AlexRenew



Bid Set

Drawings
Volume 3 of 3

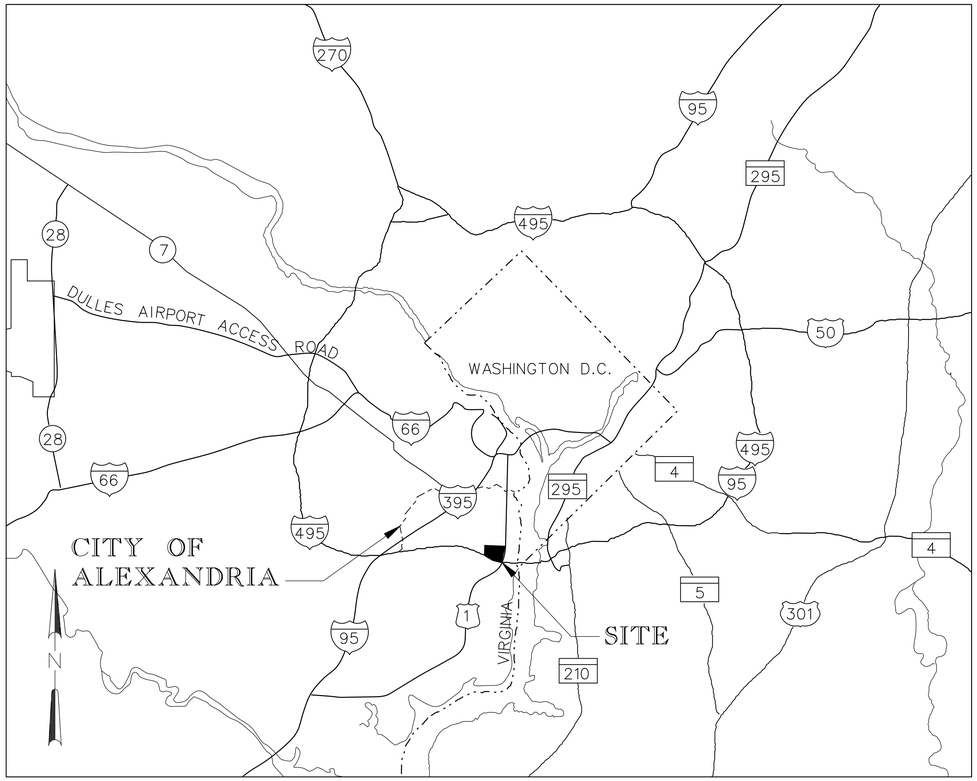
Prepared by:

Jacobs

Centrate Pretreatment Project

Contract 25-007

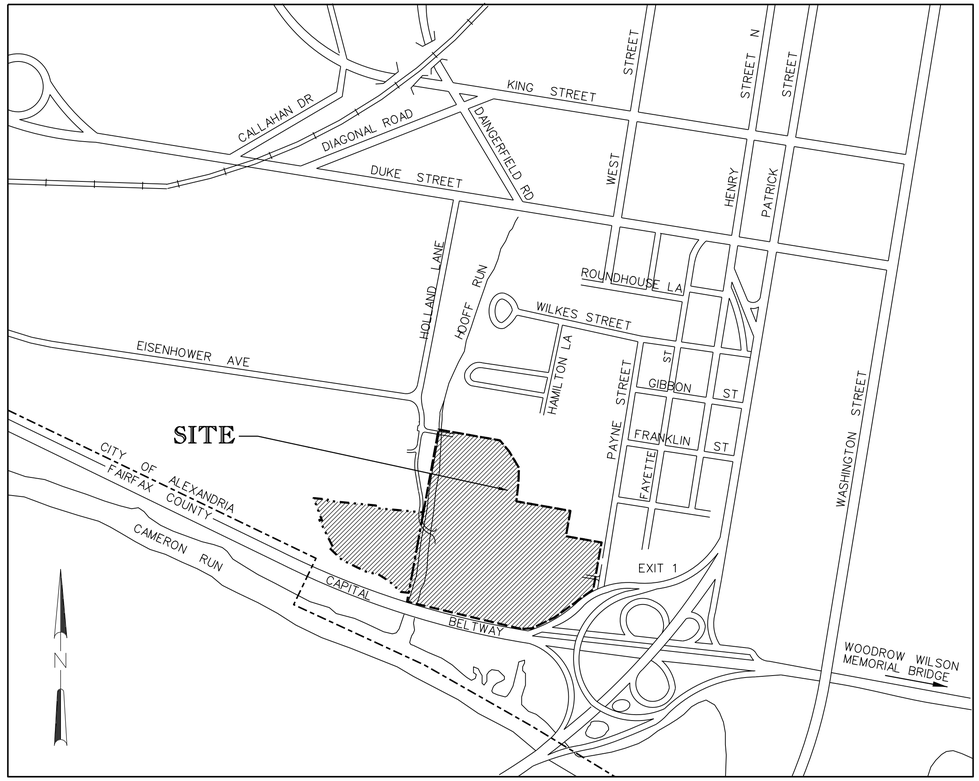
January 2025



VICINITY MAP

0 3.5 7.0 10.5

APPROXIMATE SCALE IN MILES



LOCATION MAP

0 600 1200 1800

APPROXIMATE SCALE IN FEET

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
LOCATION AND VICINITY MAPS

GENERAL

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

©JACOBS 2018. ALL RIGHTS RESERVED.

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	A. FONSECA
SUBMITTED BY:	I. KHAN
CONTRACT NO.:	25-007
DWG NO.	69-G-2
SHEET NO.	002 OF 97

Bid Set

E5X79926
FILENAME: 69-G-2_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:47

INDEX TO DRAWINGS

SHEET NUMBER	DRAWING NUMBER	TITLE

GENERAL

1	69-G-1	COVER SHEET
2	69-G-2	LOCATION AND VICINITY MAPS
3	69-G-3	INDEX TO DRAWINGS
4	69-G-4	ABBREVIATIONS
5	69-G-5	ABBREVIATIONS
6	69-G-6	ABBREVIATIONS
7	69-G-7	GENERAL, ARCHITECTURAL/STRUCTURAL AND CIVIL LEGEND
8	69-G-8	BUILDING CODE DATA
9	69-G-9	STRUCTURAL NOTES
10	69-G-10	STATEMENT OF SPECIAL INSPECTION - 1
11	69-G-11	STATEMENT OF SPECIAL INSPECTION - 2
12	69-G-12	MECHANICAL LEGEND
13	69-G-13	MECHANICAL LEGEND
14	69-G-14	HVAC LEGEND
15	69-G-15	PLUMBING LEGEND
16	69-G-16	INSTRUMENTATION AND CONTROL LEGEND
17	69-G-17	ELECTRICAL LEGEND
18	69-G-18	PROCESS FLOW SCHEMATIC
19	69-G-19	DESIGN DATA SUMMARY
20	69-G-20	EXISTING OVERALL PLANT SITE PLAN
21	69-G-21	CENTRATE PRE-TREATMENT OVERALL PROCESS FLOW DIAGRAM

INSTRUMENTATION AND CONTROL

22	69-I-1	UNIT PROCESS 69-CPT INFLUENT SCREEN P&ID
23	69-I-2	UNIT PROCESS 69-CPT REACTOR P&ID
24	69-I-3	UNIT PROCESS 69-CPT AERATION SYSTEM P&ID
25	69-I-4	CPT DRAIN PUMP P&ID
26	69-I-5	UNIT PROCESS 69-HEAT EXCHANGERS P&ID
27	69-I-6	MICRONUTRIENT STORAGE AND PUMPING P&ID

DEMOLITION

28	69-X-100	PARTIAL PLAN AT EL 1.00
29	69-X-101	PARTIAL PLAN AT EL 1.00
30	69-X-102	PARTIAL PLAN AT EL 16.00
31	69-X-103	PARTIAL PLAN AT EL 16.00
32	69-X-104	PARTIAL PLAN AT EL 32.00
33	69-X-105	PARTIAL PLAN AT EL 40.00
34	69-X-107	ROOF PLAN
35	69-X-301	SECTION A
36	69-X-302	SECTION B
37	69-X-303	SECTION C
38	69-X-304	SECTION D
39	69-X-305	SECTION E
40	69-X-306	SECTION F
41	69-X-307	SECTIONS G AND H
42	69-X-308	SECTION I
43	69-X-501	PHOTOS AT EL 1.00
44	69-X-502	PHOTOS AT EL 16.00
45	69-X-503	PHOTOS AT EL 32.00
46	69-X-504	PHOTOS AT EL 40.00

STRUCTURAL

47	69-S-141	PARTIAL PLAN AT EL. 32.00
48	69-S-151	PARTIAL PLAN AT EL. 40.00
49	69-S-152	PARTIAL PLAN AT EL. 40.00
50	69-S-301	SECTION

PROCESS MECHANICAL

51	69-M-131	PARTIAL PLAN AT EL 1.00
52	69-M-132	PARTIAL PLAN AT EL 1.00
53	69-M-141	PARTIAL PLAN AT EL 16.00
54	69-M-142	PARTIAL PLAN AT EL 16.00
55	69-M-151	PARTIAL PLAN AT EL 32.00 & 40.00
56	69-M-152	PARTIAL PLAN AT EL 40.00
57	69-M-301	SECTION A
58	69-M-302	SECTION B
59	69-M-303	SECTION C
60	69-M-304	PARTIAL PLAN UNDER MEZZANINE
61	69-M-305	ISOMETRIC VIEW
62	69-M-306	ISOMETRIC VIEW

SHEET NUMBER	DRAWING NUMBER	TITLE

BUILDING MECHANICAL

63	69-H-141	PARTIAL PLAN AT EL. 16.00
64	69-H-151	PARTIAL PLAN AT EL. 32.00
65	69-H-301	SECTIONS
66	69-H-501	AIR FLOW DIAGRAMS, CONTROL POINTS LIST AND SQUENCE OF OPERATION
67	69-H-601	EQUIPMENT SCHEDULES
68	69-P-141	PARTIAL PLAN AT EL. 16.00
69	69-P-151	PARTIAL PLAN AT EL. 32.00
70	69-P-601	RISER DIAGRAM

ELECTRICAL

71	69-E-131	PARTIAL PLAN AT EL 1.00
72	69-E-132	PARTIAL PLAN AT EL 1.00
73	69-E-141	PARTIAL PLAN AT EL 16.00
74	69-E-151	PARTIAL PLAN AT EL 32.00
75	69-E-152	PARTIAL PLAN AT EL 40.00
76	69-E-301	MCC ELEVATION - DEMOLTION
77	69-E-302	MCC - ELEVATION
78	69-E-601	ONE-LINE DIAGRAM - DEMOLITION
79	69-E-602	ONE-LINE DIAGRAM
80	69-E-701	PASTEBOARD SCHEDULES - DEMOLITION
81	69-E-702	PASTEBOARD SCHEDULES
82	69-E-703	CONDUITS AND CABLES SCHEDULES

STANDARD DETAILS

ATCHITECTURAL

83	69-A-901	STANDARD DETAILS - 1

STRUCTURAL

84	69-S-901	STANDARD DETAILS - 1
85	69-S-902	STANDARD DETAILS - 2
86	69-S-903	STANDARD DETAILS - 3

PROCESS MECHANICAL

87	69-M-901	STANDARD DETAILS - 1
88	69-M-902	STANDARD DETAILS - 2
89	69-M-903	STANDARD DETAILS - 3
90	69-M-904	STANDARD DETAILS - 4
91	69-M-905	STANDARD DETAILS - 5
92	69-M-906	STANDARD DETAILS - 6

BUILDING SERVICES

93	69-H-901	STANDARD DETAILS - 1
94	69-P-901	STANDARD DETAILS - 1

ELECTRICAL

95	69-E-901	STANDARD DETAILS - 1
96	69-E-902	STANDARD DETAILS - 2
97	69-E-903	STANDARD DETAILS - 3

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
INDEX TO DRAWINGS

GENERAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	A.FONSECA
SUBMITTED BY:	I. KHAN
CONTRACT NO.:	25-007
DWG NO.	69-G-3
SHEET NO.	003 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 16:47
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-G-3_E5X79926.dgn

A	AMMETER, AMPERES, AWNINGS
AB	ANCHOR BOLT, ABOVE
ABDN	ABANDON
AC	ACOUSTICAL, ACOUSTICAL CEILING
AC	ALTERNATING CURRENT
AC	ASPHALTIC CONCRETE
ACFL	ACCESS FLOORING
ACI	AMERICAN CONCRETE INSTITUTE
ACMU	ACOUSTICAL CONCRETE MASONRY UNIT, ACOUSTICAL CMU
ACP	ACOUSTICAL PANELS
ACST	ACOUSTICAL
ACT	ACOUSTICAL TILE
AD	AREA DRAIN
ADDL	ADDITIONAL
ADJ	ADJACENT
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AG	ACOUSTICAL, ACOUSTICAL GLASS
AGGR	AGGREGATE
AHR	ANCHOR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AJ	ADJUSTABLE
AL	ALUMINUM
ALKY	ALKALINITY
ALTN	ALTERNATE
AM	AUTO-MANUAL
AMRD	ACOUSTICAL METAL ROOF DECKING
ANCH	ANCHOR
ANDZ	ANODIZE
APPROX	APPROXIMATE
APVD	APPROVED
ARCH	ARCHITECTURAL
AR	ANALOG RELAY
A.S.	AS SELECTED
ASA	ALEXANDRIA SANITATION AUTHORITY
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AVG	AVERAGE
@	AT
B	BELL
B/	BOTTOM OF
(B)	BRONZE TINT
BAL	BALANCE
BC	BOTTOM OF CURB
BETW	BETWEEN
BF	BLIND FLANGE
BFV	BUTTERFLY VALVE
BL	BASELINE
BFP	BACKFLOW PREVENTER
BLDG	BUILDING
BLK	BLOCK
BLL	BUILDING LOW LIMIT
BM	BEAM, BENCHMARK
BNZ	BRONZE
BO	BOTTOM OF
B.O.B.	BOTTOM OF BEAM
BOCA	BOCA NATIONAL BUILDING CODE
BOD	BOTTOM OF DUCT, BIOLOGICAL OXYGEN DEMAND
BOP	BOTTOM OF PIPE
BOT	BOTTOM
BRG	BEARING
BRK	BRICK
BRKR	BREAKER
BSP	BLACK STEEL PIPE
BV	BALL VALVE, BLOCK VENT
BVC	BEGINNING OF VERTICAL CURVE
C	CONDUIT, CASEMENT
°C	DEGREE CELSIUS
C TO C	CENTER TO CENTER
CAB	CABINET
CB	CATCH BASIN
CB	CIRCUIT BREAKER
CC	CONTROL CABLE
CCP	CENTRAL CONTROL PANEL
CCS	CENTRAL CONTROL SYSTEM
CD	CHECK DAMS
CDF	CONTROLLED DENSITY FILL
CE	CONSTRUCTION ENTRANCE
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CHAN, C	CHANNEL (BEAM)
CHEM	CHEMICAL
CHKD	CHECKERED
CI	CAST IRON
CIP	CAST IRON PIPE, CAST IN PLACE
CIP	CULVERT INLET PROTECTION
CISP	CAST IRON SOIL PIPE
CJ	CONSTRUCTION JOINT
CKT	CIRCUIT
℄ OR CL	CENTERLINE
CLDIP	CEMENT LINED DUCTILE IRON PIPE
CLG	CEILING
CLO	CLOSET
CLR	CLEAR
CLSR	CLOSER
CL2	CHLORINE
CMP	CENTRAL MONITORING PANEL
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CNTR	COUNTER
CO	CLEANOUT, CARBON MONOXIDE
CO2	CARBON DIOXIDE
COD	CHEMICAL OXYGEN DEMAND
COL	COLUMN, COLOR
CONC	CONCRETE
COND	CONDENSATE
CONDTN	CONDITIONED
CONN	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUED, CONTINUOUS, CONTINUATION
CONTR	CONTRACTOR
COORD	COORDINATE
COP	COPPER
CP	CENTER PIVOT
CP-X	CONTROL PANEL NO. X
CPLG	COUPLING
CPRSR	COMPRESSOR
CPT	CONTROL POWER TRANFORMER, CENTRATE PRETREATMENT
CPVC	CHLORINATED PVC
CR	CONTROL RELAY
CRS	COLD ROLLED STEEL
CRS	CONSTRUCTION ROAD STABILIZATION
CS	CUP SINK
CT	CERAMIC TILE
CT	CURRENT TRANSFORMER
CTC	COMPUTER TERMINAL CABINET
CTR	CENTER
CTRD	CENTERED
CTSK	COUNTERSUNK
CU	CUBIC
CU FT	CUBIC FOOT
CU IN	CUBIC INCH
CUH	COPPER TUBING, HARD DRAWN
CV	CHECK VALVE
CWR	CABINET DOOR MOUNTED WASTE RECEPTACLE
CY, CU YD	CUBIC YARD
D	DEEP, DRAIN
d	PENNY NAIL SIZE
DA	DUAL ACTION
DAS	DATA ACQUISTION SYSTEM
DB	DRAINABLE, DRY BULB
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DC	DIRECT CURRENT
DD	DIVERSION DIKE
DEG	DEGREE
DET	DETAIL
DF	DOUGLAS FIR
DF	DRINKING FOUNTAIN
DDI	DROP INLET
DH	DOUBLE HUNG
DI	DUCTILE IRON
DIA	DIAMETER
DIAG	DIAGONAL
DIP	DUCTILE IRON PIPE
DIR	DIRECTION
DISCH	DISCHARGE
DN	DOWN
DO	DISSOLVED OXYGEN
DOL	DIRECT-ON-LINE
DP, DPNL	DISTRIBUTION PANEL
DR	DOOR
DS	DOWNSPOUT
DSET	DIGESTED SLUDGE EQUALIZATION TANK
DWG	DRAWING
DWL	DOWEL
△	DELTA
E	EAST
E	EMPTY
EA	EACH, EXHAUST AIR
EB, EBCT	EMPTY BED CONTACT TIME
ECC	ECCENTRIC
EE	EMERGENCY EYEWASH
EF	EACH FACE, EXHAUST FAN
EFF	EFFICIENCY, EFFICIENT
EFL	EFFLUENT
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EL	ELEVATION
ELB	ELBOW
ELC	ELECTRICAL LOAD CENTER
ELEC	ELECTRIC, ELECTRICAL
ENGR	ENGINEER
EP	EDGE OF PAVING
EP	EXPLOSION PROOF
EQL	EQUAL
EXP	EXPOSED STRUCTURE
EQL SP	EQUALLY SPACED
EQPT	EQUIPMENT
ETM	ELAPSED TIME METER
EVC	END OF VERTICAL CURVE
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
EXP	EXPANSION, EXPOSED
EXP AB	EXPANSION ANCHOR BOLT
EXP JT	EXPANSION JOINT
EXST	EXISTING
EXT	EXTERIOR
°F	DEGREE FAHRENHEIT
F, FU	FUSE
F, FX	FIXED
FAP	FIRE ALARM PANEL
FC	FLEXIBLE CONDUIT
FCA	FLANGED COUPLING ADAPTER
FCL2	FREE CHLORINE RESIDUAL
FCO	FLOOR CLEANOUT
FCTY	FACTORY
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FDN	FOUNDATION
FDR	FEEDER
FEXT	FIRE EXTINGUISHER
FF	FINISHED FLOOR
FG	FINISH GRADE, FLOAT GLASS
FH	FLAT HEAD
FHY	FIRE HYDRANT
FIG	FIGURE
FL	FLOW LINE
FLG	FLANGE
FL	FLOOR
FLEX	FLEXIBLE
FLH	FLAT HEAD
FLTR	FILTER
FLUOR	FLUORESCENT
FNSH	FINISH
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FP	FIELD PANEL
FPM	FEET PER MINUTE
FR	FORWARD REVERSE
FRP	FIBERGLASS REINFORCED PLASTIC
FSHS	FOLDING SHOWER SEAT
FT	FOOT OR FEET
FTG	FOOTING
FU	FIXTURE UNIT
FV	FIELD VERIFY
FVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING
FWD	FORWARD
G, GND	GROUND
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GB	GRAB BAR
GB	GYPSUM BOARD
GC	GROOVED COUPLING
GCMU	GLAZED CONCRETE MASONRY UNITS
GFI	GROUND FAULT INTERRUPTER
GFR	GOUND FAULT RELAY
GH	GREENHOUSE
GL	GLASS
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPR	GROUND PENETRATION RADAR
GPS	GLOBAL POSITION SYSTEM
GRTG	GRATING
GRY	GRAY
GSB	GYPSUM SOFFIT BOARD
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
GVL	GRAVEL
H	HIGH, HORN OR HOWLER
H2S	HYDROGEN SULFIDE
H.A.S.	HEADED ANCHOR STUD
HDNR	HARDENER
HDNS	HARDNESS
HDR	HEADER
HDW	HARDWARE
HGL	HYDRAULIC GRADE LINE

NOTES:

1. THIS IS A STANDARD SHEET, THEREFORE SOME ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT BE USED ON THE PROJECT.
2. CONTACT ENGINEER FOR ABBREVIATIONS USED BUT NOT SHOWN ON THIS DRAWING.
3. FOR FLOW STREAM IDENTIFICATION, SEE DWG NO. G-13.
4. FOR HVAC AND PLUMBING EQUIPMENT IDENTIFICATION, SEE DWG NO. G-15 AND G-16.
5. FOR ADDITIONAL ABBREVIATIONS, SEE ELECTRICAL, I&C, GENERAL, MECHANICAL, HVAC, PLUMBING, STRUCTURAL, ARCHITECTURAL AND CIVIL LEGENDS.

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
ABBREVIATIONS

GENERAL

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

NO.	PRE-BID REVISIONS	BY	DATE

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	A.FONSECA
SUBMITTED BY:	I. KHAN
CONTRACT NO.:	25-007
DWG NO.	69-G-4
SHEET NO.	004 OF 97

Bid Set

PLOT TIME: 16:47
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-G-4_E5X79926.dgn

HK	HOOK
HGT	HEIGHT
HH	HANDHOLE
HID	HIGH INTENSITY DISCHARGE
HK	HOOK
HM	HOLLOW METAL
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPT	HIGH POINT
HPS	HIGH PRESSURE SODIUM
HR	HOSE RACK, HANDRAIL
HS	HORIZONTAL SLIDING
HV	HOSE VALVE
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HWL	HIGH WATER LEVEL
IC	INTERRUPTING CAPACITY
ID	INDUCED DRAFT, INSIDE DIAMETER
IE	INVERT ELEVATION
I.F.	INSIDE FACE
IG	INSULATING, INSULATING GLASS
IN	INCH
INCAND	INCANDESCENT
INFL	INFLUENT
INJS	INJECTIONS
INST	INSTANTANEOUS
INSTM	INSTRUMENT, INSTRUMENTATION
INSUL	INSULATION
INTR	INTERIOR
INVT	INVERT
IP	INLET PROTECTION, INSTRUMENTATION PANEL
ITG	INSULATED TEMPERED GLASS
ITX	ISOLATION TRANSFORMER
IU	INTAKE UNIT
JB	JUNCTION BOX
JCT	JUNCTION
JT	JOINT
K	KEY GROUP, KEY INTERLOCK
KIP	THOUSAND POUNDS
K-PL	KICKPLATE
KV	KILOVOLTS
KVA	KILOVOLT AMPERES
KVAR	KILOVOLT AMPERES REACTIVE
KW	KILOWATT
L	ANGLE, LENGTH
LA	LIGHTNING ARRESTER
LAB	LABORATORY
LAM	LAMINATE
LAT	LATITUDE
LB	POUND
LC	LIGHTING CONTACTOR
LD	COMBINATION LOUVER/DAMPER
LDG	LOADING DOCK
LEL	LOWER EXPLOSIVE LIMIT
LF	LINEAR FEET
LG	LONG
LH	LEFT HAND
LHR	LEFT HAND REVERSE
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LNTL	LINTEL
LONG	LONGITUDINAL
LOS	LOCK-OUT STOP PUSHBUTTON
LP	LIGHT POLE, LIGHTING PANEL
LPT	LOW POINT
LR	LATCHING RELAY
LR	LOCAL-REMOTE
LR	LONG RADIUS
LTG, LTS	LIGHTS OR LIGHTING
LTX	LIGHTING TRANSFORMER
LVG	LEAVING
LWL	LOW WATER LEVEL
LYRS	LAYERS

M&BH	MOP AND BROOM HOLDER
MA	MANUAL-AUTO
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MC	MASONRY CLEARANCE
MC	MODULATE-CLOSE
MCC	MOTOR CONTROL CENTER
MCSS	MULTIPARAMETER COMPOSITION SENSOR SYSTEM
MDO	MEDIUM DENSITY OVERLAY
MECH	MECHANICAL
MET	METAL
MFD	MANUFACTURED
MFR	MANUFACTURER
MGD	MILLION GALLONS PER DAY
MH	MANHOLE, MOUNTING HEIGHT
MIN	MINUMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MLO	MAIN LUGS ONLY
MMP	MECHANICAL MOUNTING PANEL
MO	MANUAL OPERABLE, MASONRY OPENING
MP	METAL PANEL
MPU	MULTIPURPOSE UNIT
MS	MANUFACTURER'S STANDARD
MSC	MANUFACTURER SUPPLIED CABLE
MSR	GROUPED MOTOR CONTROL
MT	MOUNT
MTD	MOUNTED
MTG	MOUNTING
MTL	METAL
MTS	MANUAL TRANSFER SWITCH
MTS	MILL TYPE STEEL PIPE
MU	MULCHING
MV	MERCURY VAPOR
MWS	MAXIMUM WATER SURFACE
N	NORTH, NEUTRAL
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NEUT	NEUTRAL
NA	NON-AUTOMATIC
ND	NAPKIN DISPOSAL
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
NO., #	NUMBER
NOM	NOMINAL
NP	NON-PROTECTED
NPT	NATIONAL PIPE THREADS
NS	NON-SHRINK
NTS	NOT TO SCALE
O2	OXYGEN
O TO O	OUT TO OUT
OA	OVERALL, ODOROUS AIR
OC	ON CENTER
OC	OPEN-CLOSE (O)
OCA	OPEN-CLOSE-AUTO
OCR	OPEN-CLOSE-REMOTE
OD	OUTSIDE DIAMETER, OVERFLOW DRAIN
O.F.	OUTSIDE FACE
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OG	OBSCURE
OL	OVERLOAD RELAY
OO	ON-OFF
OOA	ON-OFF-AUTO
OOR	ON-OFF-REMOTE
OP	OPAQUE PANEL
OP	OPAQUE PANEL, OUTLET PROTECTION
OPER	OPERATOR
OPNG	OPENING
OPP	OPPOSITE
OSA	OUTSIDE AIR
OSC	OPEN-STOP-CLOSE
OSD	OPEN SITE DRAIN
OWSJ	OPEN WEB STEEL JOIST
OZ	OUNCE

P	PROJECTED
PAVT	PAVER TILE
PB	PUSHBUTTON SWITCH
PC	POINT OF CURVE
PC	PRECAST CONCRETE PANEL
PC-A	PRECAST CONCRETE PANEL WITH ACOUSTICAL INSULATED METAL PANEL LINER
PCCP	PRECAST CONCRETE CYLINDER PIPE
PCV	PRESSURE CONTROL VALVE
PE	PLAIN END, PRIMARY EFFLUENT
PED	PEDESTAL, PEDESTRIAN
PEP	POLYETHYLENE PIPE
PEN.	PENETRATION
PFC	POUNDS PER CUBIC FOOT
PH	PENTHOUSE
pH	HYDROGEN ION CONCENTRATION
PH	PHASE
PI	POINT OF INTERSECTION
PIT	PILOT TUBE TEST STATION
PJF	PREMOULDED JOINT FILLER
PL	PLATE (STEEL)
PL	PROPERTY LINE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER, PLASTIC
PLC	PROGRAMMABLE LOGIC CONTROLLER
PLC-X	PROGRAMMABLE LOGIC CONTROLLER NO. X
PLWD, PLYWD	PLYWOOD
PNL	PANEL
PP	POWER POLE
P-P	PUSH-PULL
PPL	POLYPROPYLENE LINED
PR	PAIR
PRCST	PRECAST
PREFAB	PREFABRICATION
PRES	PRESSURE
PRI	PRIMARY
PRM	PERMANENT REFERENCED MARKER
PROJ	PROJECTION
PROP	PROPERTY
PS	PLASTIC SHEET, POLYCARBONATE SHEET
PS	PAINT SYSTEM
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH, GAUGE
PT	POINT OF TANGENCY
PT	POTENTIAL TRANSFORMER
PT	PRESSURE TREATED
PTN	PARTITION
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
PVT	POINT OF VERTICAL TANGENCY
QAA	AVERAGE FLOW
QMM	MAXIMUM 30 DAY FLOW
QPI	PEAK INSTANTANEOUS FLOW
QPP	PEAK PUMPING FLOW
QT	QUARRY TILE
R	RISER
R OR RAD	RADIUS
RA	RETURN AIR
RC	REINFORCED CONCRETE
RCP	REINFORCED CONCRETE PIPE
RCPT	RECEPTACLE
RD	ROAD
RD	ROOF DRAIN
RDCR	REDUCER
RDW	REDWOOD
RECIR	RECIRCULATION
REF	REFER OR REFERENCE

NOTES:

1. THIS IS A STANDARD SHEET, THEREFORE SOME ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT BE USED ON THE PROJECT.
2. CONTACT ENGINEER FOR ABBREVIATIONS USED BUT NOT SHOWN ON THIS DRAWING.
3. FOR FLOW STREAM IDENTIFICATION, SEE DWG NO. G-13.
4. FOR HVAC AND PLUMBING EQUIPMENT IDENTIFICATION, SEE DWG NO. G-15 AND G-16.
5. FOR ADDITIONAL ABBREVIATIONS, SEE ELECTRICAL, I&C, GENERAL, MECHANICAL, HVAC, PLUMBING, STRUCTURAL, ARCHITECTURAL AND CIVIL LEGENDS.

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
ABBREVIATIONS

GENERAL

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS - THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	A.FONSECA
SUBMITTED BY:	I. KHAN
CONTRACT NO.:	25-007
DWG NO.	69-G-5
SHEET NO.	005 OF 97

Bid Set

PLOT TIME: 16:48
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-G-5_E5X79926.dgn

REF	REFRIGERATOR
REFR	REFRIGERATE, REFRIGERANT
REINF	REINFORCED, REINFORCING, REINFORCE
REQD	REQUIRED
RESIL	RESILIENT
RFS	ROLL-UP FIRE SHUTTER
RG	REFLECTIVE
RH	RIGHT HAND
RH	RODHOLE
RHR	RIGHT HAND REVERSE
RL	RAIN LEADER
RL	RAISE LOWER
RLS	RUBBER LINED STEEL
RM	ROOM
RO	ROUGH OPENING
ROL	RAISE-OFF-LOWER
RPM	REVOLUTIONS PER MINUTE
RR	RIPRAP
RRUB	RADIAL RUBBER
RS	RIGID STEEL
RSBT	RAW SLUDGE BLENDING TANK
RST	REINFORCING STEEL
RTN	RETURN
RTO	REGENERATIVE THERMAL OXIDIZER
RUB	RUBBER
RUBC	RUBBER CUSHIONED FLOORING
RUBS	RUBBER ESD CONTROL FLOORING
R/W	RIGHT OF WAY
S	I-BEAM
S	SLOPE, SOUTH, SWITCH
SA	SUPPLY AIR
SATC	SUSPENDED ACCUSTICAL TILE CEILING
SB	SEDIMENT BASIN
SC	SHOWER CURTAIN, SOLID CORE WOOD
SCC	SOLID CORE
SCFM	STANDARD CUBIC FEED PER MINUTE
SCHED	SCHEDULE
SCR	SHOWER CURTIN ROD
SCU	SPEED CONTROL UNIT
SD	SOAP DISPENSER, STORM DRAIN
SDP	SUB-DISTRIBUTION PANEL
SDWK	SIDEWALK
SEC	SECONDARY
SECT	SECTION
SED	SEDIMENTATION
SEW	SEWAGE
SF	SILT FENCE
SF	SLOWER-FASTER
SF	SQUARE FEET
SG	LAMINATED SAFETY GLASS, SAFETY
SGWB	SUSPENDED GYPSUM WALL BOARD
SH	SHEET
SHA	SURFACE HARDENING AGENT
SHS	SOLIDS HANDLING SYSTEM
SIM	SIMILAR
SK	SINK
SLR	SEALER
SMLS	SEAMLESS EPOXY
SOI	SPRAY- ON INSULATION
SOLN	SOLUTION
SO2	SULFUR DIOXIDE
SP	SPACE OR SPACES, SPANDREL PANEL, STORMPROOF
SPEC, SPECS	SPECIFICATIONS
SPG	SPACING
SPLY	SUPPLY
SQ	SQUARE
SQ FT	SQUARE FOOT, FEET
SQ IN	SQUARE INCH
SR	SHORT RADIUS
SS	START-STOP, SANITARY SEWER
SST	STAINLESS STEEL
SSC	SUPERVISORY SET POINT CONTROL
ST	STRAIGHT
STA	STATUS
STD	STANDARD
STIF	STIFFENER
STIRR	STIRRUP
STL	STEEL
STRL	STRUCTUAL
STRUCT	STRUCTURE
SUBFL	SUBFLOOR
SUSP	SUSPENDED
SV	SOLENOID VALVE
SVIN	SHEET VINYL
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYMM	SYMMETRICAL

T	TINTED
T	THERMOSTAT, TREAD
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
T/	TOP OF
TA	TRANSFER AIR
TAN	TANGENT
TB	TERMINAL BOARD
TB	TOWEL BAR
TBG	TUBING
TC	TIME TO CLOSE
TC	TOP OF CURB
TC	TURBIDITY CURTAIN
TCAD	TIME CLOSE AFTER DE-ENERGIATION
TCAE	TIME CLOSE AFTER ENERGIZATION
TCL2	TOTAL CHLORINE RESIDUAL
TCTG	TRAFFIC COATING
TDH	TOTAL DYNAMIC HEAD
TDR	TIME DELAY RELAY
TECH	TECHNICAL
TEL	TELEPHONE
TEMP	TEMPORARY, TEMPERATURE
TF	TOP FACE
TFG	TEMPERED FLOAT GLASS
TG	TEMPERED
TH	TOP-HINGED
THD	THREAD
THK	THICKNESS
THRU	THROUGH
TJB	TERMINAL JUNCTION BOX
TL	TEFLON LINED PIPE
T.O.	TIME TO OPEN
T.O.	TOP OF
TOAE	TIME OPEN AFTER ENERGIZATION
TOC	TOTAL ORGANING CARBON
TOC	TOP OF CONCRETE
TOD	TIME ON DELAY, TOP OF DUCT, TOTAL OXYGEN DEMAND
TOF	TOP OF FOOTING
TOG	TOP OF GROUT
TOS	TOP OF STEEL
TOW	TOP OF WALL
TP	TURNING POINT
TR	TRANSOM, TRUSS
TRANS	TRANSFORMER, TRANSITION
TRANSV	TRANSVERSE
TRD	TREAD
TS	TUBE STEEL
TS	TEMPORARY SEEDING
TSET	THICKENED SLUDGE EQUALIZATION TANK
TSHT	THRESHOLD
TSS	TOTAL SUSPENSION SOLIDS
TST	TOP OF STEEL
TTC	TELEPHONE TERMINAL CABINET
TTD	TOILET TISSUE DISPENSER
TTIG	TEMPERED TINTED INSULATED GLASS
TU-X	TREATMENT UNIT NO. X
TURB	TURBIDITY
TWP	TRANSLUCENT WALL PANEL
TX	TRANSFORMER
TYP	TYPICAL
UCR	UNDER COUNTER REFRIGERATOR
UON	UNLESS OTHERWISE NOTED
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
U/S	UNDERSIDE
USB	UNIT SUBSTATION
UV	ULTRAVIOLET
UVR	UNDER VOLTAGE RELAY

V	VALVE
V	VENT
V	VOLTMETER, VOLTS
VB	VAPOR BARRIER (RETARDER)
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VCT	VINYL COMPOSITION TILE
VEL	VELOCITY
VERT	VERTICAL
VHC	VOLATILE HYDROCARBONS
VIB	VIBRATION
VIC	VICTAULIC
VIN	VINYL
VINT, VT	VINYL TILE
VP	VERTICAL PIVOTED
VPS	VENEER PLASTER SYSTEM
VPC	POINT OF VERTICAL CURVATURE
VPI	POINT OF VERTICAL INTERSECTION
VPT	POINT OF VERTICAL TANGENT
VS	VERTICAL SLIDE
VTR	VENT THRU ROOF
VWC	VINYL WALL COVERING
W	WEST, WIDE, WIDE FLANGE (BEAM)
W/	WITH
WD	WOOD
WEASTRIP	WEATHERSTRIP
WG	WIRE, WIRE GLASS
WH	WATTHOUR METER
WHD	WATTHOUR DEMAND METER
WHT	WHITE
W/O	WITHOUT
WP	WATERPROOF, WEATHERPROOF, WORKPOINT
WR	WASTE RECEPTACLE
WRB	WATER RESISTANT GWB
WS	WATER SURFACE
WS	WATERSTOP
WS	WELDED STEEL
W-S	WEATHERSTRIPPING
WTP	WATER TREATMENT PLANT
WTR	WATER
WU	WALL URNINAL
WW	WINDOW WALL
WWTP	WASTEWATER TREATMENT PLANT
X	OPEN: NO WALL
XFMR	TRANSFORMER

PLOT DATE: 16-JAN-2025 PLOT TIME: 16:47

E5X79926
FILENAME: 69-G-6_E5X79926.dgn

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
ABBREVIATIONS

GENERAL

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
© JACOBS 2018. ALL RIGHTS RESERVED.

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	A.FONSECA
SUBMITTED BY:	I. KHAN
CONTRACT NO.:	25-007
DWG NO.	69-G-6
SHEET NO.	006 OF 97

Bid Set

ARCHITECTURAL NOTES

1. UNLESS OTHERWISE INDICATED, PLAN DIMENSIONS ARE TO COLUMN GRID OR CENTERLINES, NOMINAL SURFACE OF MASONRY, FACE OF STUDS AND FACE OF CONCRETE WALLS.
2. "FLOOR LINE" REFERS TO TOP OF CONCRETE SLABS. FINISH FLOORING IS INSTALLED ABOVE THE FLOOR LINE. FOR DEPRESSED FLOORS AND CURBS, SEE STRUCTURAL DRAWINGS.
3. REPETITIVE FEATURES ARE NOT DRAWN IN THEIR ENTIRETY AND SHALL BE COMPLETELY PROVIDED AS IF DRAWN IN FULL.
4. WHERE DOOR IS LOCATED NEAR CORNER OF ROOM AND IS NOT LOCATED BY DIMENSION ON PLAN OR DETAILS, DIMENSION SHALL BE 3-INCHES FROM FACE OF STUD (WALL) TO EDGE OF ROUGH OPENING. DIMENSION SHALL BE 6 INCHES FROM FACE OF WALL TO EDGE OF ROUGH OPENING AT CONCRETE WALLS.
5. DIMENSIONS ON DRAWINGS FOR DOOR AND WINDOW OPENINGS IN WALLS ARE NOMINAL. MAKE ACTUAL CLEAR OPENINGS A MINIMUM OF 3/8-INCH LARGER TO ALLOW FOR SHIM SPACE AND SETTING FRAMES PLUMB AND LEVEL.
6. LINE OF EXISTING GRADES, AS SHOWN ON THE BUILDING ELEVATIONS AND SECTIONS ARE APPROXIMATE. THEY ARE AT THE BUILDING FACE, OR ON THE SECTION END EXCEPT AS NOTED.
7. VERIFY ROUGH-IN DIMENSIONS FOR EQUIPMENT PROVIDED IN THIS CONTRACT, OR BY OTHERS.
8. REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND OTHER CATEGORIES OF DRAWINGS FOR ADDITIONAL NOTES.
9. VERIFY SIZE AND LOCATION OF, AND PROVIDE: REQUIRED OPENINGS THROUGH FLOORS AND WALLS, ACCESS DOORS, FURRING, CURBS, ANCHORS AND INSERTS. PROVIDE BASES AND BLOCKING REQUIRED FOR ACCESSORIES, MECHANICAL, ELECTRICAL AND OTHER EQUIPMENT.

ARCHITECTURAL/STRUCTURAL LEGEND

SYMBOL	LEGEND
ACTIVE / INACTIVE	INDICATES PAIR OF DOORS
DIRECTION SHOWN — 7	INTERIOR WALL ELEVATION
1	COLUMN GRID LINE NUMBER
X	WALL TYPE, SEE DETAIL 9002
X-L1	TYPE LOUVER
X-W1	TYPE WINDOW
X-101	ROOM NUMBER
X-100 / A	DOOR SYMBOL; DOOR NUMBER SAME AS ROOM NUMBER; DOOR DESIGNATION
	WHERE 'X' IS BLDG OR STRUCTURE DESIGNATION
	GRATING, SPAN DIRECTION INDICATED
	CHECKERED PLATE
	GROUT
	GRANULAR FILL
	EARTH OR FINISH GRADE
	CONCRETE
	CMU WALL (PLAN)
	CMU WALL (SECTION)
	MASONRY WALL
	METAL STUD WALL (PLAN)
	WOOD STUD WALL (PLAN)
	RIGID INSULATION
	BATT INSULATION
	STEEL
	ALUMINUM
	PLYWOOD
	GYPSUM WALLBOARD
	ACOUSTICAL TILE
	WOOD, ROUGH CONTINUOUS
	WOOD, ROUGH NON-CONTINUOUS
	WOOD, FINISHED
WALL — FEXT-X	FIRE EXTINGUISHER LOCATION ONLY, EXTINGUISHERS NOT IN CONTRACT (X = NUMBER IN SPECS)
	CONTROL JOINT
HINGED SIDE	CHECKERED PLATE
110.50 110.50	SPOT ELEVATION
	SLOPE DOWN
	RAILINGS

GENERAL LEGEND

TO BE DEMOLISHED

DETAIL AND SECTION DESIGNATION

SECTION (LETTER) OR DETAIL (NUMERAL) DESIGNATION — A

DRAWING NUMBER (REPLACED WITH A LINE IF TAKEN AND SHOWN ON SAME SHEET)

ON DRAWING WHERE SECTION OR DETAIL IS TAKEN: 1 / DF-M-201 — SHEET/DRAWING NUMBER WHERE SHOWN

B SECTION — SCALE — 10-S-1 — ON DRAWING WHERE SECTION OR DETAIL IS SHOWN — DRAWING NUMBER(S) WHERE TAKEN

2 DETAIL — SCALE — 10-M-1 — ON DRAWING WHERE SECTION OR DETAIL IS SHOWN — DRAWING NUMBER(S) WHERE TAKEN

DESIGN DETAIL DESIGNATIONS

DESIGN DETAIL DESIGNATION — 1234-123

THE DESIGN DETAILS REPRESENT WORK TO BE PERFORMED AT VARIOUS LOCATIONS THROUGHOUT THE PROJECT. THE WORK SHOWN ON THE DESIGN DETAILS SHALL BE PERFORMED AT LOCATIONS AS APPLICABLE, WHETHER THESE LOCATIONS ARE SPECIFICALLY REFERENCED ON THE DRAWINGS OR NOT.

PHOTO DESIGNATIONS

ARROW INDICATES DIRECTION WHICH PHOTO WAS TAKEN

1 / 10-M-2 — PHOTO NUMBER DESIGNATION — DRAWING NUMBER WHERE PHOTO IS SHOWN

1 PHOTO — NTS — 10-M-1 — ON DRAWING WHERE PHOTO WAS TAKEN

DRAWING NUMBER DESIGNATION

FACILITY CODE — 00-S-XYZ

DISCIPLINE DESIGNATOR
- G = GENERAL
- C = CIVIL
- SC = SITE CIVIL
- SD = SITE DEMOLITION
- SP = SITE PIPING
- SE = SITE ELECTRICAL
- D = DEMOLITION
- S = STRUCTURAL
- M = MECHANICAL
- A = ARCHITECTURAL
- E = ELECTRICAL
- I = INSTRUMENTAION AND CONTROL
- RD = REFERENCE DRAWING
- H = HVAC
- P = PLUMBING

PLAN LEVEL INDICATOR:
- WHERE Y = LEVEL (EX.: 4 = 41 SERIES - GROUND LEVEL)
- WHERE Z = SPECIFIC AREA OF INDICATED LEVEL (EX.: 1= NORTH-WEST QUADRANT OF BUILDING - VARIES WITH SIZE AND SHAPE OF BUILDING)
- OR SEQUENTIAL NUMBER FOR NON-PLANS

DRAWING TYPE INDICATOR:
- BLANK - NON-FACILITY (GENERAL, CIVIL OR PIPE GALLERY)
- 1 - PLAN
- 2 - ELEVATION
- 3 - SECTION
- 4 - LARGE SCALE VIEWS
- 5 - DETAILS

6 - SCHEMATICS AND DIAGRAMS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
AND CIVIL LEGEND

GENERAL

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	J. MEIER
SUBMITTED BY:	I. KHAN
CONTRACT NO.:	25-007
DWG NO.	69-G-7
SHEET NO.	007 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 16:47
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-G-7_E5X79926.dgn

BUILDING DESCRIPTION

THE ALEXRENEW CENTRATE PRETREATMENT PROJECT ENCOMPASSES WATER PROCESS TREATMENT UPGRADES WITHIN THE CENTRATE PRETREATMENT PROCESS (CPT) BUILDING 69, AND INCLUDES A MIX OF BUILDING ALTERATIONS TO SUPPORT THE ONGOING WASTEWATER TREATMENT CAPACITY FOR THE PLANT.

APPLICABLE CODES + STANDARDS

CODE TYPE	TITLE	EDITION
BUILDING CODE	INTERNATIONAL BUILDING CODE (IBC) USBC: VIRGINIA CONSTRUCTION CODE (VCC)	2021
	INTERNATIONAL EXISTING BUILDING CODE USBC: VIRGINIA REHABILITATION CODE (VRC)	2021
FIRE CODE	INTERNATIONAL FIRE CODE (IFC) USBC: VIRGINIA STATEWIDE FIRE PREVENTION CODE (VSFPC)	2021
	NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 30 FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE	2021
ENERGY CODE	INTERNATIONAL ENERGY CONSERVATION CODE (IECC) USBC: INTERNATIONAL ENERGY CONSERVATION CODE (VECC)	2021
MECHANICAL CODE	INTERNATIONAL MECHANICAL CODE (IMC) USBC: INTERNATIONAL MECHANICAL CODE (VMC)	2021
PLUMBING CODE	INTERNATIONAL PLUMBING CODE (IPC) USBC: INTERNATIONAL PLUMBING CODE (VPC)	2021
ELECTRICAL CODE	USBC: NATIONAL ELECTRIC CODE (NEC)	2020
FUEL & GAS CODE	INTERNATIONAL FUEL & GAS CODE (IFGC) USBC: INTERNATIONAL FUEL & GAS CODE (VFGC)	2021
STANDARD & ORDINANCES	VIRGINIA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (VOSHA)	2011
	NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 820 STANDARD FOR FIRE PROTECTION IN WASTEWATER TREATMENT AND COLLECTION FACILITIES	2021

BUILDING OCCUPANCY NOTES

1. PER IEBC/VRC CHAPTER 4, THE PROJECT IS CLASSIFIED AS A LEVEL 2 ALTERATION; IT WILL INCLUDE THE RECONFIGURATION OF SPACE, THE REMOVAL & REPLACEMENT OF COMPONENTS, AND THE INSTALLATION OF ADDITIONAL EQUIPMENT. THE BUILDING WILL NOT UNDERGO A CHANGE IN THE MAIN OCCUPANCY USE GROUP. ITEMS RELATED TO EXISTING FIRE PROTECTION AND EXISTING MEANS OF EGRESS SHALL REMAIN IN COMPLIANCE WITH IEBC/VRC SECTION 602.2 AS A LEVEL 1 ALTERATION.
2. THE SCOPE OF THIS PROJECT INCLUDES THE DECOMMISSIONING AND REMOVAL OF EXISTING HAZARDOUS MATERIALS THAT WERE IN USE DURING THE ORIGINAL CONSTRUCTION OF THE BUILDING. THE SCHEDULE PRESENTED ON THIS SHEET IDENTIFIES THE TYPE AND AMOUNTS OF EACH MATERIAL THAT WERE INSTALLED AT THE TIME OF ORIGINAL CONSTRUCTION, AND WHICH WILL BE REMOVED IN THEIR ENTIRETY AFTER THE PROJECT IS COMPLETE. THE MATERIALS WILL NOT BE REPLACED OR SUBSTITUTED AND REPRESENT AN OVERALL REDUCTION IN THE QUANTITIES STORED OR IN USE THROUGHOUT THE BUILDING. EXISTING ROOM CONDITIONS RELATED TO THE ENCLOSURE, FIRE PROTECTION, AND BUILDING MECHANICAL FUNCTIONS SHALL REMAIN UNCHANGED.
3. THE SCOPE OF THIS PROJECT INCLUDES MINOR RECONFIGURATIONS TO THE PATHS OF TRAVEL AROUND A SMALL AREA OF EXISTING SPACES AND EQUIPMENT, BUT DO NOT IMPACT THE OVERALL EGRESS TRAVEL DISTANCES, EXIT LOCATIONS, AND QUANTITY OF DESIGNATED EXITS ALREADY ESTABLISHED WITHIN THE BUILDING.

BUILDING CODE DATA

BUILDING OCCUPANCY

CODE SECTION	DESCRIPTION
OCCUPANCY TYPE [SECTION 302]:	MODERATE HAZARD FACTORY INDUSTRIAL GROUP F-1 (BASEMENT LEVEL, GROUND FLOOR LEVEL) HIGH-HAZARD GROUP H-3 (GROUND FLOOR LEVEL) UTILITY AND MISCELLANEOUS GROUP U (SECOND FLOOR LEVEL)
OCCUPANCY SEPARATIONS [TABLE 508.4]:	1 HOUR FOR F-1 AND H-3 (EXISTING, SPRINKLERED)
INCIDENTAL USE AREAS: [TABLE 509.1]:	STORAGE ROOMS, LABORATORIES (NO SEPARATION REQUIRED)
ACCESSORY USE AREAS [SECTION 508.2]:	N/A
NON-SEPARATED USE [SECTION 508.3]:	N/A

BUILDING CLASSIFICATION

CLASSIFICATION [SECTION 602 & TABLE 601]:	TYPE IIB
EXTERIOR WALLS FIRE SEPARATION DISTANCE [TABLE 705.5]:	X < 30

FIRE-RESISTANCE RATING FOR BUILDING ELEMENTS

STRUCTURAL FRAME:	0
BEARING WALLS, EXTERIOR:	N/A
BEARING WALLS, INTERIOR:	0
NON-BEARING WALLS, EXTERIOR:	0 FOR X > 30'
NON-BEARING WALLS, INTERIOR:	0
FLOOR CONSTRUCTION:	0
ROOF CONSTRUCTION:	0
SHAFT ENCLOSURES [SECTION 713.4]:	2 HOURS (EXISTING)
INTERIOR STAIRWAY ENCLOSURE [SECTION 1023.2]:	2 HOURS (EXISTING)
CORRIDOR [TABLE 1020.2]:	N/A

BUILDING FIRE PROTECTION SYSTEMS

AUTOMATIC SPRINKLER SYSTEMS [SECTION 903]:	Y/N: YES	EXISTING BUILDING IS FULLY SPRINKLERED
PORTABLE FIRE EXTINGUISHERS [SECTION 906]:	Y/N: YES	PROVIDED IN DESIGNATED ROOMS & SPACES
FIRE ALARM AND DETECTION SYSTEMS [SECTION 907]:	Y/N: YES*	DETECTION SYSTEMS ARE INSTALLED; NO MANUAL FIRE ALARM SYSTEM PRESENT

BUILDING MEANS OF EGRESS

REQUIRED EXITS PER STORY: [IBC 1006.3.3 & 1006.3.4(2)]	2 (MAXIMUM OCCUPANT LOAD OF 500) 1 (MAXIMUM OCCUPANT LOAD OF 49 FOR FIRST STORY
MAXIMUM EXIT ACCESS TRAVEL DISTANCE: [TABLE 1017.2]	ABOVE GRADE, AND 29 FOR SECOND STORY ABOVE GRADE)
MAXIMUM COMMON PATH OF EGRESS TRAVEL: [TABLE 1006.2.1]	F-1 = 250' (WITH SPRINKLER SYSTEM)
MAXIMUM DEAD END [SECTION 1020.4]:	F = 100' (WITH SPRINKLER SYSTEM, AND MAXIMUM OCCUPANT LOAD OF 49) F = 50' (WITH SPRINKLER SYSTEM)

ACCESSIBILITY REQUIREMENTS

AS INTERPRETED IN IBC/OBC SECTION 1103.2.9, THE AREAS USED FOR WASTEWATER ACTIVITY AND OTHER SIMILAR MECHANICAL SPACES INTENDED ONLY FOR LIMITED PERIODIC USE BY SERVICE OR MAINTENANCE PERSONNEL ARE ACCESSED THROUGH RESTRICTED ENTRANCES AND ARE NOT REQUIRED TO BE ACCESSIBLE.

BUILDING CALCULATIONS

BUILDING HEIGHT + STORIES

BUILDING ALLOWABLE AREA

TABULAR AREA FACTOR (AT):	F-1: 62,000 GSF (S1 SPRINKLER CATEGORY)
TABULAR AREA, NONSPRINKLERED BUILDING (NS):	F-1, TYPE IIB: 15,500 GSF

BUILDING ALLOWABLE AREA

BUILDING ALLOWABLE HEIGHT + STORIES

ALLOWABLE HEIGHT: 55'-0"	ACTUAL HEIGHT: EXISTING
ALLOWABLE STORIES: 2(S1 SPRINKLER CATEGORY)	ACTUAL STORIES: 2 (ABOVE GRADE) 1 (BELOW GRADE)

HAZARDOUS MATERIALS INFORMATION - EXISTING QUANTITIES TO BE REMOVED

	MATERIAL	CAS #	HAZARD CLASSIFICATION		ACTUAL AMOUNT	EXEMPT AMOUNT	OCCUPANCY
A.	METHANOL (23%) WATER (77%)	67-56-1	HEALTH: FLAMMABILITY: REACTIVITY: SPECIFIC HAZARD: PERSONAL PROTECTION	2 2 0 2	2 TANKS @ 1,300 GALLONS EACH = $\frac{1300 \times 23}{100}$ =GALLONS 598 GALLONS METHANOL	120X2=240 GALLONS (DUE TO SPRINKLER)	H3
B.	GLYCERIN (70%) WATER (26%) SODIUM CHLORIDE (4.75%) FATTY ACID (0.05-0.6) METHYL ALCOHOL (0-0.06)	56-81-5/7732-18-5/7647-14-5/8039-43-8/67-56-1	HEALTH: FLAMMABILITY: REACTIVITY: SPECIFIC HAZARD:	1 0 0 NONE	2 TANKS @ 1,300 GALLONS EACH	N/A	H4

NOTE:

1. SEE BUILDING OCCUPANCY NOTE 2 FOR EXPLANATION OF HAZARDOUS MATERIALS TO BE REMOVED FROM THE EXISTING BUILDING. THIS SCHEDULE OF QUANTITIES IS FOR REFERENCE ONLY.
2. SEE KEY PLAN ON THIS SHEET FOR LOCATION OF EXISTING MATERIALS TO BE REMOVED.

HAZARDOUS MATERIALS INFORMATION - QUANTITIES ADDED TO PROJECT

INDOOR STORAGE + USE (IBC TABLE 307.1)

MATERIAL	DESCRIPTION	TRADE NAME	CONCENTRATION	CAS #	CLASS	ACTUAL AMOUNT	MAXIMUM STORAGE AMOUNT	OCCUPANCY CLASSIFICATION
TOXIC	IRON(II) SULFATE SULFURIC ACID WATER	IRON(II) SULFATE SOLUTION	22% <0.5% 77.5-80%	7782-63-0 7664-93-9 7732-18-5	TOXIC	1,300 LIQUID GALLONS (POUNDS)	1,500 LIQUID GALLONS (POUNDS)	H4

NOTES:

MATERIAL WILL BE STORED IN ONE CONTAINMENT AREA (1 TOTE)

MAXIMUM STORAGE AMOUNT INDICATED IS INCREASED BY 100%; SEE NOTE 1

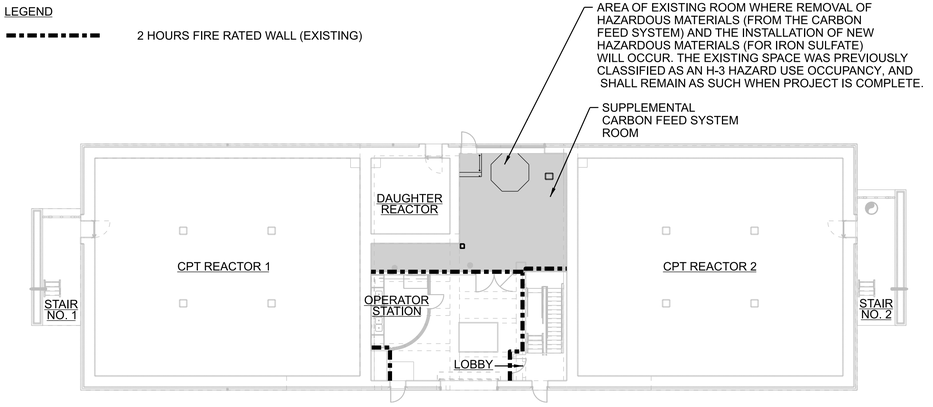
NOTES:

1. PER IBC TABLE 307.1, FOOTNOTED, MAXIMUM ALLOWABLE QUANTITIES SHALL BE INCREASED 100 PERCENT IN BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM.
2. PER IBC TABLE 307.1, FOOTNOTED, MAXIMUM ALLOWABLE QUANTITIES SHALL BE INCREASED 100 PERCENT WHEN STORED IN APPROVED STORAGE CABINETS OR ENCLOSURES OR IN LISTED SAFETY CANS IN ACCORDANCE WITH IFC SECTIONS 2703.9.10: WHERE NOTE 1 ALSO APPLIES. THE INCREASE FOR BOTH NOTES SHALL BE APPLIED.
3. MAXIMUM STORAGE AMOUNT QUANTITIES INDICATED ARE PER CONTROL AREA.

HAZARDOUS MATERIALS INFORMATION - KEY PLAN

LEGEND

2 HOURS FIRE RATED WALL (EXISTING)



GROUND FLOOR PLAN AT EL 16.00

1/16"=1'-0"

N

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
BUILDING CODE DATA

GENERAL

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.

0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	T. DODGE
SUBMITTED BY:	J. MEIER
CONTRACT NO.:	25-007
DWG NO.	69-G-8
SHEET NO.	008 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 16:47
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-G-8_E5X79926.dgn

DESIGN CRITERIA

1. APPLICABLE CODE: 2021 INTERNATIONAL BUILDING CODE (IBC)], AS AMENDED BY THE 2021 VIRGINIA CONSTRUCTION CODE AND 2021 INTERNATIONAL EXISTING BUILDING CODE AS AMENDED BY THE 2021 VIRGINIA EXISTING BUILDING CODE, ALL OTHER APPLICABLE LOCAL AGENCIES.

2. REFER TO THE DRAWINGS FOR ADDITIONAL AND SPECIFIC STRUCTURE LOADINGS AND REQUIREMENTS.

3. ALL LOADS SHOWN ARE SERVICE LEVEL (UNFACTORED) UNLESS SPECIFICALLY NOTED OTHERWISE.

4. DEAD LOADS:
   A. SELF WEIGHT
      MEZZANINE SUPERIMPOSED = 25 PSF

5. ROOF LOADS:
   GROUND SNOW LOAD, Pg = 25 PSF
   SNOW EXPOSURE FACTOR, Ce = 1.0
   THERMAL FACTOR, Ct = 1.0
   SLOPE FACTOR, Cs = 1.0
   IMPORTANCE FACTOR, I = 1.1
   MINIMUM FLAT ROOF SNOW LOAD, Pf = 22 PSF

   SEE SNOW DRIFT DIAGRAMS ON DRAWING(S) FOR AREAS WITH INCREASED DRIFT LOADS.

   ROOF LIVE LOAD = 30 PSF

   STRUCTURES HAVE BEEN NOT DESIGNED FOR REDUCED ROOF LIVE LOADS IN ACCORDANCE WITH THE IBC.

6. FLOOR LIVE LOADS:

   CORRIDORS, EXITS, STAIRS 100 PSF
   WALKWAYS AND ELEVATED PLATFORMS 100 PSF

   COLUMNS, FOOTINGS, AND FLOOR FRAMING MEMBERS HAVE NOT BEEN DESIGNED FOR REDUCED LIVE LOADS IN ACCORDANCE WITH THE BUILDING CODE.

7. WIND LOADS:
   ASCE 7 METHOD = MWFRS DIRECTIONAL PROCEDURE
   BASIC WIND SPEED (3-SECOND GUST) = 119 MPH
   EXPOSURE CATEGORY = C
   INTERNAL PRESSURE COEFFICIENT, GCpi = +/- 0.18
   RISK CATEGORY = III
   IMPORTANCE FACTOR, Iw = 1.0

   COMPONENT AND CLADDING WALL ELEMENTS SEE TABLE

8. SEISMIC LOADS:

   MAPPED SPECTRAL RESPONSE ACCELERATIONS
   S_S = 0.134g
   S_1 = 0.043g
   DESIGN SPECTRAL RESPONSE ACCELERATIONS
   S_{DS} = 0.214g
   S_{D1} = 0.121g
   SITE CLASS = E
   SEISMIC DESIGN CATEGORY = B
   IMPORTANCE FACTOR, Ie = 1.25

   STRUCTURES HAVE BEEN ANALYZED USING THE EQUIVALENT LATERAL FORCE PROCEDURES OF ASCE 7.

GENERAL INFORMATION

1. FOR ABBREVIATIONS NOT LISTED, SEE ASME Y14.38 "ABBREVIATIONS AND ACRONYMS: PUBLICATION AS DISTRIBUTED BY THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME).

2. DESIGN DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS OCCURRING THROUGHOUT THE PROJECT, WHETHER OR NOT THEY ARE INDIVIDUALLY CALLED OUT.

3. VERIFY FINAL OPENING DIMENSIONS IN WALLS, SLABS, AND DECKS WITH OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION OF THESE ELEMENTS.

4. FOR NUMBER, TYPE, SIZE, ARRANGEMENT, AND/OR LOCATION OF EQUIPMENT PADS, SEE OTHER DISCIPLINE DRAWINGS. COORDINATE WITH EQUIPMENT SUPPLIER PRIOR TO PLACING SLABS, WALLS AND FOUNDATIONS. COORDINATE PIPING OPENINGS WITH OTHER DISCIPLINE DRAWINGS.

5. DO NOT CUT OR MODIFY STRUCTURAL MEMBERS FOR PIPES, DUCTS, ETC, UNLESS SPECIFICALLY DETAILED OR APPROVED IN WRITING BY THE ENGINEER.

6. VISITS TO THE JOB SITE BY THE ENGINEER TO OBSERVE THE CONSTRUCTION DO NOT IN ANY WAY MEAN THAT ENGINEER IS GUARANTOR OF CONSTRUCTOR'S WORK, NOR RESPONSIBLE FOR THE COMPREHENSIVE OR SPECIAL INSPECTIONS, COORDINATION, SUPERVISION, OR SAFETY AT THE JOB SITE.

7. INFORMATION (DETAILING, DIMENSIONS, CONFIGURATIONS, AND ELEVATIONS, ETC.) OF EXISTING CONSTRUCTION SHOWN REFLECTS AVAILABLE EXISTING DESIGN DOCUMENTS, AND DOES NOT NECESSARILY REPRESENT THE AS-CONSTRUCTED CONDITIONS. THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS, ELEVATIONS AND DETAILING OF THE EXISTING STRUCTURES PRIOR TO UNDERTAKING ANY WORK THAT IS AFFECTED BY THE EXISTING STRUCTURE. NOTIFY ENGINEER IF CONDITIONS VARY FROM THAT SHOWN PRIOR TO STARTING WORK.

INSPECTION AND TESTING

1. SPECIAL INSPECTION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR INSPECTIONS REQUIRED BY THE BUILDING OFFICIAL. THE CONTRACTOR SHALL SCHEDULE BOTH INSPECTIONS.

2. SPECIFIED CONCRETE AND OTHER MATERIAL TESTING RELATED TO SPECIAL INSPECTION DURING CONSTRUCTION WILL BE OWNER FURNISHED.

3. SPECIFIED LABORATORY TEST MIXES AND SIMILAR TEST RESULTS TO VERIFY MATERIAL QUALITY AND CONFORMANCE TO SPECIFICATIONS, AND SUBMITTED FOR REVIEW PRIOR TO ACCEPTANCE FOR USE ON THE PROJECT, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

4. SPECIAL INSPECTION, TESTING AND OBSERVATION (OWNER FURNISHED) IS REQUIRED IN ACCORDANCE WITH IBC SECTIONS 110 AND 1704 AS INDICATED IN THE STATEMENT OF SPECIAL INSPECTIONS. REFER TO DRAWINGS 69-G-10 TO 69-G-11.

FORMWORK, SHORING, AND BRACING

1. STRUCTURES SHOWN ON THE DRAWINGS HAVE BEEN DESIGNED FOR STABILITY UNDER FINAL CONDITIONS ONLY. DESIGN SHOWN DOES NOT INCLUDE NECESSARY COMPONENTS OR EQUIPMENT FOR STABILITY OF THE STRUCTURES DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR WORK RELATING TO CONSTRUCTION ERECTION METHODS, BRACING, SHORING, RIGGING, GUYS, SCAFFOLDING, FORMWORK, AND OTHER WORK AIDS REQUIRED TO SAFELY PERFORM THE WORK SHOWN.

2. TEMPORARY SHORING SHALL REMAIN IN PLACE UNTIL ELEVATED CONCRETE FLOOR OR SLABS HAVE REACHED 80 PERCENT OF THE 28 DAY COMPRESSIVE STRENGTH AS DETERMINED BY FIELD CYLINDER BREAKS.

3. "BURY"BARS OR "CARRIER"BARS ARE NOT ALLOWED FOR THE BOTTOM MATS OF REINFORCING IN ALL ELEVATED SLABS AND ARE NOT ALLOWED FOR THE TOP MATS OF REINFORCING IN ELEVATED SLABS LESS THAN 12 INCHES THICK.

CONCRETE REINFORCING

1. REINFORCING STEEL:
   TYPICAL: ASTM A615, GRADE 60

2. FABRICATION AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH CRSI MSP-1 "MANUAL OF STANDARD PRACTICE"AND ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE".

3. CONCRETE COVER FOR REINFORCING, UNLESS SHOWN OTHERWISE, SHALL BE:

   CONCRETE EXPOSED TO EARTH, LIQUID, WASHDOWN, OR WEATHER:
   TYPICAL UNLESS NOTED OTHERWISE 2"

4. 90 DEGREE BENDS, UNLESS OTHERWISE SHOWN, SHALL BE ACI 318 STANDARD HOOKS.

5. LOCATE ELEVATED SLAB AND BEAM TOP BAR SPLICES AT MIDSPAN AND BOTTOM BAR SPLICES AT SUPPORTS.

6. REINFORCEMENT BENDS AND LAPS, UNLESS OTHERWISE NOTED, SHALL SATISFY THE FOLLOWING MINIMUM REQUIREMENTS:

CONCRETE DESIGN STRENGTH = 4,000 PSI MIN AT 28 DAYS[3] GRADE 60 REINFORCING STEEL										
BAR SIZE		#3	#4	#5	#6	#7	#8	#9	#10	#11
LAP SPLICE LENGTH										
SPACING = 3"	TOP BAR [2]	1'-4"	1'-8"	2'-1"	3'-0"	5'-2"	6'-8"	8'-6"	10'-10"	13'-4"
	OTHER BAR	1'-4"	1'-4"	1'-8"	2'-4"	4'-0"	5'-2"	6'-7"	8'-4"	10'-3"
SPACING = 4"	TOP BAR [2]	1'-4"	1'-8"	2'-0"	2'-5"	3'-10"	5'-0"	6'-5"	8'-1"	10'-0"
	OTHER BAR	1'-4"	1'-4"	1'-7"	1'-10"	3'-0"	3'-11"	4'-11"	6'-3"	7'-8"
SPACING ≥ 6"	TOP BAR [2]	1'-4"	1'-8"	2'-0"	2'-5"	3'-6"	4'-0"	5'-0"	6'-2"	7'-5"
	OTHER BAR	1'-4"	1'-4"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-9"	5'-8"
EMBEDMENT LENGTH										
SPACING = 3"	TOP BAR [2]	1'-0"	1'-3"	1'-8"	2'-4"	4'-0"	5'-2"	6'-7"	8'-4"	10'-3"
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-10"	3'-1"	4'-0"	5'-1"	6'-5"	7'-11"
SPACING = 4"	TOP BAR [2]	1'-0"	1'-3"	1'-7"	1'-10"	3'-0"	3'-11"	4'-11"	6'-3"	7'-8"
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-5"	2'-4"	3'-0"	3'-10"	4'-10"	5'-11"
SPACING ≥ 6"	TOP BAR [2]	1'-0"	1'-3"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-9"	5'-8"
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-5"	2'-1"	2'-5"	3'-0"	3'-8"	4'-5"

1. LAP LENGTHS ARE BASED ON MINIMUM CONCRETE COVER OF 2". LONGER LENGTHS ARE REQUIRED FOR CONCRETE COVER LESS THAN 2".
2. TOP BARS SHALL BE DEFINED AS ANY HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12 INCHES OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR IN ANY SINGLE POUR. HORIZONTAL WALL BARS ARE CONSIDERED TOP BARS.
3. WHERE 3000 PSI CONCRETE IS USED, INCREASE ABOVE LENGTHS BY 16 PERCENT. WHERE 3500 PSI CONCRETE IS USED, INCREASE ABOVE LENGTHS BY 7 PERCENT.

CAST IN PLACE CONCRETE

1. 28-DAY COMPRESSIVE STRENGTHS (TO MEET STRUCTURAL STRENGTH REQUIREMENTS):
   TYPICAL UNLESS NOTED OTHERWISE: 4000 PSI

2. 56-DAY COMPRESSIVE STRENGTHS (TO MEET DURABILITY REQUIREMENTS OF ACI 318 AND ACI 350):
   TYPICAL UNLESS NOTED OTHERWISE: 4500 PSI

3. DESIGN STRENGTHS ARE SAME AS 28-DAY COMPRESSIVE STRENGTHS.

4. ROUGHEN AND CLEAN CONSTRUCTION JOINTS IN WALLS AND SLABS AS SPECIFIED PRIOR TO PLACING ADJACENT CONCRETE.

5. COORDINATE PLACEMENT OF OPENINGS, PIPE PENETRATIONS, CURBS, DOWELS, SLEEVES, CONDUITS, BOLTS AND INSERTS PRIOR TO PLACEMENT OF CONCRETE.

6. NO ALUMINUM CONDUIT OR PRODUCTS CONTAINING ALUMINUM OR ANY OTHER MATERIAL INJURIOUS TO THE CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.

7. DO NOT PLACE CONDUIT PARALLEL TO BEAM OR COLUMN REINFORCEMENT UNLESS SPECIFICALLY INDICATED IN DRAWINGS.

WELDING

1. WELDS SHALL CONFORM TO AMERICAN WELDING SOCIETY (AWS):
   D1.1, STRUCTURAL WELDING CODE STEEL
   D1.2, STRUCTURAL WELDING CODE ALUMINUM
   D1.3, STRUCTURAL WELDING CODE SHEET STEEL
   D1.6, STRUCTURAL WELDING CODE STAINLESS STEEL

2. REPAIR WELDS FOUND DEFECTIVE IN ACCORDANCE WITH AWS D1.1 SECTION 5.26.

3. USE INTERMITTENT WELDS AT FIELD WELDS OF EMBED PLATES AND ANGLES TO AVOID SPALLING OR CRACKING OF THE EXISTING CONCRETE.

4. BUTT JOINT WELDS SHALL BE COMPLETE JOINT PENETRATION (CJP) UNLESS INDICATED OTHERWISE.

STRUCTURAL STEEL AND METAL FABRICATIONS

1. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:
   W-SHAPES A992
   MISCELLANEOUS SHAPES INCLUDING ANGLES, CHANNELS, PLATES, ETC. A572, GRADE 50
   HOLLOW STRUCTURAL SECTIONS (HSS) A500, GRADE C
   STEEL PIPE A53, GRADE B
   STAINLESS STEEL SHAPES A276

2. ALUMINUM SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:
   STRUCTURAL SHAPES B308
   PLATES B209

3. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN CONFORMANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION, CURRENT EDITION, AND CURRENT OSHA STANDARDS.

4. FASTENERS SHALL BE HIGH STRENGTH BOLTS CONFORMING TO THE FOLLOWING ASTM STANDARDS EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE:
   UNLESS SHOWN OTHERWISE A325-N

   ANCHOR BOLTS (AB)
   STAINLESS STEEL F593, AISI TYPE 316, CONDITION CW
   STEEL OR GALVANIZED STEEL F1554, GR 36 / A153
   MACHINE BOLTS (MB)
   STEEL A307
   STAINLESS STEEL F593, AISI TYPE 316, CONDITION CW
   GALVANIZED STEEL A307 / A153
   ALUMINUM F468, ALLOY 2024-T4

5. ITEMS TO BE EMBEDDED IN CONCRETE SHALL BE CLEAN AND FREE OF OIL, DIRT AND PAINT.

6. NO HOLES OTHER THAN THOSE SPECIFICALLY DETAILED SHALL BE ALLOWED THROUGH STRUCTURAL STEEL MEMBERS. NO CUTTING OR BURNING OF STRUCTURAL STEEL IS PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.

DEFERRED SUBMITTALS

1. DEFERRED SUBMITTALS ARE THOSE PORTIONS OF THE DESIGN WHICH ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND WHICH ARE TO BE SUBMITTED TO THE PERMITTING AGENCY FOR ACCEPTANCE PRIOR TO INSTALLATION OF THAT PORTION OF THE WORK OR ARE REQUIRED TO BE SUBMITTED FOR REVIEW ONLY BY THE ENGINEER.

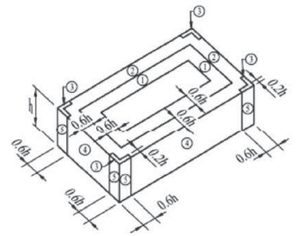
2. WHERE DEFERRED SUBMITTALS INCLUDE ADDITIONAL MATERIALS, INSTALLATION, ANCHORAGE, OR CERTIFICATION OF COMPONENTS THAT REQUIRE SPECIAL INSPECTION AND/OR STRUCTURAL OBSERVATION TO MEET CODE REQUIREMENTS, THE DEFERRED SUBMITTAL SHALL INCLUDE SPECIFIC LINE ITEMS TO BE ADDED TO THE APPROPRIATE TABLES IN THE PROJECT'S STATEMENT OF SPECIAL INSPECTIONS PLAN IF THEY ARE NOT ALREADY IDENTIFIED.

3. THE FOLLOWING IS A LIST OF DEFERRED SUBMITTALS PER IBC SECTION 107.3.4.1 OF 2021 IBC THAT ARE EXPECTED TO CONTAIN STRUCTURAL CALCULATIONS OR SAFETY RELATED SYSTEM INFORMATION FOR REVIEW TO MEET BUILDING PERMITTING REQUIREMENTS FOR DESIGNED SYSTEMS. PRIOR TO INSTALLATION OF THE INDICATED STRUCTURAL ELEMENT, EQUIPMENT, DISTRIBUTION SYSTEM, OR COMPONENT OR ITS ANCHORAGE, THE CONTRACTOR SHALL SUBMIT THE REQUIRED CALCULATIONS AND SUPPORTING DATA AND DRAWINGS FOR REVIEW AND ACCEPTANCE BY THE ENGINEER. ADDITIONALLY, ACCEPTANCE INDICATED ON THE ENGINEER'S COMMENT FORM, ALONG WITH THE COMPLETED, FINAL SUBMITTAL SHALL THEN BE SUBMITTED BY THE CONTRACTOR TO THE PERMITTING AGENCY AND APPROVED PRIOR TO INSTALLATION OF THESE ITEMS.

SPECIFICATION SECTION	CODE REQUIRED DEFERRED SUBMITTALS FOR REVIEW BY PERMITTING AGENCY
01 88 15	ANCHORAGE AND BRACING
05 52 16	ALUMINUM RAILINGS
OTHER	ANY EQUIPMENT OR COMPONENT IN WHICH A TECHNICAL SPECIFICATION REQUIRES SUBMITTAL OF EQUIPMENT OR ANCHORAGE SYSTEM CALCULATIONS

COMPONENTS AND CLADDING TABLE

COMPONENTS AND CLADDING WIND PRESSURES, ULTIMATE (PSF)										
	ROOF						WALLS			
EFFECTIVE WIND AREA (SF)	ZONE 1		ZONE 2		ZONE 3		ZONE 4		ZONE 5	
-	POS	NEG	POS	NEG	POS	NEG	POS	NEG	POS	NEG
10	15.4	-60.6	15.4	-79.8	15.4	-108.8	38.0	-41.2	38.0	-50.9
20	14.5	-56.5	14.5	-74.6	14.5	-98.5	36.2	-39.5	36.2	-47.5
50	13.2	-51.2	13.2	-67.9	13.2	-84.9	34.0	-37.3	34.0	-43.0
>=100	12.2	-47.2	12.2	-62.8	12.2	-74.7	32.3	-35.5	32.3	-39.5



AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
STRUCTURAL NOTES

GENERAL

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I LAPINA-TRAUT
CHECKED BY:	L ZHANG
SUBMITTED BY:	K SHAHZAD
CONTRACT NO.:	25-007
DWG NO.	69-G-9
SHEET NO.	009 OF 97

Bid Set

PLOT TIME: 16:48
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-G-9_E5X79926.dgn

STATEMENT OF SPECIAL INSPECTIONS

GENERAL NOTES

1. THE STATEMENT OF SPECIAL INSPECTIONS DRAWINGS PROVIDE PROJECT COMPLIANCE WITH THE PROVISIONS OF THE INTERNATIONAL BUILDING CODE (IBC) CHAPTER 17 FOR SPECIAL INSPECTION, STRUCTURAL OBSERVATION, AND TESTING FOR WIND AND SEISMIC RESISTANCE AS APPLICABLE. EXCEPT WHERE OTHERWISE NOTED, THIS INSPECTION IS OWNER FURNISHED.

2. STANDARD SPECIAL INSPECTION REQUIREMENTS FOR NONSTRUCTURAL COMPONENTS ARE CONTAINED IN TABLE 1.

3. STANDARD SPECIAL INSPECTION REQUIREMENTS FOR STRUCTURAL COMPONENTS, REGARDLESS OF WIND OR SEISMIC DESIGN CATEGORIES, ARE CONTAINED IN TABLE 2. STANDARD TESTING REQUIREMENTS FOR STRUCTURAL COMPONENTS ARE CONTAINED IN TABLE 3.

4. FOR ADDITIONAL REQUIREMENTS, REFER TO SPECIFICATION SECTION 01 45 33, SPECIAL INSPECTION, OBSERVATION AND TESTING. THESE INCLUDE:
   A. CONTRACTOR'S REQUIREMENTS TO PROVIDE ACCESS TO THE WORK FOR REQUIRED INSPECTIONS, AND TO PROVIDE NOTICE OF REQUIRED INSPECTIONS AND STRUCTURAL OBSERVATION.
   B. DEFINITIONS AND TERMINOLOGY USED IN THIS STATEMENT OF SPECIAL INSPECTIONS.

SPECIAL INSPECTION

1. SPECIAL INSPECTION WILL BE IN ACCORDANCE WITH IBC SECTIONS 1704 AND 1705 TOGETHER WITH LOCAL AND STATE AMENDMENTS. REFER TO THE TABLES CONTAINED ON THESE GENERAL SHEETS FOR PROJECT SPECIFIC INSPECTION TYPES AND FREQUENCIES.

2. SPECIAL INSPECTIONS WILL BE PROVIDED BY A CERTIFIED OR QUALIFIED INSPECTOR AND ASSOCIATED TESTING WILL BE PERFORMED BY AN APPROVED ACCREDITED INDEPENDENT AGENCY. THE OWNER WILL SECURE AND PAY FOR THE SERVICES OF THE AGENCY TO PERFORM ALL SPECIAL INSPECTION AND ASSOCIATED TESTS. INSPECTORS FOR EACH SYSTEM AND MATERIAL WILL BE INTERNATIONAL CODE COUNCIL (ICC) CERTIFIED OR OTHERWISE APPROVED BY THE BUILDING OFFICIAL.

3. THE SPECIAL INSPECTOR WILL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE APPROVED CONTRACT DOCUMENTS AND SUBMIT RECORDS OF INSPECTION. ALL DISCREPANCIES WILL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.

4. SPECIAL INSPECTION AND ASSOCIATED TESTING REPORTS WILL BE SUBMITTED TO THE ENGINEER, CONTRACTOR, BUILDING OFFICIAL, AND OWNER WITHIN ONE WEEK OF INSPECTION OR WITHIN ONE WEEK OF TEST COMPLETION. INSPECTIONS FOR WHICH REPORTING WILL BE REQUIRED ARE NOTED IN THE TABLES CONTAINED ON THIS STATEMENT OF SPECIAL INSPECTIONS.

5. AT THE CONCLUSION OF CONSTRUCTION, A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF PREVIOUSLY NOTED DISCREPANCIES WILL BE SUBMITTED.

SPECIAL INSPECTIONS FOR WIND RESISTANCE

1. SPECIAL INSPECTIONS REQUIREMENTS FOR WIND RESISTANCE IN ACCORDANCE WITH IBC SECTION 1705.11 ARE NOT APPLICABLE TO THIS PROJECT.

SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE

1. SPECIAL INSPECTIONS REQUIREMENTS FOR SEISMIC RESISTANCE IN ACCORDANCE WITH IBC SECTION 1705.12 ARE NOT APPLICABLE TO THIS PROJECT.

TABLE 1
REQUIRED NON-STRUCTURAL SPECIAL INSPECTION
REFER TO SPECIFICATION SECTION 01 45 33

SYSTEM OR MATERIAL	2018 IBC CODE REFERENCE	REFERENCED STANDARD	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	COMMENTS	TESTING FOR SPECIAL INSPECTION
GENERAL						
1. CONSTRUCTION MATERIALS AND SYSTEMS THAT ARE ALTERNATIVES TO MATERIALS AND SYSTEMS PRESCRIBED BY CODE	1705.1.1 ITEM 1		X			
2. UNUSUAL DESIGN APPLICATION OF CODE MATERIALS	1705.1.1 ITEM 2			X		
3. INSTALLATION OF MATERIALS THAT REQUIRE ADDITIONAL MANUFACTURER'S INSTRUCTIONS BEYOND CODE REQUIREMENTS	1703.4.2, 1705.1.1 ITEM 3	ICC-ES EVALUATION REPORTS		X		
STRUCTURAL						
SEE TABLE 2.						

NOTES:
1. PERIODIC INSPECTION IS DEFINED AS INSPECTION BY THE SPECIAL INSPECTOR OF ALL MATERIALS AND SYSTEMS, IN SOME CASES PERFORMED DURING THEIR PLACEMENT AND IN ALL CASES PERFORMED UPON COMPLETION OF THEIR PLACEMENT. THE COMPLETION INSPECTION SHALL BE PERFORMED SO THAT WORK CAN BE CORRECTED PRIOR TO OTHER RELATED WORK PROCEEDING AND COVERING INSPECTED WORK.

TABLE 2
REQUIRED STRUCTURAL SPECIAL INSPECTION
REFER TO SPECIFICATION SECTION 01 45 33

SYSTEM	2018 IBC CODE REFERENCE	REFERENCED STANDARD	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	COMMENTS	TESTING FOR SPECIAL INSPECTION
CONCRETE						
1. INSPECT REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT	1705.3, 1908.4	ACI 318: Ch. 20, 25.2, 25.3, 26.6.1-26.6.3	X			SEE TABLE 6 FOR REINFORCING STEEL TESTING
3. INSPECT ANCHORS CAST IN CONCRETE	1705.3	ACI 318: 17.8.2	X			
4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS		ACI 318: 26.7				
A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED OREIENTATIONS TO RESIST SUSTAINED TENSION LOADS	1705.3	ACI 318: 17.8.2.4, ICC-ES EVALUATION REPORTS		X		
B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4A.	1705.3	ACI 318: 17.8.2, ICC-ES EVALUATION REPORTS	X			
5. VERIFY USE OF REQUIRED DESIGN MIX	1705.3, 1904.1, 1904.2, 1908.2, 1908.3	ACI 318: Ch. 19, 26.4.3, 26.4.4	X			
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	1705.3, 1908.10	ASTM C 172, ASTM C 31, ACI 318: 26.5, 26.12		X		SEE TABLE 3 FOR CONCRETE TEST REQUIREMENTS
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	1705.3, 1908.6, 1908.7, 1908.8	ACI 318: 26.5.1.1, 26.5.2.1		X		
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	1705.3, 1908.9	ACI 318: 26.5.3-26.5.5	X			
11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORING AND FORMS FROM BEAMS AND STRUCTURAL SLABS	1705.3	ACI 318: 26.11.2	X			
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	1705.3	ACI 318: 26.11.1.2	X			
13. INSPECTION OF WATERSTOP FOR PROPER SHAPE, LOCATION, JOINT QUALITY, AND SURROUNDING CONCRETE PLACEMENT		ACI: 26.5.6.2	X			
14. VERIFY PROPER INSTALLATION OF MECHANICAL REINFORCING SPLICES AND CONNECTIONS	1705.1.1 ITEM 3, 1705.3	ICC-ES EVALUATION REPORTS	X			
STRUCTURAL STEEL						
1. MATERIAL VERIFICATION OF STRUCTURAL STEEL:						
A. IDENTIFICATION MARKINGS TO CONFORM TO AISC 360	1705.2.1, 2203.1	Applicable ASTM Material Standards	X			
B. MANUFACTURER'S CERTIFIED TEST REPORTS	1705.2.1	AISC 360: Sec. N3.2, N5.2	X			

TABLE 2
REQUIRED STRUCTURAL SPECIAL INSPECTION
REFER TO SPECIFICATION SECTION 01 45 33

SYSTEM	2018 IBC CODE REFERENCE	REFERENCED STANDARD	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	COMMENTS	TESTING FOR SPECIAL INSPECTION
STRUCTURAL STEEL (CONTINUED)						
2. PRIOR TO BOLTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:						
A. MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	1705.2.1	AISC 360: Sec. N3.2, N5.2, N5.6 RCSC: Sec. 2.1, 9.1		X		
B. FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	1705.2.1	AISC 360: Sec. N3.2, N5.2, N5.6 Applicable ASTM Material Standards	X			
C. CORRECT FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM THE SHEAR PLANE)	1705.2.1	AISC 360: Sec. N3.2, N5.2, N5.6	X			
D. CORRECT BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	1705.2.1	AISC 360: Sec. N5.6 RCSC: Sec. 4	X			
E. CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	1705.2.1	AISC 360: Sec. N5.6 RCSC: Sec. 3.2, 4	X			
F. PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	1705.2.1	AISC 360: Sec. N5.6 RCSC: Sec. 7	X			
G. PROTECTED STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	1705.2.1	AISC 360: Sec. N5.6 RCSC: Sec. 2.2	X			
3. VERIFY DURING BOLTING:						
A. FASTENER ASSEMBLIES PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) AND NUTS ARE POSITIONED AS REQUIRED	1705.2.1	AISC 360: Sec. N5.6	X			
B. JOINT BROUGHT TO SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	1705.2.1	AISC 360: Sec. N5.6	X			
C. FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	1705.2.1	AISC 360: Sec. N5.6	X			
D. FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	1705.2.1	AISC 360: Sec. N5.6	X			SEE TABLE 3 FOR TESTING OF HIGH-STRENGTH BOLTING

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
STATEMENT OF SPECIAL INSPECTIONS - 1

GENERAL

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I LAPINA-TRAUT
CHECKED BY:	L ZHANG
SUBMITTED BY:	K SHAHZAD
CONTRACT NO.:	25-007
DWG NO.	69-G-10
SHEET NO.	010 OF 97

Bid Set

PLOT TIME: 16:47
PLOT DATE: 16-JAN-2025
FILENAME: 69-G-10_E5X79926.dgn
E5X79926

TABLE 2
REQUIRED STRUCTURAL SPECIAL INSPECTION
REFER TO SPECIFICATION SECTION 01 45 33

SYSTEM	2018 IBC CODE REFERENCE	REFERENCED STANDARD	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	COMMENTS	TESTING FOR SPECIAL INSPECTION
STRUCTURAL STEEL (CONTINUED)						
4. PRIOR TO WELDING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:						
A. APPROVED WELDER QUALIFICATION RECORDS AND CONTINUITY RECORDS	1705.2.1	AISC 360: Sec. N5.4 AWS D1.1	X			
B. APPROVED WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE TO WELDERS AND WELDING INSPECTOR(S)	1705.2.1	AISC 360: Sec. N5.4 AWS D1.1		X		
C. MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	1705.2.1	AISC 360: Sec. N5.4 AWS D1.1		X		
D. MATERIAL IDENTIFICATION (TYPE/GRADE)	1705.2.1	AISC 360: Sec. N5.4 AWS D1.1	X			
E. WELDER IDENTIFICATION SYSTEM	1705.2.1	AISC 360: Sec. N5.4	X			
F. FIT-UP OF WELDS (INCLUDING JOINT GEOMETRY)	1705.2.1	AISC 360: Sec. N5.4 AWS D1.1	X		NOTE 2	ALSO SEE REQUIREMENTS OF SPEC. SECTION 05
G. CONFIGURATION AND FINISH OF ACCESS HOLES	1705.2.1	AISC 360: Sec. N5.4 AWS D1.1	X		NOTE 2	REQUIREMENTS OF SPEC. SECTION 05 05 23
5. VERIFY DURING WELDING:						
A. CONTROL AND HANDLING OF WELDING CONSUMABLES	1705.2.1	AISC 360: Sec. N5.4 AWS D1.1	X			
B. NO WELDING OVER CRACKED TACK WELDS	1705.2.1	AISC 360: Sec. N5.4 AWS D1.1	X		NOTE 2	
C. ENVIRONMENTAL CONDITIONS	1705.2.1	AISC 360: Sec. N5.4 AWS D1.1	X			
D. COMPLIANCE WITH WPS REQUIREMENTS	1705.2.1	AISC 360: Sec. N5.4 AWS D1.1	X		NOTE 2	ALSO SEE REQUIREMENTS OF SPEC. SECTION 05 05 23 AND TABLE 3 FOR STRUCTURAL STEEL TEST REQUIREMENT
E. WELDING TECHNIQUES	1705.2.1	AISC 360: Sec. N5.4 AWS D1.1	X			
F. PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	1705.2.1	AISC 360: Sec. N5.4 AWS D1.1		X		
6. AFTER WELDING, VERIFY THE FOLLOWING:						
A. WELDS CLEANED	1705.2.1	AISC 360: Sec. N5.4 AWS D1.1	X			
B. SIZE, LENGTH AND LOCATION OF WELDS	1705.2.1	AISC 360: Sec. N5.4 AWS D1.1	X		NOTE 2	
C. WELDS MEET VISUAL ACCEPTANCE CRITERIA	1705.2.1	AISC 360: Sec. N5.4 AWS D1.1	X		NOTE 2	ALSO SEE REQUIREMENTS OF SPEC. SECTION 05 05 23
D. ARC STRIKES	1705.2.1	AISC 360: Sec. N5.4 AWS D1.1	X			
E. K-AREA	1705.2.1	AISC 360: Sec. N5.4 AWS D1.1	X			
F. BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	1705.2.1	AISC 360: Sec. N5.4 AWS D1.1	X			
G. REPAIR ACTIVITIES	1705.2.1	AISC 360: Sec. N5.4 AWS D1.1	X			
H. NO PROHIBITED WELDS HAVE BEEN ADDED WITHOUT THE APPROVAL OF THE EOR	1705.2.1	AISC 360: Sec. N5.4 AWS D1.1	X			
I. NONDESTRUCTIVE WELDING INSPECTION	1705.2	AISC 360: Sec. N5.5 AWS D1.1	X		NOTE 2	ALSO SEE REQUIREMENTS OF SPEC. SECTION 05 05 23

TABLE 2
REQUIRED STRUCTURAL SPECIAL INSPECTION
REFER TO SPECIFICATION SECTION 01 45 33

SYSTEM	2018 IBC CODE REFERENCE	REFERENCED STANDARD	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	COMMENTS	TESTING FOR SPECIAL INSPECTION
STRUCTURAL STEEL (CONTINUED)						
7. INSPECTION OF GALVANIZED STRUCTURAL STEEL MAIN MEMBERS FOR CRACKS SUBSEQUENT TO GALVANIZING	1705.2.1	AISC 360: Sec. N5.7	X			
8. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE:						
A. DETAILS SUCH AS BRACING AND STIFFENING	1705.2.1	AISC 360: Sec. N5.8	X			
B. MEMBER LOCATIONS	1705.2.1	AISC 360: Sec. N5.8	X			
C. APPLICATION OF JOINT DETAILS AT EACH CONNECTION	1705.2.1	AISC 360: Sec. N5.8	X			
ALUMINUM						
1. MATERIAL VERIFICATION OF ALUMINUM:						
A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS	1705.1.1 ITEM 2		X			
B. MANUFACTURERS' CERTIFIED MILL TEST REPORTS	1705.1.1 ITEM 2		X			
2. INSPECTION OF WELDING:						
A. NONDESTRUCTIVE INSPECTION	1705.1.1 ITEM 2	AWS D1.2	X		NOTE 2	ALSO SEE REQUIREMENTS OF SPEC. SECTION 05 05 23

NOTES:
1. PERIODIC INSPECTION IS DEFINED AS INSPECTION BY THE SPECIAL INSPECTOR OF ALL MATERIALS AND SYSTEMS, IN SOME CASES PERFORMED DURING THEIR PLACEMENT AND IN ALL CASES PERFORMED UPON COMPLETION OF THEIR PLACEMENT. THE COMPLETION INSPECTION SHALL BE PERFORMED SO THAT WORK CAN BE CORRECTED PRIOR TO OTHER RELATED WORK PROCEEDING AND COVERING INSPECTED WORK.

2. VISUAL INSPECTION IS THE RESPONSIBILITY OF THE CONTRACTOR'S WELDING INSPECTOR(S) AND IS NOT CONSIDERED SPECIAL INSPECTION. CONTRACTOR MUST PROVIDE A QUALIFIED WELDING INSPECTOR TO OVERSEE CONTRACTOR'S WELDING OPERATIONS, AS REQUIRED BY SPECIFICATION SECTION 05 05 23 AND REFERENCED WELDING CODES.

3. SPECIAL INSPECTOR TO OBSERVE ON AN INTERMITTENT BASIS SUFFICIENT TO CONFIRM THAT THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE APPLICABLE DOCUMENTS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.

TABLE 3
TESTING FOR REQUIRED SPECIAL INSPECTION
REFER TO SPECIFICATION SECTION 01 45 33

MATERIAL	TYPE OR SCOPE	STANDARD	2018 IBC CODE REFERENCE	FREQUENCY	BY WHOM	COMMENTS
CONCRETE						
CONCRETE	STRENGTH	ASTM C39	1705.3	ONCE EACH DAY, BUT NOT LESS THAN ONE SAMPLE FOR EACH 150 CUBIC YARDS OR 5,000 SFT OF WALLS OR SLABS PLACED	OWNER'S TESTING AGENCY	
SHOTCRETE	STRENGTH	ASTM C42	1705.3, 1908.10	ONCE EACH SHIFT, BUT NOT LESS THAN ONE SAMPLE FOR EACH 50 CUBIC YARDS PLACED	OWNER'S TESTING AGENCY	
CONCRETE	SLUMP	ASTM C143, C94	1705.3	ONE SAMPLE PER STRENGTH TEST	OWNER'S TESTING AGENCY	
CONCRETE	AIR CONTENT	ASTM C231, C94	1705.3	ONE SAMPLE PER STRENGTH TEST	OWNER'S TESTING AGENCY	
CONCRETE	TEMPERATURE	ASTM C1064	1705.3	ONE SAMPLE PER STRENGTH TEST	OWNER'S TESTING AGENCY	
STEEL						
HIGH-STRENGTH BOLTING	PRE-INSTALLATION VERIFICATION TESTING OF PRETENSIONED BOLTS	RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS, Sec. 7	1705.2	3 FASTENER ASSEMBLIES OF EACH COMBINATION OF DIAMETER, LENGTH, GRADE AND LOT	OWNER'S TESTING AGENCY	
STRUCTURAL STEEL	ULTRASONIC OR RADIOGRAPHIC NONDESTRUCTIVE TESTING	AWS D1.1	1705.2	SECTION 05 05 23, WELDING	OWNER'S TESTING AGENCY	PERFORM RT OR UT ON GROOVE WELDS
REINFORCING STEEL	MAGNETIC PARTICLE NONDESTRUCTIVE TESTING	AWS D1.4	1705.3	SECTION 05 05 23, WELDING	OWNER'S TESTING AGENCY	PERFORM ON FILLET WELDS AND PARTIAL JOINT

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
STATEMENT OF SPECIAL INSPECTIONS - 2

GENERAL

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I LAPINA-TRAUT
CHECKED BY:	L ZHANG
SUBMITTED BY:	K SHAHZAD
CONTRACT NO.:	25-007
DWG NO.	69-G-11
SHEET NO.	011OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 16:47
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-G-11_E5X79926.dgn

MECHANICAL LEGEND AND NOTES

GENERAL PIPING NOTES

1. PROVIDE 3'-0" MINIMUM PIPE COVER OR AS SPECIFIED. IN GENERAL, LAY PIPES TO UNIFORM GRADES BETWEEN THE ELEVATIONS SHOWN, UNLESS OTHERWISE APPROVED. IN SOME CASES, EXISTING CONDITIONS PROHIBIT UNIFORM GRADES BETWEEN THE ELEVATIONS SHOWN, AND FIELD ADJUSTMENTS TO UNIFORM GRADES ARE REQUIRED, AS APPROVED.
2. SIZE OF FITTINGS SHOWN ON DRAWINGS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.
3. ALL JOINTS SHALL BE WATERTIGHT. WALL PIPES SHALL BE USED WHEREVER PIPING PASSES FROM A STRUCTURE TO BACKFILL.
4. ALL FLEXIBLE CONNECTORS OR FLANGED COUPLING ADAPTERS SHALL BE PROVIDED WITH THRUST TIES OR ANCHORS, UNLESS OTHERWISE NOTED. THRUST PROTECTION SHALL BE ADEQUATE FOR TEST PRESSURES SPECIFIED.
5. SYMBOLS, LEGENDS, AND PIPE USE IDENTIFICATIONS SHOWN SHALL BE FOLLOWED THROUGHOUT THE DRAWINGS, WHEREVER APPLICABLE. NOT ALL OF THE VARIOUS PIPING COMPONENTS ARE NECESSARILY USED IN THE PROJECT.
6. ALL PIPING SHALL BE PRESSURE TESTED. SEE PIPE SCHEDULE FOR TEST PRESSURE.
7. NUMBER AND LOCATION OF UNIONS SHOWN ON DRAWINGS IS ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.
8. WHERE A GROOVED END COUPLING IS SHOWN, IT SHALL BE THE RIGID JOINT TYPE, UNLESS OTHERWISE SPECIFIED. WHERE A FLANGED COUPLING ADAPTER IS SHOWN, A STANDARD FLANGE SHALL BE JOINED TO THE COUPLING ADAPTER.
9. PIPE SUPPORTS SHOWN FOR PIPES LESS THAN 30 INCHES ARE TYPICAL OF THAT INSTALLED. ACTUAL NUMBER, SPACING AND OTHER REQUIREMENTS OF PIPE SUPPORTS SHALL BE IN ACCORDANCE WITH SPEC SECTION 40 05 15.
10. ALL ENCASED OR BURIED PIPE SPECIFIED TO BE PRESSURE TESTED, EXCEPT WELDED, FLANGED, OR SCREWED PIPING, SHALL BE PROVIDED WITH RESTRAINED JOINTS, UNLESS OTHERWISE NOTED.

INSTRUMENT INSTALLATION

1. REFER TO P&ID AND INSTRUMENT LIST IN SECTION 40 91 00 FOR ADDITIONAL INSTRUMENT DESIGN DETAIL REFERENCES AND INFORMATION.

FLOW STREAM IDENTIFICATION

LEGEND	SERVICE
A	AIR, PLANT UTILITY
AE	AERATED EFFLUENT
AHP	AIR, HIGH PRESSURE PROCESS
AI	AIR, INSTRUMENT
ALB	AIR, LABORATORY
ALP	AIR, LOW PRESSURE PROCESS
BDS	BLENDED DIGESTED SLUDGE
BSD	BLENDED SLUDGE
BSPD	BASIC SUMP PUMP DISCHARGE
BTS	BLENDED THICKENED SLUDGE
CAKE WASTE	DEWATERING CENTRIFUGE STARTUP/FLUSHING WASTE
CC	COMBINED CENTRATE
CPSM	CONCENTRATED PRIMARY SCUM
CPTE	CENTRATE PRETREATMENT EFFLUENT
CPTI	CENTRATE PRETREATMENT INFLUENT
CPTSD	CENTRATE PRETREATMENT SLUDGE
CRG	CONDENSATE RETURN GRAVITY
CRP	CONDENSATE RETURN PRESSURE
CS	CARBON SOURCE
CRT	CONDENSATE RETURN TRANSFER
CS/FC	CARBON SOURCE/FERRIC CHLORIDE
CS/NaOH	CARBON SOURCE/SODIUM HYDROXIDE
CS/MS	CARBON SOURCE/METHANOL SOLUTION
CTS	CENTRIFUGE THICKENED SLUDGE
CUF	SCUM CONCENTRATOR UNDERFLOW
CWR	COOLING WATER RETURN
D	DRAIN (SANITARY)
DC	DEWATERING CENTRATE
DR	DRAIN
DS	DIGESTED SLUDGE
DSC	DEWATERED SLUDGE CAKE
DSCR	DEWATERED SCREENS
DSP	DRY STANDPIPE
EWW	EYEWASH WATER
FCDR	FOAM CONTROL DRAIN
FE	FILTER EFFLUENT
FF	FIRE SUPPRESSION FOAM
FI	FILTER INFLUENT
FS	FIRE SPRINKLER
HER	HEAT EXCHANGER RECYCLE
HPW	HIGH PRESSURE WATER
HRR	HEAT RECOVERY RETURN
HRS	HEAT RECOVERY SUPPLY
HRSD	HEATED RECIRCULATED SLUDGE
HW	HOT WATER (POTABLE)
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
HWW2	HOT WATER, W2
LCW	LABORATORY COLD WATER
LHW	LABORATORY HOT WATER
LPS	LOW PRESSURE STEAM
LRHW	LABORATORY RECIRCULATING HOT WATER

LEGEND	SERVICE
ML	MIXED LIQUOR
MLR	MIXED LIQUOR RECYCLE
MNU	MICRONUTRIENT SOLUTION
NAOH	SODIUM HYDROXIDE
N2	NITROGEN GAS
OA	ODOROUS AIR
OD	ROOF OVERFLOW DRAIN
OF	OVERFLOW
PD	PROCESS DRAIN
PDS	PRIMARY DIGESTED SLUDGE
PE	PRIMARY EFFLUENT
PI	PRIMARY INFLUENT
PLE	PLANT EFFLUENT
PO	POLYMER SOLUTION
PSD	PRIMARY SLUDGE
PSM	PRIMARY SCUM
RAS	RETURN ACTIVATED SLUDGE
RCY	RECYCLE FLOW
RD	ROOF DRAIN
RHW	RECIRCULATED HOT WATER (POTABLE)
RS	RAW SEWAGE
RSD	RECIRCULATED SLUDGE
SA	SAMPLE
SCR	SCREENINGS
SD	STORM DRAIN
SE	SECONDARY EFFLUENT
SEED	ANAMMOX SEED SLUDGE
NaOCl	SODIUM HYPOCHLORITE
SI	SECONDARY TREATMENT INFLUENT
SPD	SUMP PUMP DISCHARGE
SSM	SECONDARY SCUM
TSD	TERTIARY SLUDGE
TSE	TERTIARY SETTLING TANK EFFLUENT
TSM	TERTIARY SCUM
TWAS	THICKENED WASTE ACTIVATE SLUDGE
V	VENT
VAC	VACUUM
VAR	VENT AIR RELEASE
VFA	THICKENED PRIMARY SLUDGE CENTRATE
VR	VAPOR RECOVERY
VTR	VENT THRU ROOF
WAS	WASTE ACTIVATED SLUDGE
WSP	WET STANDPIPE
W1	POTABLE WATER
W2	PLANT SERVICE WATER
W3	PLANT EFFLUENT WATER
W3(HOT)	PLANT EFFLUENT WATER (HOT)
W3(HP)	PLANT EFFLUENT WATER (HIGH PRESSURE)
W3(CLD)	PLANT EFFLUENT WATER (COLD)
W3(RET)	PLANT EFFLUENT WATER (RETURN)

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
MECHANICAL LEGEND
GENERAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-G-12
SHEET NO.	012 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

E5X79926
FILENAME: 69-G-12_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:47

PIPE AND FITTING SYMBOLS

DOUBLE LINE	SINGLE LINE	
		EXISTING PIPE
		NEW PIPE (ON SITE DEMOLITION DRAWINGS SOLID LINES INDICATE PIPING TO BE REMOVED)
		EXISTING PIPE TO BE ABANDONED
		EXISTING PIPE TO BE REMOVED
		WELDED JOINT OR PCCP PUSH ON
		GROOVED END JOINT
		FLANGED JOINT
		MECHANICAL JOINT
		BELL & SPIGOT JOINT (LEADED)
		HUB & SPIGOT JOINT (RUBBER GASKET)
		BALL JOINT
		FLANGED COUPLING ADAPTER WITH THRUST TIES
		FLEXIBLE COUPLING WITH THRUST TIES
		STEEL BELLOWS EXP JOINT
		ELASTOMER BELLOWS EXP JOINT
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		LATERAL UP
		LATERAL DOWN
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		UNION
		CAP
		ANCHOR
		ELBOW, 90 DEGREE

DOUBLE LINE	SINGLE LINE	
		CROSS
		TEE
		ELBOW, 45 DEGREE
		LATERAL

NOTES:

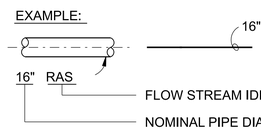
1. ONLY FLANGED END CONNECTIONS ARE SHOWN HERE FOR DOUBLE LINE FITTINGS. FITTINGS WITH OTHER END PATTERNS ARE SHOWN SIMILARLY ON THE CONSTRUCTION DRAWINGS. ALSO SEE PIPING SPECIFICATIONS.
2. SYMBOLS SHOWN HERE FOR SINGLE LINE FITTINGS ARE GENERIC ONLY. REFER TO PIPING SPECIFICATIONS FOR SPECIFIC END CONNECTIONS FOR SINGLE LINE PIPE AND FITTINGS.
3. EXISTING PIPE AND EQUIPMENT IS SHOWN LIGHT-LINED AND/OR SCREENED AND IS NOTED AS EXISTING. NEW PIPING AND EQUIPMENT IS SHOWN HEAVY-LINED. ON SITE DEMOLITION DRAWINGS, ITEMS TO BE REMOVED ARE SHOWN HEAVY-LINED.

VALVE SYMBOLS

	ALTERNATIVE
GATE	
KNIFE GATE	
BUTTERFLY	
GLOBE	
BALL	
VEE-BALL	
SEATING PORT	
ECCENTRIC PLUG	
PLUG OR COCK	
NEEDLE	
DIAPHRAGM	
PINCH	
SWING CHECK	
BALL CHECK	
HOSE VALVE (HV- X) OR (V-X) X = NO. IN SPECS	
SAMPLE	
FLUSHING CONNECTION	
STEAM TRAP	
MUD	
MANUAL AIR VENT	
PRESSURE RELIEF	
AIR AND/OR VACUUM RELEASE	
REGULATED SIDE	
PRESSURE CONTROL	
MULTI-PORT VALVE (BALL VALVE SHOWN. FOR OTHER VALVE TYPES, APPROPRIATE VALVE SYMBOL SHOWN.) ARROWS INDICATE FLOW PATTERN. SEATING PORTS ARE IMPLIED BY INDICATED FLOW PATTERN.	
3-WAY MOTORIZED VALVE	
2-WAY MOTORIZED VALVE	
CHEMICAL INJECTOR SYSTEM	

PIPING DESIGNATION

EXAMPLE:

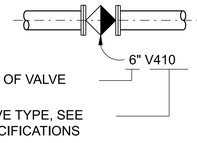


MISCELLANEOUS PIPING SYMBOLS

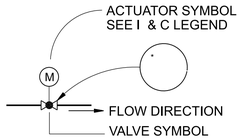
- STRAINER
- SIGHT GLASS
- FLEXIBLE (ELASTOMER) PIPE CONNECTION
- GAUGE WITH COCK
- THERMOMETER
- ROTAMETER
- PIG LAUNCHER
- PIG CATCHER
- XX — AIR SET, XX = SUPPLY PRESSURE - PSIG
- PS 26-1-2 — TYPICAL INSTRUMENT SYMBOL (SEE I&C LEGEND)

VALVE DESIGNATIONS

MANUAL VALVES AND CHECK VALVES



CONTROL VALVES



· BUBBLE WITH XV OR XCV DESIGNATION SHOWN ON P&ID WHERE: X = PROCESS VARIABLE

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
MECHANICAL LEGEND

GENERAL

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	A.FONSECA
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-G-13
SHEET NO.	013 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 16:47
PLOT DATE: 16-JAN-2025
FILENAME: 69-G-13_E5X79926.dgn
E5X79926

HEATING, VENTILATING, AND AIR CONDITIONING SYMBOLS

SUPPLY GRILLE OR REGISTER (SG, SR)

EXHAUST, RETURN, OR TRANSFER GRILLE OR REGISTER (EG, ER, RG, RR, TG, TR)

4-WAY THROW

3-WAY THROW

2-WAY THROW

1-WAY THROW

CEILING DIFFUSERS (CD)

CEILING EXHAUST, RETURN AND TRANSFER GRILLES AND REGISTERS (EG, ER, RG, RR, TG, TR)

MITERED ELBOW WITH TURNING VANES

RADIUS ELBOW

F — FIRE DAMPER

FS — FIRE/SMOKE DAMPER

S — SMOKE DAMPER

BALANCING DAMPER

MOTORIZED DAMPER

M1 — BACKDRAFT DAMPER

BDD

ID — DUCT INSPECTION DOOR (HORIZONTAL OR VERTICAL)

R — INCLINED RISE (R) OR DROP (D) ARROW IN DIRECTION OF FLOW

45 DEG BRANCH CONNECTION WITH BALANCING DAMPER

12x10 | 8x8 — ECCENTRIC TRANSITION

COMBINATION DISCONNECT AND MOTOR STARTER

WP — WEATHER PROOF COMBINATION DISCONNECT AND MOTOR STARTER

VIBRATION ISOLATOR

(200) — AIR FLOW QUANTITY: 200 SCFM

PRESSURE AND TEMPERATURE TEST PLUG

POINT OF CONNECTION, RENOVATION

POINT OF REMOVAL, DEMOLITION

AD — CEILING ACCESS DOOR

UC — PROVIDE DOOR UNDERCUT

DOOR GRILLE

N — PHOTO NUMBER AND DIRECTION IDENTIFIER

FLEXIBLE CONNECTION (FC)

24x16

1. RECTANGULAR DUCT
2. DIMENSIONS IN INCHES
3. FIRST DIMENSION VISIBLE SIDE

24Ø

1. ROUND DUCT
2. DIMENSIONS IN INCHES

24x16

1. INTERNAL INSULATION/SOUND ATTENUATION
2. AS SPECIFIED. DUCT DIMENSIONS SHOWN ARE NET INSIDE, TO INSIDE FACE OF LINER.
3. PROVIDE LINING WHERE SHOWN OR NOTED ON DWGS, AND AS DESCRIBED IN SPECIFICATIONS.

X — INDICATES DUCT MOUNTED CONTROL DEVICE "X" SEE HVAC CONTROL SYMBOLS

SUPPLY OR INTAKE DUCT UP

SUPPLY OR INTAKE DUCT DOWN

RETURN OR EXHAUST DUCT UP

RETURN OR EXHAUST DUCT DOWN

FOT — TRANSITION, FOT = FLAT ON TOP FOB = FLAT ON BOTTOM

FLEX DUCT AND SPIN-IN CONNECTION WITH INTEGRAL BALANCING DAMPER

AIR OUT OF OPENING

AIR INTO OPENING

12x10 | 6x6 — CONCENTRIC TRANSITION

T/P — TIE-IN POINT TO EXISTING

EQUIPMENT NOMENCLATURE

AIR OUTLET AND INLET IDENTIFICATION

8x8 — DIMENSIONS IN INCHES
EG1 — SPECIFICATION DESCRIPTION
(250) — AIRFLOW IN CFM

CONTROL VALVES IDENTIFICATION

M — ACTUATOR SYMBOL
FLOW DIRECTION
VALVE SYMBOL
FLOW DIRECTION

HVAC EQUIPMENT TAG

SEQUENTIAL UNIT NUMBER
HVAC EQUIPMENT IDENTIFICATION
BUILDING IDENTIFICATION NUMBER

VALVE SYMBOLS

GATE
BUTTERFLY
GLOBE
BALL
SEATING PORT
ECCENTRIC PLUG
PLUG OR COCK
NEEDLE
SWING CHECK
BALL CHECK

B — BALANCING FITTING

F / B — COMBINATION FLOWMETER AND BALANCING FITTING

F / B — COMBINATION FLOWMETER, BALANCING FITTING AND SHUT-OFF VALVE

S.O.

PRESSURE RELIEF
AIR VENT (AUTO)
AIR VENT (MANUAL)
REGULATED SIDE PRESSURE CONTROL

HVAC PIPING SYMBOLS

DOUBLE LINE	SINGLE LINE	
		EXISTING PIPE (SCREENED)
		NEW PIPE
		EXISTING PIPE TO BE ABANDONED
		EXISTING PIPE TO BE REMOVED
		WELDED JOINT
		GROOVED END JOINT
		FLANGED JOINT
		FLEXIBLE COUPLING
		GROOVED END ADAPTER FLANGE
		STEEL BELLOWS EXPANSION JOINT
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		LATERAL UP
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		UNION
		ANCHOR
		PIPE ALIGNMENT GUIDE
		FLEXIBLE (ELASTOMER) PIPE CONNECTION

PIPING FLOW STREAM IDENTIFICATION

LPS	STEAM, LOW PRESSURE
CRP	CONDENSATE RETURN PIPING (STEAM RETURN)
CHWS	CHILLED WATER, SUPPLY
CHWR	CHILLED WATER, RETURN
HHS	HEATING HOT WATER, SUPPLY
HHR	HEATING HOT WATER, RETURN
CD	HVAC CONDENSATE DRAIN
CWS	CONDENSER WATER, SUPPLY
CWR	CONDENSER WATER, RETURN

HVAC CONTROLS SYMBOLS

MCC — DIVISION 16 MOTOR CONTROL CENTER

MS — MOTOR STARTER

M — ELECTRIC MOTOR

FZ — LOW-LIMIT FREEZE THERMOSTAT

VFD | AFD — VARIABLE/ADJUSTABLE FREQUENCY DRIVE

HVAC CONTROL PANEL (HCP)

S — SWITCH

OS — OCCUPANCY SENSOR

M | M — MOTOR CONTROL VALVE (2-WAY), (3-WAY)

T | T — TEMPERATURE SENSOR OR THERMOSTAT

H | H — HUMIDITY SENSOR OR HUMIDISTAT

h — ENTHALPY SENSOR

FS — LIQUID FLOW SWITCH

F — DUCT MOUNTED AIRFLOW MONITORING STATION

ANALOG OUTPUT, INPUT: DATA POINT TO DDC

DIGITAL OUTPUT, INPUT: DATA POINT TO DDC

CS — CURRENT SENSOR

DP — DIFFERENTIAL PRESSURE SENSOR OR SWITCH

SP — STATIC PRESSURE SENSOR

SD — DUCT SMOKE DETECTOR

FI — AREA SMOKE DETECTOR

M — MOTORIZED DAMPER

R — RELAY

S — SOLENOID VALVE

FACP — DIVISION 16 FIRE ALARM CONTROL PANEL

PT — LIQUID LINE PRESSURE SENSOR AND SIGNAL TRANSMITTER

FIT — LIQUID FLOW INDICATING TRANSMITTER

FCV — FLOW CONTROL VALVE

TURBINE LIQUID FLOW METER

VENTURI FLOW METER

POSITIVE, NEGATIVE, NEUTRAL ROOM PRESSURIZATION

FSC — FAN SPEED CONTROLLER

ALARM LIGHT AND HORN STATION

HVAC GENERAL NOTES

1. THIS IS A STANDARD LEGEND SHEET. SOME SYMBOLS OR ABBREVIATIONS ON THIS SHEET MAY NOT APPEAR ON THE PLANS.
2. FOR ADDITIONAL ABBREVIATIONS OF OTHER DIVISIONS, SEE OTHER LEGENDS FOR PLUMBING, MECHANICAL, AND STRUCTURAL/ ARCHITECTURAL.

ABBREVIATIONS AND EQUIPMENT ID

ACCU	AIR COOLED CONDENSING UNIT
ACU	AIR CONDITIONING UNIT
AHU	AIR HANDLING UNIT
AS	CENTRIFUGAL AIR SEPARATOR
BD	BALANCING DAMPER
BDD	BACKDRAFT DAMPER (GRAVITY)
BO	BOILER
CC	COOLING COIL
CCU	CABINET CONVECTOR UNIT
CD	CEILING DIFFUSER
CF	CEILING FAN
CRU	CONDENSATE RETURN UNIT
CSU	CEILING-MOUNTED AIR SUPPLY UNIT
CU	CONDENSING UNIT
DL	DRUM LOUVER DIFFUSER
DH	DUCT HEATER
EA	EXHAUST AIR
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ER	EXHAUST REGISTER
ET	DIAPHRAGM EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
FC	FLEXIBLE CONNECTION, FAIL CLOSE
FCU	FAN-COIL UNIT
FD	FIRE DAMPER
FO	FAIL OPEN
FF	FINAL FILTER
FRP	FIBERGLASS REINFORCED PLASTIC
FSD	FIRE SMOKE DAMPER
FT	FINNED-TUBE BASEBOARD HEATER
FZ	FREEZE STAT
HC	HEATING COIL
HCP	HVAC CONTROL PANEL
HD	HOOD, EXHAUST
HGR	HOT GLYCOL RETURN
HGS	HOT GLYCOL SUPPLY
HTP	HEAT TRANSFER PACKAGE
HVU	HEATING AND VENTILATING UNIT
HWP	HEATING WATER PUMP
HX	HEAT EXCHANGER
IRH	INFRARED HEATERS
JD	JET DIFFUSER
MAU	MAKEUP AIR UNIT
MB	MIXING BOX
MD	MOTORIZED DAMPER
ML	MOTORIZED LOUVER
OAI	OUTSIDE AIR INTAKE
OBD	OPPOSED-BLADE DAMPER (MANUAL)
OIP	OPERATOR INTERFACE PANEL
OS	OCCUPANCY SENSOR
OSA	OUTSIDE AIR
PA	PRESSURIZATION AIR
PCV	PRESSURE-CONTROL VALVE
PF	PREFILTER
PHC	PREHEAT COIL
PTAC	PACKAGED TERMINAL AC UNIT
PTS	PITOT-TUBE TESTING STATION
RA	RETURN AIR
RF	RETURN FAN
RG	RETURN GRILLE
RGH	RADIANT GAS-FIRED HEATING SYSTEM
RL	REFRIGERANT LIQUID PIPE
RR	RETURN REGISTER
RS	REFRIGERANT SUCTION PIPE
RV	ROOF VENTILATOR
SA	SOUND ATTENUATOR, SUPPLY AIR
SF	SUPPLY FAN
SG	SUPPLY GRILLE
SP	STATIC PRESSURE
SR	SUPPLY REGISTER
TG	TRANSFER GRILLE
UH	UNIT HEATER
VAV	VARIABLE AIR VOLUME UNIT

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
HVAC LEGEND

GENERAL

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

©JACOBS 2018. ALL RIGHTS RESERVED.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	M LUGWIG
SUBMITTED BY:	F. HENRY
CONTRACT NO.:	25-007
DWG NO.	69-G-14
SHEET NO.	014 OF 97

Bid Set

PLOT TIME: 16:47
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-G-14_E5X79926.dgn

PLUMBING SYMBOLS

CO — CLEANOUT, BUILDING EXTERIOR

YCO-X — Y = F - FLOOR CLEANOUT; D - DECK CLEANOUT; W - WALL CLEANOUT; X - NO. IN SPECIFICATION

HD-XY — HUB DRAIN; Y - T WITH DEEP SEAL TRAP; Y - P WITH PRIMED TRAP; X - NO. IN SPECIFICATION

FD-XY — FLOOR DRAIN; X - NO. IN SPECIFICATION; Y - T WITH DEEP SEAL TRAP; Y -P WITH PRIMED TRAP

RD-X — ROOF DRAIN; X = NO. IN SPECIFICATION

OD-X — OVERFLOW ROOF DRAIN; X = NO. IN SPECIFICATION

CO — CLEANOUT PLUG (EXPOSED PIPING)

ELBOW DOWN

ELBOW UP

TEE DOWN

TEE DOWN WITH ELBOW

ELBOW

TEE

TEE UP

UNION

PIPE CAP

THERMOMETER

PRESSURE GAUGE WITH COCK

STRAINER

HOSE VALVE

REDUCER

EMERGENCY EYEWASH AND SHOWER

HOSE RACK

T/P — TIE-IN POINT TO EXISTING

VALVE SYMBOLS

GATE

BUTTERFLY

GLOBE

BALL

PRESSURE RELIEF VALVE

CHECK VALVE

PRESSURE REGULATING VALVE

BACKFLOW PREVENTER

PIPING IDENTIFICATION

NOTE: REFER TO MECHANICAL LEGEND DRAWING G-13 FOR FLOW STREAM IDENTIFICATION.

ABBREVIATIONS

AAV	AIR ADMITTANCE VALVE
ABV	ABOVE
AFF	ABOVE FINISHED FLOOR
CL	CENTERLINE
CO	CLEANOUT
CONN	CONNECTION
CONT	CONTINUATION
DEPT	DEPARTMENT
DN	DOWN
EL	ELEVATION
ETP	ELECTRONIC TRAP PRIMER
EWC	ELECTRIC WATER COOLER
FA	FIXED AIR GAP DRAIN
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FLR	FLOOR
HD	HUB DRAIN
HV	HOSE VALVE
HX	HEAT EXCHANGER
IE	INVERT ELEVATION
LP	LABORATORY FAUCET
LSK	LAB SINK
MS	MOP SINK
ON	OVERFLOW NOZZLE
P	PUMP
RL	RAIN LEADER
SK	SINK
SP	SUMP PUMP
SSH	SAFETY SHOWER/EYEWASH COMBINATION
SSK	SERVICE BASIN, OR SAMPLE SINK
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER VALVE
VTR	VENT THRU ROOF
WHA	WATER HAMMER ARRESTER
WH	WATER HEATER
XXXX-XXX	SPECIFICATION DETAIL NUMBER

FIRE SPRINKLER SYMBOLS

WALL FIRE DEPARTMENT CONNECTION

POST FIRE DEPARTMENT CONNECTION

FIRE ALARM BELL

PLUMBING GENERAL NOTES

1. THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS, VERIFY EXISTING PLUMBING PIPING SYSTEMS AND VERIFY NEW POINTS OF CONNECTION TO EXISTING PIPING PRIOR TO PERFORMING WORK.
2. PATCH ALL HOLES IN WALLS AND FLOORS LEFT AS A RESULT OF PLUMBING DEMOLITION WORK.
3. ALL PIPE PENETRATIONS THROUGH FLOORS AND WALLS SHALL BE SLEEVED AND SEALED.
4. INSTALL TRAP PRIMER VALVES ON ALL FLOOR AND HUB DRAINS WITH "P" EXTENSION. FLOOR AND HUB DRAINS WITH "T" EXTENSIONS SHALL HAVE DEEP SEAL TRAPS. FIELD ROUTE TRAP PRIMER TUBING TO FLOOR AND HUB DRAINS.
5. PIPING ELEVATIONS SHOWN ARE APPROXIMATE, FIELD VERIFY PIPING ELEVATIONS WITH NEW AND EXISTING CONDITIONS PRIOR TO INSTALLATION.
6. PLUMBING VENTS THROUGH ROOF SHALL BE OFFSET AT ROOF TO PROVIDE MINIMUM DISTANCE OF 3'-6" FROM EXTERIOR WALL.
7. COORDINATE FINAL LOCATIONS OF FLOOR AND HUB DRAINS THAT RECEIVE CONDENSATE DRAINAGE FROM HVAC EQUIPMENT.
8. PROVIDE CLEANOUTS IN WASTE AND DRAIN PIPING AS SHOWN ON THE DRAWINGS. FURNISH AND INSTALL ADDITIONAL CLEANOUTS AS REQUIRED BY CODE.
9. THE CONTRACTOR SHALL COORDINATE THE PLUMBING DEMOLITION WORK WITH THE MECHANICAL, HVAC, ARCHITECTURAL AND ELECTRICAL DEMOLITION WORK.
10. ALL PIPES PASSING THROUGH FIRE RATED WALLS AND FLOORS SHALL BE INSTALLED TO MEET APPLICABLE UL SYSTEM REQUIREMENTS PERTAINING TO THE TYPE OF CONSTRUCTION. REFER TO ARCHITECTURAL DRAWINGS FOR WALLS WHICH ARE FIRE RATED.
11. SPECIFICATIONS:
    a. FOR GENERAL PIPING SCHEDULE SEE SECTION 40 27 00.
    b. FOR PIPE SUPPORTS AND HANGERS SEE SECTION 40 05 15 AND DETAILS REFERENCED ON THE DRAWINGS.
    c. FOR PLUMBING PIPING SEE SECTION 22 10 01.

DRAWING NOTES

1. THIS IS A STANDARD LEGEND SHEET. SOME SYMBOLS OR ABBREVIATIONS ON THIS SHEET MAY NOT APPEAR ON THE PLANS.
2. FOR ADDITIONAL ABBREVIATIONS OF OTHER DIVISIONS, SEE OTHER LEGENDS FOR HVAC, MECHANICAL, AND STRUCTURAL/ ARCHITECTURAL.

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PLUMBING LEGEND
GENERAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	M. LUDWIG
SUBMITTED BY:	F. HENRY
CONTRACT NO.:	25-007
DWG NO.	69-G-15
SHEET NO.	015 OF 97

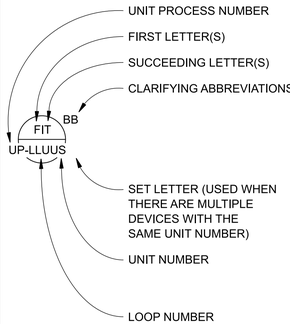
Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 16:47
PLOT DATE: 16-JAN-2025
FILENAME: 69-G-15_E5X79926.dgn
E5X79926

INSTRUMENT IDENTIFICATION

EXAMPLE SYMBOLS



PLC SYSTEM INTERFACES

		WHERE X=		
▲	ANALOG INPUT	A	=	ALARM
▼	ANALOG OUTPUT	H	=	MAINTAINED
△x	DISCRETE INPUT	L	=	LATCHED
▽x	DISCRETE OUTPUT	M	=	MOMENTARY
		S	=	STATUS

GENERAL INSTRUMENT OR FUNCTION SYMBOLS



FIELD MOUNTED

BACK-OF-PANEL MOUNTED (OPERATOR INACCESSIBLE)

PANEL MOUNTED (OPERATOR ACCESSIBLE)

MCC MOUNTED

SCADA FUNCTION

TRANSDUCERS

A	ANALOG	I	CURRENT
D	DIGITAL	P	PNEUMATIC
E	VOLTAGE	PF	PULSE FREQUENCY
F	FREQUENCY	PD	PULSE DURATION
H	HYDRAULIC	R	RESISTANCE

EXAMPLE:



CURRENT TO PNEUMATIC TRANSDUCER (BACK OF PANEL, IN A FLOW LOOP)

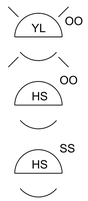
INSTRUMENT SOCIETY OF AMERICA TABLE

LETTER	FIRST-LETTER: PROCESS OR INITIATING VARIABLE	FIRST-LETTER: MODIFIER	SUCCEEDING-LETTERS: READOUT OR PASSIVE FUNCTION	SUCCEEDING-LETTERS: OUTPUT FUNCTION	SUCCEEDING-LETTERS: MODIFIER
A	ANALYSIS (+)		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
C	USER'S CHOICE (*)			CONTROL	
D	DENSITY (S.G)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT		
F	FLOW RATE	RATIO			
G	USER'S CHOICE (*)		GLASS, GAUGE VIEWING DEVICE	GATE	
H	HAND (MANUAL)				HIGH
!	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOTION	MOMENTARY			MIDDLE
N	TORQUE		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
O	USER'S CHOICE (*)		ORIFICE, RESTRICTION		
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE			
R	RADIATION		RECORD OR PRINT		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED (+)	X AXIS	UNCLASSIFIED (+)	UNCLASSIFIED (+)	UNCLASSIFIED (+)
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION	Z AXIS		DRIVE, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

(+) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL. SEE ABBREVIATIONS AND LETTER SYMBOLS.

(*) WHEN USED, DEFINE THE MEANING HERE FOR THE PROJECT

SPECIAL CASES



ON AND OFF EVENT LIGHTS

ON-OFF HAND SWITCH MAINTAINED CONTACT SWITCH (CONTROLLED DEVICE WILL RESTART ON RETURN OF POWER AFTER POWER FAILURE).

STOP-START HAND SWITCH MOMENTARY CONTACT SWITCHES (CONTROLLED DEVICE WILL NOT RESTART ON RETURN OF POWER AFTER POWER FAILURE).

ACCESSORY DEVICES

(DEVICES SPECIFIED AND PROVIDED WITH THE ASSOCIATED PRIMARY ELEMENT OR CONTROL VALVE)

EXAMPLE: TRANSMITTER AS AN ACCESSORY TO A FLOW ELEMENT



A = ALARM
C = CONTROLLER
I = INDICATOR
R = RECORDER
S = SWITCH
T = TRANSMITTER
X = UNCLASSIFIED

LINE LEGEND

PROCESS (CLOSED CONDUIT, DASHED LINE INDICATES ALTERNATE FLOW STREAM)

PROCESS (OPEN CHANNEL)

ANALOG SIGNAL (4 TO 20 mAdc, ETC.)

DISCRETE SIGNAL (ON/OFF, ETC.)

PNEUMATIC SIGNAL

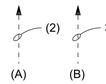
FILLED SYSTEM SIGNAL

HYDRAULIC SYSTEM SIGNAL

DATA LINK

SYSTEM BOUNDARY

PARALLELING LINES



(A) TOTAL OF 2 SIGNALS

(B) 3 TYPICAL SETS OF 2 SIGNALS EACH. TOTAL OF 6 SIGNALS.

CONNECTING LINES

NON-CONNECTING LINES

PACKAGE SYSTEM EQUIPMENT

INTERFACE SYMBOLS



= PROCESS INTERFACE

= SIGNAL INTERFACE

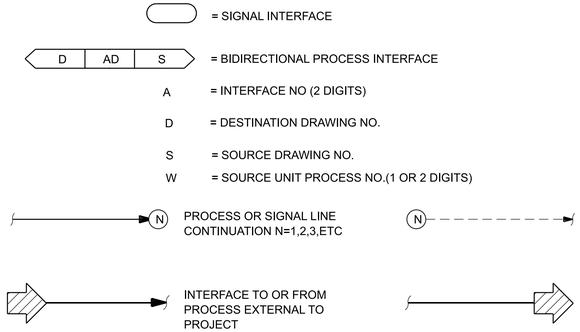
D AD S = BIDIRECTIONAL PROCESS INTERFACE

A = INTERFACE NO (2 DIGITS)

D = DESTINATION DRAWING NO.

S = SOURCE DRAWING NO.

W = SOURCE UNIT PROCESS NO.(1 OR 2 DIGITS)



PROCESS OR SIGNAL LINE CONTINUATION N=1,2,3,ETC

INTERFACE TO OR FROM PROCESS EXTERNAL TO PROJECT

EQUIPMENT TAG NUMBERS



D: ARV = AIR RELEASE VALVE
AVRV = AIR AND VACUUM RELEASE VALVE
B = BLOWER
E = EJECTOR
FG = FLOW CONTROL GATE
G = GATE
M = MECHANICAL EQUIPMENT
P = PUMP
T = TANK

UP = UNIT PROCESS NUMBER
LL = LOOP NUMBER
UU = UNIT NUMBER

ABBREVIATIONS & LETTER SYMBOLS

AM	AUTO-MANUAL
CG	COMBUSTIBLE GAS
CL_2 etc.	CHLORINE (TYPICAL: USE STANDARD CHEMICAL ELEMENT ABBREVIATION)
CP-X	CONTROL PANEL NO. X
CIS	CHEMICAL INJECTOR SYSTEM
DO	DISSOLVED OXYGEN
ESW	ETHERNET SWITCH
FCL_2	FREE CHLORINE RESIDUAL
FPW-X	FIELD PANEL NO. WX (W = UNIT PROCESS NUMBER X = PANEL NUMBER)
FR	FORWARD-REVERSE
HOA	HAND-OFF-AUTO
HOP	HAND-OFF-PLC
HOR	HAND-OFF-REMOTE
ISR	INTRINSICALLY SAFE RELAY
LEL	LOWER EXPLOSIVE LIMIT
LIO-X	LOCAL I/O NO. X
LOP	LOCAL-OFF-PLC
LP	LOCAL-PLC
LR	LOCAL-REMOTE
MA	MANUAL-AUTO
MC	MODULATE-CLOSE
MCC-X	MOTOR CONTROL CENTER NO. X
MNU	MICRONUTRIENT SOLUTION
MSC	MANUFACTURER SUPPLIED CABLE
NH3	AMMONIA/AMMONIUM
NH4	AMMONIUM
NIC	NOT IN CONTRACT
NO2	NITRITE
NO3	NITRATE
OC	OPEN-CLOSE (D)
OCR	OPEN-CLOSE-REMOTE
OCA	OPEN-CLOSE-AUTO
OO	ON-OFF
OOA	ON-OFF-AUTO
OOP	ON-OFF-PLC
OOR	ON-OFF-REMOTE
ORP	OXIDATION REDUCTION POTENTIAL
OSC	OPEN-STOP-CLOSE
pH	HYDROGEN ION CONCENTRATION
PLC-X	PROGRAMMABLE LOGIC CONTROLLER NO. X
PM	POWER MONITOR
RCY	RECYCLE FLOW
RIO-X	REMOTE I/O NO. X
SF	SLOWER-FASTER
SS	START-STOP
SSC	SUPERVISORY SET POINT CONTROL
TCL_2	TOTAL CHLORINE RESIDUAL
TSS	TOTAL SUSPENDED SOLIDS
TURB	TURBIDITY
VHC	VOLATILE HYDROCARBONS
VIB	VIBRATION

GENERAL NOTES

1. COMPONENTS AND PANELS SHOWN WITH A SINGLE ASTERISK (*) ARE TO BE PROVIDED AS PART OF A PACKAGE SYSTEM. COMPONENTS AND PANELS SHOWN WITH A DOUBLE ASTERISK (**) ARE TO BE PROVIDED UNDER DIVISION 26, ELECTRICAL.
2. THIS IS A STANDARD LEGEND. THEREFORE, NOT ALL OF THIS INFORMATION MAY BE USED ON THIS PROJECT.
3. DESIGN DETAIL NUMBERS FOR INSTALLATION OF INSTRUMENTS ARE NOTED IN THE INSTRUMENT LIST IN SECTION 40 90 00 INSTRUMENTATION AND CONTROL FOR PROCESS SYSTEMS.

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
INSTRUMENTATION & CONTROL LEGEND

GENERAL

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I KHAN
CHECKED BY:	D. MUNZER
SUBMITTED BY:	A. NASEER
CONTRACT NO.:	25-007
DWG NO.	69-G-16
SHEET NO.	016 OF 97

Bid Set

PLOT TIME: 16:47
PLOT DATE: 16-JAN-2025
FILENAME: 69-G-16_E5X79926.dgn
E5X79926

POWER SYSTEM PLAN-1

SYMBOL	DESCRIPTION
	CONNECTION POINT TO EQUIPMENT SPECIFIED. RACEWAY, CONDUCTOR,TERMINATION AND CONNECTION IN THIS DIVISION.
MCC-A	MAJOR ELECTRICAL COMPONENT OR DEVICE - NAME OR IDENTIFYING SYMBOL AS SHOWN.
LPXXA	PANELBOARD - SURFACE MOUNTED PANELBOARD LETTER OR NUMBER FACILITY NUMBER LP - LOW VOLTAGE PANEL DP - DISTRIBUTION PANEL
	TERMINAL JUNCTION BOX
M	MOTOR, SQUIRREL CAGE INDUCTION
LPXXA	HOME RUN - DESTINATION SHOWN
or G	EXPOSED CONDUIT AND CONDUCTORS*
or G	CONCEALED CONDUIT AND CONDUCTORS*

NOTE:
ALL UNMARKED CONDUIT RUNS CONSIST OF TWO NO. 12, ONE NO. 12 GROUND CONDUCTORS IN 3/4" CONDUIT. RUNS MARKED WITH CROSSHATCHES INDICATE NUMBER OF NO. 12 CONDUCTORS. CROSSHATCH WITH SUBSCRIPT "G" INDICATES GREEN GROUND WIRE.

[A1]	CONDUIT AND CONDUCTOR CALLOUT, SEE LEGEND.
	CONDUIT DOWN
	CONDUIT UP
	CONDUIT, STUBBED AND CAPPED
	CONDUIT TERMINATION AT CABLE TRAY
EX	EXISTING CONDUIT/ DUCT BANK
CE	CONCRETE ENCASED CONDUIT
DB	DIRECT BURIED CONDUIT
FO	FIBER OPTIC CONDUIT
XXXX	CONCRETE ENCASED DUCT BANK WHERE XXXX IS THE DUCT BANK NAME. SEE CIRCUIT AND RACEWAY CODING DEFINITION
	CONCEALED CONDUIT ROUTING AREA
	CONDUIT ROUTING AREA
	CABLE TRAY
T	TRANSFORMER
J or HH	GENERAL CONTROL OR WIRING DEVICE. LETTER SYMBOLS OR ABBREVIATIONS INDICATE TYPE OF DEVICE
CS	CONTROL STATION, SEE CONTROL DIAGRAMS FOR CONTROL DEVICE(S) REQUIRED.
30	NONFUSED DISCONNECT SWITCH, CURRENT RATING INDICATED, 3 POLE
100/40	BREAKER, SEPARATELY MOUNTED, CURRENT RATING INDICATED (100/40, 100 = FRAME SIZE; 40 = TRIP RATING) 3 POLE
L 30	LIGHTING CONTACTOR, CURRENT RATING INDICATED
2	STARTER, MAGNETIC NEMA SIZE INDICATED
XX 2	CONVENIENCE RECEPTACLE - DUPLEX UNLESS NOTED OTHERWISE WP - WEATHERPROOF C - CLOCK HANGER TL - TWIST LOCK CRE - CORROSION RESISTANT GFCI - GROUND FAULT CIRCUIT INTERRUPTER SUBSCRIPT NUMBER AT RECEPTACLE INDICATES CIRCUIT

POWER SYSTEM PLAN-2

SYMBOL	DESCRIPTION
	240V RECEPTACLE
	CONVENIENCE RECEPTACLE - QUADRUPLEX
	MULTI OUTLET ASSEMBLY
	DUPLEX CONVENIENCE RECEPTACLE - FLUSH IN FLOOR
	CONVENIENCE RECEPTACLE, PEDESTAL, DUPLEX SINGLE FACE UNLESS INDICATED OTHERWISE
L20R 20	RECEPTACLE, SPECIAL PURPOSE-NEMA CONFIGURATION AND AMPERAGE INDICATED
T	THERMOSTAT
	UTILITY POLE

LIGHTING SYSTEM PLAN

1 or 1	LUMINAIRE, SEE SCHEDULE
1	LUMINAIRE, SEE SCHEDULE
1 or	LUMINAIRE WITH INTERNAL BATTERY BACKUP, SEE SCHEDULE
1	STRIP LUMINAIRE, SEE SCHEDULE
4 or 4	LUMINAIRE AND POLE, SEE SCHEDULE
5 or 5	WALL MOUNTED LUMINAIRE, SEE SCHEDULE
1	FLOOD LIGHTS - AIM IN THE DIRECTION SHOWN
	STANDBY LIGHTING UNIT, SURFACE MOUNTED, SEE SCHEDULE
XX or	EXIT LIGHTS - FILLED SECTION INDICATES LIGHTED FACE, ARROW INDICATES EGRESS DIRECTIONAL INDICATORS, XX = FIXTURE NUMBER, SEE SCHEDULE
$a or 2a	SMALL LETTER SUBSCRIPT AT SWITCH AND LUMINAIRE INDICATES SWITCHING. SUBSCRIPT NUMBER AT LUMINAIRE INDICATES CIRCUIT
$3	WALL SWITCH: 2- DOUBLE POLE P- PILOT LIGHT 3- THREE WAY K- KEY OPERATED 4- FOUR WAY D- DIMMER WP- WEATHERPROOF CRE- CORROSION RESISTANT EX- EXPLOSIONPROOF L- MOMENTARY 3-WAY M- MOTOR RATED MS- MANUAL STARTER WITH OVERLOADS
60/40	FUSED DISCONNECT SWITCH, CURRENT RATING INDICATED (60/40, 60=SWITCH RATING / 40=FUSE RATING) 3 POLE
2	COMBINATION CIRCUIT BREAKER AND MAGNETIC STARTER, NEMA SIZE INDICATED
OS	OCCUPANCY SENSOR
LC	LIGHTING CONTACTOR
MD	MOTION DETECTOR
PC	PHOTOCELL
30	NONFUSED DISCONNECT SWITCH, CURRENT RATING INDICATED, 3 POLE
60/40	FUSED DISCONNECT SWITCH, CURRENT RATING INDICATED (60/40, 60=SWITCH RATING / 40=FUSE RATING) 3 POLE
2	COMBINATION CIRCUIT BREAKER AND MAGNETIC STARTER, NEMA SIZE INDICATED

FIRE ALARM SYSTEM PLAN AND RISER

SYMBOL	DESCRIPTION
FP	FIRE ALARM STATION, MANUAL
	FIRE ALARM SYSTEM, AUTOMATIC SMOKE DETECTOR
HD	FIRE ALARM SYSTEM, AUTOMATIC, HEAT DETECTOR
F	FIRE ALARM BELL
F	FIRE ALARM HORN
	FIRE ALARM HORN/STROBE LIGHT
	FIRE ALARM STROBE LIGHT
	AIR DUCT DETECTOR
FS	FIRE SPRINKLER FLOW SWITCH
TS	FIRE SPRINKLER TAMPER SWITCH
D	DOOR HOLDER

TELEPHONE SYSTEM PLAN AND RISER

TTC	TELEPHONE TERMINAL CABINET
	TELEPHONE RECEPTACLE (OUTLET BOX ONLY) FLOOR BOX
	TELEPHONE RECEPTACLE (OUTLET BOX ONLY)
T	TELEPHONE SYSTEM RACEWAY

COMPUTER SYSTEM (DATA) PLAN AND RISER

	COMPUTER NETWORK CONNECTION
D	DATA SYSTEM RACEWAY

COMBINED TELEPHONE/COMPUTER SYSTEM PLAN AND RISER

4	COMBINATION TELEPHONE/DATA RECEPTACLE, WALL MOUNTED, NUMBER OF PORTS INDICATED
4	COMBINATION TELEPHONE/DATA RECEPTACLE, FLOOR BOX, NUMBER OF PORTS INDICATED

SECURITY SYSTEM PLAN AND RISER

CR	PROXIMITY CARD READER

GROUND SYSTEM PLAN

	GROUND ROD
	GROUND ROD IN TEST WELL
G	GROUNDING CONDUCTOR, SIZE AS INDICATED
	PIGTAIL FOR CONNECTION TO EQUIPMENT CABINET OR FRAME
G	EQUIPMENT GROUND BUS
N	EQUIPMENT NEUTRAL BUS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
ELECTRICAL LEGEND

GENERAL

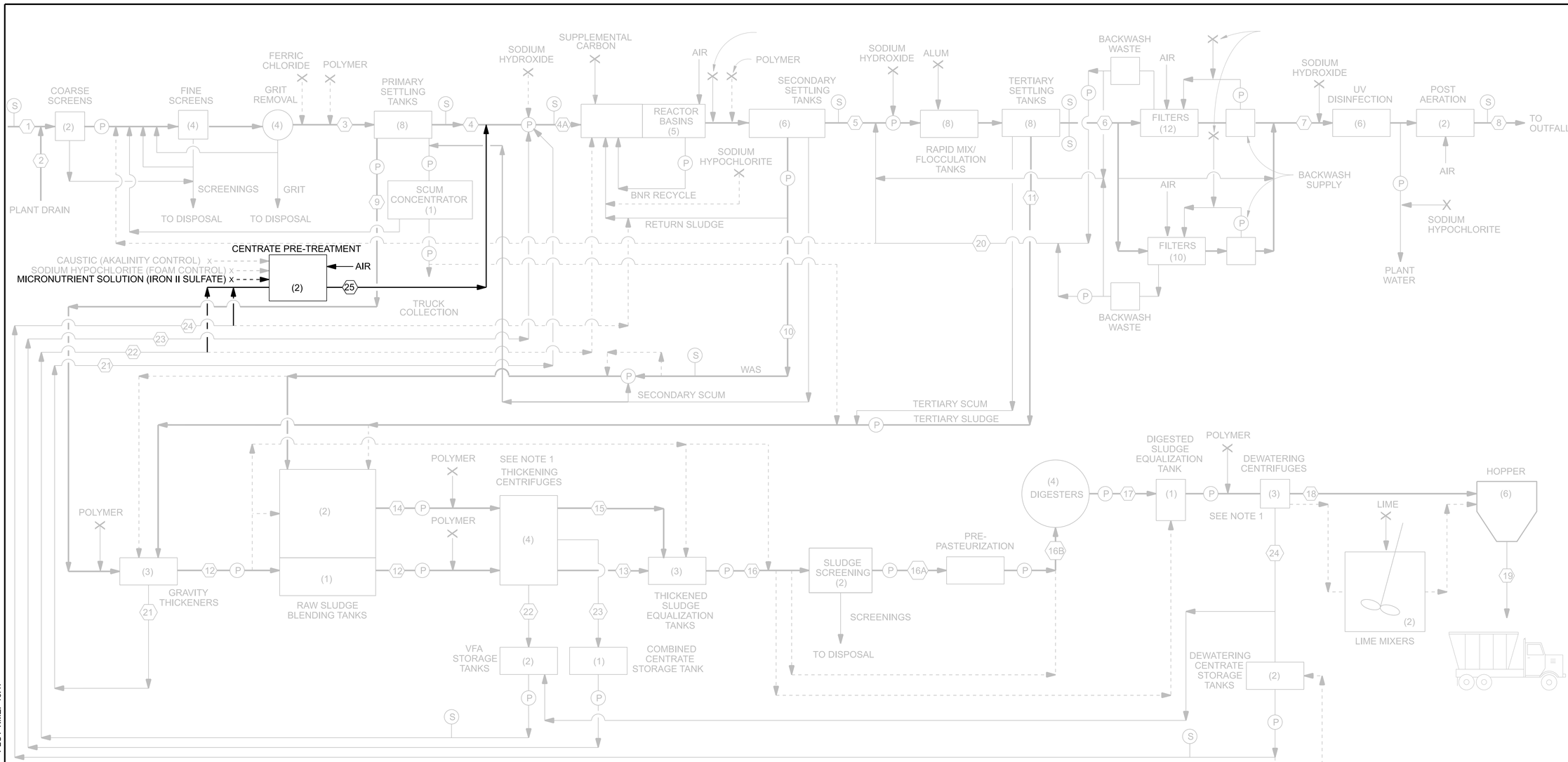
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	D. WATSON
SUBMITTED BY:	S. RUIZ
CONTRACT NO.:	25-007
DWG NO.	69-G-17
SHEET NO.	017 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 16:47
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-G-17_E5X79926.dgn



PROCESS FLOW STREAM IDENTIFICATION NUMBER

MAIN PROCESS FLOW STREAMS

1. RAW SEWAGE
2. PLANT DRAIN
3. PRIMARY INFLUENT
4. PRIMARY EFFLUENT
4A. BIOLOGICAL REACTOR BASIN INFLUENT
5. SECONDARY EFFLUENT
6. TERTIARY EFFLUENT
7. FILTER EFFLUENT
8. PLANT EFFLUENT

SOLIDS PROCESS FLOW STREAMS

9. PRIMARY SLUDGE
10. WASTE ACTIVATED SLUDGE
11. TERTIARY SLUDGE
12. GRAVITY THICKENED SLUDGE
13. CENTRIFUGE THICKENED PRIMARY SLUDGE
14. BLENDED SLUDGE
15. BLENDED THICKENED SLUDGE
16. DIGESTER FEED SLUDGE
16A. THICKENED SCREENED SLUDGE
16B. PASTEURIZED SLUDGE
17. DIGESTED SLUDGE
18. DEWATERED SLUDGE
19. BIOSOLIDS TO LANDFILL

RECYCLE FLOW STREAMS

20. FILTER BACKWASH
21. GRAVITY THICKENER OVERFLOW
22. VFA RECYCLE
23. THICKENING CENTRATE
24. DEWATERING CENTRATE
25. CENTRATE PRETREATMENT EFFLUENT

LEGEND

- PROCESS FLOW STREAM (X=IDENTIFICATION NUMBER)
- PRIMARY CHEMICAL ADDITION POINTS
- ALTERNATIVE CHEMICAL ADDITION POINT
- ALTERNATIVE FLOW PATH
- (P) PUMPING SYSTEM
- (S) AUTOMATIC COMPOSITE SAMPLER
- (X) FACILITIES (X=NO. OF UNITS)

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PROCESS FLOW SCHEMATIC

GENERAL

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	A.FONSECA
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-G-18
SHEET NO.	018 OF 97

Bid Set

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
© JACOBS 2018. ALL RIGHTS RESERVED.

PLOT TIME: 16:47
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-G-18_E5X79926.dgn

DESCRIPTION	EQUIPMENT/PROCESS DATA
DEWATERING CENTRATE RECYCLE PUMPS (EXISTING) NUMBER OF UNITS TYPE RATED CAPACITY, EACH MOTOR HORSEPOWER, EACH DRIVE, EACH	 2 UNITS HORIZONTAL END SUCTION 400 GPM AT 111 FT TDH 30 ADJUSTABLE SPEED
VFA CENTRATE RECYCLE PUMPS (EXISTING) NUMBER OF UNITS TYPE RATED CAPACITY, EACH MOTOR HORSEPOWER, EACH DRIVE, EACH	2 UNITS HORIZONTAL END SUCTION 140 GPM AT 93 FT TDH 10 ADJUSTABLE SPEED
DRAIN PUMP (EXISTING) NUMBER OF UNITS TYPE RATED CAPACITY, EACH MOTOR HORSEPOWER, EACH DRIVE, EACH	1 UNITS HORIZONTAL END SUCTION 300 GPM AT 45 FT TDH 7.5 CONSTANT SPEED
HEAT EXCHANGER PUMPS (EXISTING) NUMBER OF UNITS TYPE RATED CAPACITY, EACH MOTOR HORSEPOWER, EACH DRIVE, EACH	2 UNITS VERTICAL IN-LINE 590 GPM AT 45 FT TDH 10 CONSTANT SPEED
MECHANICAL MIXERS (1 EXISTING, 2 REPLACED IN-KIND) NUMBER OF UNITS TYPE MOTOR HORSEPOWER, EACH DRIVE, EACH	3 UNITS (2 LARGE, 1 SMALL) VERTICAL, TOP MOUNTED 15 (2.0 SMALL) CONSTANT SPEED
HEAT EXCHANGERS (EXISTING) NUMBER OF UNITS TYPE	2 UNITS PLATE
INTERNAL SOLIDS SETTLING DEVICES (ISSD) NUMBER OF UNITS TYPE RATED CAPACITY, EACH	16 UNITS (8 PER REACTOR) 304SS CONSTRUCTION EACH 4FT WIDE
CPT RECYCLE PUMPS NUMBER OF UNITS TYPE RATED CAPACITY, EACH	2 UNITS SUBMERSIBLE 125 GPM, 25-FT TDH
ANNAMOX RETENTION SCREENS NUMBER OF UNITS TYPE RATED CAPACITY, EACH	2 UNITS, 1 PER REACTOR PARABOLIC SIDE HILL SCREEN SHS-48 150 MICRON WEDGE WIRE

DESCRIPTION	EQUIPMENT/PROCESS DATA
AERATION BLOWERS NUMBER OF UNITS TYPE RATED CAPACITY, EACH AT 9.6 PSIG MOTOR HORSEPOWER, EACH DRIVE, EACH	3 UNITS POSITIVE DISPLACEMENT BLOWERS 710 SCFM AT 11.0 PSIG PRESSURE 60 HP
ODOR CONTROL FAN NUMBER OF UNITS TYPE RATED CAPACITY, EACH MOTOR HORSEPOWER, EACH DRIVE, EACH	1 AXIAL 33,000 CFM AT 2.0 INCHES W.C. 25 CONSTANT SPEED
CPT INFLUENT SCREENS NUMBER OF UNITS TYPE RATED CAPACITY, EACH	2 UNITS EXTERNALLY FED ROTARY WEDGE WIRE SCREEN 370 GPM
SCREENING WASH PRESS NUMBER OF UNITS TYPE RATED CAPACITY, EACH	1 UNIT WASH PRESS INLET CAPACITY OF 35 CFH
MICRONUTRIENT PUMP NUMBER OF UNITS TYPE RATED CAPACITY, EACH	1 UNIT PREISTALTIC PUMP FLOW RATE RANGE: 0.03 TO 158.5 US GPH

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
DESIGN DATA SUMMARY

GENERAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	A.FONSECA
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-G-19
SHEET NO.	019 OF 97

Bid Set

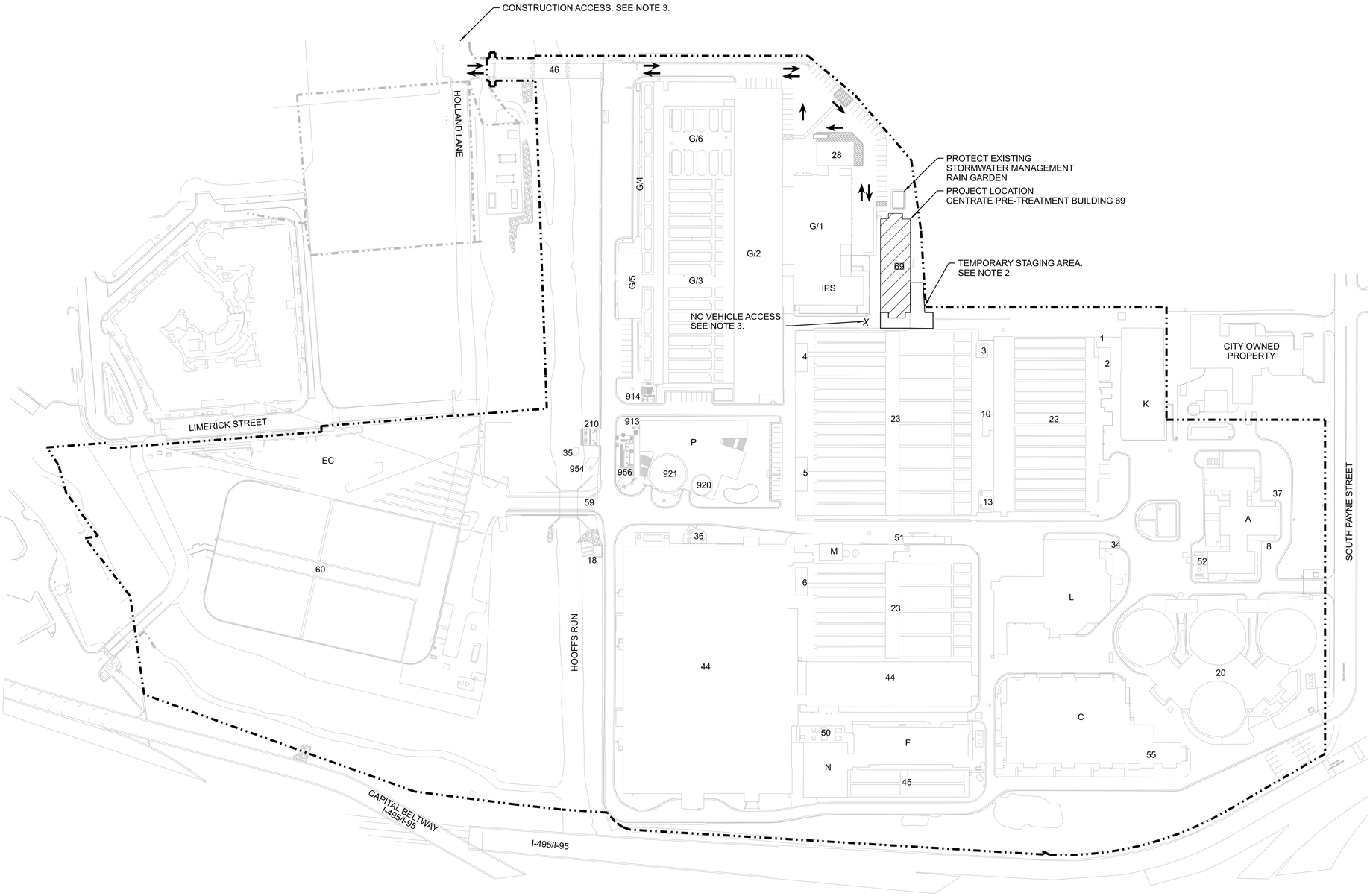
© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 16:48
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-G-19_E5X79926.dgn

NOTES:
1. BUILDING PERMITS MUST REFERENCE APPROVED CITY SITE PLAN DSP 2009-00017 AMENDMENT 7B.

2. TEMPORARY STAGING AREA IS 3600 SQUARE FEET. TEMPORARY CONEX BOX STORAGE AND PORTABLE TOILETS MUST BE WITHIN THIS LOCATION. REFER TO SPECIFICATION 01 52 00 CONTRACTOR FACILITIES. 1150 SQUARE FEET IS ON EXISTING PAVEMENT. A MAXIMUM OF 2450 SQUARE FEET OF EXISTING LAWN MAY BE TEMPORARILY USED AS STAGING AREA WITH IMPLEMENTATION OF PERIMETER EROSION CONTROL MEASURES AND RESTORATION OF LAWN AT THE END OF CONSTRUCTION. REFER TO SPECIFICATION 01 57 13.

3. CONSTRUCTION ACCESS IS BY THE NORTH ACCESS BRIDGE. A SECURITY CHECKPOINT IS LOCATED ON THE WRRF SIDE OF THE BRIDGE. THE ROADWAY TURN SOUTH OF CPT IS TOO NARROW FOR TRUCKS. RECOMMENDED APPROACH IS FOR LARGER VEHICLES TO TURN AROUND IN THE TRIANGLE SHAPED PAVEMENT AREA NORTH OF BUILDING 28 AND TRAVEL IN REVERSE TO GO SOUTH BETWEEN G/1 AND CPT TO DELIVER MATERIALS TO CPT. THEN DRIVE FORWARD TO EXIT THE WRRF.



INDEX TO FACILITIES

1	PIPE GALLERIES BELOW GRADE
2	ACCESS BUILDING NO. 1
3	ACCESS BUILDING NO. 2
4	ACCESS BUILDING NO. 3
5	ACCESS BUILDING NO. 4
6	ACCESS BUILDING NO. 5
8	CONTROL STRUCTURE NO. 1
10	CONTROL STRUCTURE NO. 3
13	CONTROL STRUCTURE NO. 7
18	CONTROL STRUCTURE NO. 12
20	SLUDGE DIGESTER COMPLEX
22	PRIMARY SETTLING TANKS
23	SECONDARY SETTLING TANKS
28	AWT HEATING PLANT
34	JUNCTION CHAMBER
35	JUNCTION CHAMBER
36	JUNCTION CHAMBER "A"
37	METER VAULT
44	BIOLOGICAL REACTOR BASINS
45	POST AERATION BASINS
46	NORTH ACCESS BRIDGE
50	UTILITY TRANSFORMERS
51	TRUCK SCALES
52	ENCLOSED FLARE STATION
55	PRE-PASTUERIZATION BUILDING
59	ARCH CULVERT CROSSING
60	NUTRIENT MANAGEMENT FACILITY (NMF)
69	CENTRATE PRE-TREATMENT BUILDING
210	OUTFALL 004
913	WET WEATHER FLOW METER VAULT
914	WET WEATHER JUNCTION CHAMBER
920	TDWW PUMP STATION SCREENING SHAFT
921	TDWW PUMP STATION
954	JUNCTION CHAMBER
956	HYDRAULIC GRADELINE CONTROL SRUCTURE

A	MAIN BUILDING
C	SLUDGE THICKENING BUILDING
EC	ENVIRONMENTAL CENTER
F	PROCESS AIR COMPRESSOR BUILDING
G/1	ADVANCED TREATMENT BUILDING
G/2	CARBON COLUMN BUILDING
G/3	TERTIARY SETTLING TANKS
G/4	FILTERS
G/5	WASH WATER BUILDING
G/6	FILTERS
IPS	INTERMEDIATE PUMP STATION
K	PRELIMINARY TREATMENT BUILDING
L	SOLIDS PROCESSING BUILDING
M	METHANOL BUILDING
N	UV DISINFECTION BUILDING
P	TDWWPS SUPERSTRUCTURE

PROPERTY BOUNDARY

N

0 100 200
SCALE IN FEET

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
EXISTING OVERALL PLANT SITE PLAN
GENERAL

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1"=100'
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	A. FONSECA
SUBMITTED BY:	I. KHAN
CONTRACT NO.:	25-007
DWG NO.	69-G-20
SHEET NO.	020 OF 97

Bid Set

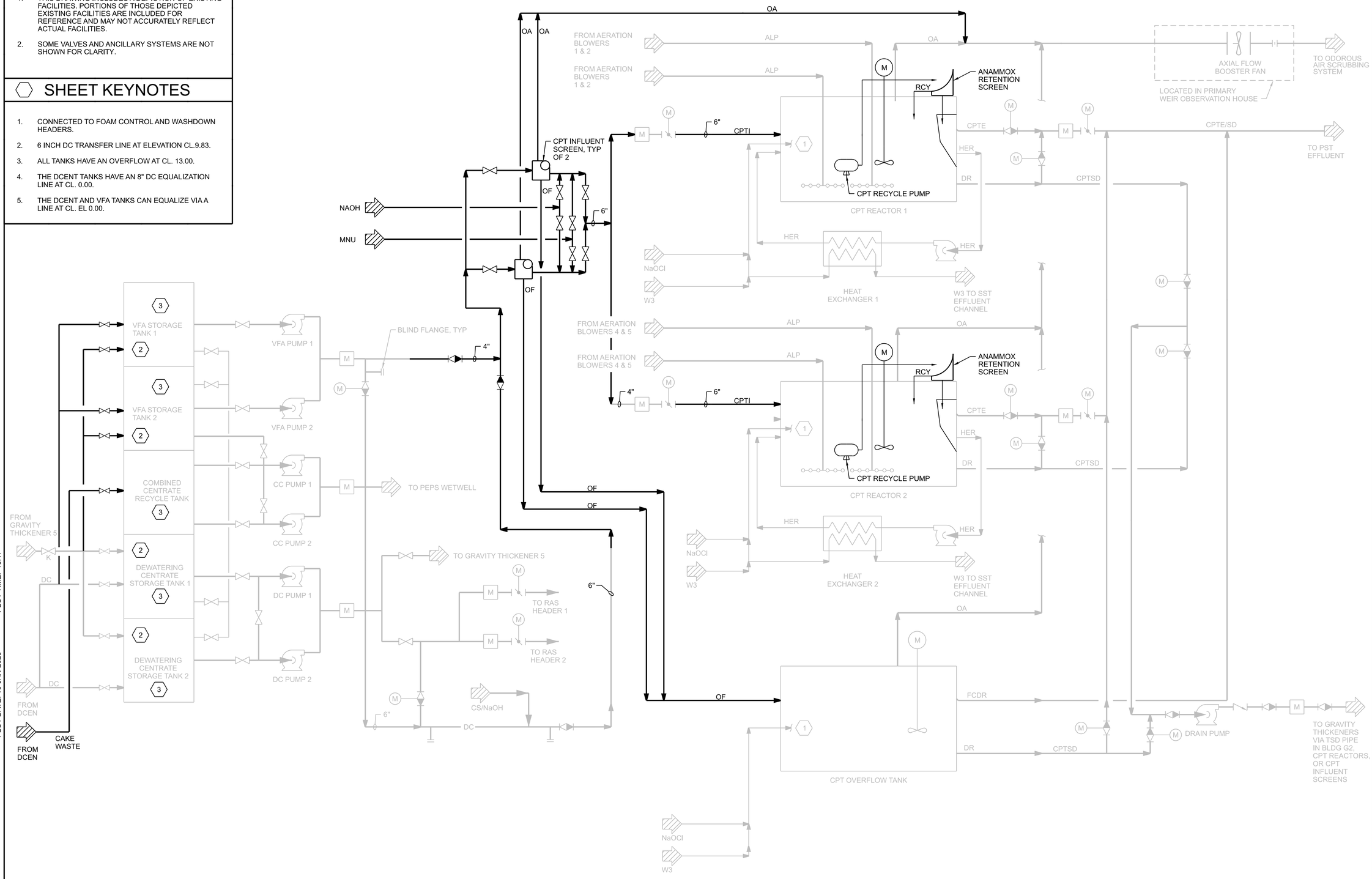
PLOT TIME: 16:48
PLOT DATE: 16-JAN-2025
FILENAME: 69-G-20_E5X79926.dgn
E5X79926

GENERAL NOTES

1. THIS DRAWING INCLUDES A DEPICTION OF EXISTING FACILITIES. PORTIONS OF THOSE DEPICTED EXISTING FACILITIES ARE INCLUDED FOR REFERENCE AND MAY NOT ACCURATELY REFLECT ACTUAL FACILITIES.
2. SOME VALVES AND ANCILLARY SYSTEMS ARE NOT SHOWN FOR CLARITY.

SHEET KEYNOTES

1. CONNECTED TO FOAM CONTROL AND WASHDOWN HEADERS.
2. 6 INCH DC TRANSFER LINE AT ELEVATION CL.9.83.
3. ALL TANKS HAVE AN OVERFLOW AT CL. 13.00.
4. THE DCENT TANKS HAVE AN 8" DC EQUALIZATION LINE AT CL. 0.00.
5. THE DCENT AND VFA TANKS CAN EQUALIZE VIA A LINE AT CL. EL 0.00.



PLOT TIME: 16:47
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME:

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
CENTRATE PRE-TREATMENT
OVERALL PROCESS FLOW DIAGRAM
GENERAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. HUNERS
CHECKED BY:	A.FONSECA
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-G-21
SHEET NO.	021OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

CP-69

PLC-69

OPEN (2) | CLOSE (2) | OPENED (2) | CLOSED (2) | PLC (2)

OVERFLOW LEVEL SWITCH (2) (2) | ENABLE (2) | PLC (2) | ON (2) | FAULT (2) | E-STOP (2) | ENABLE SLUICE WATER (2) | SLUICE WATER ON (2)

ENABLE (1) | PLC (1) | ON (1) | FAULT (1) | E-STOP (1)

480V — CP69-1011 *

480V — CP69-1021 *

W3 — W3

W3

CS/NaOH — CS/NaOH

SS CPVC — CPVC CLDI

FROM BLDG L DC LINE — 6" DC — TT 69-8001 — 4" DC

SS CPVC CLDI

FROM BLDG L VFA LINE — 4" VFA — 4" DC

FLP — M — 480V

FV 69-1011

S *

M — 480V * CS

LSH 69-1011A

LS 69-1011B

CPT INFLUENT SCREEN M69-1011 *

OA — OA — OA — 6921 | 69-I-2 — TO OA PIPE

CPTI — SCR — W3 — S *

CIS — CIS

CPTI — 6922 | 69-I-2 — TO CPT REACTOR 1

CPTI — 6923 | 69-I-2 — TO CPT REACTOR 2

6901 | 69-I-4 — FROM DRAIN PUMP — PD

NAOH

6961 | 69-I-6 — FROM MIRONUTRIENT PUMPING — MNU

W3 — PD — DC

6902 | 69-I-4 — FROM DRAIN PUMP

480V — CP69-1012 *

FV 69-1012

LSH 69-1012A

LS 69-1012B

CPT INFLUENT SCREEN M69-1012 *

(SAME AS ABOVE)

OA — CPTI — SCR — DSCR

480V — M — CS — CPT WASH PRESS M69-1021 *

ROLL-OFF DUMPSTER — ROLL-OFF DUMPSTER

W3 — W3

OF — OF — OF

HUB DRAINS (TO CONTROL STRUCTURE NO. 3 VIA 6" DR)

6934 | 69-I-2 — TO OVERFLOW TANK

PLOT TIME: 16:48

PLOT DATE: 16-JAN-2025

E5X79926
FILENAME:

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
CPT INFLUENT SCREEN
P&ID

INSTRUMENTATION AND CONTROL

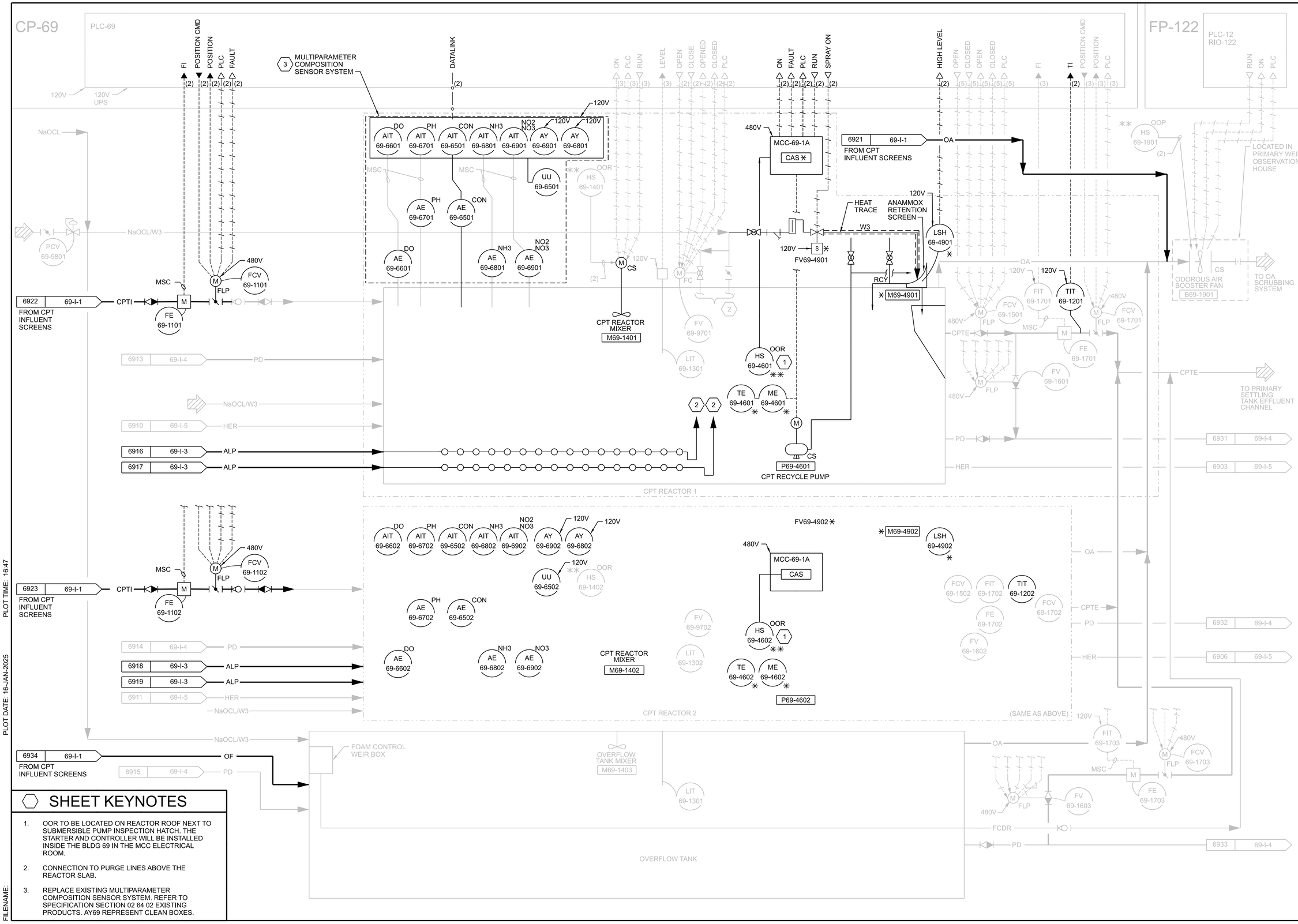
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. HUNERS
CHECKED BY:	D. MUNZER
SUBMITTED BY:	A. NASEER
CONTRACT NO.:	25-007
DWG NO.	69-I-1
SHEET NO.	022 OF 97

Bid Set

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

©JACOBS 2018. ALL RIGHTS RESERVED.



SHEET KEYNOTES

1. OOR TO BE LOCATED ON REACTOR ROOF NEXT TO SUBMERSIBLE PUMP INSPECTION HATCH. THE STARTER AND CONTROLLER WILL BE INSTALLED INSIDE THE BLDG 69 IN THE MCC ELECTRICAL ROOM.
2. CONNECTION TO PURGE LINES ABOVE THE REACTOR SLAB.
3. REPLACE EXISTING MULTIPARAMETER COMPOSITION SENSOR SYSTEM. REFER TO SPECIFICATION SECTION 02 64 02 EXISTING PRODUCTS. AY69 REPRESENT CLEAN BOXES.

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
CPT REACTOR
P&ID

INSTRUMENTATION AND CONTROL

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING,
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. HUNERS
CHECKED BY:	D. MUNZER
SUBMITTED BY:	A. NASEER
CONTRACT NO.:	25-007
DWG NO.	69-I-2
SHEET NO.	023 OF 97

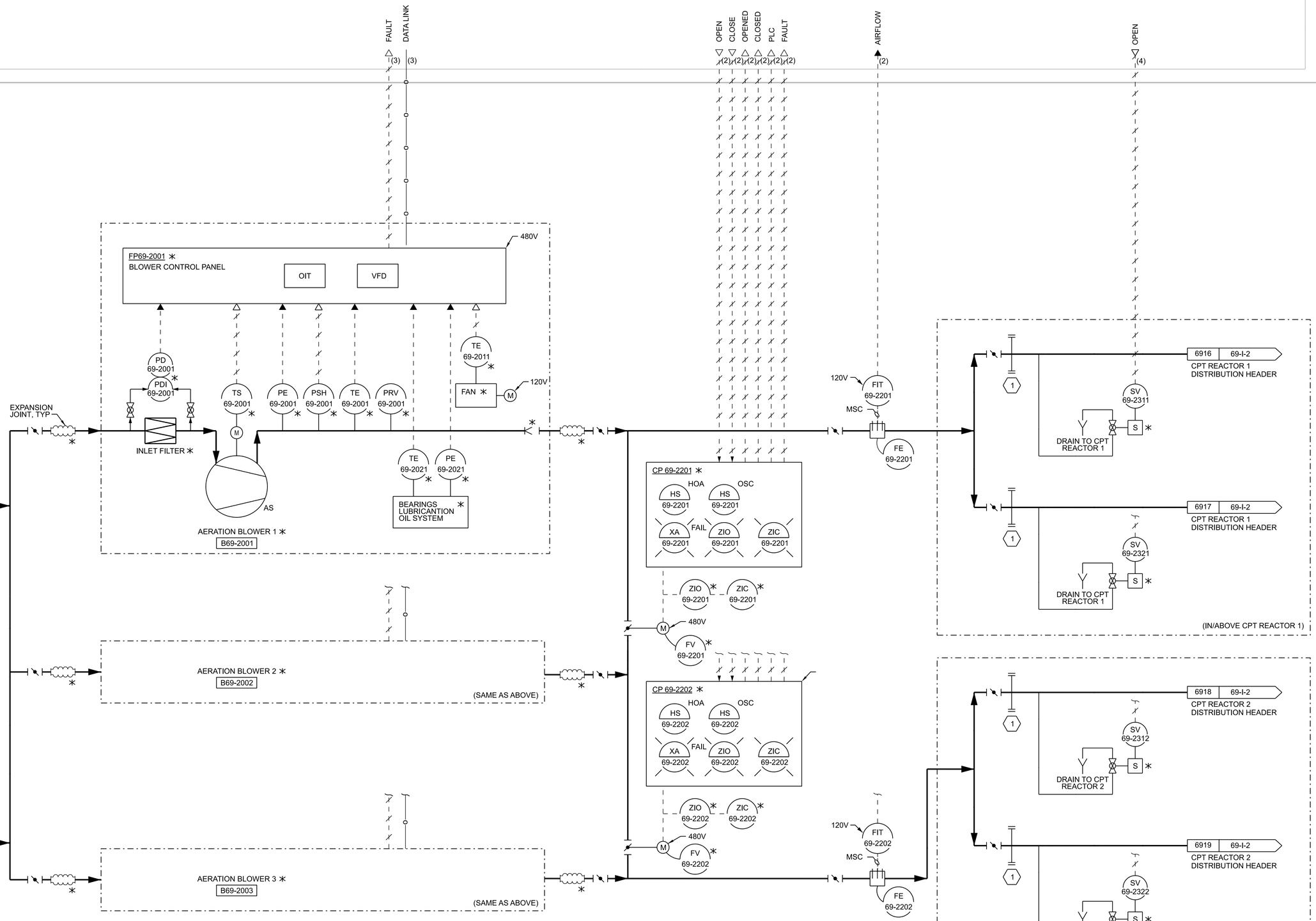
Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 16:47
PLOT DATE: 16-JAN-2025
FILENAME: E5X79926

CP-69

PLC-69



SHEET KEYNOTES

1. PORTABLE AIR VELOCITY MEASUREMENT DEVICE FOR CHECKING BALANCE OF FLOW BETWEEN EACH REACTORS PAIR OF AIR HEADERS.

PLOT TIME: 16:49
PLOT DATE: 16-JAN-2025
FILENAME: E5X79926

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
CPT AERATION SYSTEM
P&ID

INSTRUMENTATION AND CONTROL

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

© JACOBS 2018. ALL RIGHTS RESERVED.

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. HUNERS
CHECKED BY:	D. MUNZER
SUBMITTED BY:	A. NASEER
CONTRACT NO.:	25-007
DWG NO.	69-I-3
SHEET NO.	024 OF 97

Bid Set

CP-69

PLC-69

ON
FAULT
PLC
RUN
SPEED
SPEED CMD
FI

6931 | 69-I-2
FROM
CPT REACTOR 1
PD

M
480V
FLP
FV
69-4801

M
480V
FLP
FV
69-4802

6932 | 69-I-2
FROM
CPT REACTOR 2
PD

M
480V
FLP
FV
69-4803

6933 | 69-I-2
FROM
OVERFLOW TANK
PD

OOP
HS
69-5201
**

ASD69-5201 **
480V

"RUN",
"REMOTE" (2)

PI
69-4501

120V
FIT
69-5401
MSC

PD
M
FE
69-5401

AS
CPT REACTOR
DRAIN PUMP
P69-5201

PE
69-4501

SEED
6937 | 69-I-3
TO RAS

LOCATED
IN BLDG G/2

TO GRAVITY
THICKENERS
VIA TSD PIPE

6913 | 69-I-3
CPT REACTOR 1

6914 | 69-I-3
CPT REACTOR 2

6915 | 69-I-3
OVERFLOW TANK

6901 | 69-I-1
TO CPT INFLUENT
SCREEN 1

6902 | 69-I-1
TO CPT INFLUENT
SCREEN 2

PLOT DATE: 16-JAN-2025
PLOT TIME: 16:48
E5X79926
FILENAME:

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
CPT DRAIN PUMP
P&ID

INSTRUMENTATION AND CONTROL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

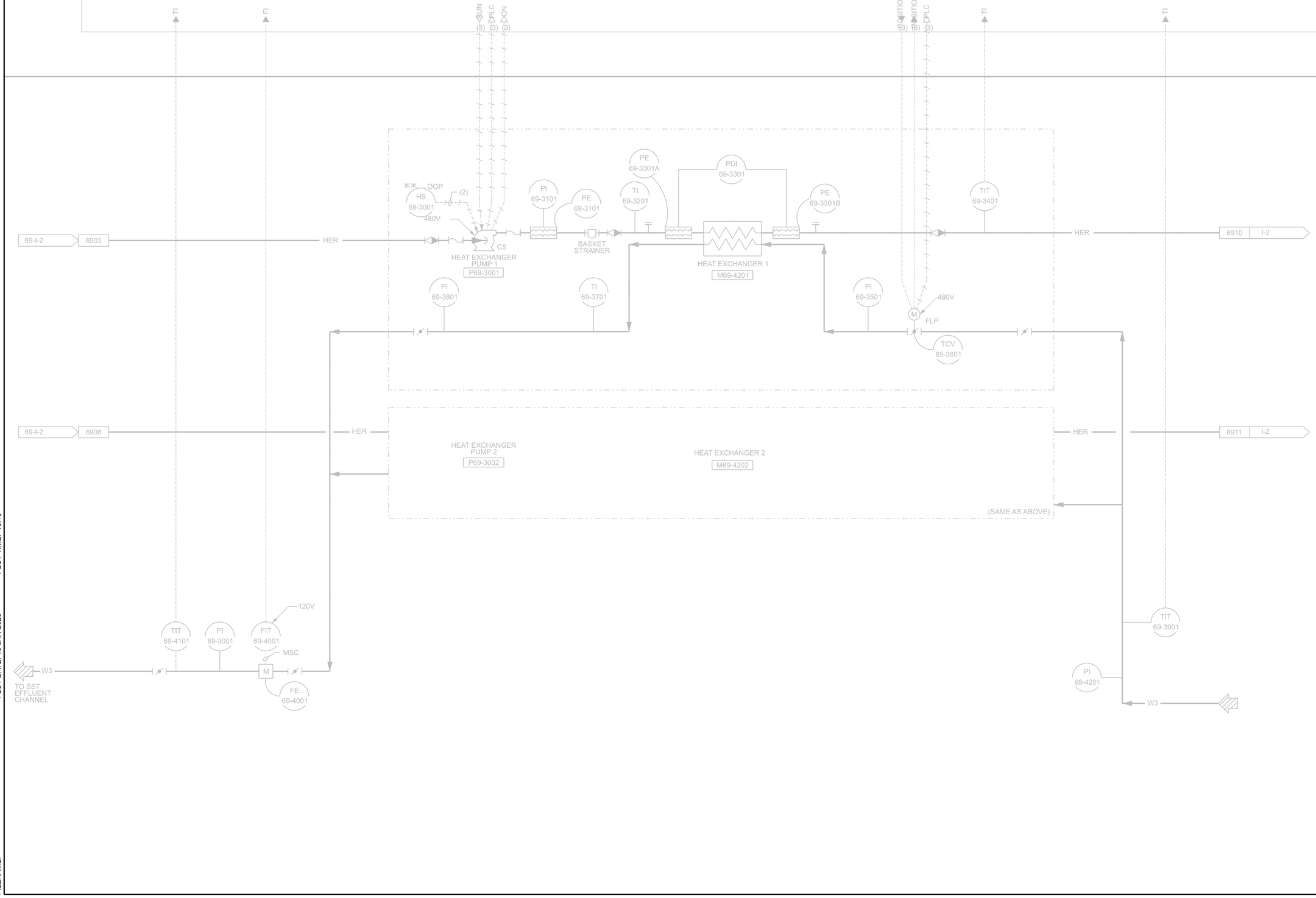
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. HUNERS
CHECKED BY:	D. MUNZER
SUBMITTED BY:	A. NASEER
CONTRACT NO.:	25-007
DWG NO.	69-I-4
SHEET NO.	025 OF 97

Bid Set

CP-69

PLC-69



PLOT DATE: 16-JAN-2025 PLOT TIME: 16:48

E5X79926
FILENAME:

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
HEAT EXCHANGERS
P&ID

INSTRUMENTATION AND CONTROL

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

© JACOBS 2018. ALL RIGHTS RESERVED.

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. HUNERS
CHECKED BY:	D. MUNZER
SUBMITTED BY:	A. NASEER
CONTRACT NO.:	25-007
DWG NO.	69-I-5
SHEET NO.	026 OF 97

Bid Set

CP-69

PLC-69

LSHH
LEVEL
CG
HIGH CG
HORN/STROBE
DATA LINK
HIGH PRESSURE
ON

SHEET KEYNOTES

1. LEAKAGE INTO INTERSTITIAL SPACE.
2. THREE WIRE CIRCUIT POWERED FROM CP-69.

2

LIT 69-5601

AIT 69-6401 CG

MSC

AE 69-6401 CG

QL 69-6401

120V

MSC

LE 69-5601

PUMP ROOM EMERGENCY SHOWER AND EYEWASH

FS 69-6301

W1

2" QUICK CONNECT

PORTABLE SECONDARY CONTAINMENT FOR TOTE

120V

OIT

PI 69-6101

PSH 69-6101

PE 69-6101

FV 69-5801

M

F

LI 69-5601

1

LSHH 69-5501

INTERSTITIAL DRAIN

MICRONUTRIENT STORAGE TANK T69-5501

CS/DR

MICRONUTRIENT PUMP P69-6603

F

MNU

6961 | 69-I-1

TO CPT SCREENING

PORTABLE EYEWASH

E5X79926
FILENAME:

PLOT DATE: 16-JAN-2025

PLOT TIME: 16:48

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
MICRONUTRIENT STORAGE AND PUMPING
P&ID

INSTRUMENTATION AND CONTROL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. HUNERS
CHECKED BY:	D. MUNZER
SUBMITTED BY:	A. NASEER
CONTRACT NO.:	25-007
DWG NO.	69-I-6
SHEET NO.	027 OF 97

Bid Set

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

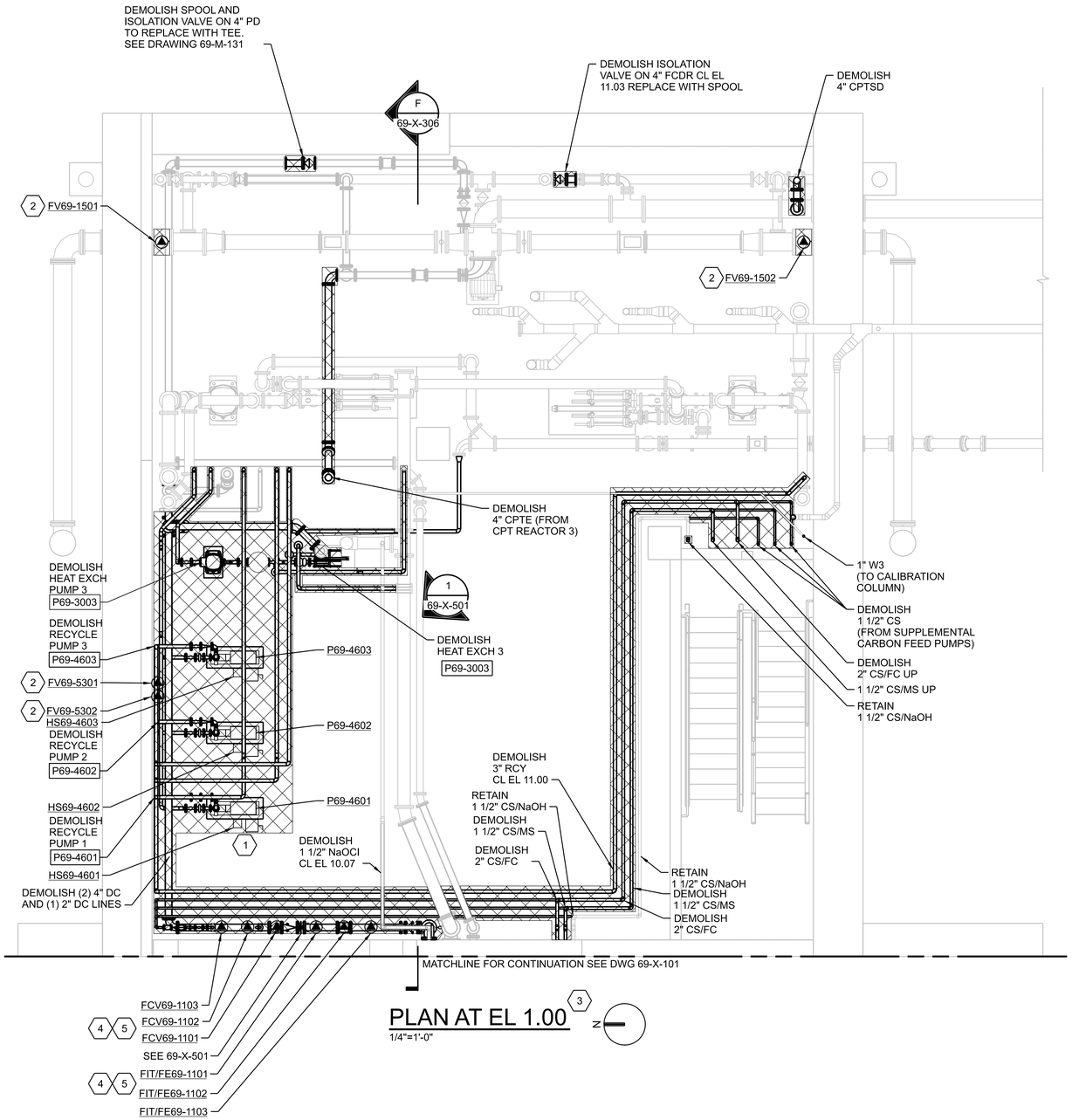
© JACOBS 2018. ALL RIGHTS RESERVED.

GENERAL NOTES

1. PROVIDE A BLIND FLANGE ON BOTH SIDES OF THE ABANDONED PENETRATIONS.
2. SEE SECTION 02 64 00 EXST PRODUCTS FOR REMOVAL AND REFURBISHING OF EXST EQUIPMENT.
3. CLEAN AND FLUSH NEW AND RETAINED PIPES, PUMPS, VALVES, INSTRUMENTATION, AND OTHER ACCESSORIES WITHIN THE LIMITS OF BUILDING 69 PER SECTION 02 64 00, EXST PRODUCTS.

SHEET KEYNOTES

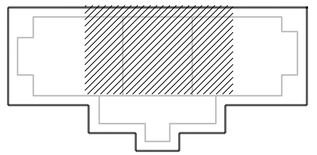
1. DEMOLISH DISCONNECT SWITCH AND HAND SWITCH (HOA). REMOVE POWER AND CONTROL WIRES BACK TO THE CORRESPONDING MCC. DEMOLISH CONDUITS FLUSH TO THE FLOOR, SEAL AND ABANDON IN PLACE. TYPICAL FOR P69-4601, 4602 AND 4603.
2. REMOVE POWER AND CONTROL WIRES FROM VALVE ACTUATOR BACK TO THE MCC BREAKER AND CP-69 RESPECTIVELY. DEMOLISH CONDUITS ALL THE WAY TO THE FIRST PULL BOX OR CONDUIT BODY CONTAINING WIRES NOT TO BE DEMOLISHED. TYPICAL
3. SEE DRAWING 69-X-101 FOR LOCATION OF POWER DISTRIBUTION AND CONTROL EQUIPMENT IN ELECTRICAL ROOM.
4. DISCONNECT POWER AND CONTROL WIRES FROM INSTRUMENTATION EQUIPMENT. PULL WIRES ALL THE WAY BACK TO POWER SOURCE AND CP-69 RESPECTIVELY. DEMOLISH CONDUITS FLUSH TO THE FLOOR OR BACK TO FIRST PULL BOX OR CONDUIT BODY NOT TO BE DEMOLISHED. CONCRETE ENCASED CONDUITS: SEAL AND ABANDONE IN PLACE.
5. KEEP INSTRUMENT IN A SAFE LOCATION FOR ITS FUTURE INSTALLATION LATER IN THIS PROECT. COORDINATE WITH MECHANICAL DRAWINGS FOR NEW INSTALLATION LOCATION.



PLAN AT EL 1.00

3

1/4"=1'-0"



KEY PLAN

NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PARTIAL PLAN AT EL 1.00

DEMOLITION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-X-100
SHEET NO.	028 OF 97

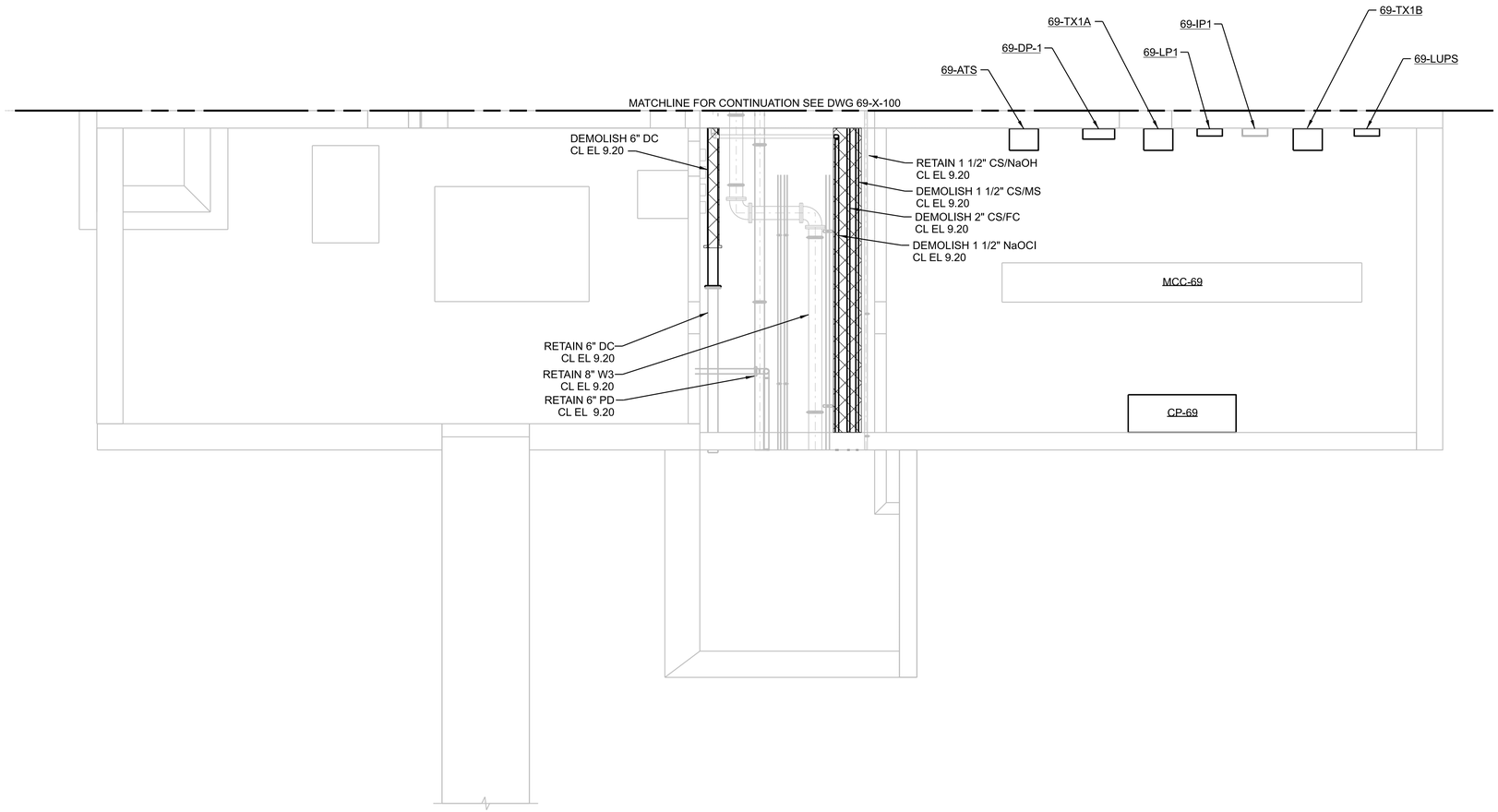
Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

E5X79926
FILENAME: 69-X-100_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:53

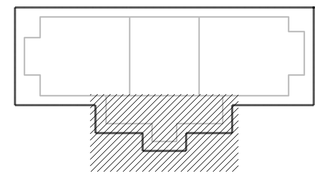
GENERAL NOTES

1. PROVIDE BLIND FLANGE ON BOTH SIDES OF ABANDONED PENETRATIONS.
2. CLEAN AND FLUSH NEW AND RETAINED PIPES, PUMPS, VALVES, INSTRUMENTATION, AND OTHER ACCESSORIES WITHIN THE LIMITS OF BUILDING 69 PER SECTION 02 64 00, EXST PRODUCTS.



PLAN AT EL 1.00

1/4"=1'-0"



KEY PLAN

NTS

N

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PARTIAL PLAN AT EL 1.00

DEMOLITION

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

© JACOBS 2018. ALL RIGHTS RESERVED.

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.

0 1"

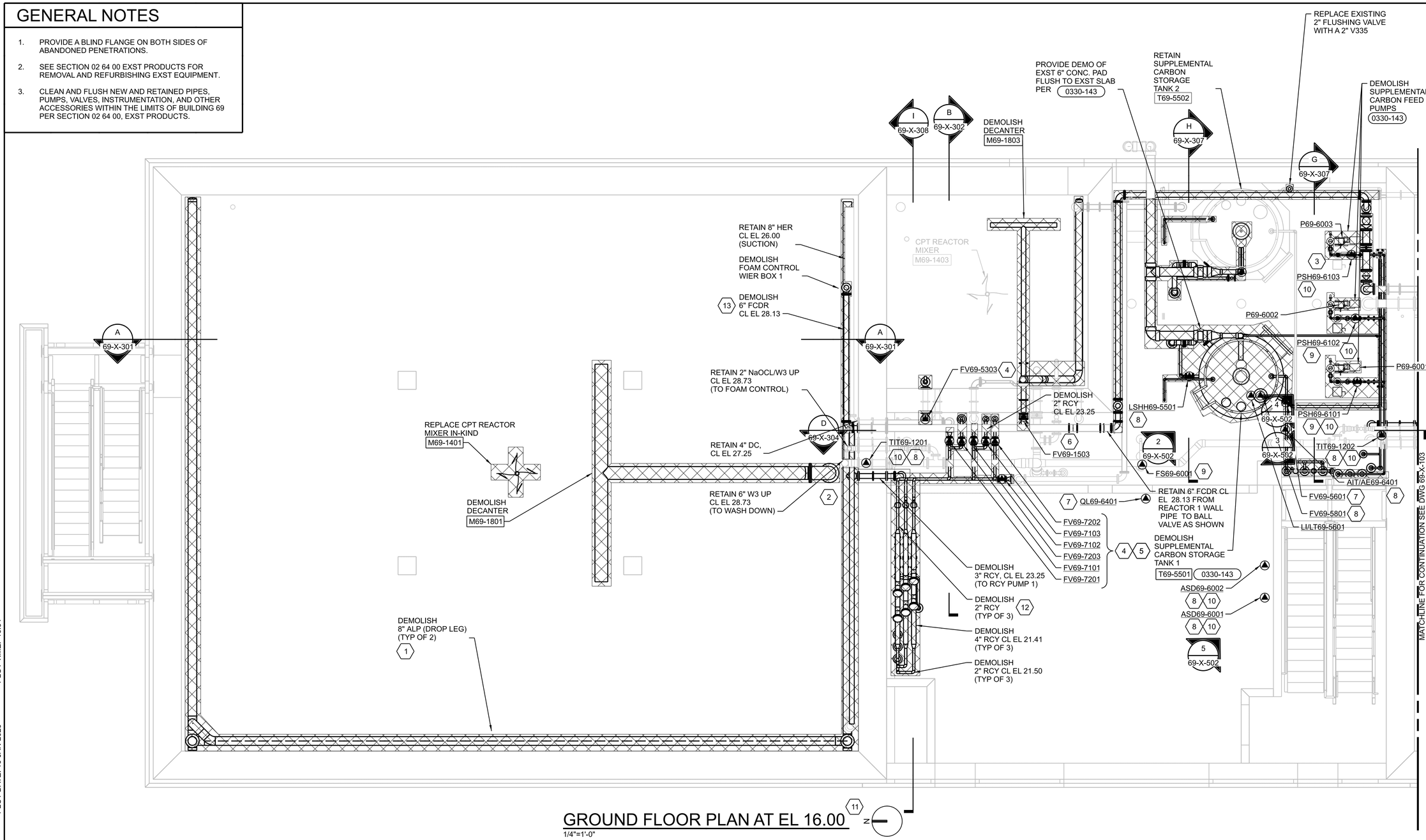
SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-X-101
SHEET NO.	029 OF 97

Bid Set

E5X79926
FILENAME: 69-X-101_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:57

GENERAL NOTES

1. PROVIDE A BLIND FLANGE ON BOTH SIDES OF ABANDONED PENETRATIONS.
2. SEE SECTION 02 64 00 EXST PRODUCTS FOR REMOVAL AND REFURBISHING EXST EQUIPMENT.
3. CLEAN AND FLUSH NEW AND RETAINED PIPES, PUMPS, VALVES, INSTRUMENTATION, AND OTHER ACCESSORIES WITHIN THE LIMITS OF BUILDING 69 PER SECTION 02 64 00, EXST PRODUCTS.



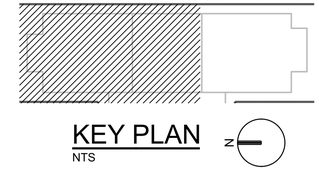
GROUND FLOOR PLAN AT EL 16.00

11

1/4"=1'-0"

SHEET KEYNOTES

1. THOUGH NOT SHOWN ON PLAN VIEW DEMOLISH ALL DISTRIBUTION HEADERS, ALP MAINFOLDS, FINE BUBBLE DIFFUSERS, AND ANY PIPING CONNECTED TO THE EXISTING 8" ALP DROPLEGS.
2. DEMOLISH DECANTER UP UNTIL AFTER THE 90 DEGREE ELBOW. LEAVE THE VERTICAL CPTE PIPE SECTION REMAINING AS SHOWN.
3. DEMOLISH DISCONNECT SWITCH. REMOVE POWER WIRES BACK TO THE CORRESPONDING MCC. DEMOLISH CONDUITS FLUSH TO THE FLOOR, SEAL AND ABANDONE IN PLACE. TYPICAL FOR P69-6001, 6002 AND 6003.
4. REMOVE POWER AND CONTROL WIRES FROM VALVE ACTUATOR BACK TO PANEL BOARD 69-DP1 AND CP-69 RESPECTIVELY. DEMOLISH CONDUITS ALL THE WAY TO THE FIRST PULL BOX OR CONDUIT BODY CONTAINING WIRES NOT TO BE DEMOLISHED, TYPICAL
5. REMOVE THE LOCAL CONTROL STATION OF EACH VALVE ACTUATOR BEING REMOVED. REMOVE CONTROL WIRES ALL THE WAY BACK TO CP-69. DEMOLISH CONDUITS AND PULL BOX. LEAVE IN PLACE THE CONDUITS EMERGING FROM CONCRETE SLAB.
6. REMOVE POWER AND CONTROL WIRES FROM VALVE ACTUATOR BACK TO THE MCC BREAKER AND CP-69 RESPECTIVELY. DEMOLISH CONDUITS ALL THE WAY TO THE FIRST PULL BOX OR CONDUIT BODY CONTAINING WIRES NOT TO BE DEMOLISHED.
7. REMOVE POWER AND CONTROL WIRES FROM VALVE ACTUATOR OR OTHER EQUIPMENT BACK TO PANEL BOARD 69-LP1 AND CP-69 RESPECTIVELY. DEMOLISH CONDUITS ALL THE WAY TO THE FIRST PULL BOX OR CONDUIT BODY CONTAINING WIRES NOT TO BE DEMOLISHED, TYPICAL
8. REMOVE POWER AND CONTROL WIRES FROM THE TRANSMITTER BACK TO THE PANEL BOARD 69-IP1 AND CP-69 RESPECTIVELY. DEMOLISH CONDUITS ALL THE WAY TO THE FIRST PULL BOX OR CONDUIT BODY CONTAINING WIRES NOT TO BE DEMOLISHED.
9. REMOVE CONTROL WIRES FROM THE INSTRUMENTATION EQUIPMENT BACK TO CP-69. DEMOLISH CONDUITS ALL THE WAY TO THE FIRST PULL BOX OR CONDUIT BODY CONTAINING WIRES NOT TO BE DEMOLISHED.
10. KEEP INSTRUMENT IN A SAFE LOCATION FOR ITS FUTURE INSTALLATION LATER IN THIS PROJECT. COORDINATE WITH MECHANICAL DRAWINGS FOR NEW INSTALLATION LOCATION.
11. FOR LOCATION OF POWER DISTRIBUTION AND CONTROL EQUIPMENT IN ELECTRICAL ROOM, SEE DRAWING 69-X-101.
12. PROVIDE FIRE PROOFING OF WALL/FLOOR PENETRATION PER STANDARD DETAIL 2605-306.
13. RETAIN THE 6" FCDR WALL PIPE INTO REACTOR 1 AND 2 TO BE REUSED FOR THE 6" CPTI. DEMOLISH THE REMAINING 6" FCDR LINES INSIDE THE TANK AS SHOWN.



KEY PLAN

NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PARTIAL PLAN AT EL 16.00

DEMOLITION

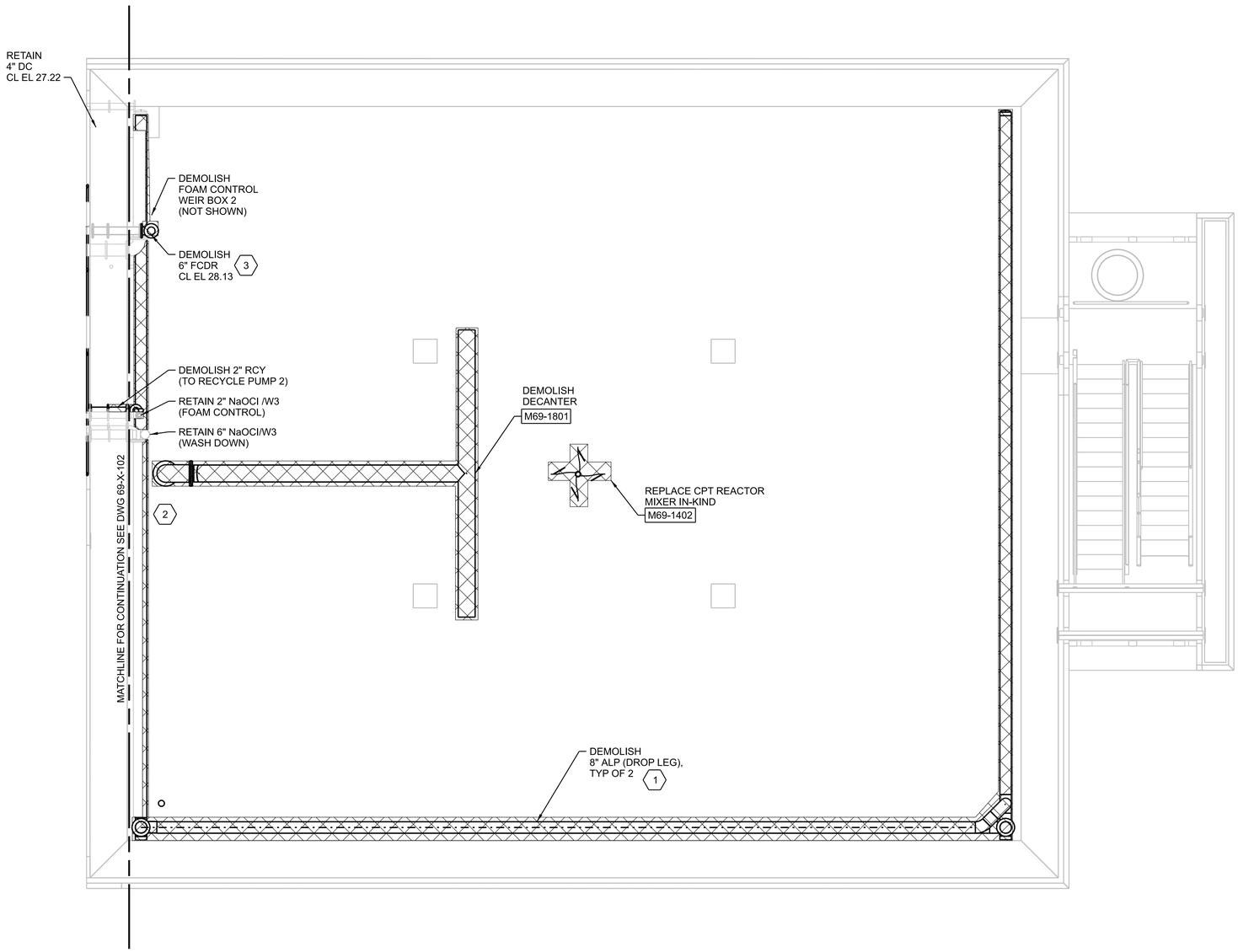
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-X-102
SHEET NO.	030 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 16:54
PLOT DATE: 16-JAN-2025
FILENAME: 69-X-102_E5X79926.dgn
E5X79926



GROUND FLOOR PLAN AT EL 16.00

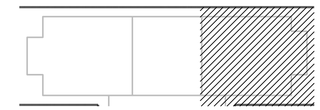
1/4"=1'-0"

GENERAL NOTES

1. PROVIDE A BLIND FLANGE ON BOTH SIDES OF ABANDONED PENETRATIONS.
2. CLEAN AND FLUSH NEW AND RETAINED PIPES, PUMPS, VALVES, INSTRUMENTATION, AND OTHER ACCESSORIES WITHIN THE LIMITS OF BUILDING 69 PER SECTION 02 64 00, EXST PRODUCTS.

SHEET KEYNOTES

1. THOUGH NOT SHOWN ON PLAN VIEW DEMOLISH ALL DISTRUBUTION HEADERS, ALP MANIFOLDS, FINE BUBBLE DIFFUSERS, AND ANY PIPING CONNECTED TO THE EXISTING 8" ALP DROPLEGS.
2. DEMOLISH DECANTER UP UNTIL AFTER THE 90 DEGREE ELBOW. LEAVE THE VERTICAL CPTE PIPE SECTION REMAINING AS SHOWN.
3. RETAIN 6" FCDR WALL PIPE TO BE REUSED FOR NEW 6" CPTI ENTERING REACTOR.



KEY PLAN

NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PARTIAL PLAN AT EL 16.00

DEMOLITION

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
© JACOBS 2018. ALL RIGHTS RESERVED.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

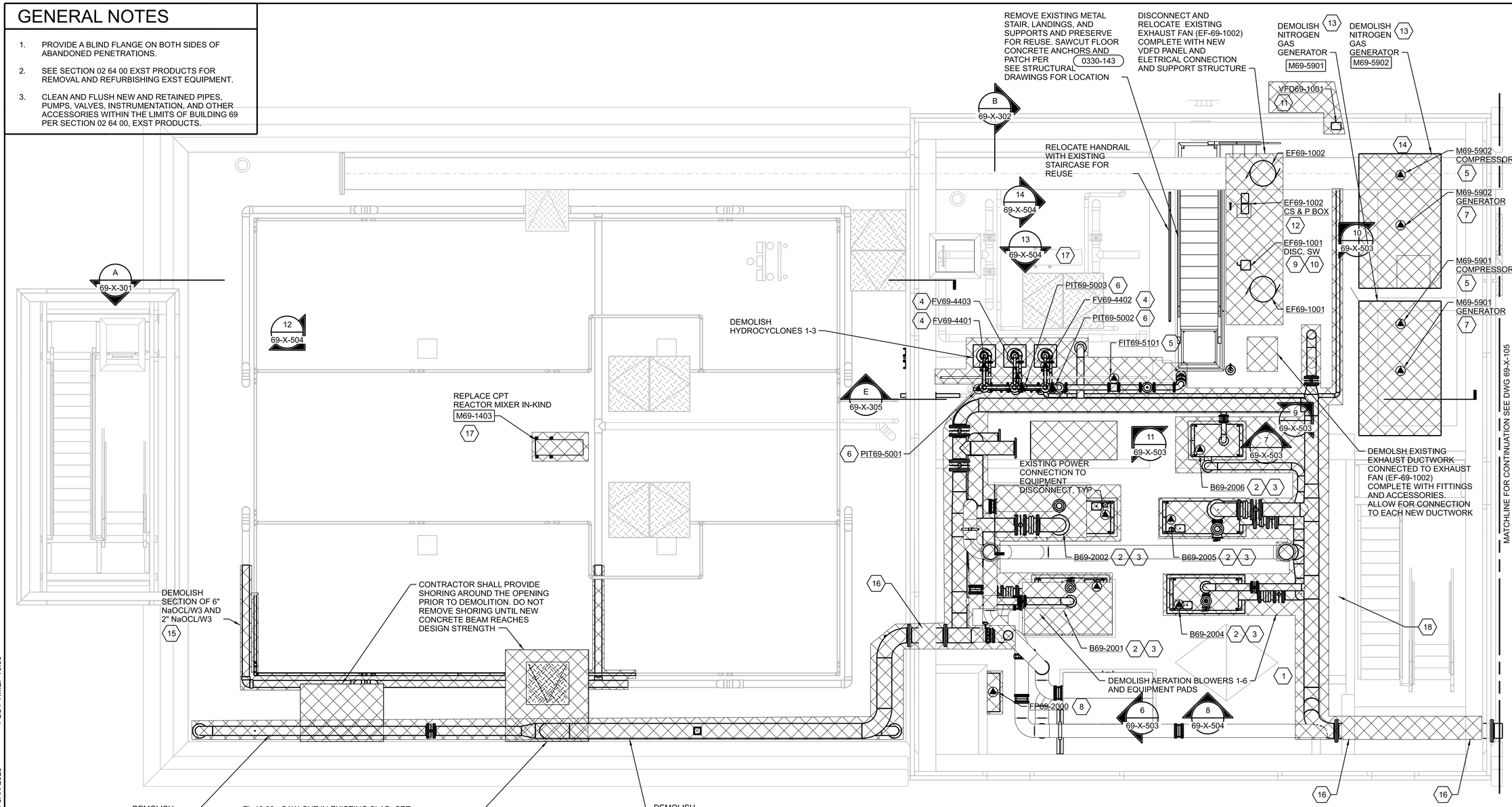
SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-X-103
SHEET NO.	031OF 97

Bid Set

E5X79926
FILENAME: 69-X-103_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:53

GENERAL NOTES

1. PROVIDE A BLIND FLANGE ON BOTH SIDES OF ABANDONED PENETRATIONS.
2. SEE SECTION 02 64 00 EXST PRODUCTS FOR REMOVAL AND REFURBISHING EXST EQUIPMENT.
3. CLEAN AND FLUSH NEW AND RETAINED PIPES, PUMPS, VALVES, INSTRUMENTATION, AND OTHER ACCESSORIES WITHIN THE LIMITS OF BUILDING 69 PER SECTION 02 64 00, EXST PRODUCTS.

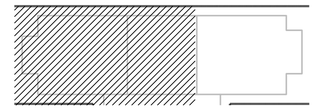


PLAN AT EL 32.00 & 40.00

1/4"=1'-0"

SHEET KEYNOTES

1. CONTRACTOR TO RETAIN AND REUSE THE PREFABRICATED REUSABLE INSULATION COVERS ON VALVES AND EXPANSION JOINTS ON THE ALP PIPING.
2. REMOVE POWER WIRES BACK TO THE CORRESPONDING MCC BREAKERS. COORDINATE WITH PROCESS SHEETS THE LOCATION OF THE NEW BLOWERS. DETERMINE WHICH CONDUITS WILL BE RE-USED. DEMOLISH ALL OTHER CONDUITS FLUSH TO THE FLOOR, SEAL AND ABANDONE IN PLACE.
3. REMOVE ALL CONTROL AND COMUNICATION WIRES BACK TO THE CORRESPONDING HF69-200'S_ AND FP69-2000 RESPECTIVELY. REMOVE CONDUITS FLUSH TO THE FLOOR, SEAL AND ABANDONE IN PLACE EXCEPT FOR THOSE REQUIRED FOR THE NEW BLOWERS.
4. REMOVE POWER AND CONTROL WIRES FROM VALVE ACTUATOR BACK TO THE PANELBOARD 69-DP1 AND CP-69 RESPECTIVELY. DEMOLISH CONDUITS ALL THE WAY TO THE FIRST PULL BOX OR CONDUIT BODY CONTAINING WIRES NOT TO BE DEMOLISHED.
5. REMOVE POWER AND CONTROL WIRES FROM THE NITROGEN COMPRESSOR BACK TO THE PANELBOARD 69-DP1 AND CP-69 RESPECTIVELY. DEMOLISH CONDUITS ALL THE WAY TO THE FIRST PULL BOX OR CONDUIT BODY CONTAINING WIRES NOT TO BE DEMOLISHED.
6. REMOVE POWER AND CONTROL WIRES FROM THE TRANSMITTER BACK TO THE PANELBOARD 69-IP1 AND CP-69 RESPECTIVELY. DEMOLISH CONDUITS ALL THE WAY TO THE FIRST PULL BOX OR CONDUIT BODY CONTAINING WIRES NOT TO BE DEMOLISHED.
7. SAME AS KEY NOTE 4 BUT FROM PANELBOARD 69-LP1.
8. REMOVE POWER AND CONTROL WIRES BACK TO THE PANELBOARD 69-LP1 AND CP-69 RESPECTIVELY.
9. REMOVE POWER WIRES FROM VFD69-1001 TO EF69-1001 VIA DISCONNECT SWITCH. REMOVE ALL EXPOSED CONDUITS. CUT CONDUITS FLUSH TO FLOOR, SEAL AND ABANDON IN PLACE CONCEALED CONDUITS.
10. REMOVE THE DISCONNECT SWITCH AND SAVE IT FOR INSTALLATION ON NEW LOCATION OF EF69-1001. FOR NEW LOCATION, SEE MECHANICAL DRAWINGS.
11. RETAIN AND RELOCATE VFD69-1001 TO THE WEST WALL ADJACENT TO THE STAIRWELL, AND AS SHOWN ON DRAWING 69-E-151.
12. REMOVE POWER WIRES FROM EF69-1002 ALL THE WAY BACK TO PANELBOARD 69-LP1. REMOVE CONDUITS AND ASSOCIATED DEVICES.
13. FOR LOCATION OF POWER DISTRIBUTION AND CONTROL EQUIPMENT IN ELECTRICAL ROOM, SEE DRAWING 69-X-101.
14. RETAIN EQUIPMENT PADS.
15. FOR 6" NaOCL/W3 AND 2" NaOCL/W3, CONNECT TO NEW NaOCL/W3 AS SHOWN ON DRAWING 69-M-151.
16. WALL PENETRATION WILL BE REUSED FOR NEW 6" ALP LINE. SEE DRAWING 69-M-151.
17. DISCONNECT POWER AND CONTROL WIRES FROM MIXER. SAVE THEM FOR FUTURE USE ON NEW/REFURBISHED MIXERS.
18. RELOCATE FIRE EXTINGUISHER AND RECEPTACLE IN THIS AREA AS NECESSARY TO INSTALL THE NEW BLOWERS CONTROL PANELS.



KEY PLAN

NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PARTIAL PLAN AT EL 32.00

DEMOLITION

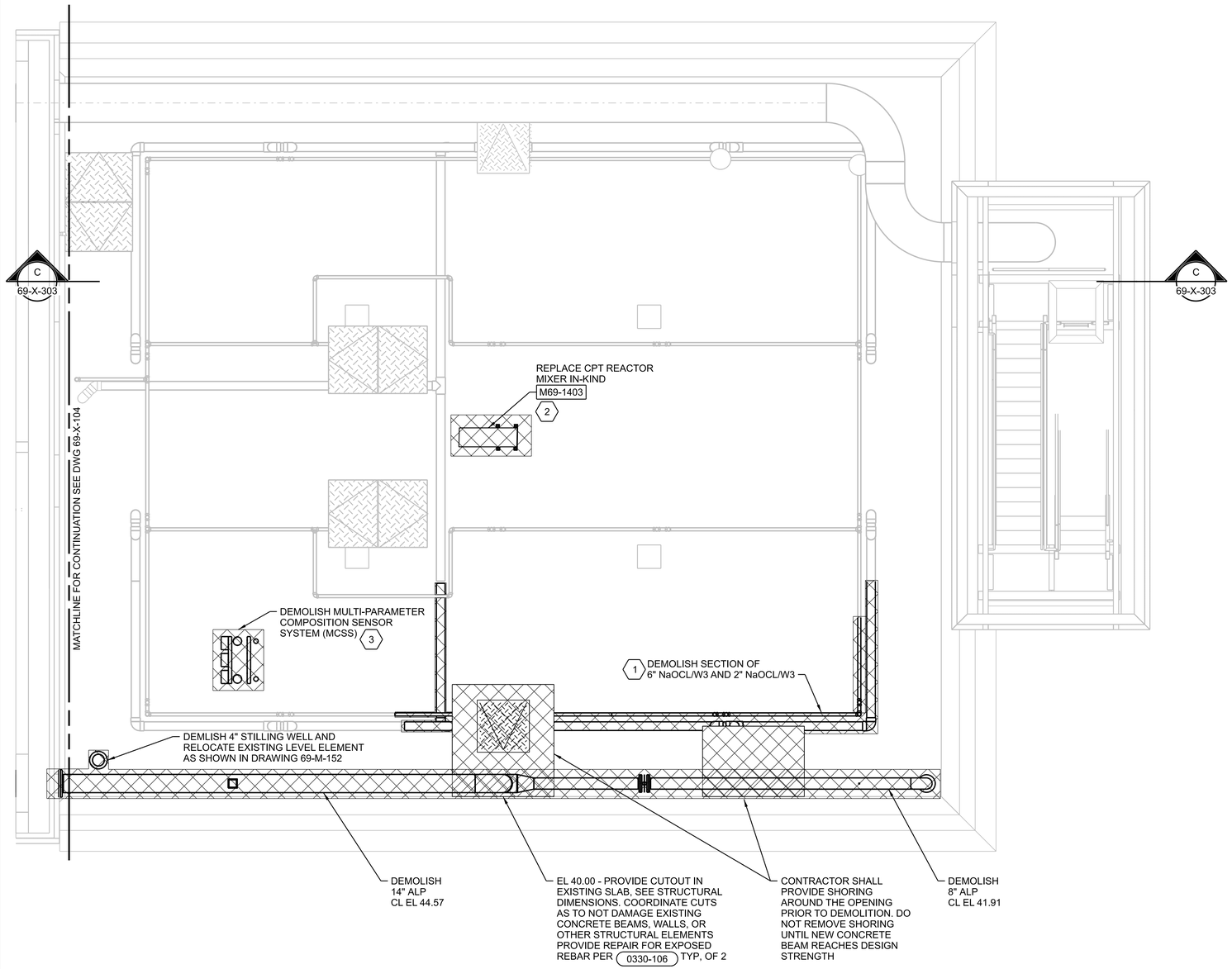
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-X-104
SHEET NO.	032 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 16:53
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-X-104_E5X79926.dgn



PLAN AT EL 40.00

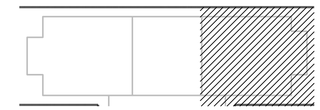
1/4"=1'-0"

GENERAL NOTES

1. PROVIDE A BLIND FLANGE ON BOTH SIDES OF ABANDONED PENETRATIONS.
2. CLEAN AND FLUSH NEW AND RETAINED PIPES, PUMPS, VALVES, INSTRUMENTATION, AND OTHER ACCESSORIES WITHIN THE LIMITS OF BUILDING 69 PER SECTION 02 64 00, EXST PRODUCTS.

SHEET KEYNOTES

1. FOR 6" NaOCL/W3 AND 2" NaOCL/W3, CONNECT TO NEW NaOCL/W3 AS SHOWN ON DRAWING 69-M-152.
2. DISCONNECT POWER AND CONTROL WIRES FROM MIXER. SAFE THEM FOR FUTURE USE ON NEW/REFURBISHED MIXERS.
3. REMOVE ABANDONED SLEEVES AND REPAIR CONCRETE.



KEY PLAN

NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PARTIAL PLAN AT EL 40.00

DEMOLITION

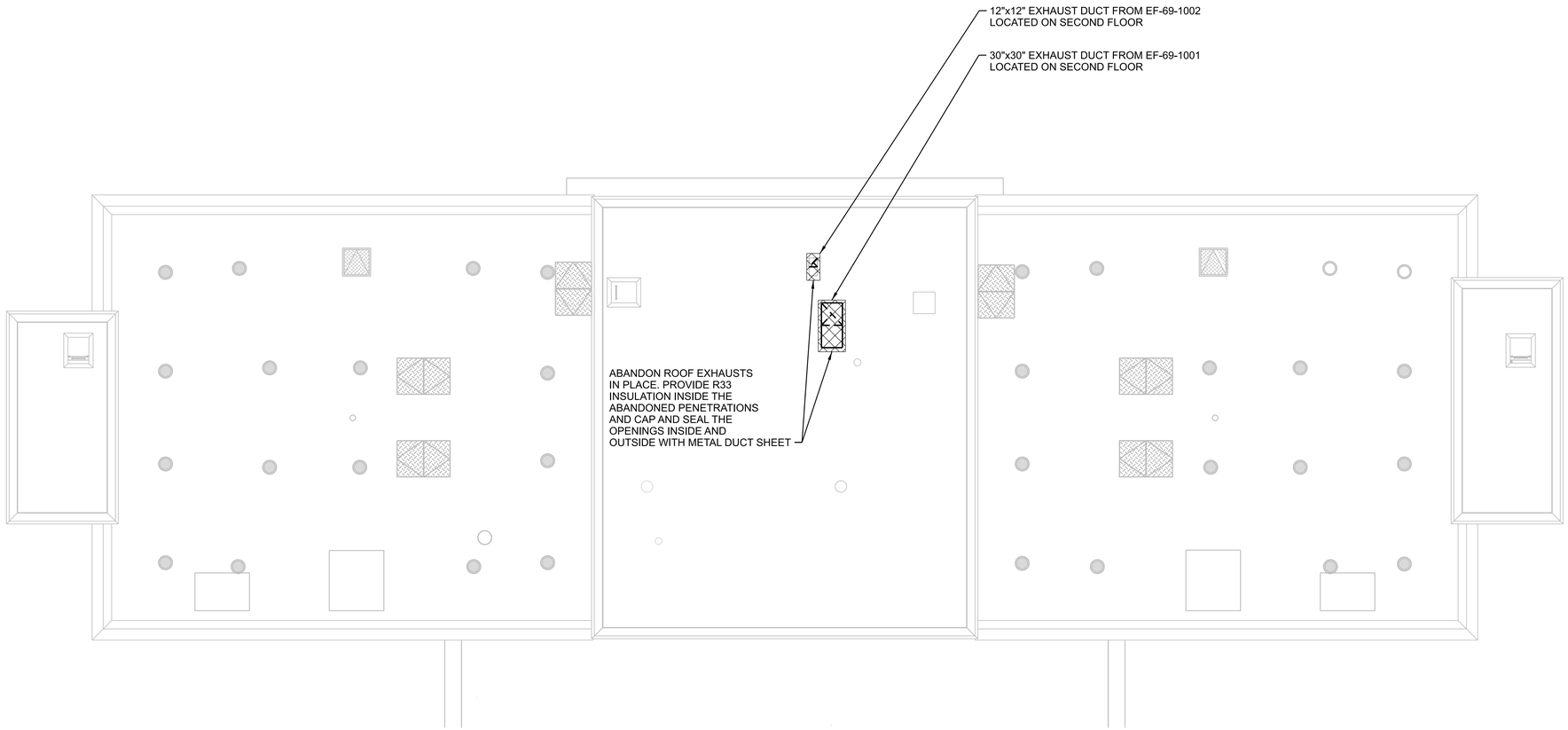
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-X-105
SHEET NO.	033 OF 97

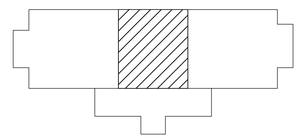
Bid Set

©JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 16:53
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-X-105_E5X79926.dgn



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



KEY PLAN
NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
ROOF PLAN

DEMOLITION

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

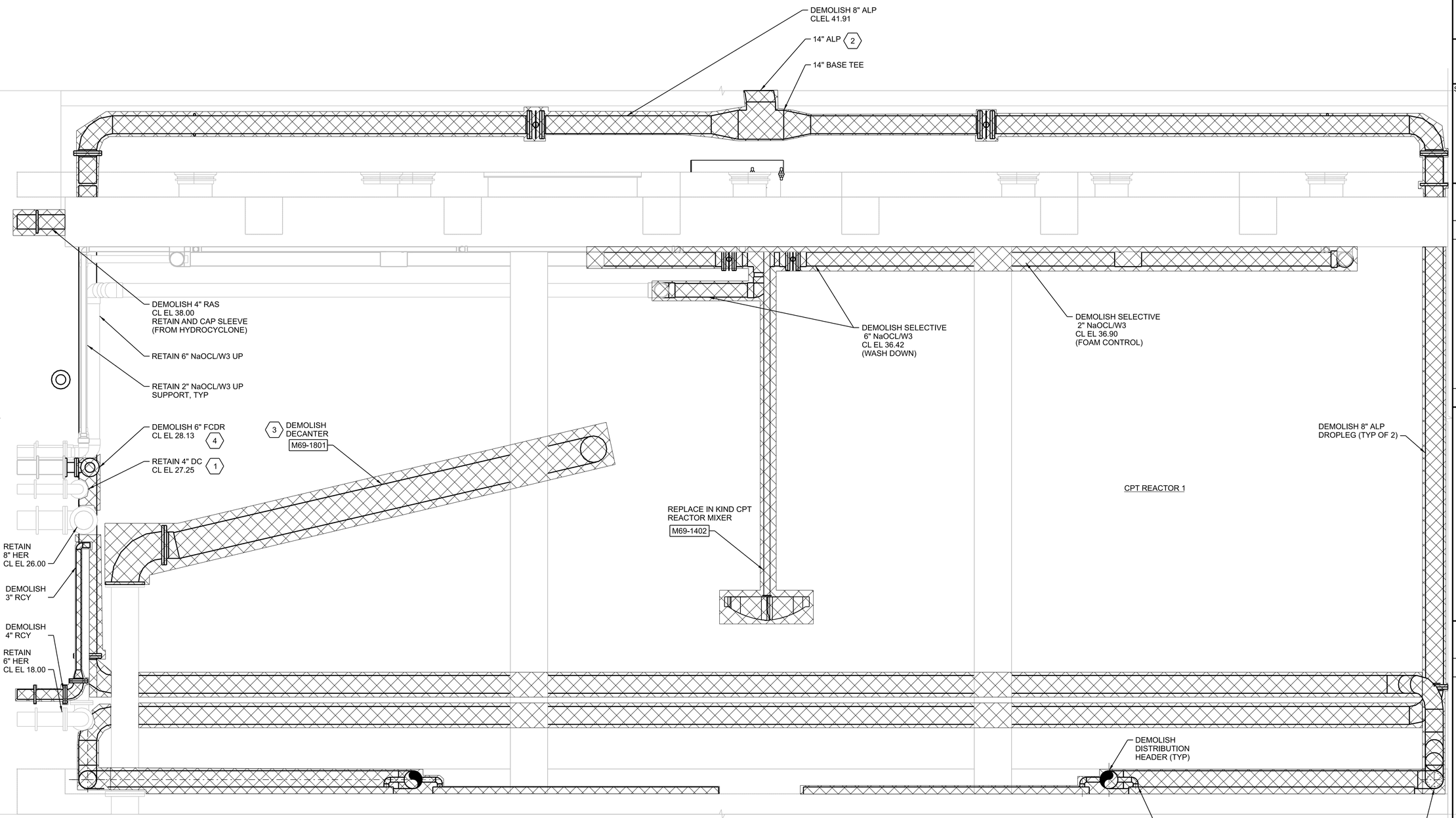
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-X-107
SHEET NO.	034 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

E5X79926
FILENAME: 69-X-107_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:58



GENERAL NOTES

1. DEMOLISH SUPPORT ASSOCIATED WITH DEMOLISHED PIPING AND EQUIPMENT
2. PROVIDE A BLIND FLANGE ON BOTH SIDES OF ABANDONED PENETRATIONS.

SHEET KEYNOTES

1. RETAIN 4" LINE OUTSIDE OF THE REACTOR (IT WILL BE USED AS CPT DRAIN PUMP DISCHARGE). DEMOLISH 4" DC LINE INSIDE THE REACTOR.
2. DEMOLISH 14" ALP CL EL 44.57 COMING OFF THE 14" BASE TEE SUPPORT BACK TO BLOWERS INSIDE THE BUILDING. RETAIN THE WALL SLEEVES AND PENETRATION FOR REUSE BY NEW ALP PIPING.
3. DEMOLITION TO INCLUDE THE FLOOR SUPPORT ASSOCIATED WITH THE DECANTOR (NOT SHOWN IN THIS SECTION)
4. RETAIN THE 6" FCDR WALL PIPE TO BE REUSED FOR NEW 6" CPTI. DEMOLISH THE REMAINING 6" FCDR LINE INSIDE THE TANK.

A SECTION
1/2"=1'-0"
69-X-102
69-X-104

WITHIN REACTOR 1

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
SECTION A

DEMOLITION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/2"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-X-301
SHEET NO.	035 OF 97

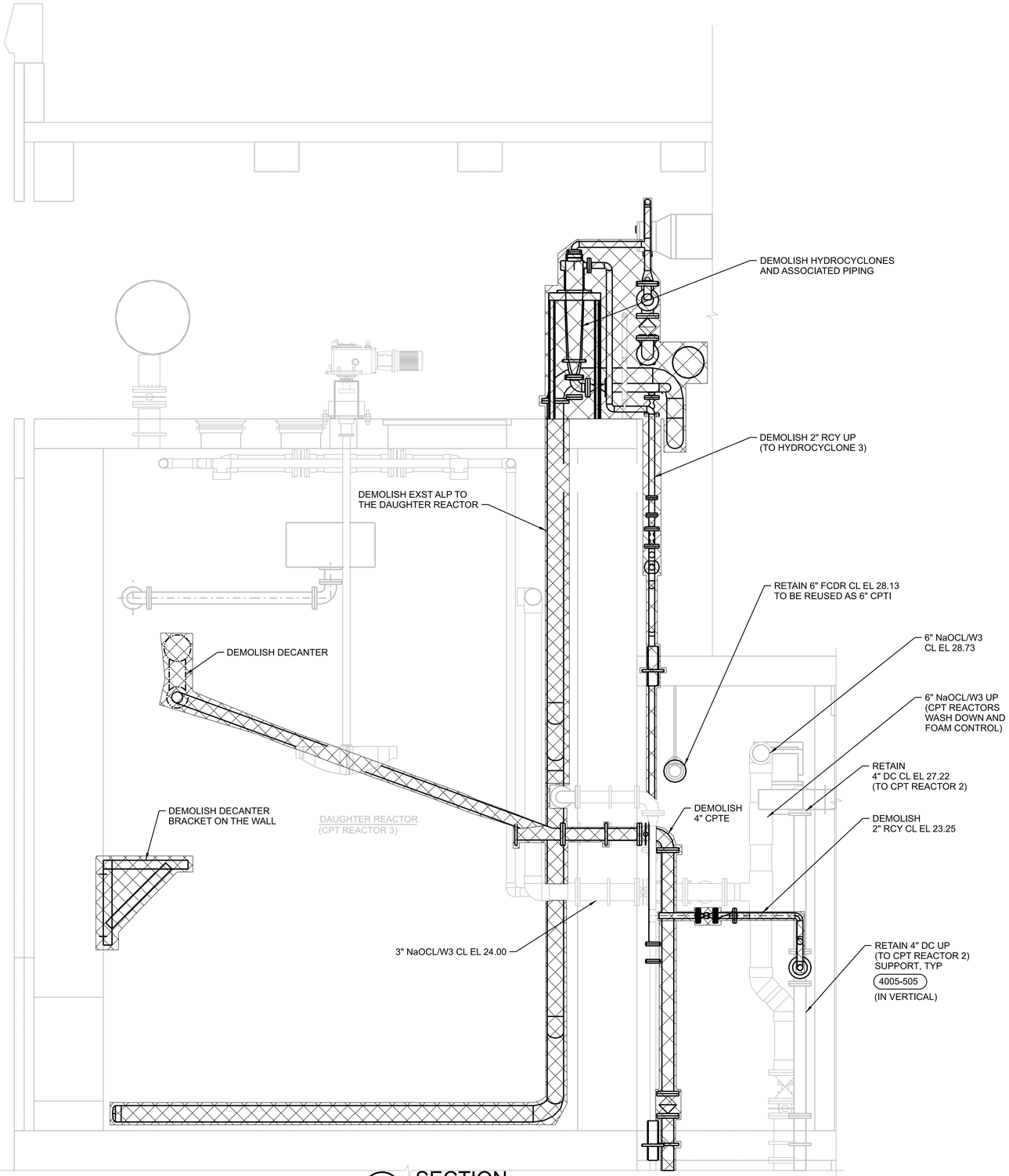
Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 16:54
PLOT DATE: 16-JAN-2025
FILENAME: 69-X-301_E5X79926.dgn
E5X79926

GENERAL NOTES

1. DEMOLISH SUPPORT ASSOCIATED WITH DEMOLISHED PIPING AND EQUIPMENT
2. PROVIDE A BLIND FLANGE ON BOTH SIDES OF ABANDONED PENETRATIONS.
3. SEE SECTION 02 64 00 EXST PRODUCTS FOR REMOVAL AND REFURBISHING OF EXST EQUIPMENT.



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

69-X-102
69-X-104

WITHIN REACTOR 3

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
SECTION B

DEMOLITION

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

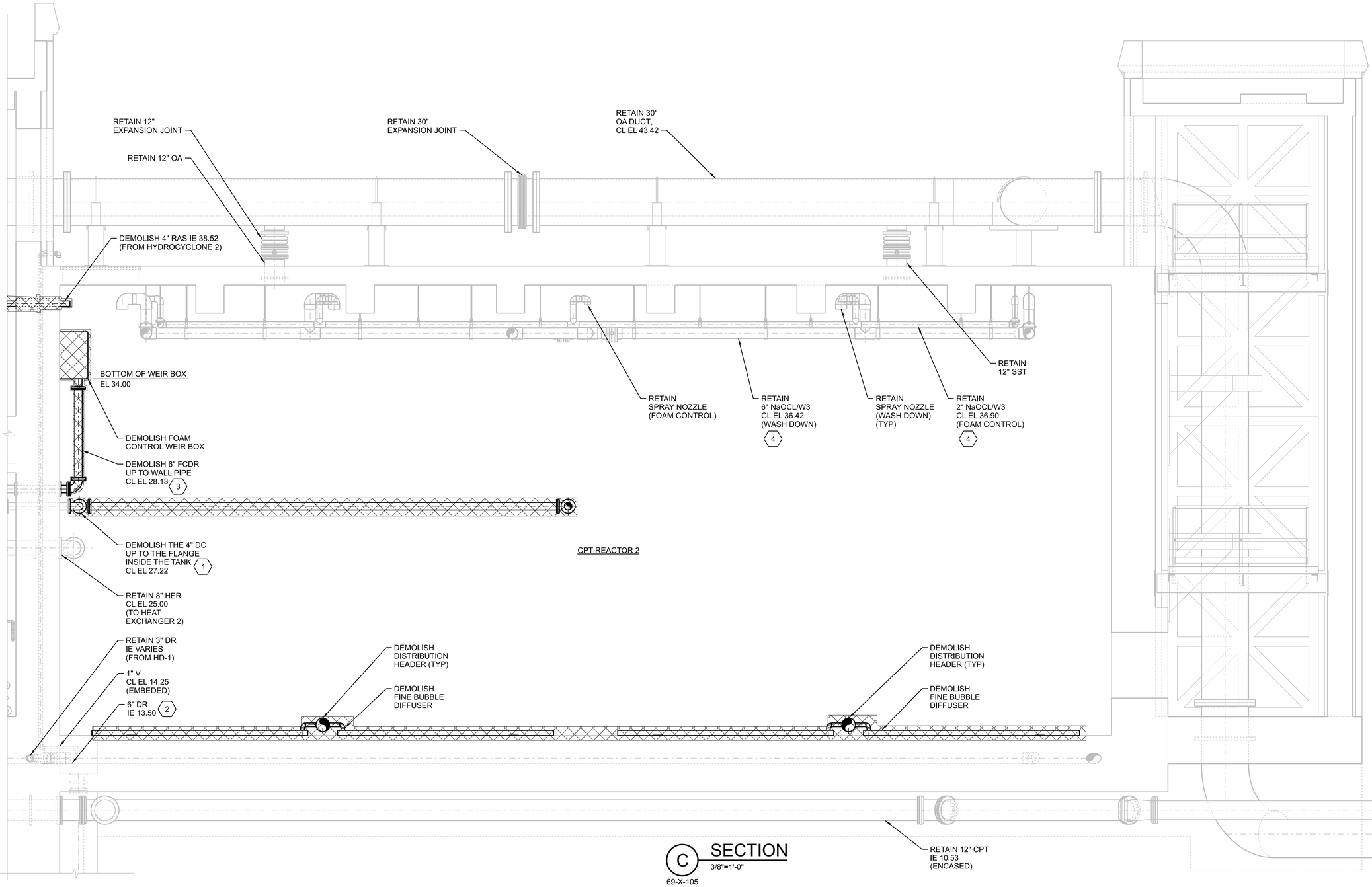
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/2"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-X-302
SHEET NO.	036 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

E5X79926
FILENAME: 69-X-302_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:53



C SECTION
3/8"=1'-0"
69-X-105

GENERAL NOTES

1. DEMOLISH SUPPORT ASSOCIATED WITH DEMOLISHED PIPING AND EQUIPMENT
2. PROVIDE A BLIND FLANGE ON BOTH SIDES OF ABANDONED PENETRATIONS.

SHEET KEYNOTES

1. THIS LINE WILL BE RETAINED AS A DISCHARGE LINE FOR THE CPT DRAIN PUMP.
2. THIS LINE IS TIED TO THE HUB DRAINS IN THE SUPPLEMENTAL CARBON ROOM. THIS WILL BE RETAINED AS THE DISCHARGE LINE FROM THE WASH PRESS AND DUMPSTER DRAINS.
3. RETAIN THE 6" FCDR WALL PIPE TO BE REUSED FOR 6" CPTI. DEMOLISH THE REMAINING 6" FCDR LINE INSIDE THE TANK.
4. WITH EXCEPTION OF SECTION TO DEMOLISH NEAR INTERNAL SOLIDS SETTLING DEVICE WALL, SEE DRAWING 69-X-104 AND 69-X-105.

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
SECTION C

DEMOLITION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	3/8"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-X-303
SHEET NO.	037 OF 97

Bid Set

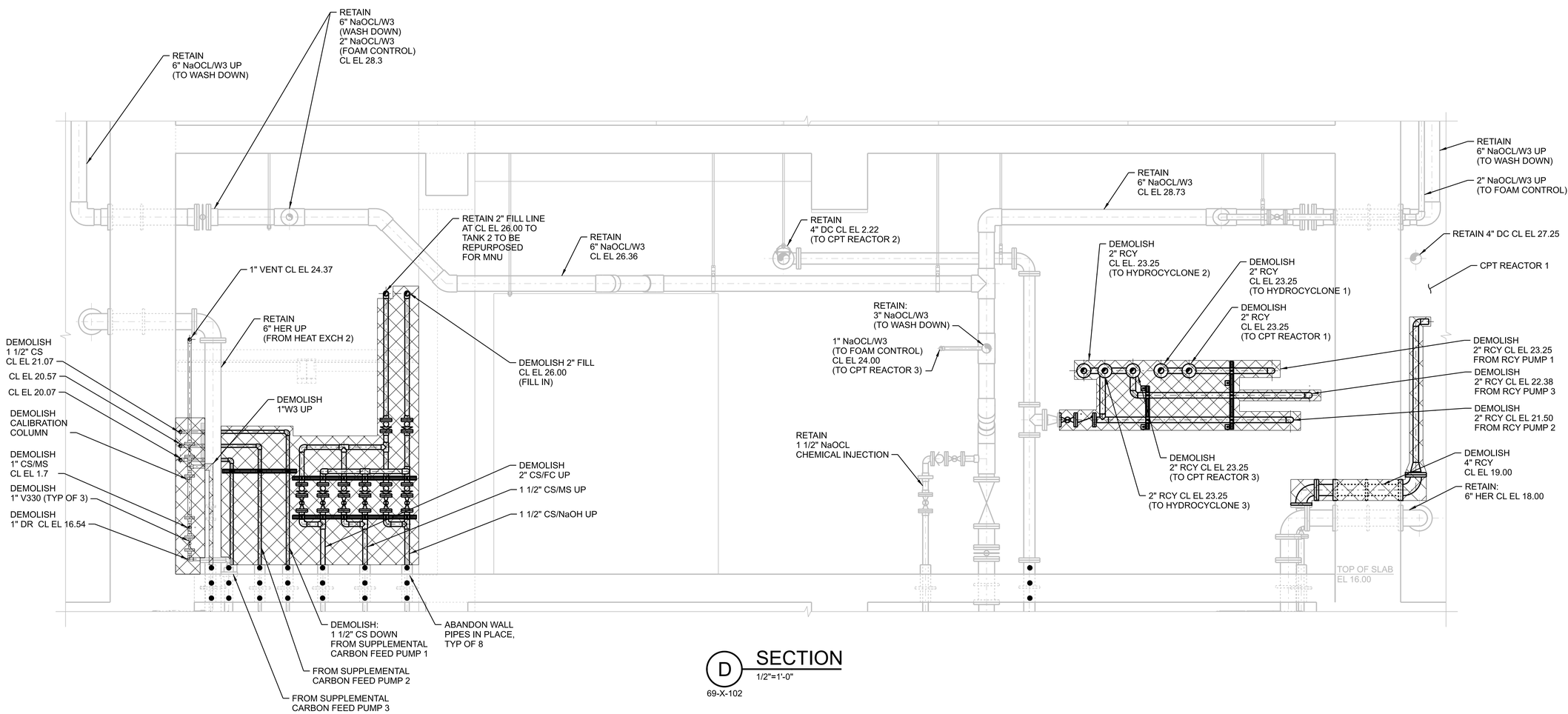
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

© JACOBS 2018. ALL RIGHTS RESERVED.

PLOT TIME: 16:53
PLOT DATE: 16-JAN-2025
FILENAME: 69-X-303_E5X79926.dgn
E5X79926

GENERAL NOTES

1. CAP AND SEAL ABANDONED WALL /FLOOR PENETRATIONS.
2. PROVIDE A BLIND FLANGE ON BOTH SIDES OF ABANDONED PENETRATIONS.



D SECTION
1/2"=1'-0"
69-X-102

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
SECTION D

DEMOLITION

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/2"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-X-304
SHEET NO.	038 OF 97

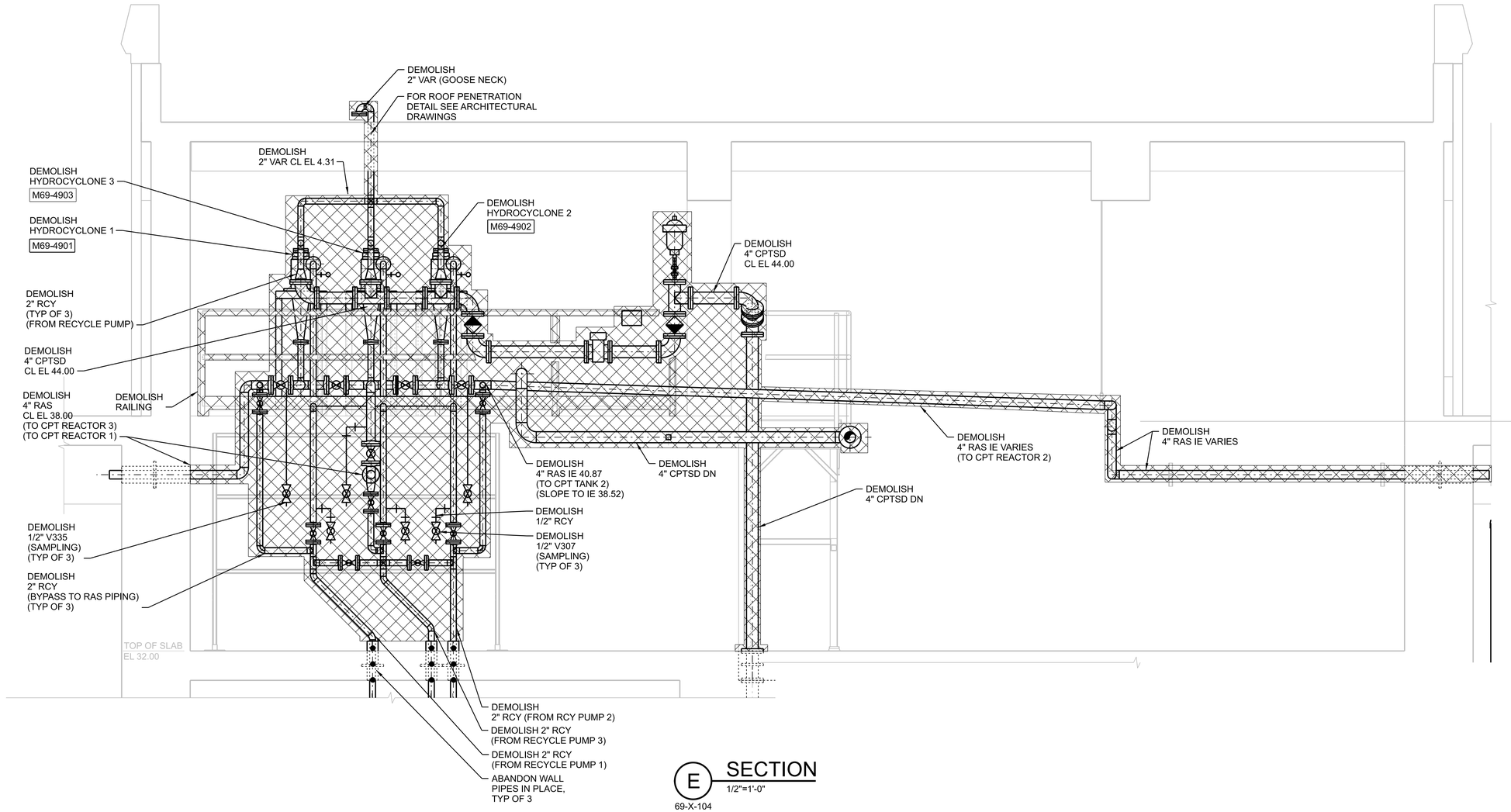
Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 16:57
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-X-304_E5X79926.dgn

GENERAL NOTES

1. ALP PIPING NOT SHOWN FOR CLARITY.
2. QA PIPING NOT SHOWN FOR CLARITY.
3. CAP AND SEAL ABANDONED WALL/FLOOR PENETRATIONS.
4. PROVIDE A BLIND FLANGE ON BOTH SIDES OF ABANDONED PENETRATIONS.
5. DEMOLISH SUPPORT ASSOCIATED WITH DEMOLISHED PIPING AND EQUIPMENT.



E SECTION
1/2"=1'-0"
69-X-104

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
SECTION E

DEMOLITION

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/2"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-X-305
SHEET NO.	039 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

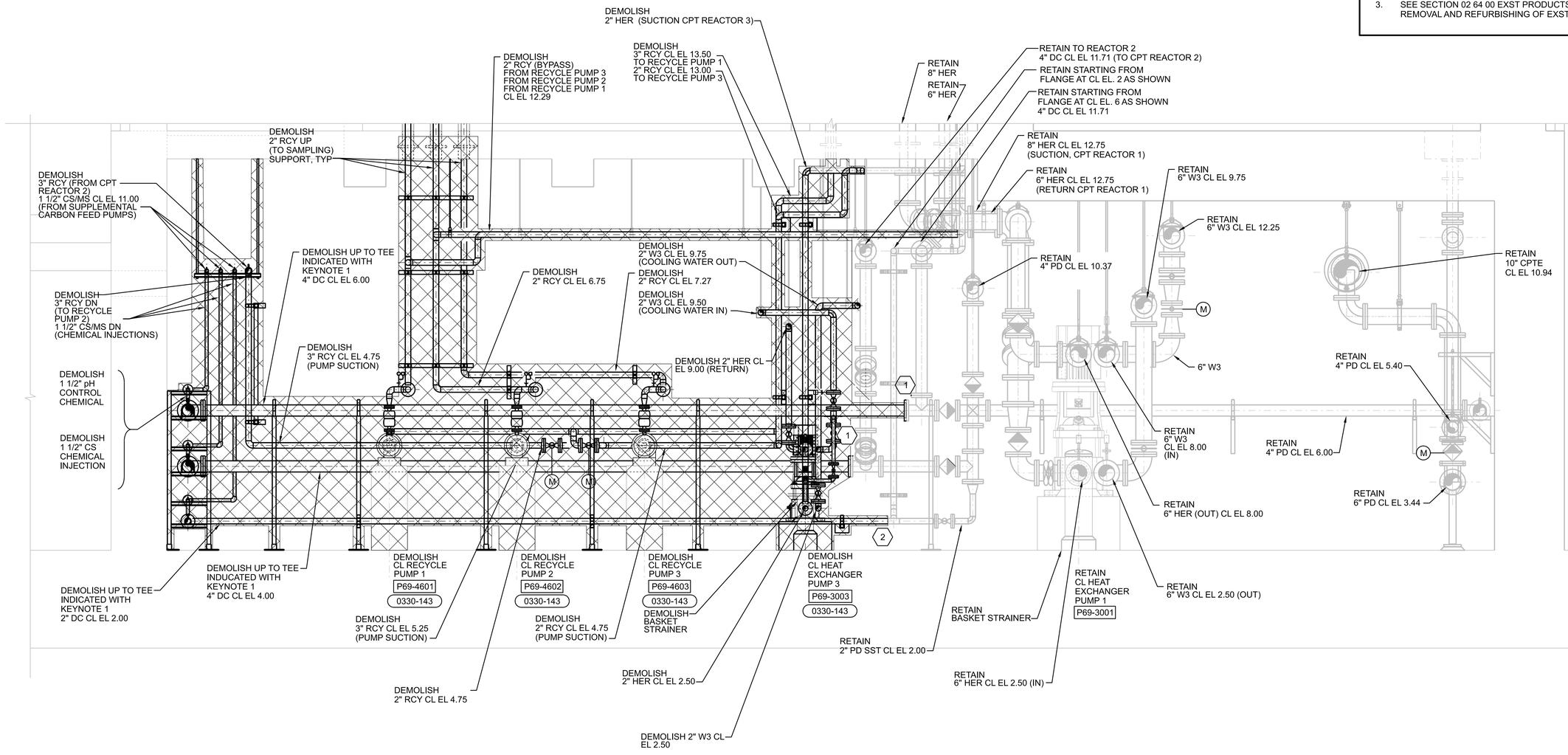
PLOT TIME: 16:54
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-X-305_E5X79926.dgn

GENERAL NOTES

1. DEMLISH SUPPORT ASSOCIATED WITH DEMLISHED PIPING AND EQUIPMENT.

SHEET KEYNOTES

1. CAP FLANGE ON SIDE BEING DEMOLISHED.
2. REPLACE TEE AT DEMOLISHED END OF 2" DC LINE WITH NEW SST ELBOW.
3. SEE SECTION 02 64 00 EXST PRODUCTS FOR REMOVAL AND REFURBISHING OF EXST EQUIPMENT.



F SECTION
1/2"=1'-0"
69-X-100

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
SECTION F

DEMOLITION

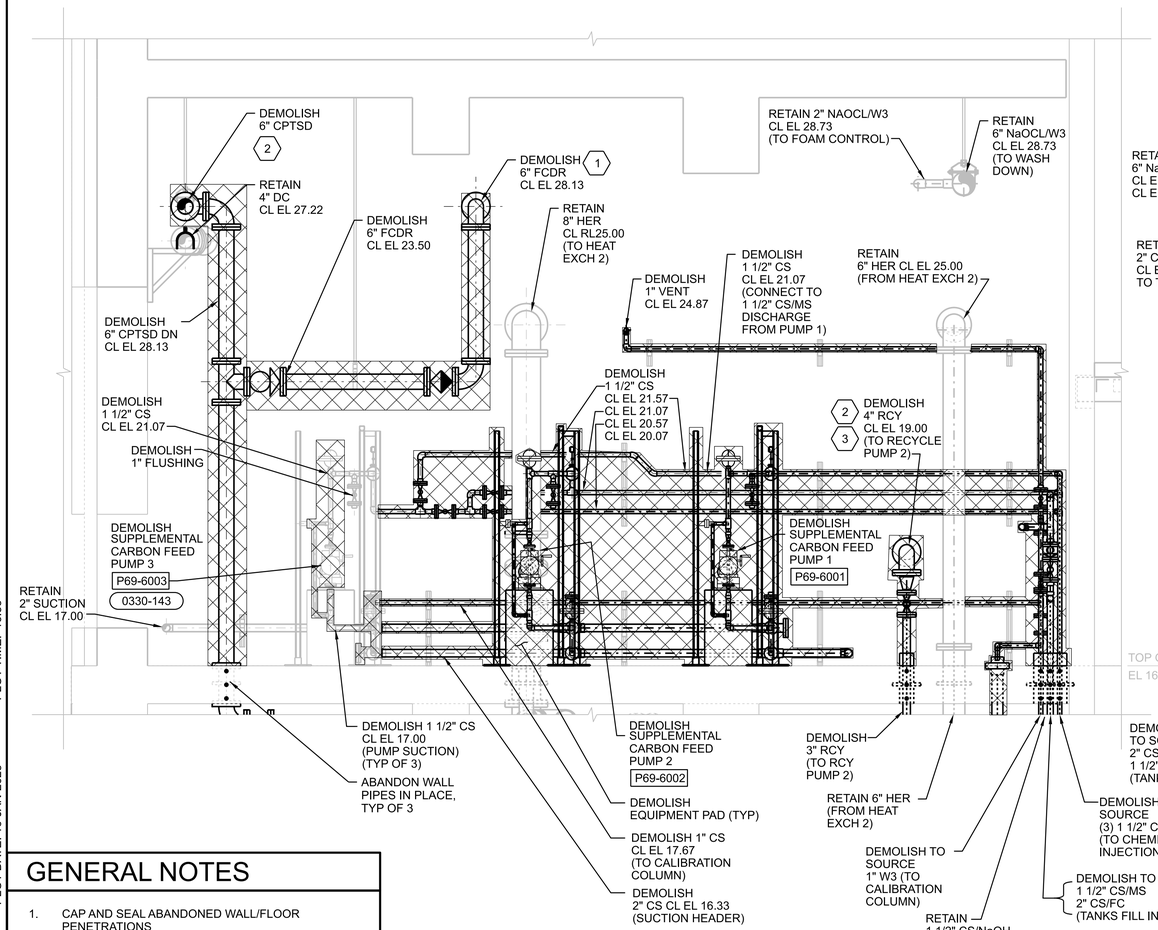
NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

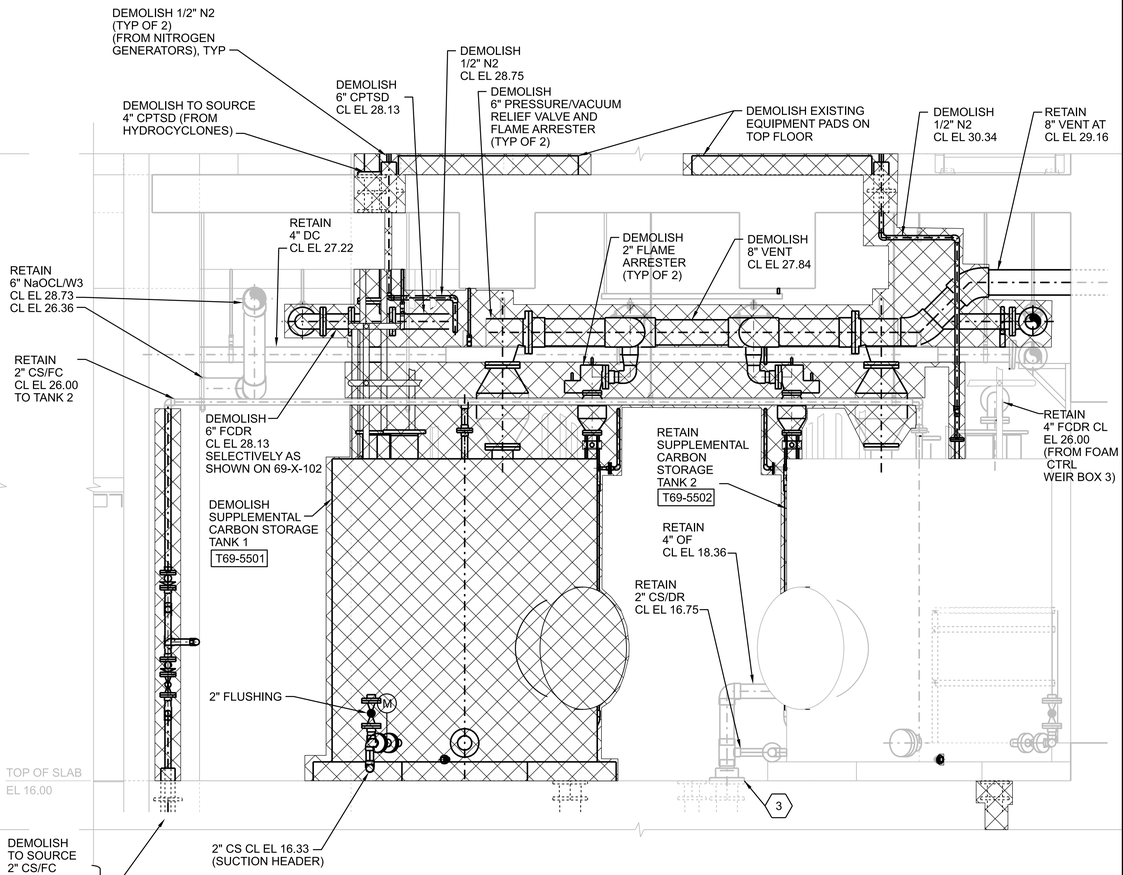
SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	E. MOORE
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-X-306
SHEET NO.	040 OF 97

Bid Set

PLOT TIME: 16:56
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-X-306_E5X79926.dgn



G SECTION
1/2"=1'-0"
69-X-102



H SECTION
1/2"=1'-0"
69-X-102

GENERAL NOTES

1. CAP AND SEAL ABANDONED WALL/FLOOR PENETRATIONS
2. DEMOLISH SUPPORT ASSOCIATED WITH DEMOLISHED PIPING AND EQUIPMENT.
3. PROVIDE A BLIND FLANGE ON BOTH SIDES OF ABANDONED PENETRTIONS.

SHEET KEYNOTES

1. WALL PENETRATION INTO CPT REACTOR 2 TO BERETAINED AND REUSED FOR NEW CPTI PIPE. SEE DRAWING 69-M-141.
2. PROVIDE A BLIND FLANGE ON BOTH SIDES OF WALL PIPE CONNECTION.
3. RETAIN HUB DRAINS (TYP 2) TO BE REPURPOSED FOR DRAINAGE OF SLUICE WATER FROM WASH PRESS AND ROLLING DUMPSTERS.

PLOT TIME: 16:53
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-X-307_E5X79926.dgn

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
SECTION G AND H

DEMOLITION

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	E. MOORE
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-X-307
SHEET NO.	041OF 97

Bid Set

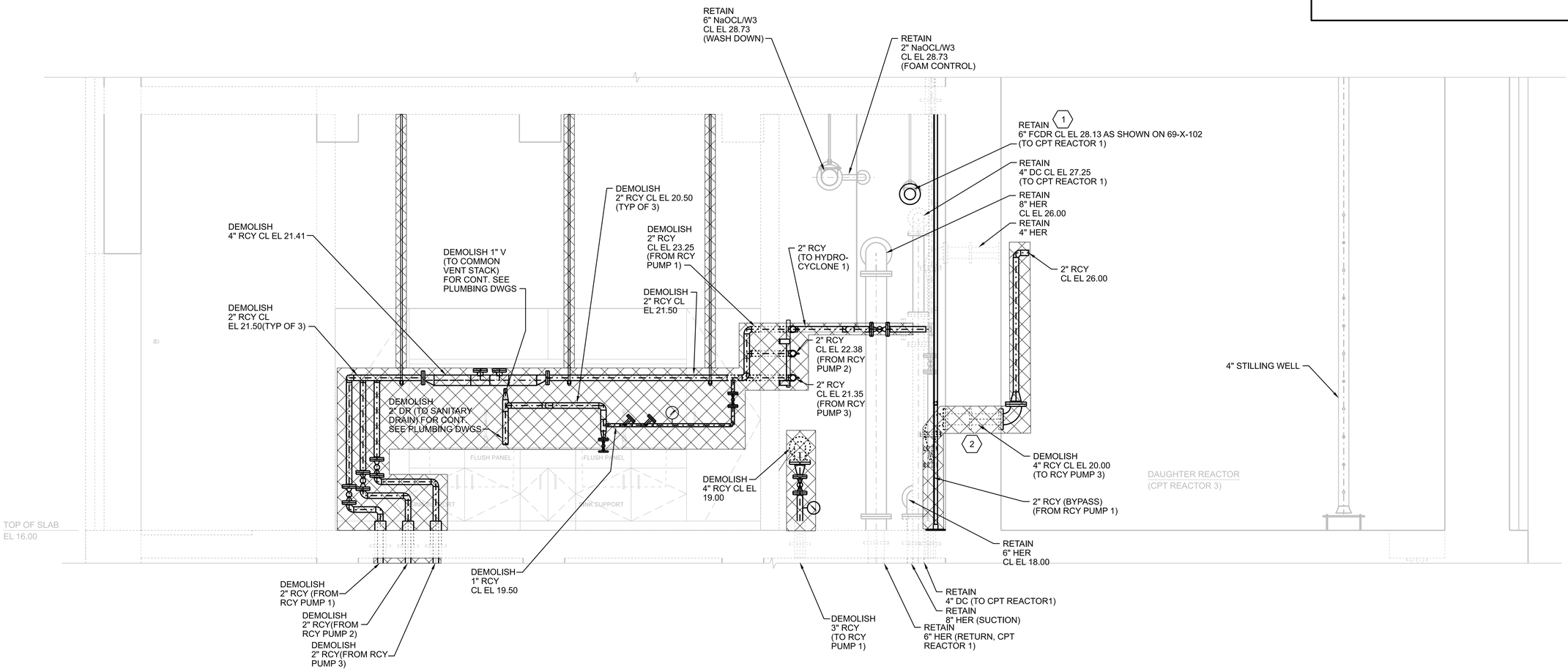
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
© JACOBS 2018. ALL RIGHTS RESERVED.

GENERAL NOTES

1. CAP, PLUG, AND FIRE-PROOF SEAL THE WALL FLOOR PIPES AND ABANDON IN PLACE.
2. PROVIDE A BLIND FLANGE ON BOTH SIDES OF ABANDONED PENETRATIONIS.

SHEET KEYNOTES

1. WALL PENETRATION INTO CPT REACTOR 1 TO BE RETAINED AND REUSED FOR NEW CPTI PIPE. SEE DRAWING 69-M-141.



I SECTION

1/2"=1'-0"

69-X-102

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
SECTION I

DEMOLITION

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	E. MOORE
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-X-308
SHEET NO.	042 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 16:54
PLOT DATE: 16-JAN-2025
FILENAME: 69-X-308_E5X79926.dgn



SALVAGE THIS SECTION OF PIPING AND ASSOCIATED INSTRUMENTATION;REINSTALL ELEMENTS SHOWN ON DRAWING 69-M-141. SEE DETAIL 0330-143

DEMOLISH DC LINES UNTIL TEE WITH PD LINE AS SHOWN ON DRAWING 69-M-306 IN THIS SET

DEMOLISH EXST RECYCLE PUMPS, PEDESTALS, AND RCY SUCTION, RETURN, BYPASS PIPING. SEE DETAIL 0330-143

RECYCLE PUMPS

1 PHOTO
NTS
69-X-100

PLAN AT EL. 1.00

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PHOTOS AT EL 1.00

DEMOLITION

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
© JACOBS 2018. ALL RIGHTS RESERVED.

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-X-501
SHEET NO.	043 OF 97

Bid Set

E5X79926
FILENAME: 69-X-501_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:55

RETAIN SUPPLEMENTAL CARBON STORAGE TANK NO. 2 T69-5502 AND 6" CONC PAD



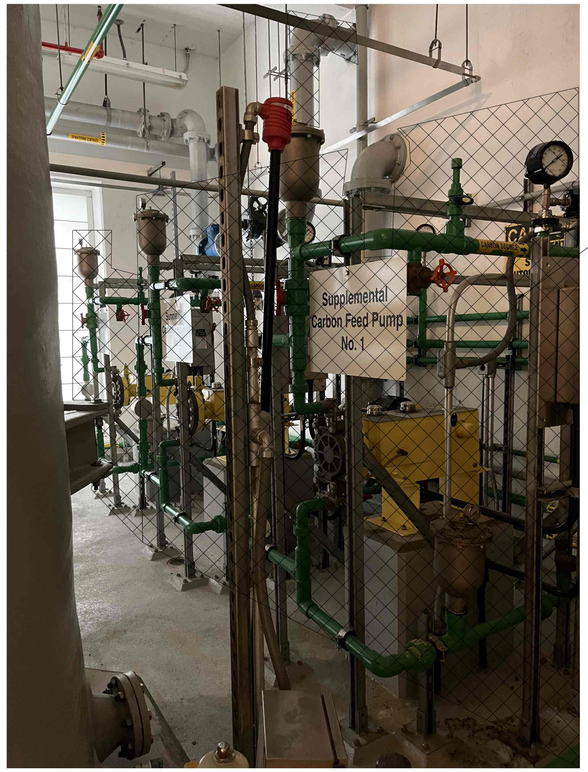
DEMOLISH SUPPLEMENTAL CARBON STORAGE TANK NO. 1 T69-5501 AND 6" CONC PAD

SUPPLEMENTAL CARBON

2 PHOTO

NTS

69-X-102



RETAIN CS PRESSURE INSTRUMENTATION AND SWITCHES FOR INSTALLATION WITH THE NEW MNU PUMP AND TRANSFER TO OWNER.
DEMOLISH SUPPLEMENTAL CARBON FEED PUMPS AND ASSOCIATED PIPING, APPURTENANCES, AND CONCRETE PEDESTALS. RETAIN SUCTION PIPING FROM TANK 2 TO PUMP 3 AND THE CONCRETE PEDESTAL FOR PUMP 3 FOR A NEW MNU PUMP.

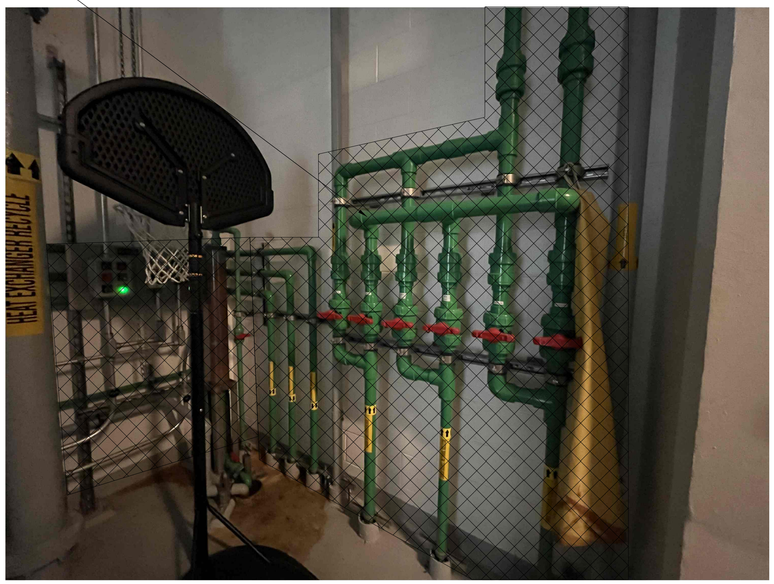
SUPPLEMENTAL CARBON FEED PUMPS

4 PHOTO

NTS

69-X-102

DEMOLISH ALL EXST CS PIPING IN BUILDING 9 AS SHOWN

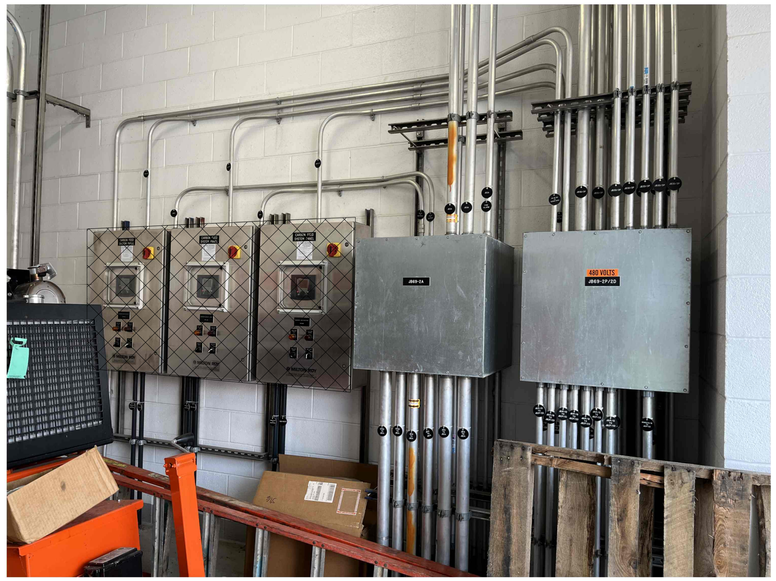


CARBON SOURCE PIPING MANIFOLD

3 PHOTO

NTS

69-X-102



CARBON FEED SYSTEM PANEL

5 PHOTO

NTS

69-X-102

GENERAL NOTES

1. FOR CONCRETE PAD DEMOLITION, SEE DETAIL 0330-143.

PLAN AT EL. 16.00

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PHOTOS AT EL 16.00

DEMOLITION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-X-502
SHEET NO.	044 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

E5X79926
FILENAME: 69-X-502_E5X79926.dgn
PLOT DATE: 01\17\2025
PLOT TIME: 11:07:20 AM



BLOWER MASTER PANEL

6 PHOTO
NTS
69-X-104



CONTRACTOR TO RETAIN AND REUSE THE PREFABRICATED REUSABLE INSULATION COVERS ON VALVES AND EXPANSION JOINTS ON THE ALP PIPING

CONTRACTOR TO DEMOLISH ALL BLOWER EQUIPMENT PADS

BLOWERS AND ALP PIPING

8 PHOTO
NTS
69-X-104



EXISTING STAIRCASE TO BE RELOCATED TO THIS WALL, PLEASE DEMOLISH ALL PIPING AND CONDUITS ON THIS WALL

HYDROCYCLONE MEZZANINE WALL

11 PHOTO
NTS
69-X-104

REMOVE AND REUSE EXISTING METAL STAIR, LANDINGS, AND SUPPORTS AND PRESERVE FOR REUSE. SAWCUT ANCHORS FLUSH WITH FLOOR AND PATCH PER DET. 0330-143 SEE STRUCTURAL DRAWINGS FOR LOCATION

ALP PIPING TO BE DEMOLISHED



EXISTING EXHAUST FAN TO BE RELOCATED. SEE HVAC DRAWINGS FOR NEW LOCATION

HVAC SYSTEM AND DUCTS

7 PHOTO
NTS
69-X-104



NITROGEN GAS GENERATORS

9 PHOTO
NTS
69-X-104

EXISTING STAIRCASE TO BE RELOCATED TO WEST SIDE OF DAUGHTER REACTOR MEZZANINE



EXISTING EXHAUST FAN AND DUCTWORK TO BE DEMOLISHED

REMOVE EXISTING METAL STAIR, LANDINGS, AND SUPPORTS AND PRESERVE FOR REUSE. SAWCUT ANCHORS FLUSH WITH FLOOR AND PATCH PER DET. 0330-143. SEE STRUCTURAL DRAWINGS FOR LOCATION

EXHAUST FAN

10 PHOTO
NTS
69-X-104

PLAN AT EL. 32.00

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PHOTOS AT EL 32.00

DEMOLITION

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-X-503
SHEET NO.	045 OF 97

Bid Set

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
©JACOBS 2018. ALL RIGHTS RESERVED.

PLOT TIME: 16:54
PLOT DATE: 16-JAN-2025
FILENAME: 69-X-503_E5X79926.dgn
E5X79926



DEMOLISH MIXER TO BE REPLACED IN KIND

ALP PIPING

12 PHOTO

NTS

69-X-104



HYDROCYCLONES

13 PHOTO

NTS

69-X-104



RAILING

14 PHOTO

NTS

69-X-104

PLAN AT EL. 40.00

AlexRenew

ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PHOTO AT EL 40.00

DEMOLITION

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

©JACOBS 2018. ALL RIGHTS RESERVED.

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE

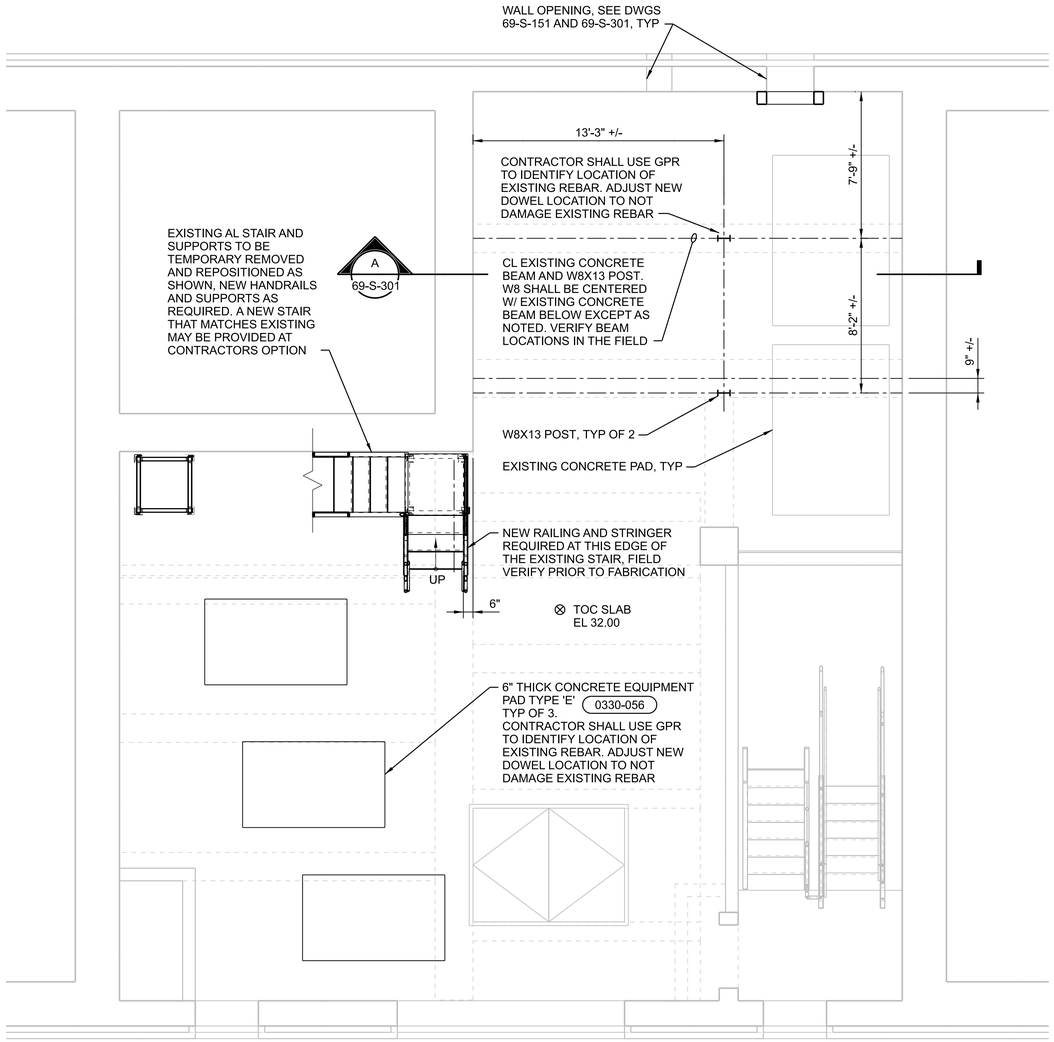
BAR IS ONE INCH ON ORIGINAL DRAWING.

0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-X-504
SHEET NO.	046 OF 97

Bid Set

E5X79926
FILENAME: 69-X-504_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:54



N

PARTIAL PLAN AT EL 32.00

1/4"=1'-0"

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PARTIAL PLAN AT EL 32.00

STRUCTURAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

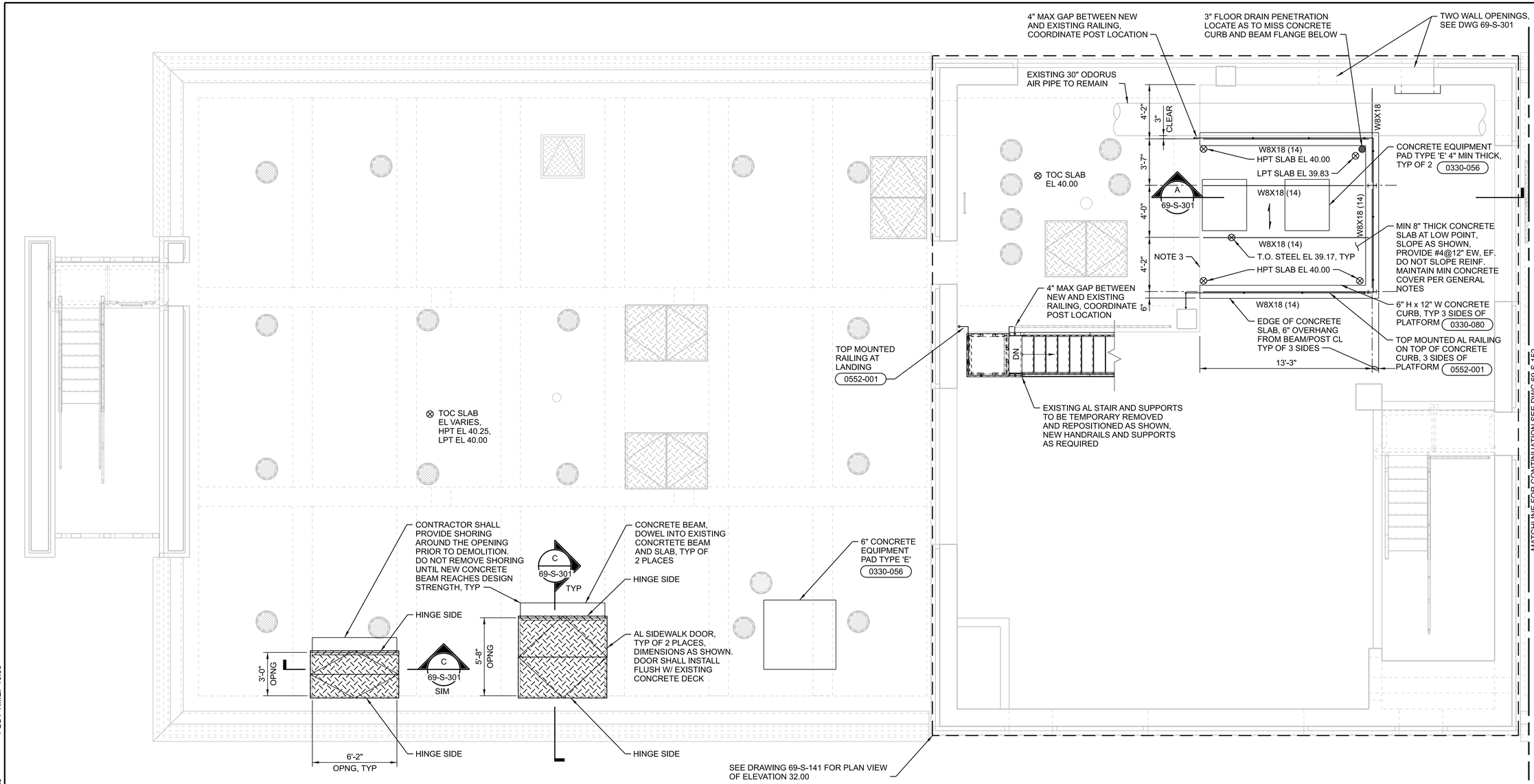
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	I LAPINA-TRAUT
CHECKED BY:	L. ZHANG
SUBMITTED BY:	K SHAHZAD
CONTRACT NO.:	25-007
DWG NO.	69-S-141
SHEET NO.	047 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

E5X79926
FILENAME: 69-S-141_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:55



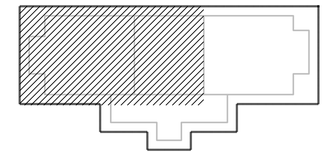
N

PARTIAL PLAN AT EL 40.00

1/4"=1'-0"

GENERAL SHEET NOTES

1. (X) INDICATES NUMBER OF 3/4" DIAMETER WELDED SHEAR STUDS ON CENTERLINE OF BEAM, EVENLY SPACED. SEE SPECIFICATIONS FOR FURTHER INFORMATION.
2. ALL EXPOSED PLATFORM STEEL AND CONNECTIONS SHALL BE HOT DIPPED GALVANIZED, SEE SPECIFICATIONS FOR FURTHER INFORMATION. FOR POST-INSTALLED ANCHOR MATERIAL, SEE DETAILS AND SPECIFICATIONS.
3. GROOVE WATERSTOP PER STANDARD DETAIL 0315-003 AT NEW AND EXISTING CONCRETE.



KEY PLAN

NTS

N

ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PARTIAL PLAN AT EL 40.00

STRUCTURAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

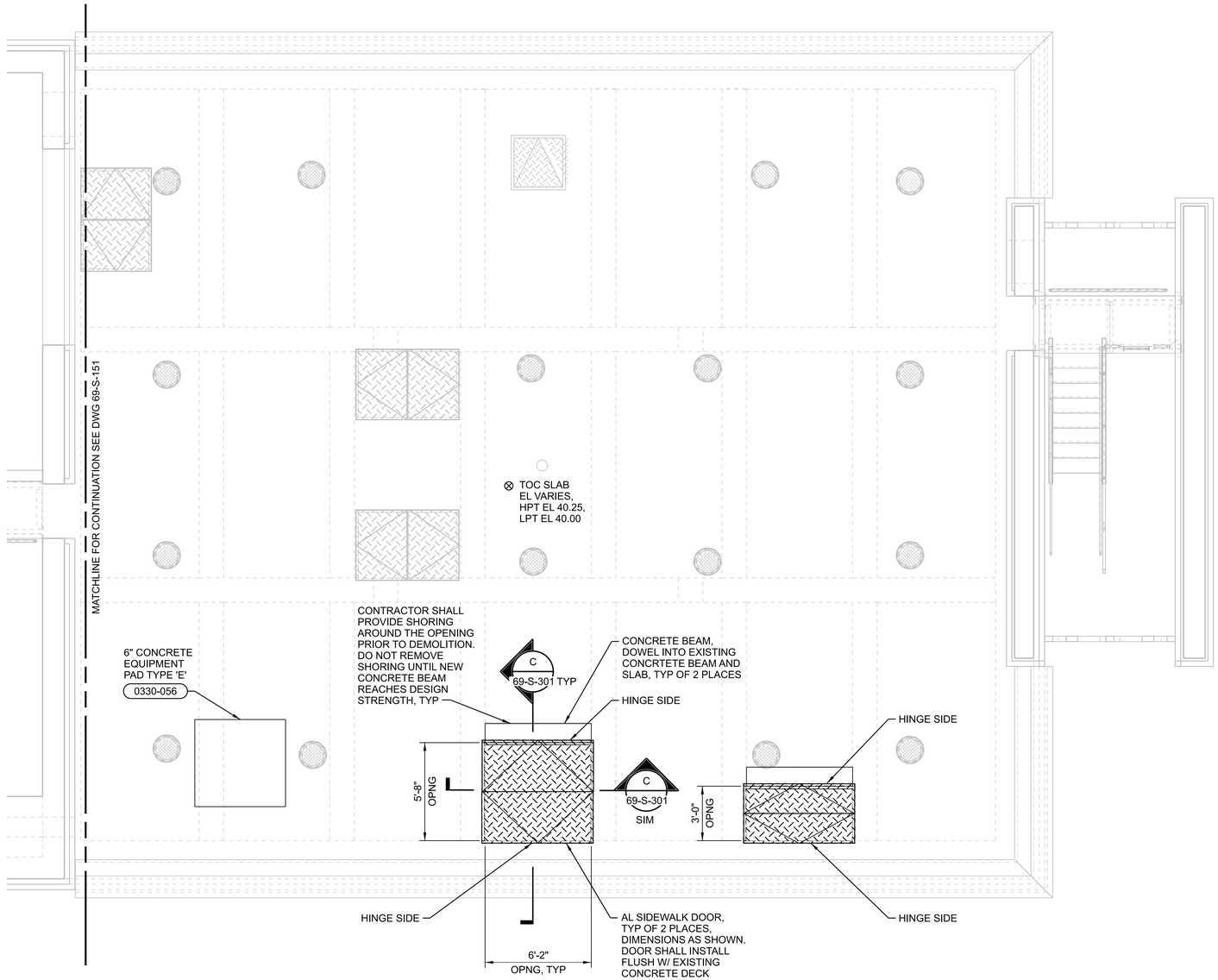
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	I LAPINA-TRAUT
CHECKED BY:	L. ZHANG
SUBMITTED BY:	K SHAHZAD
CONTRACT NO.:	25-007
DWG NO.	69-S-151
SHEET NO.	048 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

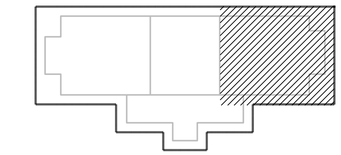
PLOT TIME: 16:56
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-S-151_E5X79926.dgn



N

PARTIAL PLAN AT EL 40.00

1/4"=1'-0"



N

KEY PLAN

NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PARTIAL PLAN AT EL 40.00

STRUCTURAL

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

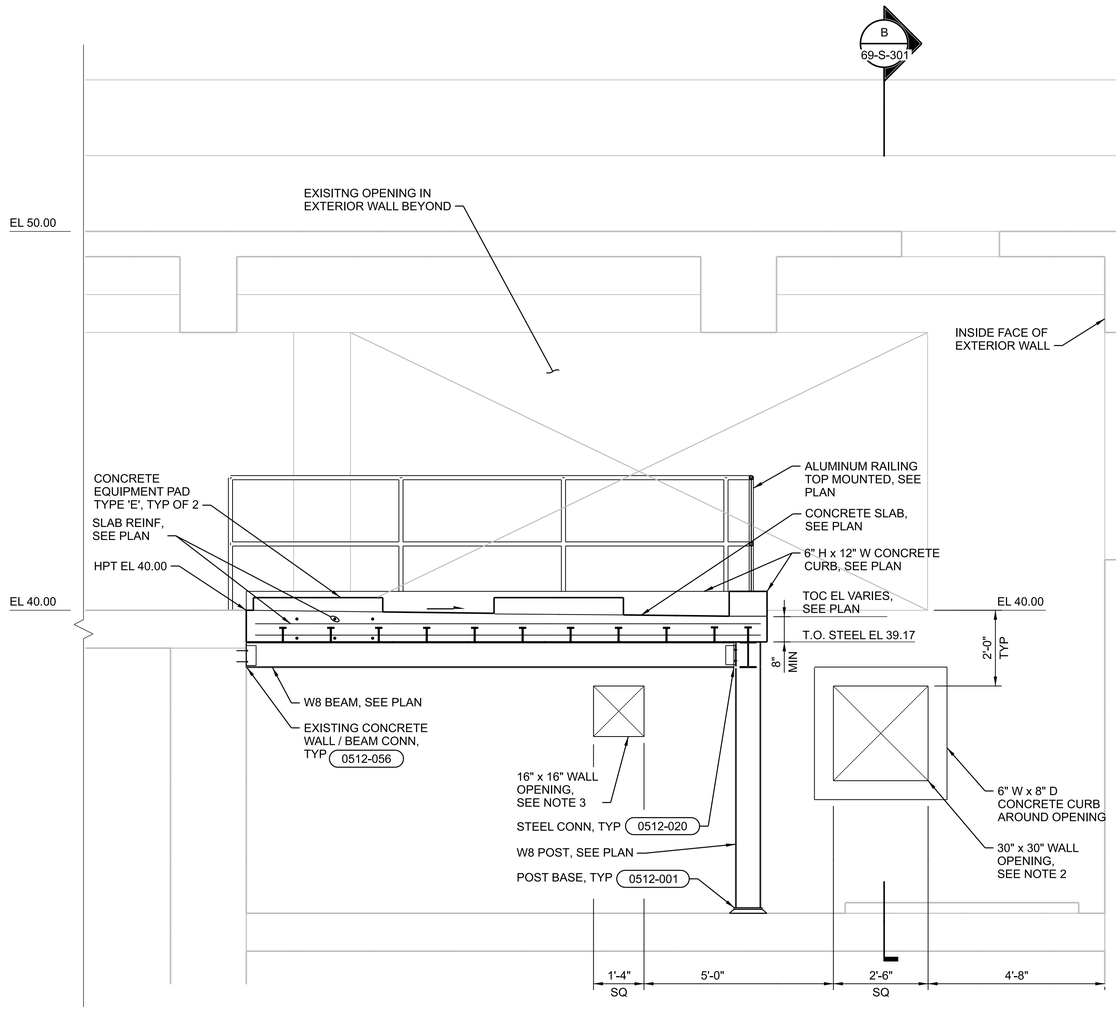
SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	I LAPINA-TRAUT
CHECKED BY:	L. ZHANG
SUBMITTED BY:	K SHAHZAD
CONTRACT NO.:	25-007
DWG NO.	69-S-152
SHEET NO.	049 OF 97

Bid Set

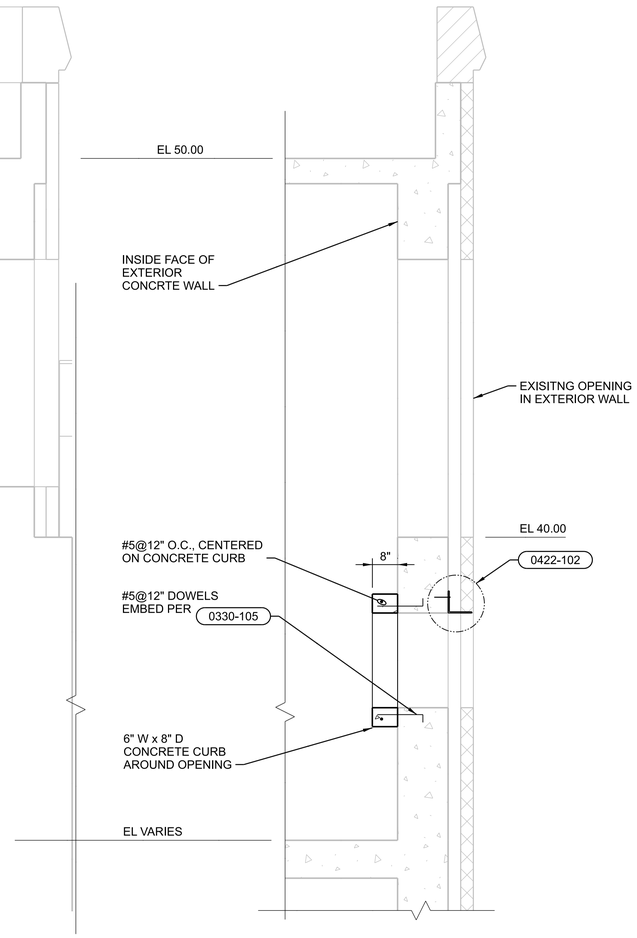
E5X79926
FILENAME: 69-S-152_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:53

GENERAL SHEET NOTES

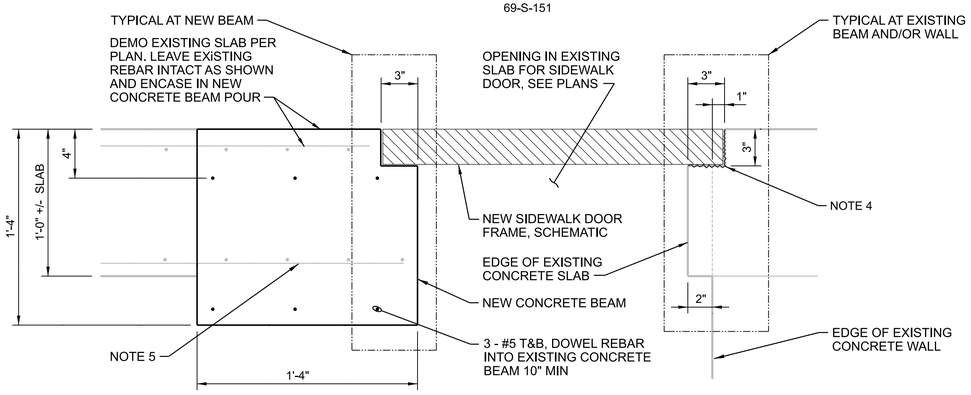
1. ALL EXPOSED PLATFORM STEEL AND CONNECTIONS SHALL BE HOT DIPPED GALVANIZED, SEE SPECIFICATIONS FOR FURTHER INFORMATION. FOR POST-INSTALLED ANCHOR MATERIAL, SEE DETAILS AND SPECIFICATIONS.
2. SAWCUT OPENING PER STANDARD DETAIL 0330-106. REINFORCE ON INTERIOR OF CONCRETE WALL PER SECTION B ON THIS SHEET. BRICK LEDGER PER STANDARD DETAIL 0422-102. CUT ONLY 2 VERTICAL AND HORIZONTAL WALL BARS DURING DEMOLITION.
3. SAWCUT OPENING PER STANDARD DETAIL 0330-106. BRICK LEDGER PER STANDARD DETAIL 0422-102. CUT ONLY 1 VERTICAL AND HORIZONTAL WALL BAR DURING DEMOLITION.
4. CHIP AWAY EXISTING CONCRETE SLAB AS REQUIRED TO ALLOW INSTALLATION OF NEW SIDEWALK DOOR FRAME. GROUT TO SET FRAME IN PLACE.
5. FOR ALL REBAR AND ANCHOR BOLTS, GPR SCAN PRIOR TO INSTALLATION TO AVOID CUTTING OR HITTING EXISTING REINFORCEMENT.



A SECTION
1/2"=1'-0"
69-S-141
69-S-151



B SECTION
1/2"=1'-0"
69-S-301



C SECTION
NTS
69-S-151
69-S-152

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
SECTIONS

STRUCTURAL

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
© JACOBS 2018. ALL RIGHTS RESERVED.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

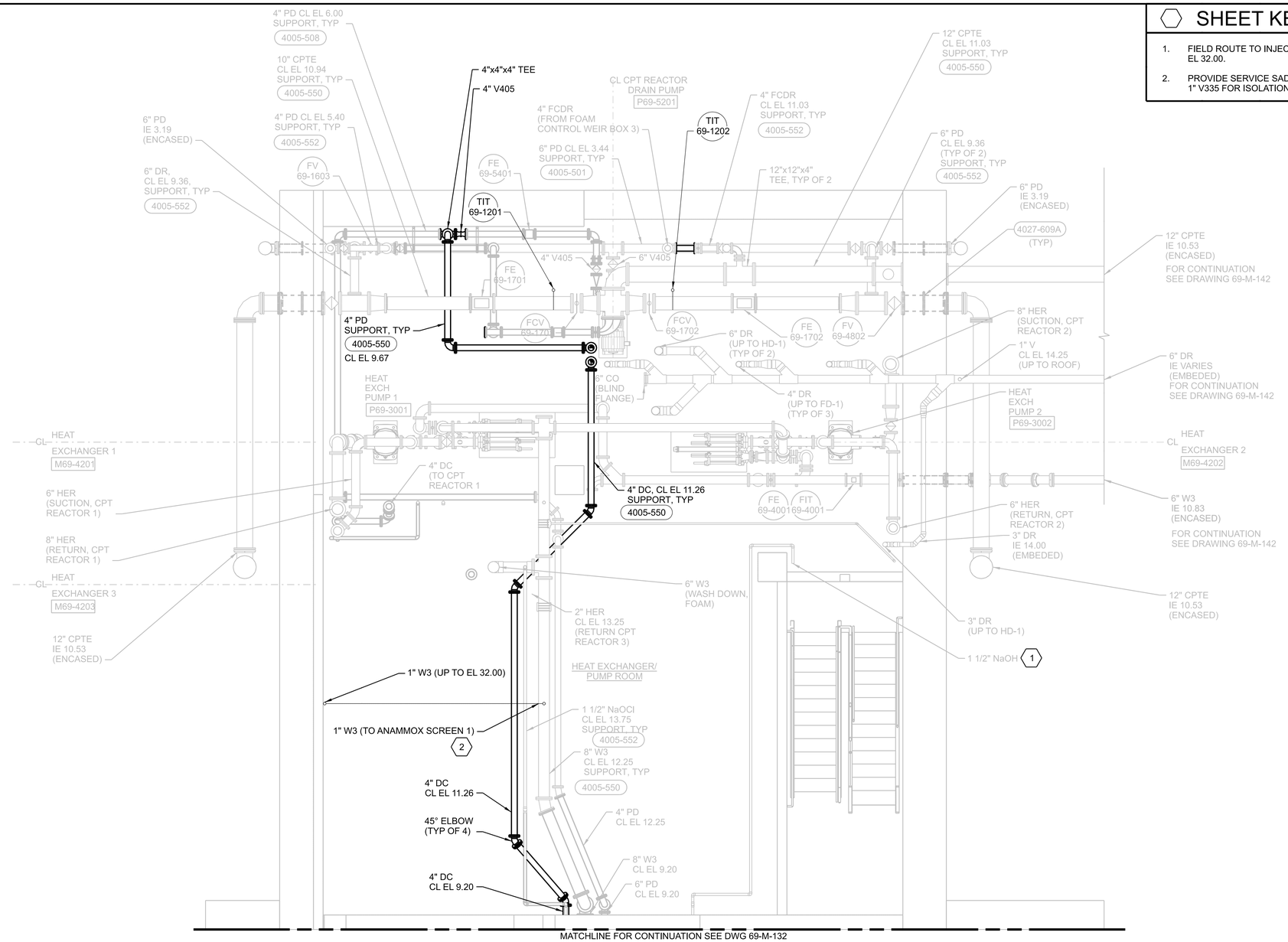
SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	I LAPINA-TRAUT
CHECKED BY:	L. ZHANG
SUBMITTED BY:	K SHAHZAD
CONTRACT NO.:	25-007
DWG NO.	69-S-301
SHEET NO.	050 OF 97

Bid Set

E5X79926
FILENAME: 69-S-301_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:54

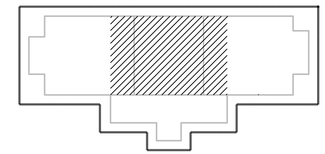
SHEET KEYNOTES

1. FIELD ROUTE TO INJECTION POINTS IN 6" CPTI ON EL 32.00.
2. PROVIDE SERVICE SADDLE FOR CLDI PIPE AND ONE 1" V335 FOR ISOLATION AT THE TAPPING POINT.



PLAN AT EL 1.00

1/4"=1'-0"



KEY PLAN

NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PARTIAL PLAN AT EL 1.00

PROCESS MECHANICAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

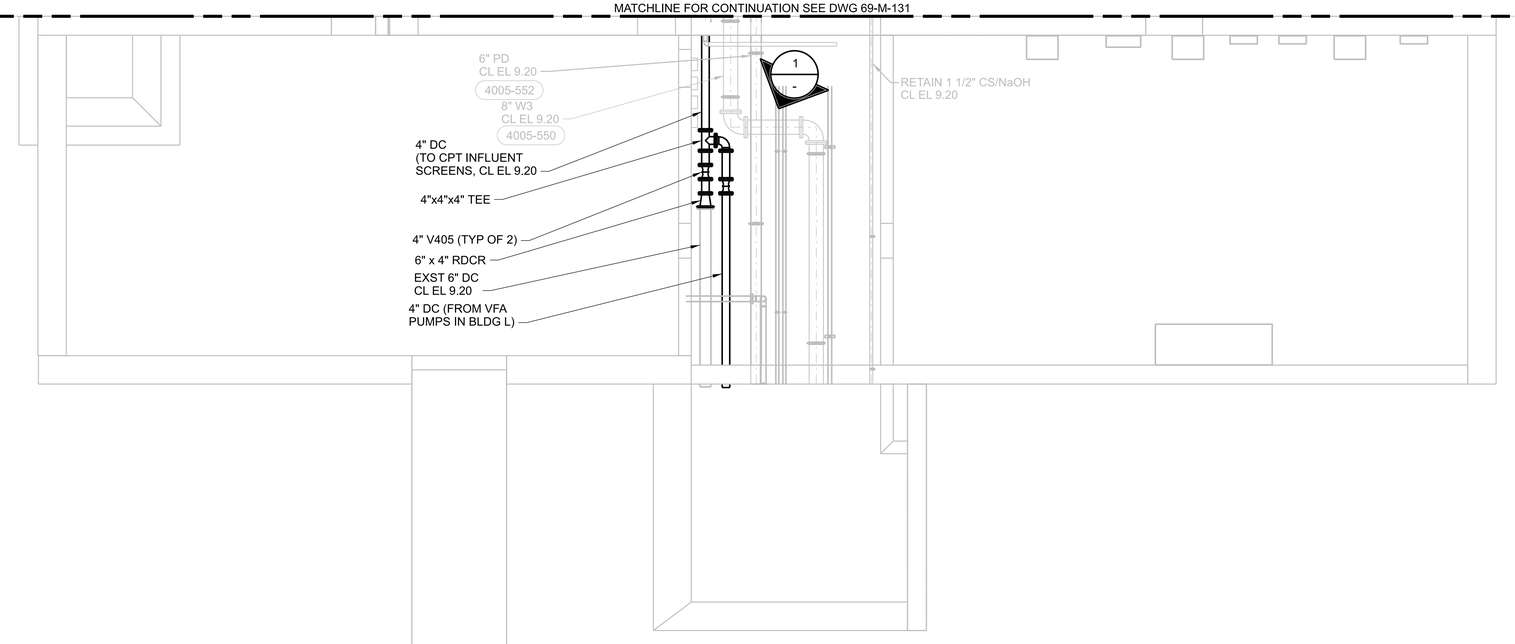
SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-M-131
SHEET NO.	051 OF 97

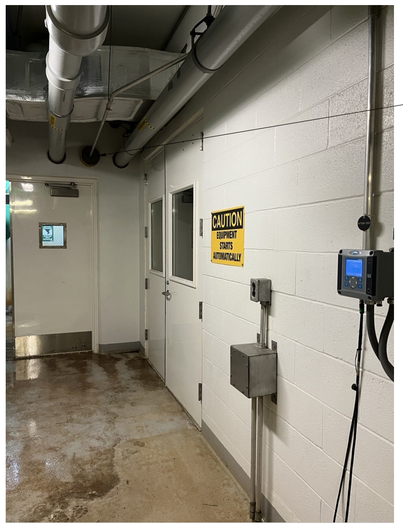
Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

E5X79926
FILENAME: 69-M-131_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:52

MATCHLINE FOR CONTINUATION SEE DWG 69-M-131

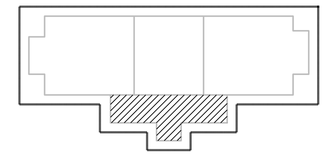




USE EXISTING PENETRATION AT CL EL 9.20 FOR 4" DC (FROM VFA PUMPS) THE CONDUIT IS ASSOCIATED WITH THE TSS INLINE METER TO BE ABANDONED, NO REROUTING REQUIRED

1 PHOTO
NTS

PLAN AT EL 1.00
1/4"=1'-0"



KEY PLAN
NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PARTIAL PLAN AT EL 1.00

PROCESS MECHANICAL

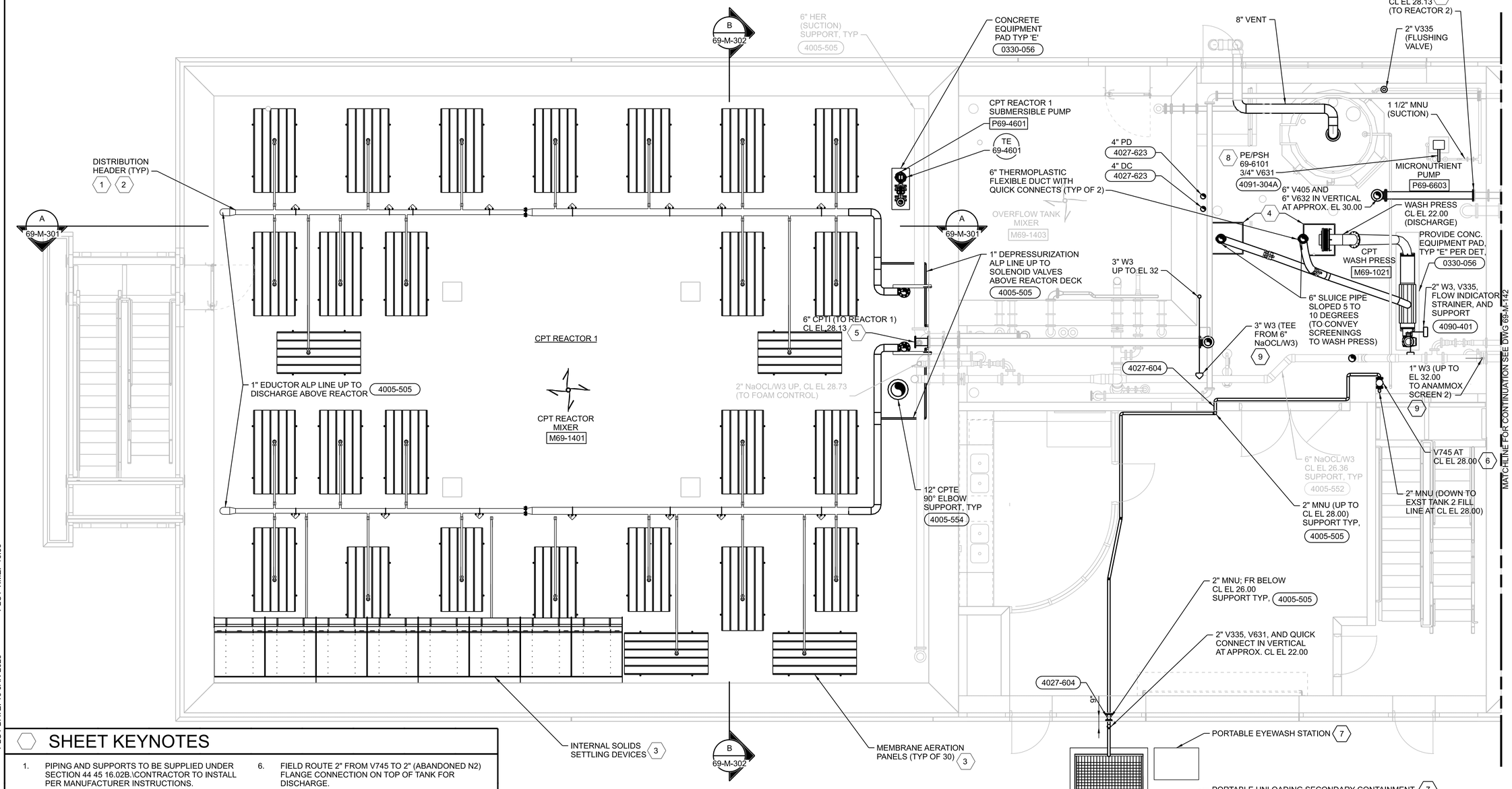
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-M-132
SHEET NO.	052 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

E5X79926
FILENAME: 69-M-132_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:55

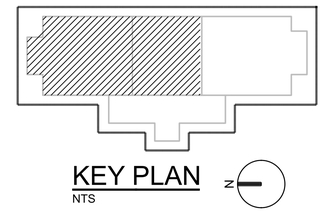


SHEET KEYNOTES

1. PIPING AND SUPPORTS TO BE SUPPLIED UNDER SECTION 44 45 16.02B.\CONTRACTOR TO INSTALL PER MANUFACTURER INSTRUCTIONS.
2. CL EL TO BE 12" AFF AND REDUCE CONCENTRICALLY FROM 6" TO 4" AS SHOWN.
3. EQUIPMENT, ANCHORAGE, AND SUPPORTS SUPPLIED BY MANUFACTURER WORLD WATER WORKS.
4. FLEXIBLE TUBING TO BE PROVIDED TO CONNECT FROM THE END OF THE 8" SCR PIPE TO THE 6" SLUICING PIPE OR CONNECT TO THE ROLLING DUMPSTER COVER DIRECTLY UNDERNEATH.
5. RETAIN 6" FCDR WALL PENETRATION AND PIPE SECTION AS SHOWN TO BE REUSED FOR 6" CPTI.
6. FIELD ROUTE 2" FROM V745 TO 2" (ABANDONED N2) FLANGE CONNECTION ON TOP OF TANK FOR DISCHARGE.
7. CONTRACTOR TO PROVIDE ONE ULINE IBC SPILL CONTAINMENT PALLET FOR TEMPORARY CONTAINMENT AND ONE TEMPORARY EYEWASH STATION WITH WASH-CART TO BE USED DURING TOTE UNLOADING.
8. INSTALL VALVE, INSTRUMENTATION, AND FLUSHING CONNECTION IN THE 3/4" CPVC PIPING SECTION; TRANSITION FROM 3/4" CPCV TO 1/2" RCT IN CPVC CARRIER. FIELD ROUTE MNU LINE INSIDE 2" CPVC CARRIER PIPE TO INJECTION POINTS IN THE 6" CPTI LINE ON EL 32.00.
9. PROVIDE SERVICE SADDLE FOR CLDI PIPE AND ONE V335 IN THE BRANCH LINE FOR ISOLATION.

GROUND FLOOR PLAN AT EL 16.00

1/4"=1'-0"



KEY PLAN

NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PARTIAL PLAN AT EL 16.00

PROCESS MECHANICAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-M-141
SHEET NO.	053 OF 97

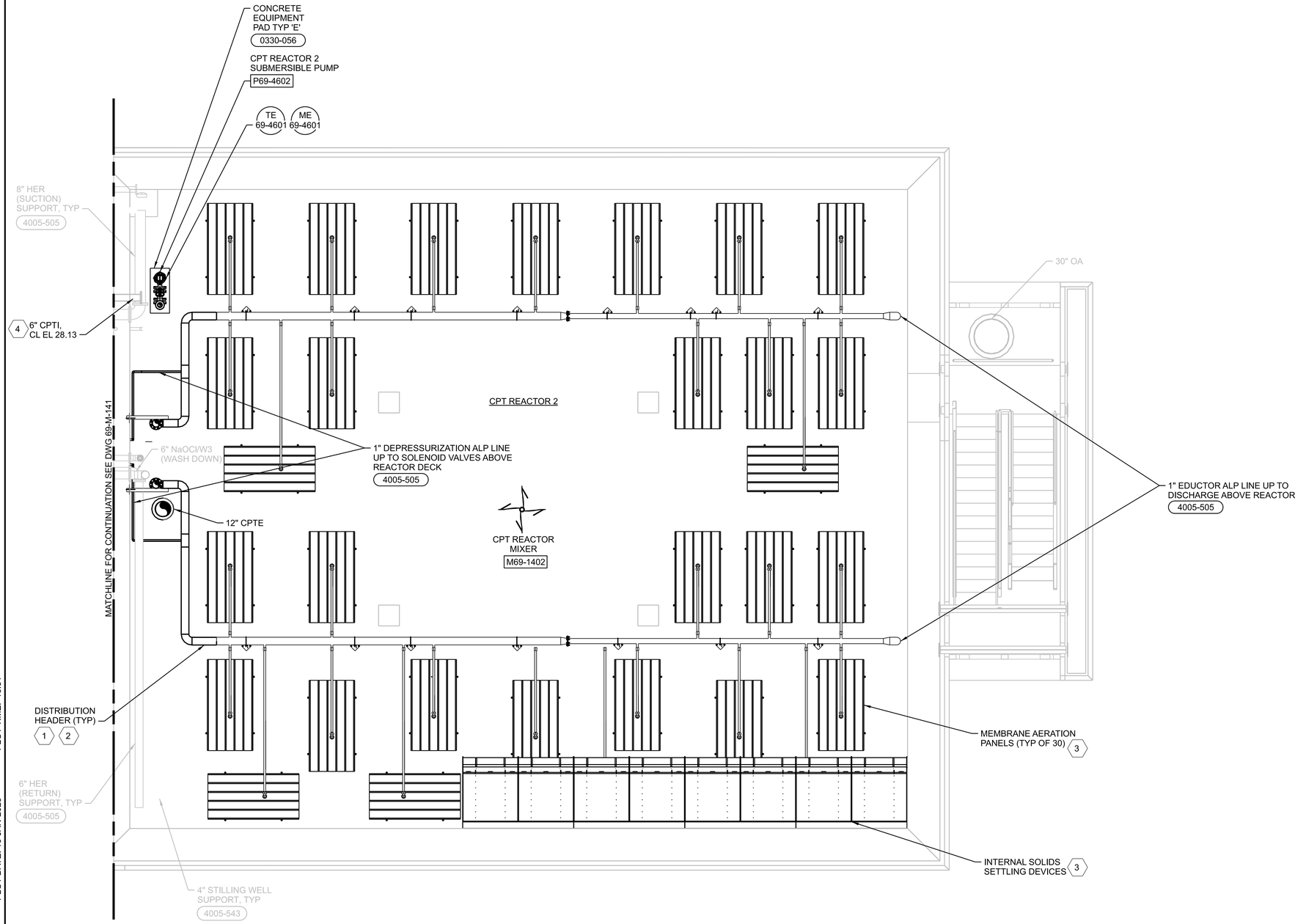
Bid Set

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
© JACOBS 2018. ALL RIGHTS RESERVED.

PLOT TIME: 16:53
PLOT DATE: 16-JAN-2025
FILENAME: 69-M-141_E5X79926.dgn
E5X79926

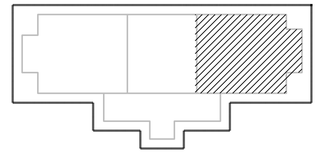
SHEET KEYNOTES

1. PIPING AND SUPPORTS TO BE SUPPLIED UNDER SECTION 44 45 16.02B.\CONTRACTOR TO INSTALL PER MANUFACTURER INSTRUCTIONS.
2. CL EL TO BE 12" AFF AND REDUCE CONCENTRICALLY FROM 6" TO 4" AS SHOWN.
3. EQUIPMENT, ANCHORAGE, AND SUPPORTS SUPPLIED BY MANUFACTURER WORLD WATER WORKS.
4. 6" FCDR WALL PENETRATION INTO CPT REACTOR 2 TO BE RETAINED AND REUSED FOR NEW CPTI PIPE. SEE DWG 69-X-102.



GROUND FLOOR PLAN AT EL 16.00

1/4"=1'-0"



KEY PLAN

NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PARTIAL PLAN AT EL 16.00

PROCESS MECHANICAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

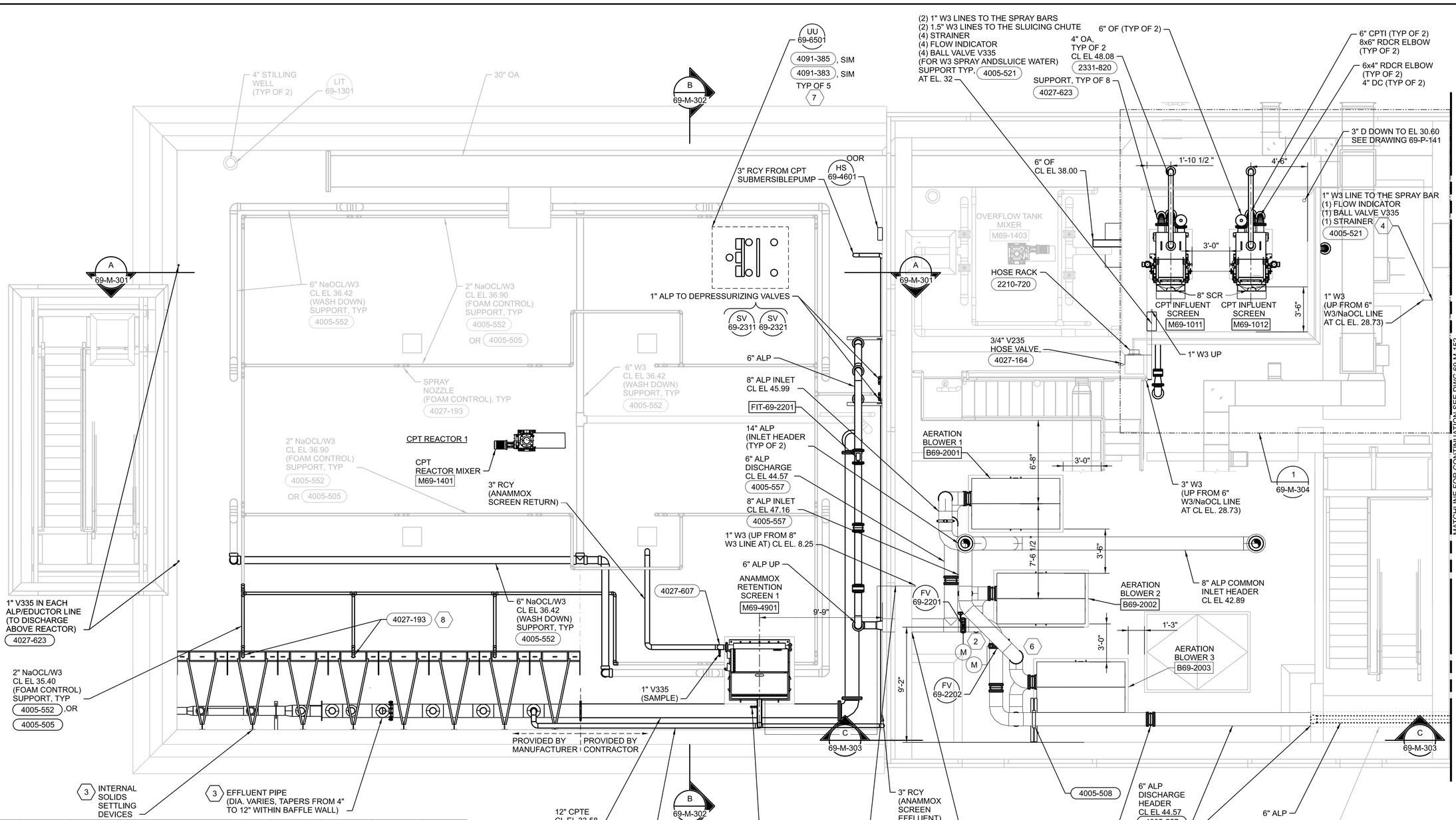
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-M-142
SHEET NO.	054 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 16:51
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-M-142_E5X79926.dgn



SHEET KEYNOTES

1. PIPING AND SUPPORTS TO BE SUPPLIED UNDER SECTION 44 45 16.02B.\CONTRACTOR TO INSTALL PER MANUFACTURER INSTRUCTIONS.
2. CL EL TO BE 12" AFF AND REDUCE CONCENTRICALLY FROM 6" TO 4" AS SHOWN.
3. EQUIPMENT, ANCHORAGE, AND SUPPORTS SUPPLIED BY MANUFACTURER WORLD WATER WORKS.
4. PROVIDE A HIGH POINT IN THE W3 LINE INSIDE THE BLOWER ROOM TO ALLOW DRAINING TO ANAMMOX RETENTION SCREEN.
5. CONTRACTOR TO USE THE EXITING 14" WALL OPENING AND PROVIDE ADDITIONAL SEAL.
6. CONTRACTOR TO REUSE THE PREFABRICATED REUSABLE INSULATION COVERS ON VALVES.
7. ABANDON THE TWO EXST 4" OPENINGS, RETAIN THE OTHER 3 LARGER OPENINGS, AND CREATE TWO NEW 6" OPENINGS 24" ON CENTER FROM EXST OPENINGS. CONTRACTOR SHALL GPR SCAN SLAB TO PROVIDE (5) 6" CPVC SCH 89, MINIMUM 24" ON CENTER, TO FUNCTION AS SLEEVES FOR THE MCSS SENSORS AND CLEANING LINES. SUPPORT SLEEVES WITH MSS TYPE 8 RISER CLAMP. SLEEVES SHALL EXTEND A MINIMUM OF 2-FT BELOW HWL INSIDE THE REACTOR; SLEEVES WALLS SHALL BE PROVIDED WITH 2 VERTICAL ROWS OF 1/2" ID PERFORATIONS SPACED AT 1-FT INTERVALS; ROWS SHALL BE DIAMETRICALLY OPPOSED. REMOVE ABANDONED SLEEVES AND REPAIR CONCRETE.
8. ALIGN W3 TO CENTER NOZZLE WITH THE HANDHOLES ON THE CONCRETE DECK ABOVE.

PLAN AT EL 32.00 & 40.00

1/4"=1'-0"

KEY PLAN

NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PARTIAL PLAN AT EL 32.00 & 40.00

PROCESS MECHANICAL

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
©JACOBS 2018. ALL RIGHTS RESERVED.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

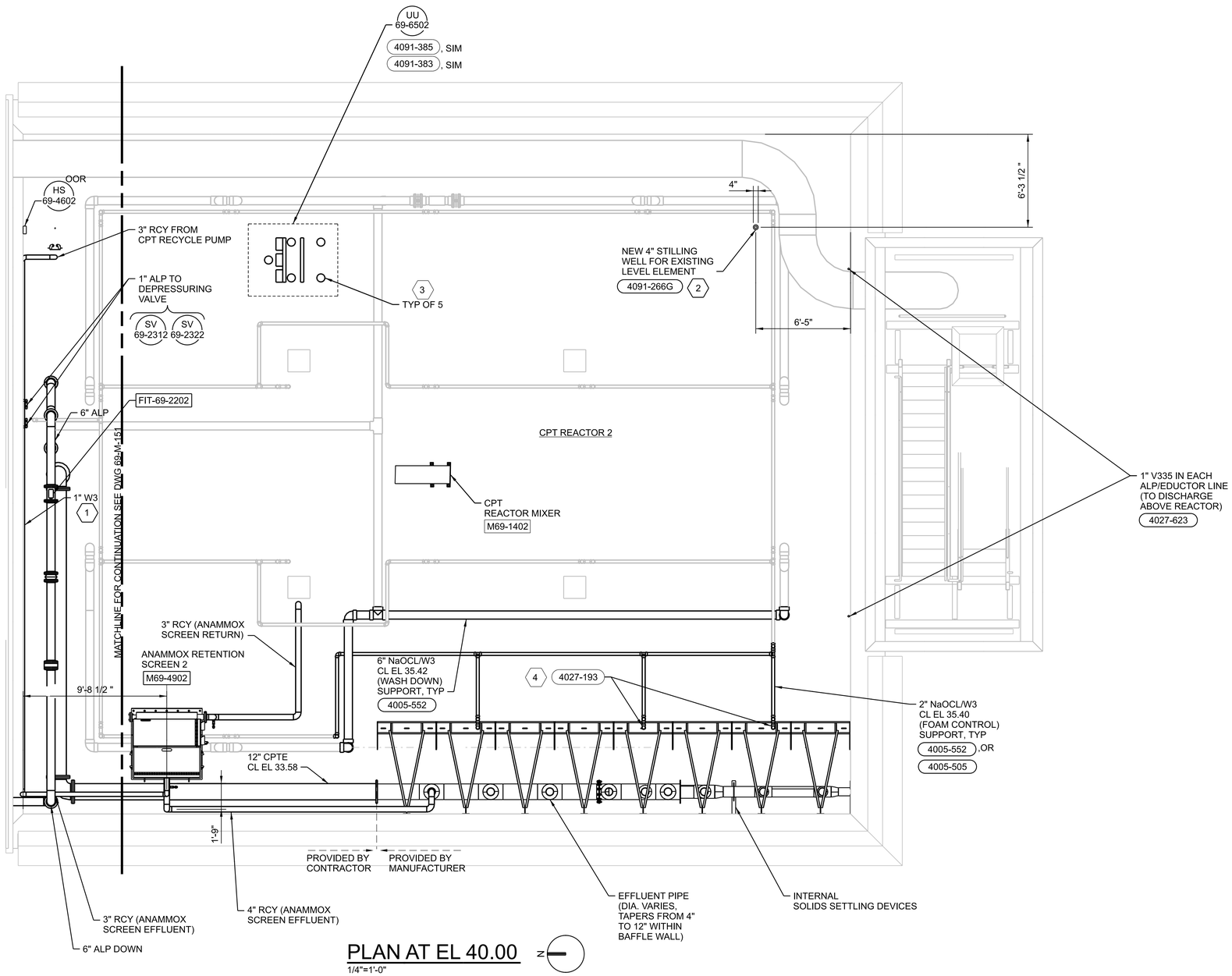
SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-M-151
SHEET NO.	055 OF 97

Bid Set

PLOT TIME: 16:52
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-M-151_E5X79926.dgn

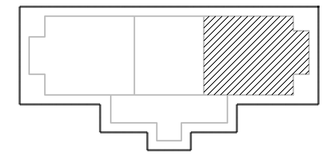
SHEET KEYNOTES

1. INSTALL SOLENOID AND ISOLATION VALVE IN W3 LINE TO THE SPRAY BAR FOR ANAMMOX RETENTION SCREEN INSIDE.
2. CONTRACTOR SHALL RELOCATE EXISTING LEVEL ELEMENT INCLUDING CONDUIT, WIRING, AND CONTROLS.
3. CONTRACTOR SHALL GPR SCAN SLAB TO PROVIDE (5) 6" CPVC SCH 89, MINIMUM 24" ON CENTER, TO FUNCTION AS SLEEVES FOR THE MCSS SENSORS AND CLEANING LINES. SUPPORT SLEEVES WITH MSS TYPE 8 RISER CLAMP.
   SLEEVES SHALL EXTEND A MINIMUM OF 2-FT BELOW HWL INSIDE THE REACTOR; SLEEVES WALLS SHALL BE PROVIDED WITH 2 VERTICAL ROWS OF 1/2" ID PERFORATIONS SPACED AT 1-FT INTERVALS; ROWS SHALL BE DIAMETRICALLY OPPOSED. REMOVE ABANDONED SLEEVES AND REPAIR CONCRETE.
4. ALIGN W3 TO CENTER NOZZLE WITH THE HANDHOLES ON THE CONCRETE DECK ABOVE.



PLAN AT EL 40.00

1/4"=1'-0"



KEY PLAN

NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PARTIAL PLAN AT EL 40.00

PROCESS MECHANICAL

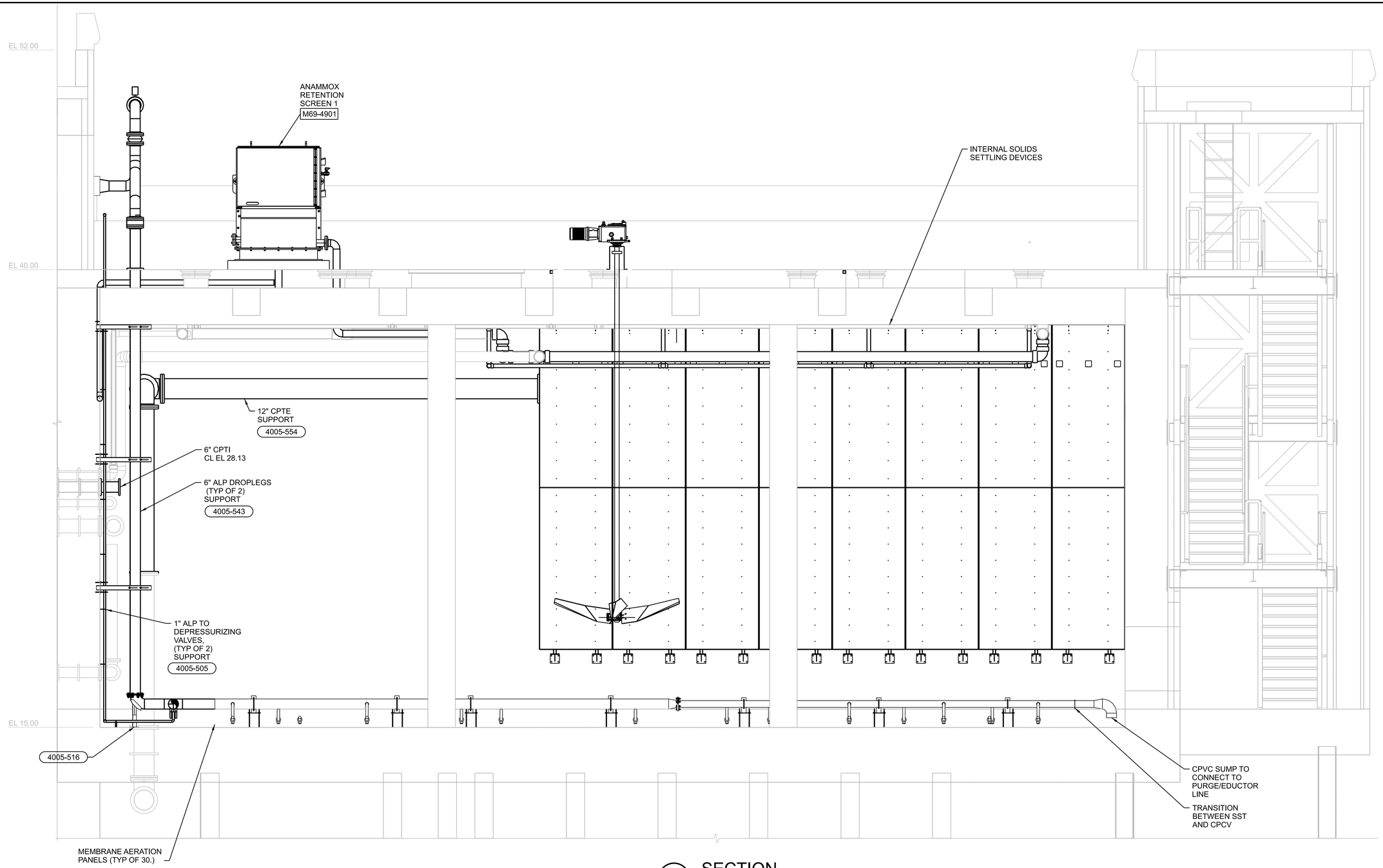
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-M-152
SHEET NO.	056 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 16:52
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-M-152_E5X79926.dgn



A SECTION
3/8"=1'-0"

69-M-141
69-M-151

GENERAL NOTES

1. PIPE SUPPORTS SIMILAR TO OTHER CPT REACTOR.
2. SST ALP PIPE INSIDE CPT REACTORS SHALL BE PROVIDED WITH MANUFACTUTER-FACTORY INSTALLED FLANGED FITTINGS; FIELD WELING OF SST ALP PIPE SHALL NOT BE PERMITTED; THESE FLANGES ARE NOT SHOWN ON THESE DRAWINGS BECAUSE THEY SHALL BE PROVIDED WHERE REQUIRED TO ALLOW INSTALLATION WITHOUT FIELD-WELDING AND AT MAXIMUM 10-FT SPACING.

PLOT TIME: 16:52
PLOT DATE: 16-JAN-2025
FILENAME: 69-M-301_E5X79926.dgn
E5X79926

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
SECTION A

PROCESS MECHANICAL

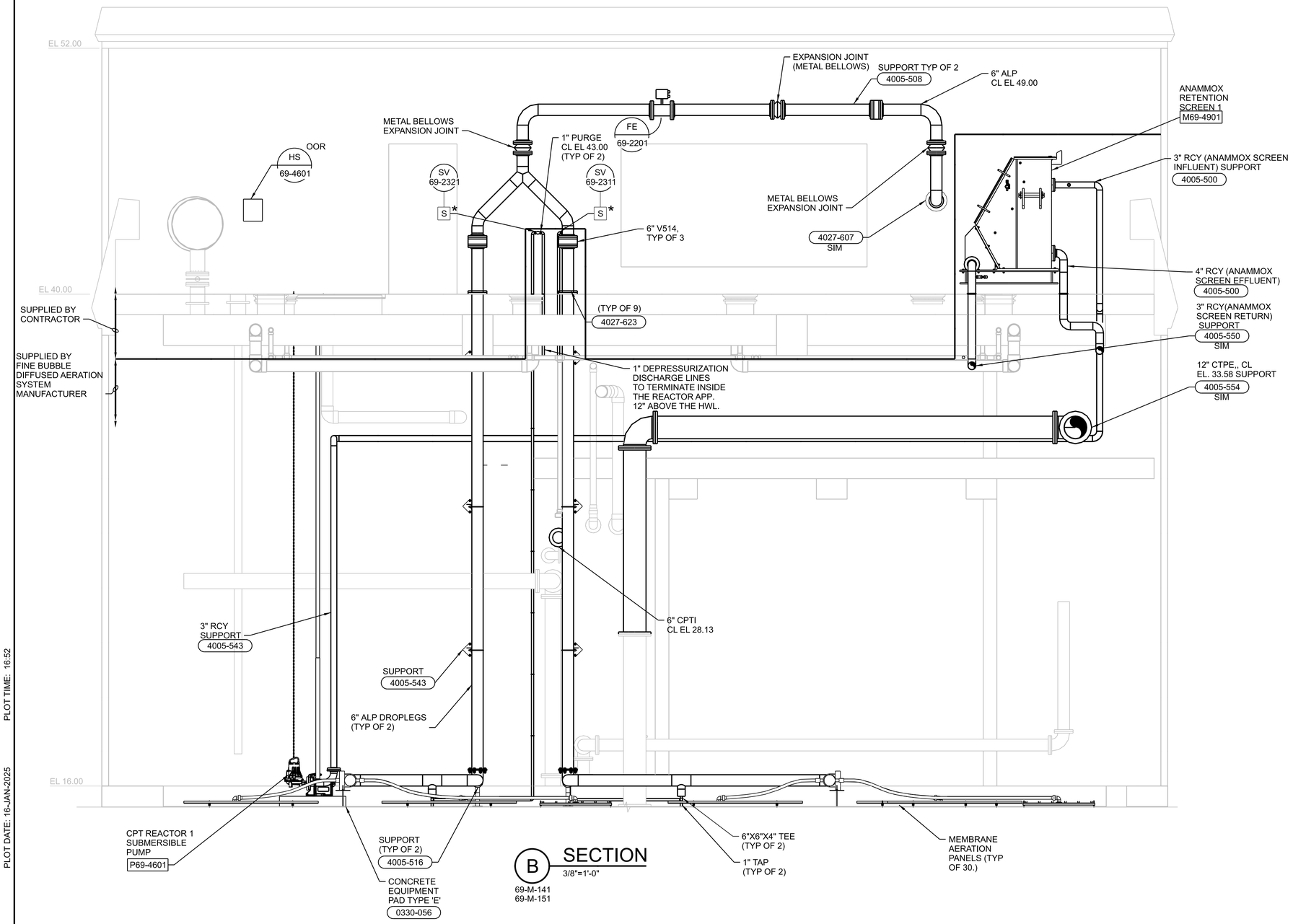
NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/2"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-M-301
SHEET NO.	057 OF 97

Bid Set

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
©JACOBS 2018. ALL RIGHTS RESERVED.



B SECTION
3/8"=1'-0"
69-M-141
69-M-151

GENERAL NOTES

1. PIPE SUPPORTS SIMILAR TO OTHER CPT REACTOR.
2. SST ALP PIPE INSIDE CPT REACTORS SHALL BE PROVIDED WITH MANUFACTUTER-FACTORY INSTALLED FLANGED FITTINGS; FIELD WELING OF SST ALP PIPE SHALL NOT BE PERMITTED; THESE FLANGES ARE NOT SHOWN ON THESE DRAWINGS BECAUSE THEY SHALL BE PROVIDED WHERE REQUIRED TO ALLOW INSTALLATION WITHOUT FIELD-WELDING AND AT MAXIMUM 10-FT SPACING.

SHEET KEYNOTES

1. THE EQUIPMENT FURNISHED BY WORLD WATER WORKS INCLUDES THE ALP PIPING, FINE BUBBLE DIFFUSED AIR AERATION, DROPLEG(S); AIR MANIFOLD(S); DISTRIBUTION HEADERS; DIFFUSERS; SUPPORTS; DRAIN LINE, SUMP AND AIRLIFT PURGE; HEADER JOINTS AND DEPRESSURIZATION LINE AND VALVES.

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM
Jacobs

SEAL

©JACOBS 2018. ALL RIGHTS RESERVED.

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
SECTION B

PROCESS MECHANICAL

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

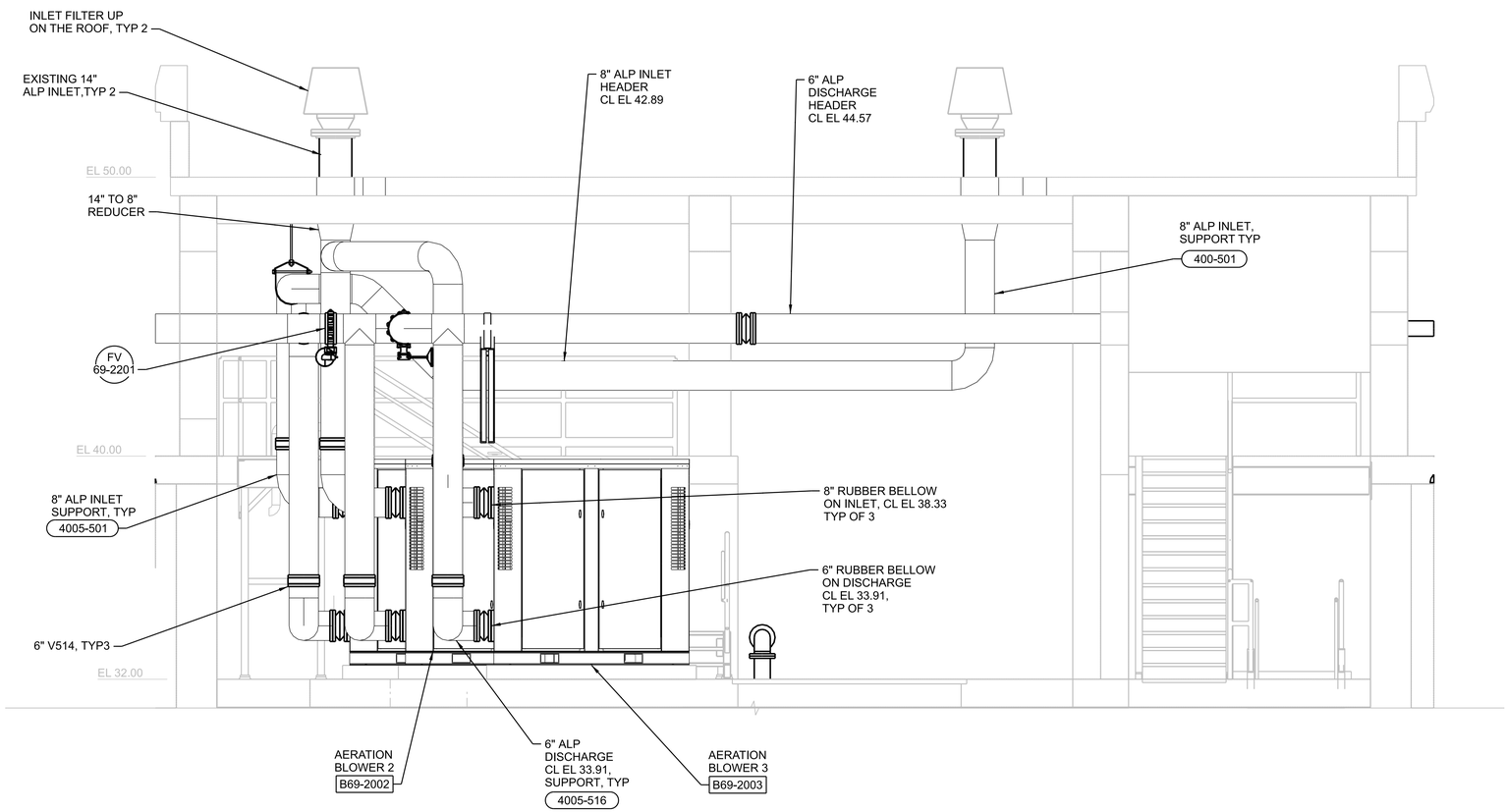
NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	3/8"=1'-0"
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-M-302
SHEET NO.	058 OF 97

Bid Set

PLOT TIME: 16:52
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-M-302_E5X79926.dgn



C SECTION
3/8"=1'-0"
69-M-151

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
SECTION C

PROCESS MECHANICAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

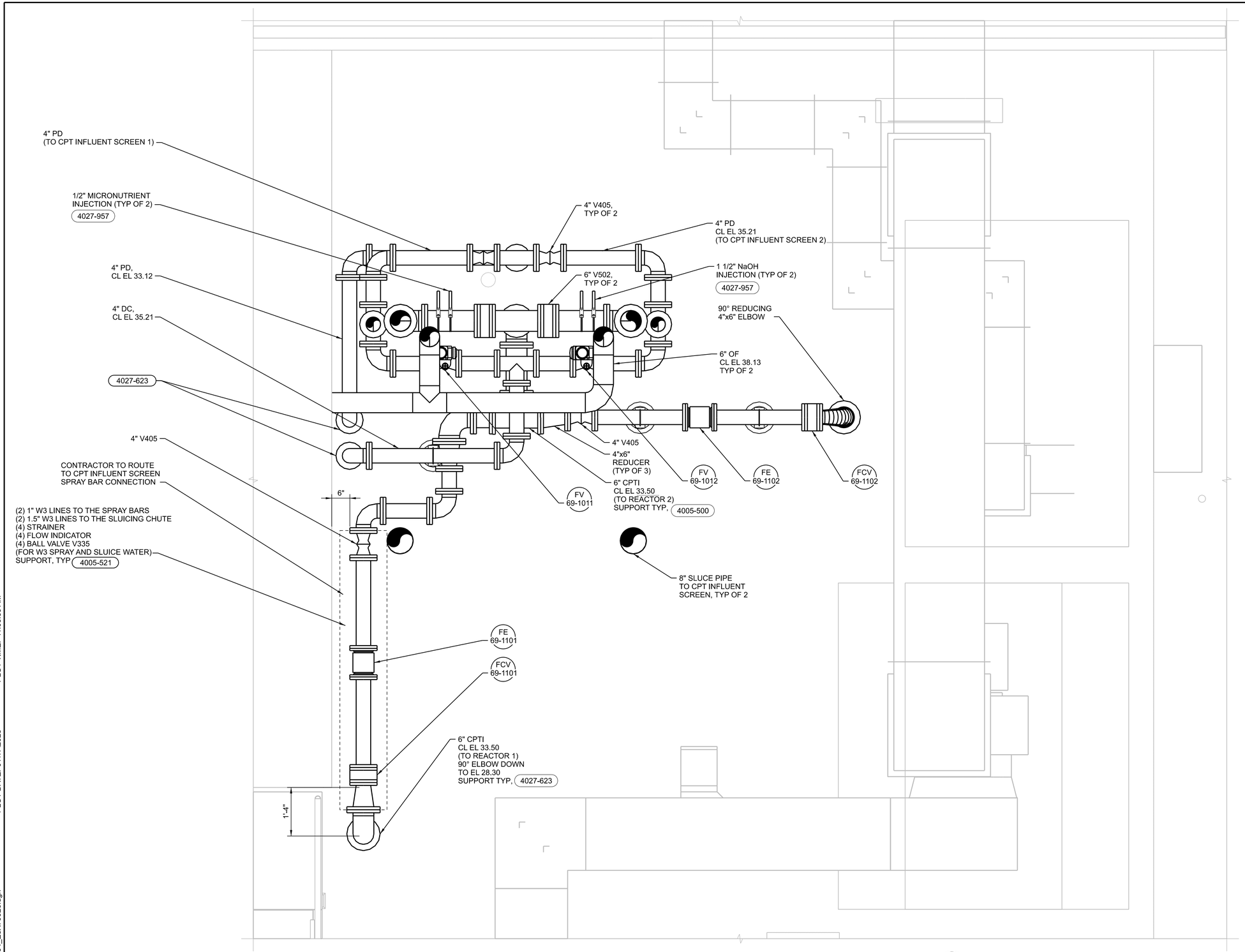
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	3/8"=1'-0"
DATE:	JANUARY 2025
DRAWN BY:	M. URIGUEN
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	S. SEYEDI
CONTRACT NO.:	25-007
DWG NO.	69-M-303
SHEET NO.	059 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

E5X79926
FILENAME: 69-M-303_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:53



1 PARTIAL PLAN UNDER MEZZANINE

3/4"=1'-0"

69-M-151

N

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PARTIAL PLAN UNDER MEZZANINE

PROCESS MECHANICAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

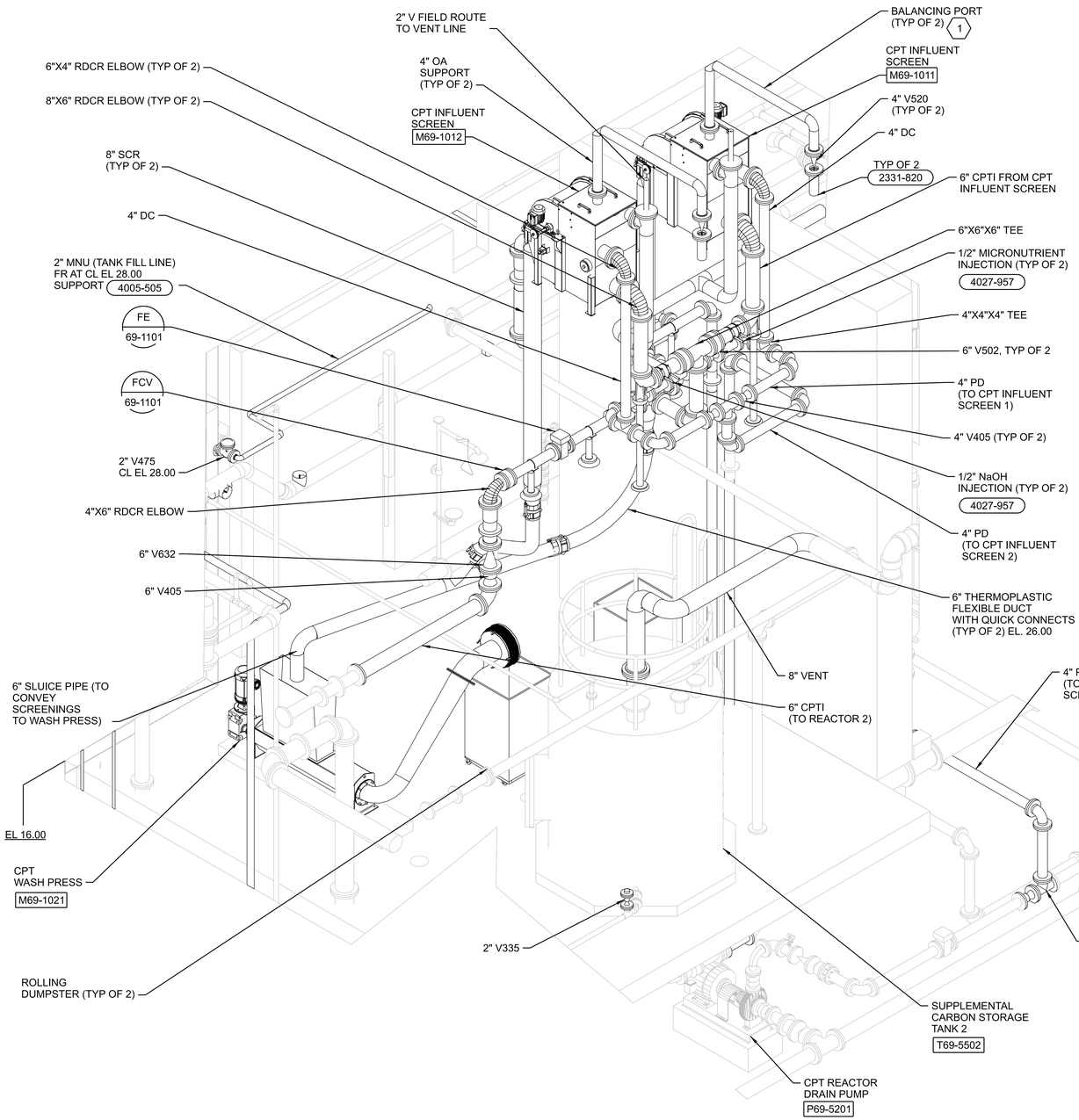
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1"=1'-0"
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-M-304
SHEET NO.	060 OF 97

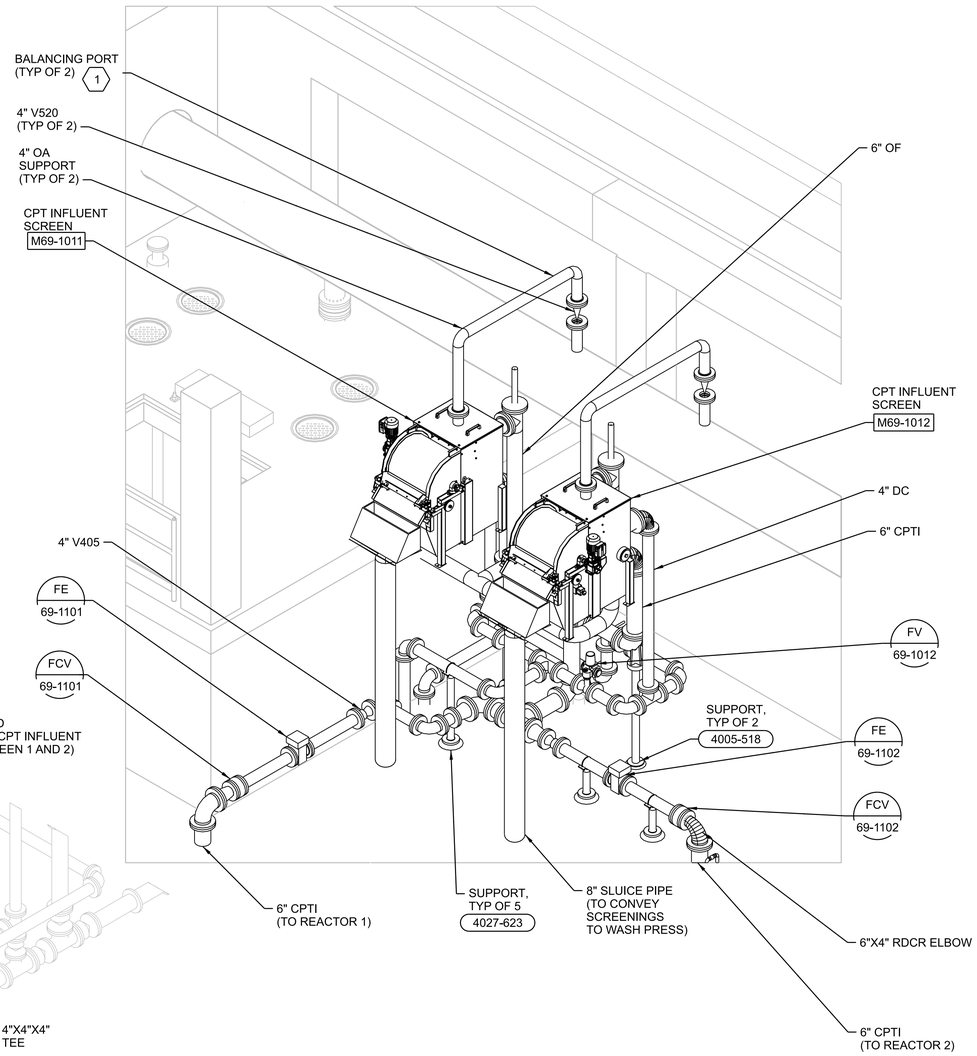
Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 11:03:59 AM
PLOT DATE: 01\17\2025
FILENAME: 69-M-304_E5X79926.dgn
E5X79926



RIGHT ISOMETRIC VIEW
NTS



LEFT ISOMETRIC VIEW
NTS

GENERAL NOTES

1. FOR CLARITY, NOT ALL STRUCTURAL ELEMENTS, CONTROL PANELS, PIPING AND ACCESSORIES ARE NOT SHOWN IN THIS ISOMETRIC.

SHEET KEYNOTES

1. LOCATE 1/4" TO 1/2" HOLE IN A STRAIGHT RUN OF 4" OA PIPE DUCT, MIN 1' OF STRAIGHT RUN PRIOR TO HOLE, ADD A RUBBER PLUG TO SEAL THE HOLE WHEN NOT IN USE.

PLOT TIME: 16:51
PLOT DATE: 16-JAN-2025
FILENAME: 69-M-305_E5X79926.dgn
E5X79926

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM
Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
ISOMETRIC VIEW

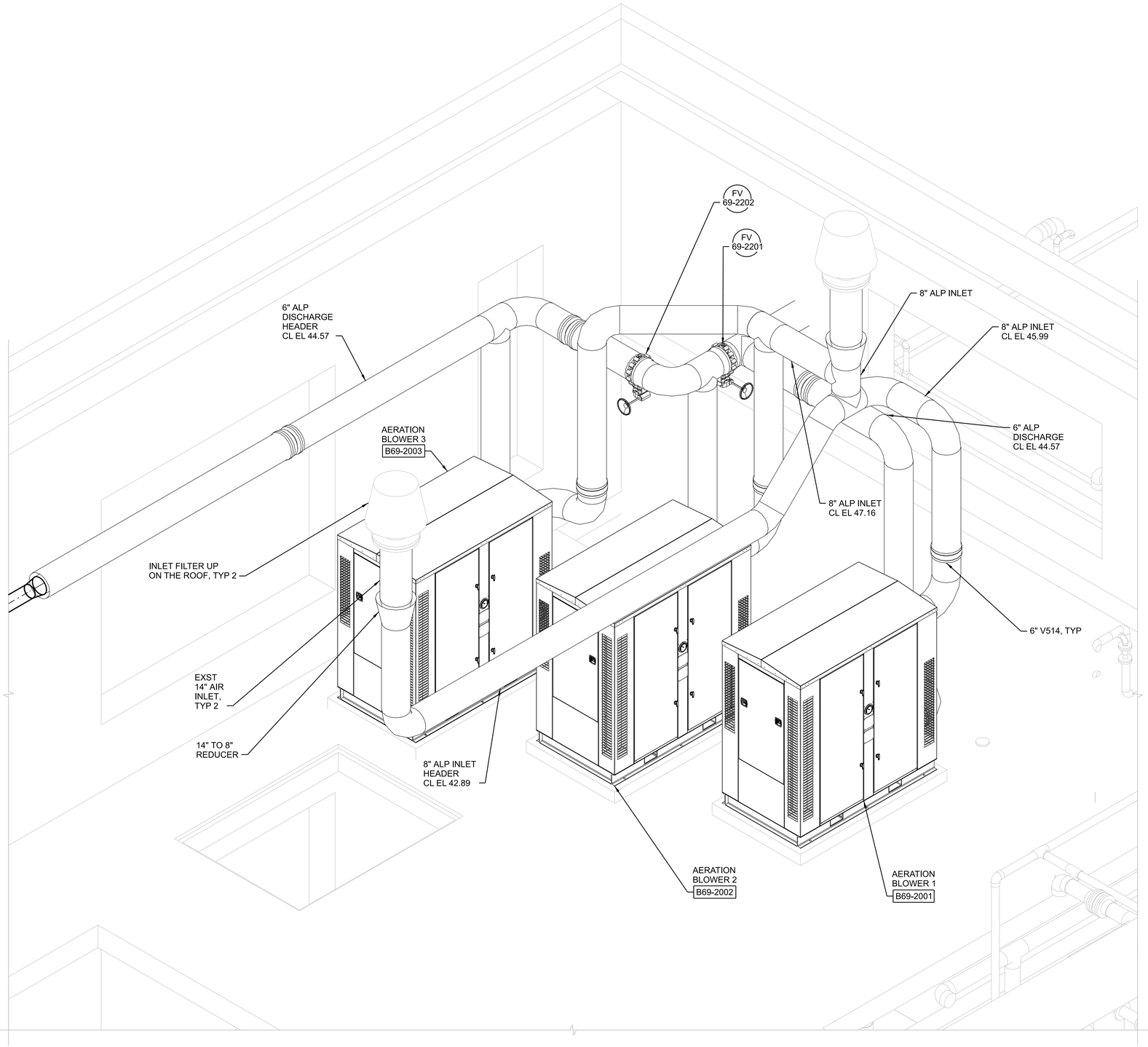
PROCESS MECHANICAL

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
© JACOBS 2018. ALL RIGHTS RESERVED.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. GHASEMY
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-M-305
SHEET NO.	061OF 97

Bid Set



ISOMETRIC VIEW

NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
ISOMETRIC VIEW

PROCESS MECHANICAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	M. URIGUEN
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	S. SEYEDI
CONTRACT NO.:	25-007
DWG NO.	69-M-306
SHEET NO.	062 OF 97

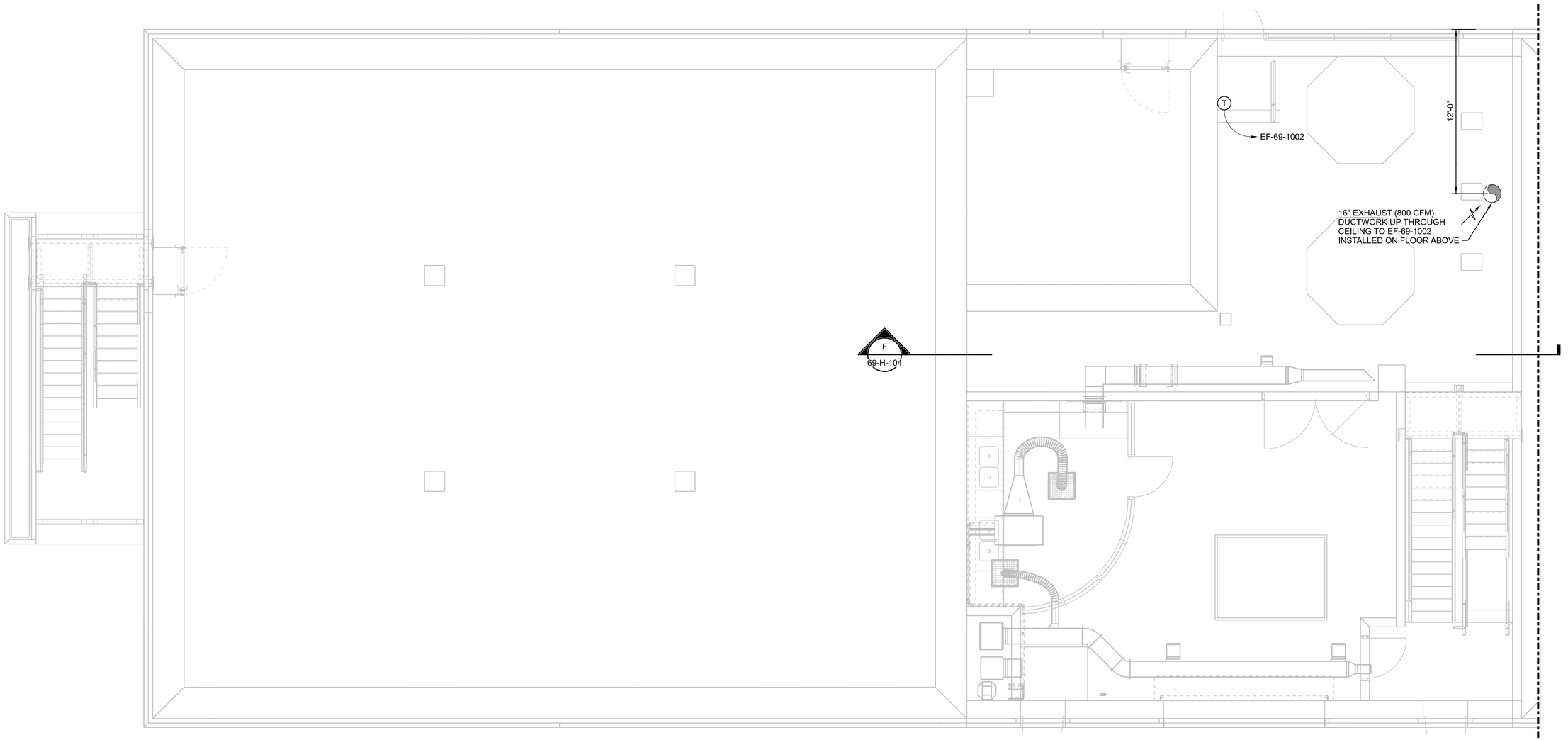
Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

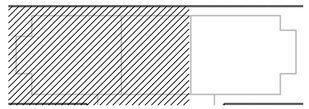
E5X79926
FILENAME: 69-M-306_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:53

GENERAL NOTES:

1. THE NEW EXHAUST DUCTWORK SHALL EXTEND AT LEAST 2 FEET BELOW SLAB COMPLETE WITH ALUMINUM WIREMESH.
2. PROVIDE NEW WALL MOUNTED THERMOSTAT IN LOCATION SHOWN.



PLAN AT EL 16.00
1/4"=1'-0"



KEY PLAN
NTS

ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PARTIAL PLAN AT EL 16.00

HVAC

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	D. CAVE
CHECKED BY:	M. LUDWIG
SUBMITTED BY:	F. HENRY
CONTRACT NO.:	25-007
DWG NO.	69-H-141
SHEET NO.	063 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

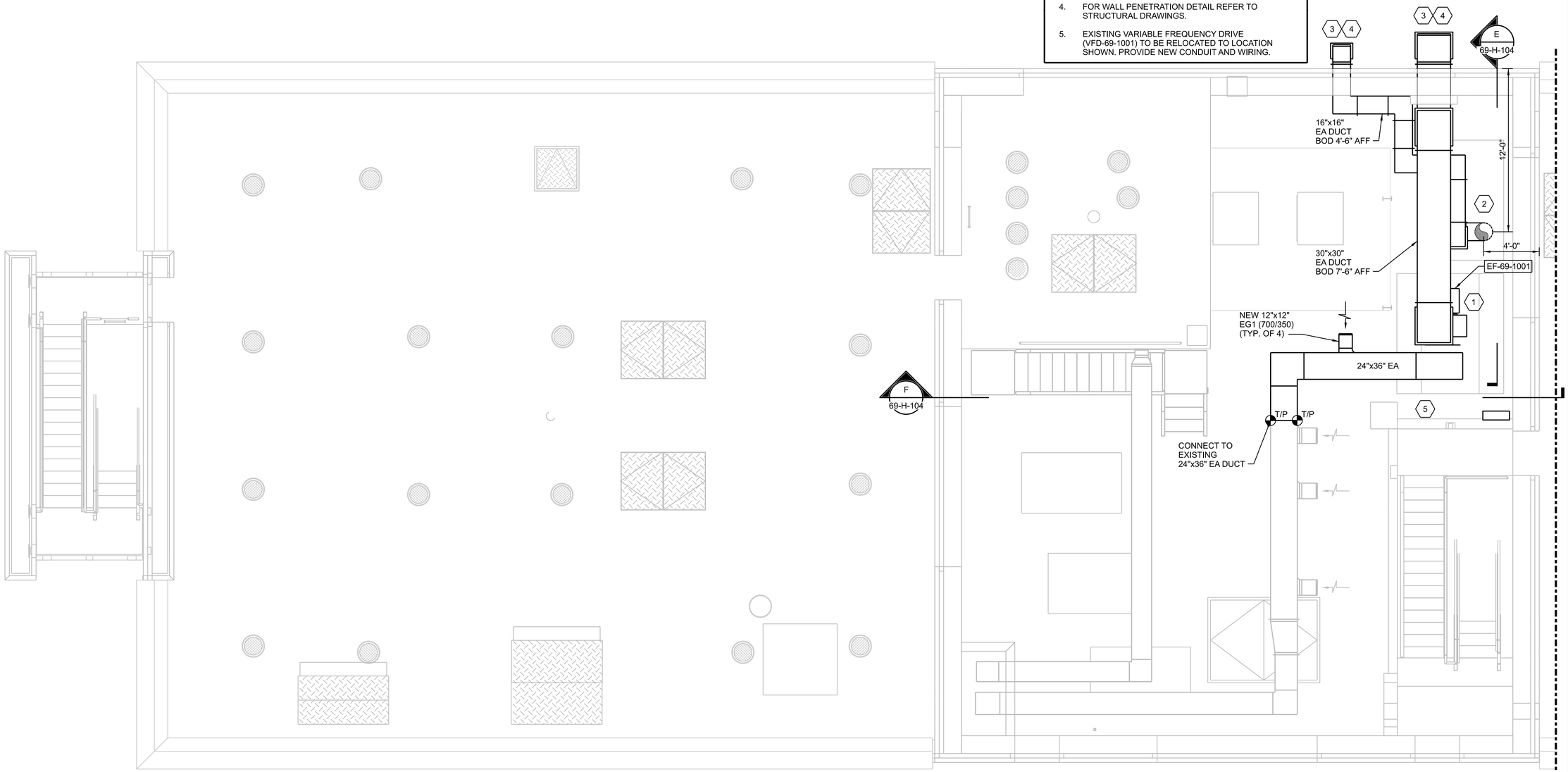
E5X79926
FILENAME: 69-H-141_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:50

SHEET KEYNOTES

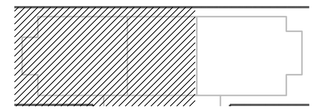
1. RELOCATE EXISTING EXHAUST FAN (EF-69-1001) COMPLETE WITH VIBRATION ISOLATORS AND ELECTRICAL CONDUIT AND ACCESSORIES. RECONNECT TO EXISTING VFD.
2. INSTALL NEW EXHAUST FAN (EF-69-1002) COMPLETE WITH FAN SUPPORTS, VIBRATION ISOLATORS, FLEXIBLE DUCT CONNECTIONS AND ASSOCIATED ACCESSORIES. INSTALL FAN ON EXISTING HOUSEKEEPING PAD.
3. PROVIDE AND INSTALL DUCTWORK THROUGH WALL AND TERMINATE AT EXTERIOR COMPLETE WITH BIRDSCREEN AND BACKDRAFT DAMPER, REFER TO DETAIL 2333-402
4. FOR WALL PENETRATION DETAIL REFER TO STRUCTURAL DRAWINGS.
5. EXISTING VARIABLE FREQUENCY DRIVE (VFD-69-1001) TO BE RELOCATED TO LOCATION SHOWN. PROVIDE NEW CONDUIT AND WIRING.

GENERAL NOTES

1. PROVIDE MANUAL BALANCING DAMPER AT EACH AIR INLET AND OUTLET DEVICES. BALANCE AIRFLOWS AT ALL AIR OUTLETS AND INLETS (INCLUDING EXISTING OUTLETS AND INLETS) AS PER AIRFLOW DIAGRAM AND SCHEMATICS ON DRAWING 69-H-501.



PLAN AT EL 32.00
1/4"=1'-0"



KEY PLAN
NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PARTIAL PLAN AT EL 32.00

HVAC

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

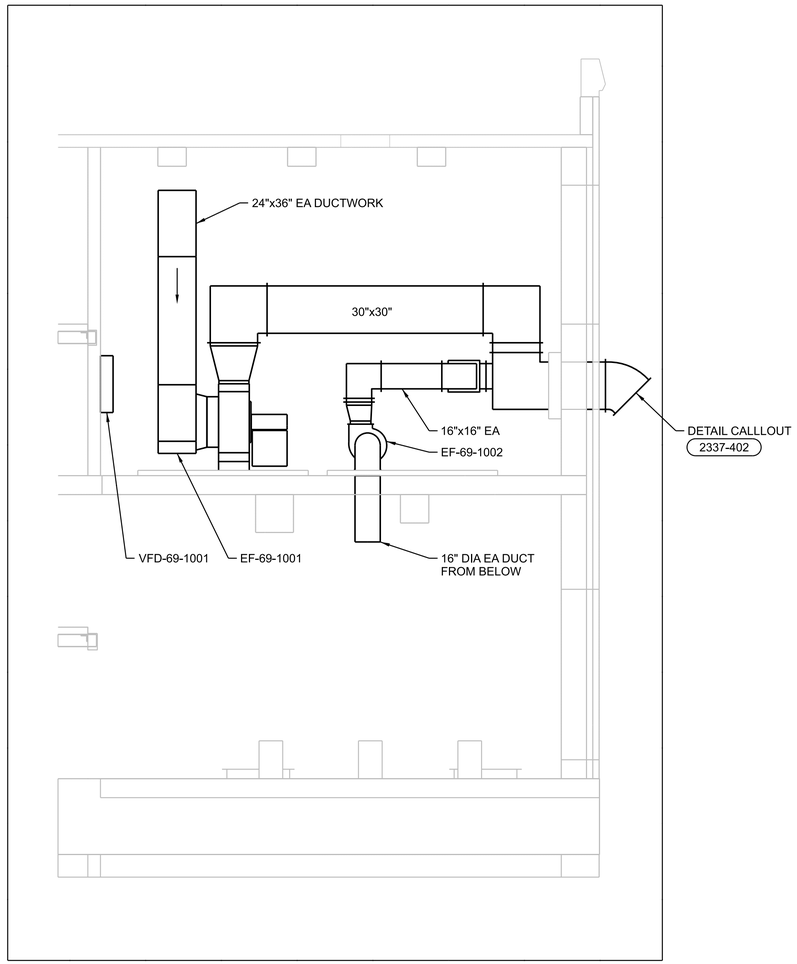
© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

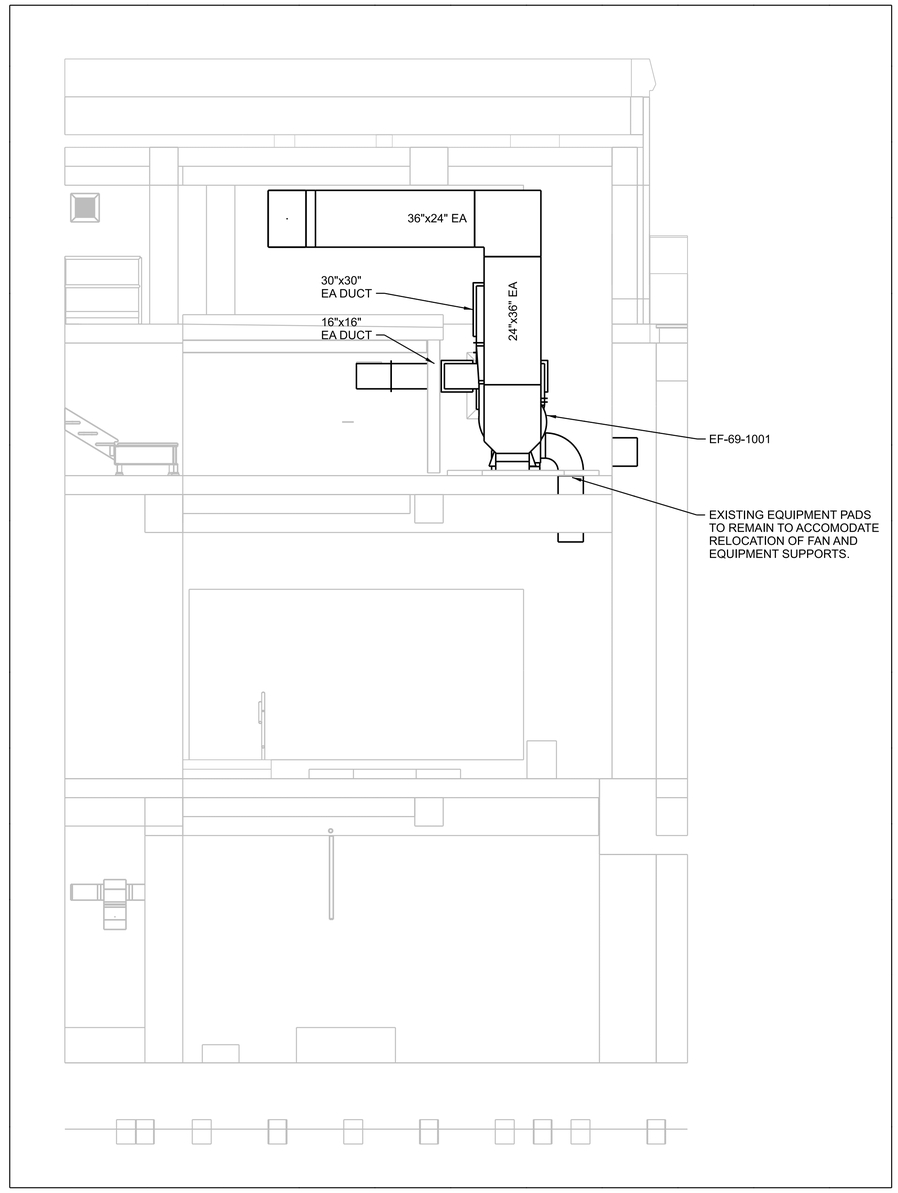
SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	D. CAVE
CHECKED BY:	M. LUDWIG
SUBMITTED BY:	F. HENRY
CONTRACT NO.:	25-007
DWG NO.	69-H-151
SHEET NO.	064 OF 97

Bid Set

E5X79926
FILENAME: 69-H-151_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:51



E SECTION
1/4"=1'-0"
69-H-101
69-H-102



F SECTION
1/4"=1'-0"
69-H-101
69-H-102

E5X79926
FILENAME: 69-H-301_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:51

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
SECTIONS

HVAC

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

© JACOBS 2018. ALL RIGHTS RESERVED.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

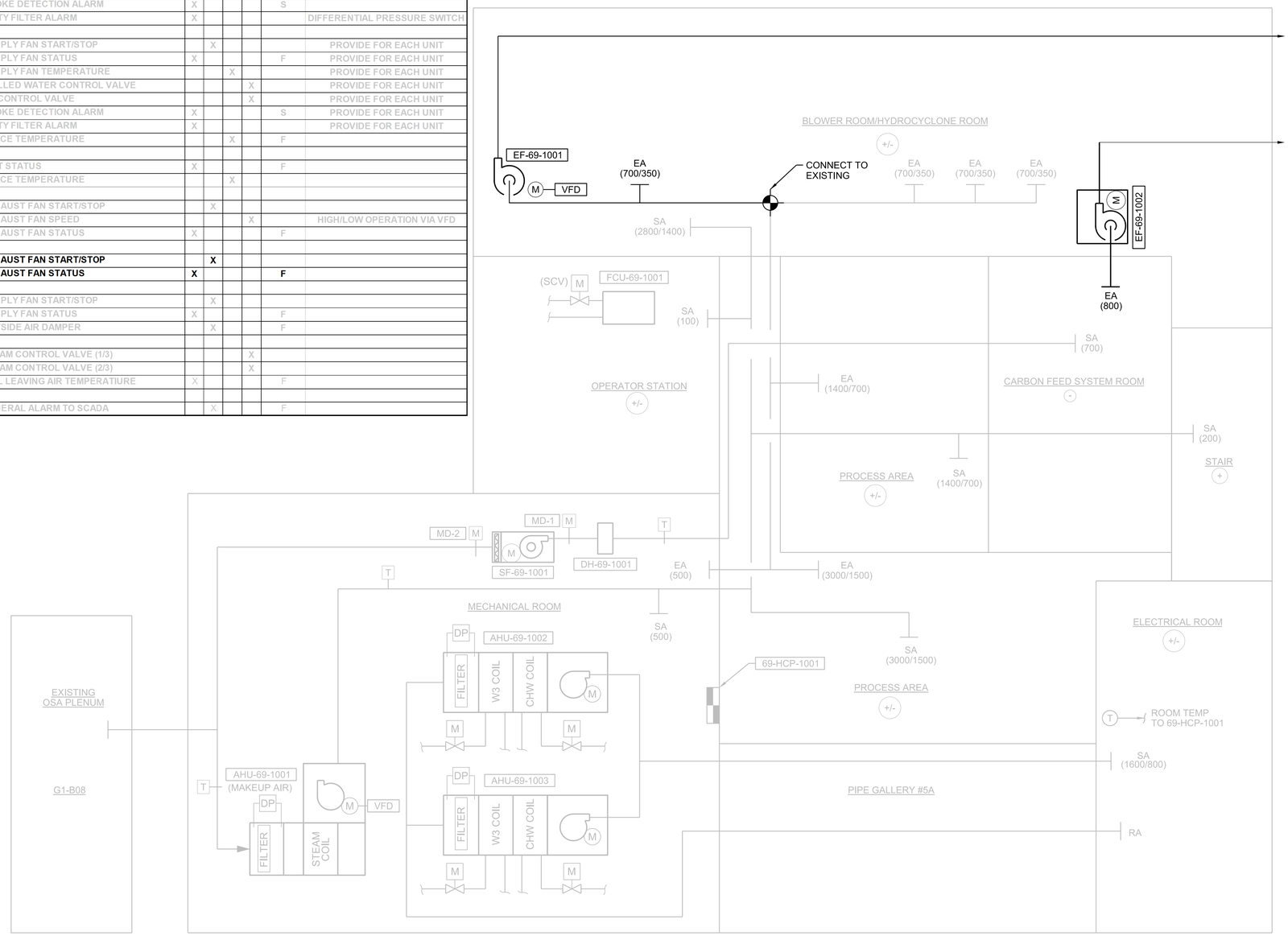
SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	D. CAVE
CHECKED BY:	M. LUDWIG
SUBMITTED BY:	F. HENRY
CONTRACT NO.:	25-007
DWG NO.	69-H-301
SHEET NO.	065 OF 97

Bid Set

PROVIDE THE FOLLOWING CONTROL POINTS AT A MINIMUM. PROVIDE ADDITIONAL POINTS AS REQUIRED TO ACCOMPLISH THE SPECIFIED SEQUENCE OF OPERATION.

CONTROL POINTS LIST FOR HCP-69-001

EQUIPMENT	SYSTEM, APPARA TUS, OR AREA POINT	POINTS TYPE				ALARM	COMMENTS
		DI	DO	AI	AO		
AHU-69-1001	SUPPLY FAN START/STOP		X				
AHU-69-1001	SUPPLY FAN SPEED				X		HIGH/LOW OPERATION VIA VFD
AHU-69-1001	SUPPLY FAN STATUS	X				F	
AHU-69-1001	STEAM CONTROL VALVE (1/3)				X		
AHU-69-1001	STEAM CONTROL VALVE (2/3)				X		
AHU-69-1001	LEAVING AIR TEMPERATURE			X			
AHU-69-1001	OUTSIDE/ENTERING AIR TEMPERATURE			X			
AHU-69-1001	SMOKE DETECTION ALARM	X				S	
AHU-69-1001	DIRTY FILTER ALARM	X					DIFFERENTIAL PRESSURE SWITCH
AHU-69-1002, 1003	SUPPLY FAN START/STOP		X				PROVIDE FOR EACH UNIT
AHU-69-1002, 1003	SUPPLY FAN STATUS	X				F	PROVIDE FOR EACH UNIT
AHU-69-1002, 1003	SUPPLY FAN TEMPERATURE			X			PROVIDE FOR EACH UNIT
AHU-69-1002, 1003	CHILLED WATER CONTROL VALVE				X		PROVIDE FOR EACH UNIT
AHU-69-1002, 1003	W3 CONTROL VALVE				X		PROVIDE FOR EACH UNIT
AHU-69-1002, 1003	SMOKE DETECTION ALARM	X				S	PROVIDE FOR EACH UNIT
AHU-69-1002, 1003	DIRTY FILTER ALARM	X					PROVIDE FOR EACH UNIT
AHU-69-1002, 1003	SPACE TEMPERATURE			X		F	
FCU-69-1001	UNIT STATUS	X				F	
FCU-69-1001	SPACE TEMPERATURE			X			
EF-69-1001	EXHAUST FAN START/STOP		X				
EF-69-1001	EXHAUST FAN SPEED				X		HIGH/LOW OPERATION VIA VFD
EF-69-1001	EXHAUST FAN STATUS	X				F	
EF-69-1002	**EXHAUST FAN START/STOP**		**X**				
EF-69-1002	**EXHAUST FAN STATUS**	**X**				**F**	
SF-69-1001	SUPPLY FAN START/STOP		X				
SF-69-1001	SUPPLY FAN STATUS	X				F	
SF-69-1001	OUTSIDE AIR DAMPER		X			F	
DH-69-1001	STEAM CONTROL VALVE (1/3)				X		
DH-69-1001	STEAM CONTROL VALVE (2/3)				X		
DH-69-1001	COIL LEAVING AIR TEMPERATURE	X				F	
HCP-69-1001	GENERAL ALARM TO SCADA		X			F	



AIRFLOW DIAGRAM
NTS

SEQUENCE OF OPERATION

CPT FACILITY
MAKEUP AIR UNIT WITH STEAM HEAT (AHU-69-1001) AND EXHAUST FAN (EF-69-1001)

GENERAL:
THIS SEQUENCE DESCRIBES THE OPERATION OF MAKE-UP AIR UNIT AHU-69-1001 WITH STEAM HEAT AND ASSOCIATED EXHAUST FAN EF-69-1001. THE SYSTEM HAS A TWO SPEED OPERATION AND IS SPEED CONTROLLED VIA VFDS. THE SYSTEM PROVIDES CONTINUOUS VENTILATION AND HEATING TO THE CPT FACILITY.
SYSTEM CONTROL SHALL BE VIA DDC HVAC CONTROL PANEL 69-HCP-1001 LOCATED IN THE MECHANICAL ROOM.

SYSTEM OPERATION:
AHU-69-1001 SUPPLY FAN AND EF-69-1001 SHALL ENERGIZE AND RUN CONTINUOUSLY AT HIGH SPEED. IF THE OUTSIDE AIR TEMPERATURE FALLS BELOW 50 DEGREES F AS SENSED BY THE AHU-69-1001 ENTERING AIR TEMPERATURE SENSOR, AHU-69-1001 AND EF-69-1001 WILL REDUCE TO LOW SPEED.
TEMPERATURE CONTROL IS AS DESCRIBED BELOW.

TEMPERATURE CONTROL (HEATING):
AHU-69-1001 AND EF-69-1001 SHALL OPERATE AT LOW SPEED. UPON A CALL FOR HEATING FROM THE AHU-69-1001 LEAVING AIR TEMPERATURE SENSOR, THE STEAM HEAT CONTROL VALVE SHALL MODULATE TO MAINTAIN THE LAT SET POINT OF 60 DEGREES F (ADJ).

ELECTRICAL ROOM
AIR HANDLING UNIT WITH CHILLED WATER AND W3 COOLING COILS (AHU-69-1002 AND AHU-69-1003)

GENERAL:
THIS SEQUENCE DESCRIBES THE OPERATION OF AIR HANDLING UNITS AHU-69-1002 AND AHU-69-1003 WITH CHILLED WATER COOLING COILS. THE UNITS ALSO HAVE A W3 COIL FOR COOLING OPERATION IN WINTER MONTHS, THERE IS NO HEAT PROVIDED. THE SYSTEM PROVIDES COOLING FOR THE ELECTRICAL ROOM.
DURING SUMMER MONTHS WHEN THE PLANT CHILLED WATER SYSTEM IS OPERATING, THE UNITS SHALL USE THE CHILLED WATER COIL FOR COOLING. WHEN THE PLANT CHILLED WATER IS SHUT DOWN, THE W3 COILS SHALL BE USED FOR COOLING OPERATION. TEMPERATURE CONTROL IS AS DESCRIBED BELOW.
SYSTEM CONTROL SHALL BE VIA DDC HVAC CONTROL PANEL 69-HCP-1001 LOCATED IN THE MECHANICAL ROOM.

TEMPERATURE CONTROL (COOLING):
UPON A CALL FOR COOLING FROM THE SPACE TEMPERATE SENSOR, AHU-69-1002 AND 1003 UNIT SUPPLY FANS SHALL ENERGIZE AND RUN CONTINUOUSLY. THE CHILLED WATER CONTROL VALVES SHALL MODULATE TO MAINTAIN THE SPACE COOLING TEMPERATURE SET POINT.

WHEN CHILLED WATER IS NOT AVAILABLE, THE CHILLED WATER CONTROL VALVE SHALL BE CLOSED AND THE W3 CONTROL VALVES SHALL MODULATE TO MAINTAIN THE SPACE TEMPERATURE SET POINT.
SPACE TEMPERATURE SET POINT IS 85 DEGREES F (ADJ).

LEAD/LAG OPERATION
69-HCP-1001 SHALL PROVIDE LEAD/LAG SEQUENCING OF AHU-69-1002 AND AHU-69-1003 ON SEVEN DAY INTERVALS. UPON FAILURE OF THE "LEAD"UNIT, THE OTHER AHU WILL TAKE OVER AS "LEAD"UNIT AND A GENERAL UNIT FAILURE ALARM WILL BE PROVIDED TO THE PLANT HVAC CONTROL SYSTEM.

CARBON FEED SYSTEM ROOM
SUPPLY FAN AND STEAM DUCT HEATER (SF-69-1001 AND DH-69-1001) AND EXHAUST FAN (EF-69-1002)

GENERAL:
THIS SEQUENCE DESCRIBES THE OPERATION OF SUPPLY FAN SF-69-1001 WITH STEAM DUCT HEATER DH-69-1001AND EXHAUST FAN EF-69-1002. THE SYSTEM IS CONSTANT SPEED AND PROVIDES CONTINUOUS VENTILATION AND HEATING FOR THE CARBON FEED ROOM.
SYSTEM CONTROL SHALL BE VIA DDC HVAC CONTROL PANEL 69-HCP-1001 LOCATED IN THE MECHANICAL ROOM.

TEMPERATURE CONTROL (HEATING):
SF-69-1001 AND EF-69-1002 SHALL OPERATE CONTINUOUSLY. UPON A CALL FOR HEATING FROM THE SPACE TEMPERATURE SENSOR, THE STEAM HEAT CONTROL VALVE (DH-69-1001) SHALL MODULATE TO MAINTAIN THE HEATING SPACE TEMPERATURE SET POINT OF 60 DEGREES F (ADJ).

OPERATOR STATION
FAN COIL UNIT WITH CHILLED WATER COOLING AND ELECTRIC HEAT (FCU-69-1001)

GENERAL:
THIS SEQUENCE DESCRIBES THE OPERATION OF FAN COIL UNIT FCU-69-1001. THE SYSTEM PROVIDES COMFORT COOLING AND HEATING FOR THE OPERATOR STATION.
SYSTEM CONTROL SHALL BE VIA WALL MOUNTED THERMOSTAT. SYSTEM MONITORING WILL BE THROUGH DDC HVAC CONTROL PANEL 69-HCP-1001 LOCATED IN THE MECHANICAL ROOM.

TEMPERATURE CONTROL (COOLING):
UPON A CALL FOR COOLING FROM THE SPACE TEMPERATE SENSOR, FCU-69-1001 SHALL ENERGIZE AND THE CHILLED WATER CONTROL VALVE SHALL MODULATE TO MAINTAIN THE SPACE COOLING TEMPERATURE SET POINT OF 75 DEGREES F (ADJ).

TEMPERATURE CONTROL (HEATING):
UPON A CALL FOR HEATING FROM THE SPACE TEMPERATE SENSOR, FCU-69-1001 AND THE ELECTRIC HEAT SHALL ENERGIZE TO MAINTAIN THE SPACE HEATING TEMPERATURE SET POINT OF 70 DEGREES F (ADJ). THE CHILLED WATER VALVE SHALL BE FULLY CLOSED IN HEATING MODE.

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
AIRFLOW DIAGRAMS, CONTROL POINTS LIST
AND SEQUENCE OF OPERATION

MECHANICAL

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	D. CAVE
CHECKED BY:	M. LUDWIG
SUBMITTED BY:	F. HENRY
CONTRACT NO.:	25-007
DWG NO.	69-H-501
SHEET NO.	066 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 9:50:57 PM
PLOT DATE: 01\16\2025
FILENAME: E5X79926

FANS

23 34 00.01

TAG	SERVICE	TYPE	FAN DATA							SOUND DATA								ELECTRICAL DATA						MAXIMUM DIMENSIONS				MANUFACTURER	MODEL NO.	APPLICABLE REMARKS
			AIRFLOW			SPEED	DRIVE	WHEEL	MAXIMUM	MAX. FAN SOUND POWER LEVEL dB (RE 10^{-12} W) @ MID OCTAVE BAND FREQUENCY (Hz)								MOTOR			NEMA CLASS	VOLT	PH	PHYSICAL SIZE INCHES			WEIGHT LBS.			
			MAXIMUM CFM	@ SP IN. WG.	MINIMUM CFM	RPM	TYPE	TYPE	BHP	63	125	250	500	1K	2K	4K	8K	HP	RPM	ENCLOSURE				L	W	H				
EF-69-1002	CARBON FEED SYSTEM ROOM	CABINET FAN, CENTRIFUGAL	800	0.5	-	1468	BELT	BI	0.17	89	93	78	72	65	63	58	47	1/4	1725	TEFC	TEFC	120	1	31	24	29	131	GREENHECK	USF-08-B7	A THRU F

REMARKS:

A: SWITCH - NEMA-4XF HEAVY DUTY, SHIP SEPARATE, FIELD MOUNTED
B: GRAVITY OPERATED DAMPER
C: PREMIUM EFFICIENT MOTOR EXCEEDS EPACT AND NEMA 1210
D: MOTOR W/ THERMAL OVERLOADS
E: ALUMINUM BIRDSCREEN
F: PROVIDE WITH FAN SPEED CONTROLLER

ABBREVIATIONS:

FC: FORWARD CURVED
BI: BACKWARD INCLINED
AF: AIR FOIL
PROP: PROPELLER
MIXED MIXED FLOW
EXP: EXPLOSION PROOF

AIR OUTLET AND INLETS

23 37 00.1

TAG	TYPE	DIMENSIONAL DATA						AIR DISTRIBUTION PATTERN	CONSTRUCTION		PERFORMANCE				ACCESSORIES		MANUFACTURER		APPLICABLE REMARKS
		FACE			NECK				MATERIAL	FINISH	NOISE	AIRFLOW MAX THROW @	MAX TOTAL PRESSURE		DAMPER	PLENUM	MAKE	MODEL	
		W	L	DIA	W	L	DIA												
		INCH	INCH	INCH	INCH	INCH	INCH				NC	CFM	FT	IN WG					
EG-1	PREMIUM LOUVER EXHAUST GRILLE	SEE NOTE A						FIXED LOUVER	ALUM	ALUM	NOTE B				YES	NOTE A	TITUS	350	A,B

REMARKS:
A: REFER TO DRAWINGS FOR DIMENSIONS
B: REFER TO SPECIFICATION FOR ADDITIONAL REQUIREMENTS

DUCTWORK

23 31 13

SYSTEM	SERVICE	SECTION	SMACNA DUCT CONSTRUCTION CRITERIA			SMACNA LEAKAGE TESTING CRITERIA				APPLICABLE REMARKS
			PRESSURE CLASS (IN W.G.)	MATERIALS OF CONSTRUCTION	SEAL CLASS	QUANTITY TO TEST PERCENT	TEST PRESSURE IN W.G	LEAKAGE CLASS (CL)	LEAKAGE FACTOR (F) CFM /100 SF	
69-EF-1001 EXHUAST FAN	EXHAUST AIR	FROM EXHAUST INLET TO FAN	2	ALUMINUM	A	100	2	3	5	A
	EXHAUST AIR	FROM FAN TO OUTLET	-2	ALUMINUM	A	100	2	3	5	A
69-EF-1002 EXHUAST FAN	EXHAUST AIR	FROM EXHAUST INLET TO FAN	2	ALUMINUM	A	100	2	3	5	A
	EXHAUST AIR	FROM FAN TO OUTLET	-2	ALUMINUM	A	100	2	3	5	A

REMARKS:
A. REFER TO SPECIFICATIONS SECTION 23 31 13 FOR DETAILS.

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
EQUIPMENT SCHEDULES

HVAC

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	D. CAVE
CHECKED BY:	M. LUDWIG
SUBMITTED BY:	F. HENRY
CONTRACT NO.:	25-007
DWG NO.	69-H-601
SHEET NO.	067 OF 97

Bid Set

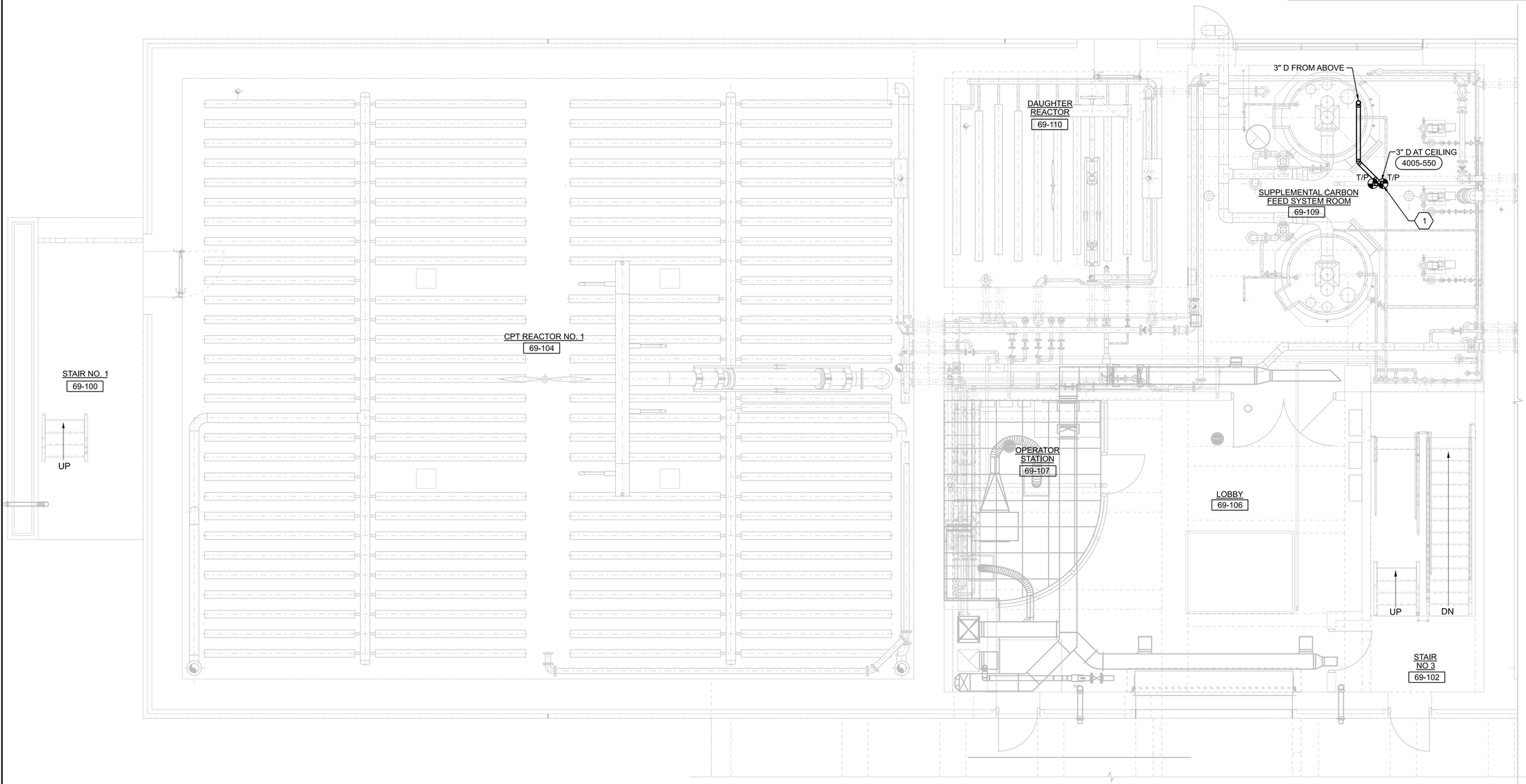
E5X79926
FILENAME: 69-H-601_E5X79926.dgn PLOT DATE: 16-JAN-2025 PLOT TIME: 16:50

SHEET KEYNOTES

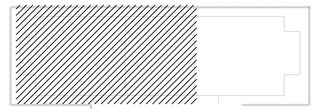
1. REFER TO DRAWING 69-P-601 FOR WASTE AND VENT RISER DIAGRAM.

GENERAL NOTES

1. REFER TO DRAWING G-16 FOR PLUMBING LEGEND AND ADDITIONAL REQUIRMENTS.
2. REFER TO DRAWING G-16 NOTE 16 FOR RATED WALL AND FLOOR PIPE PENETRATIONS.
3. FOR NON-RATED PIPE FLOOR PENETRATIONS REFER TO DETAIL (4027-620)



GROUND FLOOR PLAN AT EL 16.00
1/4"=1'-0"



KEY PLAN
NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PARTIAL PLAN AT EL 16.00

PLUMBING

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	D. CAVE
CHECKED BY:	M. LUDWIG
SUBMITTED BY:	F. HENRY
CONTRACT NO.:	25-007
DWG NO.	69-P-141
SHEET NO.	068 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

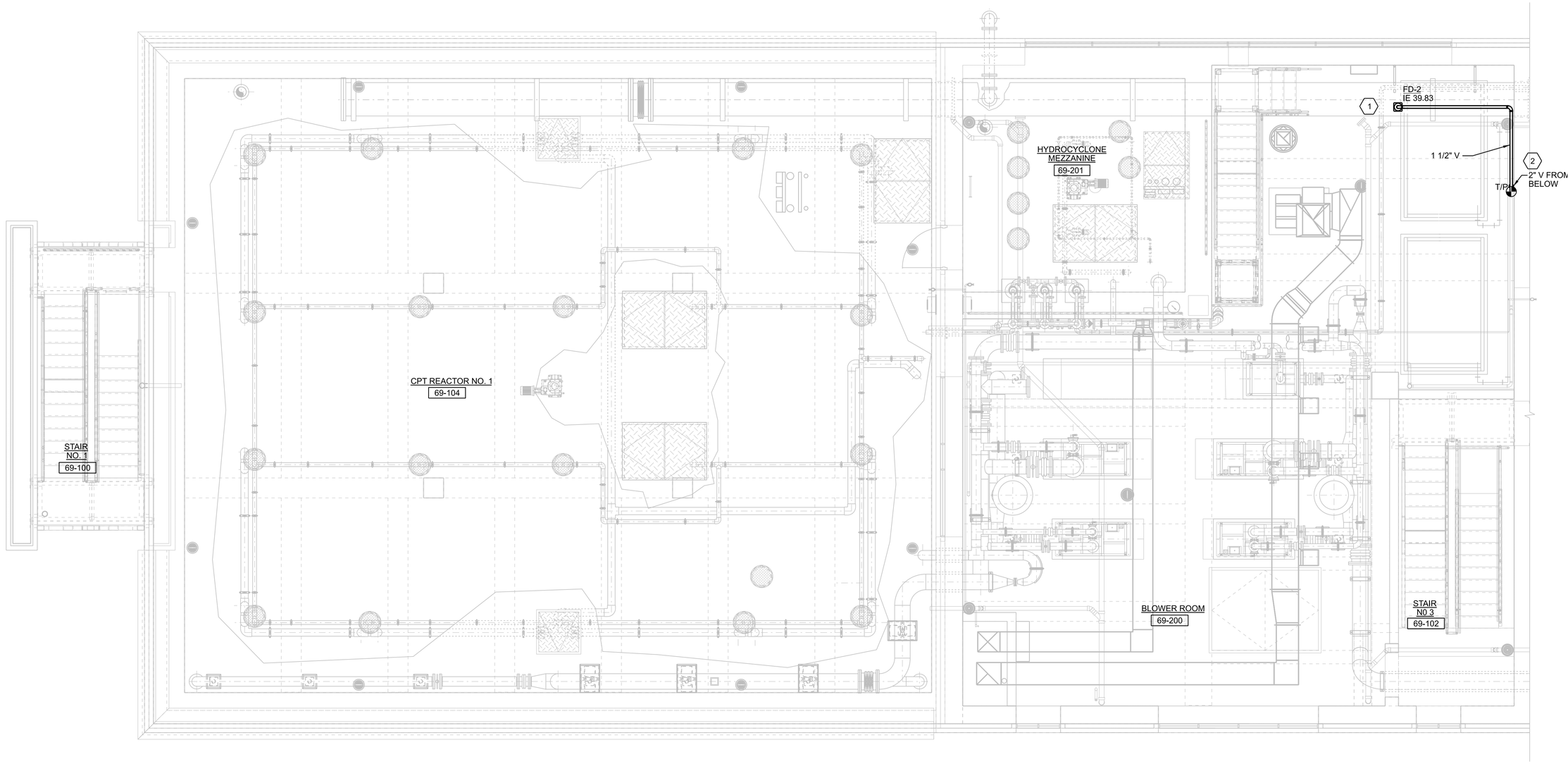
PLOT TIME: 16:51
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-P-141_E5X79926.dgn

SHEET KEYNOTES

1. PROVIDE AND INSTALL NEW 3" FLOOR DRAIN ON MEZZANINE. ROUTE 3" DRAIN PIPE ALONG COLUMN AND PENETRATE SLAB AT ELV. 32. SEE DETAIL (2213-102)
2. PROVIDE AND INSTALL 1 1/2" VENT PIPE AND CONNECT TO EXISTING 2" PLUMBING VENT PIPING.

GENERAL NOTES

1. REFER TO DRAWING G-16 FOR PLUMBING LEGEND AND ADDITIONAL REQUIREMENTS.
2. REFER TO DRAWING G-16 NOTE 10 FOR RATED WALL AND FLOOR PIPE PENETRATIONS.
3. FOR NON-RATED PIPE FLOOR PENETRATIONS REFER TO DETAIL (4027-620)



PLAN AT EL 32.00
1/4"=1'-0"



KEY PLAN
NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
PARTIAL PLAN AT EL 32.00

PLUMBING

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

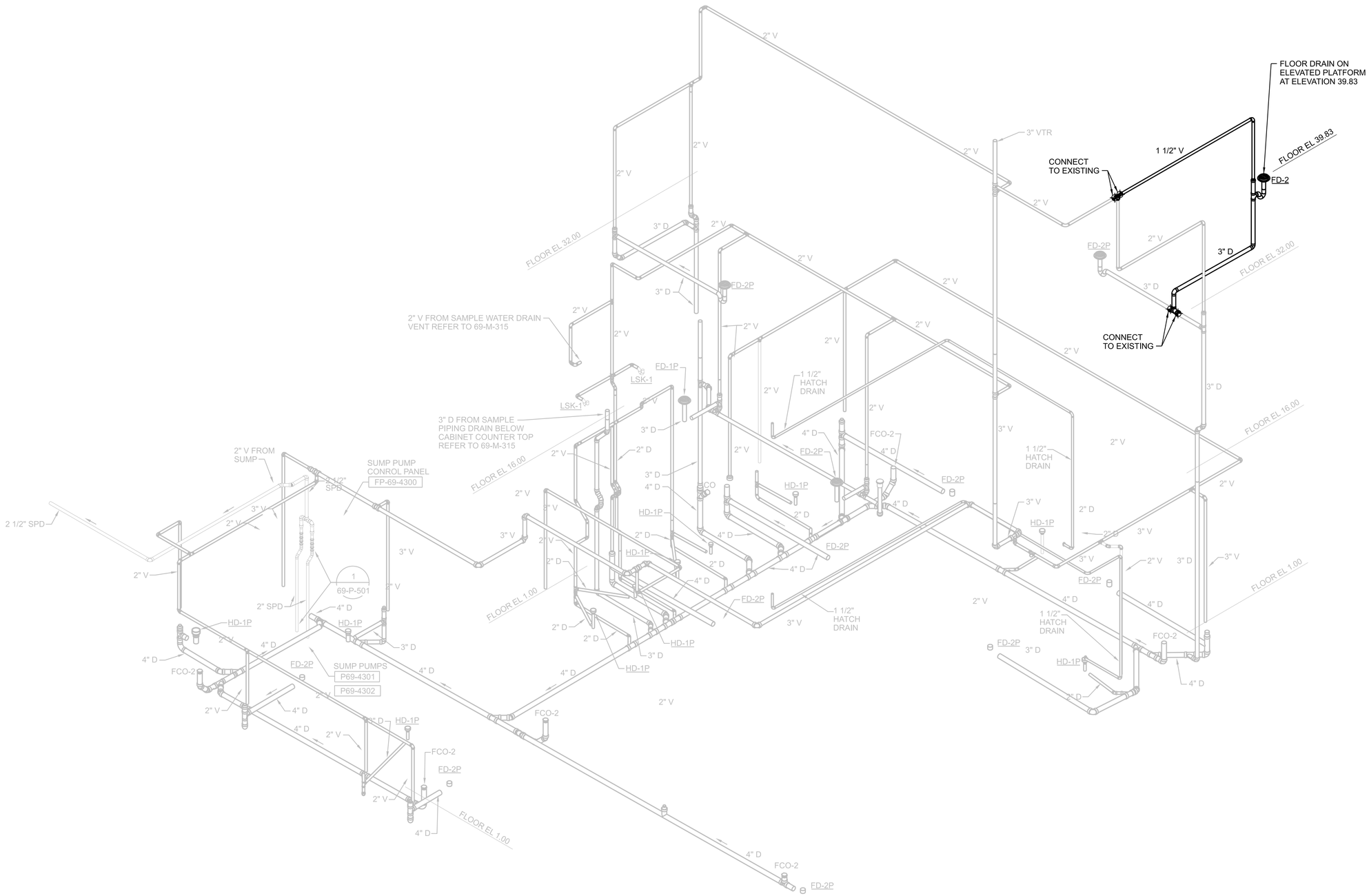
©JACOBS 2018. ALL RIGHTS RESERVED.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	D. CAVE
CHECKED BY:	M. LUDWIG
SUBMITTED BY:	F. HENRY
CONTRACT NO.:	25-007
DWG NO.	69-P-151
SHEET NO.	069 OF 97

Bid Set

PLOT TIME: 16:50
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-P-151_E5X79926.dgn



WASTE AND VENT RISER DIAGRAM

NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
RISER DIAGRAM

PLUMBING

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

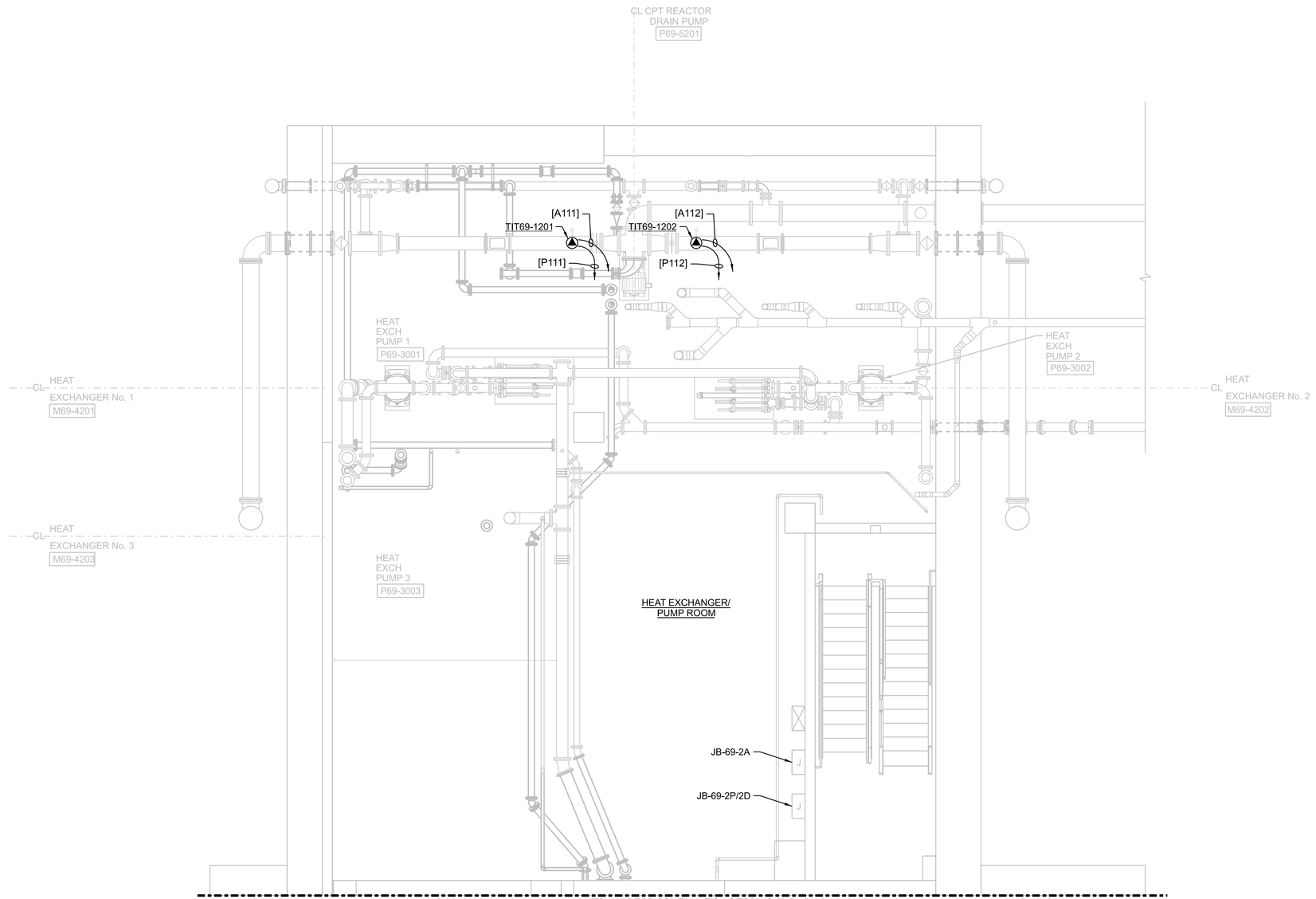
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. HUNERS
CHECKED BY:	M. LUDWIG
SUBMITTED BY:	F. HENRY
CONTRACT NO.:	25-007
DWG NO.	69-P-601
SHEET NO.	070 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

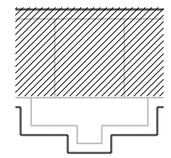
E5X79926
FILENAME: 69-P-601_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:51



PLAN AT EL 1.00

1/4"=1'-0"

N



KEY PLAN

NTS

N

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT COMPLEX - 69
PARTIAL PLAN AT EL 1.00

ELECTRICAL

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

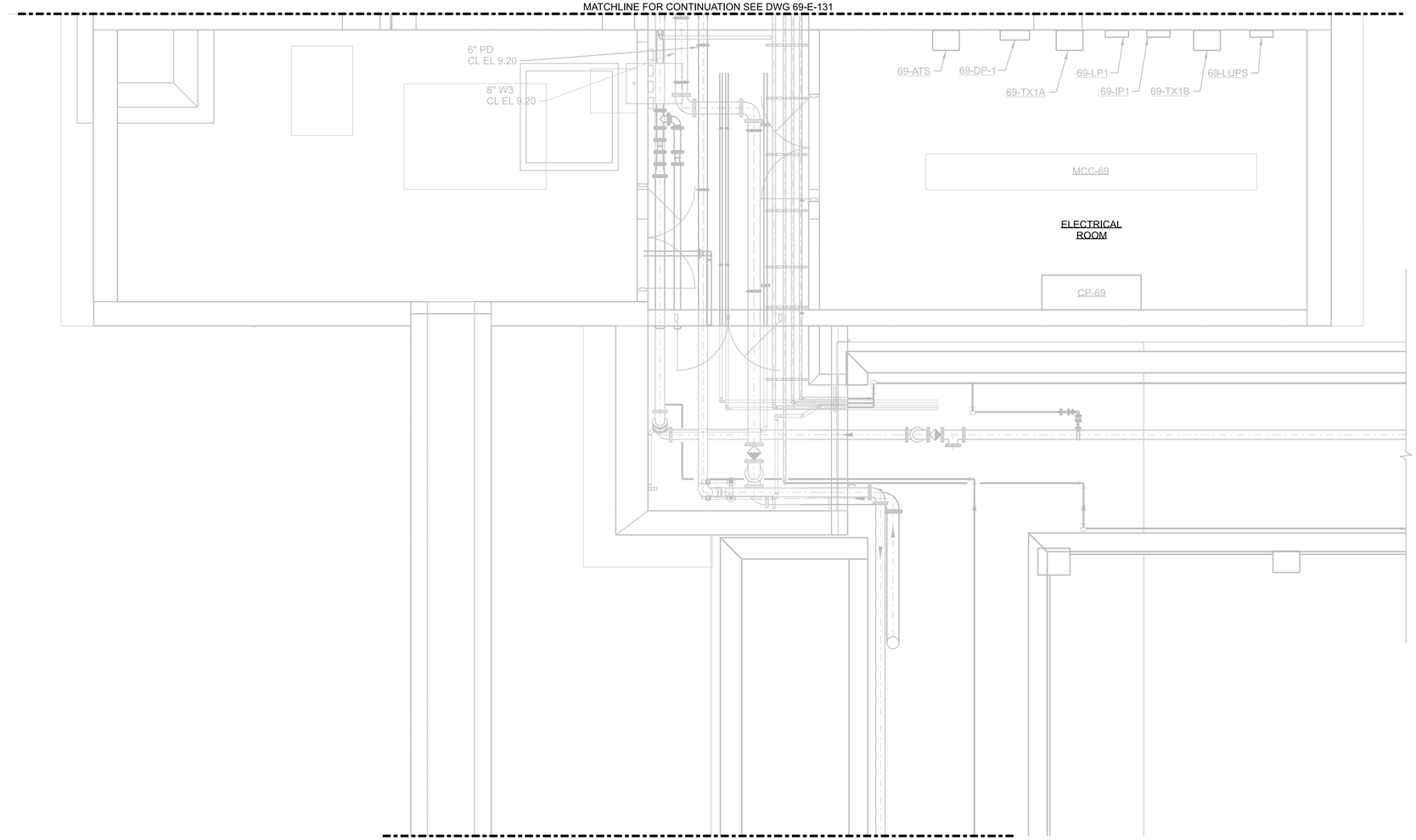
SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	D. WATSON
SUBMITTED BY:	S. RUIZ
CONTRACT NO.:	25-007
DWG NO.	69-E-131
SHEET NO.	071OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

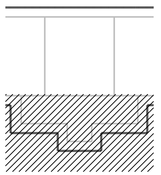
E5X79926
FILENAME: 69-E-131_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 18:30

MATCHLINE FOR CONTINUATION SEE DWG 69-E-131



PLAN AT EL 1.00

1/4"=1'-0"



KEY PLAN

NTS

N

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT COMPLEX - 69
PARTIAL PLAN AT EL 1.00

ELECTRICAL

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

©JACOBS 2018. ALL RIGHTS RESERVED.

VERIFY SCALE

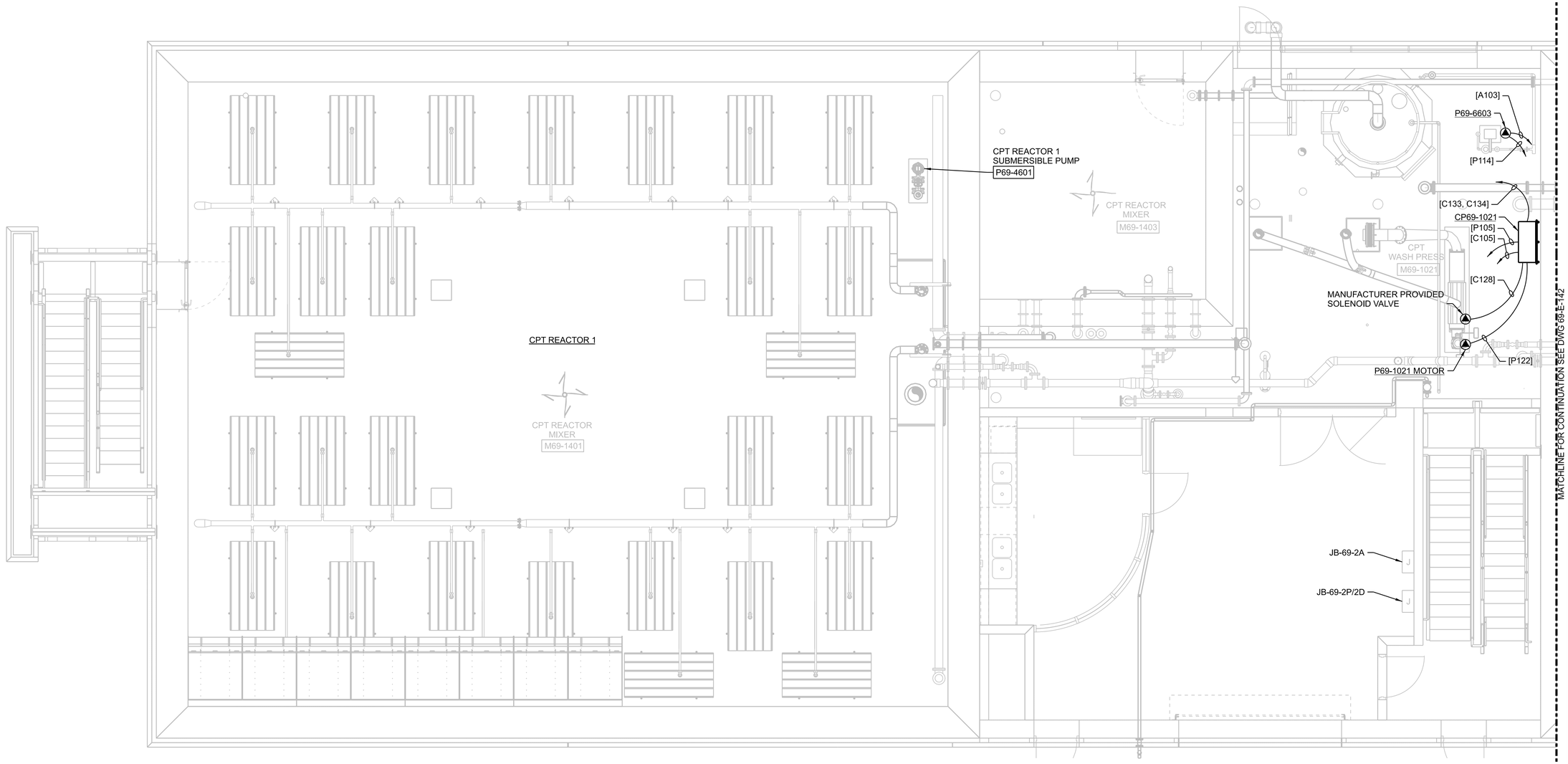
BAR IS ONE INCH ON ORIGINAL DRAWING.

0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	D. WATSON
SUBMITTED BY:	S. RUIZ
CONTRACT NO.:	25-007
DWG NO.	69-E-132
SHEET NO.	072 OF 97

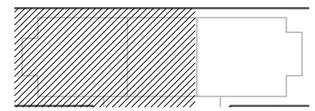
Bid Set

E5X79926
FILENAME: 69-E-132_E5X79926.dgn PLOT DATE: 16-JAN-2025 PLOT TIME: 18:31



GROUND FLOOR PLAN AT EL 16.00

1/4"=1'-0"



KEY PLAN

NTS

ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT COMPLEX - 69
PARTIAL PLAN AT EL 16.00

ELECTRICAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

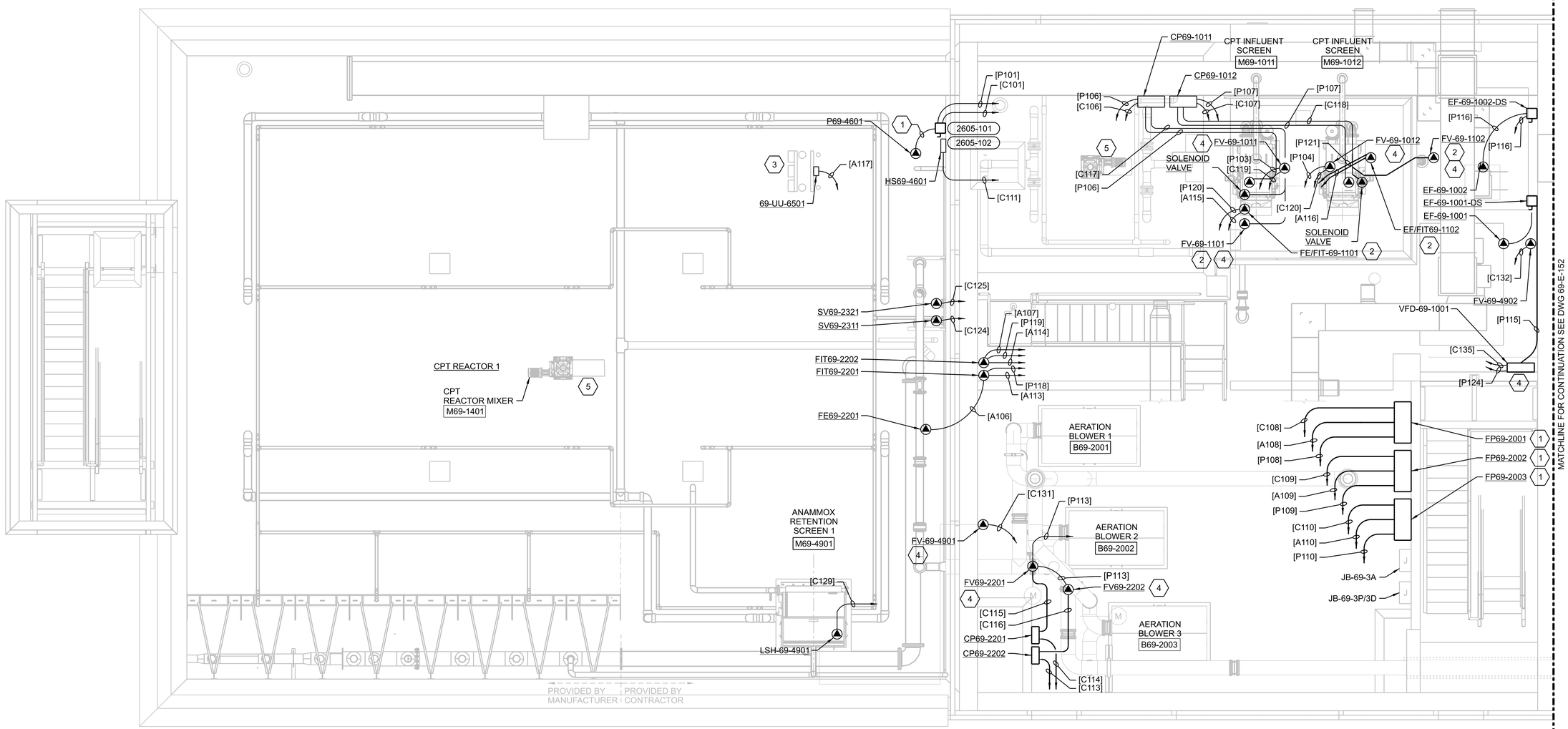
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	D. WATSON
SUBMITTED BY:	S. RUIZ
CONTRACT NO.:	25-007
DWG NO.	69-E-141
SHEET NO.	073 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

E5X79926
FILENAME: 69-E-141_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 18:31

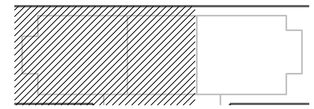


SHEET KEYNOTES

1. INSTALL CONDUITS AND WIRES BETWEEN MANUFACTURER PROVIDED CONTROL PANEL AND EQUIPMENT ENCLOSURE AS INDICATED IN MANUFACTURER'S DOCUMENTATION.
2. VALVES ARE LOCATED BELOW MEZZANINE, AT EL 32.
3. POWER RACK MOUNTED NEW 69-UU-6501 FROM EXISTING 120VAC CIRCUIT. THIS ALSO APPLIES TO THE "AIR CLEAN" BOXES.
4. PROVIDE A MANUAL MOTOR SWITCH (AS DISCONNECT MEANS), NEMA 3R, 600VAC, 30A, SIMILAR TO SQUARE D 2510KR2H, TO ALL MOTOR OPERATED VALVES 1/8 HP AND ABOVE.
5. CONNECT NEW AND REFURBISHED MIXERS TO THE SAME POWER SOURCE OF THE UNIT BEING REPLACED. ALSO CONNECT EXISTING CONTROL SIGNALS.

PLAN AT EL 32.00 & 40.00

1/4"=1'-0"



KEY PLAN

NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT COMPLEX - 69
PARTIAL PLAN AT EL 32.00

ELECTRICAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

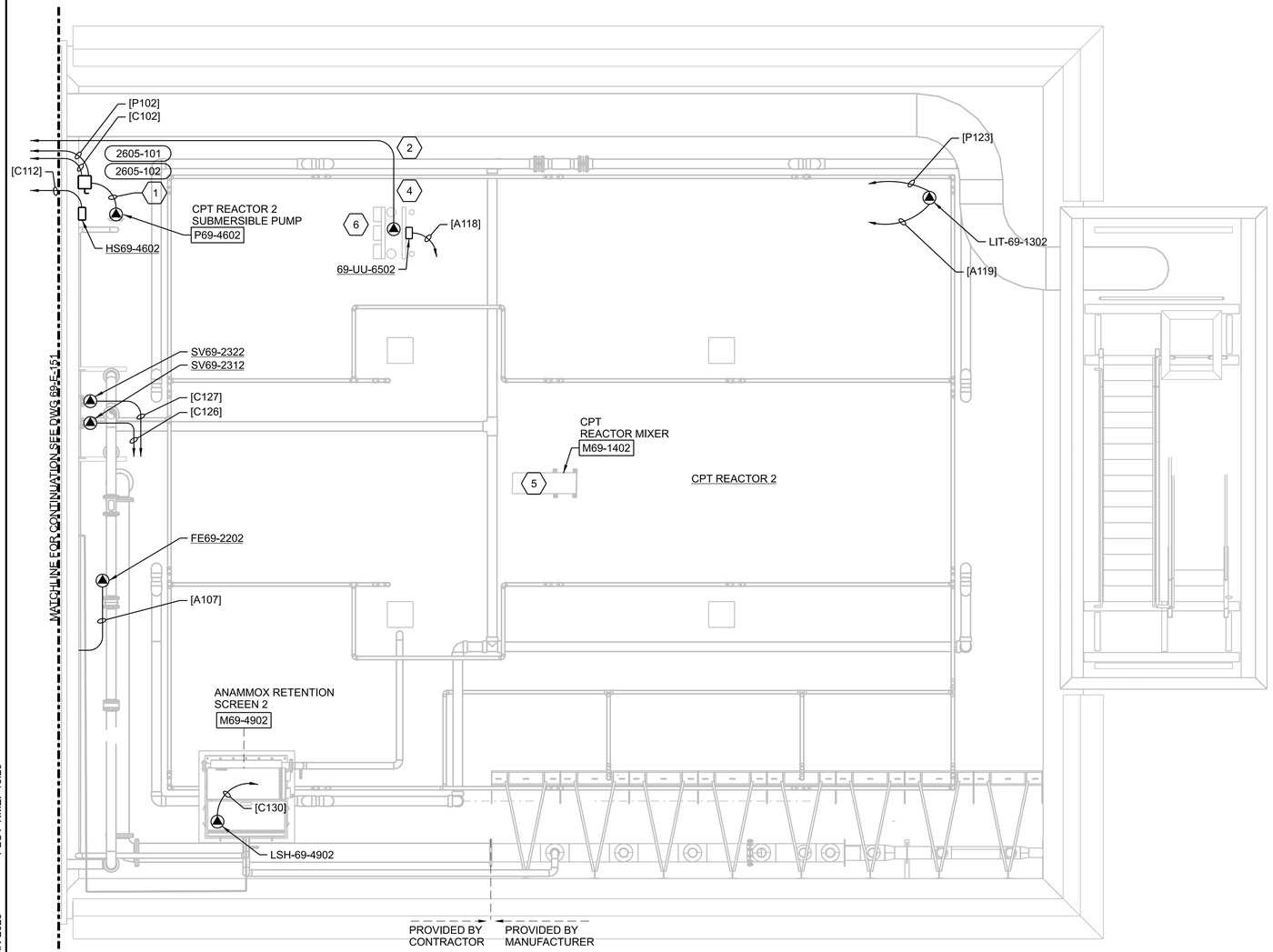
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	D. WATSON
SUBMITTED BY:	S. RUIZ
CONTRACT NO.:	25-007
DWG NO.	69-E-151
SHEET NO.	074 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 18:31
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-E-151_E5X79926.dgn

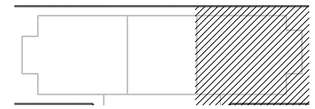


PLAN AT EL 40.00

1/4"=1'-0"

SHEET KEYNOTES

1. CABLE PROVIDED BY SUBMERSIBLE PUMP MANUFACTURER. ATTACHED TO THE PUMP IN FACTORY.
2. INSTALL A NEW 3/4 INCH PVC COATED GALVANIZE CONDUIT FROM EXISTING PULLBOX JB-69-3P/3D TO NEW LOCATION OF 69-UU-6502. USE NEW CONDUIT TO RE-ROUTE EXISTING AIT'S POWER CIRCUIT. RUN NEW WIRES ALL THE WAY BACK TO PANELBOARD. NO SPLICES ARE ALLOWED. SAME WILL APPLY TO "AIR CLEAN" BOXES.
3. NOT USED
4. SECTION OF CONDUITS BETWEEN WALL/PARAPET AND INSTRUMENTS RACK SHALL BE INSTALLED OVERHEAD.
5. CONNECT NEW AND REFURBISHED MIXERS TO THE SAME POWER SOURCE OF THE UNIT BEING REPLACED. ALSO CONNECT EXISTING CONTROL SIGNALS.
6. POWER RACK MOUNTED NEW MCSS FROM EXISTING 120VAC CIRCUIT.



KEY PLAN

NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT COMPLEX - 69
PARTIAL PLAN AT EL 40.00

ELECTRICAL

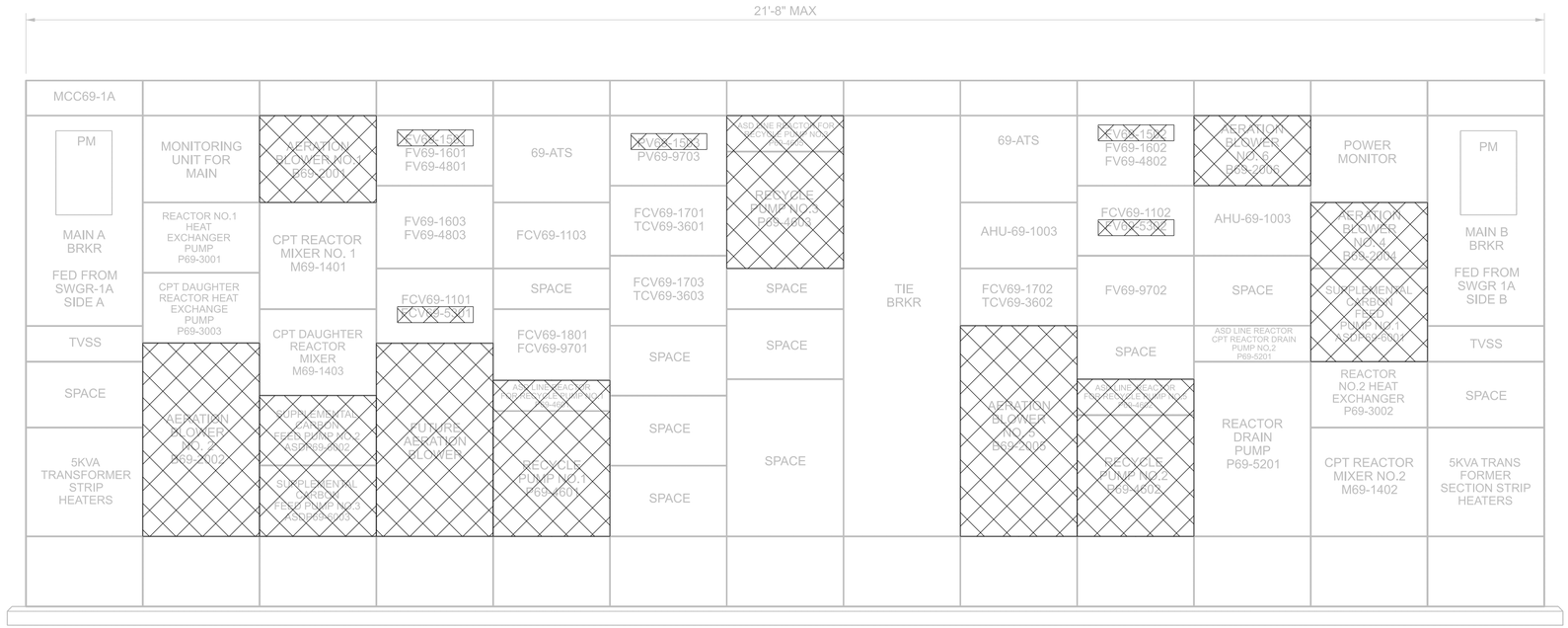
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	D. WATSON
SUBMITTED BY:	S. RUIZ
CONTRACT NO.:	25-007
DWG NO.	69-E-152
SHEET NO.	075 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 18:29
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-E-152_E5X79926.dgn



MCC-69-1A/1B ELEVATION - DEMOLITION

NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT COMPLEX - 69
MCC ELEVATIONS - DEMOLITION

ELECTRICAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	D. WATSON
SUBMITTED BY:	S. RUIZ
CONTRACT NO.:	25-007
DWG NO.	69-E-301
SHEET NO.	076 OF 97

Bid Set

E5X79926
FILENAME: 69-E-301_E5X79926.dgn PLOT DATE: 16-JAN-2025 PLOT TIME: 18:29

21'-8" MAX

1	2	3	4	5	6	7	8	9	10	11	12	13
PM MAIN A BRKR FED FROM SWGR-1A SIDE A	MONITORING UNIT FOR MAIN	AERATIONIO BLOWER 1 B69-2001	FV69-1601 FV69-4801	69-ATS	PV69-9703	SPACE	TIE BRKR	69-ATS	FV69-1602 FV69-4802	AERATION BLOWER 2 B69-2002	POWER MONITOR	PM MAIN B BRKR FED FROM SWGR 1A SIDE B
	REACTOR NO.1 HEAT EXCHANGER PUMP P69-3001	CPT REACTOR MIXER NO. 1 M69-1401	FV69-1603 FV69-4803	FCV69-1103	FCV69-1701 TCV69-3601			AHU-69-1003	FCV69-1102	AHU-69-1003	AERATION BLOWER 3 B69-2003	
TVSS	CPT DAUGHTER REACTOR HEAT EXCHANGE PUMP P69-3003		FCV69-1101	SPACE	FCV69-1703 TCV69-3603	SPACE		FCV69-1702 TCV69-3602	FV69-9702	SPACE	CPT INFLUENT SCREEN M69-1012	TVSS
SPACE	150A SPARE BREAKER	CPT DAUGHTER REACTOR MIXER M69-1403	300A SPARE BREAKER	FCV69-1801 FCV69-9701	SPACE	SPACE		300A SPARE BREAKER	SPACE	ASD LINE REACTOR CPT REACTOR DRAIN PUMP NO.2 P69-5201	REACTOR NO.2 HEAT EXCHANGER P69-3002	SPACE
5KVA TRANSFORMER STRIP HEATERS		CPT INFLUENT SCREEN M69-1011		RECYCLE PUMP NO.1 P69-4601	SPACE	SPACE			RECYCLE PUMP NO. 2 P69-4602	REACTOR DRAIN PUMP P69-5201	CPT REACTOR MIXER NO.2 M69-1402	5KVA TRANS FORMER SECTION STRIP HEATERS
		CPT WASH PRESS M69-1021			SPACE	SPACE						

MCC-69-1A/1B ELEVATION - NEW WORK

NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT COMPLEX - 69
MCC ELEVATION

ELECTRICAL

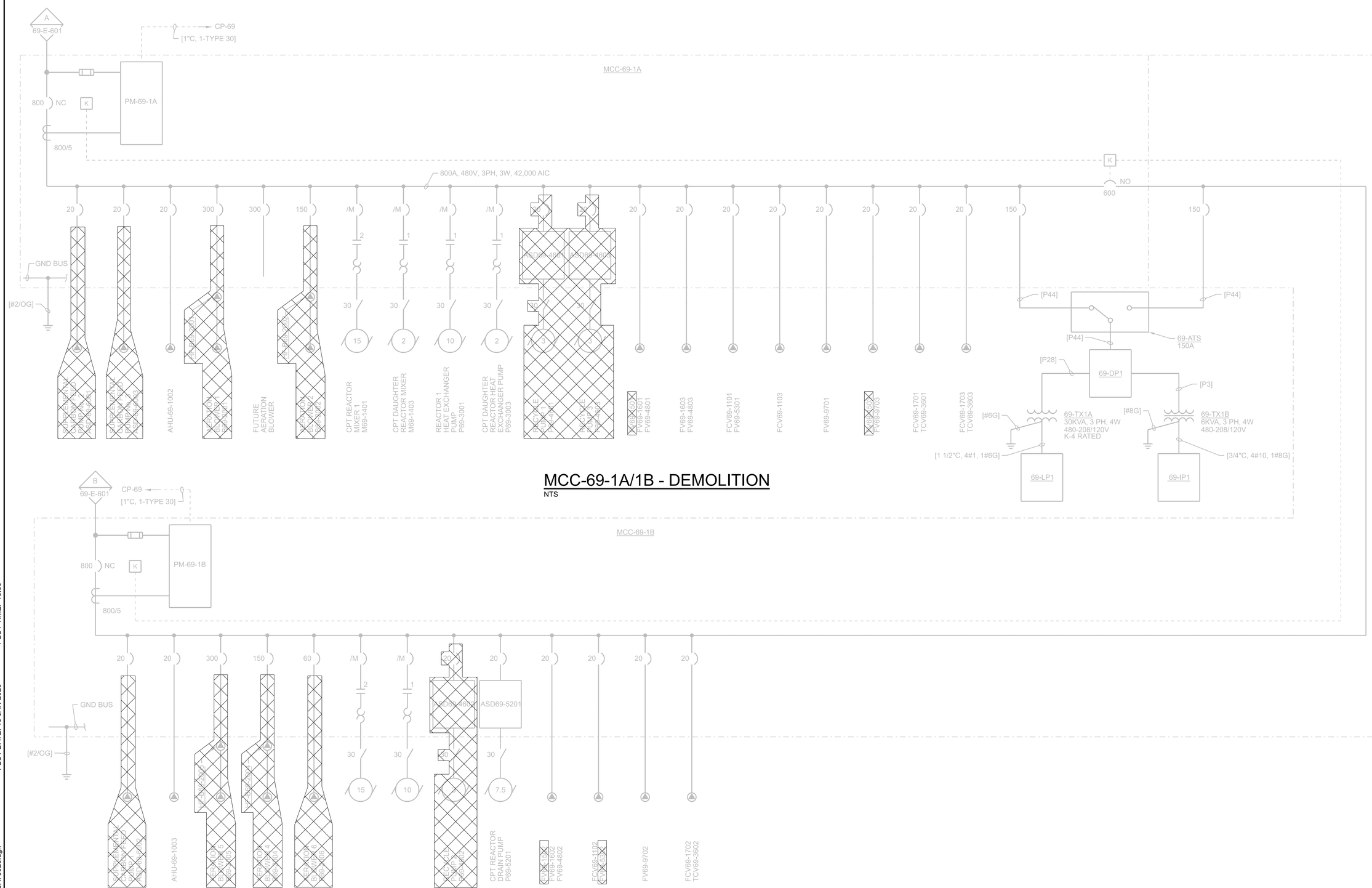
NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	D. WATSON
SUBMITTED BY:	S. RUIZ
CONTRACT NO.:	25-007
DWG NO.	69-E-302
SHEET NO.	077 OF 97

Bid Set

E5X79926
FILENAME: 69-E-302_E5X79926.dgn PLOT DATE: 16-JAN-2025 PLOT TIME: 18:29



MCC-69-1A/1B - DEMOLITION

NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT COMPLEX - 69
ONE-LINE DIAGRAM - DEMOLITION

ELECTRICAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

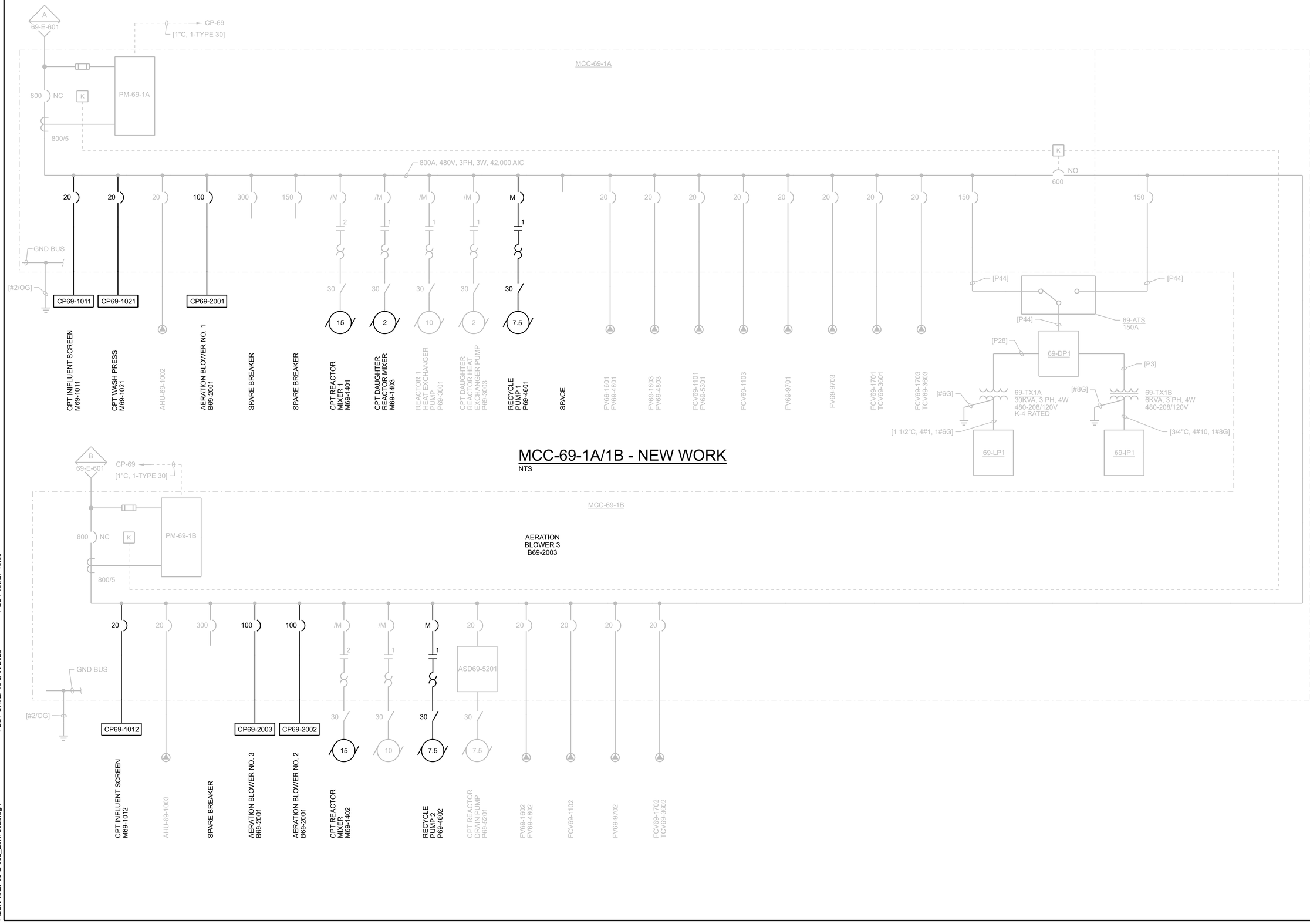
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	D. WATSON
SUBMITTED BY:	S. RUIZ
CONTRACT NO.:	25-007
DWG NO.	69-E-601
SHEET NO.	078 OF 97

Bid Set

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
©JACOBS 2018. ALL RIGHTS RESERVED.

E5X79926
FILENAME: 69-E-601_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 18:30



AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT COMPLEX - 69
ONE-LINE DIAGRAM

ELECTRICAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	D. WATSON
SUBMITTED BY:	S. RUIZ
CONTRACT NO.:	25-007
DWG NO.	69-E-602
SHEET NO.	079 OF 97

Bid Set

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
©JACOBS 2018. ALL RIGHTS RESERVED.

PLOT TIME: 18:30
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-E-602_E5X79926.dgn

PANEL: 69-LUPS
SERVICE VOLTAGE: 120/240 V
TOTAL LOAD KVA: 1.8
REMARKS: SCCR 10 KA RMS SYMMETRICAL

LOCATION: CPT BUILDING ELECTRICAL ROOM
PHASE: 1 WIRE: 3
BUS SIZE: 60A MAIN SIZE: 15A TYPE: BRKR
NEUTRAL: FULL MOUNTING: SURFACE

LOAD IN VA A	LOAD IN VA B		CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT NO.	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN VA A	LOAD IN VA B	
600			CP69 (UPS INPUT)	20/1	1	2	20/1	FP69-2000 (UPS INPUT)	600		
	600		WORKSTATION	20/1	3	4					
					5	6					
					7	8					
600	600		TOTAL						600	0	

PANEL: 69-IP1
SERVICE VOLTAGE: 208/120 V
TOTAL LOAD KVA: 1.2
REMARKS:

LOCATION:CPT BUILDING ELECTRICAL ROOM
PHASE: 3 WIRE: 4
BUS SIZE: 60A MAIN SIZE: 20A TYPE: BRKR
NEUTRAL: FULL MOUNTING: SURFACE

LOAD IN VA A	LOAD IN VA B	LOAD IN VA C	CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT NO.	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN VA A	LOAD IN VA B	LOAD IN VA C
30			AIT69-1001	20/1	1	2	20/1	**FIT69-2201**	30		
	30		**FIT69-1101**	20/1	3	4	20/1	**FIT69-2202**		30	
		30	FIT69-1701	20/1	5	6	25/1	FIT69-4001			30
30			**FIT69-1102**	20/1	7	8					
	30		FIT69-1702	20/1	9	10	20/1	UU69-6501		60	
		30	FIT69-1103	20/1	11	12	20/1	UU69-6502			60
30			FIT69-1703	20/1	13	14		UU69-6503	60		
	30		**LIT69-1302**	20/1	15	16		UU69-5401		30	
	594		FV69-5101, 5102, 5103	20/1	17	18		FIT-69-2203			30
			SPARE	20/1	19	20		SPACE			
			SPACE		21	22					
			SPACE		23	24					
90	684	60	TOTAL						120	120	120

PANEL: 69-DP-1
SERVICE VOLTAGE: 480 V
TOTAL LOAD KVA: 74.9
REMARKS:

LOCATION: CPT BUILDING ELECTRICAL ROOMG1 ELECTRICAL ROOM
PHASE: 3 WIRE: 3
BUS SIZE: 150A MAIN SIZE: 150A TYPE: BRKR
NEUTRAL: NONE MOUNTING: SURFACE

LOAD IN VA A	LOAD IN VA B	LOAD IN VA C	CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT NO.	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN VA A	LOAD IN VA B	LOAD IN VA C
5700			69-TX1A; 69LP1	60/3	1	2	20/3	FCV69-2201, FCV69-2203	277		
	5700				3	4				277	
		5700			5	6					277
300			69-TX1B; 69-IP-1	15/3	7	8	20/3	FCV69-2202	277		
	300				9	10		(FUTURE)		277	
		300			11	12					277
3720			AHU-69-1001	30/3	13	14	40/3	M69-5901	4500		
	3720				15	16				4500	
		3720			17	18					4500
691			CRU-69-1001	20/3	19	20	40/3	M69-5902	4500		
	691				21	22				4500	
		691			23	24					4500
691			CRU-69-1002	20/3	25	26	20/3	FV69-7101, 201	277		
	691				27	28				277	
		691			29	30					277
277			FP69-4300	20/3	31	32	20/3	FV69-7102, 7202	277		
	277				33	34				277	
		277			35	36					277
2921			VFD-69-1001	20/3	37	38	20/3	FCV69-7103, 7203, 5303	277		
	2921				39	40				277	
		2921			41	42					277
135			SPARE	20/3	43	44	20/3	ROLL-UP DOOR			
	135				45	46		ROLL-UP DOOR			
		135			47	48		ROLL-UP DOOR			
135			SPARE	20/3	49	50	20/3	SPARE			
	135				51	52					
		135			53	54					
			SPARE	20/3	55	56		SPACE			
					57	58					
					59	60					
14570	14570	14570	TOTAL						10368	10385	10385

PANEL: 69LP1
SERVICE VOLTAGE: 208Y/120 V
TOTAL LOAD KVA: 20.1
REMARKS:

LOCATION: CPT BUILDING ELECTRICAL ROOM
PHASE: 3 WIRE: 4
BUS SIZE: 100A MAIN SIZE: 100A TYPE: BRKR
NEUTRAL: FULL MOUNTING: SURFACE

LOAD IN VA A	LOAD IN VA B	LOAD IN VA C	CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT NO.	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN VA A	LOAD IN VA B	LOAD IN VA C
640			LGTS RM 69-B03, 69-B04	20/1	1	2	20/1	RCPTS RM 69-B04	360		
	1090		LGTS RM 69-B01, B02	20/1	3	4	20/1	RCPTS RM 69-B04		540	
		1090	LGTS RM 69-106, 69-107, 69-109	20/1	5	6	20/1	RCPTS RM 69-B04			540
1090			LGTS RM 69-200, 69-201	20/1	7	8	20/1	RCPTS RM 69-B04	540		
	300		SPARE	20/1	9	10	20/1	RCPTS RM 69-B04		540	
		300	LGTS-STAIR 1	20/1	11	12	20/1	RCPTS RM 69-B04			600
300			LGTS-STAIR 2	20/1	13	14	20/1	RCPTS RM 69-B04	360		
	300		LGTS-STAIR 3	20/1	15	16	20/1*	RCPTS RM 69-B04		360	
		750	EXTERIOR LIGHTS	20/1	17	18	20/1	CP-69 (NON-UPS INPUT)			360
			SPARE	20/1	19	20	20/1	FACP-69	120		
				20/1	21	22	20/1	69-CP-01 CIRC WATER PUMP		600	
				20/1	23	24	20/1	FP69-2000 (NON-UPS INPUT)			240
200			CPT REACT 1 AND 2 ROOF LGTS	20/1	25	26	20/1	HCP-69-1001	120		
	30		QL69-6401	20/1	27	28	20/1	69-UPS		1250	
		120	PREACTION SYSTEM AIR COMP.	20/1	29	30	20/1				1250
120			PREACTION SYSTEM CP	20/1	31	32	20/1	SECURITY PANEL	120		
	30		TRAP PRIMERS	20/1	33	34		SF-69-1001		696	
		2000	FCU-69-1001	20/1	35	36					
				20/1	37	38		SPARE			
				20/1	39	40		AY69-680X 690X X=1,2,3 AIRCLEAN		600	
		1200	ELECTRIC HAND DRYER	20/1	40	42		REFRIGERATOR			600
			TOTAL						1620	4586	

PANELBOARD SCHEDULES - DEMOLITION

NTS

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT COMPLEX - 69
PANELBOARD SCHEDULES - DEMOLITION

ELECTRICAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	D. WATSON
SUBMITTED BY:	S. RUIZ
CONTRACT NO.:	25-007
DWG NO.	69-E-701
SHEET NO.	080 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 18:30
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-E-701_E5X79926.dgn

PANEL: 69-LUPS — LOCATION: CPT BUILDING ELECTRICAL ROOM
SERVICE VOLTAGE: 120/240 V — PHASE: 1 — WIRE: 3
TOTAL LOAD KVA: 1.2 — BUS SIZE: 60A — MAIN SIZE: 15A — TYPE: BRKR
REMARKS: — NEUTRAL: FULL — MOUNTING: SURFACE
SCCR 10 KA RMS SYMMETRICAL

LOAD IN VA A	LOAD IN VA B		CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT NO.	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN VA A	LOAD IN VA B	
600			CP69 (UPS INPUT)	20/1	1	2	20/1	SPARE			
	600		WORKSTATION	20/1	3	4					
					5	6					
					7	8					
600	600		TOTAL						0	0	

PANEL: 69-DP-1 — LOCATION: CPT BUILDING ELECTRICAL ROOMG1 ELECTRICAL ROOM
SERVICE VOLTAGE: 480 V — PHASE: 3 — WIRE: 3
TOTAL LOAD KVA: 47.1 — BUS SIZE: 150A — MAIN SIZE: 150A — TYPE: BRKR
REMARKS: — NEUTRAL: NONE — MOUNTING: SURFACE

LOAD IN VA A	LOAD IN VA B	LOAD IN VA C	CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT NO.	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN VA A	LOAD IN VA B	LOAD IN VA C
5700			69-TX1A; 69LP1	60/3	1	2	20/3	FCV69-2201, FCV69-2203	277		
	5700				3	4				277	
		5700			5	6					277
300			69-TX1B; 69-IP-1	15/3	7	8	20/3	FCV69-2202	277		
	300				9	10		(FUTURE)		277	
		300			11	12					277
3720			AHU-69-1001	30/3	13	14	20/3	SPARE			
	3720				15	16					
		3720			17	18					
691			CRU-69-1001	20/3	19	20	20/3	SPARE			
	691				21	22					
		691			23	24					
691			CRU-69-1002	20/3	25	26		FV69-1011, 1012	277		
	691				27	28				277	
		691			29	30					277
277			FP69-4300	20/3	31	32		FV69-2201, 2202	277		
	277				33	34				277	
		277			35	36					277
2921			VFD-69-1001	20/3	37	38		FCV69-1101, 1102	277		
	2921				39	40				277	
		2921			41	42					277
			SPARE	20/3	43	44	20/3	ROLL-UP DOOR			
					45	46		ROLL-UP DOOR			
					47	48		ROLL-UP DOOR			
			SPARE	20/3	49	50	20/3	SPARE			
					51	52					
					53	54					
			SPARE	20/3	55	56		SPACE			
					57	58					
					59	60					
14300	14300	14300	TOTAL						1385	1385	1385

PANEL: 69-IP1 — LOCATION:CPT BUILDING ELECTRICAL ROOM
SERVICE VOLTAGE: 208/120 V — PHASE: 3 — WIRE: 4
TOTAL LOAD KVA: 1.2 — BUS SIZE: 60A — MAIN SIZE: 20A — TYPE: BRKR
REMARKS: — NEUTRAL: FULL — MOUNTING: SURFACE

LOAD IN VA A	LOAD IN VA B	LOAD IN VA C	CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT NO.	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN VA A	LOAD IN VA B	LOAD IN VA C
30			AIT69-1001	20/1	1	2	20/1	**FIT69-2201**	30		
	30		**FIT69-1101**	20/1	3	4	20/1	**FIT69-2202**		30	
		30	FIT69-1701	20/1	5	6	25/1	FIT69-4001			30
30			**FIT69-1102**	20/1	7	8	20/1	**TIT69-1201, 1202**	**30**		
	30		FIT69-1702	20/1	9	10	20/1	UU69-6501		60	
		30	FIT69-1103	20/1	11	12	20/1	UU69-6502			60
30			FIT69-1703	20/1	13	14		UU69-6503	60		
	30		**LIT69-1302**	20/1	15	16		UU69-5401		30	
	594		FV69-5101, 5102, 5103	20/1	17	18		FIT-69-2203			30
			SPARE	20/1	19	20		SPACE			
			SPACE		21	22					
			SPACE		23	24					
90	684	60	TOTAL						120	120	120

PANEL: 69LP1 — LOCATION: CPT BUILDING ELECTRICAL ROOM
SERVICE VOLTAGE: 208Y/120 V — PHASE: 3 — WIRE: 4
TOTAL LOAD KVA: 20.1 — BUS SIZE: 100A — MAIN SIZE: 100A — TYPE: BRKR
REMARKS: — NEUTRAL: FULL — MOUNTING: SURFACE

LOAD IN VA A	LOAD IN VA B	LOAD IN VA C	CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT NO.	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN VA A	LOAD IN VA B	LOAD IN VA C
640			LGTS RM 69-B03, 69-B04	20/1	1	2	20/1	RCPTS RM 69-B04	360		
	1090		LGTS RM 69-B01, B02	20/1	3	4	20/1	RCPTS RM 69-B04		540	
		1090	LGTS RM 69-106, 69-107, 69-109	20/1	5	6	20/1	RCPTS RM 69-B04			540
1090			LGTS RM 69-200, 69-201	20/1	7	8	20/1	RCPTS RM 69-B04	540		
	300		SPARE	20/1	9	10	20/1	RCPTS RM 69-B04		540	
		300	LGTS-STAIR 1	20/1	11	12	20/1	RCPTS RM 69-B04			600
300			LGTS-STAIR 2	20/1	13	14	20/1	RCPTS RM 69-B04	360		
	300		LGTS-STAIR 3	20/1	15	16	20/1*	RCPTS RM 69-B04		360	
		750	EXTERIOR LIGHTS	20/1	17	18	20/1	CP-69 (NON-UPS INPUT)			360
			P-69-6603	20/1	19	20	20/1	FACP-69	120		
	60		FV69-5801	20/1	21	22	20/1	69-CP-01 CIRC WATER PUMP		600	
		60	FV69-5802	20/1	23	24	20/1	FP69-2000 (NON-UPS INPUT)			240
200			CPT REACT 1 AND 2 ROOF LGTS	20/1	25	26	20/1	HCP-69-1001	120		
	30		QL69-6401	20/1	27	28	20/1	69-UPS		1250	
		120	PREACTION SYSTEM AIR COMP.	20/1	29	30	20/1				1250
120			PREACTION SYSTEM CP	20/1	31	32	20/1	SECURITY PANEL	120		
	30		TRAP PRIMERS	20/1	33	34		SF-69-1001		696	
		2000	ECU-69-1001	20/1	35	36		EF-69-1002 (1)			528
45			HT-69-1 (2)	20/1	37	38		SPARE			
	45		HT-69-2 (2)	20/1	39	40		AY69-680X, 690X X=1,2,3 AIRCLEAN		600	
		1200	ELECTRIC HAND DRYER	20/1	40	42		REFRIGERATOR			600
2395	1855	5520	TOTAL						1620	4586	4118

PANELBOARD SCHEDULES
NTS

SHEET KEYNOTES

1. RUN A NEW SET OF POWER WIRES TO THE NEW LOCATION OF EXHAUST FAN EF69-1002. SEE DRAWING 69-E-151 FOR NEW LOCATION OF THE NEW EXHAUST FAN.

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT COMPLEX - 69
PANELBOARD SCHEDULES

ELECTRICAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	D. WATSON
SUBMITTED BY:	S. RUIZ
CONTRACT NO.:	25-007
DWG NO.	69-E-702
SHEET NO.	081OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 18:30
PLOT DATE: 16-JAN-2025
FILENAME: 69-E-702_E5X79926.dgn
E5X79926

TAG NUMBER	FROM	TO	CONDUIT SIZE (IN)	CONDUCTORS DESCRIPTION
P101	MCC, 5E	P69-4601 DS	3/4	3#10, 1#10G
P102	MCC, 10E	P69-4602 DS	3/4	3#10, 1#10G
P103	69-DP1	FV69-1011	3/4	3#2, 1#8G
P104	69-DP1	FV69-1012	3/4	3#2, 1#8G
P105	MCC, 3E	CP69-1021	N/A	Not Available
P106	MCC, 3D	CP69-1011	N/A	Not Available
P107	MCC, 12C	CP69-1012	N/A	Not Available
P108	MCC, 3A	FP69-2001	1 1/4	3#2, 1#8G
P109	MCC, 11A	FP69-2002	1 1/4	3#2, 1#8G
P110	MCC, 12B	FP69-2003	1 1/4	3#2, 1#8G
P111	69-IP1	TIT69-1201	3/4	2#12, 1#12G
P112	69-IP1	TIT69-1202	3/4	2#12, 1#12G
P113	69-DP1	FV69-2201	3/4	3#12, 1#12G
		FV69-2202		
P114	69-LP1	P69-6603	3/4	2#12, 1#12G
P115	VFD-69-1001	EF-69-1001 -DS	3/4	3#12, 1#12G
P116	69-LP1	EF-69-1002 -DS	3/4	2#12, 1#12G
P117	69-DP1	FCV69-1101	3/4	3#12, 1#12G
		FCV69-1102		
P118	69-IP1	FIT69-2201	3/4	2#12, 1#12G
P119	69-IP1	FIT69-2202	3/4	2#12, 1#12G
P120	69-IP1	FIT69-1101	3/4	2#12, 1#12G
P121	69-IP1	FIT69-1102	3/4	2#12, 1#12G
P122	CP69-1021	M69-1021	N/A	Not Available
P123	69-IP1	LIT69-1302	3/4	2#12, 1#12G
P124	69-DP1	VFD-69-1001	3/4	3#10, 1#10G

TAG NUMBER	FROM	TO	CONDUIT SIZE (IN)	CONDUCTORS DESCRIPTION
C101	MCC	P69-4601 DS	3/4	4#14, 1#14G
C102	MCC	P69-4602 DS	3/4	4#14, 1#14G
C103	CP-69	MCC	3/4	8#14, 1#14G
C104	CP-69	MCC	3/4	8#14, 1#14G
C105	CP-69	CP69-1021	3/4	10#14, 1#14G
C106	CP-69	CP69-1011	3/4	18#14, 1#14G
C107	CP-69	CP69-1012	3/4	18#14, 1#14G
C108	CP-69	FP69-2001	3/4	2#14, 1#14G
C109	CP-69	FP69-2002	3/4	2#14, 1#14G
C110	CP-69	FP69-2003	3/4	2#14, 1#14G
C111	MCC	HS69-4601	3/4	4#14, 1#14G
C112	MCC	HS69-4602	3/4	4#14, 1#14G
C113	CP-69	CP69-2201	3/4	12#14, 1#14G
C114	CP-69	CP69-2202	3/4	12#14, 1#14G
C115	CP69-2201	FV69-2201	3/4	4#14, 1#14G
C116	CP69-2202	FV69-2202	3/4	4#14, 1#14G
C117	CP69-1011	M69-1011	3/4	8#14, 1#14G
C118	CP69-1012	M69-1012	3/4	8#14, 1#14G
C119	CP-69	FV69-1011	3/4	10#14, 1#14G
C120	CP-69	FV69-1012	3/4	10#14, 1#14G
C121	CP69	FCV69-1101	3/4	4#14, 1#14G
C122	CP69	FCV69-1102	3/4	4#14, 1#14G
C123	-----	-----	-----	NOT USED
C124	CP-69	SV69-2311	3/4	2#14, 1#14G
C125	CP-69	SV69-2321	3/4	2#14, 1#14G
C126	CP-69	SV69-2312	3/4	2#14, 1#14G
C127	CP-69	SV69-2322	3/4	2#14, 1#14G
C128	CP69-1021	SV (M69-1021)	3/4	2#14, 1#14G
C129	CP-69	LSH69-4901	3/4	2#14, 1#14G
C130	CP-69	LSH69-4902	3/4	2#14, 1#14G
C131	CP-69	FV69-4901	3/4	2#14, 1#14G
C132	CP-69	FV69-4902	3/4	2#14, 1#14G
C133	CP69-1021	CP69-1011	3/4	2#14, 1#14G
C134	CP69-1021	CP69-1012	3/4	2#14, 1#14G
C135	HCP-69-1001	VFD-69-1001	3/4	6#14, 1#14G

TAG NUMBER	FROM	TO	CONDUIT SIZE (IN)	CONDUCTORS DESCRIPTION
A101	FIT69-1101	FE69-1101	3/4	MFR. PROVIDED CABLE
A102	FIT69-1102	FE69-1102	3/4	MFR. PROVIDED CABLE
A103	CP-69	P69-6603	3/4	COPPER ETHERNET CAT6A CABLE
A104	CP69	FCV69-1101	3/4	2 TYPE-3
A105	CP69	FCV69-1102	3/4	2 TYPE-3
A106	FIT69-2201	FE69-2201	3/4	MFR. PROVIDED CABLE
A107	FIT69-2202	FE69-2202	3/4	MFR. PROVIDED CABLE
A108	CP-69	FP69-2001	3/4	COPPER ETHERNET CAT6A CABLE
A109	CP-69	FP69-2002	3/4	COPPER ETHERNET CAT6A CABLE
A110	CP-69	FP69-2003	3/4	COPPER ETHERNET CAT6A CABLE
A111	CP-69	TIT69-1201	3/4	1 TYPE-3
A112	CP-69	TIT69-1202	3/4	1 TYPE-3
A113	CP-69	FIT69-2201	3/4	1 TYPE-3
A114	CP-69	FIT69-2202	3/4	1 TYPE-3
A115	CP-69	FIT69-1101	3/4	1 TYPE-3
A116	CP-69	FIT69-1102	3/4	1 TYPE-3
A117	CP-69	69-UU-6501	3/4	COPPER ETHERNET CAT6A CABLE
A118	CP-69	69-UU-6502	3/4	COPPER ETHERNET CAT6A CABLE
A119	CP-69	LIT69-1302	3/4	1 TYPE-3

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT COMPLEX - 69
CONDUITS AND CABLES SCHEDULES

ELECTRICAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	1/4"=1'-0
DATE:	JANUARY 2025
DRAWN BY:	I. KHAN
CHECKED BY:	D. WATSON
SUBMITTED BY:	S. RUIZ
CONTRACT NO.:	25-007
DWG NO.	69-E-703
SHEET NO.	082 OF 97

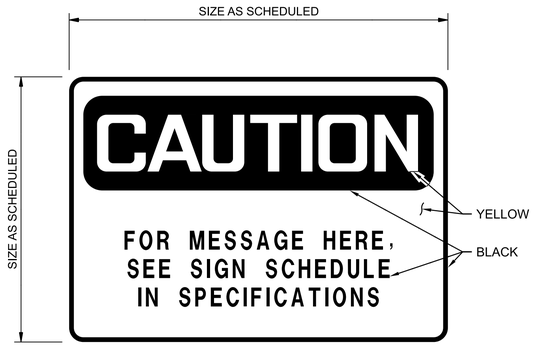
Bid Set

E5X79926
FILENAME: 69-E-703_E5X79926.dgn PLOT DATE: 16-JAN-2025 PLOT TIME: 18:29



DANGER SIGN
NTS

1014-001



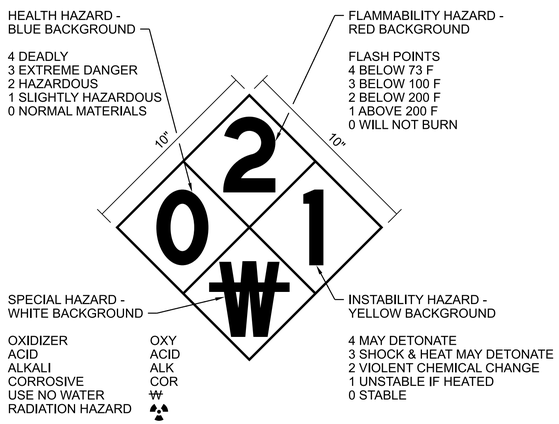
CAUTION
NTS

1014-002



WARNING SIGN
NTS

1014-003



NOTES:

1. LETTER HEIGHT: 4"
   LETTER COLOR: BLACK
2. NUMBERS AND LETTERS ON ABOVE SIGNAL DETAIL ARE EXAMPLES ONLY. FOR REQUIREMENTS ON THIS PROJECT, SEE SPECIFICATION 10 14 00.

HAZARDOUS MATERIAL SIGNAL
NTS

1014-006



NOTICE SIGN
NTS

1014-008

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
STANDARD DETAILS - 1

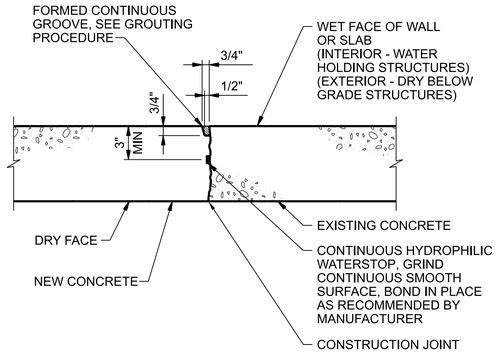
ARCHITECTURAL

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I KHAN
CHECKED BY:	T DODGE
SUBMITTED BY:	J MEIER
CONTRACT NO.:	25-007
DWG NO.	69-A-901
SHEET NO.	083 OF 97

Bid Set

PLOT TIME: 17:20
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-A-901_E5X79926.dgn



NOTE:

FOR USE IN NON-MOVING CONSTRUCTION JOINTS AND ONLY WHERE SPECIFICALLY INDICATED ON PLANS.

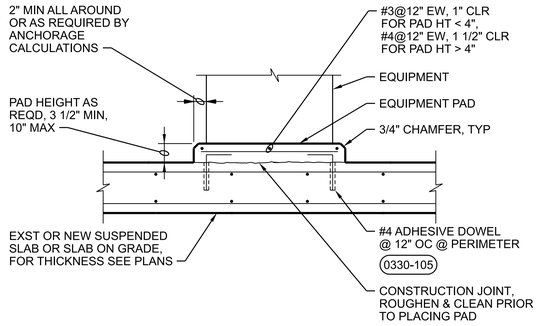
GROUTING PROCEDURE:

1. WAIT UNTIL NEW CONCRETE MINIMUM 28 DAYS OLD PRIOR TO GROUTING GROOVE.
2. ROUGHEN AND CLEAN SURFACES OF GROOVE WITH POWER WIRE BRUSH OR SANDBLASTING.
3. SATURATE AREA FOR 24 HOURS PRIOR TO GROUTING.
4. DRY PACK WITH TYPE II NON-SHRINK GROUT.
5. USE STEEL HAMMER AND STEEL TOOL TO DENSELY PACK GROUT INTO GROOVE.
6. WATER CURE GROUT FOR 4 DAYS MINIMUM.

HYDROPHILIC / GROOVE WATERSTOP

NTS

0315-003



NOTES:

1. WHEN ANCHORAGE OF EQUIPMENT TO PAD IS REQUIRED, USE CONCRETE ANCHORS SPECIFIED.
2. CONCRETE PADS FOR ELECTRICAL EQUIPMENT SHALL BE 3 1/2" HIGH, UNLESS NOTED OTHERWISE.

TYPE 'E'

GENERAL NOTE:

FOR GENERAL NOTES SEE DETAIL 2 OF 2.

DETAIL 1 OF 2

CONCRETE EQUIPMENT PAD - TYPE 'E'

NTS

0330-056

NOTES:

1. PAD SIZE SHALL BE MINIMUM INDICATED OR AS SHOWN ON THE PLANS OR AS INDICATED BY THE MANUFACTURER AND APPROVED BY THE ENGINEER.
2. THE SIZE, NUMBER, TYPE, LOCATION, AND THREAD PROJECTION OF THE ANCHOR BOLTS SHALL BE DETERMINED BY THE EQUIPMENT MANUFACTURER AND AS APPROVED BY THE ENGINEER. ANCHOR BOLTS SHALL BE HELD IN POSITION WITH A TEMPLATE OR OTHER ACCEPTABLE MEANS, MATCHING THE BASE PLATE, WHILE PAD IS BEING PLACED.
3. ANCHOR BOLT SLEEVES SHALL BE USED TO PROVIDE MINIMUM ANCHOR BOLT MOVEMENT OF 1/2" IN ALL HORIZONTAL DIRECTIONS. THE MINIMUM SLEEVE LENGTH SHALL BE 8 TIMES THE BOLT DIAMETER.
4. ANCHOR BOLT SLEEVES SHALL HAVE A MINIMUM INTERNAL DIAMETER 1" GREATER THAN BOLT DIAMETER AND A MAXIMUM INTERNAL DIAMETER 3" GREATER THAN ANCHOR BOLT DIAMETER. SLEEVES SHALL BE FILLED WITH NON-SHRINK GROUT AFTER BOLTS ARE ALIGNED. SEE (0330-057)
5. EQUIPMENT BASES SHALL BE INSTALLED LEVEL UNLESS INDICATED OTHERWISE.
6. WEDGES, SHIMS, OR LEVELING NUTS SHALL BE USED TO SUPPORT THE BASE WHILE THE GROUT IS PLACED. WEDGES OR SHIMS SHALL BE REMOVED AFTER GROUT IS SET AND PACK VOID WITH GROUT.
7. HEIGHT OF PADS SHALL BE MINIMUM REQUIRED FOR ANCHOR BOLT CLEARANCE TO KEEP ANCHOR BOLT ABOVE SUPPORTING SLAB (SEE TABLE BELOW).
8. AT CONTRACTOR'S OPTION, CONCRETE ANCHORS MAY BE USED IN LIEU OF CAST-IN-PLACE ANCHOR BOLTS FOR EQUIPMENT ANCHOR BOLTS LESS THAN 3/4" DIAMETER WHEN APPROVED BY THE EQUIPMENT MANUFACTURER AND APPROVED BY THE ENGINEER. ANCHORS SHALL BE INSTALLED WITH 4" MINIMUM EDGE DISTANCE IN EACH DIRECTION.

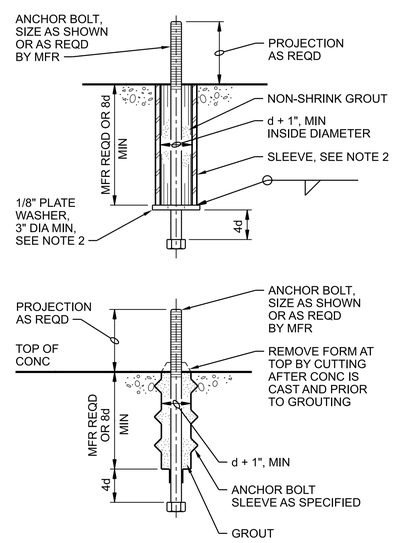
AB DIA (IN.)	1/2	5/8	3/4	7/8	1	1 1/4	1 3/8	1 1/2	1 3/4	2
MIN PAD HT (IN.)	7	8 1/2	10	11	12 1/2	15	16 1/2	18	21	24

DETAIL 2 OF 2

CONCRETE EQUIPMENT PAD - NOTES

NTS

0330-056



MACHINERY ANCHOR BOLT DETAIL

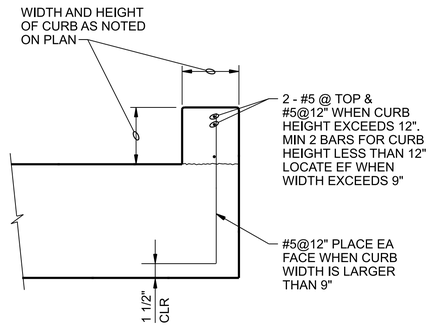
NOTES:

1. FOR CONCRETE EQUIPMENT PAD DETAILS AND NOTES NOT SHOWN SEE (0330-056)
2. MATERIAL TO MATCH BOLT.

ANCHOR BOLT DETAILS

NTS

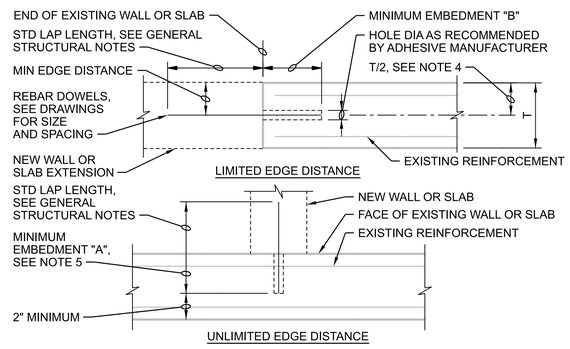
0330-057



CONCRETE CURB

NTS

0330-080



DOWEL SIZE	MINIMUM EDGE DISTANCE	MINIMUM EMBEDMENT "A"	MINIMUM EMBEDMENT "B"
#3	2 1/2"	5"	8"
#4	3 1/2"	7"	11"
#5	4"	8"	13"
#6	5"	10 1/2"	16"
#7	6"	12 1/2"	20"
#8	7"	14"	22"
#9	7 1/2"	15"	24"

NOTES:

1. CONFORM TO REQUIREMENTS OF SPECIFICATION SECTION 03 63 00, CONCRETE DOWELING.
2. FOLLOW ADHESIVE MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.
3. USE MINIMUM EMBEDMENTS SHOWN, EXCEPT USE MANUFACTURER'S MINIMUM RECOMMENDED EMBEDMENT IF GREATER.
4. LOCATE DOWELS CENTERED IN WALL OR SLAB UNLESS OTHERWISE NOTED ON DRAWINGS. WHERE 2 ROWS OF DOWELS INDICATED, STAGGER SPACING & LOCATE ALTERNATING DOWELS AT MINIMUM EDGE DISTANCE FROM OPPOSITE FACES.
5. PROVIDE MINIMUM EMBEDMENT "A" SHOWN IN TABLE UNLESS SHORTER EMBEDMENT DEPTH IS CALLED OUT ON DRAWINGS.

ADHESIVE DOWEL

NTS

0330-105

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
STANDARD DETAILS - 1

STRUCTURAL

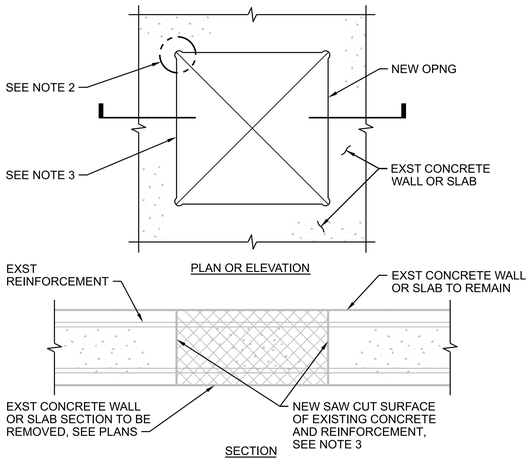
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I LAPINA-TRAUT
CHECKED BY:	L. ZHANG
SUBMITTED BY:	K SHAHZAD
CONTRACT NO.:	25-007
DWG NO.	69-S-901
SHEET NO.	084 OF 97

Bid Set

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
© JACOBS 2018. ALL RIGHTS RESERVED.

PLOT TIME: 16:56
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-S-901_E5X79926.dgn



NEW OPENING IN EXISTING WALL OR SLAB

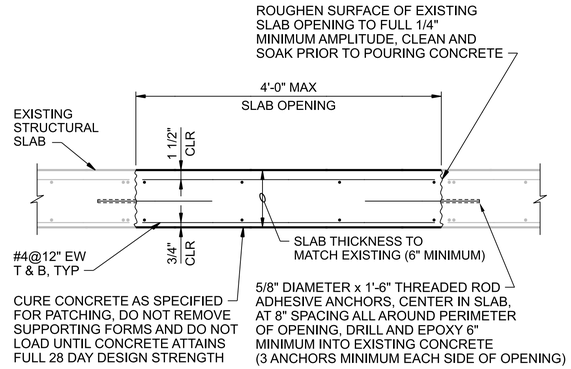
NOTES:

1. SUPPORT ADJACENT ELEVATED SLABS AND CUT SLAB SECTION UNTIL CUTTING OPERATION IS COMPLETE.
2. CORE DRILL CORNERS TO DIAMETER REQUIRED TO PREVENT OVER CUTTING OF REINFORCEMENT AND CONCRETE BEYOND OPENING.
3. PREPARE AND PROTECT EXPOSED STEEL REINFORCEMENT, SEE 0330-143

SURFACE TREATMENT TO NEW OPENINGS IN EXISTING CONCRETE

NTS

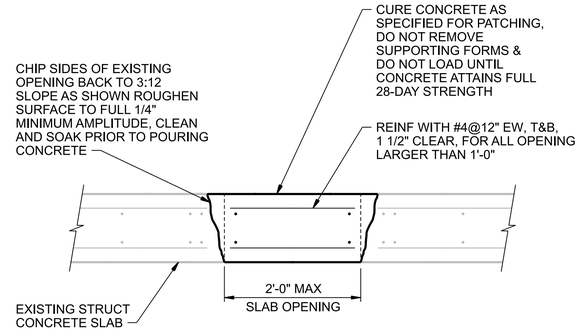
0330-106



EXISTING SLAB OPENING REPAIR

NTS

0330-141



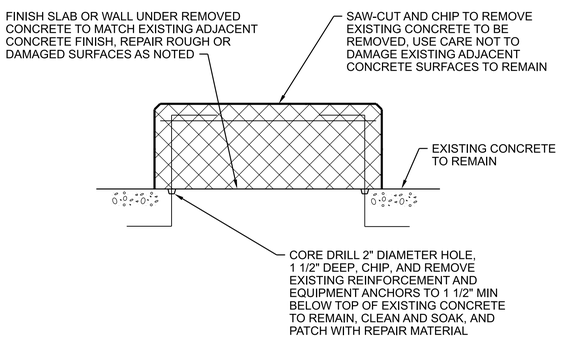
NOTE:

FOR REPAIR OF LARGER SLAB OPENINGS SEE 0330-141

EXISTING SLAB OPENING REPAIR

NTS

0330-142



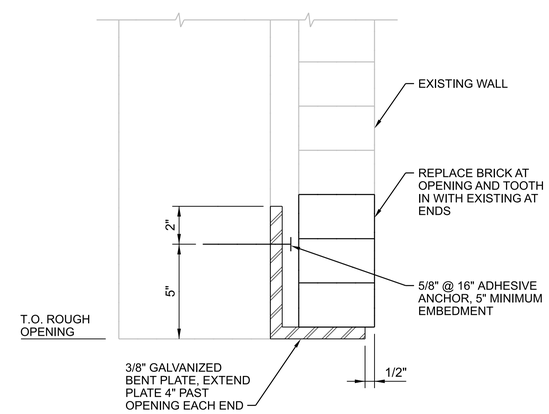
NOTES:

1. REMOVE CONCRETE OUT TO SOUND CONCRETE.
2. IF CHIPPING INTO THE SURFACE OF THE EXISTING SLAB OR WALL TO REMAIN IS REQUIRED, MAKE EDGES PERPENDICULAR TO THE SURFACE. DO NOT FEATHER EDGES.
3. FILL DEFECTIVE AREA WITH AN APPROVED PREPACKAGED REPAIR MATERIAL TO MATCH APPEARANCE OF ADJACENT CONCRETE SURFACES.
4. USE APPROVED BONDING AGENT ON SURFACES TO BE PATCHED PRIOR TO PLACING REPAIR MATERIAL.
5. DEMONSTRATE METHODS FOR REPAIR USING ACTUAL MATERIALS, METHODS, AND CURING PROCEDURES REQUIRED BY MATERIAL MANUFACTURERS. CONSULT WITH BONDING AGENT MANUFACTURER AND REPAIR MATERIAL MANUFACTURER ON TECHNIQUES.

CONCRETE DEMOLITION

NTS

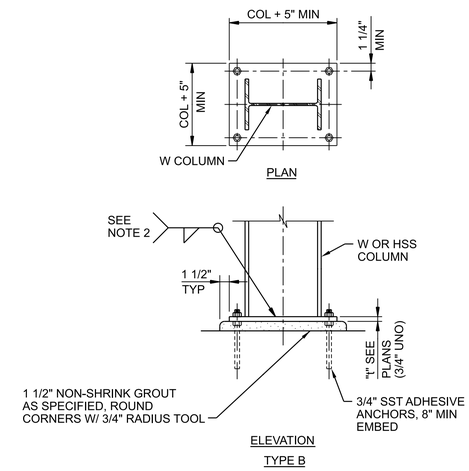
0330-143



BRICK LEDGER

NTS

0422-102



NOTES:

1. UNLESS OTHERWISE NOTED, ANCHOR BOLTS SHALL BE 3/4" DIA x REQUIRED WITH LEVELING NUTS AND 1'-0" MINIMUM EMBED AND BASEPLATES SHALL BE CENTERED ON COLUMN.
2. WELD SIZE SHALL BE DETERMINED BY THE THICKEST MEMBER JOINED; MINIMUM WELD SIZE SHALL BE 3/16" FILLET FOR MATERIAL THICKNESSES UP TO AND INCLUDING 1/2", 1/4" FILLET FOR THICKNESSES OVER 1/2" TO 3/4", AND 5/16" FILLET FOR MATERIAL THICKNESSES OVER 3/4". ALL WELDS SHALL BE SINGLE-PASS WELDS.
3. GPR SCAN CONCRETE PRIOR TO ANCHOR INSTALLATION AS TO NOT DAMAGE EXISTING CONCRETE REINFORCEMENT.

COLUMN BASE - STEEL

NTS

0512-001

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
STANDARD DETAILS - 2

STRUCTURAL

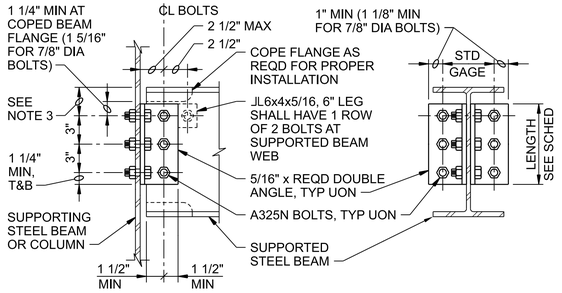
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I LAPINA-TRAUT
CHECKED BY:	L. ZHANG
SUBMITTED BY:	K SHAHZAD
CONTRACT NO.:	25-007
DWG NO.	69-S-902
SHEET NO.	085 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 16:51
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-S-902_E5X79926.dgn



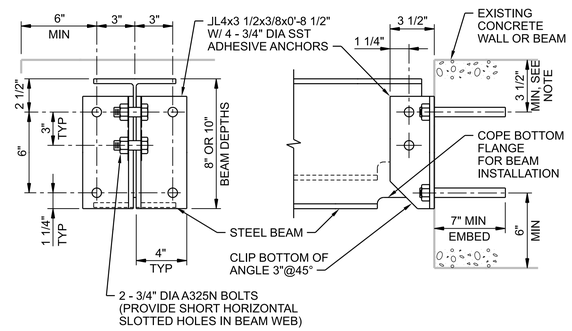
NOMINAL BEAM DEPTH, INCHES	ROWS OF BOLTS	BOLT DIA, INCHES	DOUBLE ANGLE, LENGTH, INCHES	COMMENTS
8-10	2	3/4"	0'-5 1/2"	-

NOTES:
1. ALL BEAM FRAMING CONNECTIONS SHALL CONFORM TO THIS DETAIL UNLESS SPECIFICALLY NOTED OTHERWISE OR APPROVED IN WRITING BY THE ENGINEER.
2. PROVIDE ADDITIONAL 1 1/2" LENGTH TO DOUBLE ANGLE FOR STAGGERED BOLT CONNECTIONS WHEN REQUIRED OR USED.
3. DIMENSION SHALL BE 3" UNLESS OTHERWISE REQUIRED FOR PROPER FABRICATION.

TYPICAL BEAM CONNECTION - STEEL

NTS

0512-020



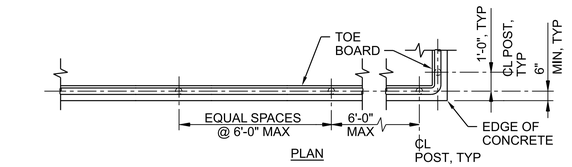
NOTE:

DO NOT CUT EXISTING CONCRETE BEAM TOP REINFORCING DURING DRILL-IN ANCHOR INSTALLATION. FIELD LOCATE BEAM REINFORCING PRIOR TO FABRICATION WITH GROUND PENETRATING RADAR OR OTHER ACCEPTABLE MEANS. ADD LENGTH TO CLIP ANGLES AS REQUIRED TO LOWER ANCHORS TO CLEAR REINFORCING WHILE MAINTAINING SPACING AND EDGE DISTANCE AS SHOWN.

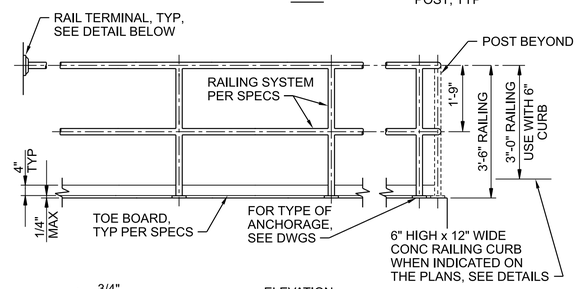
BEAM / WALL CONNECTION - STEEL

NTS

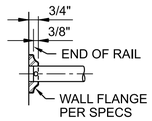
0512-056



PLAN



ELEVATION



RAIL TERMINAL

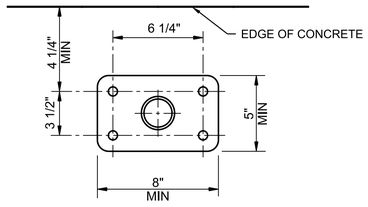
NOTES:
1. FASTEN RAIL TO WALL FLANGE PER MANUFACTURER'S RECOMMENDATIONS.
2. WALL FLANGE TO BE MOUNTED TO WALL WITH (2) 3/8" DIA SST WEDGE ANCHORS.

DETAIL 1 OF 2

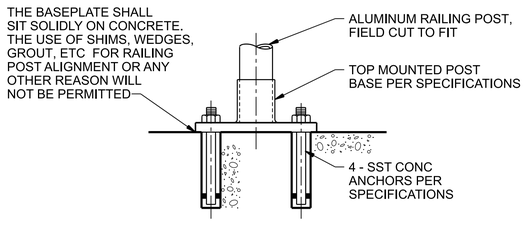
RAILING - 2-RAIL - ALUMINUM

NTS

0552-001



PLAN



ELEVATION

TYPE 'A'

NOTE:

PROVIDE PROTECTION FOR DISSIMILAR METALS AND FOR ALUMINUM IN CONTACT WITH CONCRETE PER SPECIFICATIONS.

DETAIL 2 OF 2

RAILING POST ANCHORAGE TYPE 'A' - ALUMINUM

NTS

0552-001

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
©JACOBS 2018. ALL RIGHTS RESERVED.

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
STANDARD DETAILS - 3

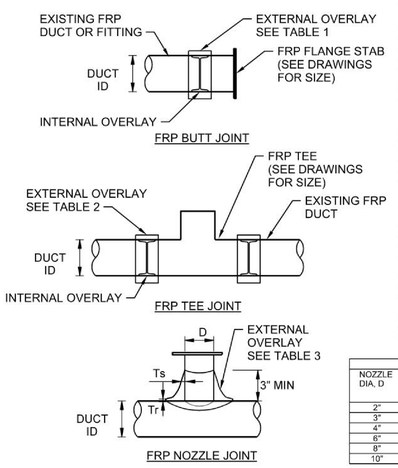
STRUCTURAL

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	I LAPINA-TRAUT
CHECKED BY:	L. ZHANG
SUBMITTED BY:	K SHAHZAD
CONTRACT NO.:	25-007
DWG NO.	69-S-903
SHEET NO.	086 OF 97

Bid Set

PLOT TIME: 16:53
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-S-903_E5X79926.dgn



DUCT I.D.	EXTERNAL OVERLAY (TABLE 1)	
	THK.	WIDTH
12"	.30"	8"
14"	.30"	8"
16"	.30"	8"
18"	.37"	10"
20"	.37"	10"
24"	.36"	10"
30"	.36"	12"
36"	.36"	14"
42"	.36"	14"
48"	.40"	14"
54	.47"	14"
60"	.47"	16"
72"	.47"	16"

DUCT	EXTERNAL OVERLAY (TABLE 2)	
I.D.	THK.	WIDTH
12"	.30"	10"
14"	.30"	10"
16"	.30"	10"
18"	.37"	12"
20"	.37"	12"
24"	.37"	12"
30"	.37"	14"
36"	.37"	14"
42"	.40"	14"
48"	.40"	16"
54	.40"	16"
60"	.40"	16"

TABLE 3			
NOZZLE DIA, D	JOINT WIDTH W	JOINT THK. Ts	JOINT THK. Tr
2"	4"	0.125"	0.2"
3"	4"	0.125"	0.2"
4"	4"	0.125"	0.2"
6"	4"	0.125"	0.2"
8"	6"	0.125"	0.2"
10"	6"	0.125"	0.2"

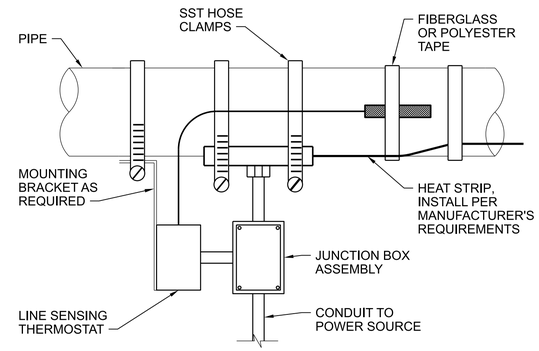
NOTES:

1. FRP DUCT FLANGE FABRICATED IN ACCORDANCE WITH ASTM D 3982
2. FLANGE DRILLING PATTERN PER TABLE 1 IN ASTM D 3982.
3. FILL VOID WITH RESIN PUTTY. MAXIMUM GAP 1/4".
4. PROVIDE INTERNAL OVERLAY OVER JOINT IF ACCESSIBLE, OTHERWISE RESIN COAT EDGES SO THAT NO FIBERS ARE EXPOSED.
5. APPLY GEL COAT WITH UV INHIBITOR TO MATCH EXISTING FRP DUCT.

FRP JOINTS

NTS

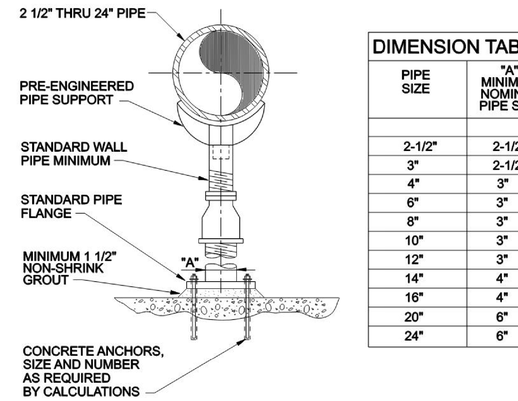
2331-820



HEAT TRACE CONNECTION

NTS

4005-001

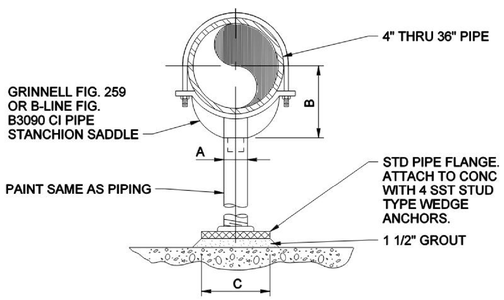


DIMENSION TABLE	
PIPE SIZE	"A" MINIMUM NOMINAL PIPE SIZE
2-1/2"	2-1/2"
3"	2-1/2"
4"	3"
6"	3"
8"	3"
10"	3"
12"	3"
14"	4"
16"	4"
20"	6"
24"	6"

PIPE SUPPORT SADLE SUPPORT PEDESTAL TYPE - ADJUSTABLE

NTS

4005-500



DIMENSION TABLE			
PIPE SIZE	A	B	C
4"	3"	4-3/16"	9"
5"	3"	4-13/16"	9"
6"	3"	5-7/16"	9"
8"	3"	6-15/16"	9"
10"	3"	8-7/16"	9"
12"	3"	9-15/16"	9"
14"	4"	10-15/16"	11"
16"	4"	12-3/8"	11"
18"	4"	13-7/8"	11"
20"	6"	15-3/8"	13-1/2"
22"	6"	16-5/8"	13-1/2"
24"	6"	17-15/16"	13-1/2"
26"	6"	19-1/8"	13-1/2"
30"	6"	21-5/16"	13-1/2"
32"	6"	22-1/2"	13-1/2"
36"	8"	24-1/2"	16"

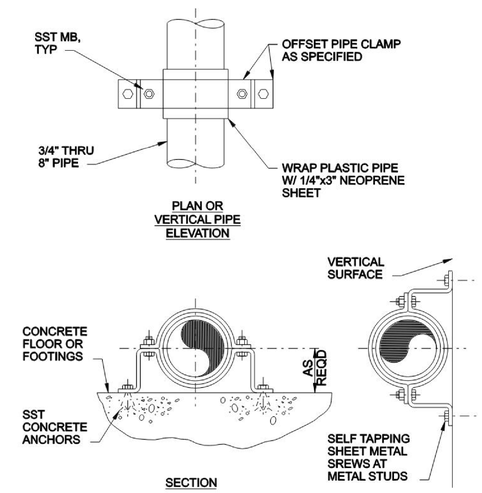
NOTES:

1. PROVIDE HALF ROUND RIGID INSULATION AND INSULATION PROTECTION SHIELD, SIMILAR TO GRINNELL FIGURE 167 OR B-LINE FIG. 3151, WHERE PIPING IS INSULATED.
2. PROVIDE NEOPRENE WAFFLE ISOLATION PAD, SIMILAR TO MASON TYPE 'W' OR KORFUND KORPAD 40, UNDER SUPPORT FOOT WHEN PIPING IS ISOLATED OR SUPPORT IS ADJACENT TO MECHANICAL EQUIPMENT.
3. FOR BASE, HEIGHT AND FLANGE DIMENSIONS, SEE TABLE.

PIPE SUPPORT SADDLE SUPPORT PEDESTAL TYPE - NON-ADJUSTABLE

NTS

4005-501



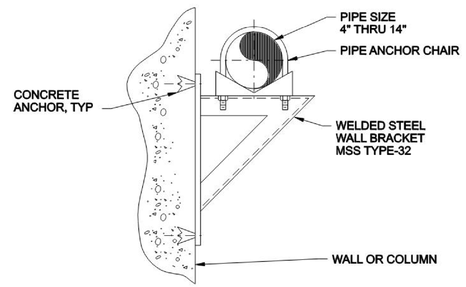
NOTE:

1. HOT DIP GALVANIZE AFTER FABRICATION.

PIPE SUPPORT - OFFSET PIPE CLAMP

NTS

4005-505



PIPE SUPPORT - WALL MOUNTED MEDIUM DUTY

NTS

4005-508

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
STANDARD DETAILS - 1

PROCESS MECHANICAL

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

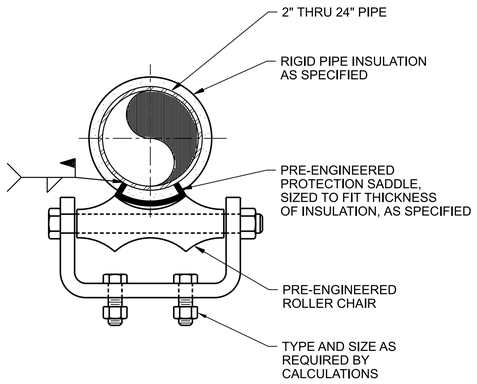
©JACOBS 2018. ALL RIGHTS RESERVED.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. HUNERS
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-M-901
SHEET NO.	087 OF 97

Bid Set

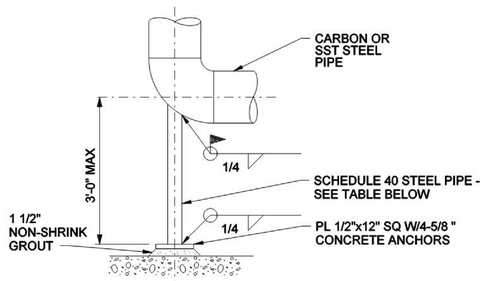
PLOT TIME: 16:52
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-M-901_E5X79926.dgn



NOTES:
1. WHERE SUPPORT IS TO BE MOUNTED ON FLOOR, SIZE AND NUMBER OF CONCRETE ANCHORS AS REQUIRED BY CALCULATIONS.
2. SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED.

PIPE SUPPORT
NTS

4005-512



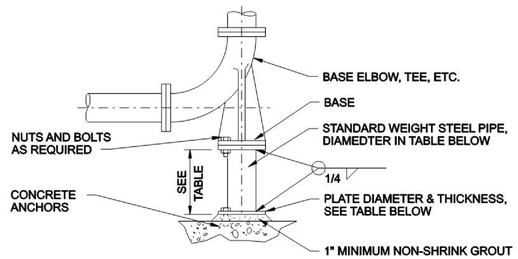
PIPE DIAMETER	SUPPORT DIAMETER	PLATE THICKNESS	ANCHOR BOLT DIAMETER
3"	2 1/2"	3/8"	3/8"
4" THRU 12"	3"	3/8"	1/2"
14" AND 16"	4"	3/8"	1/2"
18" AND 20"	6"	1/2"	5/8"

NOTE:

1. FOR INTERIOR LINED OR COATED CARBON STEEL PIPE, REPAIR INTERIOR COATING AFTER WELDING

PIPE SUPPORT
NTS

4005-516



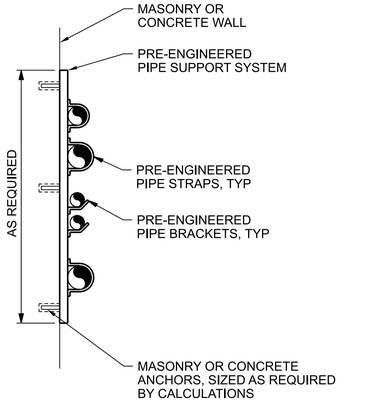
DIMENSION TABLE				
PIPE SIZE	SUPPORT DIAMETER	PLATE		ANCHOR BOLT DIAMETER
		DIAMETER	THICKNESS	
3"	1 1/2"	5"	3/8"	3/8"
4"	2"	6"	3/8"	3/8"
6"	3"	7"	3/8"	3/8"
8" and 10"	4"	9"	1/2"	1/2"
12" thru 16"	6"	11"	1/2"	1/2"
18" thru 24"	8"	13 1/2"	5/8"	5/8"
30"	10"	16"	5/8"	5/8"
36"	12"	19"	5/8"	5/8"
42"	16"	23 1/2"	3/4"	3/4"
48"	18"	25"	3/4"	3/4"
54"	20"	30"	3/4"	3/4" (USE 6)
60"	24"	32"	3/4"	3/4" (USE 6)

NOTES:

1. ALSO USE FOR SUPPORT OF HORIZONTAL TEE OR CROSS.

BASE BEND
NTS

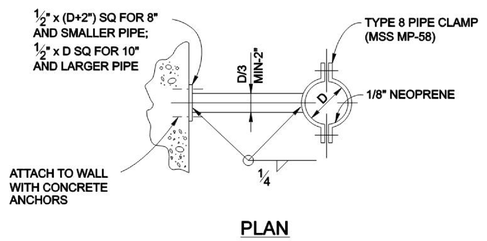
4005-518



NOTES:
1. PROVIDE PIPE PROTECTION BARRIER AS SPECIFIED.
2. SUBMIT FINAL DESIGN DRAWINGS AND CALCULATIONS OF SUPPORTS AND ANCHORAGES AS SPECIFIED.

STACKED PIPE WALL SYSTEM
NTS

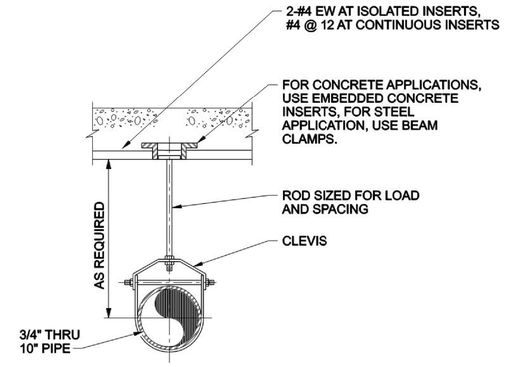
4005-521



PLAN

CHANNEL TYPE SUPPORT SYSTEM
NTS

4005-543



NOTES:

1. USE POST-INSTALLED ANCHORS IN EXISTING WALLS.

PIPE HANGER
NTS

4005-550
SIM

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
STANDARD DETAILS - 2

PROCESS MECHANICAL

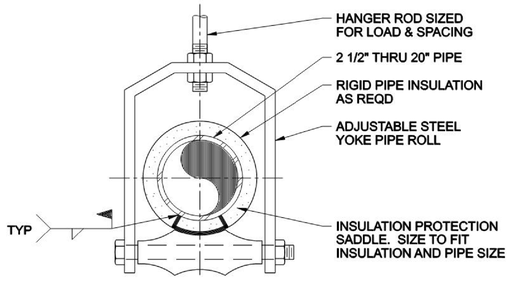
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
© JACOBS 2018. ALL RIGHTS RESERVED.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. HUNERS
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-M-902
SHEET NO.	088 OF 97

Bid Set

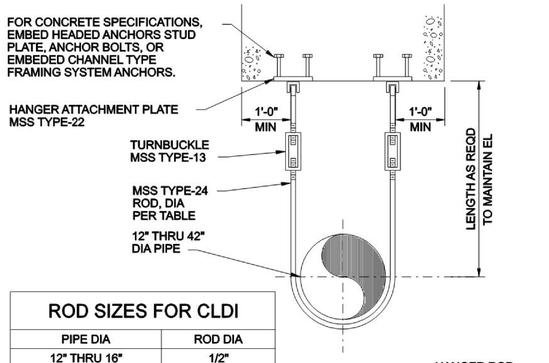
PLOT TIME: 16:55
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-M-902_E5X79926.dgn



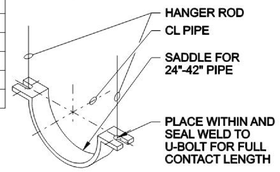
PIPE HANGER

NTS

4005-553



ROD SIZES FOR CLDI	
PIPE DIA	ROD DIA
12" THRU 16"	1/2"
18" AND 20"	5/8"
24"	3/4"
30"	1"
36"	1-1/8"
42"	1-1/4"



NOTES:

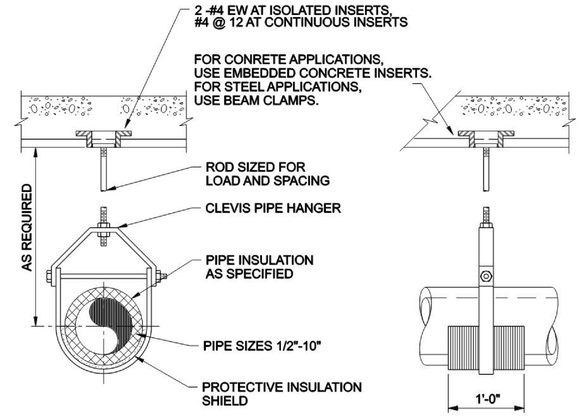
1. HANGERS FOR PIPES 24" AND LARGER SHALL BE EQUIPPED WITH 1/4"x4" PLATE SADDLE, UNLESS OTHERWISE NOTED.
2. PROVIDE SUPPORT LOAD CALCULATIONS FOR CEILING ANCHORS AND MANUFACTURERS DOCUMENTATION OF LOAD RATING, WHEREVER THIS DETAIL IS USED.
3. USE POST-INSTALLED ANCHORS IN EXISTING WALLS.

PIPE HANGER

NTS

4005-554

SIM



NOTES:

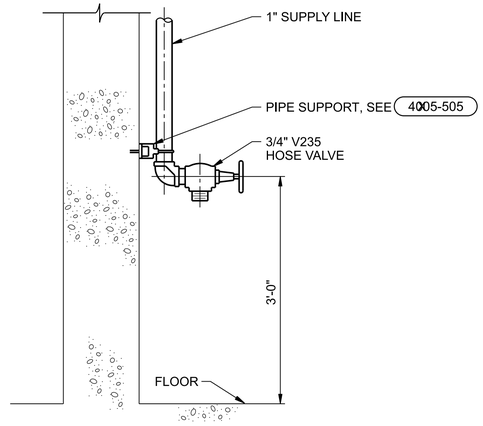
1. PIPE HANGERS SHALL BE OVERSIZED AS REQUIRED TO ACCOMMODATE THICKNESS OF INSULATION SPECIFIED. HANGER SHALL NOT COME INTO CONTACT WITH THE INSULATION DIRECTLY, EITHER AT THE VERTICAL YOKE OR AT THE POINT OF SUPPORT. FOR REQUIREMENTS ON INSULATION SHIELD USED WITH PIPE HANGERS, SEE SPECIFICATIONS.
2. USE POST-INSTALLED ANCHORS IN EXISTING WALLS.

PIPE HANGER

NTS

4005-557

SIM



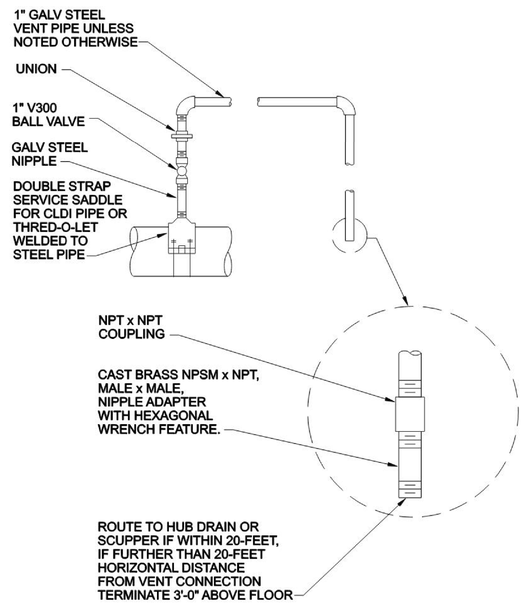
NOTES:

1. ROTATE HOSE VALVE 30° OFF WALL.

INTERIOR HOSE VALVE

NTS

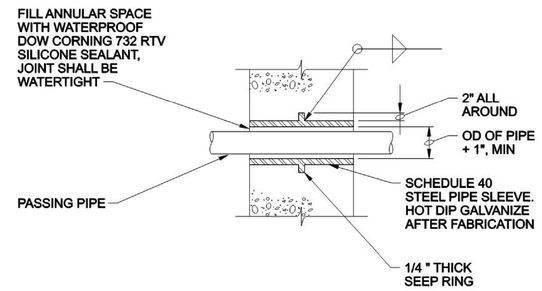
4027-164



PIPE HIGH POINT VENT

NTS

4027-205



NOTES:

1. DO NOT USE WHERE SUBJECT TO HYDROSTATIC PRESSURE. PAINT ENTIRE SLEEVE AND SEEP RING AS SPECIFIED.
2. SEE FIRE PROOFING REQUIREMENTS IN STANDARD DETAIL 2605-306
3. FOR EXISTING CONCRETE SLABS: PIPE SLEEVE WITH SEEP RING IS NOT REQUIRED. GPR SCAN PRIOR TO INSTALLATION TO AVOID CUTTING OR HITTING REINFORCEMENT.

TYPE B PIPE SLEEVE

NTS

4027-604

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
STANDARD DETAILS - 3

PROCESS MECHANICAL

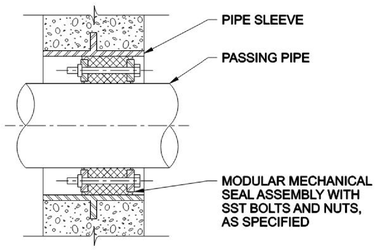
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. HUNERS
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-M-903
SHEET NO.	089 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 16:51
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-M-903_E5X79926.dgn



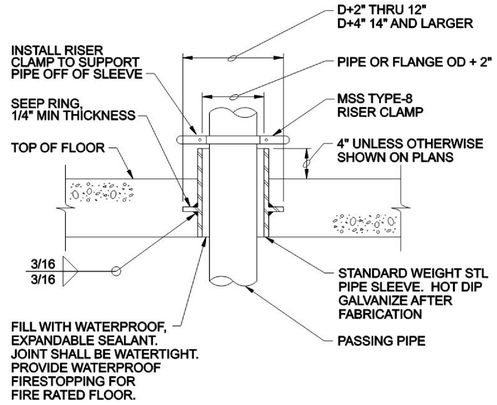
NOTE:

1. SEE FIRE PROOFING REQUIREMENTS IN STANDARD DETAIL (2605-306)

WALL PIPE PENETRATION SEAL

NTS

4027-607



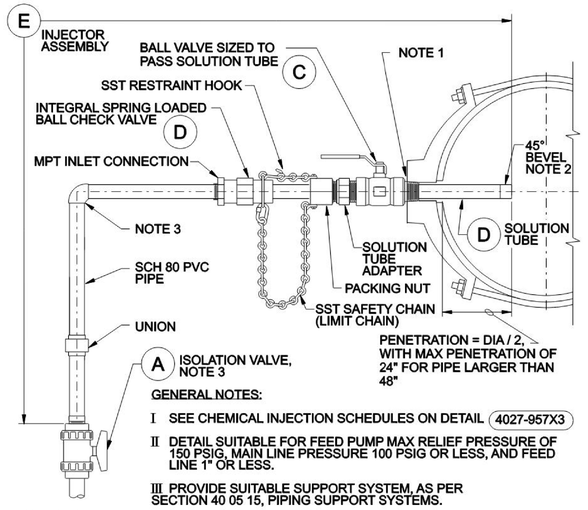
NOTES:

1. COAT FLOOR SLEEVE WITH SPECIFIED PAINT SYSTEM BEFORE CONCRETE PLACEMENT.
2. FOR EXISTING CONCRETE SLABS: PIPE SLEEVE WITH SEEP RING IS NOT REQUIRED. GPR SCAN PRIOR TO INSTALLATION TO AVOID CUTTING OR HITTING EXISTING REINFORCEMENT. SUPPORT SLEEVE WITH MSS TYPE-8 RISER CLAMP.
3. SEE FIRE PROOFING REQUIREMENTS IN STANDARD DETAIL (2605-306)

FLOOR SLEEVE

NTS

4027-623



GENERAL NOTES:

I SEE CHEMICAL INJECTION SCHEDULES ON DETAIL (4027-957X3)

II DETAIL SUITABLE FOR FEED PUMP MAX RELIEF PRESSURE OF 150 PSIG, MAIN LINE PRESSURE 100 PSIG OR LESS, AND FEED LINE 1" OR LESS.

III PROVIDE SUITABLE SUPPORT SYSTEM, AS PER SECTION 40 05 15, PIPING SUPPORT SYSTEMS.

SPECIFIC NOTES:

1. UNLESS OTHERWISE NOTED, PROVIDE SST SERVICE SADDLE FOR DUCTILE IRON (42" MAX), SAME MATERIAL AS PIPE. PROVIDE WELDED NOZZLE SAME MATERIAL AS PIPE. FOR CARBON STEEL AND SST PIPE WITH INTERIOR COATING, WELD FITTINGS IN FACTORY PRIOR TO APPLYING INTERIOR COATING. FOR PVC, PROVIDE REDUCED TEE FITTING.
2. ORIENT BEVEL SO IT FACES FLOW DIRECTION. SEE VENDOR'S RECOMMENDATIONS.
3. FIELD LOCATE VALVE (A) TO ALLOW SOLUTION TUBE RETRACTION ONCE PIPE IS REMOVED. USE FITTINGS AS NEEDED.

CHEMICAL INJECTOR

NTS

4027-957

SCHEDULE 1 - CHEMICAL INJECTOR DEFAULT COMPONENTS		
COMPONENT MARK	COMPONENT DESCRIPTION	MODEL / MATERIALS
Ⓐ	ISOLATION VALVE	1/2" V335 (PVC)
Ⓑ	FLEXIBLE HOSE	REINFORCED CHEMICAL TUBING (1" MAX & 150 PSIG MAX)
Ⓒ	SOLUTION TUBE ISOLATION VALVE	1" V307 (SST)
Ⓓ	SOLUTION TUBE AND INTEGRAL SPRING LOADED BALL CHECK VALVE WITH TEFLON BALL	SEE SCHEDULE 2
Ⓔ	INJECTOR ASSEMBLY INCLUDES Ⓑ Ⓒ Ⓓ AND ANCILLARIES	SAF-T-FLO EB146; OR EQUAL

SCHEDULE 2 - COMPONENTS BY CHEMICAL			
COMPONENT MARK	COMPONENT MARK	COMPONENT MARK	COMPONENT MARK
CS	SUPPLEMENTAL CARBON	PVC	DEFAULT
SH	PH CONTROL CHEMICAL	316 STAINLESS STEEL	DEFAULT NOTE 2
NaOC	SODIUM HYPOCHLORITE 12%	HASTELLOY C-276	DEFUALT NOTE 3

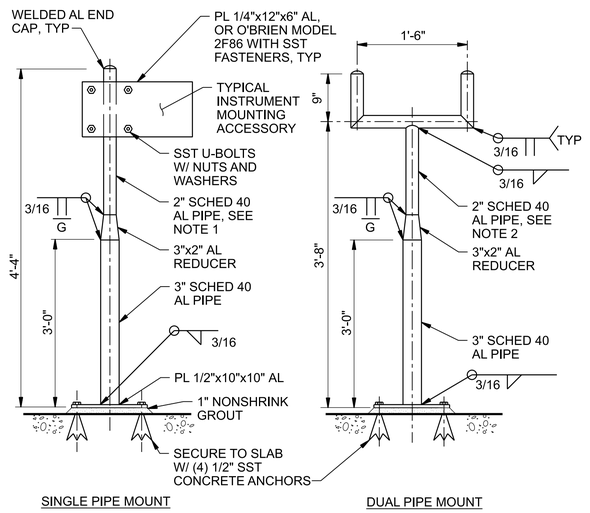
NOTE:

1. COMPONENTS SUITABLE FOR CONCENTRATIONS LISTED UP TO 100°F.
2. FOR ISOLATION VALVE A , FURNISH 1/2"-V307 (NPT SST BALL VALVE), SST NIPPLES, AND SST FLANGES. FLANGE CONNECT TO MATING PIPE USED SST FASTENERS.
3. FOR HYPOCHLORITE ISOLATION VALVE A , PROVIDE PRESSURE RELIEF HOLE DRILLED ON LOW PRESSURE SIDE OF BALL VAVLE.

CHEMICAL INJECTOR

NTS

4027-957X3



SINGLE PIPE MOUNT DUAL PIPE MOUNT

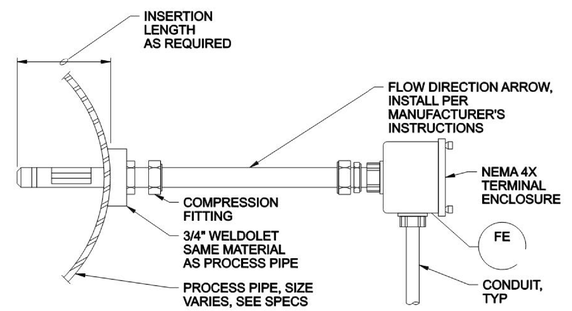
NOTES:

1. ALTERNATIVELY, STANCHION SUPPORT SHALL BE O'BRIEN MODEL FP52 WITH 9 MIL ARC SPRAY ZINC METALLIZED COATING; OR EQUAL.
2. ALTERNATIVELY, DUAL SUPPORT SHALL BE O'BRIEN MODEL FP40 STANCHION WITH MODEL AFM, S24M & A8M(2) ACCESSORIES, ALL WITH 9 MIL ARC SPRAY ZINC METALLIZED COATING; OR EQUAL.
3. PAINT ALUMINUM IN CONTACT WITH CONCRETE ACCORDING TO SPECIFICATIONS FOR PAINTING.

FLOOR MOUNTED INSTRUMENT PIPE STANDS

NTS

4090-401



PROCESS AIR SERVICE

THERMAL MASS FLOW ELEMENT INSTALLATION

NTS

4091-217

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
STANDARD DETAILS - 4

PROCESS MECHANICAL

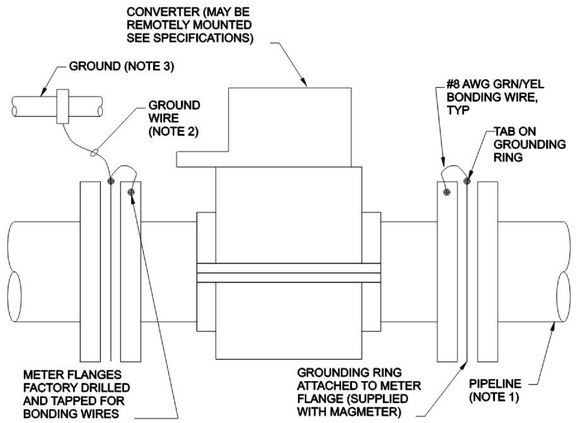
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. HUNERS
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-M-904
SHEET NO.	090 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 16:52
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-M-904_E5X79926.dgn



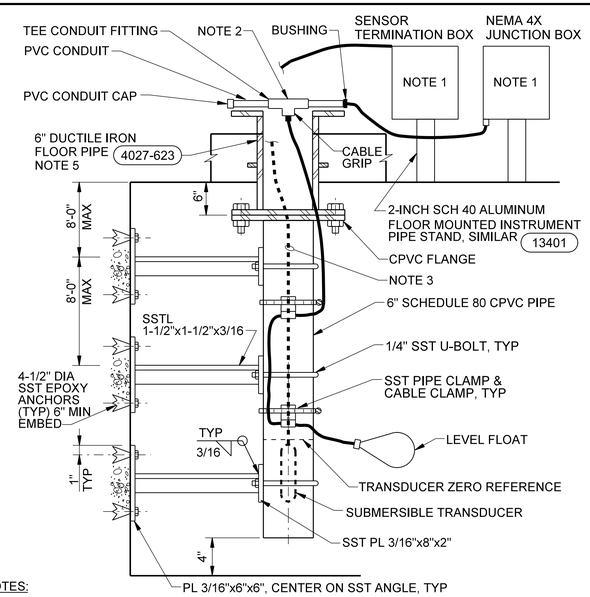
NOTES:

1. USE THIS DETAIL WHEN PIPELINE IS ELECTRICALLY NON-CONDUCTIVE (NON-METALLIC OR METALLIC WITH INSIDE COATING OR LINING).
2. NO. 12 AWG INSULATED IF LENGTH IS LESS THAN 6'. IF MORE THAN 6', INSTALL CONDUCTOR IN 3/4" CONDUIT.
3. BOND MAGMETER TO ONE OF THE FOLLOWING ACCEPTABLE GROUNDS:
   A) METALLIC WATER PIPE IF BURIED PORTION IS MORE THAN 10'.
   B) STRUCTURAL STEEL
   C) IF NEITHER OF THE ABOVE NOT AVAILABLE, CONNECT TO ELECTRICAL ROOM GROUND BUS.

NON-CONDUCTIVE MAGMETER GROUNDING

NTS

4091-220G



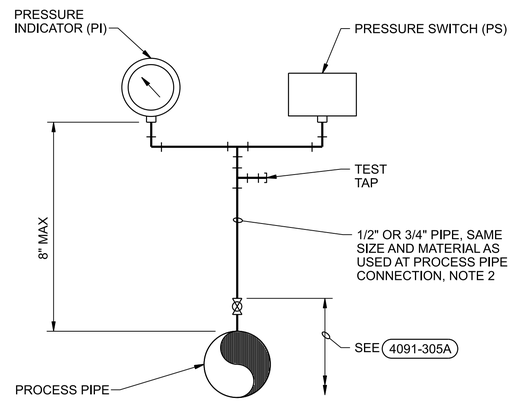
NOTES:

1. LOCATE CLOSE TO FLOOR PIPE (3 FT MAX.)
2. CONDUIT FITTING RESTS ON FLOOR PIPE AND IS NOT FASTENED TO IT.
3. ALSO PROVIDE CONDUIT FITTING ASSEMBLY FOR SUBMERSIBLE TRANSDUCER CABLE ASSEMBLY IDENTICAL TO THAT FOR FLOAT.
4. FOR STILLING WELL IN EXISTING CONCRETE SLAB, SEE DETAIL 4027-623 FOR FLOOR PIPE.
5. FOR EXISTING SLAB, PROVIDE A 6" CPVC SCH 80 SLEEVE SUPPORTED WITH MSS TYPE 8 RISER CLAMP.

SUB LVL TRANSDUCER/LOW FLOAT/STILLING WELL/NON-HAZARDOUS

NTS

4091-265G



DIRECT MOUNTING

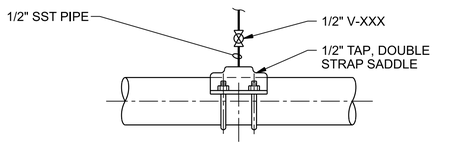
NOTES:

1. INDICATOR AND SWITCH INSTALLATION SHOWN. FOR SINGLE INSTRUMENT INSTALLATIONS, MOUNT DEVICE DIRECTLY ABOVE TEST TAP.
2. PROVIDE ELBOW ON VERTICAL PIPE INSTALLATION TO ORIENT PI FOR READING.

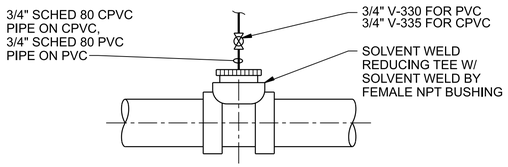
PRESSURE SWITCH & INDICATOR INSTALLATION

NTS

4091-304A



CEMENT LINE STEEL PIPE, CAST IRON PIPE AND DUCTILE IRON PIPE

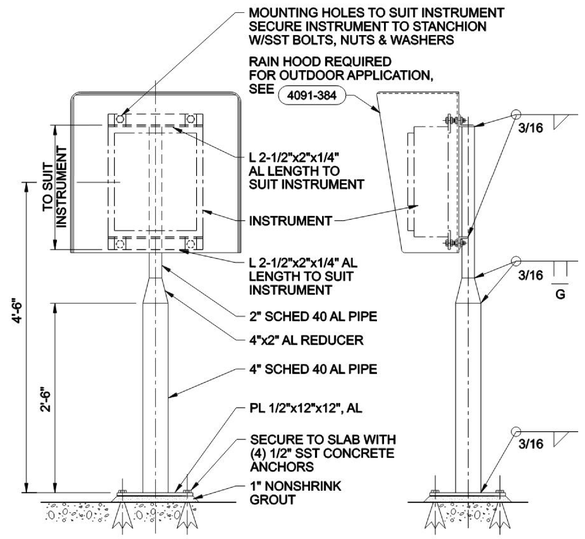


PVC AND CPVC PIPE

PRESSURE CONNECTION INSTALLATION

NTS

4091-305A



NOTES:

1. ROUND OFF ALL EXPOSED EDGES AND CORNERS.
2. PAINT ALUMINUM IN CONTACT WITH CONCRETE ACCORDING TO SPECIFICATIONS FOR PAINTING.

STANDARD FREESTANDING PANEL MOUNTING

NTS

4091-382

STANCHION SUPPORT FOR CASE MOUNTED INSTRUMENTS

NTS

4091-383

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
STANDARD DETAILS - 5

PROCESS MECHANICAL

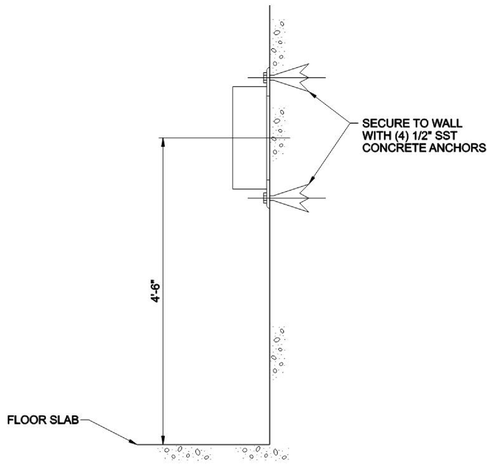
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
©JACOBS 2018. ALL RIGHTS RESERVED.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. HUNERS
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-M-905
SHEET NO.	091OF 97

Bid Set

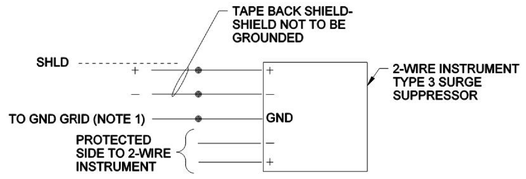
PLOT TIME: 16:54
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-M-905_E5X79926.dgn



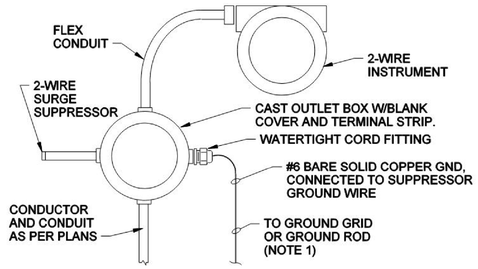
WAL MOUNTED PANEL OR INSTRUMENT INSTALLATION

NTS

4091-388



WIRING DIAGRAM



NOTES:

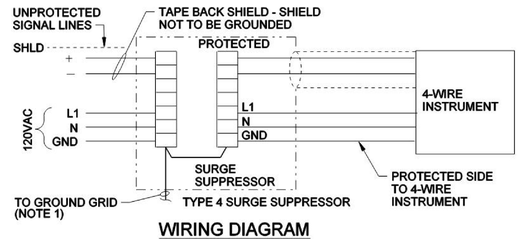
1. BOND TO ONE OF THE FOLLOWING ACCEPTABLE GROUNDS:
   A) METALLIC WATER PIPE IF BURIED PORTION IS MORE THAN 10'.
   B) STRUCTURAL STEEL.
   C) IF NEITHER OF THE ABOVE NOT AVAILABLE, CONNECT TO ELECTRICAL ROOM GROUND BUS.

SURGE SUPPRESSOR

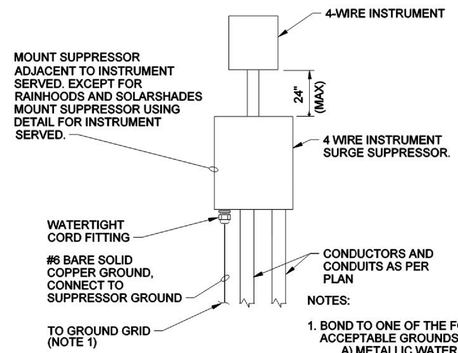
INSTALLATION 2-WIRE INSTRUMENT

NTS

4091-415



WIRING DIAGRAM



NOTES:

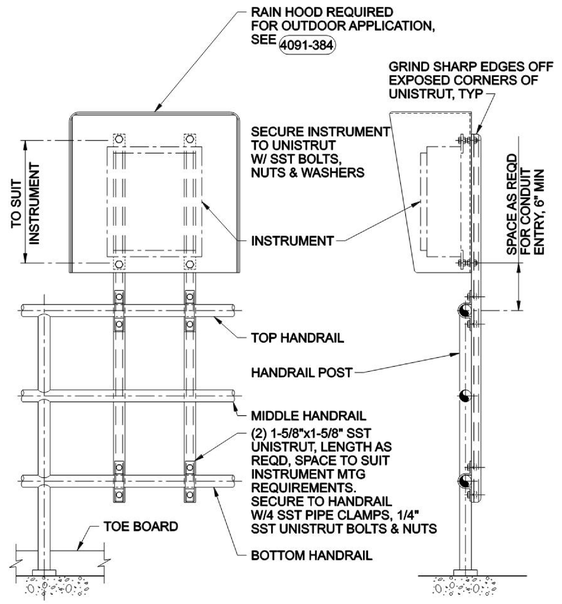
1. BOND TO ONE OF THE FOLLOWING ACCEPTABLE GROUNDS:
   A) METALLIC WATER PIPE IF BURIED PORTION IS MORE THAN 10'.
   B) STRUCTURAL STEEL.
   C) IF NEITHER OF THE ABOVE NOT AVAILABLE, CONNECT TO ELECTRICAL ROOM GROUND BUS.

SURGE SUPPRESSOR

INSTALLATION 4-WIRE INSTRUMENT

NTS

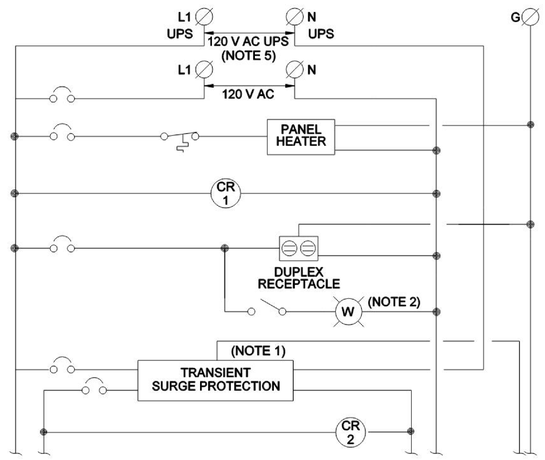
4091-420



TYPICAL HANDRAIL MOUNTING FOR CASE MOUNTED INSTURMENTS

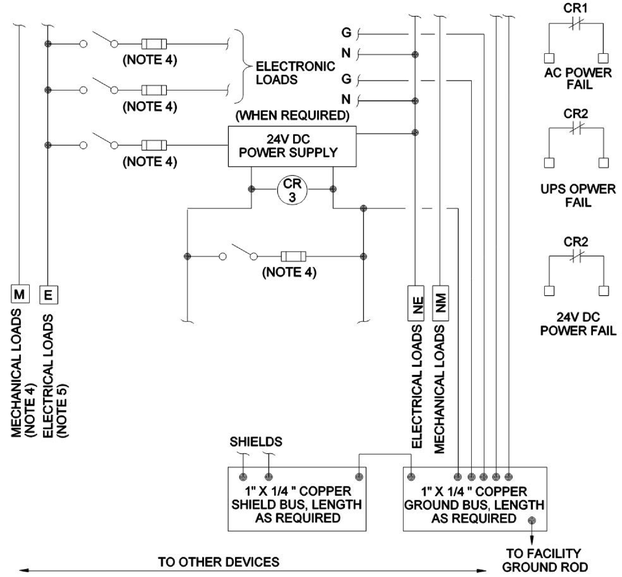
NTS

4091-385



NOTES:

1. IF LOAD EXCEEDS 15 AMPS PROVIDE ADDITIONAL PARALLEL CIRCUITS WITH TRANSIENT SURGE PROTECTION AS SHOWN.
2. PROVIDE APPROPRIATE LIGHTING PACKAGE FOR PANEL SIZE HOFFMAN BULLETIN A-80, OR EQUAL.
3. SCHEMATIC DIAGRAM SHOWN IS A TYPICAL EXAMPLE TO BE USED AS A GUIDE FOR PREPARING DETAILED SCHEMATIC DIAGRAM.
4. PROVIDE PROPERLY SIZED FUSE FOR EACH LOAD.
5. CONNECT TO SEPARATE 120V UPS POWER PROVIDED BY DIVISION 26, ELECTRICAL.



TYPICAL PANEL POWER DISTRIBUTION FOR PANELS WITH EXTERNAL UPS FEEDS

NTS

4091-426BG

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
STANDARD DETAILS - 6

PROCESS MECHANICAL

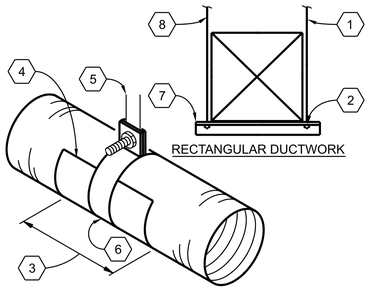
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
© JACOBS 2018. ALL RIGHTS RESERVED.

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. HUNERS
CHECKED BY:	N. JOHNSON
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-M-906
SHEET NO.	092 OF 97

Bid Set

PLOT TIME: 16:51
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-M-906_E5X79926.dgn



1. ATTACH TO STRUCTURE WITH BEAM CLAMPS OR MASONRY EXPANSION BOLTS
2. NUT WITH LOCK WASHER
3. LENGTH EQUALS DIAMETER OF DUCT
4. STAINLESS STEEL SHEET METAL SADDLE
5. ATTACH TO STRUCTURE PER SMACNA RECOMMENDATIONS
6. 1" MIN BAND CLAMP
7. KINDORF HANGER WITH ALL THREAD ROD IN TRAPEZE CONFIGURATION
8. ALL-THREAD ROD

GENERAL NOTES

A. DO NOT USE POWDER POWERED FASTENING SYSTEMS TO ATTACH SUPPORTS TO STRUCTURE.

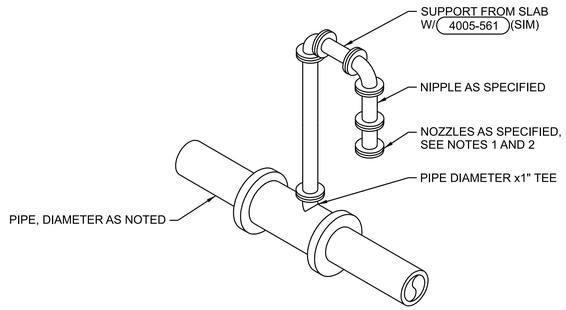
B. SUPPORT SYSTEM MUST NOT DAMAGE DUCT, INSULATION, OR CAUSE DUCT SHAPE DEFORMATION.

C. HANGER SIZES SHALL BE IN ACCORDANCE WITH SMACNA, LATEST EDITION.

DUCTWORK SUPPORT

NTS

2331-102



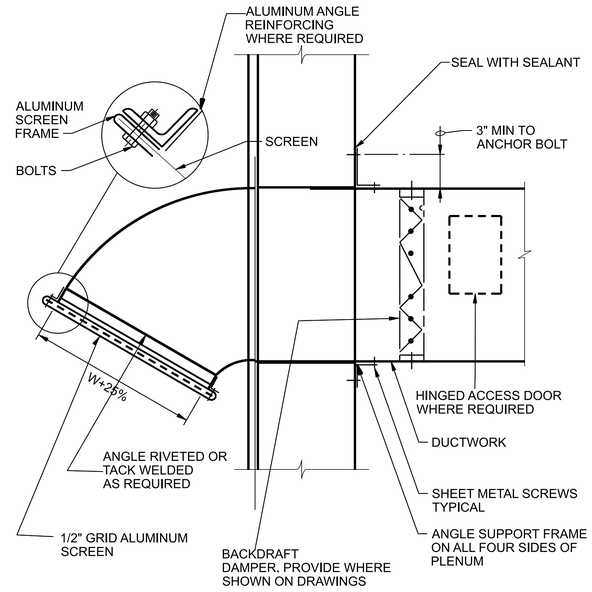
NOTES:

1. TYPE 1, FOAM CONTROL FOR USE IN CPT REACTORS 1 AND 2. SEE SPECIFICATIONS.
2. TYPE 2, TANK WASHDOWN FOR USE IN CPT REACTORS 1 AND 2. SEE SPECIFICATIONS.

SPRAY NOZZLE

NTS

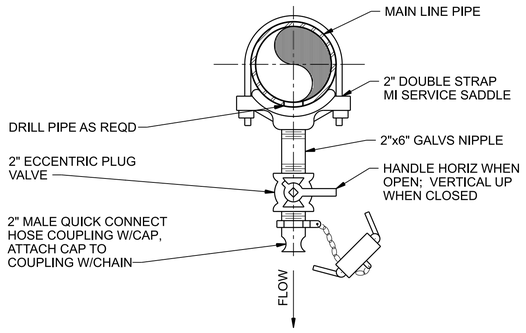
4027-193



DUCT TERMINATION AT EXTERIOR WALL

NTS

2337-402



NOTES:

1. FOR LINE SIZE 2" AND SMALLER, FITTINGS AND VALVES SHALL BE SAME SIZE AS LINE.

LINE DRAIN VALVE INSTALLATION

NTS

4027-191

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
STANDARD DETAILS - 1

BUILDING SERVICES

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
©JACOBS 2018. ALL RIGHTS RESERVED.

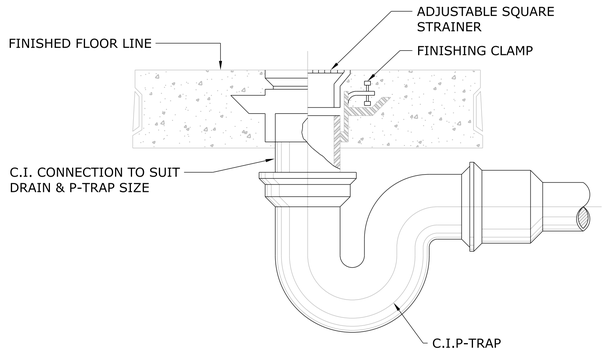
NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	D. CAVE
CHECKED BY:	M. LUDWIG
SUBMITTED BY:	F. HENRY
CONTRACT NO.:	25-007
DWG NO.	69-H-901
SHEET NO.	093 OF 97

Bid Set

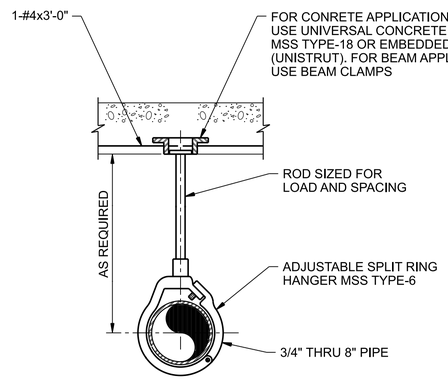
E5X79926
FILENAME: 69-H-901_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:52



FLOOR DRAIN

NTS

2213-102



PIPE HANGER

NTS

4005-552

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
STANDARD DETAILS - 1

BUILDING SERVICES

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
© JACOBS 2018. ALL RIGHTS RESERVED.

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

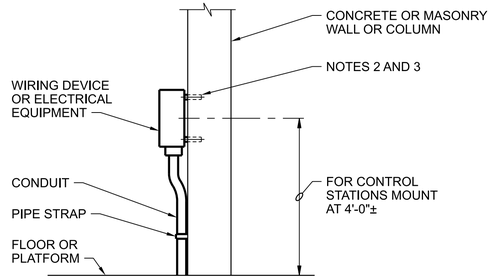
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	D. CAVE
CHECKED BY:	M. LUDWIG
SUBMITTED BY:	M. MULTRA
CONTRACT NO.:	25-007
DWG NO.	69-P-901
SHEET NO.	094 OF 97

Bid Set

E5X79926
FILENAME: 69-P-901_E5X79926.dgn
PLOT DATE: 16-JAN-2025
PLOT TIME: 16:54



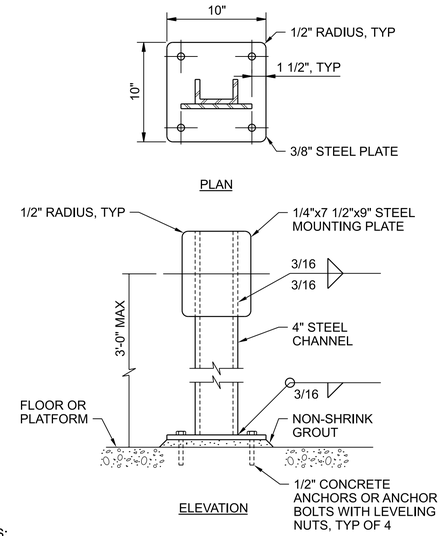
NOTES:

1. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL. USE BOTH WASHER AND LOCK WASHERS UNDER ALL NUTS.
2. ON CONCRETE WALLS USE STAINLESS STEEL CONCRETE ANCHORS. MOUNT ENCLOSURE ON SPACERS OF MIN 1/2" SCHEDULE 80 PVC CONDUIT.
3. BOXES 6 INCHES SQUARE AND SMALLER SHALL BE SUPPORTED BY TWO ANCHORS, MIN. LARGER BOXES SHALL BE SUPPORTED AS REQUIRED BY CALCULATION; FOUR ANCHORS MIN.
4. SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED.

DEVICE MOUNTING, WALL OR COLUMN

NTS

2605-002



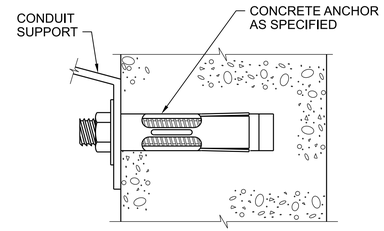
NOTES:

1. HOT-DIP GALVANIZE ASSEMBLY AFTER FABRICATION.
2. USE GALVANIZED MOUNTING HARDWARE. USE WASHERS AND SPLIT-LOCK WASHERS UNDER ALL NUTS AND BOLTS.

DEVICE MOUNTING, CONTROL STATION PEDESTAL

NTS

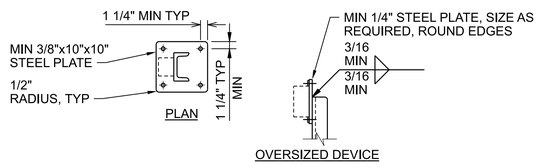
2605-005a

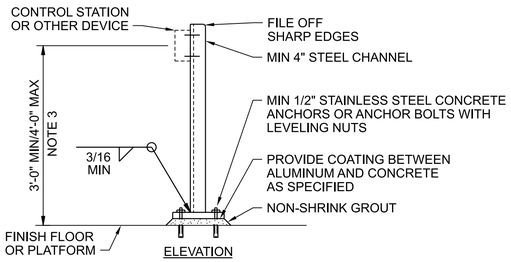


CONCRETE ANCHOR INSTALLATION

NTS

2605-010





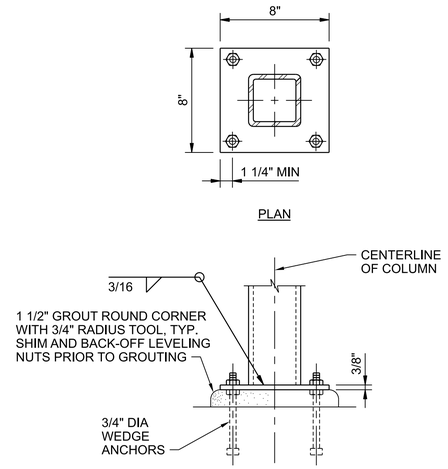
NOTES:

1. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL. USE WASHERS AND LOCK WASHERS UNDER ALL NUTS AND BOLTS.
2. EXTEND POSTS TO STRUCTURE ABOVE WHERE REQUIRED BY CALCULATION. EXTENSION SHALL ACCOMODATE DEFLECTION OF THE SUPPORTING STRUCTURE
3. SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED.
4. MINIMUM COMPONENT AND CONNECTION SIZES SHOWN. FURNISH LARGER SIZES AS REQUIRED BY CALCULATIONS.
5. HOT-DIP GALVANIZE ASSEMBLY AFTER FABRICATION.

DEVICE MOUNTING, PEDESTAL

NTS

2605-011a

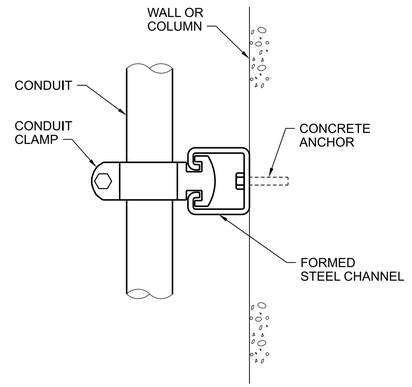


1. ANCHOR BOLTS SHALL BE 3/4" DIAMETER STAINLESS STEEL WEDGE ANCHORS WITH 4" EMBEDMENT IN EXISTING 6" CONCRETE FLOOR UNLESS OTHERWISE SHOWN.
2. GROUT SHALL BE NONSHRINK.

DEVICE MOUNTING, TUBE COLUMN BASE DETAIL

NTS

2605-014



NOTES:

1. SUPPORT ALL EXPOSED CONDUITS ON FORMED STEEL CHANNELS.
2. SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED.

CONDUIT SUPPORT ON STRUCTURE

NTS

2605-017

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM
Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
STANDARD DETAILS - 1

ELECTRICAL

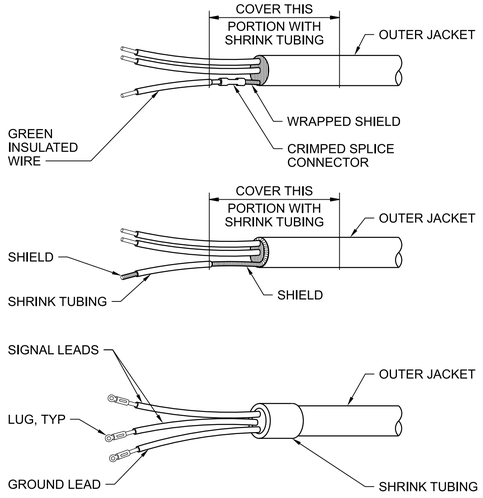
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. HUNERS
CHECKED BY:	D. DOAR
SUBMITTED BY:	S. RUIZ
CONTRACT NO.:	25-007
DWG NO.	69-E-901
SHEET NO.	095 OF 97

Bid Set

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
© JACOBS 2018. ALL RIGHTS RESERVED.

PLOT TIME: 16:53
PLOT DATE: 16-JAN-2025
FILENAME: 69-E-901_E5X79926.dgn
E5X79926



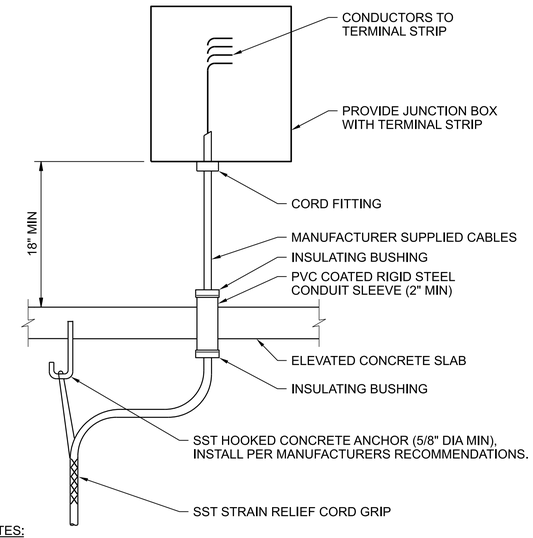
NOTES:

1. ALL SHIELDED INSTRUMENTATION CABLE SHALL BE TERMINATED IN ACCORDANCE WITH THIS DETAIL WHERE GROUNDING IS REQUIRED.

TERMINATION OF SHIELDED INSTRUMENTATION CABLE

NTS

2605-100b



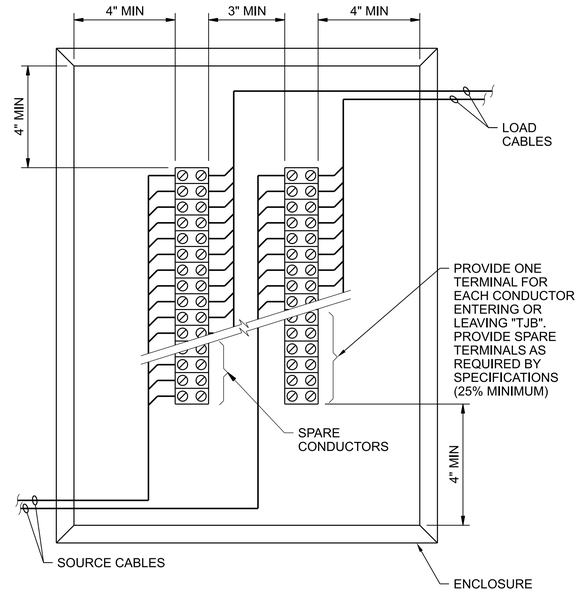
NOTES:

1. ALL HARDWARE SHALL BE STAINLESS STEEL.
2. THIS DETAIL SHALL BE USED FOR TERMINATION OF ALL MANUFACTURER SUPPLIED CABLES (MSC) EXITING A WET WELL IF NO OTHER DETAIL IS CALLED OUT ON THE DRAWINGS.
3. FILL CONDUIT SLEEVE WITH EXPANDABLE SEALING COMPOUND.

MSC CABLE TERMINATION

NTS

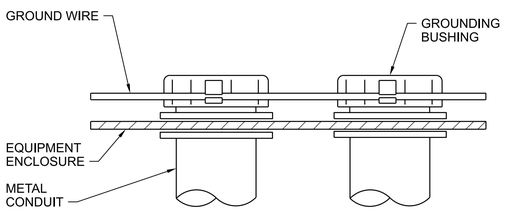
2605-101



TERMINAL JUNCTION BOX (TJB)

NTS

2605-102



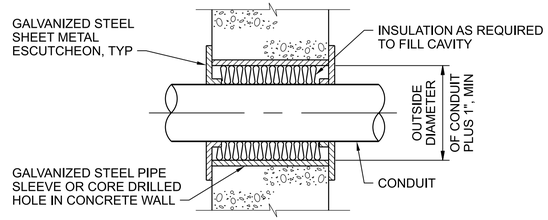
NOTES:

1. THE ENDS OF ALL CONDUITS REQUIRED TO BE GROUNDED BY THE SPECIFICATIONS SHALL BE GROUNDED IN ACCORDANCE WITH THIS DETAIL.

CONDUIT GROUNDING

NTS

2605-203



NOTES:

1. CONDUITS WHICH INDIVIDUALLY PASS THRU AN INTERIOR WALL SHALL BE INSTALLED IN ACCORDANCE WITH THIS DETAIL. IF WALL IS A FIRE WALL.
2. FILL CAVITY WITH FIRESTOPPING FOR PARTITIONS/FLOORS/WALLS. SEE SHEET 69-G-6 FOR RATED LOCATIONS.
3. FOR FIRE RATED WALL LOCATIONS, FILL ANNULAR SPACE BETWEEN PIPE PENETRATION AND EXISTING WALL WITH FIRESTOPPING MATERIAL, 3M CORP FIRESTOPPING PRODUCTS OR EQUAL
4. PERFORMANCE REQUIREMENTS:
   PROVIDE FIRESTOP SYSTEMS WITH MATERIALS THAT HAVE BEEN MANUFACTURED AND INSTALLED TO MAINTAIN PERFORMANCE CRITERIA STATED BY MANUFACTURER WITHOUT DEFECTS, DAMAGE, OR FAILURE.
5. REGULATORY REQUIREMENTS:
   A. FIRESTOP SYSTEMS: MEET REQUIREMENTS OF ASTM E814, UL 1479, OR UL 2079 TESTED ASSEMBLIES THAT PROVIDE A FIRE RATING EQUAL TO THAT OF CONSTRUCTION BEING PENETRATED.
   B. PROPOSED FIRESTOP MATERIALS AND METHODS: CONFORM TO APPLICABLE GOVERNING CODES HAVING LOCAL JURISDICTION.
   C. MEET F AND T RATINGS OF ASTM E814 FOR A PERIOD EQUAL TO CONSTRUCTION PENETRATED.
   D. UNDERWRITERS LABORATORIES CLASSIFIED AS FILL, VOID, OR CAVITY MATERIALS UNDER UL 1479.

INTERIOR WALL PENETRATION

NTS

2605-306

ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		
	PRE-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
STANDARD DETAILS - 2

ELECTRICAL

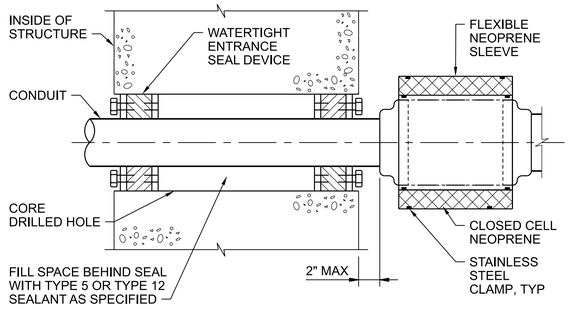
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. HUNERS
CHECKED BY:	D. DOAR
SUBMITTED BY:	S. RUIZ
CONTRACT NO.:	25-007
DWG NO.	69-E-902
SHEET NO.	096 OF 97

Bid Set

© JACOBS 2018. ALL RIGHTS RESERVED.
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.

PLOT TIME: 16:51
PLOT DATE: 16-JAN-2025
E5X79926
FILENAME: 69-E-902_E5X79926.dgn



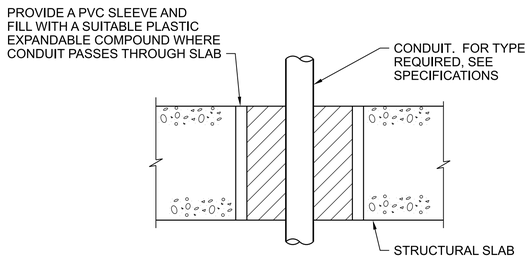
NOTES:

1. USE WATERTIGHT CONDUIT SEAL WHERE CONDUIT PENETRATIONS OF EXISTING BUILDING EXTERIOR WALLS ARE BELOW GRADE.

WATERTIGHT WALL CONDUIT SEAL

NTS

2605-308b



NOTES:

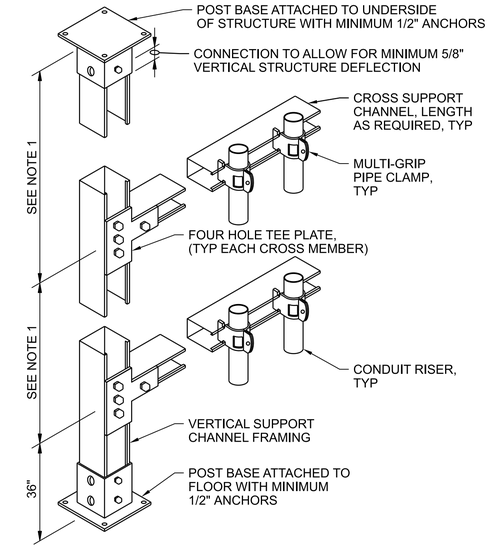
1. ALL CONDUITS THROUGH CONCRETE FLOOR SLABS AND EQUIPMENT PADS SHALL BE INSTALLED IN ACCORDANCE WITH THIS DETAIL.

   SEE FIRE PROOFING REQUIREMENTS IN STANDARD DETAIL 2605-306

INTERIOR FLOOR SLAB PENETRATION

NTS

2605-310



NOTES:

1. LENGTH AS REQUIRED TO LIMIT UNSUPPORTED CONDUIT LENGTH TO MAXIMUM VALUES ALLOWED BY NEC.
2. MINIMUM COMPONENT AND CONNECTION SIZES SHOWN. FURNISH LARGER SIZES AS REQUIRED BY CALCULATIONS.
3. SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED.

VERTICAL CONDUIT SUPPORT

NTS

2605-318

AlexRenew
ALEXRENEW
1800 LIMERICK STREET
ALEXANDRIA, VA 22314
WWW.ALEXRENEW.COM

Jacobs

SEAL

NO.	DESCRIPTION	BY	DATE
	POST-BID REVISIONS		

CENTRATE PRETREATMENT BUILDING
CONTRACT 25-007

CENTRATE PRE-TREATMENT BUILDING - 69
STANDARD DETAILS - 3

ELECTRICAL

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS.
© JACOBS 2018. ALL RIGHTS RESERVED.

NO.	DESCRIPTION	BY	DATE
	PRE-BID REVISIONS		

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

SCALE:	NTS
DATE:	JANUARY 2025
DRAWN BY:	Z. HUNERS
CHECKED BY:	D. DOAR
SUBMITTED BY:	S. RUIZ
CONTRACT NO.:	25-007
DWG NO.	69-E-903
SHEET NO.	097 OF 97

Bid Set

E5X79926
FILENAME: 69-E-903_E5X79926.dgn PLOT DATE: 16-JAN-2025 PLOT TIME: 16:51

AlexRenew



Prepared by:

Jacobs