCRIBED WITH A CONCAVE TOOLING DEVICE UNLESS NOTED OTHERWISE PER ACI 318.
12. THOROUGHLY CLEAN FORMS AND ADJACENT SURFACES TO RECEIVE CONCRETE. REMOVE CHIPS, WOOD, SAWDUST, DIRT, OR ANY OTHER DEBRIS PRIOR TO CONCRETE PLACEMENT.
13. CLEAN REINFORCING OF LOOSE RUST, MILL SCALE, DIRT, OR ANY OTHER FOREIGN MATERIAL. ACCURATELY POSITION, SUPPORT AND SECURE REINFORCEMENT PER ACI 302.
14. PROPORTION AND DESIGN MIXES TO RESULT IN CONCRETE SLUMP AT POINT OF PLACEMENT NOT LESS THAN 3" AND NOT MORE THAN 5" PRIOR TO SUPERPLASTICIZER. ADDITION OF WATER TO READY-MIX CONCRETE IN THE FIELD SHALL BE ALLOWED IF ON TRIP TICKET BEFORE DISCHARGE AND TESTING.
15. DEPOSIT CONCRETE IN A CONTINUOUS OPERATION UNTIL THE PLACING OF CONCRETE IS COMPLETE. IF THE POUR IS TO BE DISCONTINUOUS, CONTRACTOR SHALL USE CONSTRUCTION JOINTS, AS DETAILED ON THE DRAWINGS OR APPROVED BY THE ENGINEER.
16. UNLESS NOTED OTHERWISE, REINFORCING IS NOT TO EXTEND THROUGH CONSTRUCTION JOINTS OF FLOOR SLABS-ON-GRADE.
17. REPAIR ALL SURFACE DEFECTS INCLUDING TIE HOLES, MINOR HONEYCOMBING AND OTHER VISUAL IRREGULARITIES WITH CEMENT MORTAR. MORTAR FOR PATCHING SHALL BE THE SAME COMPOSITION AS THAT USED IN THE CONCRETE. PATCHING SHALL BE DONE AS SOON AS THE FORMS ARE REMOVED.
18. PROVIDE (1) 2'-0" LONG #4 REBAR AT ALL RE-ENTRANT CORNERS FOR SLABS, PITS, RECESSES, OR SLAB THICKNESS CHANGES IN THE TOP 1/3 OF THE SLAB-ON-GRADE.
19. REINFORCEMENT SHALL BE CONTINUOUS BENT AROUND CORNERS, OR CORNER BARS OF THE SAME SIZE MAY BE INSTALLED WITH MINIMUM LEG LENGTH THAT CONFORMS TO ACI 318-11, CLASS "B" SPLICES.
20. AVOID HOT AND WINDY CONDITIONS FOR CURING SLABS. SLABS MUST BE SEALED WITH CURING COMPOUND OR "WATER CURED".

CONCRETE - ADHESIVE ANCHORED REINFORCEMENT AND THREADED RODS NOTES:

1. SPECIAL INSPECTION IS REQUIRED AND SHALL BE PER IBC APPROVED ESR REPORT.
2. MATERIALS:
   ADHESIVE: HILTI-HIT-HY-200
3. INSTALLATION:
   A. INSTALL PER ESR REPORT IN CLEAN HOLES.
4. DO NOT INSTALL REINFORCEMENT OR ANCHORS IN CONCRETE THAT IS LESS THAN 7 DAYS OLD.

CONCRETE - EXPANSION ANCHORS NOTES:

1. SPECIAL INSPECTION IS REQUIRED AND SHALL BE PER ICC ESR 1917.
2. MATERIALS:
   HILTI ANCHORS: KWIK-BOLT TZ
3. INSTALLATION:
   A. USE CARBIDE-TIPPED DRILL BITS CONFORMING TO ANSI B212.15-1994. DRILL BIT SIZE IS EQUAL TO ANCHOR DIAMETER.
   B. CLEAN HOLES OF DUST AND DEBRIS USING OIL-FREE COMPRESSED AIR AND A NYLON BRUSH. HOLE DEPTH TO EXCEED EMBEDMENT DEPTH BY TWO ANCHOR DIAMETERS.
4. DO NOT INSTALL ANCHORS IN CONCRETE THAT IS LESS THAN 7 DAYS OLD.
5. PROVIDE STAINLESS STEEL ANCHORS OR MECHANICALLY GALVANIZED ANCHORS (PER ASTM B-695) WHERE ANCHORS ARE USED IN EXTERIOR CONDITIONS.

ANCHOR RODS NOTES:

1. ANCHOR RODS SHALL BE ASTM F1554 GRADE 36 WITH CLASS 1A THREADS, UNLESS NOTED OTHERWISE.
2. FURNISH ANCHOR RODS PREFABRICATED WITH MATCHING DOUBLE HEAVY HEX NUTS JAMMED AT THE END EMBEDDED IN CONCRETE.
3. FURNISH HARDENED PLATE WASHERS AND MATCHING HEAVY HEX NUTS FOR SECURING THE BASE PLATE TO THE ANCHOR RODS.
4. A RIGID TEMPLATE SHALL BE USED TO LOCATE ANCHOR RODS WHILE PLACING CONCRETE.
5. NO HEATING OR BENDING OF THE ANCHOR RODS IS PERMITTED.
6. HOLES IN THE BASE MATERIAL SHALL NOT BE ENLARGED BY BURNING.

STATEMENT OF SPECIAL INSPECTION NOTES:

1. IN ACCORDANCE WITH THE 2015 INTERNATIONAL BUILDING CODE SECTION 1704, THE OWNER SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK AND AS SPECIFIED BELOW. CONTRACTOR SHALL COORDINATE WITH INSPECTION AND TESTING AGENCY(S) FOR REQUIRED CONSTRUCTION INSPECTIONS AND MATERIAL TESTING. SPECIAL INSPECTION REPORTS SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER AND THE AUTHORITY HAVING JURISDICTION WEEKLY FOR REVIEW.
2. CONCRETE CONSTRUCTION: SPECIAL INSPECTION PER SECTION 1705.3 AND TABLE 1705.3 OF THE IBC. EXCEPTIONS: NO SPECIAL INSPECTION IS REQUIRED FOR THE FOUNDATIONS IF THE DESIGN STRENGTH OF THE FOUNDATIONS IS BASED ON A COMPRESSIVE STRENGTH OF 2500 PSI.
3. SEISMIC RESISTANCE: SPECIAL INSPECTION FOR SEISMIC RESISTANCE SHALL BE PER SECTION 1705.11 OF THE IBC AND AISC 341.
4. POST INSTALLED ANCHORS: SPECIAL INSPECTION SHALL BE PER THE ANCHORS ASSOCIATED ICC-ES ESR.

SYMBOLS:

NEW CMU WALL
SHEAR WALL
METAL DECK SPAN DIRECTION
STEEL COLUMN
NEW CONCRETE SLAB
(UP) (DN) BRACED FRAME

EXPANSION ANCHOR SCHEDULE

ANCHOR DIAMETER	HILTI KWIK BOLT TZ			SIMPSON STRONG BOLT		
	SHALLOW	STANDARD	DEEP	SHALLOW	STANDARD	DEEP
1/2"	2"	3 1/4"	-	2 3/4"	3 7/8"	5"
5/8"	3 1/8"	4"	-	3 3/8"	5 1/8"	6 1/8"
3/4"	3 3/4"	5"	-	4 1/8"	5 3/4"	7 1/2"
1"	-	-	-	-	5 1/4"	9 3/4"

CONCEPTUAL DESIGN

VEOLIA

VEOLIA NUCLEAR SOLUTIONS
FEDERAL SERVICES, LLC
295 Bradley, Suite 300
Richland, WA 99352

NAME	DATE / COMPANY
DRAWN BY S MOORE	10/21/2021 VNSFS
DRAFTING CHECKER J PIERCE	VNSFS
ENGINEER D NELSON	WDG
ENGINEER CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

STRUCTURAL NOTES AND ABBREVIATIONS

SIZE F | DWG NO VFS-EPM-000-DWG-S-201 | REV B
SCALE NONE | EDT | SHEET 1 OF 1

REF NUMBER	TITLE
REFERENCES	
NEXT USED ON	

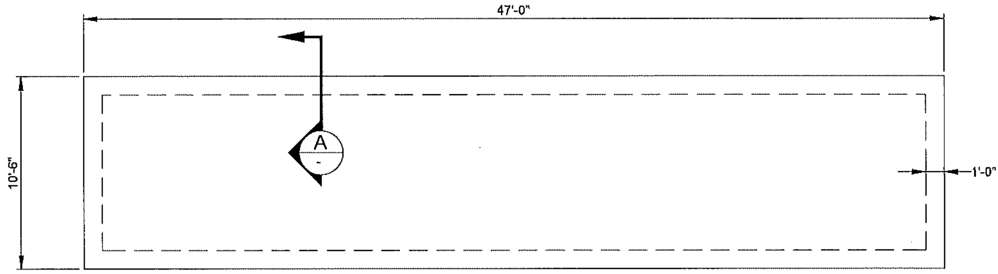
DWG NO	TITLE
DRAWING TRACEABILITY LIST	

MFD REV REL	REV NO	DESCRIPTION	REV BY DATE			ENGR COMPANY
REVISIONS						

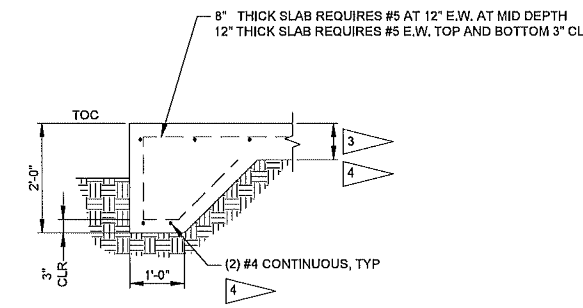
DWG NO VFS-EPM-000-DWG-S-201 SH 1 OF 1 REV B

NOTES:

1. SEE VFS-EPM-000-DWG-C-201 FOR CIVIL SYMBOLS, NOTES, AND ABBREVIATIONS.
2. SEE VFS-EPM-000-DWG-S-201 FOR NOTES, ABBREVIATIONS AND SCHEDULE.
3. 8 " THICK CONCRETE SLAB..
4. USE #5 REBAR AT 12" EACH WAY, C/C OVER 4" OF 5/8" CRUSHED MINUS COMPACTED FILL OVER 12" OF COMPACTED SUBGRADE WITH BROOM FINISH 1 TO 12 SLOPE.
5. SEE VFS-EPM-000-DWG-C-210 FOR FOUNDATION LOCATIONS.



3 4 1 C-210 BURIAL AREA - INJECTION SKID - PLAN VIEW
SCALE: 1/4" = 1'-0"



A - SECTION
SCALE: 3/4" = 1'-0"

CONCEPTUAL DESIGN

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Richland, WA 99352

NAME	DATE / COMPANY
DRAWN BY S MOORE	10/21/2021 VNSFS
DRAFTING CHECKER J PIERCE	VNSFS
ENGINEER D NELSON	WDG
ENGINEER CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

BURIAL AREA #1
STRUCTURAL
FOUNDATION PLAN VIEWS

SIZE	DWG NO	REV
F	VFS-EPM-000-DWG-S-210	C

SCALE SHOWN | EDT | SHEET 1 OF 3

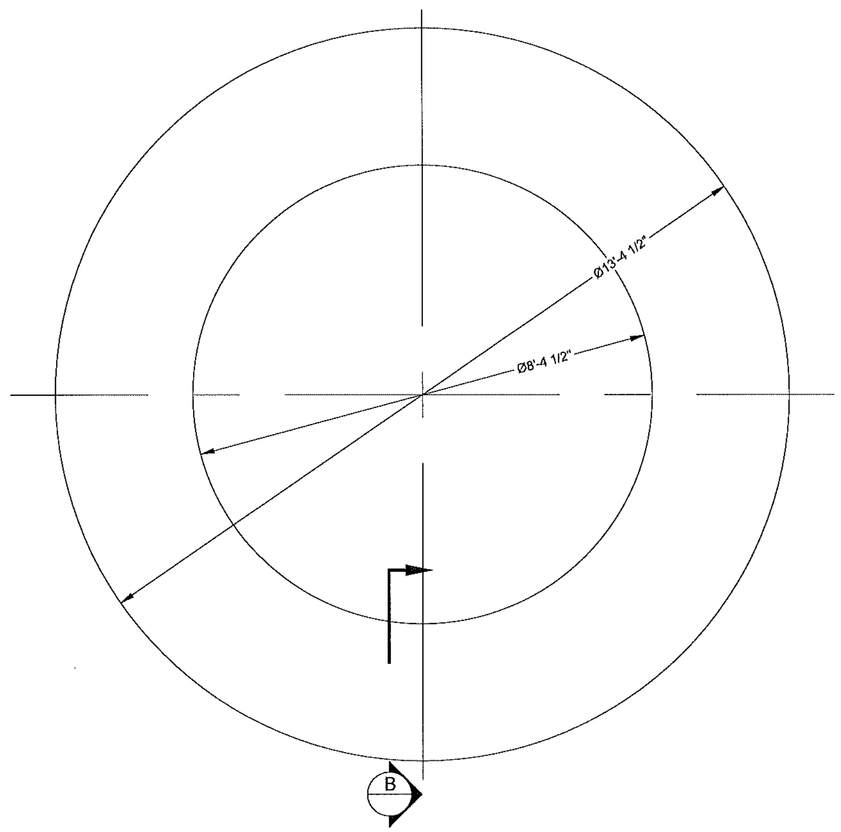
DWG NO	TITLE	REF NUMBER	TITLE
DRAWING TRACEABILITY LIST		REFERENCES	
		NEXT USED ON	

MFD	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
REVISIONS				

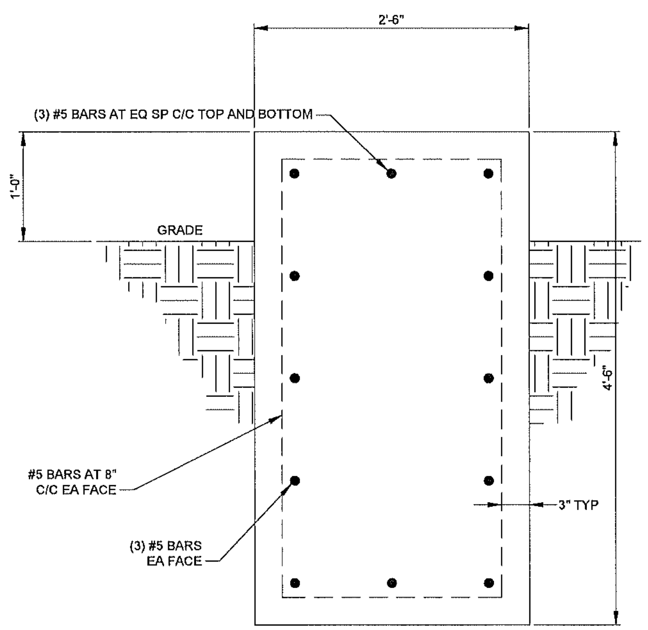
DWG NO VFS-EPM-000-DWG-S-210 SH 1 OF 2 REV C

NOTES:

1. SEE VFS-EPM-000-DWG-C-201 FOR CIVIL SYMBOLS, NOTES, AND ABBREVIATIONS.
2. SEE VFS-EPM-000-DWG-S-201 FOR NOTES, ABBREVIATIONS AND SCHEDULE.
3. SEE VFS-EPM-000-DWG-C-210 FOR FOUNDATION LOCATIONS



3 C-210 12K TANK FOUNDATIONS
SCALE: 3/4" = 1'-0"



B – SECTION
SCALE: 1 1/2" = 1'-0"

CONCEPTUAL DESIGN

VEOLIA NUCLEAR SOLUTIONS
FEDERAL SERVICES, LLC
295 Bradley, Suite 300
Richland, WA 99352

NAME	DATE / COMPANY
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DRAFTING CHECKER J PIERCE	VNSFS
ENGINEER D NELSON	WDG
ENGINEER CHECKER J WILSON	VNSFS
PROJECT MANAGER E LLOYD	VNSFS
DESIGN AUTHORITY	

CIMARRON
PUMP AND TREAT SYSTEM PROJECT

BURIAL AREA #1
STRUCTURAL
FOUNDATION PLAN VIEWS

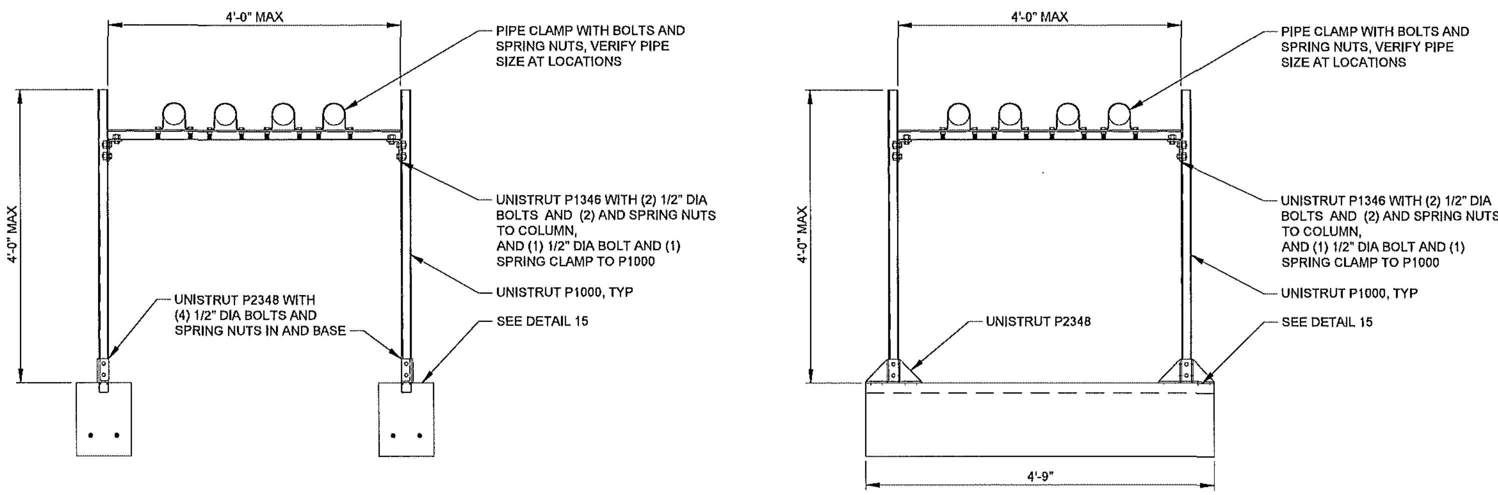
SIZE F | DWG NO VFS-EPM-000-DWG-S-210 | REV B
SCALE SHOWN | EDT | SHEET 2 OF 3

DWG NO	TITLE	REF NUMBER	TITLE	RPD	REV NO	DESCRIPTION	REV BY DATE	ENGR / COMPANY
DRAWING TRACEABILITY LIST		NEXT USED ON	REFERENCES	REV		REVISIONS		

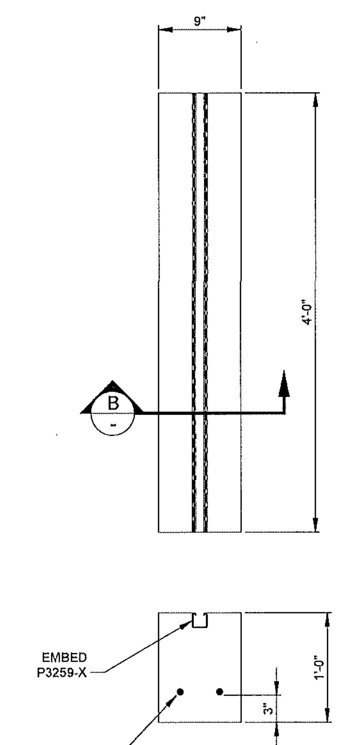
VFS-EPM-000-DWG-S-210 SH 2 OF 2 REV B
DWG NO

NOTES:

1. SEE VFS-EPM-000-DWG-C-201 FOR CIVIL SYMBOLS, NOTES, AND ABBREVIATIONS.
2. SEE VFS-EPM-000-DWG-S-201 FOR NOTES, ABBREVIATIONS AND SCHEDULE.



4 DETAIL - PIPE SUPPORT EXTERIOR
SCALE: 1" = 1'-0"



5 DETAIL - PIPE SUPPORT EXTERIOR
SCALE: 1 1/2" = 1'-0"

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S MOORE	VNSFS
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CIMARRON
PUMP AND TREAT SYSTEM PROJECT

BURIAL AREA #1
STRUCTURAL
FOUNDATION PLAN VIEWS

SIZE F | DWG NO VFS-EPM-000-DWG-S-210 | REV B
SCALE SHOWN | SHEET 3 of 3

DWG NO | TITLE
DRAWING TRACEABILITY LIST

REF NUMBER | TITLE
REFERENCES
NEXT USED ON

REVISIONS

VFS-EPM-000-DWG-S-210 SH 2 OF 2 REV B