US Army Corps of Engineers ®

Omaha District
Omaha, NE

DESIGN OF JOINT CRYPTOLOGIC CENTER BUILDING

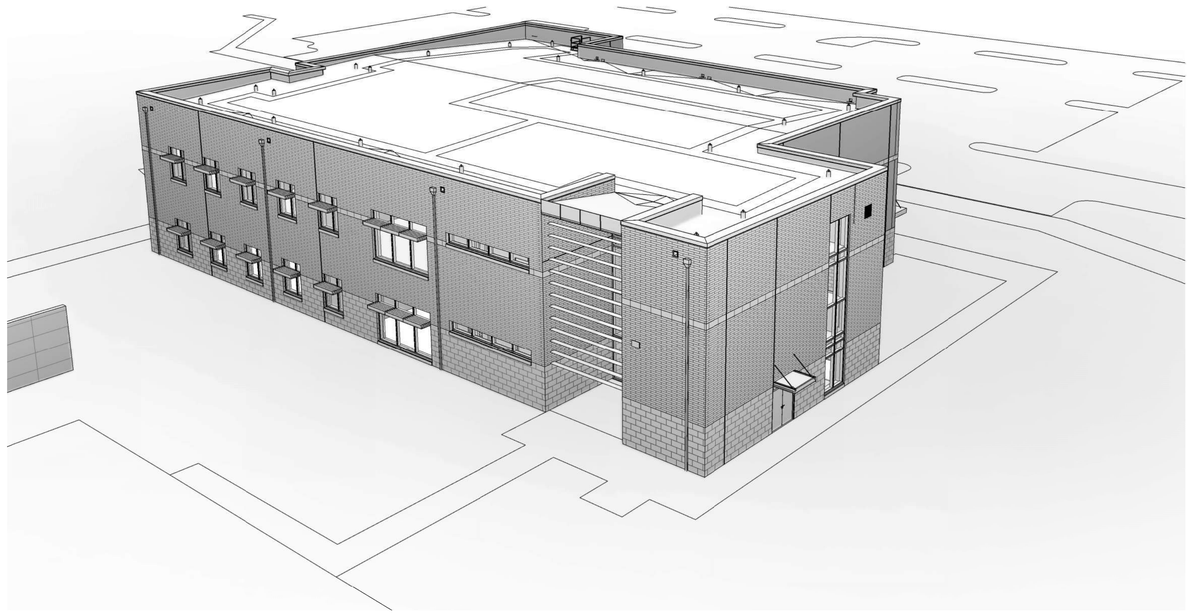
United States Space Force
Buckley Space Force Base, CO

CONTRACT NUMBER : W9128F19D0010

SOLICITATION NUMBER : W9128F22R0017

USACE PROJECT NUMBER: BU81

RTA SUBMISSION
14 DECEMBER 2022



THIS PROJECT WAS DESIGNED BY THE OMAHA DISTRICT OF THE US ARMY CORPS OF ENGINEERS. THE INITIALS OR SIGNATURES AND REGISTRATION DESIGNATIONS OF INDIVIDUALS APPEAR ON THESE PROJECT DOCUMENTS WITHIN THE SCOPE OF THEIR EMPLOYMENT AS REQUIRED BY ER 1110-1-8152

SIGNATURES AFFIXED BELOW INDICATE OFFICIAL RECOMMENDATION AND APPROVAL OF DRAWINGS IN THIS SET.

CHIEF, GEOTECHNICAL ENGINEERING & SCIENCES BRANCH DATE	SUBMITTED BY: CHIEF: ARCH. / INTER.	RA SECTION
CHIEF, DAM SAFETY PROD. CENTER DATE	SUBMITTED BY: CHIEF: CIVIL / ENVIR.	PE SECTION
CHIEF, DESIGN BRANCH DATE	SUBMITTED BY: CHIEF: ELEC.	PE SECTION
CHIEF, HYDROLOGIC ENGINEERING BRANCH DATE	SUBMITTED BY: CHIEF: MECH.	PE SECTION
CHIEF, ENGINEERING DIVISION, P.E. DATE	SUBMITTED BY: CHIEF: STRUCT.	PE SECTION
	SUBMITTED BY: CHIEF: GEOT. / DAM SAFETY	PE SECTION
	SUBMITTED BY: CHIEF: FUELS	PE SECTION
	SUBMITTED BY: CADD PROJECT COORD.	

REGISTERED ARCHITECT THEO LORENZEN-SCHMIDT 032114 STATE OF NEW YORK

US Army Corps of Engineers Omaha District

US Army Corps of Engineers ®

DATE	DESCRIPTION	MARK

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: G. GAN
DRAWN BY: T.LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

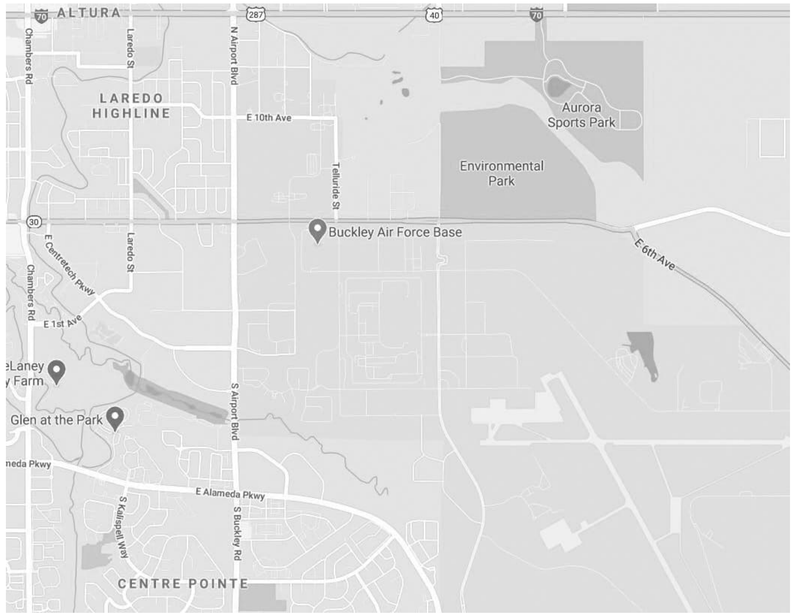
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

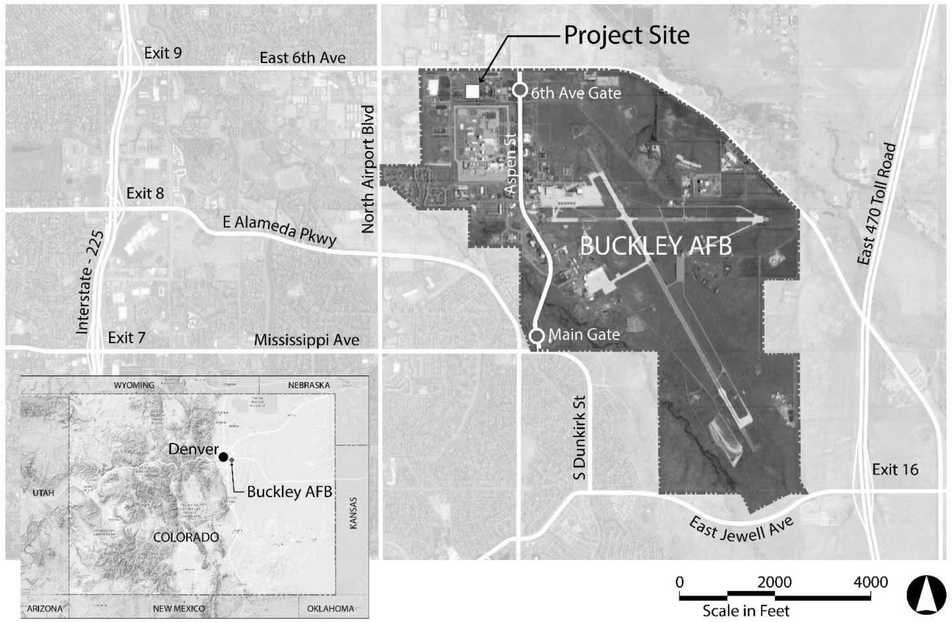
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

GENERAL - COVER SHEET

SHEET ID
G-001



VICINITY MAP



PROJECT SITE LOCATION

REGISTERED ARCHITECT
THEO LORENZEN-SCHMIDT
STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
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ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

GENERAL - SITE LOCATION

SHEET ID

G-002

RTA SUBMISSION

JCC BUCKLEY DRAWING INDEX

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JCC BUCKLEY DRAWING INDEX

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JCC BUCKLEY DRAWING INDEX

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JCC BUCKLEY DRAWING INDEX

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T-504	TELECOM - DETAILS - DATA
T-505	TELECOM - DETAILS - DATA
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REGISTERED ARCHITECT
TIMOTHY LORENZEN-SCHMIDT
037114
STATE OF NEW YORK

US Army Corps of Engineers ®

	DATE
	DESCRIPTION
	MARK

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
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FILE NUMBER:
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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SPB, CO

GENERAL - DRAWING INDEX

SHEET ID

G-003

GENERAL NOTES

APPLICABLE CODES/STANDARDS:
- FC 3-600-01 MPO FIRE PROTECTION ENGINEERING FOR FACILITIES - MPO (2020)
- TSFPEWG 3-600-01.01 AIR FORCE FIRE PROTECTION CRITERIA AND TECHNICAL GUIDANCE FOR MISSION CONTINUITY OF ELECTRONIC, INFORMATION TECHNOLOGY, AND TELECOMMUNICATION EQUIPMENT INSTALLATION (25 FEBRUARY 2021, WITH CHANGE 1 , 21 APRIL 2021) (MISSION ASSURANCE CATEGORY III (MAC III)
- INTERNATIONAL BUILDING CODE (2018 EDITION)
- NFPA 1, FIRE CODE (2018 EDITION)
- NFPA 10, STANDARD FOR PORTABLE FIRE EXTINGUISHERS (2018 EDITION)
- NFPA 13, STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS (2019 EDITION)
- NFPA 24, STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES (2019 EDITION)
- NFPA 70, NATIONAL ELECTRICAL CODE (2017 EDITION)
- NFPA 72, NATIONAL FIRE ALARM AND SIGNALING CODE (2019 EDITION)
- NFPA 75, STANDARD FOR THE FIRE PROTECTION OF INFORMATION TECHNOLOGY EQUIPMENT (2017 EDITION)
- NFPA 101, LIFE SAFETY CODE (2018 EDITION)
- UFC 1-200-01, GENERAL BUILDING REQUIREMENTS (CHANGE 1, OCTOBER 2020)
- UFC 4-021-01, DESIGN AND O&M: MASS NOTIFICATION SYSTEMS (JANUARY 2010)
- UFC 3-600-01, FIRE PROTECTION ENGINEERING FOR FACILITIES (8 AUGUST 2016, WITH CHANGE 5, 24 SEPTEMBER 2020)

CONSTRUCTION TYPE: II-B (602)

OCCUPANCY: NON-SEPARATED MIXED-USE (508.3)
ASSEMBLY (A-3) (303.4)
BUSINESS (B) (304.1)
STORAGE (S-2) (311.3)

SPRINKLERED: YES

FIRE ALARM: YES

ALLOWABLE HEIGHT: 3 STORIES / 75 FT (504.2)

ACTUAL HEIGHT: 2 STORIES/ 36 FT 4 INCHES

ALLOWABLE AREA:
A-3 38,000 SQFT (506.2)
B 92,000 SQFT (506.2)
S-2 104,000 SQFT (506.2)

ACTUAL AREA: 14,961 SQFT (FIRST FLOOR)
16,243 SQFT (FIRST FLOOR BID OPTION 1)
14,770 SQFT (SECOND FLOOR)
16,052 SQFT (SECOND FLOOR BID OPTION 1)

REQUIRED FIRE RESISTANCE RATINGS:

BUILDING ELEMENT	FIRE RESISTANCE RATING
STRUCTURAL FRAME	0 HOUR
BEARING WALLS	
EXTERIOR	0 HOUR
INTERIOR	0 HOUR
NONBEARING WALLS/ PARTITIONS	
EXTERIOR	0 HOUR
INTERIOR	0 HOUR
FLOOR CONSTRUCTION	0 HOUR
ROOF CONSTRUCTION	0 HOUR

EGRESS REQUIREMENTS: BASED ON NFPA 101 PER UFC 3-600-01 2-1.1 MEANS OF EGRESS REQUIREMENTS ARE BASED ON ASSEMBLY OCCUPANCY DUE TO NON-SEPARATED MIXED USE PROVISIONS EXCEPT WHERE A COMMON PATH OF TRAVEL EXISTS COMPLETELY WITHIN A BUSINESS ASSEMBLY.

MINIMUM NUMBER OF EXITS: 2

MAXIMUM TRAVEL DISTANCE: 250 FEET (ASSEMBLY)
300 FEET (BUSINESS)
200 FEET (CLASSROOM)

MAXIMUM DEAD-END: 20 FEET (ASSEMBLY)
50 FEET (BUSINESS)
20 FEET (CLASSROOM)

MAXIMUM COMMON PATH: 75/20 FEET (ASSEMBLY)
100 FEET (BUSINESS)
100 FEET (CLASSROOM)

MINIMUM EGRESS WIDTH
DOORS: 32 INCHES
STAIRS: 44 INCHES

AREA OF REFUGE REQUIREMENTS: PROVIDE SIGNAGE AND TWO WAY COMMUNICATIONS, AND SIZING IN ACCORDANCE WITH NFPA 101.

LEGEND

A. USE (OCCUPANT LOAD FACTOR IN SQFT/PERSON)

XX BUSINESS (150 GROSS)

XX ASSEMBLY (15 NET)

XX ACCESSORY/STORAGE (500 GROSS)

XX CLASSROOMS (20 GROSS)

XX VOCATIONAL ROOMS (50 GROSS)

B. FIRE RESISTANCE RATING

1 HOUR FIRE RESISTANCE (BARRIER)

2 HOUR FIRE RESISTANCE (BARRIER)

C. TRAVEL DISTANCE (MEASURED IN FEET)

TD = XX

D. COMMON PATH (MEASURED IN FEET)

CP = XX

E. DEAD END CORRIDOR (MEASURED IN FEET)

DE = XX

F EGRESS CAPACITY

W
X
Y
Z

W = EXIT CAPACITY FACTOR (IN/PERSON)
X = OCCUPANTS USING EXIT (PERSONS)
Y = EXIT CAPACITY (PERSONS)
Z = EXIT CLEAR WIDTH (IN)

G. FIRE EXTINGUISHER

FE 4A:80BC: DRY-CHEMICAL FIRE EXTINGUISHER IN SEMI-RECESSED CABINET

FE CO_2 2A:C CO_2 FIRE EXTINGUISHER

H. ROOM NAME WITH ACTUAL LOAD BASED ON SEATS IN BUSINESS AREAS

##P = NUMBER OF PEOPLE BASED ON SEAT COUNT

ROOM NAME ##P
XXX

COMMONWEALTH OF VIRGINIA
JAMES ALBERT BEALS
Lic. No. 0402 26777
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. BEALS
DRAWN BY: S. FLERI
CHECKED BY: M. CONNOLLY
SUBMITTED BY:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:
SIZE: ANSI D
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

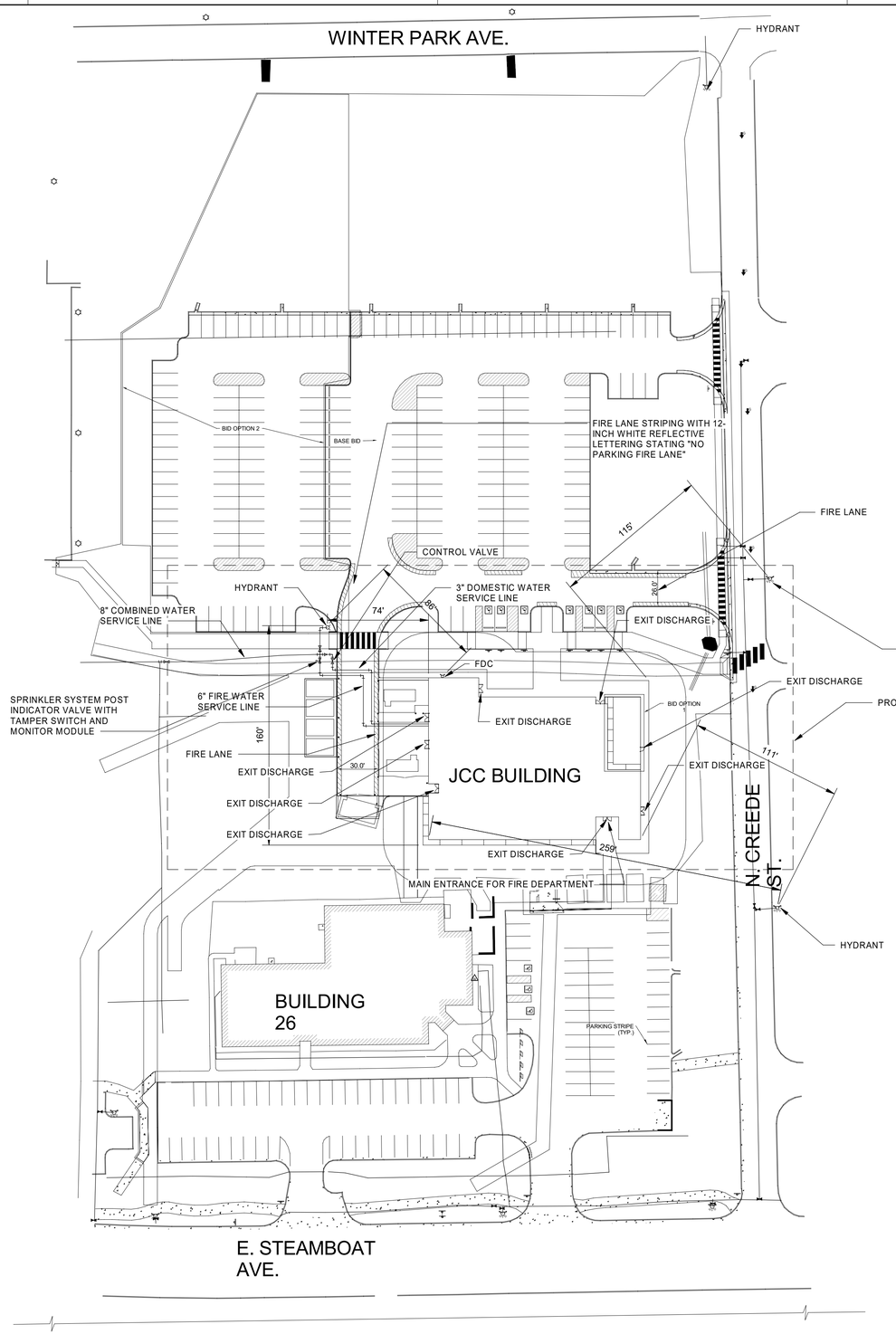
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

LIFE SAFETY - BUILDING CODE ANALYSIS

SHEET ID

LS001



A1 LIFE SAFETY - CODE COMPLIANCE SITE PLAN
1" = 50'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE
A		

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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
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LIFE SAFETY - CODE COMPLIANCE SITE PLAN

COMMONWEALTH OF VIRGINIA
JAMES ALBERT BEALS
Lic. No. 0402 26777
12/14/2022
PROFESSIONAL ENGINEER

GRAPHIC SCALE(S)

50 25 0 50 100
SCALE: 1"=50'-0"

PLAN NORTH

SHEET ID
LS002

RTA SUBMISSION

A1 LIFE SAFETY - FIRST FLOOR PLAN

3/32" = 1'-0"

KEYNOTES

105 TOTAL BUSINESS OCCUPANCY LOAD FOR THE ENTIRE FLOOR (# OF SEATS AND CALCULATED LOAD OF COMMON AREAS).

120 PROVIDE 2-HOUR FIRE RATING FOR STRUCTURAL STEEL MEMBERS IN THIS AREA.

ACTUAL FIRST FLOOR COUNT OCCUPANT LOAD (SEATS): 153 PERSONS
CALCULATED FIRST FLOOR OCCUPANT LOAD: 191 PERSONS
FLOOR AREA: 14,961 SQFT

GRAPHIC SCALE(S)

16 12 8 4 0 16

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

PLAN NORTH

JAMES ALBERT BEALS
Lic. No. 0402 26777
12/14/2022
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PROFESSIONAL ENGINEER

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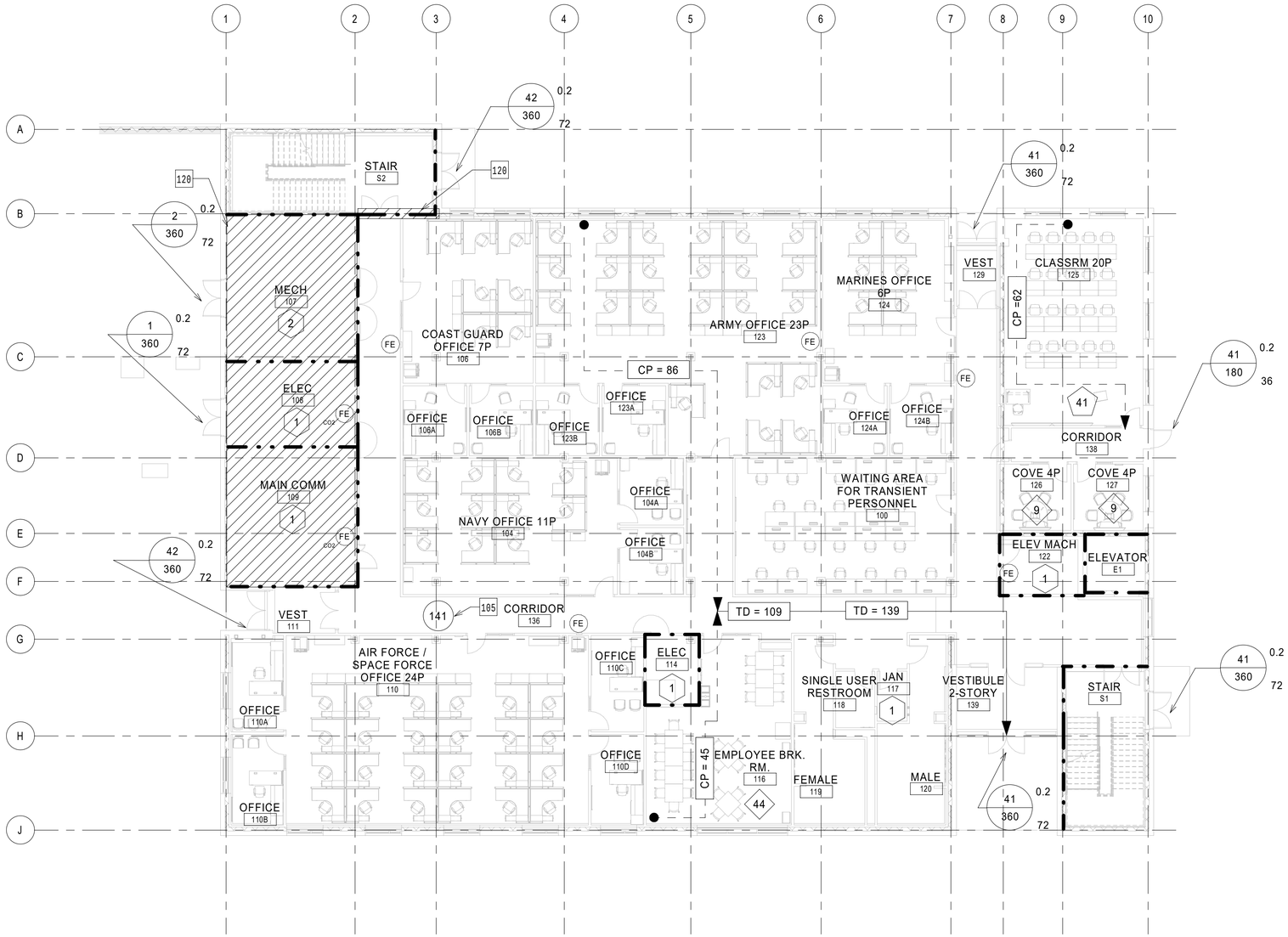
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

LIFE SAFETY - FIRST FLOOR PLAN

SHEET ID
LS110

RTA SUBMISSION



A1 LIFE SAFETY - FIRST FLOOR PLAN (BID OPTION 1)

3/32" = 1'-0"

105 TOTAL BUSINESS OCCUPANCY LOAD FOR THE ENTIRE FLOOR. (# OF SEATS AND CALCULATED LOAD OF COMMON AREAS)

120 PROVIDE 2-HOUR FIRE RATING FOR STRUCTURAL STEEL MEMBERS IN THIS AREA.

ACTUAL FIRST FLOOR COUNT OCCUPANT LOAD (SEATS): 182 PERSONS
CALCULATED FIRST FLOOR OCCUPANT LOAD: 233 PERSONS
FLOOR AREA: 16,243 SQFT

GRAPHIC SCALE(S)

16 12 8 4 0 16

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

PLAN NORTH

COMMONWEALTH OF VIRGINIA
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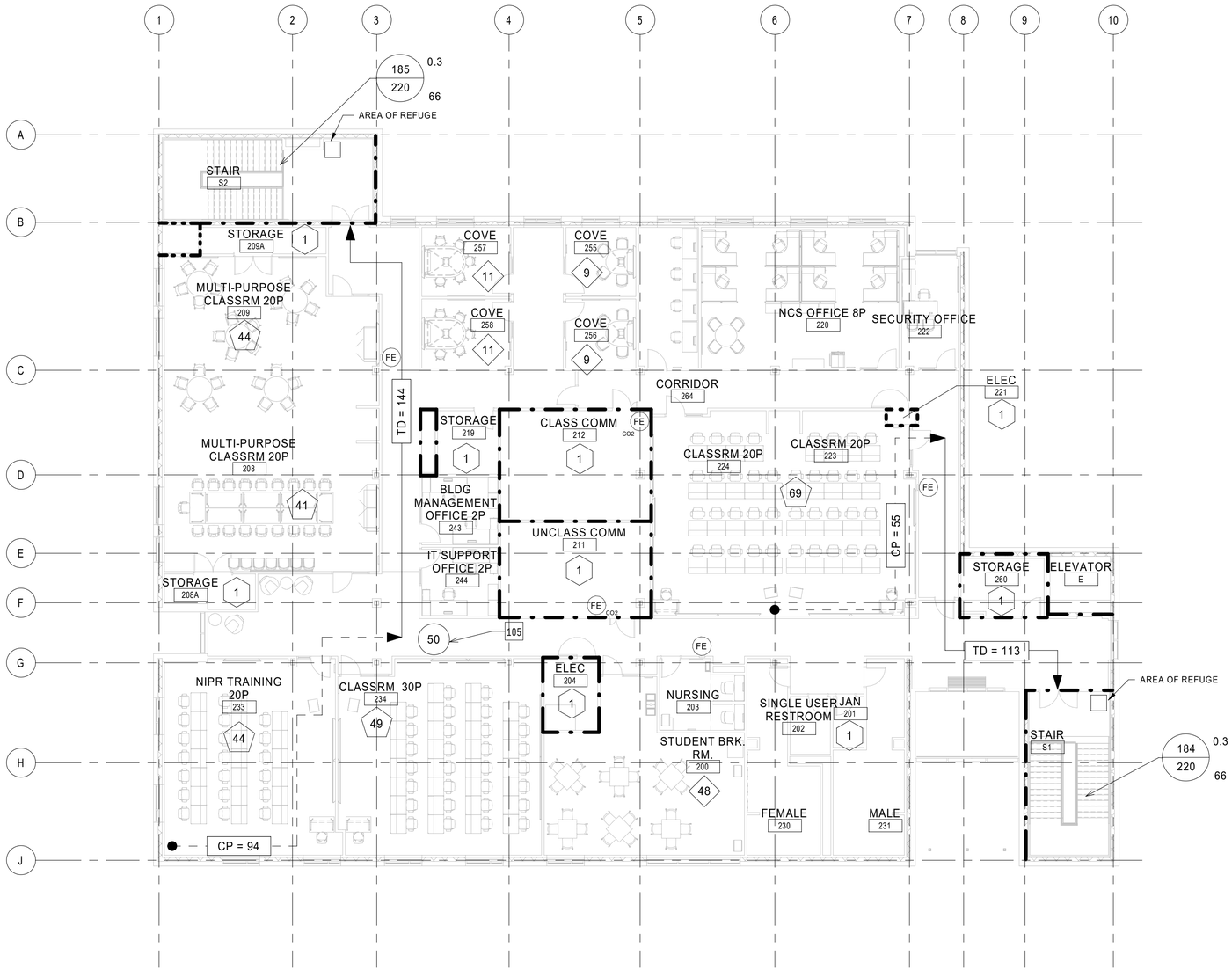
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

LIFE SAFETY - FIRST FLOOR PLAN (BID OPTION 1)

SHEET ID

LS110A

RTA SUBMISSION



A1 LIFE SAFETY - SECOND FLOOR PLAN

3/32" = 1'-0"

KEYNOTES

105 TOTAL BUSINESS OCCUPANCY LOAD FOR THE ENTIRE FLOOR. (# OF SEATS AND CALCULATED LOAD OF COMMON AREAS)

ACTUAL SECOND FLOOR COUNT OCCUPANT LOAD (SEATS): 217 PERSONS
CALCULATED SECOND FLOOR OCCUPANT LOAD: 395 PERSONS
FLOOR AREA: 14,770 SQFT

GRAPHIC SCALE(S)

16 12 8 4 0 16

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

PLAN NORTH

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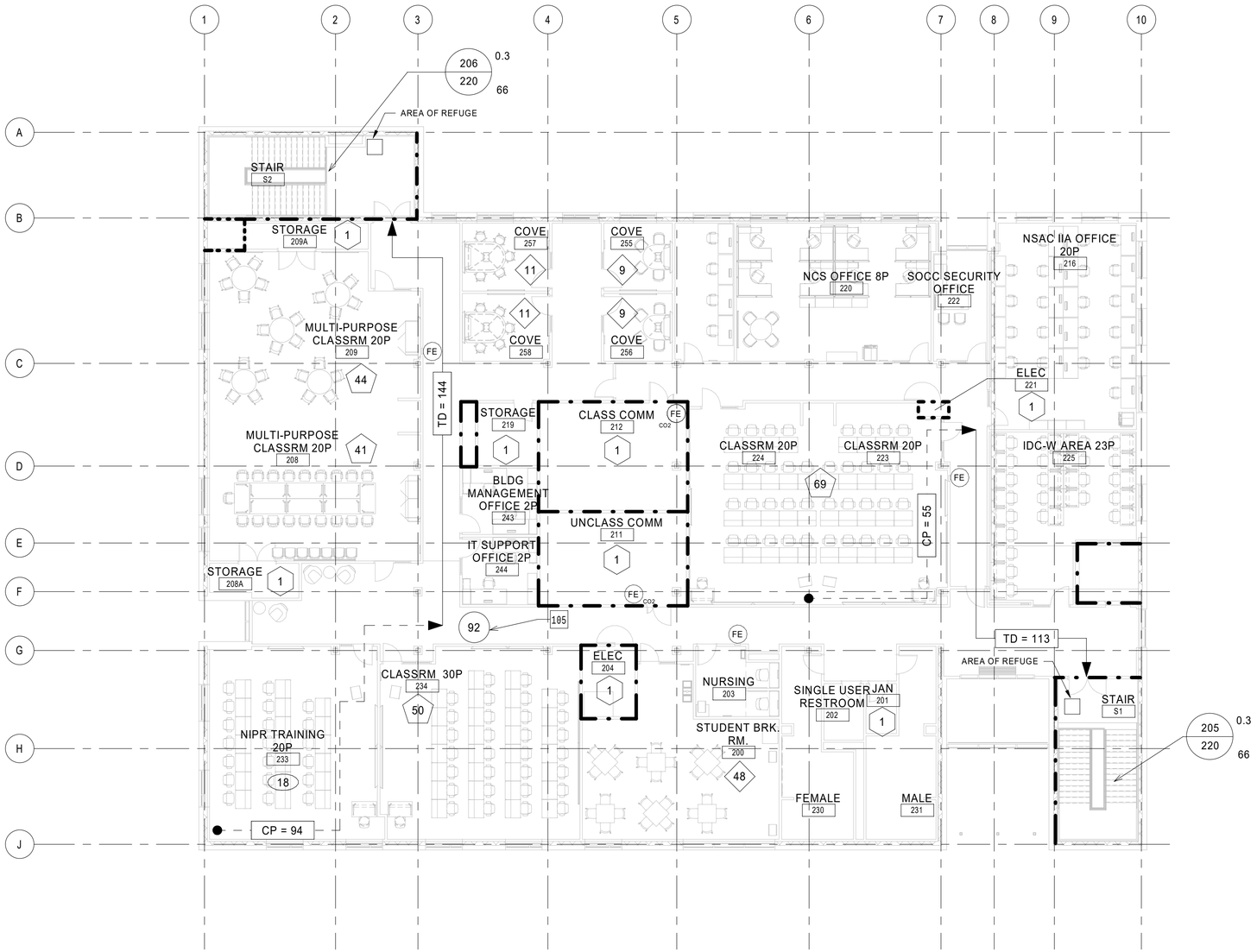
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

LIFE SAFETY - SECOND FLOOR PLAN

SHEET ID

LS120



A1 LIFE SAFETY - SECOND FLOOR PLAN (BID OPTION 1)

3/32" = 1'-0"

KEYNOTES

105 TOTAL BUSINESS OCCUPANCY LOAD FOR THE ENTIRE FLOOR. (# OF SEATS AND CALCULATED LOAD OF COMMON AREAS)

ACTUAL SECOND FLOOR COUNT OCCUPANT LOAD (SEATS): 260 PERSONS
CALCULATED SECOND FLOOR OCCUPANT LOAD: 411 PERSONS
FLOOR AREA: 16,052 SQFT

GRAPHIC SCALE(S)

16 12 8 4 0 16

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

PLAN NORTH

COMMONWEALTH OF VIRGINIA
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12/14/2022
PROFESSIONAL ENGINEER

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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

LIFE SAFETY - SECOND FLOOR PLAN (BID OPTION 1)

SHEET ID
LS120A

GENERAL NOTES

A. EXISTING SITE FEATURES INDICATED ARE BASED ON FIELD SURVEY, COMPLETED ON DECEMBER 10, 2020, PERFORMED BY CLARK LAND SURVEYING, INC., CONSULTING ENGINEERS, 177 S. TIFFANY DR., UNIT 1, PUEBLO WEST, COLORADO 81007, 719-582-1270.

B. THERE ARE NO SURVEYED MONUMENTS WITHIN THE PROJECT LIMITS THAT WILL NEED RELOCATION OR REPLACEMENT.

C. MEASUREMENTS SHOWN ARE FROM FACE OF CURB OR EDGE OF PAVING UNLESS OTHERWISE NOTED.

D. HORIZONTAL DATUM IS NAD83, COLORADO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE (0502). ELEVATIONS LISTED ARE RELATIVE TO BUCKLEY SPACE FORCE BASE CONTROL NETWORK, CONTROL POINT "1", WITH AN ASSUMED ELEVATION OF 5501.04'; NAVD 88 DATUM.

E. PROJECT CONTROL POINT TABLE, SEE SHEET VF101 AND VF102 FOR LOCATIONS.

CONTROL POINT ID	NORTHING	EASTING	ELEVATION
CP NO. 100 (SET MAG NAIL)	1689123.44'	3202716.49'	5515.57'
CP NO. 101 (FOUND 3-1/2" BRASS CAP US ARMY CORPS. OF ENGINEERS. STAMPED "1")	1688625.54'	3201158.78'	5501.04'
CP NO. 103 (FOUND 2" ALUMINUM CAP IN CORNER OF INLET STAMPED: "JF SATO & ASSOCAITES PARSONS ENGINEERING SITE BENCHMARK 2004")	1688677.368'	3204690.09'	5536.55'
CP NO. 201 (SET 60D NAIL)	1689005.08'	3202902.42'	5516.43'
CP NO. 202 (SET 60D NAIL)	1688929.91'	3202699.70'	5517.43'
CP NO. 203 (SITE BENCHMARK, MAG NAIL IN ASPHALT)	1688791.76'	3202716.09'	5517.49'

F. OBTAIN WRITTEN APPROVAL FROM THE CONTRACTING OFFICER FOR ANY DEVIATIONS FROM PLANS AND SPECIFICATIONS.

G. MAINTAIN TRAFFIC AND USAGE OF THE EXISTING STREETS ADJACENT TO THE PROJECT. SUBMIT A TRAFFIC CONTROL PLAN TO THE CONTRACTING OFFICER AT LEAST 30 DAYS PRIOR TO IMPLEMENTING LANE CLOSURES POTENTIALLY ASSOCIATED WITH, BUT NOT LIMITED TO, CONSTRUCTION OF PARKING LOT ENTRANCES AND UTILITY CONNECTIONS.

H. EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW FINISH GRADE, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED.

I. CONSTRUCT TEMPORARY FENCING AS NECESSARY TO SECURE PROJECT SITE AT ALL TIMES. STAGING AREA TO BE PROVIDED OUTSIDE OF THE CONSTRUCTION LIMITS AND IS FOR CONTRACTOR'S EMPLOYEE PARKING, CONTRACTOR'S TRAILERS AND STORAGE OF MATERIALS. REFER TO SHEET C-002 FOR LOCATION OF STAGING AREA.

J. ELEVATIONS SHOWN ARE TO FINISH GRADE UNLESS OTHERWISE NOTED.

K. SLOPE UNIFORMLY BETWEEN CONTOURS AND SPOT ELEVATIONS SHOWN.

L. SITE GEOTECHNICAL INVESTIGATION WAS PERFORMED BY TERRACON, 10624 W I-70 FRONTAGE ROAD NORTH, WHEAT RIDGE, COLORADO 80033, IN DECEMBER 2020.

M. BORING LOG TABLE, SEE SHEET VF101 AND VF102 FOR LOCATIONS.

BOREHOLE ID	NORTHING	EASTING	ELEVATION
1	1689110.21	3202820.00	5514.5
2	1689104.76	3202925.19	5514
3	1689087.73	3203034.13	5514.5
4	1689050.48	3202663.33	5514
5	1689067.48	3202794.22	5515
6	1689053.06	3202889.39	5515.5
7	1689045.52	3202963.75	5515.5
8	1688998.82	3202808.98	5516.5
9	1688997.98	3202925.76	5516.5
10	1689019.59	3203033.76	5515.5
P1	1689388.09	3202683.33	5511.5
P2	1689388.09	3202915.33	5512
P3	1689185.65	3202915.33	5514.5
P4	1689067.48	3203746.17	5514.5
S1	1689532.03	3202880.33	5509.5

N. OBTAIN ALL REQUIRED PERMITS AND APPROVALS PRIOR TO STARTING CONSTRUCTION.

CONSTRUCTION NOTES

A. PER BUCKLEY SPACE FORCE BASE, THERE ARE REGULATED ASBESTOS CONTAINING SOILS OR RACS. THESE REQUIRE THE PRESENCE OF A STATE CERTIFIED ASBESTOS BUILDING INSPECTOR (CABI), WITH SOILS EXPERIENCE, ON SITE DURING LAND DISTURBING ACTIVITIES. DO NOT USE ASBESTOS CONTAMINATED SOILS FOR ANY TEMPORARY OR PERMANENT GRADING APPLICATIONS.

B. PROJECT TESTING: ALL TESTING REQUIRED WILL BE CONDUCTED BY THE CONTRACTOR.

C. ALL DISTURBED SURFACES MUST BE RETURNED TO ORIGINAL OR BETTER CONDITION AS DETERMINED BY THE CONTRACTING OFFICER.

D. FIELD VERIFY DEPTH AND LOCATION OF ALL EXISTING FACILITIES AND UNDERGROUND UTILITIES PRIOR TO EXCAVATION AND PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION. UTILITIES SHOWN ON THE DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION, AND MAY NOT REFLECT THE ACTUAL FIELD CONDITIONS OR LOCATIONS OF UNDERGROUND STRUCTURES OR EXISTING UTILITIES. ALL EXISTING UTILITIES PRESENT MAY NOT BE SHOWN. NOTIFY THE CONTRACTING OFFICER OF ANY UNIDENTIFIED UTILITIES DISCOVERED. THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL DAMAGE TO EXISTING UTILITIES.

E. NOTIFY THE CONTRACTING OFFICER PRIOR TO REMOVING ANY COMMUNICATIONS EQUIPMENT (FIBER OPTIC, COPPER CABLE, ETC.) OR IF ANY TYPE OF COMMUNICATIONS EQUIPMENT SHOULD NEED TO BE RELOCATED BECAUSE OF CONSTRUCTION.

F. MAINTAIN THE NORMAL OPERATING FUNCTIONS OF ALL UTILITY SYSTEMS THROUGH THE CONSTRUCTION SITE DURING THE ENTIRE DURATION OF THE PROJECT.

G. PERFORM GROUNDS MAINTENANCE WITHIN THE PROJECT AREA THROUGHOUT THE DURATION OF THE PROJECT.

H. CONSTRUCTION TRAFFIC WILL ACCESS BASE THROUGH E. 6TH AVE GATE CHECKPOINT ENTRANCE, COMPLETE VEHICLE INSPECTION, AND THEN CONTINUE TO THE PROJECT SITE.

I. COORDINATE ALL ACTIVITIES WITH BASE OPERATIONS AND CONTRACTING OFFICER. CONSTRUCTION MUST NOT INTERFERE WITH MISSION CRITICAL ACTIVITIES AND MUST PROVIDE 30 DAYS ADVANCE NOTICE OF ALL INTERRUPTIONS AND RECEIVE APPROVAL FROM BASE OPERATIONS AND CONTRACTING OFFICER PRIOR TO PROCEEDING.

LEGEND

NOTE: THIS IS A STANDARD LEGEND, THEREFORE NOT ALL OF THE INFORMATION SHOWN MAY BE USED ON THIS PROJECT. SEE SHEET VF101 FOR EXISTING CONDITIONS LEGEND.

- CATCH BASIN OR INLET
- STORM DRAIN MANHOLE
- SIGN
- SANITARY SEWER MANHOLE
- TELECOM MANHOLE
- ELECTRICAL JUNCTION BOX
- ELECTRICAL MANHOLE
- ELECTRICAL TRANSFORMER
- SOIL BORING
- TELECOMMUNICATION PEDESTAL
- POST INDICATOR VALVE
- GATE VALVE AND VALVE BOX
- CLEANOUT
- FIRE DEPARTMENT CONNECTION
- FIRE HYDRANT
- UTILITY POLE
- LIGHT POLE
- POST OR BOLLARD
- PARKING COUNT
- REMOVE TREE
- EDGE OF PAVEMENT
- WL — WATER LINE
- UG — NATURAL GAS LINE
- UT — TELECOMMUNICATION
- UE — BURIED ELECTRICAL
- OHE — OVERHEAD ELECTRICAL
- ST — STORM DRAIN LINE
- SS — SANITARY SEWER LINE
- IRRIGATION LINE
- CENTER LINE, BUILDING, ROAD, ETC.
- LOD — LIMITS OF DISTURBANCE
- FENCE
- TEMPORARY CONSTRUCTION FENCE
- FL — EROSION/FILTER LOG
- SSF — SUPER SILT FENCE
- DEMOLITION
- AGGREGATE SURFACE OR GRAVEL ROAD
- ASPHALT CONCRETE PAVEMENT
- VEHICULAR RATED CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- STRUCTURE, BUILDING, OR FACILITY
- CURB
- CURB AND GUTTER

ABBREVIATIONS

NOTE: THESE ARE STANDARD ABBREVIATIONS, THEREFORE NOT ALL OF THE INFORMATION SHOWN MAY BE USED ON THIS PROJECT

~	APPROXIMATELY	ESC	EROSION AND SEDIMENT CONTROL	PCCP	PORTLAND CEMENT CONCRETE PAVEMENT
&	AND	EXIST	EXISTING	PE	POLYETHYLENE
ABA	ARCHITECTURAL BARRIERS ACT	F	FLANGE	PED	PEDESTRIAN
ABC	AGGREGATE BASE COURSE	FDC	FIRE DEPARTMENT CONNECTION	PIV	POST INDICATOR VALVE
ABN	ABANDON	FFE	FINISHED FLOOR ELEVATION	PLS	PURE LIVE SEED
ABND	ABANDONED	FG	FINISHED GRADE	POV	PRIVATELY OWNED VEHICLE
AC	ASPHALT CONCRETE	FH	FIRE HYDRANT	PSI	POUNDS PER SQUARE INCH
APPROX	APPROXIMATE	FL	FLOWLINE	PT	POINT OF TANGENCY
AT	ANTI-TERRORISM	FOW	FACE OF WALL	PVC	POLYVINYL CHLORIDE OR POINT OF VERTICAL CURVATURE
BASH	BIRD/WILDLIFE AIRCRAFT STRIKE HAZARD	FT	FEET	PVI	POINT OF VERTICAL INTERSECTION
BC	BACK OF CURB	FP	FORCE PROTECTION	PVT	POINT OF VERTICAL TANGENCY
BLDG	BUILDING	G	GAS	PVMNT	PAVEMENT
BM	BENCHMARK	GB	GRADE BREAK	R, RAD	RADIUS
BMP	BEST MANAGEMENT PRACTICE	GIP PIT	GROUND INSPECTION	RCP	REINFORCED CONCRETE PAVEMENT
BUR	BURIED	GOV	GOVERNMENT OWNED VEHICLES, GOVERNMENT	REQ'D	REQUIRED
BW	BOTTOM OF WALL	HC	HEATING/COOLING	RT	RIGHT
CB	CATCH BASIN	HDPE	HIGH DENSITY POLYETHYLENE	S, SS	SANITARY SEWER
CCSD	CONVENTIAL CONSTRUCTION STANDOFF DISTANCE	HP	HIGH POINT	SD	STANDARD DETAIL/ STORM DRAIN
CE	BASE CIVIL ENGINEER	IE	INVERT ELEVATION	SF	SECURITY FORCES
CI	CAST IRON	INV	INVERT	SIM	SIMILAR
CMP	CORRUGATED METAL PIPE	IR	IRRIGATION	SOG	SLAB ON GRADE
CO	CLEAN OUT	L	LENGTH	SPEC'D	SPECIFIED
CONC	CONCRETE	LF	LINEAR FEET	SST	STAINLESS STEEL
CONST	CONSTRUCT	LOG	LIP OF GUTTER	STA	STATION
COORD	COORDINATE	LP	LOW POINT	STND	STANDARD
COR	CONTRACTING OFFICER REPRESENTATIVE	LT	LEFT	STRUCT	STRUCTURAL
CL, ℄	CENTERLINE	M	METER	SW	SIDEWALK
DI	DUCTILE IRON/DROP INLET	MAX	MAXIMUM	TC	TOP BACK OF CURB
DIA	DIAMETER	ME	MATCH EXISTING	TF	TOP OF FOOTING
DEMO	DEMOLISH OR DEMOLITION	MH	MANHOLE	TG	TOP OF GRATE
DV	DISTINGUISHED VISITOR	MIN	MINIMUM	TOC	TOP OF CONCRETE
DWG	DRAWING	MISC	MISCELLANEOUS	TOS	TOP OF SLAB
E	EAST, EASTING, ELECTRICAL	MJ	MECHANICAL JOINT	TW	TOP OF WALL
ELB	ELBOW	MM	MILLIMETER	TYP	TYPICAL
ELECT	ELECTRICAL	MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES	UG	UNDERGROUND
ELEV	ELEVATION	N	NORTH, NORTHING	USACE	UNITED STATES ARMY CORPS OF ENGINEERS
EOS	EDGE OF SLAB/SIDEWALK	NIC	NOT IN CONTRACT	UST	UNDERGROUND STORAGE TANK
EP	EDGE OF PAVEMENT	NOI	NOTICE OF INTENT	VERT	VERTICAL
EQUIP	EQUIPMENT	NTS	NOT TO SCALE	W	WATER
		OH, OVH	OVERHEAD	W/	WITH
		PC	POINT OF CURVATURE		
		PCC	POINT OF COMPOUND CURVE		

COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. DAVIS
DRAWN BY: K. MAU
CHECKED BY: J. CARDENAS
SUBMITTED BY:
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Omaha, NE

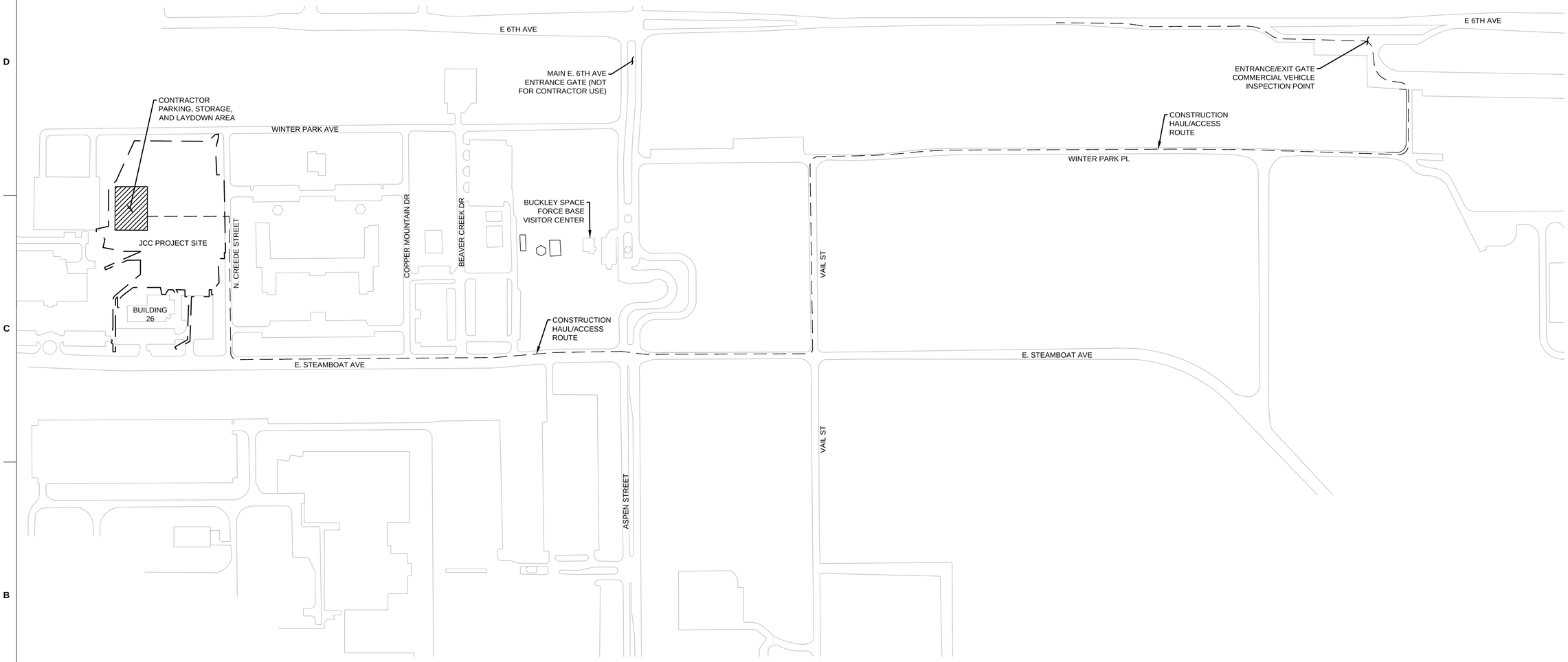
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL, SYMBOLS, LEGENDS, ABBREVIATIONS, AND GENERAL NOTES

SHEET ID
C-001

LOCATION MAP



Scott Richard Davis
Lic. No. 035184
12•14•2022

TRUE NORTH

0 200 400
1"=200'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE:	14 DECEMBER 2022
SOLICITATION NO.:	W9128F22R0017
CONTRACT NO.:	
FILE NUMBER:	
DESIGNED BY:	S. DAVIS
DRAWN BY:	K. MAU
CHECKED BY:	J. CARDENAS
SUBMITTED BY:	
SIZE:	ANSI D
FILE NAME:	

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

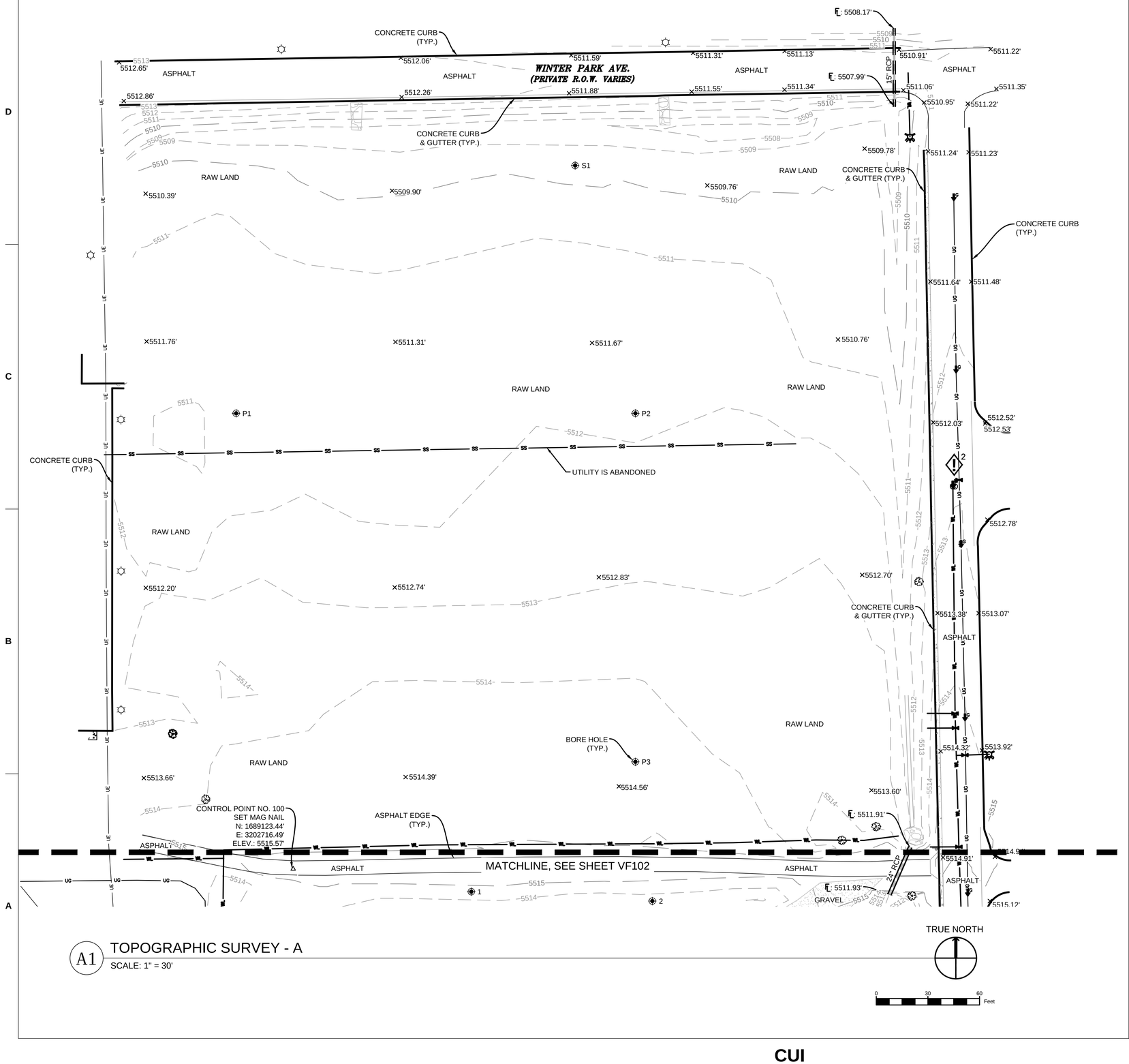
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - LOCATION MAP

SHEET ID

C-002



A1 TOPOGRAPHIC SURVEY - A

SCALE: 1" = 30'

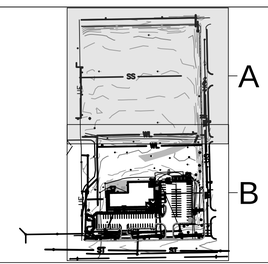
SURVEY NOTES

1. THIS IS A TOPOGRAPHIC MAP. IT IS NOT A LAND SURVEY PLAT OR IMPROVEMENT SURVEY PLAT. NO RESEARCH OF EASEMENTS, ENCUMBRANCES OR TITLE OF RECORD WAS PERFORMED CLARK LAND SURVEYING INC.
2. ANY UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. PUBLIC UTILITY LOCATE REQUEST WAS MADE UNDER TICKET NO. A033702107 DATED 11/23/20. THIS SITE WAS LOCATED BY STANDARD RF AND GPR METHODS.
3. BENCHMARK: MAG NAIL SET IN ASPHALT. ELEVATION = 5517. 49'
4. FIELD WORK FOR THIS SURVEY WAS COMPLETED ON DECEMBER 10, 2020.
5. COORDINATES LISTED ON THIS SURVEY ARE RELATIVE TO NAD83, COLORADO STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE (0502), WITH AN APPLIED COMBINED SCALE FACTOR OF 1.000263810258.
6. ELEVATIONS LISTED ARE RELATIVE TO BUCKLEY SPACE FORCE BASE CONTROL NETWORK, CONTROL POINT "1", WITH AN ASSUMED ELEVATION OF 5501.04'; NAVD 88 DATUM.
7. FEDERAL EMERGENCY MANAGEMENT AGENCY, FEMA FIRMETTE PUBLISHED DECEMBER 21, 2020, REFERENCING FLOOD INSURANCE RATE MAP, MAP NUMBER 08005C0182K EFFECTIVE DATE DECEMBER 17, 2010, INDICATES THIS PARCEL OF LAND IS LOCATED IN ZONE X (AREA OF MINIMAL FLOOD HAZARD).
8. AREA OF CONCERN:
   #2 - UNDERGROUND WATER AND GAS LINES DEPICTED IN THESE AREAS WERE DRAWN BY OBSERVABLE SURFACE EVIDENCE ONLY. NO UNDERGROUND UTILITY LINES WERE LOCATED IN THIS AREA AT THE TIME OF FIELD VISIT.

SURVEY LEGEND

▲	FOUND CONTROL POINT		HANDICAP PARKING
△	SET CONTROL POINT		CONIFEROUS TREE
(M)	MEASURED BEARING/DISTANCE		DECIDUOUS TREE
S.F.	SQUARE FEET		FLAG POLE
FF	FINISHED FLOOR	LS	LANDSCAPED AREA
℄	FLOWLINE		BOLLARD
SS	SANITARY MANHOLE		SIGN
	SANITARY CLEANOUT	ST	STORM LINE (UNDERGROUND)
ST	STORM MANHOLE		CULVERT
	STORM INLET (ROUND)	SS	SANITARY LINE (UNDERGROUND)
	STORM INLET (RECTANGLE)	WL	WATER LINE (UNDERGROUND)
	FIRE HYDRANT	UG	GAS LINE (UNDERGROUND)
	WATER VALVE	UE	ELECTRIC LINE (UNDERGROUND)
CV	IRRIGATION CONTROL VALVE	UT	TELEPHONE LINE (UNDERGROUND)
	WATER MARKER	UKN	UNKNOWN UTILITY (UNDERGROUND)
	LIGHT POLE		GRAVEL AREA
E	ELECTRIC MANHOLE		CONCRETE AREA
	ELECTRIC TRANSFORMER		RIP-RAP AREA
	ELECTRIC BOX	X	AREA OF CONCERN
T	TELEPHONE MANHOLE		
	GAS METER		
	GAS MARKER		
G	GAS TEST STATION		
	GAS VALVE		
U	UNKNOWN UTILITY		
P4	BOREHOLE		

KEYPLAN:



US Army Corps of Engineers ®

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FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

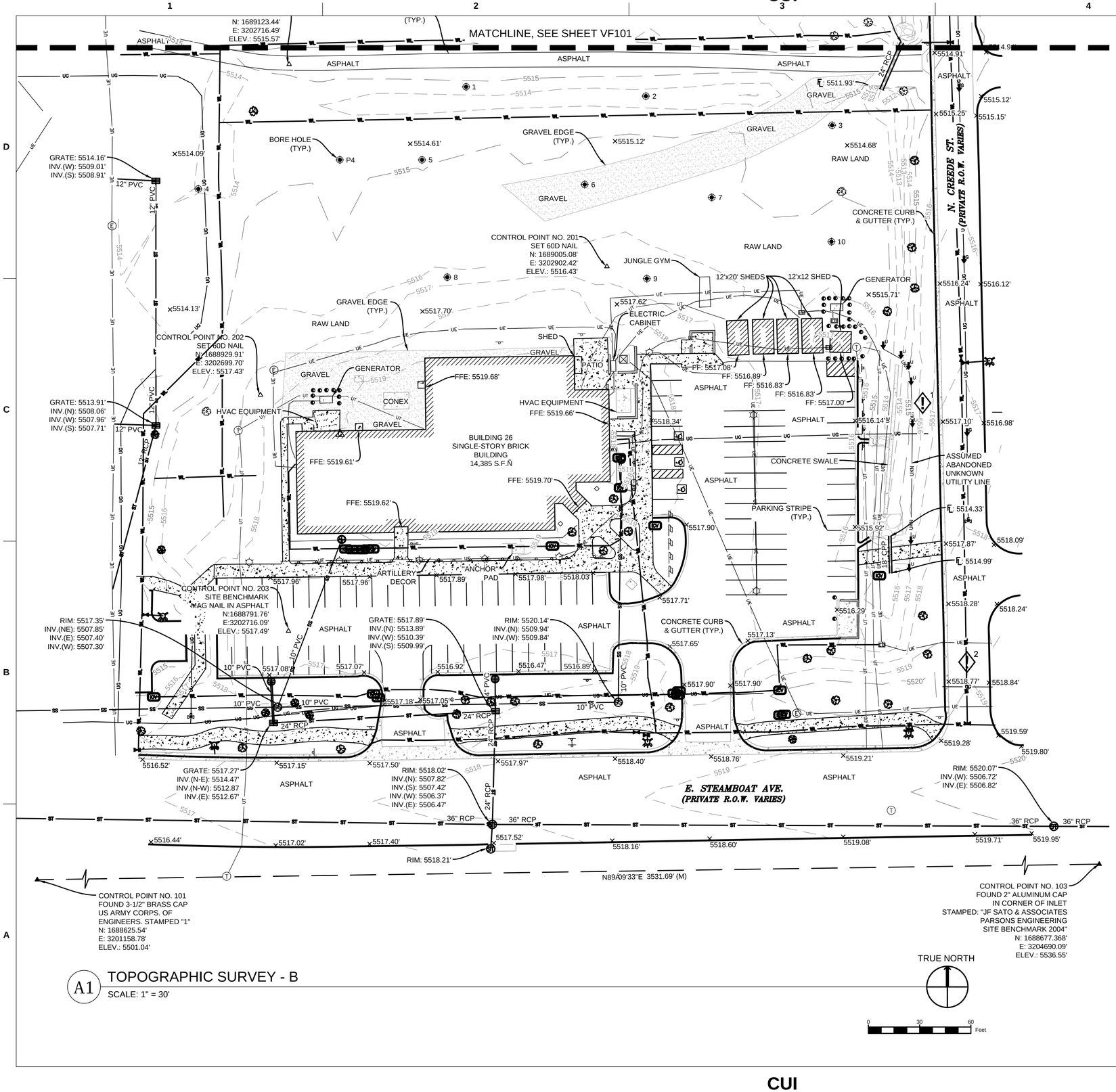
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - TOPOGRAPHIC SURVEY - A

SHEET ID

VF101

RTA SUBMISSION



A1 TOPOGRAPHIC SURVEY - B

SCALE: 1" = 30'

SURVEY NOTES

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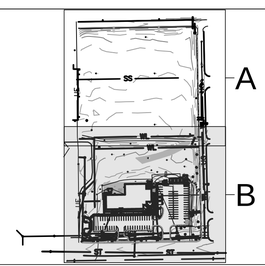
8. AREAS OF CONCERN:
   #1 - UNKNOWN UNDERGROUND UTILITY LINE LOCATED IN THIS AREA.
   #2 - UNDERGROUND WATER AND GAS LINES DEPICTED IN THESE AREAS WERE DRAWN BY OBSERVABLE SURFACE EVIDENCE ONLY. NO UNDERGROUND UTILITY LINES WERE LOCATED IN THIS AREA AT THE TIME OF FIELD VISIT.

SURVEY LEGEND

- FOUND CONTROL POINT
- SET CONTROL POINT
- (M) MEASURED BEARING/DISTANCE
- S.F. SQUARE FEET
- FF FINISHED FLOOR
- FL FLOWLINE
- SS SANITARY MANHOLE
- SANITARY CLEANOUT
- ST STORM MANHOLE
- STORM INLET (ROUND)
- STORM INLET (RECTANGLE)
- FIRE HYDRANT
- WATER VALVE
- IRRIGATION CONTROL VALVE
- WATER MARKER
- LIGHT POLE
- E ELECTRIC MANHOLE
- ELECTRIC TRANSFORMER
- ELECTRIC BOX
- T TELEPHONE MANHOLE
- GAS METER
- GAS MARKER
- GAS TEST STATION
- GAS VALVE
- U UNKNOWN UTILITY
- P4 BOREHOLE
- HANDICAP PARKING
- CONIFEROUS TREE
- DECIDUOUS TREE
- FLAG POLE
- LS LANDSCAPED AREA
- BOLLARD
- SIGN
- ST SANITARY LINE (UNDERGROUND)
- CULVERT
- SS SANITARY LINE (UNDERGROUND)
- WL WATER LINE (UNDERGROUND)
- UG GAS LINE (UNDERGROUND)
- UE ELECTRIC LINE (UNDERGROUND)
- UT TELEPHONE LINE (UNDERGROUND)
- UKN UNKNOWN UTILITY (UNDERGROUND)
- GRAVEL AREA
- CONCRETE AREA
- RIP-RAP AREA
- X AREA OF CONCERN

KEYPLAN:



US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: -
DRAWN BY: -
CHECKED BY: -
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
SUBMITTED BY:
FILE NUMBER:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

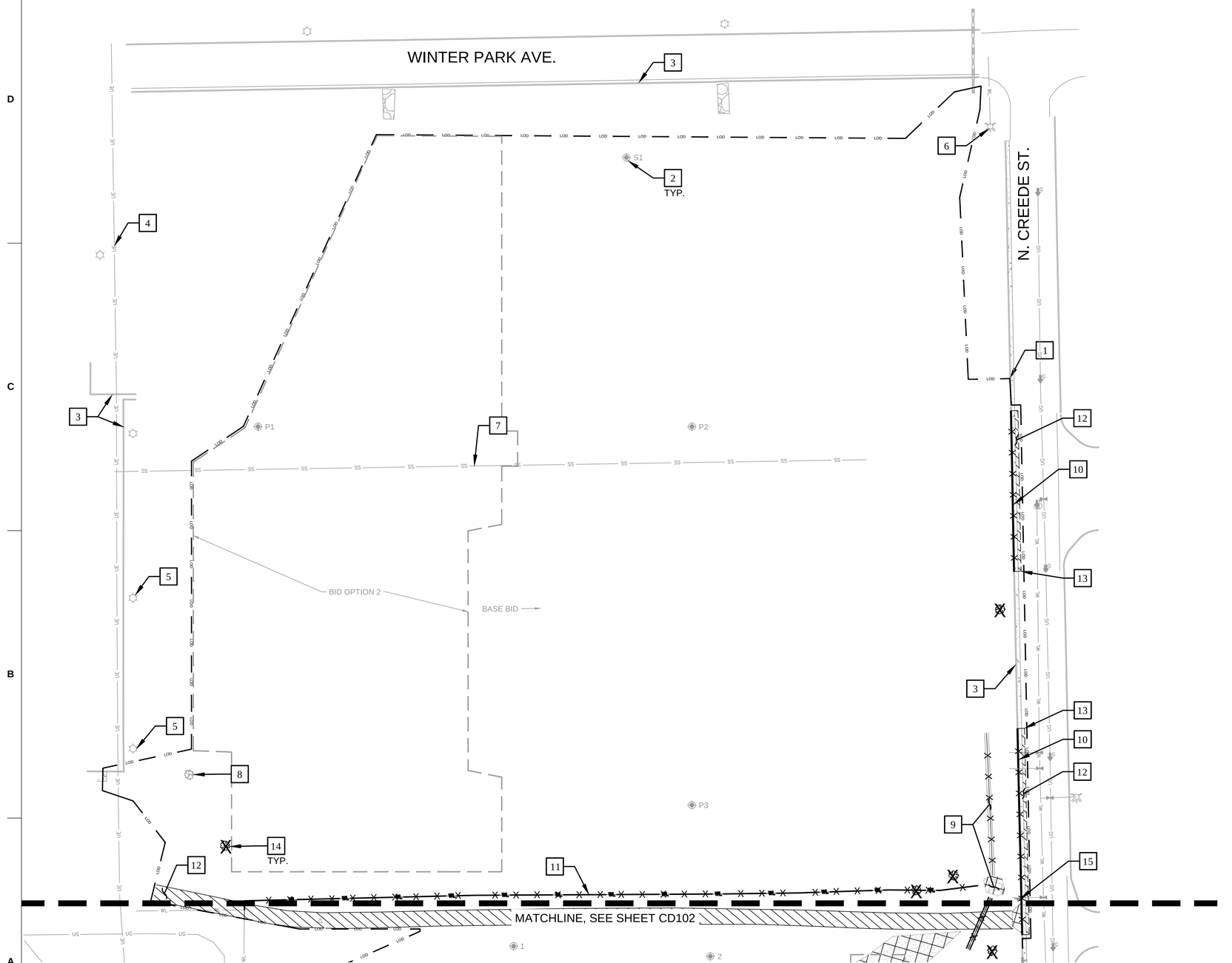
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - TOPOGRAPHIC SURVEY - B

SHEET ID

VF102

RTA SUBMISSION



A1 EXISTING CONDITIONS AND DEMOLITION PLAN - A

SCALE: 1" = 30'

GENERAL SHEET NOTES

A. FEATURES TO BE DEMOLISHED ARE BOLD OR WITHIN HATCHED AREAS.

B. REMOVE EXISTING PAVEMENT AND LANDSCAPING AS NEEDED WITHIN THE PROJECT LIMITS.

C. DEMOLITION ACTIVITIES CANNOT START UNTIL ALL INITIAL EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE AND APPROVED BY THE CONTRACTING OFFICER.

D. ALL PAVEMENT AND LANDSCAPING OUTSIDE OF THE DEMOLITION LIMITS ARE TO REMAIN. REPLACE ALL WORK DAMAGED DURING CONSTRUCTION TO EQUAL OR BETTER CONDITIONS AT NO ADDITIONAL COST TO THE GOVERNMENT.

E. REMOVE ALL EXISTING STRUCTURES AND THEIR FOUNDATIONS, PAVEMENTS, FENCING, UNDERSLAB, UTILITIES, AND ANY OTHER ABOVE GROUND ITEMS WITHIN THE DEMOLITION LIMITS.

F. FILL ALL UTILITIES DISCONNECTED OR ABANDONED AS A RESULT OF NEW CONSTRUCTION. FILL ABANDONED LINES WITH FLOWABLE FILL AND PROVIDE THRUST RESTRAINT ON PRESSURE LINES.

G. REPAIR ALL EXISTING UTILITY LINES OUTSIDE OF DEMO LIMITS DAMAGED DUE TO NEW CONSTRUCTION AND RESTORE SYSTEM TO EQUAL OR BETTER CONDITION.

H. PER BUCKLEY SPACE FORCE BASE, THERE ARE REGULATED ASBESTOS CONTAINING SOILS OR RACS. THESE REQUIRE THE PRESENCE OF A STATE CERTIFIED ASBESTOS BUILDING INSPECTOR (CABI), WITH SOILS EXPERIENCE, ON SITE DURING LAND DISTURBING ACTIVITIES. DO NOT USE ASBESTOS CONTAMINATED SOILS FOR ANY TEMPORARY OR PERMANENT GRADING APPLICATIONS.

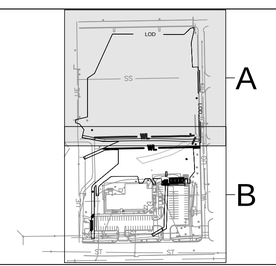
I. BID OPTION 2 INDICATED BY THE GREY DASHED LINE.

J. BURIED CONCRETE FOUNDATIONS AND/OR CONCRETE DEBRIS COULD BE FOUND WITHIN THE PROJECT LIMITS FROM PREVIOUSLY DEMOLISHED BUILDINGS. IF ENCOUNTERED, NOTIFY THE COR AND REFER TO CLIN OPTION 0008.

SHEET KEYED NOTES:

1. LIMITS OF DISTURBANCE
2. BOREHOLE LOCATION, SEE SHEET VF101
3. EXISTING CURB AND GUTTER TO REMAIN
4. EXISTING ELECTRIC LINES TO REMAIN
5. EXISTING LIGHT POLE TO REMAIN
6. EXISTING FIRE HYDRANT TO REMAIN
7. EXISTING ABANDONED SEWER LINE TO REMAIN
8. EXISTING TREES/SHRUBS TO REMAIN
9. DEMOLISH EXISTING RIPRAP AND CONCRETE DITCH
10. DEMOLISH EXISTING CURB AND GUTTER
11. DEMOLISH EXISTING WATER LINE
12. DEMOLISH EXISTING ASPHALT PAVEMENT
13. SAW CUT LIMITS
14. DEMOLISH EXISTING TREE/SHRUB
15. REMOVE EXISTING TRAFFIC SIGN

KEYPLAN:



COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. DAVIS
DRAWN BY: K. MAU
CHECKED BY: J. CARDENAS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9126P22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - EXISTING CONDITIONS AND DEMOLITION PLAN - A

SHEET ID

CD101

A1 EXISTING CONDITIONS AND DEMOLITION PLAN - B

SCALE: 1" = 30'

GENERAL SHEET NOTES

A. FEATURES TO BE DEMOLISHED ARE BOLD OR WITHIN HATCHED AREAS.

B. REMOVE EXISTING PAVEMENT AND LANDSCAPING AS NEEDED WITHIN THE PROJECT LIMITS.

C. DEMOLITION ACTIVITIES CANNOT START UNTIL ALL INITIAL EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE AND APPROVED BY THE CONTRACTING OFFICER.

D. ALL PAVEMENT AND LANDSCAPING OUTSIDE OF THE DEMOLITION LIMITS ARE TO REMAIN. REPLACE ALL WORK DAMAGED DURING CONSTRUCTION TO EQUAL OR BETTER CONDITIONS AT NO ADDITIONAL COST TO THE GOVERNMENT.

E. REMOVE ALL EXISTING STRUCTURES AND THEIR FOUNDATIONS, PAVEMENTS, FENCING, UNDERSLAB, UTILITIES, AND ANY OTHER ABOVE GROUND ITEMS WITHIN THE DEMOLITION LIMITS.

F. FILL ALL UTILITIES DISCONNECTED OR ABANDONED AS A RESULT OF NEW CONSTRUCTION. FILL ABANDONED LINES WITH FLOWABLE FILL AND PROVIDE THRUST RESTRAINT ON PRESSURE LINES.

G. REPAIR ALL EXISTING UTILITY LINES OUTSIDE OF DEMO LIMITS DAMAGED DUE TO NEW CONSTRUCTION AND RESTORE SYSTEM TO EQUAL OR BETTER CONDITION.

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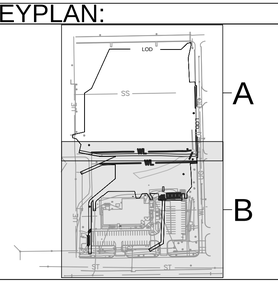
I. BID OPTION 1 INDICATED BY THE GREY DASHED LINE.

J. BURIED CONCRETE FOUNDATIONS AND/OR CONCRETE DEBRIS COULD BE FOUND WITHIN THE PROJECT LIMITS FROM PREVIOUSLY DEMOLISHED BUILDINGS. IF ENCOUNTERED, NOTIFY THE COR AND REFER TO CLIN OPTION 0008.

SHEET KEYED NOTES:

1. LIMITS OF DISTURBANCE
2. BOREHOLE LOCATION, SEE SHEET VF101
3. EXISTING CURB AND GUTTER TO REMAIN
4. EXISTING ELECTRIC LINES TO REMAIN
5. NOT USED
6. NOT USED
7. NOT USED
8. EXISTING TREES/SHRUBS TO REMAIN
9. NOT USED
10. DEMOLISH EXISTING CURB AND GUTTER
11. DEMOLISH EXISTING WATER LINE
12. DEMOLISH EXISTING ASPHALT PAVEMENT
13. NOT USED
14. DEMOLISH EXISTING TREE/SHRUB
15. NOT USED
16. DEMOLISH EXISTING CONCRETE PAVEMENT
17. DEMOLISH EXISTING GRAVEL
18. DEMOLISH EXSITING CONCRETE SIDEWALK
19. DEMOLISH EXISTING 24" CULVERT
20. DEMOLISH EXISTING CONCRETE BLOCK WALL, GATE, AND CONCRETE PAD
21. REMOVE CONCRETE STORAGE CONTAINERS, SEE SHEET CS102 FOR RELOCATION
22. REMOVE EXISTING JUNGLE GYM, SEE SHEET CS102 FOR RELOCATION
23. EXISTING GAS LINE TO REMAIN
24. EXISTING BOLLARDS AND EQUIPMENT TO REMAIN
25. EXISTING TELECOM LINE TO REMAIN
26. EXISTING WATER LINE TO REMAIN

KEYPLAN:



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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - EXISTING CONDITIONS AND DEMOLITION PLAN - B

SHEET ID

CD102

EROSION CONTROL GENERAL NOTES

A. PROVIDE ALL NECESSARY EROSION AND SEDIMENT CONTROL MEASURES AS FIELD CONDITIONS REQUIRE AND COMPLY WITH ALL BASE ENVIRONMENTAL REQUIREMENTS. SUBMIT AN EROSION AND SEDIMENT CONTROL PLAN TO THE CONTRACTING OFFICER FOR REVIEW AND OBTAIN APPROVAL, PRIOR TO STARTING CONSTRUCTION. IDENTIFY AND OBTAIN ALL REQUIRED FEDERAL, STATE, AND LOCAL PERMITS REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT.

B. MAINTAIN ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES AT ALL TIMES. MAINTENANCE OF BOTH TEMPORARY AND PERMANENT EROSION CONTROL MEASURES IS CONSIDERED INCIDENTAL.

C. STORM RUNOFF WATER MUST NOT BE ALLOWED TO LEAVE THE SITE UNTREATED OR ENTER ROADWAYS (LADEN WITH SUSPENDED SEDIMENT). IF THIS OCCURS, THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY PERMIT VIOLATIONS FINES, CLEANUP, OR OTHER COSTS ASSOCIATED WITH DAMAGE.

D. CONTRACTOR TO INSPECT ALL SEDIMENT CONTROL MEASURES AFTER ALL RAIN EVENTS. REPAIR, AS NEEDED, AND CLEAN ANY AREAS OUTSIDE OF THE PERIMETER DEVICES THAT HAVE BEEN CONTAMINATED WITH SEDIMENT. BASED UPON THE REVIEW OF THE COR, THE CONTRACTOR MAY NEED TO INSTALL ADDITIONAL SEDIMENT CONTROL MEASURES, IF DEEMED NECESSARY.

E. PROVIDE INLET PROTECTION ON ALL EXISTING AND NEW STORM DRAINS AND SILT FENCE ON EXISTING CULVERTS AS REQUIRED AND DURING CONSTRUCTION TO PROTECT AREA ADJACENT TO WORK FROM SEDIMENT BUILD-UP AND EROSION.

F. ALL AREAS DISTURBED DURING CONSTRUCTION MUST RECEIVE TEMPORARY AND PERMANENT STABILIZATION AS DIRECTED BY THE CONTRACTING OFFICER. PERMANENT STABILIZATION SHALL BE APPLIED TO DISTURBED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DISTURBED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN FOURTEEN (14) DAYS. STABILIZATION IS A LOCAL, STATE, AND FEDERAL GOVERNMENT REQUIREMENT.

G. ENSURE ALL INSPECTIONS ARE PERFORMED AND RECORDS AND PLANS ARE AVAILABLE ONSITE AS REQUIRED BY ANY PERMITS.

H. APPLY WATER TO CONTROL DUST AS NECESSARY.

I. PER BUCKLEY SPACE FORCE BASE, THERE ARE REGULATED ASBESTOS CONTAINING SOILS OR RACS WITHIN THE DESIGNATED WORK AREA. THESE REQUIRE THE PRESENCE OF A STATE CERTIFIED ASBESTOS BUILDING INSPECTOR (CABI), WITH SOILS EXPERIENCE, ON SITE DURING LAND DISTURBING ACTIVITIES. DO NOT USE ASBESTOS CONTAMINATED SOILS FOR ANY TEMPORARY OR PERMANENT GRADING APPLICATIONS.

J. ALL AREAS DISTURBED FOR THE CONTRACTOR LAYDOWN, STORAGE, AND STAGING AREAS MUST BE RETURNED TO PRE-DEVELOPMENT CONDITIONS. ALL STOCKPILE ARES MUST UTILIZE APPROPRIATE EROSION AND SEDIMENT CONTROLS AS DIRECTED BY THE CONTRACTING OFFICER.

SEQUENCE OF CONSTRUCTION FOR EROSION AND SEDIMENT CONTROL MEASURES

PHASE I INITIAL PHASE: SITE PREPARATION AND PRE-CONSTRUCTION OPERATIONS

1. PRIOR TO LAND DISTURBANCE ACTIVITIES SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE AREA SITE INSPECTOR AND CONTRACTING OFFICER.
2. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITIES, CLEARLY AND ACCURATELY DEMARCATE THE LIMITS OF DISTURBANCE WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEANS, FOR THE ENTIRE DURATION OF THE PROJECT.
3. NO LAND DISTURBANCE IS PERMITTED OUTSIDE THE APPROVED LIMITS INDICATED IN THE APPROVED PLANS.
4. IMPLEMENT THE FOLLOWING EROSION CONTROL MEASURES IN THIS PHASE:
   - A. PROVIDE CONSTRUCTION ACCESS AT LEAST 15 FEET WIDE FOR ONE-WAY TRAFFIC AND 20 FEET WIDE FOR TWO-WAY TRAFFIC. A 6 INCH COURSE OF COARSE AGGREGATE SHALL BE APPLIED ON A GEOTEXTLLE LAYER. CURVES AND SWITCHBACKS MUST BE OF SUFFICIENT RADIUS FOR TRUCKS AND LARGER VEHICLES TO NEGOTIATE EASILY.
   - B. PROVIDE SILT FENCE OR FILTER LOGS AT THE TOE OF THE SLOPE OR AS INDICATED IN THE PLANS. PLACE SILT FENCE OR FILTER LOGS IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS.
   - C. IF DETERMINED TO BE REQUIRED BY SITE CONDITIONS, PROVIDE DIVERSION DIKES TO DIVERT THE STORMWATER TO SILT FENCE. THE DIVERSION DIKES MUST BE MINIMUM 12 INCHES HIGH COMPACTED EARTH.
   - D. INSTALL INLET SEDIMENT PROTECTION MEASURES AT EXISTING STORM INLETS PRIOR TO DEMOLITION AND ENSURE NO SEDIMENT LADEN WATER ENTER ROADWAYS OR ADJACENT SITES.

SEQUENCE OF CONSTRUCTION FOR EROSION AND SEDIMENT CONTROL MEASURES, CONTINUED

5. AFTER INSTALLATION OF THE INITIAL EROSION AND SEDIMENT CONTROL MEASURES, SCHEDULE AN INSPECTION WITH THE CONTRACTING OFFICER AND/OR THE AREA SITE INSPECTOR. NO OTHER CONSTRUCTION ACTIVITIES MUST OCCUR UNTIL THE CONTRACTING OFFICER APPROVES THE INSTALLATION OF THE INITIAL EROSION AND SEDIMENT CONTROL MEASURES. IF UNFORESEEN CONDITIONS EXIST IN THE FIELD THAT WARRANT THE INSTALLATION OF ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES, INSTALL ANY ADDITIONAL MEASURES DEEMED NECESSARY BY THE CONTRACTING OFFICER AT NO COST TO THE GOVERNMENT.

PHASE II INTERMEDIATE PHASE: CONSTRUCTION ACTIVITIES

1. INSTALL STORM CULVERTS ALONG NORTH CREEDE STREET PER PLANS TO DIVERT CLEAN WATER FROM BUILDING 26 SITE TO EXISTING OUTFALL AT NORHTEAST CORNER OF PROPOSED SITE. INSTALL INLET AND OUTLET PROTECTION MEASURES ON ALL THE STORMWATER STRUCTURES AS THEY ARE CONSTRUCTED, AS SHOWN ON THE PLANS.
2. DURING CONSTRUCTION, MAINTAIN CAREFUL SCHEDULING AND PERFORMANCE TO ENSURE THAT EXPOSURE OF LAND AREA STRIPPED OF ITS NATURAL COVER IS KEPT TO A MINIMUM.
3. THE LOCATION OF SOME EROSION AND SEDIMENT CONTROL MEASURES MAY HAVE TO BE ALTERED FROM THOSE SHOWN ON THE APPROVED PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION DIFFER FROM THE ONES SHOWN ON THE DRAWINGS. ACCOMPLISH SEDIMENT CONTROL FOR ALL DRAINAGE PATTERNS CREATED DURING VARIOUS STAGES OF CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION MUST BE IMMEDIATELY REPORTED TO THE CONTRACTING OFFICER.
4. APPLY MULCH OR TEMPORARY SEEDING TO ALL DISTURBED AREAS WITHIN 7 DAYS OF CLEARING.
5. AREAS OPENED BY CONSTRUCTION OPERATIONS AND THAT ARE NOT ANTICIPATED TO BE RE-EXCAVATED OR DRESSED AND RECEIVE FINAL LANDSCAPING TREATMENT WITHIN TIME FRAME STATED IN THE LANDSCAPE PLANS MUST BE TEMPORARY SEEDED. PROVIDE A BASH COMPLIANT QUICK GROWING GRASS SPECIES WHICH WILL PROVIDE AN EARLY COVER DURING THE SEASON IN WHICH IT IS PLANTED AND WILL NOT COMPETE WITH THE PERMANENT GROUNDCOVER.
6. INSTALL INLET SEDIMENT PROTECTION MEASURES ON ALL THE STORMWATER STRUCTURES AS THEY ARE CONSTRUCTED AND AS SHOWN ON THE PLANS.
7. CUT AND FILL SLOPES ARE NOT TO EXCEED 2H:1V.

PHASE III FINAL PHASE: CONSTRUCTION COMPLETION AND FINAL STABILIZATION

1. SEDIMENT MUST NOT BE WASHED INTO INLETS. IT MUST BE REMOVED FROM THE INLET TRAPS, DISPOSED OF, AND STABILIZED IN SUCH A WAY THAT IT WILL NOT ENTER THE INLETS AGAIN.
2. PERMANENT BMP'S AND VEGETATION MEASURES MUST BE INSTALLED IN THIS PHASE.
3. MULCH AND TEMPORARY SEEDING MUST BE APPLIED TO ALL DISTURBED AREAS WITHIN 7 DAYS OF CLEARING. ALL DISTURBED AREAS THAT ARE STABILIZED WITH MULCH MUST BE STABILIZED WITH TEMPORARY SEEDING IN ACCORDANCE WITH LOCAL REQUIREMENTS.
4. MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL PERMANENT GROUND COVER AND FINAL STABILIZATION ARE ESTABLISHED.
5. ALL EROSION AND SEDIMENT CONTROL DEVICES IN THIS PHASE MUST BE MAINTAINED AS DIRECTED ON THIS SHEET. UPON COMPLETION OF CONSTRUCTION, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AND DISPOSE OF THEM, UNLESS NOTED ON THE PLANS. PERMANENT SEEDING MUST BE APPLIED TO THE ENTIRE SITE FOR ALL REMAINING AREAS.

COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. DAVIS
DRAWN BY: K. MAU
CHECKED BY: J. CARDENAS
SUBMITTED BY:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9126F22R0017
CONTRACT NO.:
FILE NUMBER:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

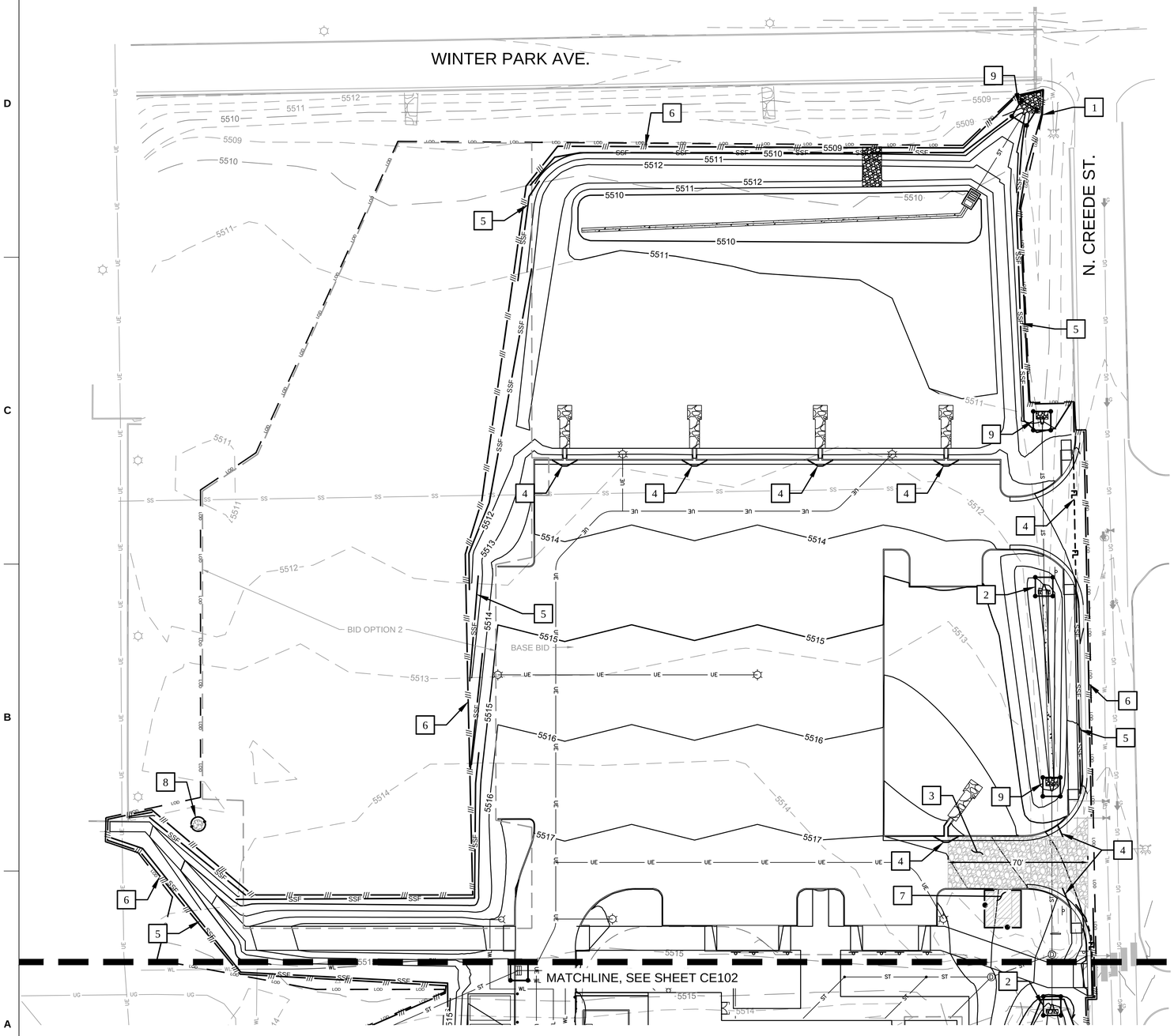
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - EROSION AND SEDIMENT CONTROL GENERAL NOTES

SHEET ID

CE001



A1 EROSION AND SEDIMENT CONTROL PLAN - A

SCALE: 1" = 30'

TRUE NORTH

0 30 60 Feet

GENERAL SHEET NOTES

A. SEE SHEET C-001 FOR GENERAL NOTES AND CE001 FOR EROSION CONTROL NOTES.

B. BID OPTION 2 INDICATED BY THE GREY DASHED LINE.

C. SEE SHEET CE001 FOR CONTRACTOR LAYDOWN AREA REQUIREMENTS.

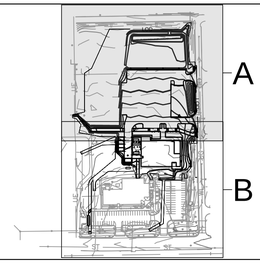
E&S LEGEND

- TREE PROTECTION
- INLET/OUTLET PROTECTION
- EROSION/FILTER LOG
- SUPER SILT FENCE
- TEMPORARY CONSTRUCTION FENCE
- TEMPORARY CONSTRUCTION ENTRANCE
- TEMPORARY CONCRETE WASHOUT STRUCTURE

SHEET KEYED NOTES:

1. LIMITS OF DISTURBANCE
2. CULVERT INLET PROTECTION, SEE C1/CE502
3. CONSTRUCTION ENTRANCE, SEE A1/CE503
4. FILTER LOG, SEE A1/CE501
5. SUPER SILT FENCE, SEE A1/CE502
6. TEMPORARY CONSTRUCTION FENCE, SEE A3/CE502
7. CONCRETE WASHOUT STRUCTURE, SEE A3/CE503
8. TREE PROTECTION FENCE, SEE C4/CE502
9. OUTLET PROTECTION, SEE C4/CE501

KEYPLAN:



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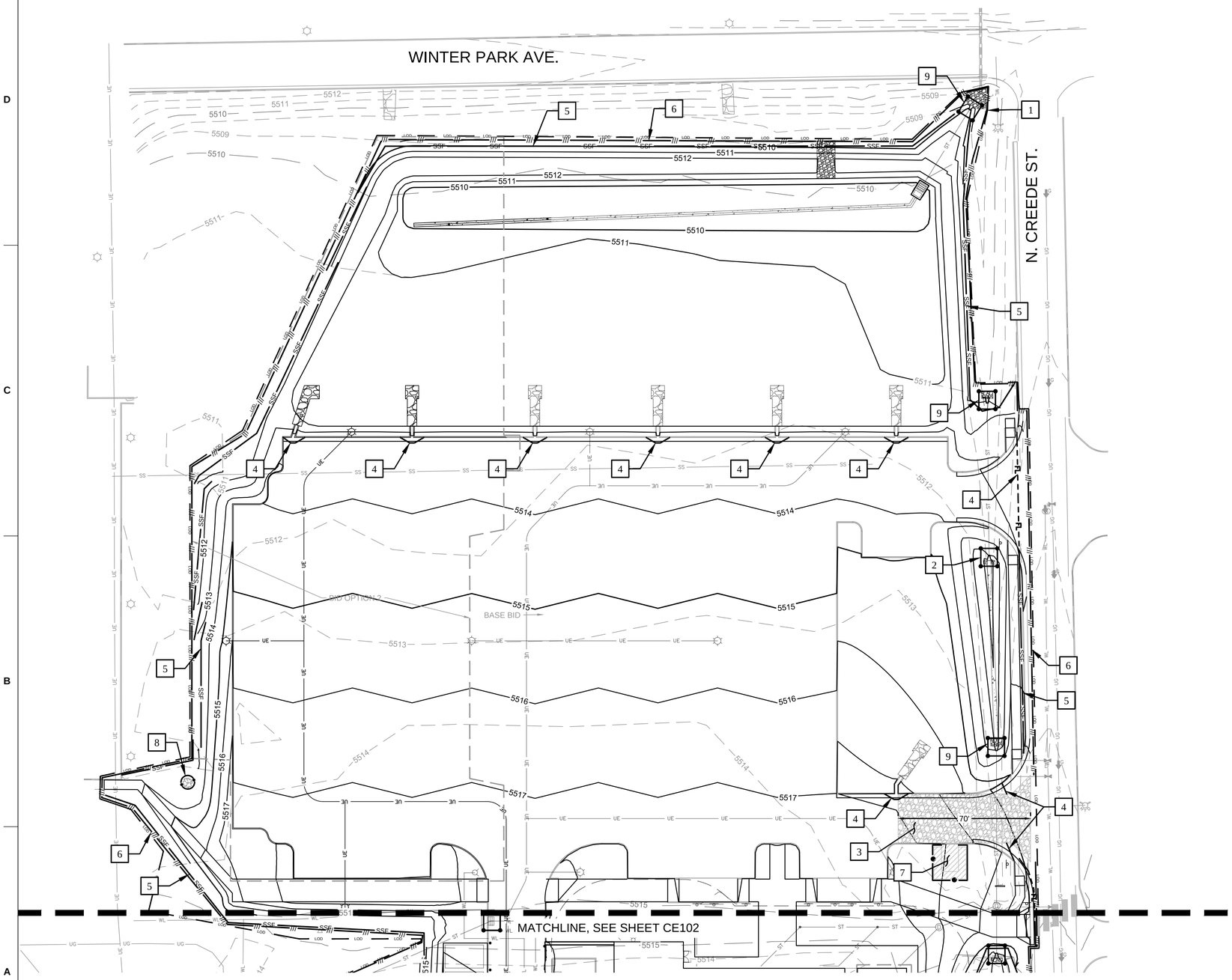
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - EROSION AND SEDIMENT CONTROL PLAN - A

SHEET ID

CE101



A1 EROSION AND SEDIMENT CONTROL PLAN - A (BID OPTION 2)

SCALE: 1" = 30'

TRUE NORTH

0 30 60 Feet

GENERAL SHEET NOTES

A. SEE SHEET C-001 FOR GENERAL NOTES AND CE001 FOR EROSION CONTROL NOTES.

B. BID OPTION 2 INDICATED BY THE GREY DASHED LINE.

C. SEE SHEET CE001 FOR CONTRACTOR LAYDOWN AREA REQUIREMENTS.

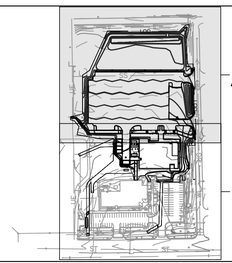
E&S LEGEND

- TREE PROTECTION
- INLET/OUTLET PROTECTION
- EROSION/FILTER LOG
- SUPER SILT FENCE
- TEMPORARY CONSTRUCTION FENCE
- TEMPORARY CONSTRUCTION ENTRANCE
- TEMPORARY CONCRETE WASHOUT STRUCTURE

SHEET KEYED NOTES:

1. LIMITS OF DISTURBANCE
2. CULVERT INLET PROTECTION, SEE C1/CE502
3. CONSTRUCTION ENTRANCE, SEE A1/CE503
4. FILTER LOG, SEE A1/CE501
5. SUPER SILT FENCE, SEE A1/CE502
6. TEMPORARY CONSTRUCTION FENCE, SEE A3/CE502
7. CONCRETE WASHOUT STRUCTURE, SEE A3/CE503
8. TREE PROTECTION FENCE, SEE C4/CE502
9. OUTLET PROTECTION, SEE C4/CE501

KEYPLAN:



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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - EROSION AND SEDIMENT CONTROL PLAN - A (BID OPTION 2)

SHEET ID

CE101A

RTA SUBMISSION

A1 EROSION AND SEDIMENT CONTROL PLAN - B
SCALE: 1" = 30'

GENERAL SHEET NOTES

A. SEE SHEET C-001 FOR GENERAL NOTES AND CE001 FOR EROSION CONTROL NOTES.

B. BID OPTION 1 INDICATED BY THE GREY DASHED LINE. SEE ARCHITECTURAL PLANS FOR DETAILS.

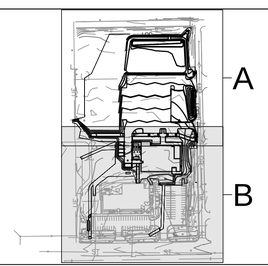
E&S LEGEND

- TREE PROTECTION
- INLET PROTECTION
- EROSION/FILTER LOG
- SUPER SILT FENCE
- TEMPORARY CONSTRUCTION FENCE

SHEET KEYED NOTES:

1. LIMITS OF DISTURBANCE
2. CULVERT INLET PROTECTION, SEE C1/CE502
3. NOT USED
4. FILTER LOG, SEE A1/CE501
5. SUPER SILT FENCE, SEE A1/CE502
6. TEMPORARY CONSTRUCTION FENCE, SEE A3/CE502
7. NOT USED
8. TREE PROTECTION FENCE, SEE C4/CE502
9. NOT USED
10. INLET PROTECTION, SEE A3/CE501
11. DROP INLET PROTECTION, SEE A4/CE501

KEYPLAN:



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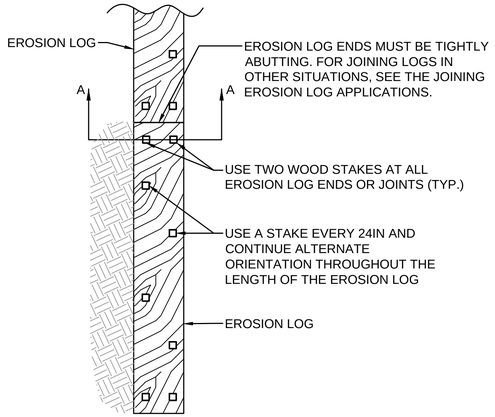
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

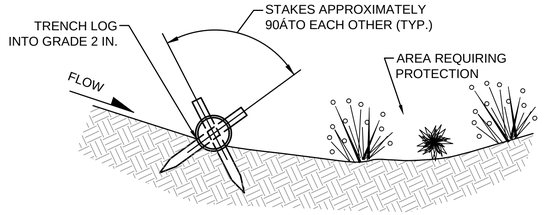
CIVIL - EROSION AND SEDIMENT CONTROL PLAN - B

SHEET ID

CE102

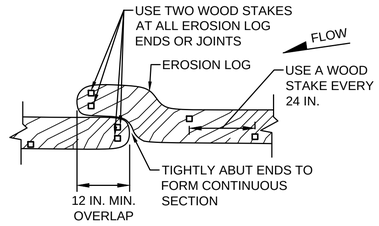


PLAN VIEW

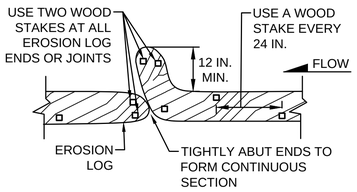


SECTION A-A

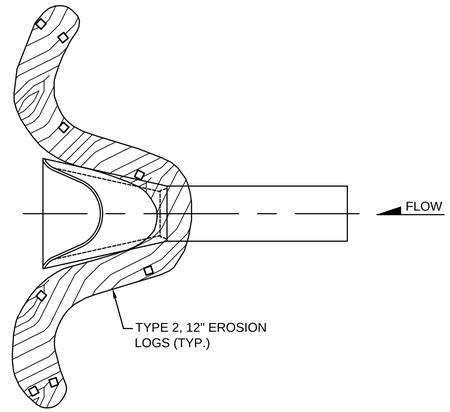
NOTE:
FOR PAVEMENT AREAS USE SAND BAGS (18" X 12" X 3" MIN) IN PLACE OF STAKES. PLACE SAND BAGS EVERY 36" O.C. ON THE CLEAN SIDE OF THE FILTER LOG.



OVERLAP JOINING DETAIL



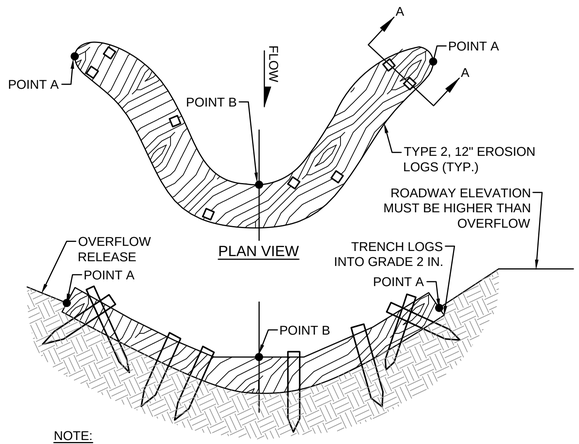
J-HOOK JOINING DETAIL



C1 EROSION/FILTER LOG STAKE INSTALLATION AND JOINING DETAILS

NTS

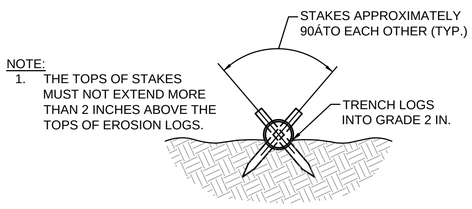
CE501



PLAN VIEW

NOTE:
1. POINTS "A" MUST BE A MINIMUM 4 IN. HIGHER THAN POINT "B".

ELEVATION



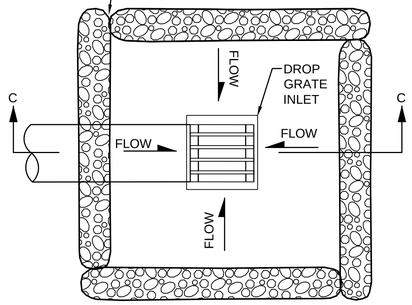
SECTION A-A

NOTES:
1. EROSION LOGS MUST BE EMBEDDED 2 INCHES INTO THE SOIL.
2. EROSION LOGS MUST BE TIGHTLY ABUTTED WITH NO GAPS.
3. V-SHAPED TEMPORARY DITCHES MUST NOT BE USED. DITCHES MUST BE GRADED IN A PARABOLIC OR TRAPEZOIDAL SHAPE.

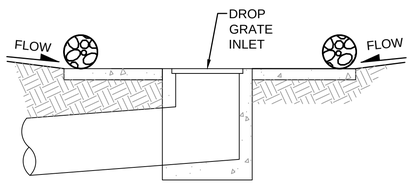
A1 EROSION/FILTER LOG

NTS

CE101
CE101A
CE102



PLAN VIEW



SECTION C-C

NOTE:
LOCATE AGGREGATE BAGS AT THE OUTSIDE EDGE OF THE CONCRETE APRON.

A3 INLET PROTECTION - AGGREGATE BAGS AT DROP INLET IN PAVEMENT

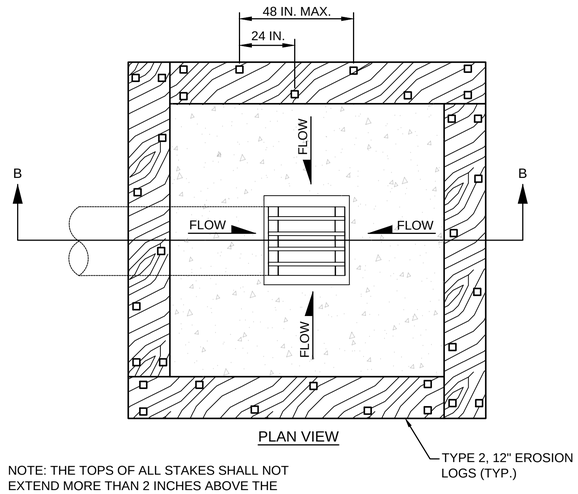
NTS

CE101
CE101A
CE102

C4 EROSION LOG CULVERT OUTLET PROTECTION

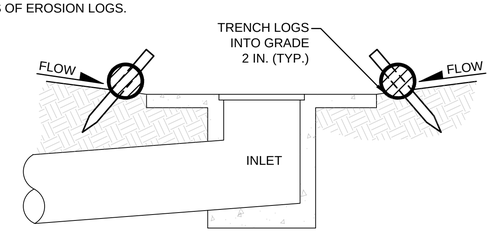
NTS

CE101
CE101A



PLAN VIEW

NOTE: THE TOPS OF ALL STAKES SHALL NOT EXTEND MORE THAN 2 INCHES ABOVE THE TOPS OF EROSION LOGS.



SECTION B-B

NOTE: LOCATION EROSION LOGS AT THE OUTSIDE EDGE OF THE CONCRETE APRON.

A4 INLET PROTECTION - EROSION LOG AT DROP INLET IN LANDSCAPE AREA

NTS

CE101
CE101A
CE102

US Army Corps of Engineers ®

DESCRIPTION	DATE	MARK

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: S. DAVIS
DRAWN BY: K. MAU
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US ARMY CORPS OF ENGINEERS
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1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

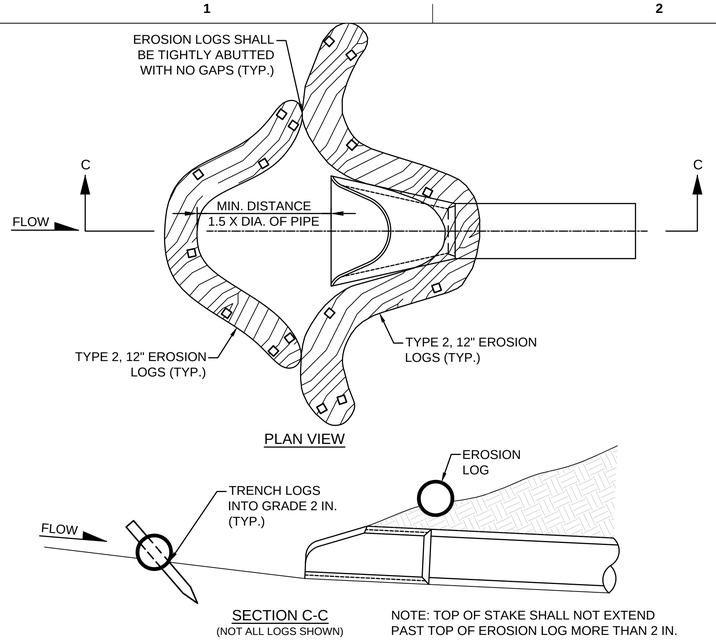
CIVIL - EROSION AND SEDIMENT CONTROL DETAILS

SHEET ID

CE501

COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

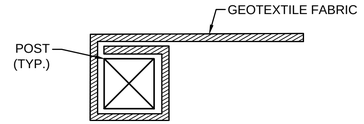
RTA SUBMISSION



C1 EROSION LOG CULVERT INLET PROTECTION

NTS

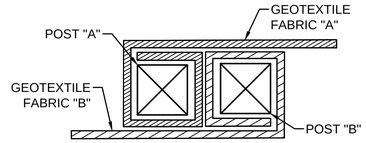
CE101
CE101A
CE102



NOTE:

1. THE END OF THE SILT FENCE FABRIC MUST WRAPPED APPROX. 6 INCHES AROUND A WOODEN POST ONE FULL TURN, THEN SECURED ALONG THE POST WITH 6 HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG.

END SECTION DETAIL (PLAN VIEW)



NOTES:

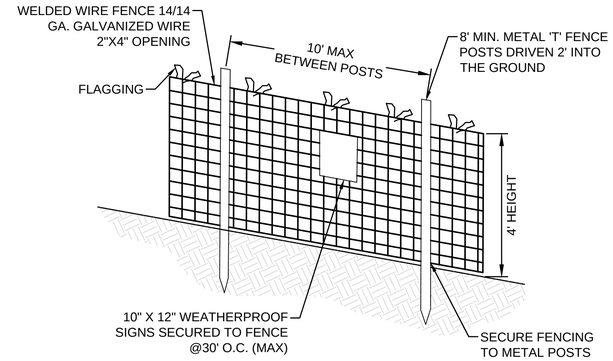
1. THE ENDS OF THE SILT FENCE FABRIC MUST BE JOINED TOGETHER BY WRAPPING APPROX. 6 INCHES OF EACH END AROUND A WOODEN POST ONE FULL TURN, THEN SECURED ALONG THE POST WITH 6 HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG.
2. POSTS MUST BE TIGHTLY ABUTTED WITH NO GAPS TO PREVENT POTENTIAL FLOW-THROUGH OF SEDIMENT AT JOINT.

JOINING SECTION DETAIL (PLAN VIEW)

C3 SILT FENCE END/JOINING SECTION DETAILS

NTS

CE502



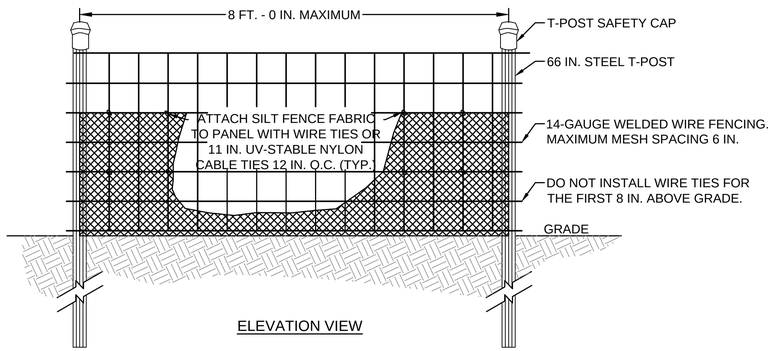
NOTES:

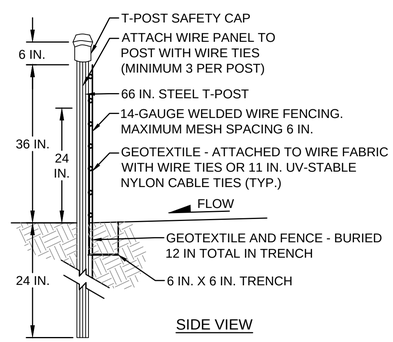
1. LOCATION AND LIMITS OF FENCING SHOULD BE COORDINATED IN FIELD WITH ARBORIST/LANDSCAPE ARCHITECT. LIMITS SHOULD NOT BE SMALLER THAN THE DRIP LINE OF THE TREE.
2. BOUNDARIES OF PROTECTION AREA SHOULD BE STAKED PRIOR TO INSTALLING PROTECTIVE DEVICE.
3. ROOT DAMAGE SHOULD BE AVOIDED.
4. PROTECTION SIGNAGE IS REQUIRED. SIGN TEXT "TREE PROTECTION AREA. DO NOT DISTURB".
5. FENCING TO BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION.

C4 TREE PROTECTION FENCE

NTS

CE101
CE101A
CE102





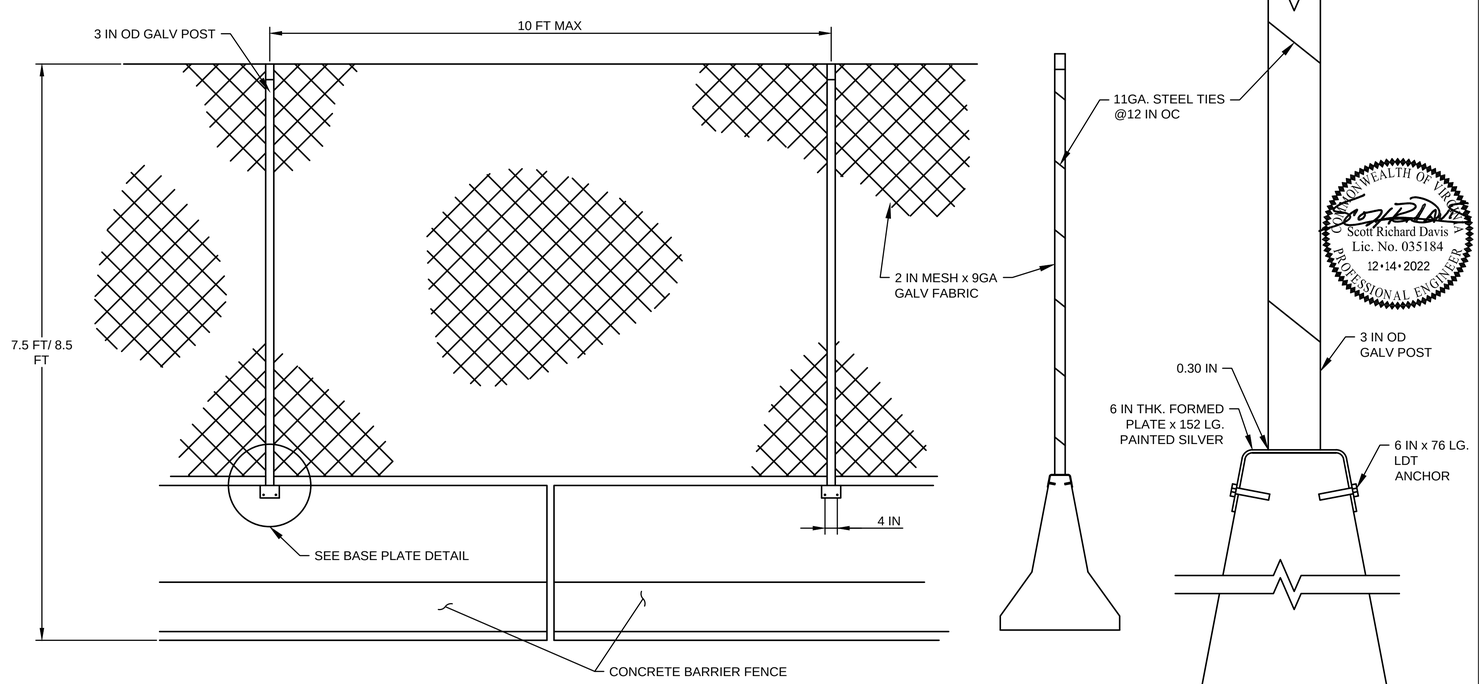
NOTES:

1. THE ENDS OF THE SILT FENCE FABRIC MUST BE JOINED TOGETHER BY WRAPPING APPROX. 6 INCHES OF EACH END AROUND A STEEL T-POST, THEN SECURED ALONG THE POST WITH WIRE TIES (MINIMUM 3 PER POST)
2. POSTS MUST BE TIGHTLY ABUTTED WITH NO GAPS TO PREVENT POTENTIAL FLOW-THROUGH OF SEDIMENT AT JOINT.
3. SILT FENCES MUST NOT BE USED FOR CHECK DAMS.

A1 SUPER SILT FENCE

NTS

CE101
CE101A
CE102



A3 TEMPORARY CONSTRUCTION FENCE

NTS

CE101
CE101A
CE102

US Army Corps of Engineers ®

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CIVIL - EROSION AND SEDIMENT CONTROL DETAILS

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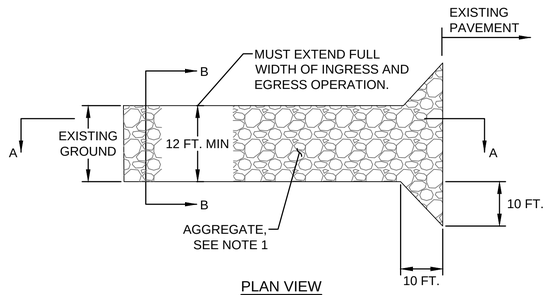
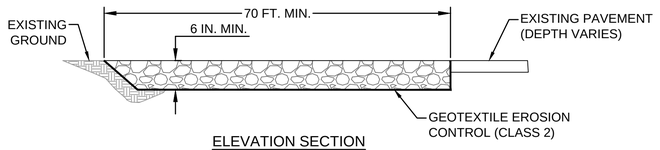
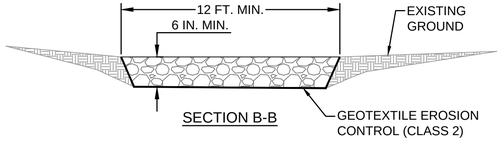
CE502



PLAN VIEW



ELEVATION SECTION



SECTION B-B

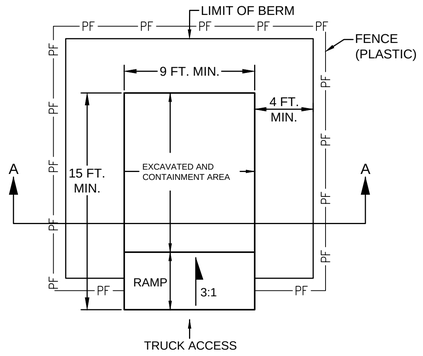
NOTES:

1. AGGREGATE MUST CONFORM TO SUBSECTION 208.02 (I) OF THE CODOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2. THE CONTRACTOR MUST PROTECT CURB AND GUTTER THAT CROSSES THE ENTRANCE FROM DAMAGE, WHILE NOT BLOCKING FLOW OF WATER THRU STRUCTURE.
3. GEOTEXTILE MUST CONFORM TO SUBSECTION 712.08 OF THE CODOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

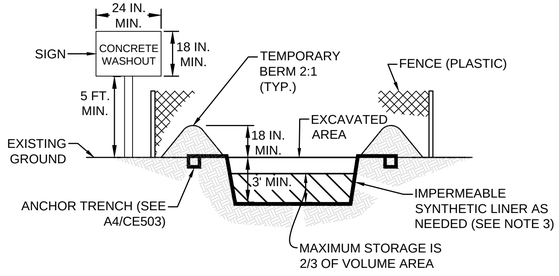
A1 CONSTRUCTION ENTRANCE

NTS

CE101
CE101A



PLAN VIEW



SECTION A-A

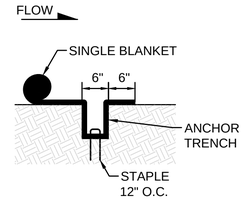
NOTES:

1. A FENCE (PLASTIC), CONFORMING TO SECTION 607 OF THE CODOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, MUST BE INSTALLED AROUND THE CONCRETE WASHOUT AREA, EXCEPT AT THE OPENING.
2. THE CONCRETE WASHOUT SIGN MUST HAVE LETTERS AT LEAST 3 INCHES HIGH AND CONFORM TO SUBSECTION 630.02 OF THE CODOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
3. THE BOTTOM OF EXCAVATION MUST BE A MINIMUM OF FIVE FEET ABOVE GROUND WATER. IF NOT, THE BOTTOM OF EXCAVATION MUST BE IN ACCORDANCE WITH 208.02 (j) OF THE CODOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

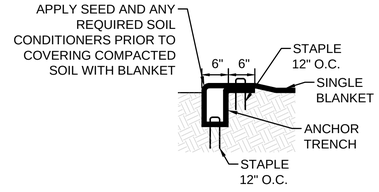
A3 CONCRETE WASHOUT STRUCTURE

NTS

CE101
CE101A



STEP 1



STEP 2

A4 ANCHOR TRENCH

NTS

CE503

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. DAVIS
DRAWN BY: K. MAU
CHECKED BY: J. CARDENAS
SUBMITTED BY:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

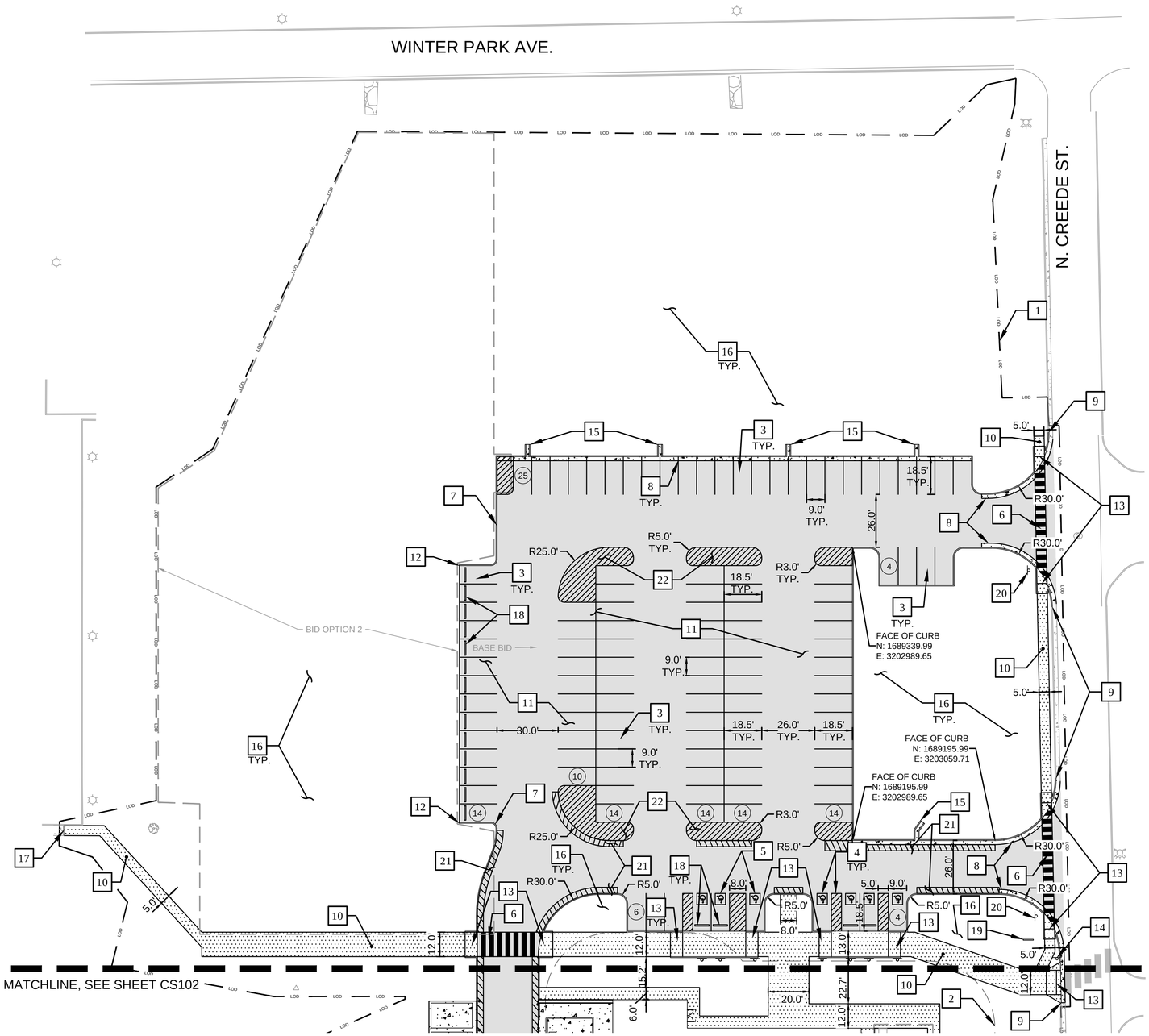
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - EROSION AND SEDIMENT CONTROL DETAILS

SHEET ID

CE503



A1 SITE LAYOUT PLAN - A

SCALE: 1" = 30'

GENERAL SHEET NOTES

A. AT/FP SETBACK IS 33 FEET FROM BUILDING FACE

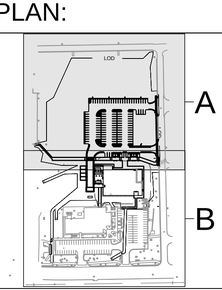
B. PARKING LOT CONTAINS 119 SPACES INCLUDING 5 REGULAR AND 2 VAN ACCESSIBLE PARKING SPACES.

C. BID OPTION 2 INDICATED BY THE GREY DASHED LINE.

SHEET KEYED NOTES:

1. LIMITS OF DISTURBANCE
2. AT/FP UNOBSTRUCTED SPACE SETBACK (33 FT)
3. STANDARD 9' X 18.5' 90ÁPARKING SPACE, SEE B1/CS502
4. ACCESSIBLE PARKING SPACE AND ACCESSIBLE LOADING SPACE, SEE A1/CS502
5. VAN ACCESSIBLE PARKING SPACE AND ACCESSIBLE LOADING SPACE, SEE A1/CS502
6. MARKED PEDESTRIAN CROSSWALK, SEE D2/CS502
7. CONCRETE CURB, SEE B1/CS501
8. CONCRETE CURB AND GUTTER, SEE B2/CS501
9. TIE INTO EXISTING CONCRETE CURB AND GUTTER
10. CONCRETE SIDEWALK, SEE A1/CS501
11. ASPHALT PAVEMENT, SEE D1/CS501
12. END CURB AT EDGE OF PAVEMENT
13. ADA SIDEWALK ACCESS RAMP, SEE A4/CS501, C3/CS501, AND C4/CS501
14. RELOCATED STREET SIGN
15. CONCRETE FLUME, SEE SHEET CG101
16. LANDSCAPED AREA, SEE LANDSCAPE PLAN A1/LP101 FOR DETAILS
17. TIE INTO EXISTING CONCRETE SIDEWALK
18. CONCRETE WHEEL STOP, SEE A4/CS502
19. FREESTANDING SIGN, SEE ARCHITECTURAL PLANS FOR DETAILS
20. STOP SIGN, SEE D1/CS505
21. FIRE LANE STRIPING WITH 12-INCH WHITE REFLECTIVE LETTERING STATING "NO PARKING FIRE LANE", SEE B2/CS504
22. PARKING ISLAND STRIPING, SEE D1/CS502

KEYPLAN:



COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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US ARMY CORPS OF ENGINEERS
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Omaha, NE

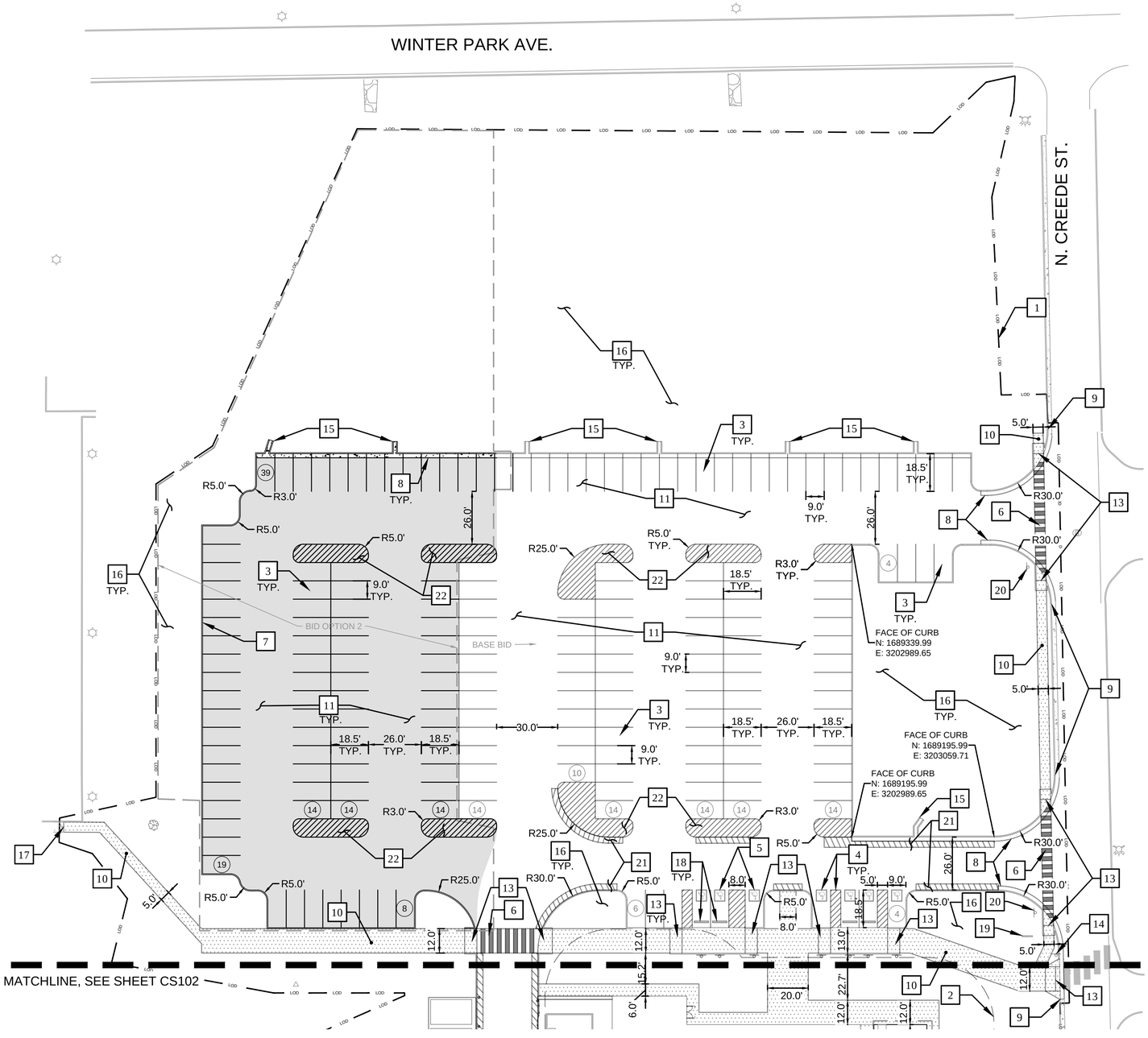
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - SITE LAYOUT PLAN - A

SHEET ID

CS101



A1 SITE LAYOUT PLAN - A (BID OPTION 2)

SCALE: 1" = 30'

GENERAL SHEET NOTES

A. AT/FP SETBACK IS 33 FEET FROM BUILDING FACE

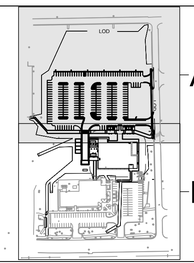
B. PARKING LOT CONTAINS 202 SPACES INCLUDING 5 REGULAR AND 2 VAN ACCESSIBLE PARKING SPACES.

C. BID OPTION 2 INDICATED BY THE GREY DASHED LINE. PARKING IN BID OPTION 2 CONTAINS 83 SPACES.

SHEET KEYED NOTES:

1. LIMITS OF DISTURBANCE
2. AT/FP UNOBSTRUCTED SPACE SETBACK (33 FT)
3. STANDARD 9' X 18.5' 90ÁPARKING SPACE, SEE B1/CS502
4. ACCESSIBLE PARKING SPACE AND ACCESSIBLE LOADING SPACE, SEE A1/CS502
5. VAN ACCESSIBLE PARKING SPACE AND ACCESSIBLE LOADING SPACE, SEE A1/CS502
6. MARKED PEDESTRIAN CROSSWALK, SEE D2/CS502
7. CONCRETE CURB, SEE B1/CS501
8. CONCRETE CURB AND GUTTER, SEE B2/CS501
9. TIE INTO EXISTING CONCRETE CURB AND GUTTER
10. CONCRETE SIDEWALK, SEE A1/CS501
11. ASPHALT PAVEMENT, SEE D1/CS501
12. NOT USED
13. ADA SIDEWALK ACCESS RAMP, SEE A4/CS501, C3/CS501, AND C4/CS501
14. RELOCATED STREET SIGN
15. CONCRETE FLUME, SEE SHEET CG101
16. LANDSCAPED AREA, SEE LANDSCAPE PLAN A1/LP101A FOR DETAILS
17. TIE INTO EXISTING CONCRETE SIDEWALK
18. CONCRETE WHEEL STOP, SEE A4/CS502
19. FREESTANDING SIGN, SEE ARCHITECTURAL PLANS FOR DETAILS
20. STOP SIGN, SEE D1/CS505
21. FIRE LANE STRIPING WITH 12-INCH WHITE REFLECTIVE LETTERING STATING "NO PARKING FIRE LANE", SEE B2/CS505
22. PARKING ISLAND STRIPING, SEE D1/CS502

KEYPLAN:



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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

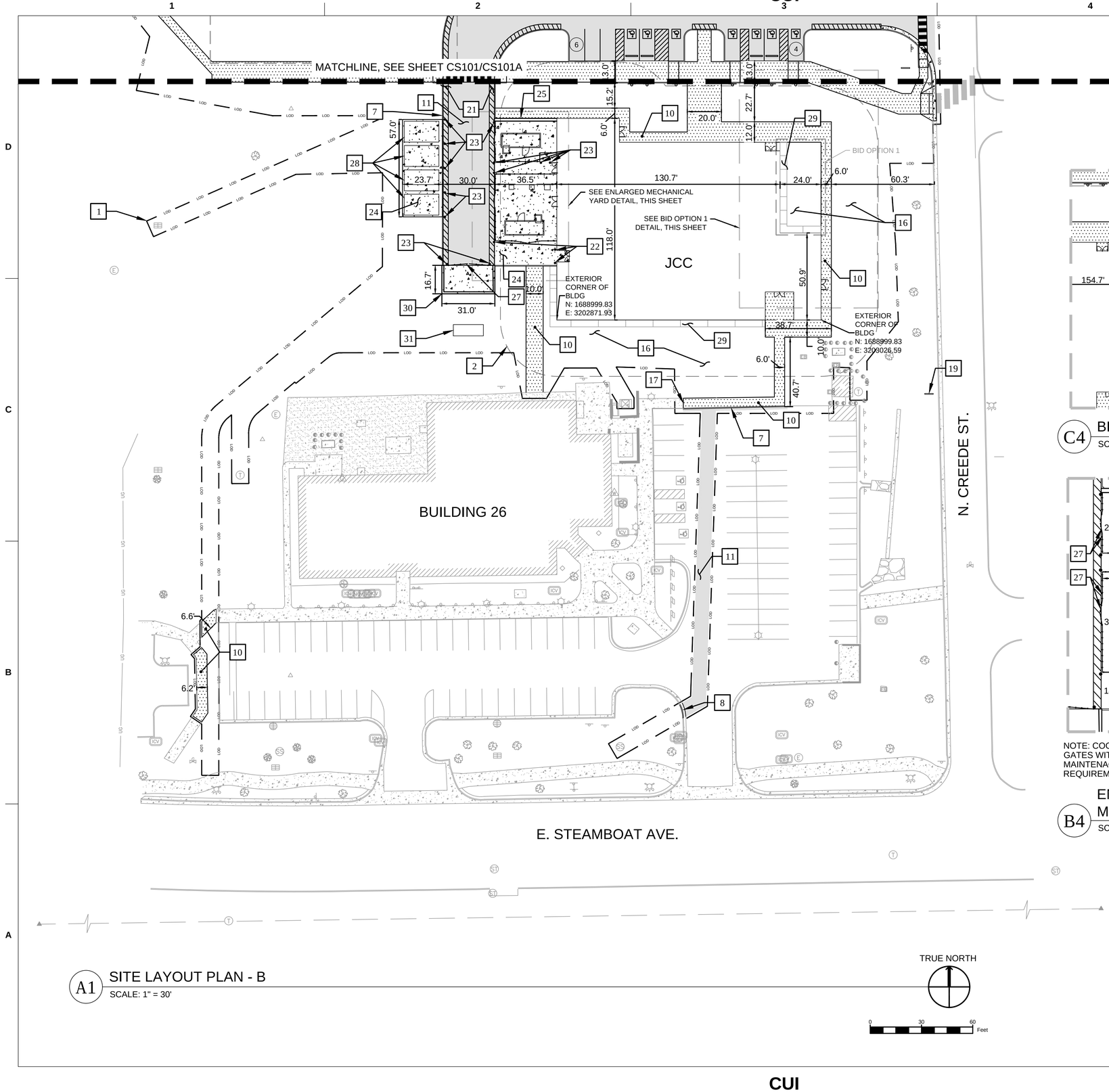
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - SITE LAYOUT PLAN - A (BID OPTION 2)

SHEET ID

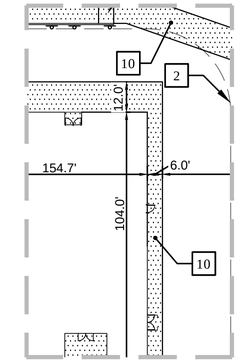
CS101A



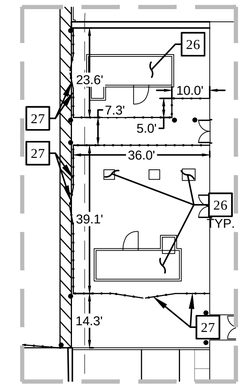
A1 SITE LAYOUT PLAN - B
SCALE: 1" = 30'

TRUE NORTH

0 30 60 Feet



C4 BID OPTION 1
SCALE: 1" = 30'



NOTE: COORDINATE LOCATION OF GATES WITH MECHANICAL EQUIPMENT MAINTENACNE ACCESS REQUIREMENTS.

B4 ENLARGED MECHANICAL YARD
SCALE: 1" = 20'

GENERAL SHEET NOTES

A. AT/FP SETBACK IS 33 FEET FROM BUILDING FACE

B. BUILDING DIMENSIONS SHOWN ARE APPROXIMATE. SEE ARCHITECTURAL SHEETS FOR ALL BUILDING DIMENSIONS.

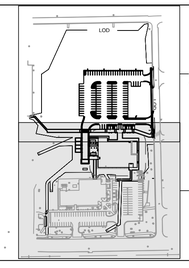
C. BID OPTION 1 INDICATED BY THE GREY DASHED LINE. SEE ARCHITECTURAL PLANS FOR DETAILS.

D. COORDINATE WITH STRUCTURAL PLANS FOR ALL SIDEWALK AND PAVEMENT CONNECTIONS AT BUILDING ENTRANCES/STOOPS.

SHEET KEYED NOTES:

1. LIMITS OF DISTURBANCE
2. AT/FP UNOBSTRUCTED SPACE SETBACK (33 FT)
3. NOT USED
4. NOT USED
5. NOT USED
6. NOT USED
7. CONCRETE CURB, SEE B1/CS501
8. CONCRETE CURB AND GUTTER, SEE B2/CS501
9. NOT USED
10. CONCRETE SIDEWALK, SEE A1/CS501
11. ASPHALT PAVEMENT, SEE D1/CS501
12. NOT USED
13. NOT USED
14. NOT USED
15. NOT USED
16. LANDSCAPED AREA, SEE LANDSCAPE PLAN A1/LP102 FOR DETAILS
17. TIE INTO EXISTING CONCRETE SIDEWALK
18. NOT USED
19. FREESTANDING SIGN, SEE ARCHITECTURAL PLANS FOR DETAILS
20. NOT USED
21. FIRE LANE STRIPING WITH 12-INCH WHITE REFLECTIVE LETTERING STATING "NO PARKING FIRE LANE", SEE B2/CS505
22. NOT USED
23. CONCRETE FILLED STEEL BOLLARDS, SEE C4/CS502
24. CONCRETE PAVEMENT, SEE D2/CS501
25. SCREEN WALL, SEE STRUCTURAL PLANS FOR DETAILS
26. MECHANICAL EQUIPMENT, SEE MECHANICAL PLANS FOR DETAILS
27. CHAIN LINK FENCE WITH GATE, SEE C1/CS503, C1/CS504, AND C3/CS504
28. RELOCATED CONCRETE STORAGE CONTAINERS
29. 4 FOOT LANDSCAPE MOW STRIP, SEE A1/LP102
30. DUMPSTER ENCLOSURE, SEE STRUCTURAL PLANS FOR DETAILS
31. RELOCATED JUNGLE GYM

KEYPLAN:



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US ARMY CORPS OF ENGINEERS
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JACOBS
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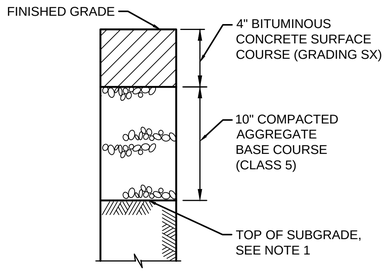
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - SITE LAYOUT PLAN - B

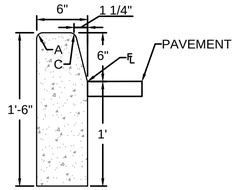
SHEET ID
CS102



NOTES:
1. REMOVE TOP 6" OF SOIL/ORGANIC MATERIAL. SCARIFY 12" OF REMAINING SUBGRADE AND COMPACT PER PROJECT SPECIFICATIONS. PLACE AND COMPACT REQUIRED FILL PER PROJECT SPECIFICATIONS.
2. IF RACS ARE ENCOUNTERED DURING SUBGRADE PREPARATION, FOLLOW THE INSTRUCTIONS OF THE CABI FOR THE CONTAMINATED MATERIAL

D1 ASPHALT CONCRETE PAVEMENT
NTS

CS101
CS101A
CS102



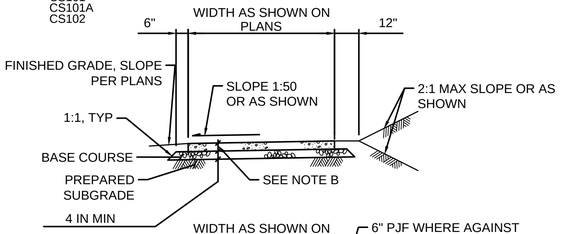
LEGEND FOR RADII	
A	1/8" TO 1/4"
C	1 1/2"

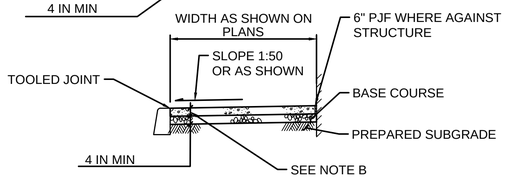
CDOT GENERAL NOTES:
1. CONCRETE MUST BE CLASS B.
2. PROFILE GRADE OF CURBS MUST BE LOCATED AT THE FLOW LINE.
3. THICKNESS OF CURB MUST MATCH PAVEMENT THICKNESS AS SHOWN ON PLANS. CURB MUST BE CLASS P CONCRETE IF PLACED MONOLITHICALLY WITH CONCRETE PAVEMENT.

GENERAL NOTES:
1. COMPRESSIVE STRENGTH OF CONCRETE MUST BE A MINIMUM OF 3,500 PSI.
2. EXPANSION JOINTS TO BE PLACED AT A MAXIMUM OF 20' BETWEEN JOINTS.

B1 CDOT CURB TYPE 2 (SECTION B)
NTS

CS101
CS101A
CS102





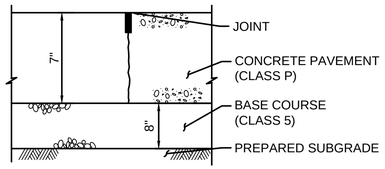
NOTES:

A. SIDEWALKS 8 FT AND WIDER MUST HAVE A LONGITUDINAL CONTRACTION JOINT AT THE MIDPOINT.

B. CONCRETE DEPTH FOR STANDARD SIDEWALKS MUST BE NOMINAL 4 IN MINIMUM.

A1 CONCRETE SIDEWALK
NTS

CS101
CS101A
CS102



NOTES:

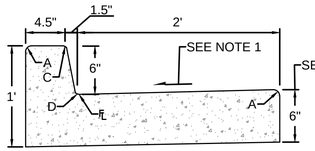
A. TYP. CONCRETE JOINT SPACING: 15 FT x 15 FT MAX.

B. PROVIDE PORTLAND CEMENT CONCRETE PAVEMENT TYPE AS SPECIFIED.

C. MANHOLE & INLETS: ISOLATE USING EXPANSION JOINT MATERIAL. PLACE JOINTS TO MEET STRUCTURES, IF POSSIBLE. OTHERWISE ISOLATE STRUCTURE WITH DIAMOND SHAPED JOINT PATTERN.

D2 CONCRETE PAVEMENT
NTS

CS102



LEGEND FOR RADII	
A	1/8" TO 1/4"
C	1 1/2"
D	1 1/2" TO 2"

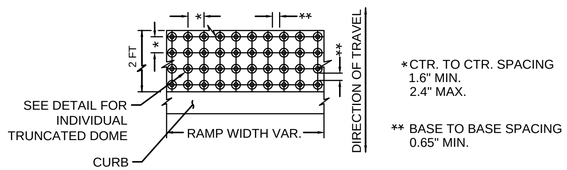
NOTES:
1. GUTTER CROSS SLOPES MUST BE 1 IN./FT. WHEN DRAINING TOWARD CURB (WITH EXCEPTION TO IMMEDIATELY ADJACENT CURB RAMPS).
2. WHEN TIE BARS ARE REQUIRED, THE GUTTER THICKNESS MUST BE INCREASED TO THE PAVEMENT THICKNESS (T). BARS MUST BE EPOXY-COATED #4 CONFORMING TO AASHTO M 284 AND SPACED AT 3 FT. INTERVALS. THEY MUST BE INSERTED T/2 AND 1#2 LENGTH INTO THE GUTTER.

CDOT GENERAL NOTES:
1. CONCRETE MUST BE CLASS B.
2. PROFILE GRADE OF CURBS AND GUTTERS MUST BE LOCATED AT THE FLOW LINE.
3. GUTTER CROSS SLOPES MAY BE ADJUSTED TO FACILITATE DRAINAGE FOR PROFILE GRADGES AS SHOWN ON THE PLANS.
4. THICKNESS OF CURB AND GUTTER MUST MATCH PAVEMENT THICKNESS AS SHOWN ON PLANS. CURB AND GUTTER MUST BE CLASS P CONCRETE IF PLACED MONOLITHICALLY WITH CONCRETE PAVEMENT.

GENERAL NOTES:
1. COMPRESSIVE STRENGTH OF CONCRETE MUST BE A MINIMUM OF 3,500 PSI.
2. EXPANSION JOINTS TO BE PLACED AT A MAXIMUM OF 20' BETWEEN JOINTS.

B2 CDOT CURB AND GUTTER TYPE 2 (IIB)
NTS

CS101
CS101A
CS102



TRUNCATED DOME PATTERN

TRUNCATED DOME DETAIL

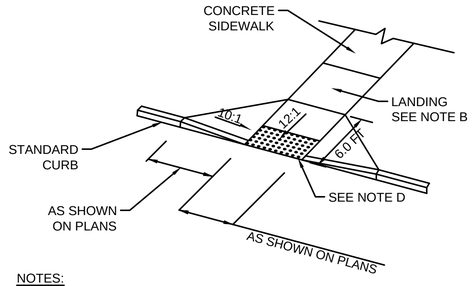
NOTES:

1. TRUNCATED DOME DETECTABLE WARNING SURFACE DETAILS & LOCATIONS ARE BASED ON UNITED STATES ACCESS BOARD STANDARDS.

2. PLACE TRUNCATED DOME DETECTABLE WARNING SURFACE IN THE LOWER 2 FT ADJACENT TO TRAFFIC OF THROAT OF RAMP ONLY, UNLESS OTHERWISE SHOWN. ARRANGE DOMES USING SQUARE IN-LINE PATTERN ONLY. COLOR TO BE SAFETY YELLOW. ALL PRODUCTS ON AN INSTALLATION TO BE IDENTICAL.

A2 TRUNCATED DOME DETECTABLE WARNING SURFACE
NTS

CS101
CS101A
CS501



NOTES:

A. EXCEPTIONS TO THE REQUIREMENTS IN THIS DRAWING MUST BE APPROVED BY THE ENGINEER AND MUST COMPLY WITH THE "AMERICANS WITH DISABILITIES ACT" (ADA).

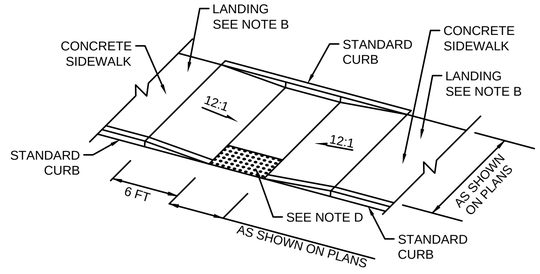
B. LANDINGS MUST BE PLACED AT THE TOP OF EACH RAMP. LANDING SLOPES MUST NOT EXCEED 50:1 IN ANY DIRECTION. THE SLOPE OF THE SURFACING AT THE BOTTOM OF THE RAMP MUST NOT EXCEED 20:1 FOR A DISTANCE OF 2 FT.

C. MINIMUM LANDING DIMENSIONS MUST BE 5 FT x 5 FT

D. PLACE TRUNCATED DOME DETECTABLE WARNING SURFACE IN THE LOWER 2 FT ADJACENT TO TRAFFIC OF THROAT OF RAMP ONLY UNLESS OTHERWISE SHOWN. SEE DETAIL A2/CS501

C3 ADA SIDEWALK ACCESS RAMP AT ROADWAY
NTS

CS101
CS101A



NOTES:

A. EXCEPTIONS TO THE REQUIREMENTS IN THIS DRAWING MUST BE APPROVED BY THE ENGINEER AND MUST COMPLY WITH THE "AMERICANS WITH DISABILITIES ACT" (ADA).

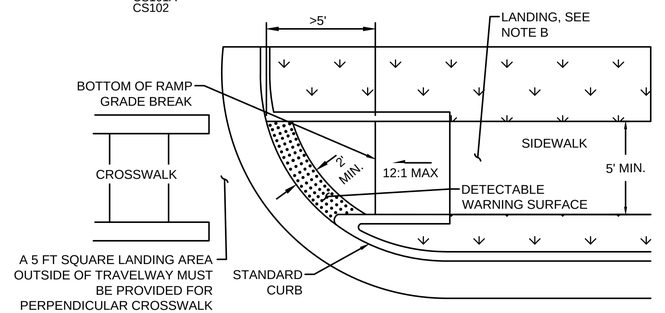
B. LANDINGS MUST BE PLACED AT THE TOP OF EACH RAMP. LANDING SLOPES MUST NOT EXCEED 50:1 IN ANY DIRECTION. THE SLOPE OF THE SURFACING AT THE BOTTOM OF THE RAMP MUST NOT EXCEED 20:1 FOR A DISTANCE OF 2 FT.

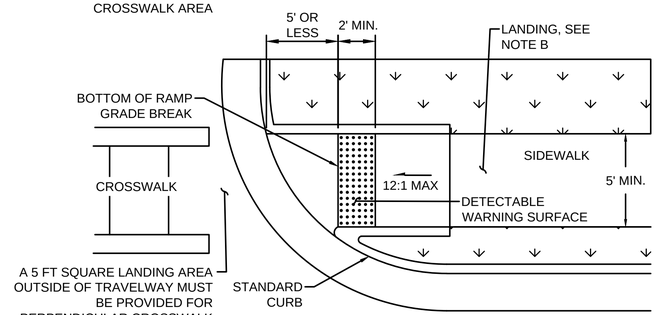
C. MINIMUM LANDING DIMENSIONS MUST BE 5 FT x 5 FT

D. PLACE TRUNCATED DOME DETECTABLE WARNING SURFACE IN THE LOWER 2 FT ADJACENT TO TRAFFIC OF THROAT OF RAMP ONLY UNLESS OTHERWISE SHOWN. SEE DETAIL A2/CS501

C4 ADA SIDEWALK ACCESS RAMP AT PARKING
NTS

CS101
CS101A
CS102





NOTES:

A. EXCEPTIONS TO THE REQUIREMENTS IN THIS DRAWING MUST BE APPROVED BY THE ENGINEER AND MUST COMPLY WITH THE "AMERICANS WITH DISABILITIES ACT" (ADA).

B. LANDINGS MUST BE PLACED AT THE TOP OF EACH RAMP. LANDING SLOPES MUST NOT EXCEED 50:1 IN ANY DIRECTION. THE SLOPE OF THE SURFACING AT THE BOTTOM OF THE RAMP MUST NOT EXCEED 20:1 FOR A DISTANCE OF 2 FT.

C. MINIMUM LANDING DIMENSIONS MUST BE 5 FT x 5 FT

D. PLACE TRUNCATED DOME DETECTABLE WARNING SURFACE IN THE LOWER 2 FT ADJACENT TO TRAFFIC OF THROAT OF RAMP ONLY UNLESS OTHERWISE SHOWN. SEE DETAIL A2/CS501

A4 ADA SIDEWALK DIRECTIONAL ACCESS RAMP
NTS

CS101
CS101A
CS102

COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

NO.	DESCRIPTION	DATE	MARK

DESIGNED BY: S. DAVIS
DRAWN BY: K. MAU
CHECKED BY: J. CARDENAS
SUBMITTED BY:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:
SIZE: ANSI D
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

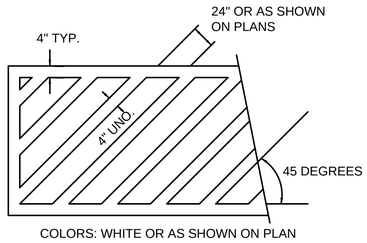
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - SITE DETAILS

SHEET ID
CS501

RTA SUBMISSION

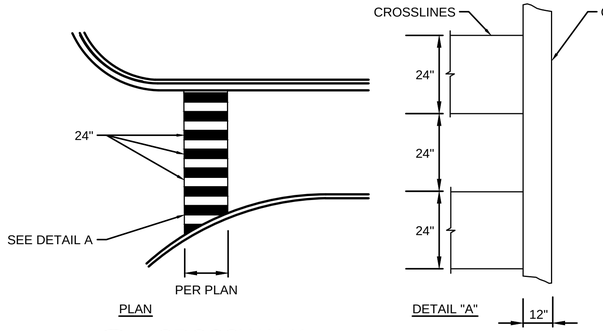


COLORS: WHITE OR AS SHOWN ON PLAN

MATERIAL: PAINT

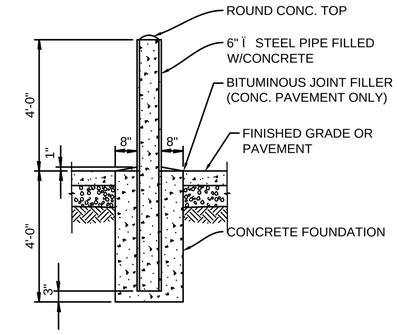
D1 CROSS HATCH MARKING
NTS

CS101
CS101A



D2 CROSSWALK
NTS

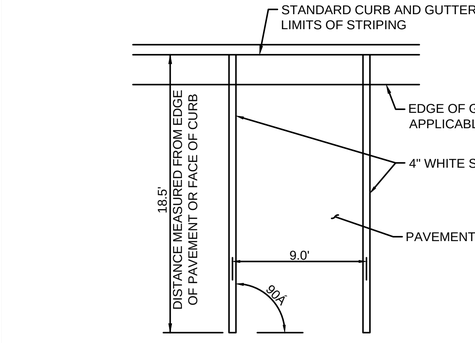
CS101
CS101A



NOTE: STEEL PIPE MUST BE GALVANIZED (2.0 OZ. ZINC/SQ. FT.) & HAVE A MINIMUM WALL THICKNESS OF 0.322 INCHES. PROVIDE BOLLARD COVER, RESILIANCE FOUNDRY, R-7173, DARK BRONZE.

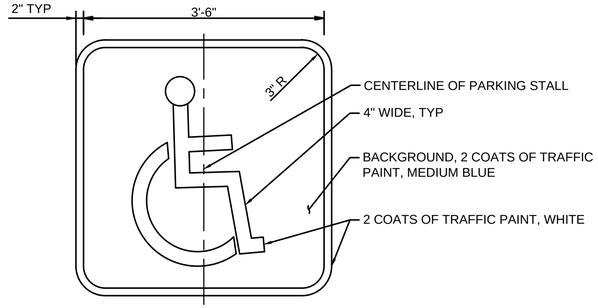
C4 CONCRETE FILLED STEEL BOLLARD DETAIL
NTS

CS102



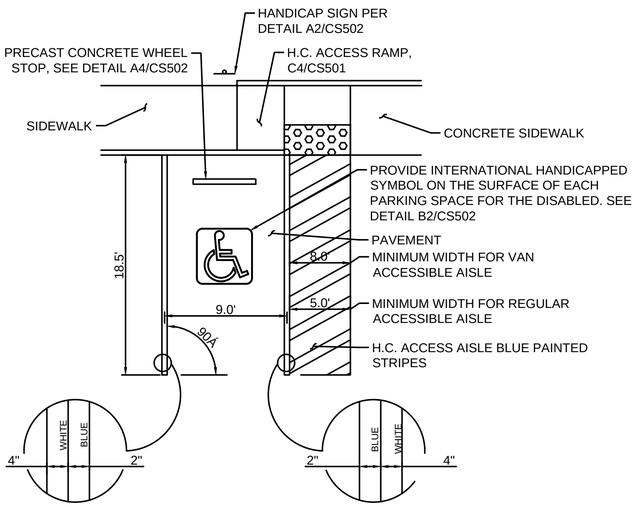
B1 90ÁPARKING STALL STRIPING
NTS

CS101
CS101A



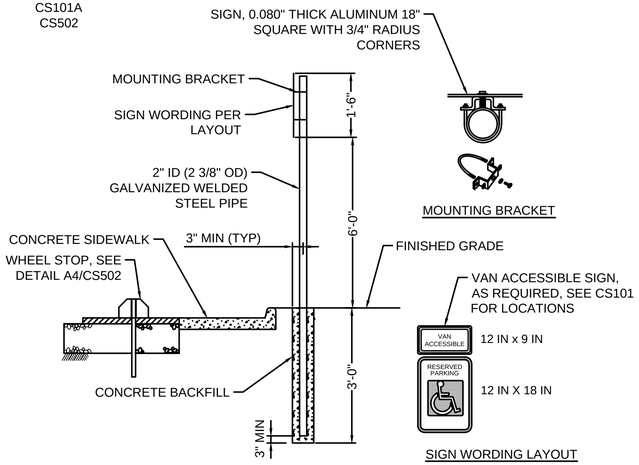
B2 HANDICAPPED SYMBOL
NTS

CS101
CS101A
CS502



A1 UNIVERSAL HANDICAPPED PARKING STALL STRIPING
NTS

CS101
CS101A



NOTES:

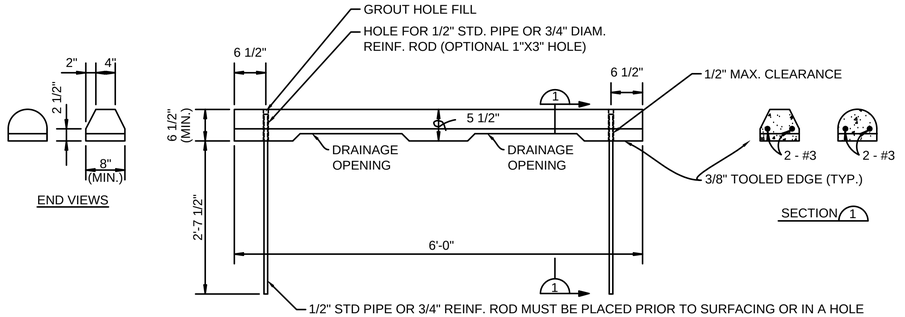
A. ALL HOLES TO BE 9/16" DIAMETER FOR 1/2" BOLTS.

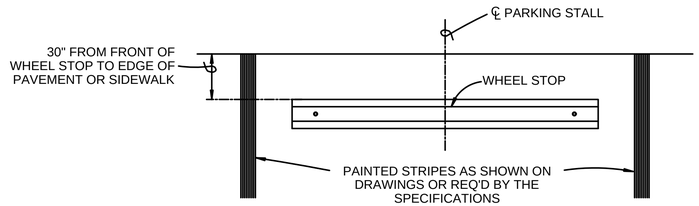
B. ALL MATERIAL TO BE HOT-DIP GALVANIZED AFTER FABRICATION.

C. USE MOUNTING BRACKET NO. THDW-105 OR APPROVED EQUAL

A2 HANDICAPPED SIGN AND MOUNTING
NTS

CS101
CS101A
CS502





INSTALLATION PLAN

A4 PRECAST CONCRETE WHEEL STOP DETAILS
NTS

CS101
CS101A
CS502

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. DAVIS
DRAWN BY: K. MAU
CHECKED BY: J. CARDENAS
SUBMITTED BY:
SIZE: ANSI 'D'
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9126P22R0017
CONTRACT NO.:
FILE NUMBER:
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

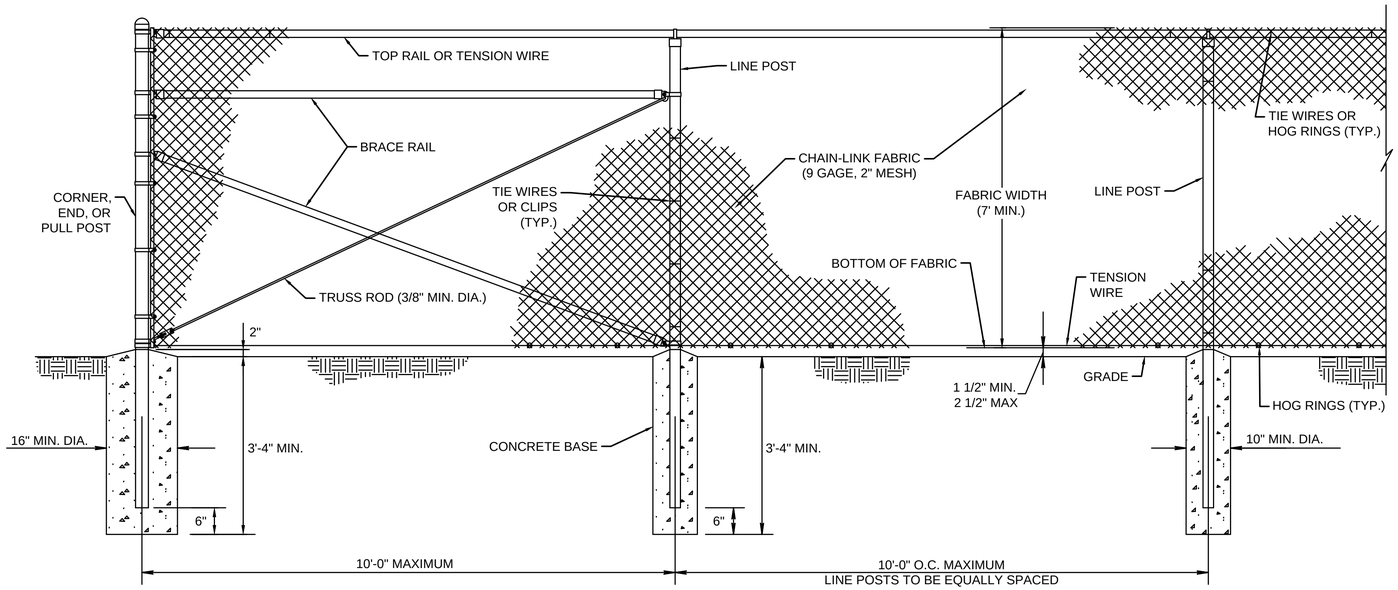
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - SITE DETAILS

COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

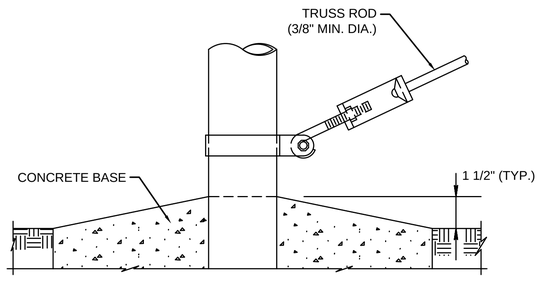
SHEET ID
CS502



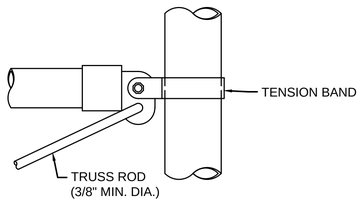
STEEL POST SCHEDULE	
USE AND SECTION	MIN. OUTSIDE DIMENSIONS (NOMINAL)
	FABRIC WIDTH 84" TO 96"
CORNER, END & PULL POSTS	
TUBULAR - ROUND	2.875" O.D.
TUBULAR - SQUARE	2.50" SQ.
C-SECTION (ROLL-FORMED)	3.50" X 3.50"
LINE POSTS	
TUBULAR - ROUND	2.375" O.D.
H-SECTION	2.25" X 1.70"
C-SECTION (ROLL-FORMED)	2.25" X 1.70"
TOP, BOTTOM & BRACE RAILS	
TUBULAR - ROUND	1.66" O.D.
TUBULAR - SQUARE	1.50" SQ.
H-SECTION	1.625" X 1.50"
C-SECTION (ROLL-FORMED)	1.625" X 1.25"

NOTES:
1. DETAILS SHOWN ARE TO CLARIFY REQUIREMENTS AND ARE NOT INTENDED TO LIMIT OTHER TYPES OF FENCE SECTIONS AND METHODS OF INSTALLATION THAT COMPLY WITH THE SPECIFICATIONS.
2. WIRE TIES, RAILS, POSTS, AND BRACES MUST BE CONSTRUCTED ON THE SECURE SIDE OF THE FENCE ALIGNMENT. CHAIN-LINK FABRIC MUST BE PLACED ON THE SIDE OPPOSITE THE SECURE AREA.
3. C-SECTION POSTS MUST BE INSTALLED SO THAT THE VOID INSIDE THE POST IS COMPLETELY FILLED WITH CONCRETE UP TO THE TOP OF THE FOUNDATION.

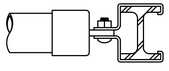
C1 CHAIN LINK FENCE (TYPE FE5)
NTS
CS102



TRUSS ROD AND BAND

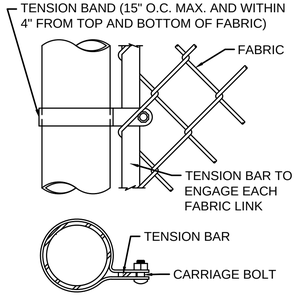


ROUND POST

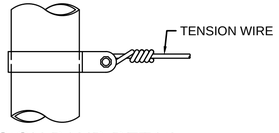


H-BEAM

BRACE RAIL CLAMP DETAILS

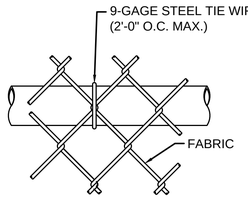


END OR GATE POST DETAIL

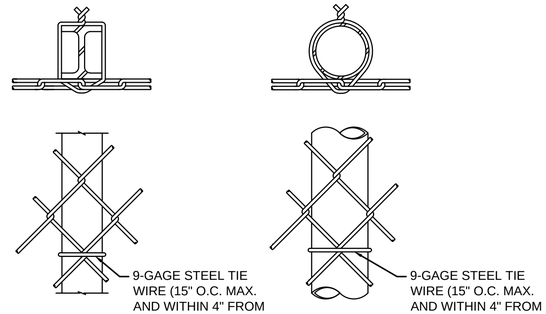


TENSION BAND DETAIL

A1 FASTENING DETAILS
NTS
CS503



B4 TOP OR BRACE RAIL ATTACHMENT
NTS
CS503



H-BEAM

ROUND POST

A4 LINE POST ATTACHMENTS
NTS
CS503

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. DAVIS
DRAWN BY: K. MAU
CHECKED BY: J. CARDENAS
SUBMITTED BY:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

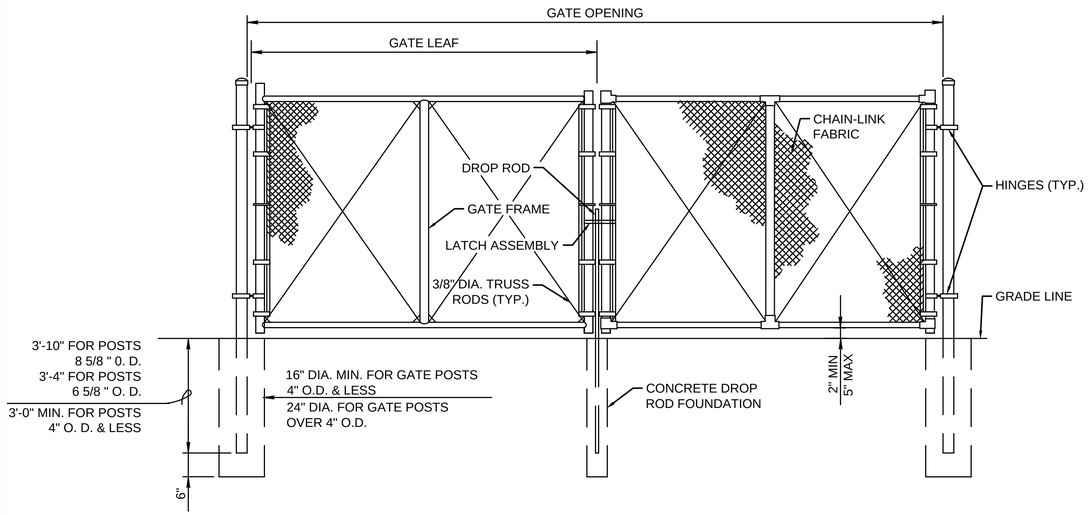
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - SITE DETAILS

COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

SHEET ID
CS503



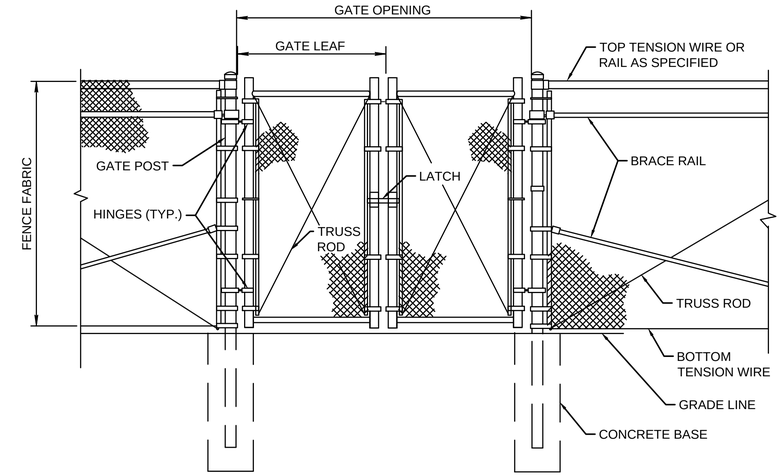
NOTES:

1. DETAILS SHOWN ARE TO CLARIFY REQUIREMENTS AND ARE NOT INTENDED TO LIMIT OTHER TYPES OF FENCE SECTIONS AND METHODS OF INSTALLATION THAT COMPLY WITH THE SPECIFICATIONS.
2. SWING GATES MUST BE CONSTRUCTED WITH DROP RODS, PADLOCKS, LATCH ASSEMBLY, AND GATE KEEPERS EXCEPT AS NOTED.
3. GATE FRAMES MUST MEET THE MINIMUM REQUIREMENTS OF ASTM F900 1.90" NOMINAL (ROUND) OR 2.00' NOMINAL (SQUARE). GATE FRAMES MUST BE OF WELDED CONSTRUCTION OR MUST BE ASSEMBLED USING HEAVY FITTINGS. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER RIGID CONSTRUCTION OF ALL GATES SUPPLIED.

C1 DOUBLE SWING GATE FOR DUMPSTER ENCLOSURE

NTS

CS102
CS503
CS504

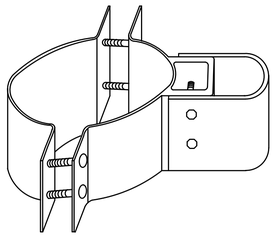


C3 DOUBLE SWING PERSONNEL GATE (TYPE FE5-84-DO-RA-12)

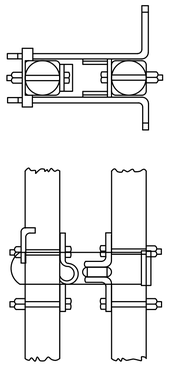
NTS

CS102
CS503
CS504

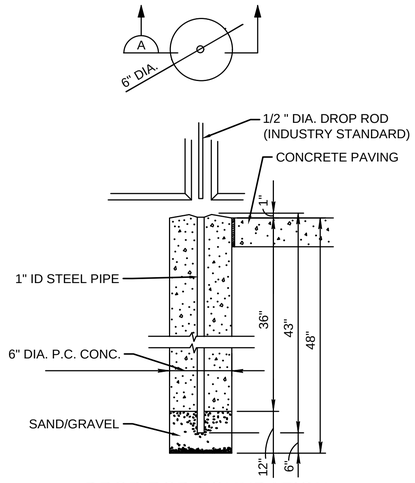
GATE POST SCHEDULE	
GATE LEAF WIDTH (NOMINAL)	OUTSIDE DIMENSION (NOMINAL)
6' OR LESS	2.875" OD 2.5" SQ
MORE THAN 12' TO 18'	6.625" OD



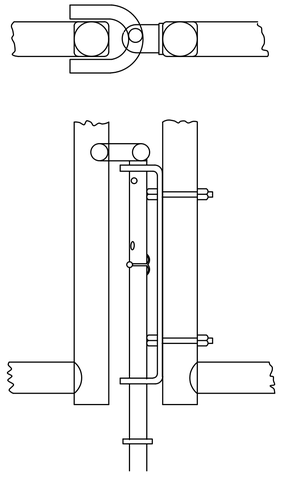
STANDARD HINGE



LATCH ASSEMBLY



DROP ROD FOUNDATION



DROP ROD ASSEMBLY

A1 SWING GATE DETAILS

NTS

CS504

US Army Corps of Engineers ®

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - SITE DETAILS

DESIGNED BY: S. DAVIS	ISSUE DATE: 14 DECEMBER 2022
DRAWN BY: K. MAU	SOLICITATION NO.: W9128F22R0017
CHECKED BY: J. CARDENAS	CONTRACT NO.:
SUBMITTED BY:	FILE NUMBER:
SIZE: ANSI D	FILE NAME:

MARK	DESCRIPTION	DATE

COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

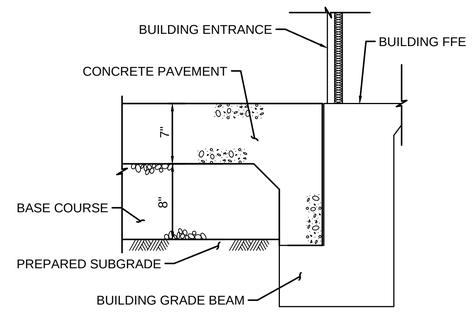
SHEET ID

CS504

NOTES:
1. MUTCD STANDARD SIGN DESIGNATION: R1-1 (30" X 30")
2. SEE SIGN PLACEMENT DETAIL B1/CS504 FOR MOUNTING HEIGHT.

D1 STOP SIGN
NTS

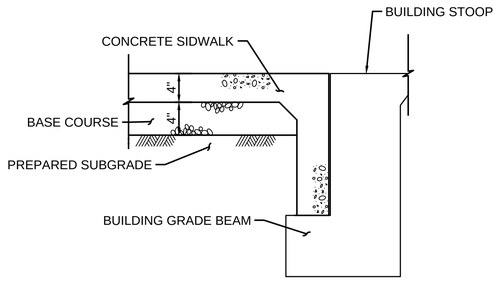
CS101
CS101A



NOTE:
COORDINATE WITH STRUCTURAL PLANS FOR PAVEMENT CONNECTION TO GRADE BEAM.

D2 TURNDOWN DETAIL FOR CONCRETE PAVEMENT AT BUILDING ENTRANCES
NTS

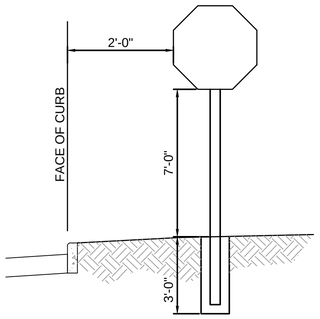
CS102



NOTE:
COORDINATE WITH STRUCTURAL PLANS FOR SIDEWALK CONNECTION TO STOOP.

D3 TURNDOWN DETAIL FOR CONCRETE SIDEWALK AT BUILDING ENTRANCES/STOOPS
NTS

CS102



NOTES:
1. MINIMUM POST EMBEDMENT IS 3 FT FOR U-2 POSTS.
2. POST SHALL BE INSTALLED PLUB, VERTICAL DEVIATION NOT TO EXCEED 1/2-IN IN 10 FT.
3. SEE STOP SIGN DETAIL D1/CS505 FOR SIGN SIZE.

B1 STOP SIGN PLACEMENT
NTS

CS505

B2 FIRE LANE STRIPING
NTS

CS101
CS101A
CS102

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. DAVIS
DRAWN BY: K. MAU
CHECKED BY: J. CARDENAS
SUBMITTED BY:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

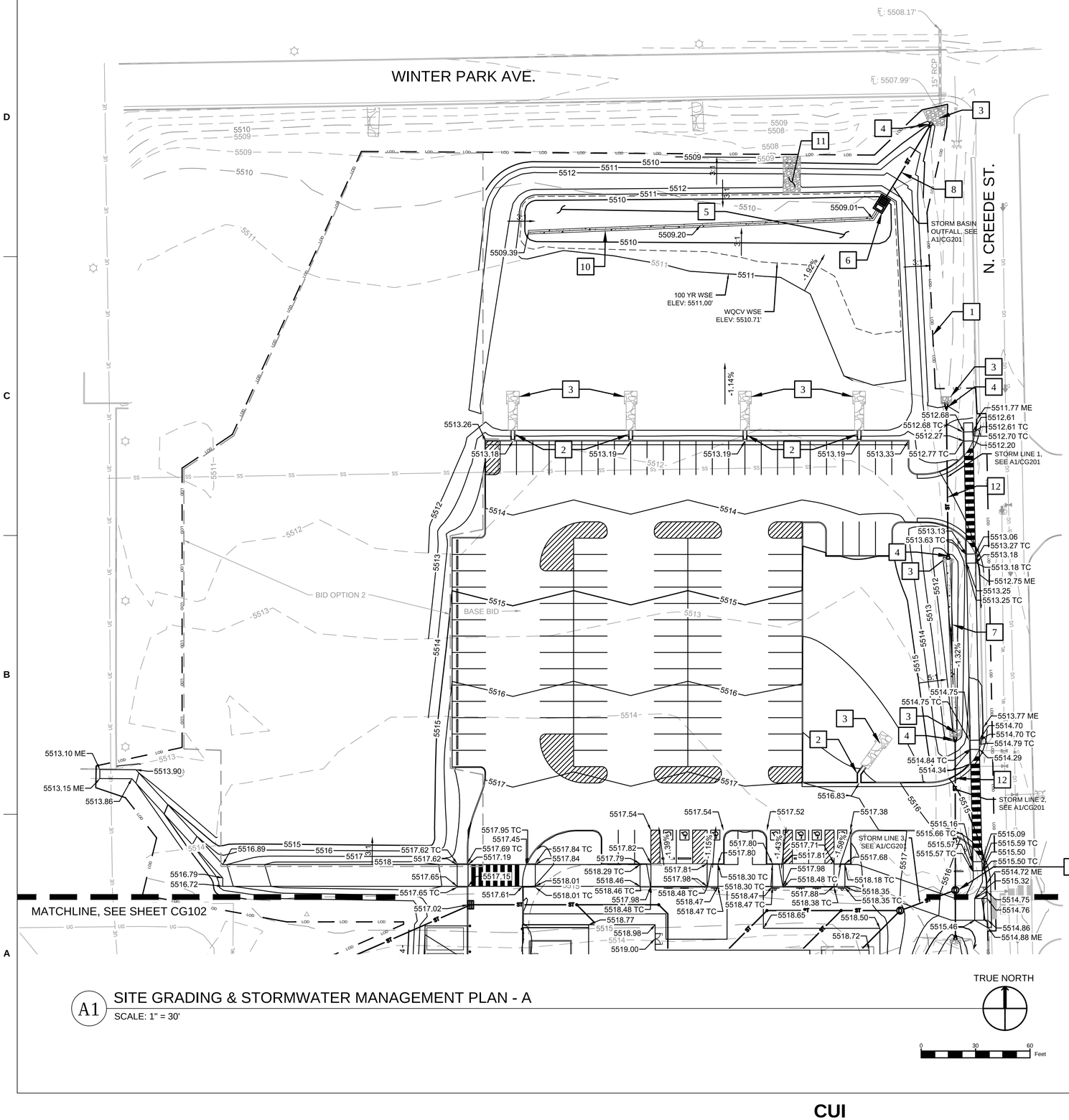
CIVIL - SITE DETAILS

COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

SHEET ID

CS505

RTA SUBMISSION



A1 SITE GRADING & STORMWATER MANAGEMENT PLAN - A

SCALE: 1" = 30'

GENERAL SHEET NOTES

A. SEE SHEET C-001 FOR GENERAL NOTES.

B. SPOT ELEVATIONS SHOWN IN PAVED AREAS ARE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

C. PIPE DIAMETERS SHOWN ARE INTERNAL DIAMETER.

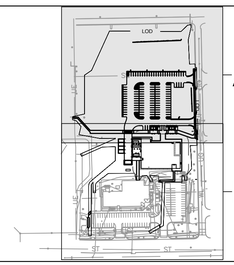
D. PER BUCKLEY SPACE FORCE BASE, THERE ARE REGULATED ASBESTOS CONTAINING SOILS OR RACS. THESE REQUIRE THE PRESENCE OF A STATE CERTIFIED ASBESTOS BUILDING INSPECTOR (CABI), WITH SOILS EXPERIENCE, ON SITE DURING LAND DISTURBING ACTIVITIES. DO NOT USE ASBESTOS CONTAMINATED SOILS FOR ANY TEMPORARY OR PERMANENT GRADING APPLICATIONS.

E. BID OPTION 2 INDICATED BY THE GREY DASHED LINE.

SHEET KEYED NOTES:

1. LIMITS OF DISTURBANCE
2. CONCRETE FLUME, SEE B1/CG502
3. RIPRAP, SEE A2/CG502
4. DRAINAGE END SECTION, SEE A3/CG504
5. EXTENDED DETENTION BASIN (EDB)
6. OUTLET STRUCTURE, SEE A1/CG503
7. CONCRETE LINED CHANNEL, SEE D1/CG502
8. 12 IN PVC STORM PIPE, SEE C5/CG501
9. DRAINAGE MANHOLE, SEE A3/CG501
10. TRICKLE CHANNEL, SEE D2/CG502
11. EMERGENCY SPILLWAY, SEE A4/CG502
12. 15 IN RCP STORM PIPE, SEE C5/CG501

KEYPLAN:



Scott Richard Davis V
Lic. No. 035184
12•14•2022

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: S. DAVIS
DRAWN BY: K. MAU
CHECKED BY: J. CARDENAS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

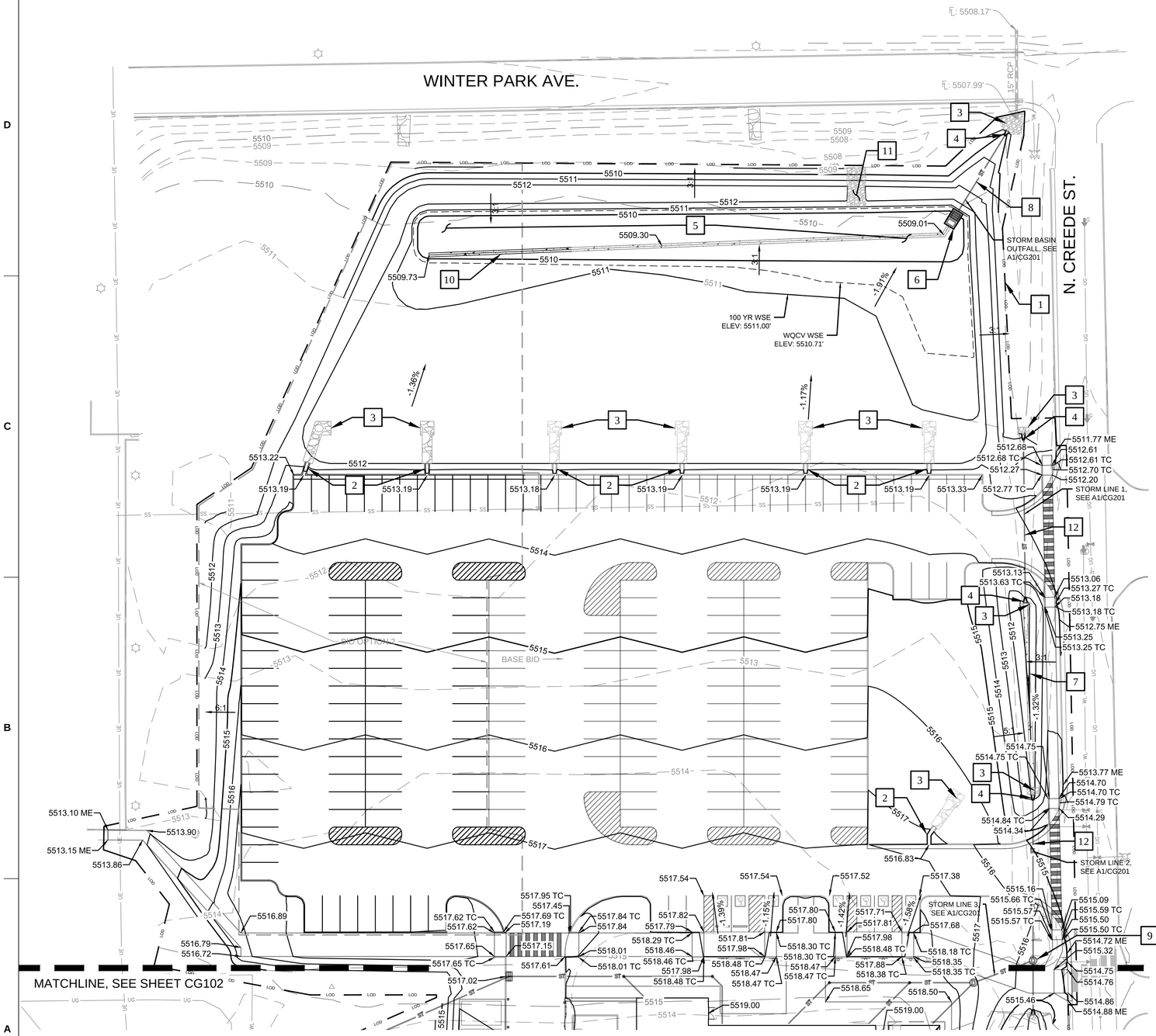
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - SITE GRADING & STORMWATER MANAGEMENT PLAN - A

SHEET ID

CG101



A1 SITE GRADING & STORMWATER MANAGEMENT PLAN - A (BID OPTION 2)

SCALE: 1" = 30'

GENERAL SHEET NOTES

A. SEE SHEET C-001 FOR GENERAL NOTES.

B. SPOT ELEVATIONS SHOWN IN PAVED AREAS ARE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

C. PIPE DIAMETERS SHOWN ARE INTERNAL DIAMETER.

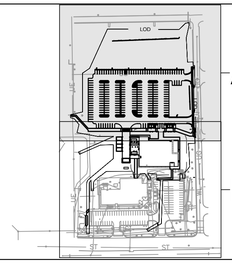
D. PER BUCKLEY SPACE FORCE BASE, THERE ARE REGULATED ASBESTOS CONTAINING SOILS OR RACS. THESE REQUIRE THE PRESENCE OF A STATE CERTIFIED ASBESTOS BUILDING INSPECTOR (CABI), WITH SOILS EXPERIENCE, ON SITE DURING LAND DISTURBING ACTIVITIES. DO NOT USE ASBESTOS CONTAMINATED SOILS FOR ANY TEMPORARY OR PERMANENT GRADING APPLICATIONS.

E. BID OPTION 2 INDICATED BY THE GREY DASHED LINE.

SHEET KEYED NOTES:

1. LIMITS OF DISTURBANCE
2. CONCRETE FLUME, SEE B1/CG502
3. RIPRAP, SEE A2/CG502
4. DRAINAGE END SECTION, SEE A3/CG504
5. EXTENDED DETENTION BASIN (EDB)
6. OUTLET STRUCTURE, SEE A1/CG503
7. CONCRETE LINED CHANNEL, SEE D1/CG502
8. 12 IN PVC STORM PIPE, SEE C5/CG501
9. DRAINAGE MANHOLE, SEE A3/CG501
10. TRICKLE CHANNEL, SEE D2/CG502
11. EMERGENCY SPILLWAY, SEE A4/CG502
12. 15 IN RCP STORM PIPE, SEE C5/CG501

KEYPLAN:



COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. DAVIS
DRAWN BY: K. MAU
CHECKED BY: J. CARDENAS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9126F22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

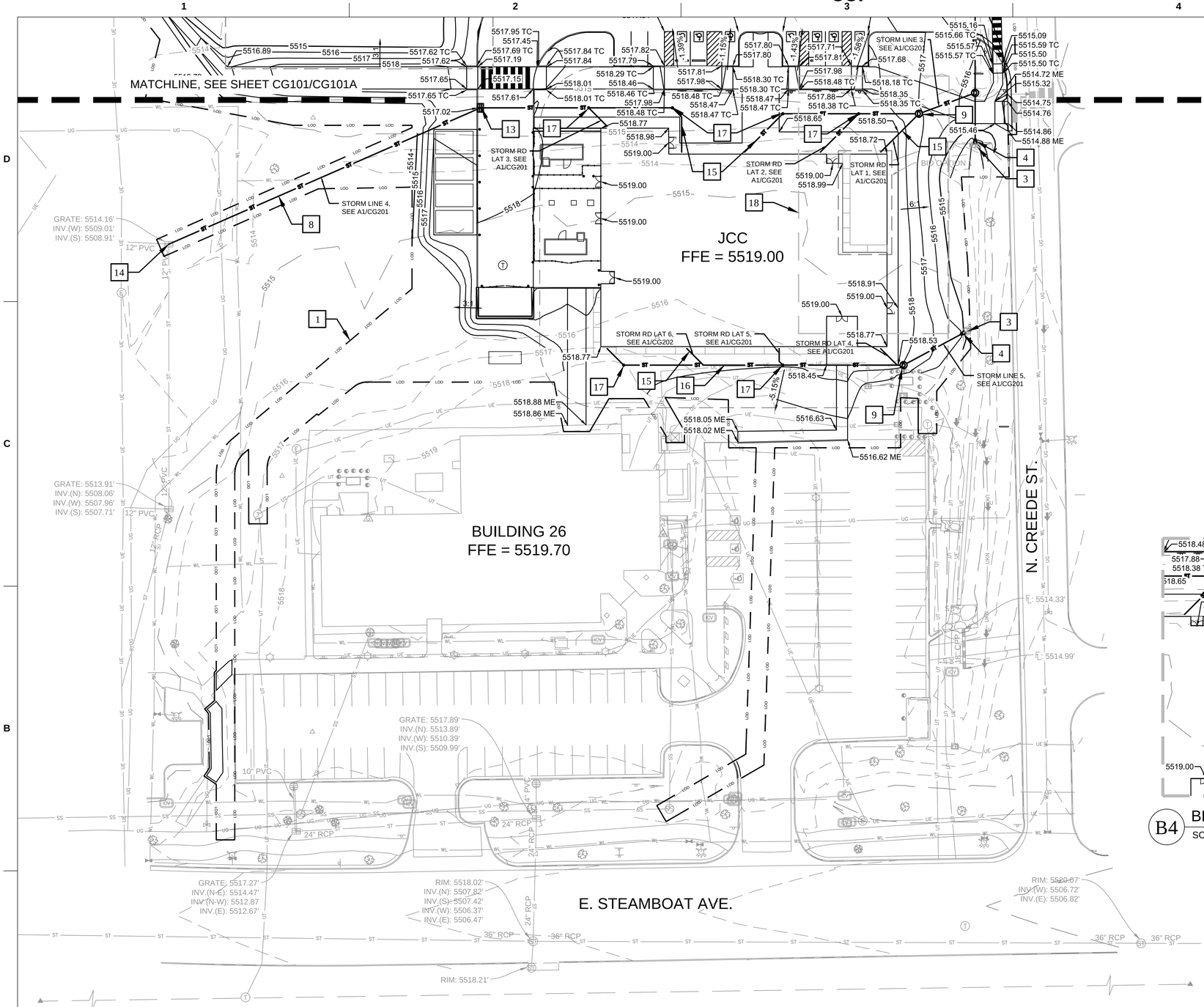
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - SITE GRADING & STORMWATER MANAGEMENT PLAN - A (BID OPTION 2)

SHEET ID

CG101A



B4 BID OPTION 1
SCALE: 1" = 30'

A1 SITE GRADING & STORMWATER MANAGEMENT PLAN - B
SCALE: 1" = 30'

TRUE NORTH

0 30 60 Feet

COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

GENERAL SHEET NOTES

A. SEE SHEET C-001 FOR GENERAL NOTES.

B. SPOT ELEVATIONS SHOWN IN PAVED AREAS ARE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

C. PIPE DIAMETERS SHOWN ARE INTERNAL DIAMETER.

D. PER BUCKLEY SPACE FORCE BASE, THERE ARE REGULATED ASBESTOS CONTAINING SOILS OR RACS. THESE REQUIRE THE PRESENCE OF A STATE CERTIFIED ASBESTOS BUILDING INSPECTOR (CABI), WITH SOILS EXPERIENCE, ON SITE DURING LAND DISTURBING ACTIVITIES. DO NOT USE ASBESTOS CONTAMINATED SOILS FOR ANY TEMPORARY OR PERMANENT GRADING APPLICATIONS.

E. BID OPTION 1 INDICATED BY THE GREY DASHED LINE. SEE ARCHITECTURAL PLANS FOR DETAILS.

SHEET KEYED NOTES:

1. LIMITS OF DISTURBANCE
2. NOT USED
3. RIPRAP, SEE A2/CG502
4. DRAINAGE END SECTION, SEE A3/CG504
5. NOT USED
6. NOT USED
7. NOT USED
8. 12 IN PVC STORM PIPE, SEE C5/CG501
9. DRAINAGE MANHOLE, SEE A3/CG501
10. NOT USED
11. NOT USED
12. NOT USED
13. DRAINAGE CATCH BASIN, SEE B1/CG501
14. CONNECT TO EXISTING GRATE INLET
15. 6 IN PVC STORM PIPE, SEE C5/CG501
16. 8 IN PVC STORM PIPE, SEE C5/CG501
17. STORM CLEANOUT, SEE C1/CG501
18. BID OPTION 1 INSET DETAIL, SEE B4/CG102

KEYPLAN:

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. DAVIS
DRAWN BY: K. MAU
CHECKED BY: J. CARDENAS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NUMBER:
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
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CONTRACT NO.:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

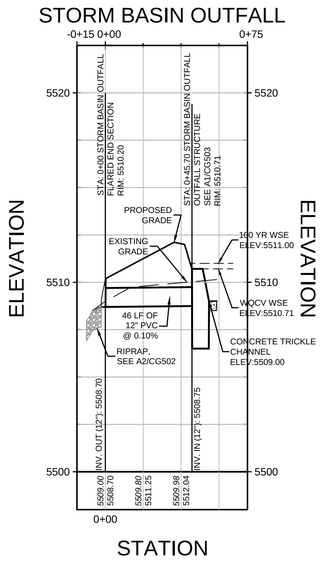
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

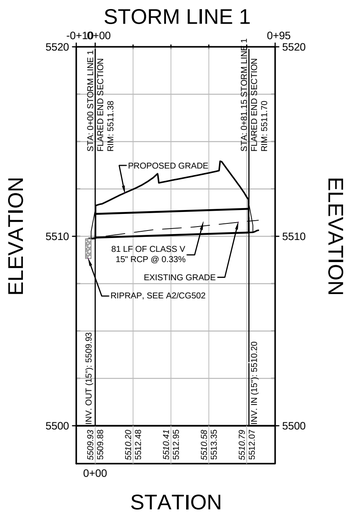
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

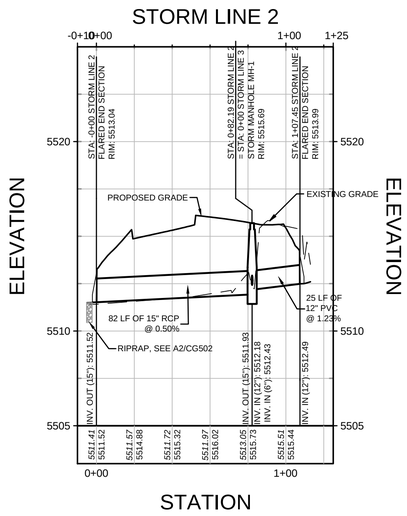
CIVIL - SITE GRADING & STORMWATER MANAGEMENT PLAN - B

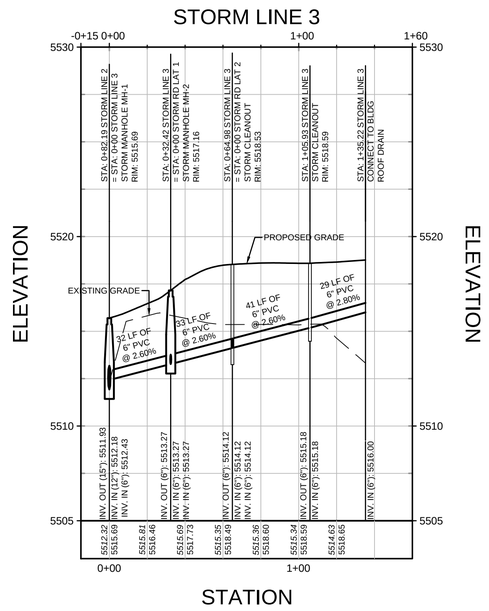
SHEET ID

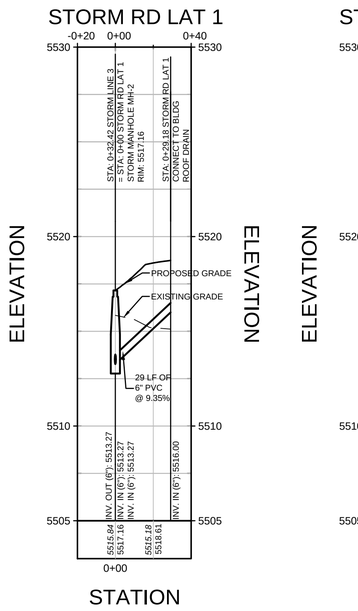
CG102

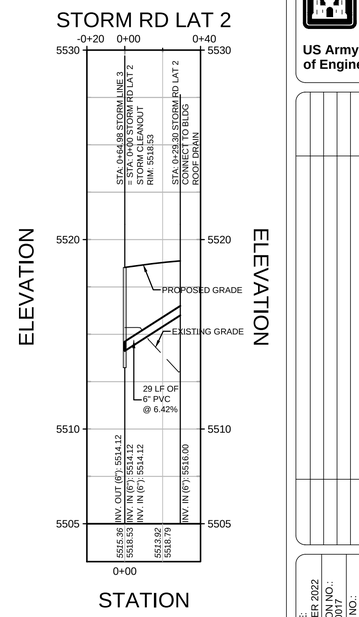


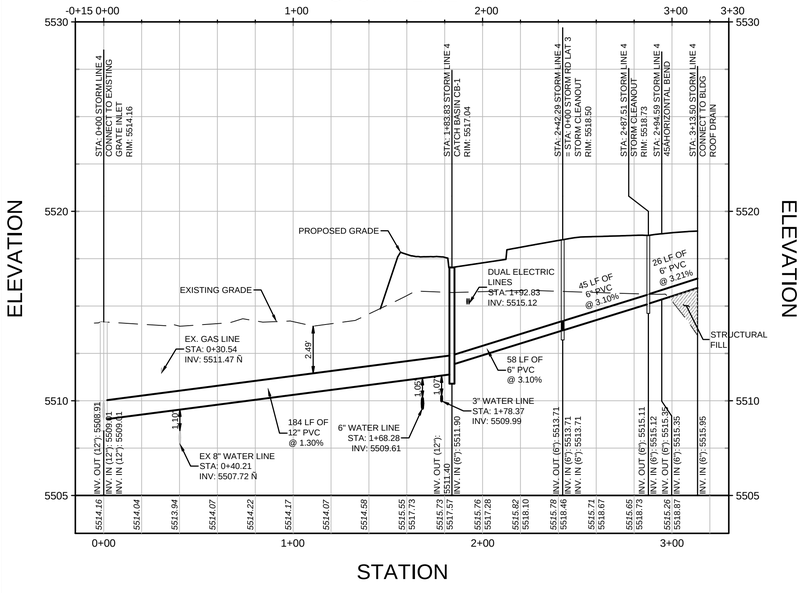


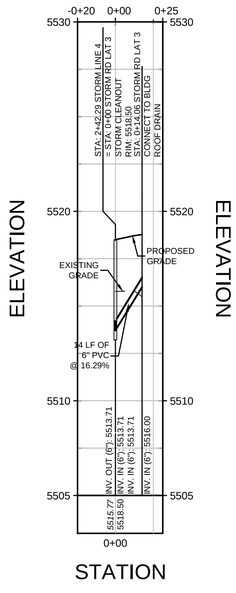


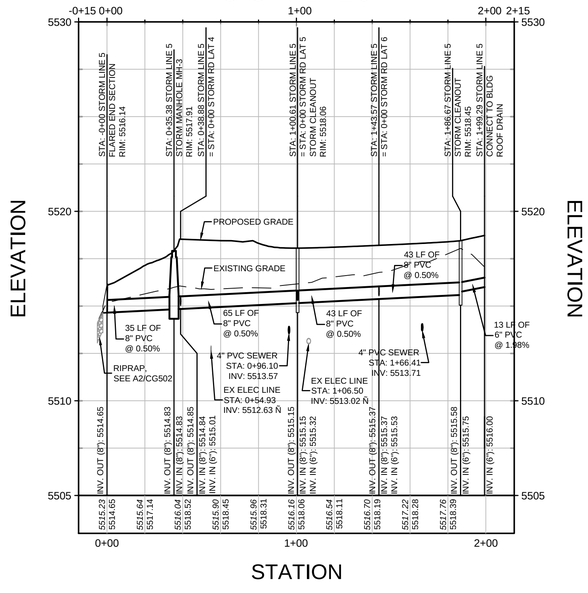


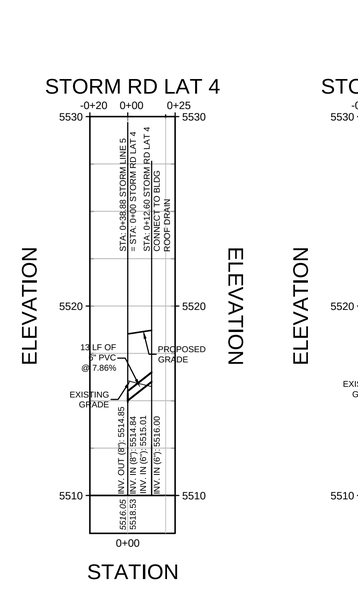


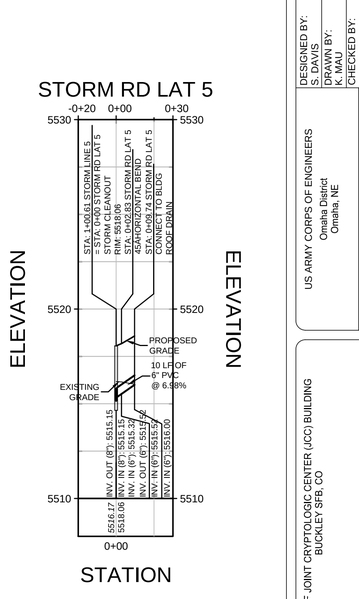












A1 STORMWATER PROFILES

HORIZONTAL SCALE: 1" = 40', VERTICAL SCALE: 1" = 4'

0 40 80 Feet
H: 1" = 40'

0 4 8 Feet
V: 1" = 4'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. DAVIS
DRAWN BY: K. MAU
CHECKED BY: J. CARDENAS
SUBMITTED BY:
SIZE: ANSI 'D'
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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

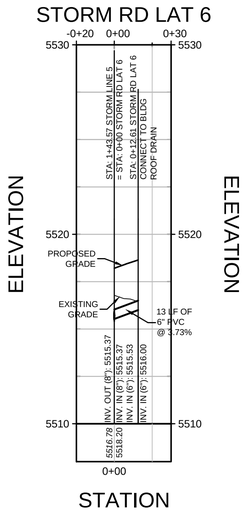
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - STORMWATER PROFILES

COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12·14·2022
PROFESSIONAL ENGINEER

SHEET ID
CG201



A1 STORMWATER PROFILES

HORIZONTAL SCALE: 1" = 40', VERTICAL SCALE: 1" = 4'

0 40 80 Feet
H: 1" = 40'

0 4 8 Feet
V: 1" = 4'

US Army Corps of Engineers ®

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DESIGNED BY: S. DAVIS
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CONTRACT NO.:
FILE NUMBER:
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FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

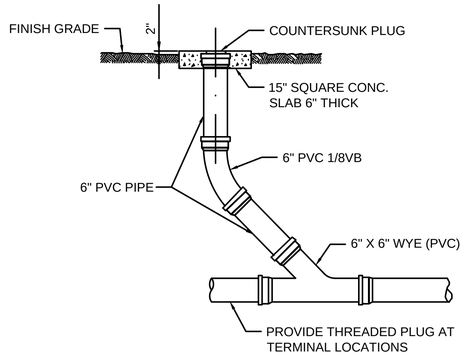
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - STORMWATER PROFILES

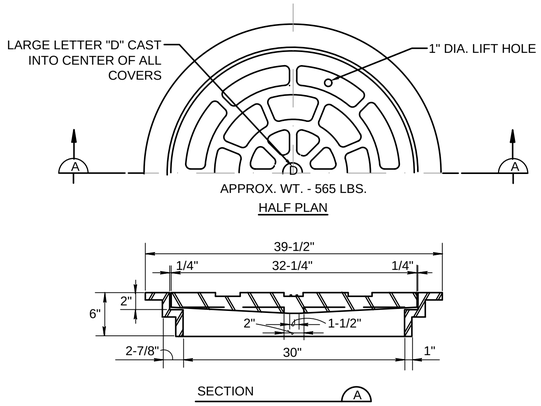
COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

SHEET ID
CG202

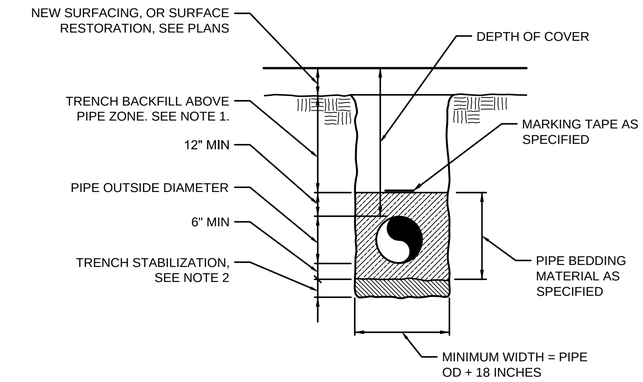
RTA SUBMISSION



C1 STORM CLEANOUT
NTS
CG102

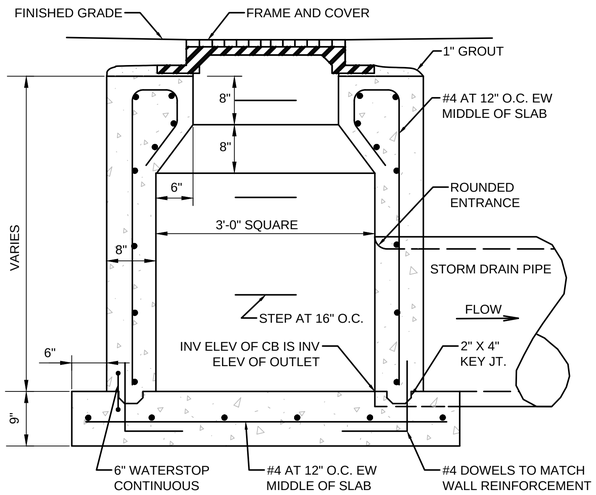


C3 MANHOLE FRAME AND COVER
NTS
CG501

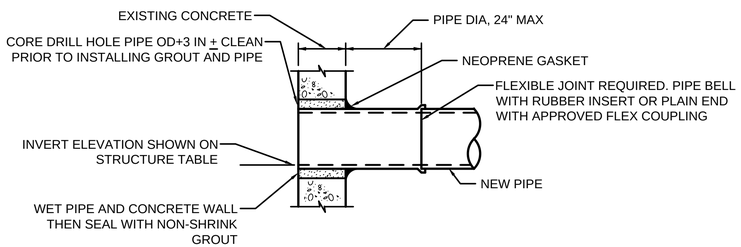


NOTES:
1. PROVIDE FLOWABLE FILL OR GRADED CRUSHED AGGREGATE IN LIEU OF BACKFILL MATERIAL UNDER PAVED AREAS.
2. EXISTING MATERIAL MUST BE SCARIFIED AT LEAST 12 INCHES BELOW BOTTOM OF UTILITY, MOISTURE CONDITIONED AND COMPACTED OR REPLACED WITH NON- TO LOW-EXPANISVE IMPORTED FILL.

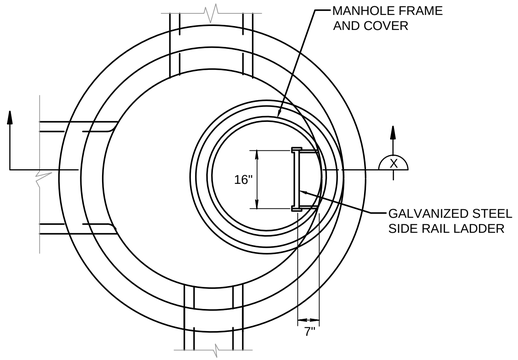
C5 TYPICAL PIPE TRENCH (MORE THAN 10' OUTSIDE OF BUILDING)
NTS
CG101
CG101A
CG102



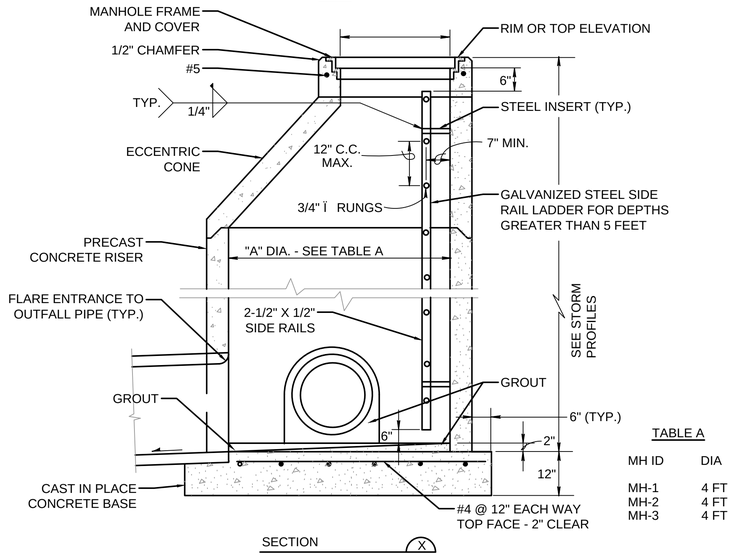
B1 CATCH BASIN
NTS
CG102



A1 PIPE CONNECTION
NTS
CG102



PLAN

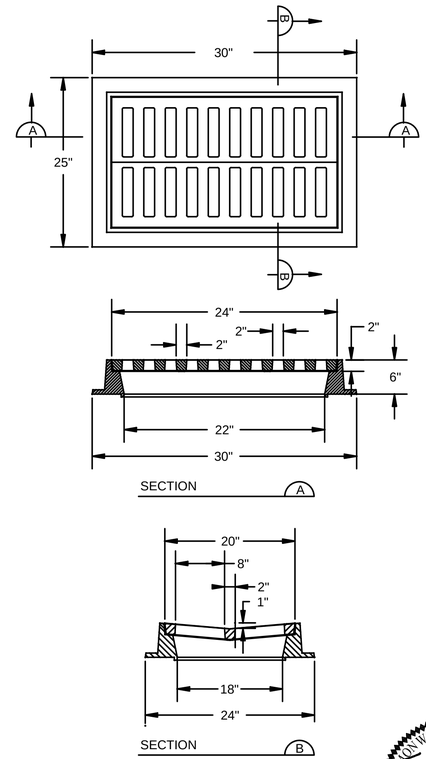


SECTION X

TABLE A

MH ID	DIA
MH-1	4 FT
MH-2	4 FT
MH-3	4 FT

A3 MANHOLE
NTS
CG101
CG101A
CG102



A5 VALLEY GUTTER GRATE
NTS
CG102

US Army Corps of Engineers ®

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - DRAINAGE AND STORMWATER MANAGEMENT DETAILS

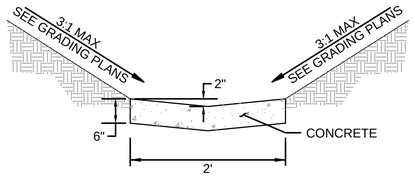
DESIGNED BY:	ISSUE DATE:
S. DAVIS	14 DECEMBER 2022
DRAWN BY:	SOLICITATION NO.:
K. MAU	W9126P22R0017
CHECKED BY:	CONTRACT NO.:
J. CARDENAS	
SUBMITTED BY:	FILE NUMBER:
SIZE: ANSI 'D'	FILE NAME:

MARK	DESCRIPTION	DATE

SHEET ID

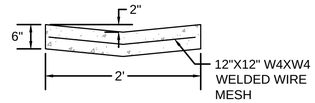
CG501

RTA SUBMISSION



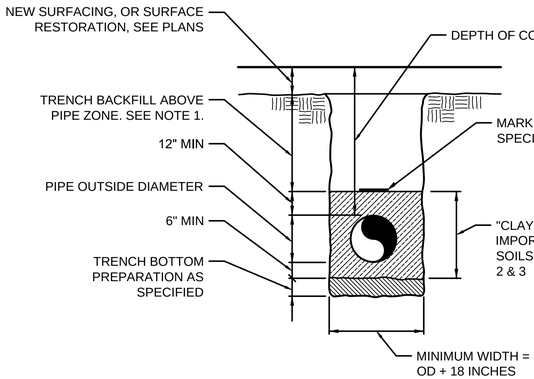
D1 CONCRETE LINED CHANNEL
NTS

CG101
CG101A



D2 CONCRETE TRICKLE CHANNEL
NTS

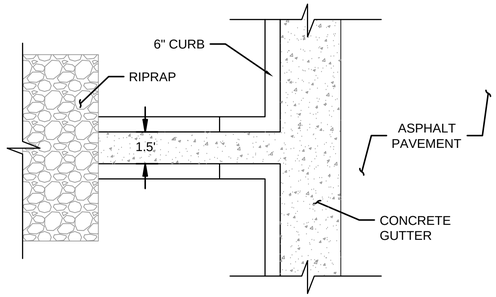
CG101
CG101A

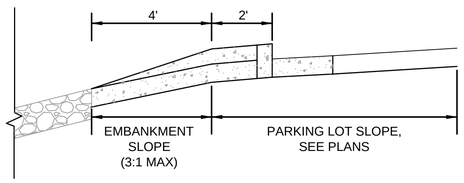


NOTES:
1. PROVIDE GRADED CRUSHED AGGREGATE IN LIEU OF BACKFILL MATERIAL UNDER PAVED AREAS.
2. CLAY SOILS MUST MEET COMPACTION REQUIREMENTS OF MINIMUM 95% OF MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D698)
3. CLAY SOILS MUST HAVE 0 TO +3% OF THE OPTIMUM MOISTURE CONTENT BELOW PAVEMENT AND FLATWORK.

C4 TYPICAL PIPE TRENCH (WITHIN 10' OF BUILDING)
NTS

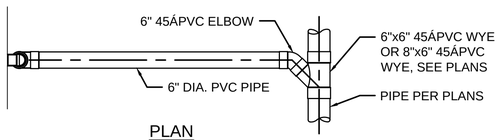
CG101
CG101A
CG102



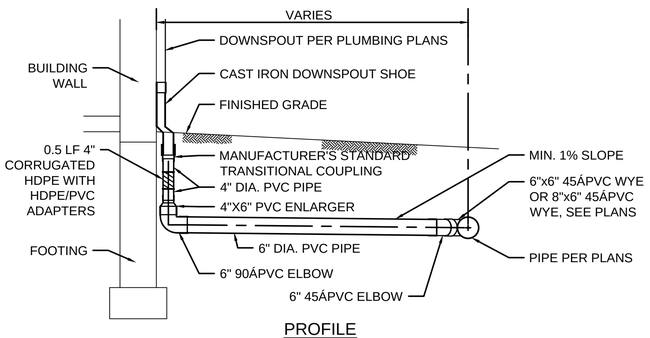


B1 CONCRETE FLUME
NTS

CG101
CG101A



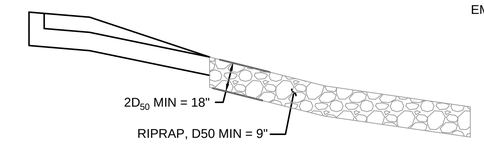
PLAN



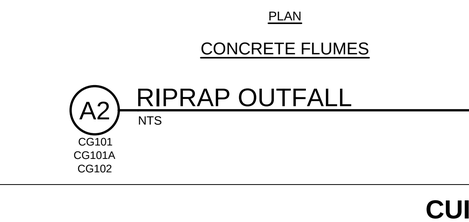
PROFILE

A1 ROOF DRAIN DETAIL
NTS

CG102



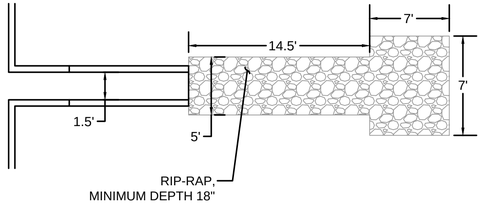
ELEVATION



PLAN

FLARED END SECTIONS

ELEVATION

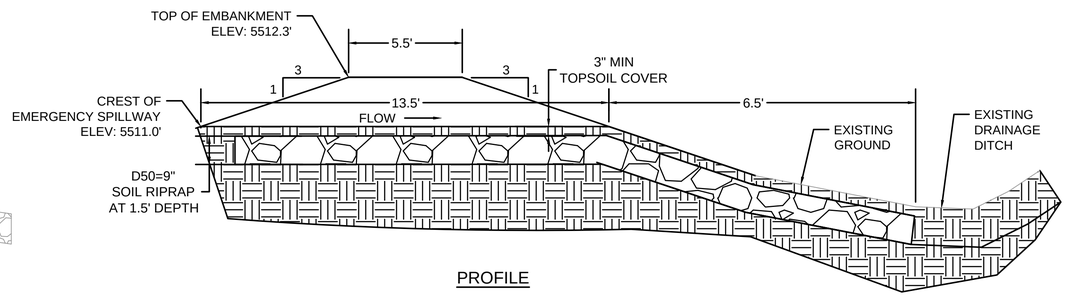


PLAN

CONCRETE FLUMES

A2 RIPRAP OUTFALL
NTS

CG101
CG101A
CG102



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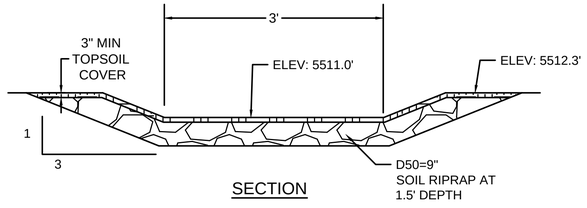


SECTION

NOTE: LENGTH OF SOIL RIPRAP VARIES AT EMERGENCY SPILLWAY. INSTALL TO TOE OF DITCH SLOPE.

A4 EMERGENCY SPILLWAY DETAIL
NTS

CG101
CG101A

COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. DAVIS
DRAWN BY: K. MAU
CHECKED BY: J. CARDENAS
SUBMITTED BY:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9126P22R0017
CONTRACT NO.:
FILE NUMBER:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

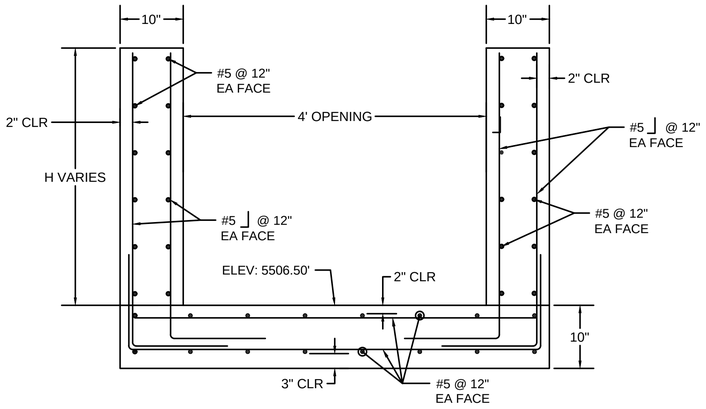
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - DRAINAGE AND STORMWATER MANAGEMENT DETAILS

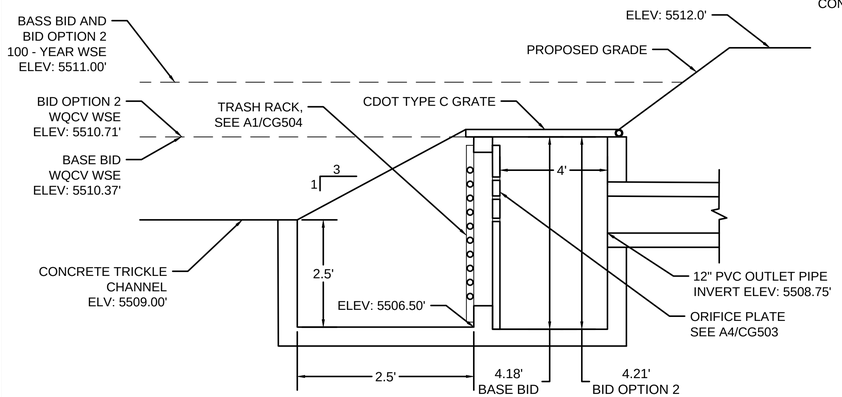
SHEET ID

CG502

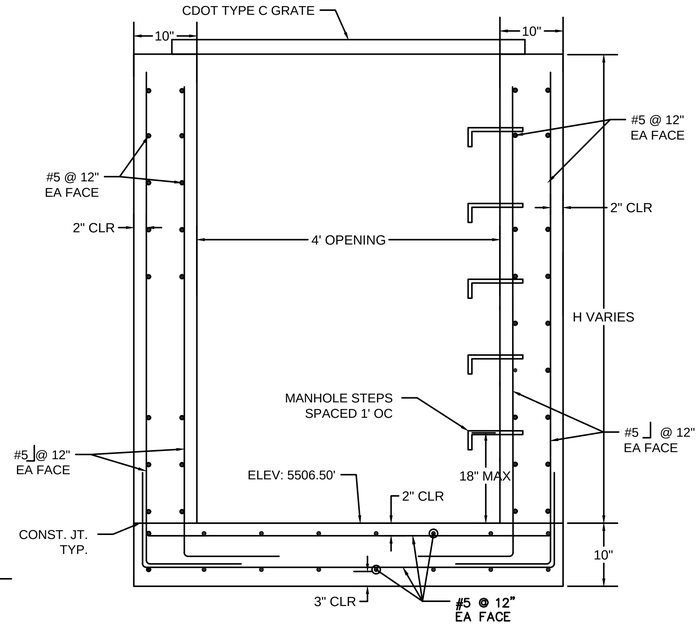
RTA SUBMISSION



C1 OUTLET STRUCTURE SECTION
NTS
CG503



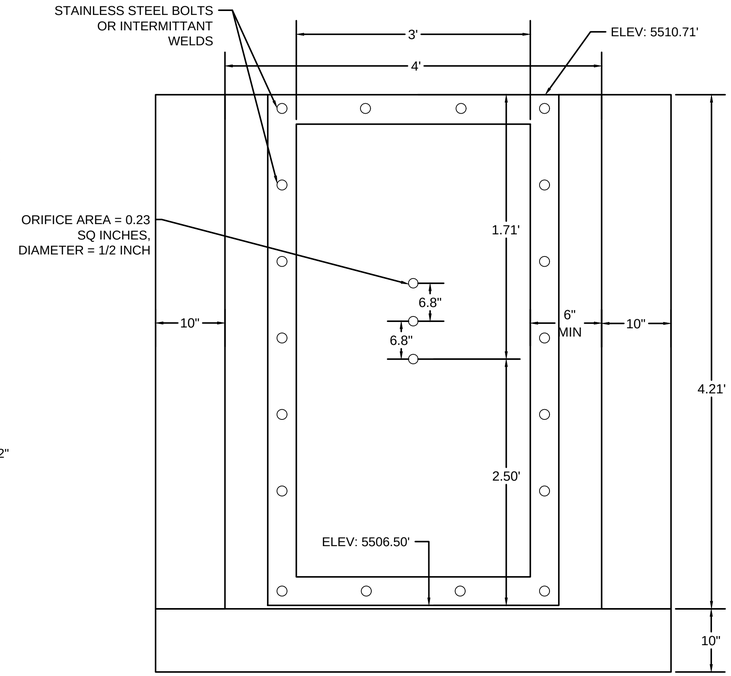
B1 OUTLET STRUCTURE SECTION
NTS
CG503



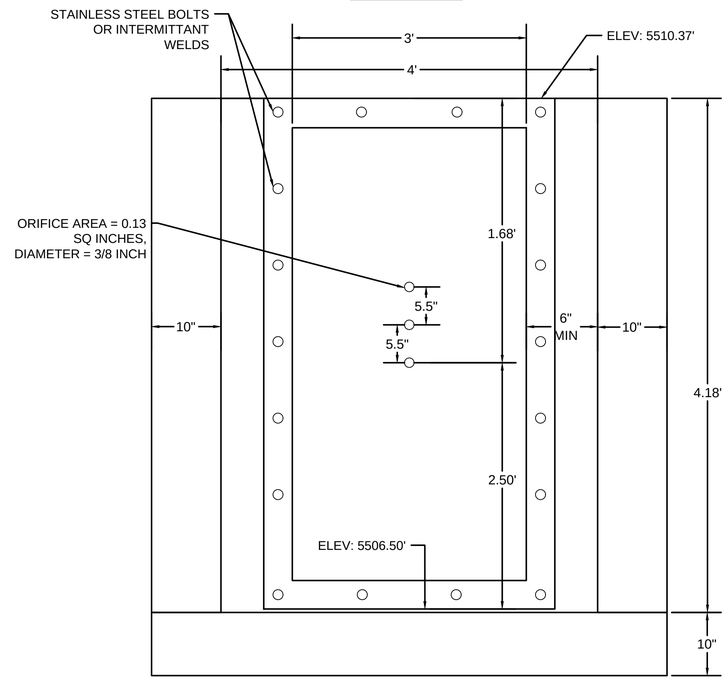
C2 OUTLET STRUCTURE SECTION
NTS
CG503

NOTES:

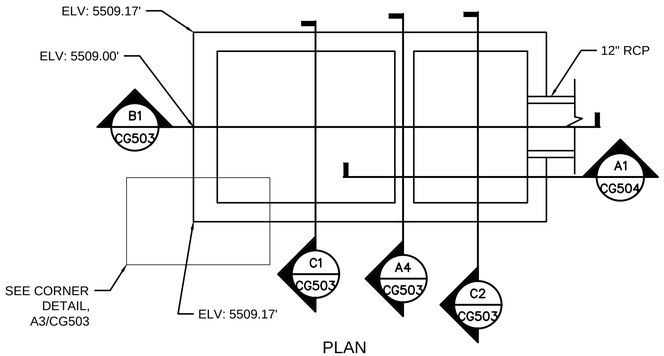
1. REINFORCING STEEL MUST BE ASTM GRADE 60.
2. SUBMIT SHOP DRAWINGS SHOWING ALL REINFORCING STEEL AND OTHER CONSTRUCTION DETAILS PRIOR TO FABRICATION.
3. SUBMIT SHOP DRAWINGS FOR CDOT TYPE C GRATE COVERING THE ENTIRE OPEN AREA OF OVERFLOW WEIR (A1/CG504), BUT DOES NOT EXTEND BEYOND THE LIMITS OF THE STRUCTURE. SEE CDOT STANDARD SPECIFICATION M-604-10 FOR GRATE TYPE AND MODIFY ITS DIMENSIONS TO FIT.



BID OPTION 2

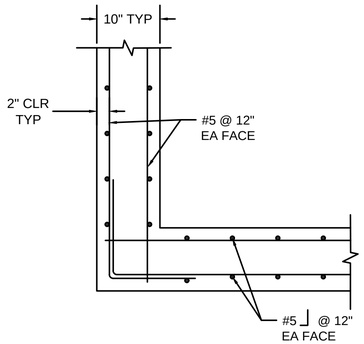


BASE BID



PLAN

A1 OUTLET STRUCTURE DETAIL
NTS
CG101
CG101A
CG503
CG504



A3 CORNER DETAIL
NTS
CG503

A4 OUTLET STRUCTURE SECTION
NTS
CG503
CG504

US Army Corps of Engineers ®

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SUBMITTED BY:
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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

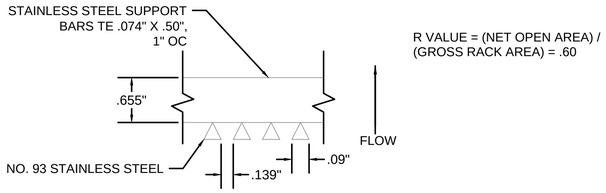
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - DRAINAGE AND STORMWATER MANAGEMENT DETAILS

COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

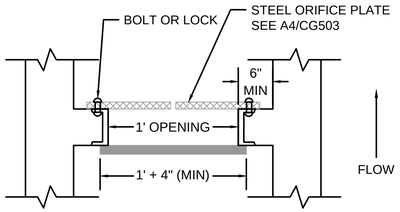
SHEET ID
CG503



D1 WELL SCREEN

NTS

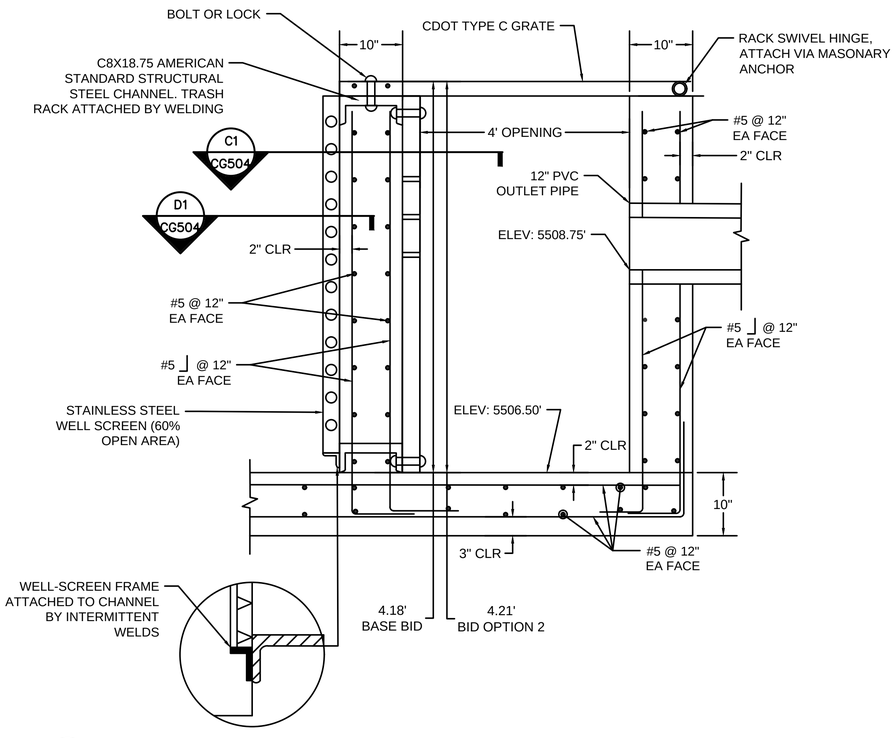
CG504



C1 VERTICAL MEMBER PLACEMENT

NTS

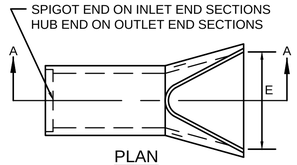
CG503

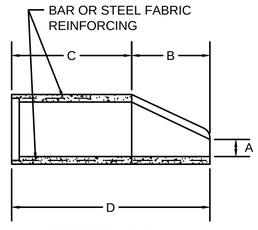


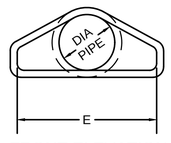
A1 OUTLET STRUCTURE SECTION

NTS

CG503







END SECTION DIMENSIONS					
DIA	A	B	C	D	E
12"	4"	2'-0"	2'-0"	4'-0"	2'-0"
15"	6"	2'-3"	1'-9"	4'-0"	2'-6"
18"	9"	2'-3"	1'-9"	4'-0"	3'-0"
24"	9 1/2"	3'-7"	2'-6"	6'-1"	4'-0"
30"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"
36"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"
42"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"
48"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"

A3 FLARED END SECTION

NTS

CG101
CG101A
CG102

COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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Omaha, NE

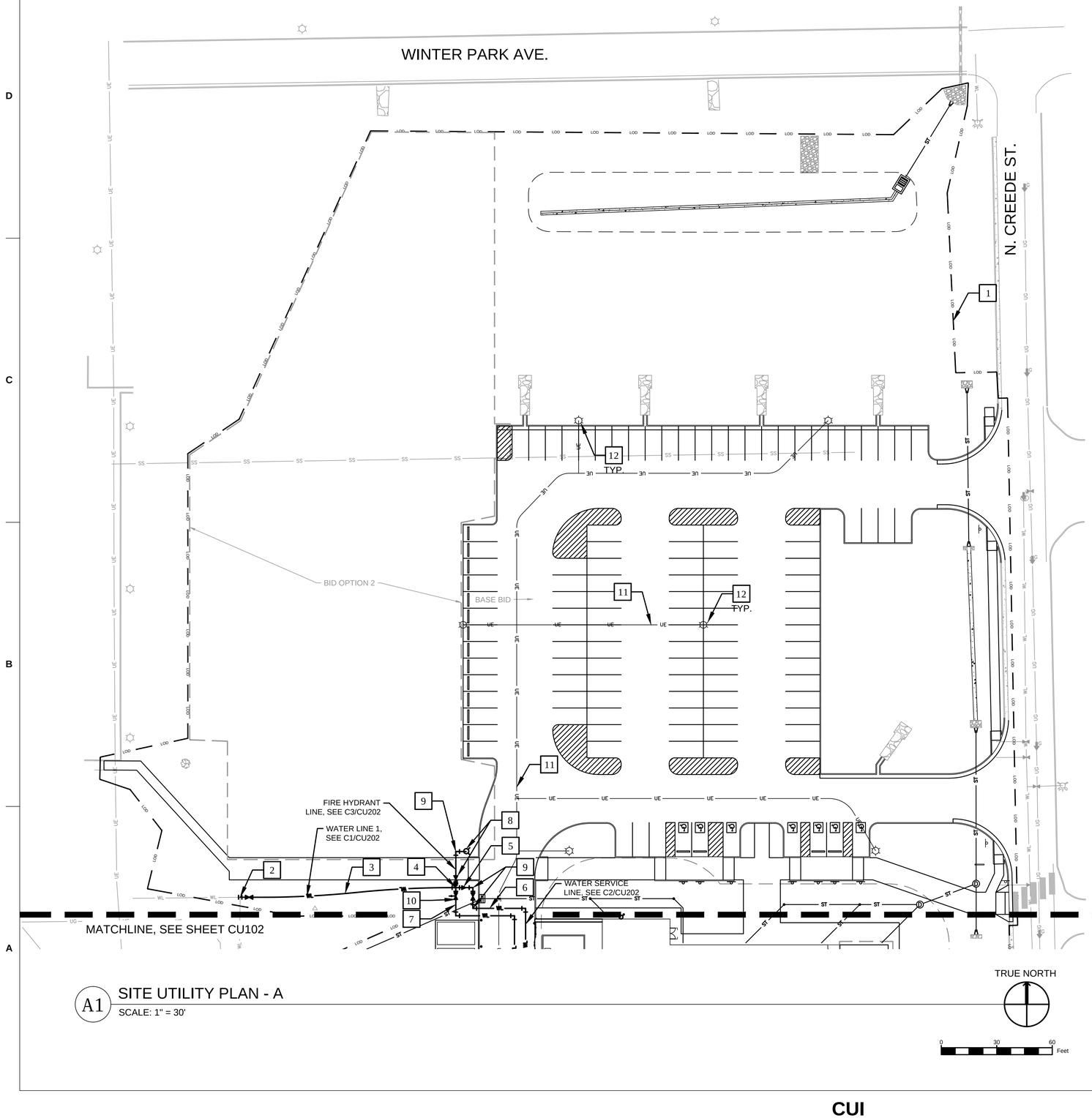
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - DRAINAGE AND STORMWATER MANAGEMENT DETAILS

SHEET ID

CG504



A1 SITE UTILITY PLAN - A

SCALE: 1" = 30'

GENERAL SHEET NOTES

A. SEE SHEET C-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.

B. ALL EXISTING STRUCTURES TO BE ADJUSTED TO MEET FINISHED GRADE.

C. PIPE DIAMETERS SHOWN ARE INTERNAL DIAMETER.

D. SEE SHEETS CG101 AND CG102 FOR STORM PIPE SIZES.

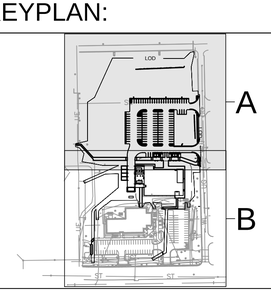
E. WATER LINEWORK WEST OF 90ÁBEND SHOWN IS DRAWN BASED ON AS-BUILT DOCUMENTS PROVIDED BY BUCKLEY SFB. NOTIFY COR IF SIZE OR LOCATION OF LINE VARIES FROM WHAT IS SHOWN.

F. BID OPTION 2 INDICATED BY THE GREY DASHED LINE.

SHEET KEYED NOTES:

1. LIMITS OF DISTURBANCE
2. CONNECT TO EXISTING 8 IN WATER LINE WITH TAPPING SLEEVE AND VALVE, SEE NOTE E
3. 8 IN COMBINED WATER SERVICE LINE, SEE A1/CU501
4. 8 IN X 6 IN CROSS
5. 8 IN X 3 IN REDUCER WITH 3 IN GATE VALVE
6. 3 IN DOMESTIC WATER SERVICE LINE, SEE A1/CU501 AND C4/CU501
7. 6 IN WATER FIRE SERVICE LINE, SEE A1/CU501 AND C4/CU501
8. FIRE HYDRANT WITH 6 IN SERVICE LINE AND 6 IN GATE VALVE, SEE A4/CU501
9. 90 DEGREE HORIZONTAL BEND
10. POST INDICATOR VALVE, SEE C2/CU501
11. ELECTRICAL CONDUIT, SEE ELECTRICAL PLANS FOR DETAILS
12. LIGHT POLE WITH BASE, SEE ELECTRICAL PLANS FOR DETAILS

KEYPLAN:



COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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FILE NUMBER:

DESIGNED BY: S. DAVIS
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CHECKED BY: J. CARDENAS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

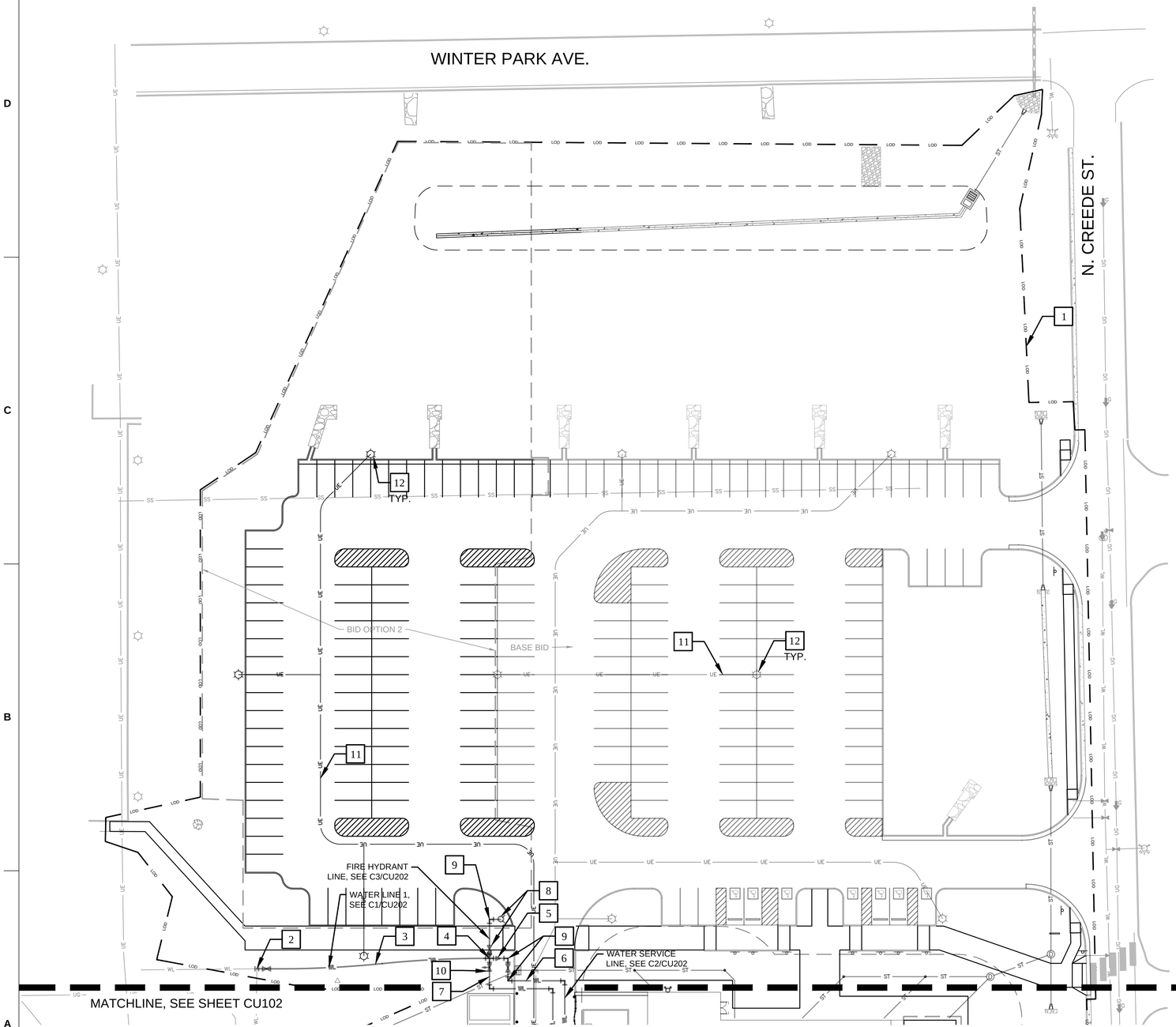
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - SITE UTILITY PLAN - A

SHEET ID

CU101



A1 SITE UTILITY PLAN - A (BID OPTION 2)

SCALE: 1" = 30'

GENERAL SHEET NOTES

A. SEE SHEET C-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.

B. ALL EXISTING STRUCTURES TO BE ADJUSTED TO MEET FINISHED GRADE.

C. PIPE DIAMETERS SHOWN ARE INTERNAL DIAMETER.

D. SEE SHEETS CG101A AND CG102 FOR STORM PIPE SIZES.

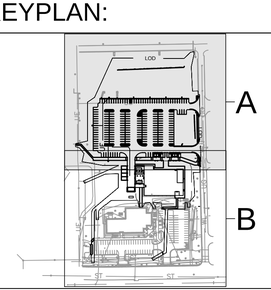
E. WATER LINEWORK WEST OF 90ÁBEND SHOWN IS DRAWN BASED ON AS-BUILT DOCUMENTS PROVIDED BY BUCKLEY SFB. NOTIFY COR IF SIZE OR LOCATION OF LINE VARIES FROM WHAT IS SHOWN.

F. BID OPTION 2 INDICATED BY THE GREY DASHED LINE.

SHEET KEYED NOTES:

1. LIMITS OF DISTURBANCE
2. CONNECT TO EXISTING 8 IN WATER LINE WITH TAPPING SLEEVE AND VALVE, SEE NOTE E
3. 8 IN COMBINED WATER SERVICE LINE, SEE A1/CU501
4. 8 IN X 6 IN CROSS
5. 8 IN X 3 IN REDUCER WITH 3 IN GATE VALVE
6. 3 IN DOMESTIC WATER SERVICE LINE, SEE A1/CU501 AND C4/CU501
7. 6 IN WATER FIRE SERVICE LINE, SEE A1/CU501 AND C4/CU501
8. FIRE HYDRANT WITH 6 IN SERVICE LINE AND 6 IN GATE VALVE, SEE A4/CU501
9. 90 DEGREE HORIZONTAL BEND
10. POST INDICATOR VALVE, SEE C2/CU501
11. ELECTRICAL CONDUIT, SEE ELECTRICAL PLANS FOR DETAILS
12. LIGHT POLE WITH BASE, SEE ELECTRICAL PLANS FOR DETAILS

KEYPLAN:



COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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DESIGNED BY: S. DAVIS
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FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

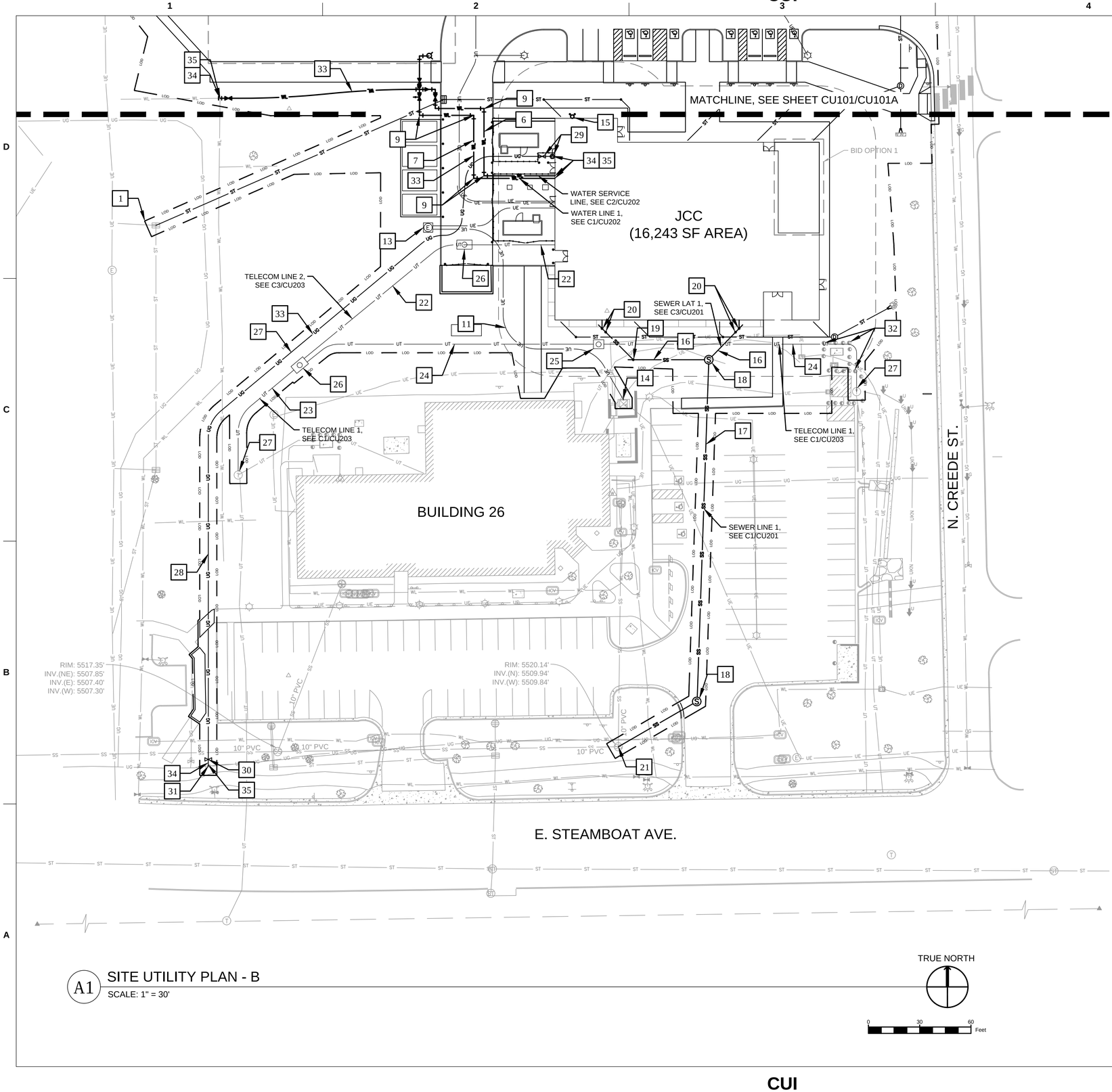
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - SITE UTILITY PLAN - A (BID OPTION 2)

SHEET ID

CU101A



A1 SITE UTILITY PLAN - B

SCALE: 1" = 30'

TRUE NORTH

0 30 60 Feet

GENERAL SHEET NOTES

A. SEE SHEET C-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.

B. ALL EXISTING STRUCTURES TO BE ADJUSTED TO MEET FINISHED GRADE.

C. PIPE DIAMETERS SHOWN ARE INTERNAL DIAMETER.

D. SEE SHEETS CG101 AND CG102 FOR STORM PIPE SIZES.

E. SEE PLUMBING PLANS FOR WATER SERVICE AND SEWER CONNECTIONS TO BUILDING.

F. SEE FIRE PROTECTION PLANS FOR WATER FIRE SERVICE LINE CONNECTION TO BUILDING.

G. BACKFLOW PREVENTOR AND WATER METER LOCATED INSIDE BUILDING, SEE PLUMBING PLANS FOR DETAILS.

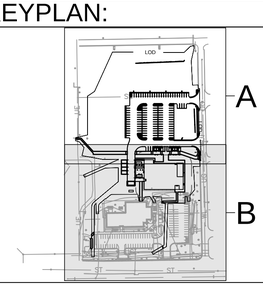
H. BID OPTION 1 INDICATED BY THE GREY DASHED LINE. SEE ARCHITECTURAL PLANS FOR DETAILS.

I. WATER FIRE SERVICE LINE MUST BE RESTRAINED FOR ENTIRE LENGTH.

SHEET KEYED NOTES:

1. LIMITS OF DISTURBANCE
2. NOT USED
3. NOT USED
4. NOT USED
5. NOT USED
6. 3 IN DOMESTIC WATER SERVICE LINE, SEE A1/CU501 AND C4/CU501
7. 6 IN WATER FIRE SERVICE LINE, SEE A1/CU501 AND C4/CU501
8. NOT USED
9. 90 DEGREE HORIZONTAL BEND
10. NOT USED
11. ELECTRICAL CONDUIT, SEE ELECTRICAL PLANS FOR DETAILS
12. NOT USED
13. ELECTRICAL TRANSFORMER, SEE ELECTRICAL PLANS
14. CONNECT TO EXISTING TRANSFORMER, SEE ELECTRICAL PLANS FOR DETAILS
15. FIRE DEPARTMENT CONNECTION, SEE FIRE PROTECTION PLANS
16. 4 IN PVC SANITARY SEWER LINE, SEE A1/CU501 AND C4/CU501
17. 8 IN PVC SANITARY SEWER LINE, SEE A1/CU501 AND C4/CU501
18. SANITARY SEWER MANHOLE, SEE C1/CU501
19. SANITARY SEWER CLEANOUT, SEE A2/CU501
20. DOUBLE SANITARY SEWER CLEANOUT, SEE C1/CU502
21. CONNECT TO EXISTING SANITARY SEWER MANHOLE, SEE B1/CU501
22. 6 - 4" TELECOM CONDUITS, SEE TELECOM PLANS FOR DETAILS
23. 4 - 4" TELECOM CONDUITS, SEE TELECOM PLANS FOR DETAILS
24. 2 - 4" TELECOM CONDUITS, SEE TELECOM PLANS FOR DETAILS
25. TELECOM HANDHOLE, SEE TELECOM PLANS FOR DETAILS
26. TELECOM MANHOLE, SEE TELECOM PLANS FOR DETAILS
27. CONNECT TO EXISTING TELECOM HANDHOLE, SEE TELECOM PLANS FOR ADDITIONAL INFORMATION AND DETAILS
28. 2.5" GAS LINE, SEE PLUMBING PLANS A1/P-110
29. GAS METER AND VALVE, SEE PLUMBING PLANS A1/P-110
30. GAS SHUTOFF VALVE
31. CONNECT TO EXISTING GAS LINE
32. REMOVE AND REPLACE BOLLARDS, TYP.
33. CATHODIC PROTECTION ZINC ANODE TEST STATION INSTALLATION, SEE B1/CU502
34. INSTALL DIELECTRIC INSULATING FLANGE, SEE C3/CU502
35. INSTALL ISOLATION TEST STATION, SEE A1/CU502

KEYPLAN:



COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

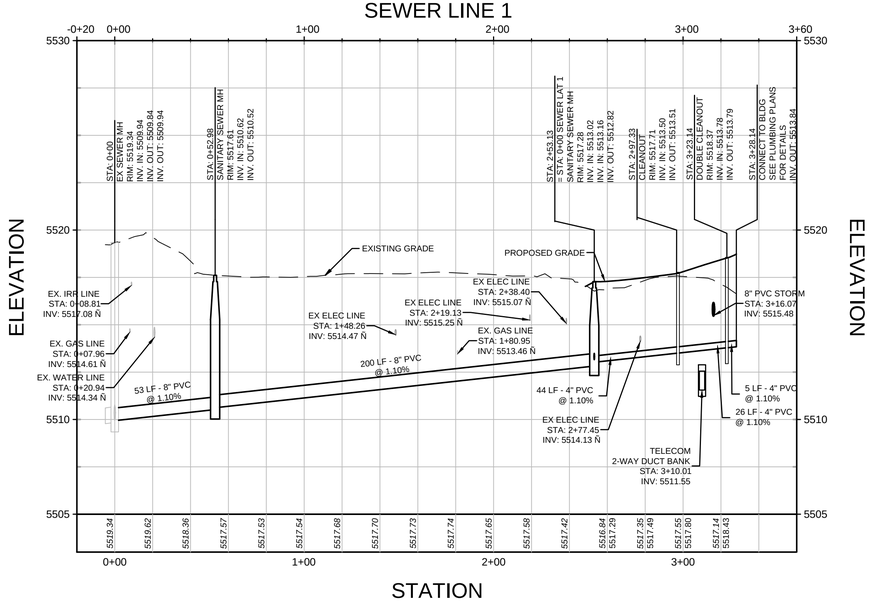
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - SITE UTILITY PLAN - B

SHEET ID

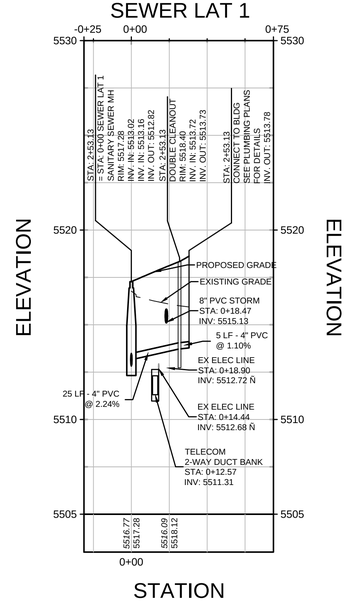
CU102

RTA SUBMISSION



C1 SANITARY SEWER LINE 1 PROFILE

HORIZONTAL SCALE: 1" = 40', VERTICAL SCALE: 1" = 4'



C3 SANITARY SEWER LAT 1 PROFILE

HORIZONTAL SCALE: 1" = 40', VERTICAL SCALE: 1" = 4'

COMMONWEALTH OF VIRGINIA
Scott Richard Davis
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PROFESSIONAL ENGINEER

0 40 80 Feet
H: 1" = 40'

0 4 8 Feet
V: 1" = 4'

US Army Corps of Engineers ®

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Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
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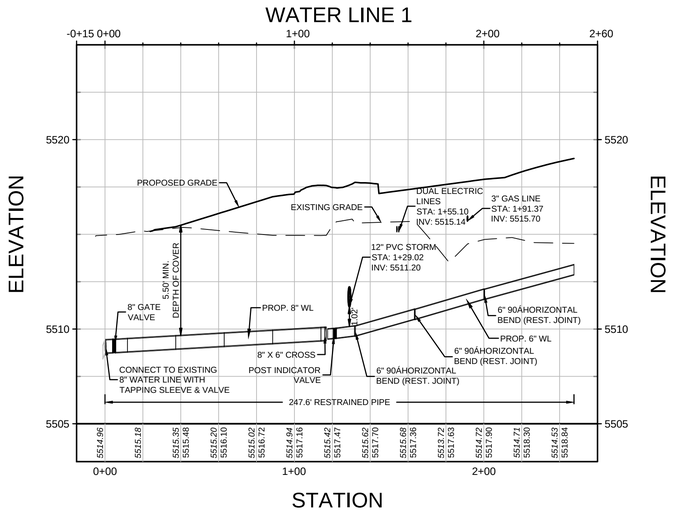
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - SANITARY SEWER PROFILES

SHEET ID

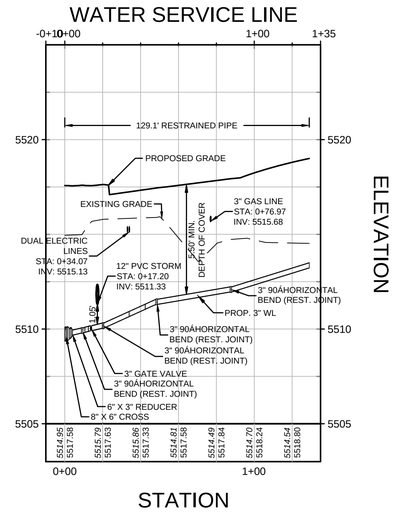
CU201



NOTE: FULLY RESTRAIN ALL WATERLINE PIPING

C1 WATER LINE 1 PROFILE

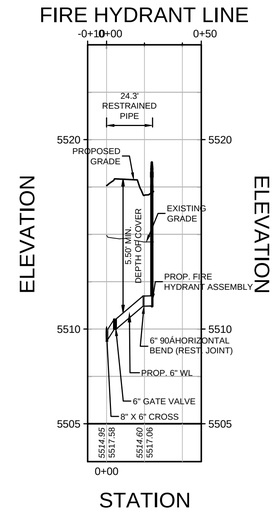
HORIZONTAL SCALE: 1" = 40', VERTICAL SCALE: 1" = 4'



NOTE: FULLY RESTRAIN ALL WATERLINE PIPING

C2 WATER SERVICE LINE PROFILE

HORIZONTAL SCALE: 1" = 40', VERTICAL SCALE: 1" = 4'



NOTE: FULLY RESTRAIN ALL WATERLINE PIPING

C3 FIRE HYDRANT LINE PROFILE

HORIZONTAL SCALE: 1" = 40', VERTICAL SCALE: 1" = 4'

COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

0 40 80 Feet
H: 1" = 40'

0 4 8 Feet
V: 1" = 4'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. DAVIS
DRAWN BY: K. MAU
CHECKED BY: J. CARDENAS
SUBMITTED BY:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:
SIZE: ANSI D
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

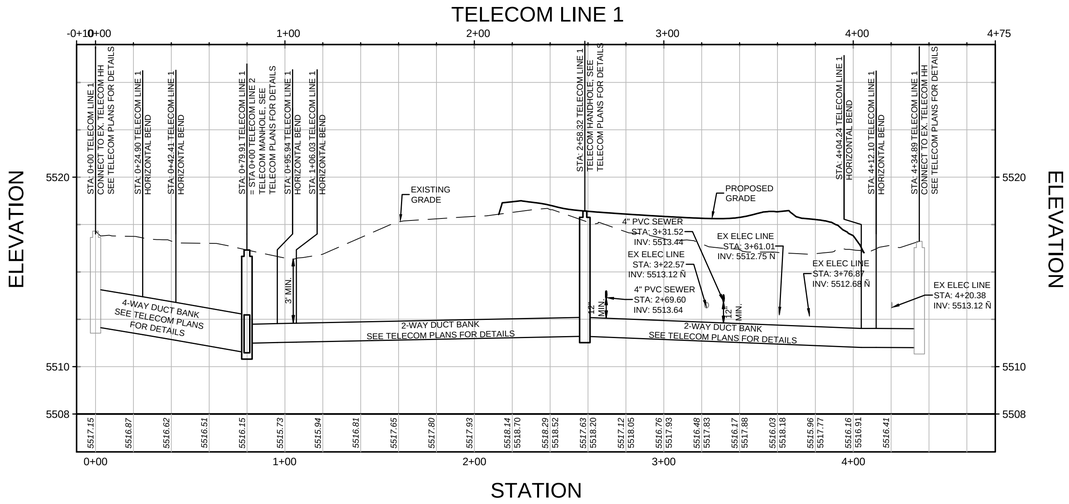
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - WATER PROFILES

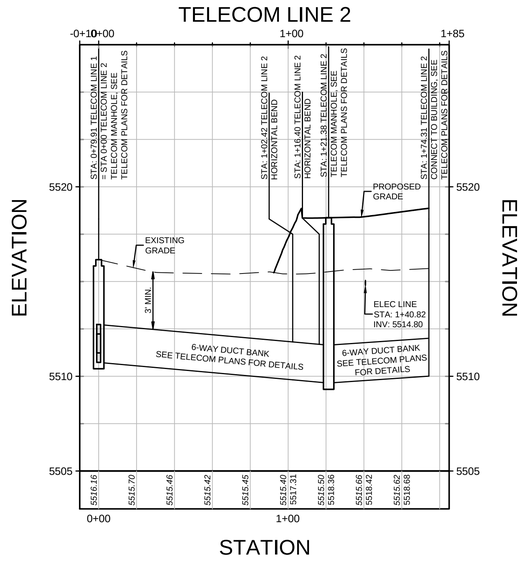
SHEET ID

CU202



C1 TELECOM LINE 1 PROFILE

HORIZONTAL SCALE: 1" = 40', VERTICAL SCALE: 1" = 4'



C3 TELECOM LINE 2 PROFILE

HORIZONTAL SCALE: 1" = 40', VERTICAL SCALE: 1" = 4'

Scott Richard Davis
Lic. No. 035184
12•14•2022

H: 1" = 40'

V: 1" = 4'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. DAVIS
DRAWN BY: K. MAU
CHECKED BY: J. CARDENAS
SUBMITTED BY:
SIZE: ANSI 'D'
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9126P22R0017
CONTRACT NO.:
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FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

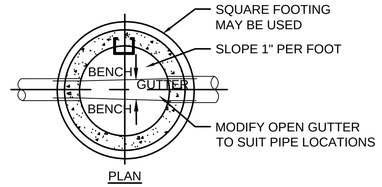
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

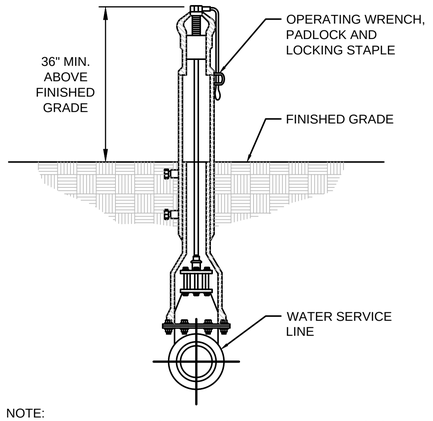
CIVIL - TELECOMMUNICATIONS PROFILES

SHEET ID

CU203

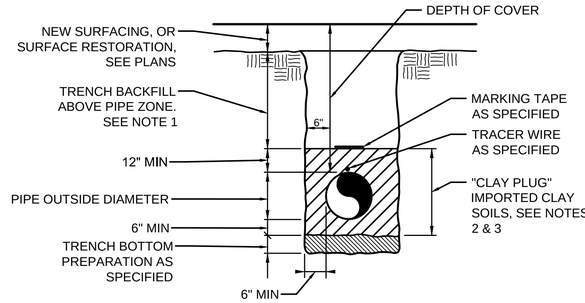


C1 MANHOLE
NTS
CU102
CU501



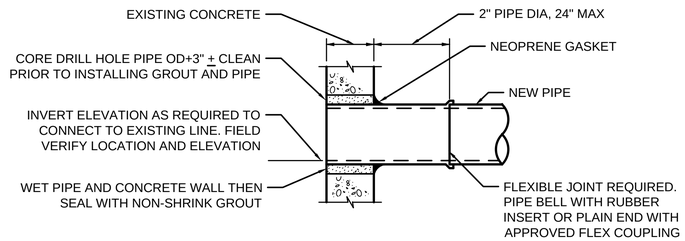
NOTE:
PROVIDE TAMPER SWITCH CONNECTED TO FIRE ALARM SYSTEM.
REFERENCE FIRE ALARM PLANS FOR DETAILS.

C2 POST INDICATOR VALVE
NTS
CU101
CU101A

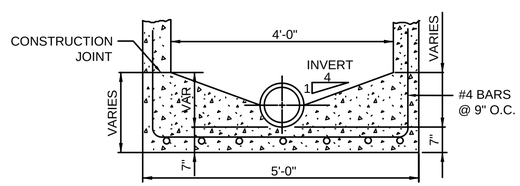


NOTES:
1. PROVIDE GRADED CRUSHED AGGREGATE IN LIEU OF BACKFILL MATERIAL UNDER PAVED AREAS.
2. CLAY SOILS MUST MEET COMPACTION REQUIREMENTS OF MINIMUM 95% OF MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D698)
3. CLAY SOILS MUST HAVE 0 TO +3% OF THE OPTIMUM MOISTURE CONTENT BELOW PAVEMENT AND FLATWORK.

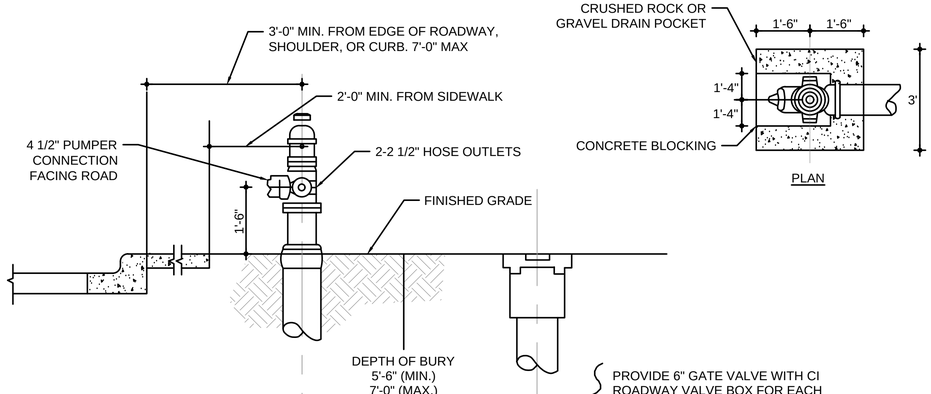
C4 TYPICAL PIPE TRENCH (WITHIN 10' OF BUILDING)
NTS
CU101
CU101A
CU102



B1 PIPE CONNECTION
NTS
CU101
CU101A
CU102



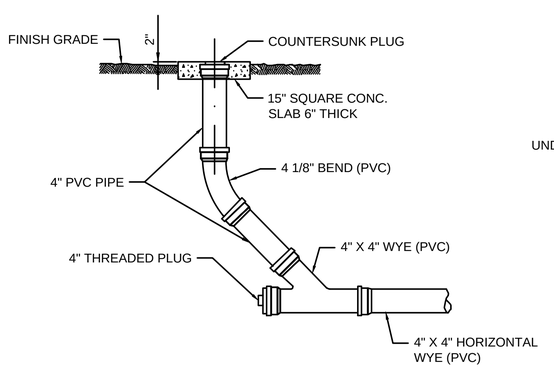
SECTION THRU BASE OF STANDARD MANHOLE
B2
NTS
CU102
CU501



A4 FIRE HYDRANT
NTS
CU101
CU101A

NOTES:
1. PROVIDE FLOWABLE FILL OR GRADED CRUSHED AGGREGATE IN LIEU OF BACKFILL MATERIAL UNDER PAVED AREAS.
2. EXISTING MATERIAL MUST BE SCARIFIED AT LEAST 12 INCHES BELOW BOTTOM OF UTILITY, MOISTURE CONDITIONED AND COMPACTED OR REPLACED WITH NON- TO LOW-EXPANISVE IMPORTED FILL.

TYPICAL PIPE TRENCH (MORE THAN 10' OUTSIDE OF BUILDING)
A1
NTS
CU101
CU101A
CU102



A2 CLEANOUT TO GRADE
NTS
CU102

US Army Corps of Engineers ®

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGNED BY: S. DAVIS
DRAWN BY: K. MAU
CHECKED BY: J. CARDENAS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9126P22R0017
CONTRACT NO.:
FILE NUMBER:

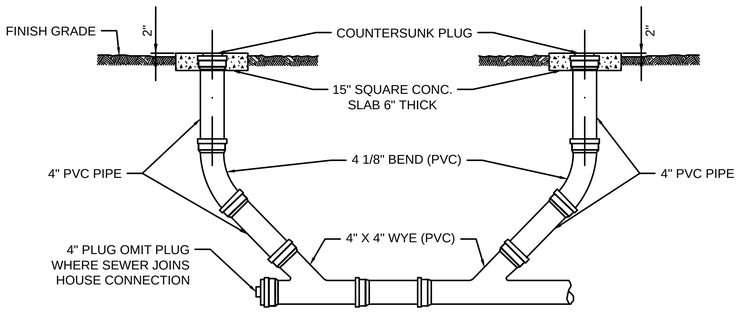
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - UTILITY DETAILS

COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

MARK	DESCRIPTION	DATE

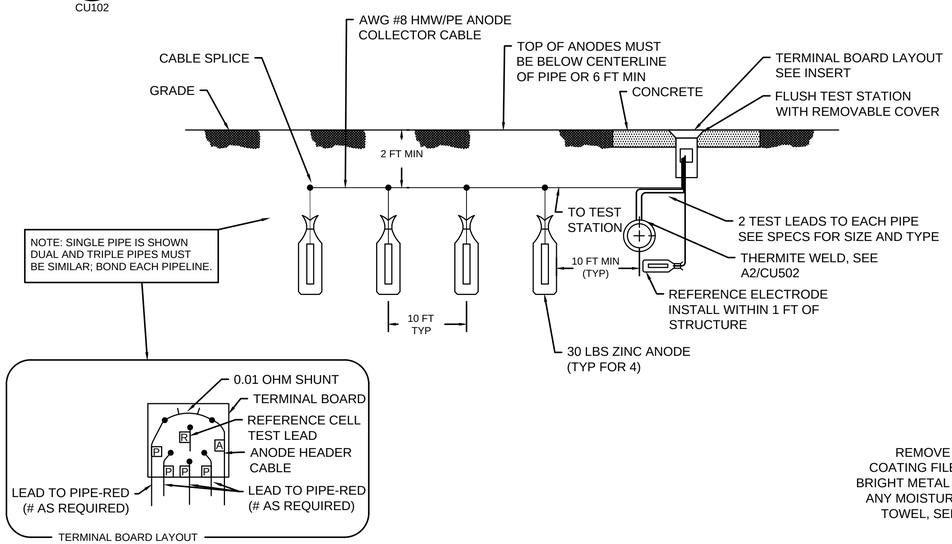
SHEET ID
CU501



C1 DOUBLE CLEANOUT TO GRADE

NTS

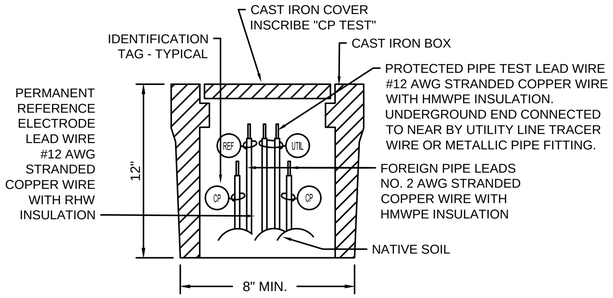
CU102



B1 ANODE TEST STATION DETAIL

NTS

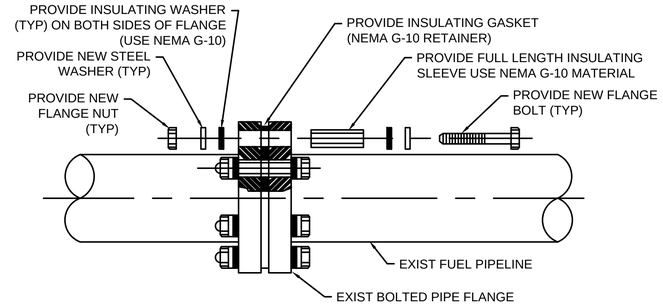
CU202



A1 ISOLATION TEST STATION

NTS

CU202



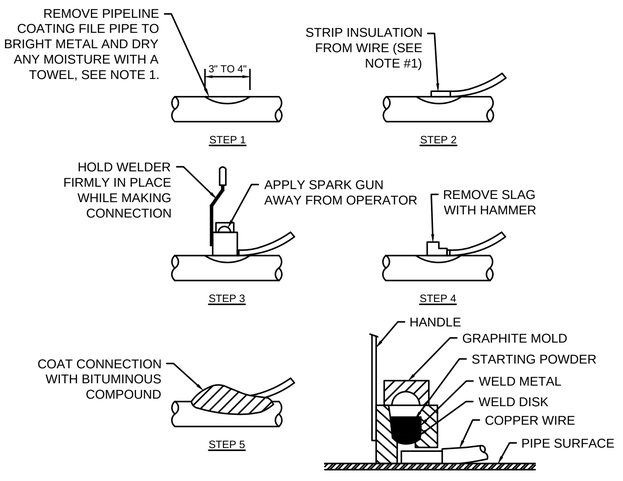
NOTES:

1. REMOVE EXISTING GASKETS. THE EXISTING GASKETS MAY CONTAIN ASBESTOS. REFER TO SPECIFICATIONS FOR APPLICABLE REQUIREMENTS.
2. POLYETHYLENE, MYLAR, AND PHENOLIC INSULATING SLEEVES AND WASHERS ARE NOT ACCEPTABLE AND WILL BE REJECTED. PROVIDE NEMA G-10 TYPE INSULATING SLEEVES AND WASHERS.
3. DOUBLE INSULATING WASHERS ARE REQUIRED (ONE FOR EACH SIDE OF EACH FLANGE BOLT)
4. FULL FACE GASKETS REQUIRED. GASKET RETAINER MUST BE HIGH COMPRESSIVE STRENGTH ASTM G-10 MATERIAL.
5. NEW GRADE 8 BOLT AND NUTS REQUIRED FOR EACH FLANGE.
6. HARDWARE QUANTITIES IN INSULATING FLANGE KIT WILL VARY BASED ON GASKET PATTERN AND PIPE SIZE.
7. DO NOT COAT OR SPRAY INSULATING COMPONENTS WITH GREASE.
8. AFTER INSULATING FLANGE KIT IS COMPLETELY INSTALLED, WRAP FLANGE WITH MIN. 3 LAYERS OF PIPE JOINT TAPE WRAP.

C3 DIELECTRIC INSULATING FLANGE

NTS

CU202



EXOTHERMIC WELDING NOTES:

1. THE EXISTING PIPELINE COATINGS MAY CONTAIN SMALL CONCENTRATION OF LEAD. REFER TO SPECIFICIATIONS FOR APPLICABLE REQUIREMENTS.
2. WHEN USING NO. 10 TO NO. 14 AWG SOLID WIRE, IT WILL BE NECESSARY TO INSTALL A COPPER SLEEVE OF ADEQUATE SIZE OVER THE BARE END OF THE WIRE AND CRIMP IN PLACE BEFORE ATTEMPTING TO MAKE THE CONNECTION. THE WIRE SHOULD PROTRUDE AT LEAST 1/8" FROM THE END OF THE SLEEVE.
3. INSERT THE CONDUCTOR INTO MOLD NOTING ANY SPECIAL INFORMATION UNDER "POSITIONING" FOR APPLICATION TYPE IN THE MANUFACTURERS INSTRUCTIONS PACKAGED WITH THE WELDER.
4. INSERT STEEL DISK IN BOTTOM OF CAVITY INSIDE MOLD. DUMP THE WELD METAL INTO MOLD BEING CAREFUL NOT TO UPSET THE STEEL DISK. TAP THE BOTTOM OF THE TUBE TO LOOSEN ALL THE STARTING POWDER AND SPREAD IT EVENLY OVER THE WELD METAL. PLACE A SMALL AMOUNT OF STARTING POWDER ON THE TOP EDGE OF MOLD UNDER COVER OPENING FOR EASY IGNITION.
5. CLOSE COVER AND IGNITE WITH THE FLINT GUN, MOVE FLINT GUN AWAY QUICKLY TO PREVENT FOULING. IF FLINT GUN SHOULD IT BECOME FOULED, SOAK IT IN HOUSEHOLD AMMONIA.
6. AFTER IGNITION, HOLD THE WELDER IN PLACE FOR A MOMENT TO ALLOW THE WELD TO SOLIDIFY. AFTER THE WELD HAS COOLED, REMOVE THE SLAG WITH A CHIPPING HAMMER OR WIRE BRUSH. CHECK THE WELD BY STRIKING WITH A HAMMER.
7. COAT THE CONNECTION AND THE ENTIRE PREPARED SURFACE WITH THE SPECIFIED WELD COATING.
8. REMOVE ALL SLAG FROM THE WELDER BEFORE MAKING WELD, CLEAN THE COVER EVERY 6 TO 10 WELDS.
9. WET OR DAMP MOLDS WILL PRODUCE POROUS WELDS, MOLDS MUST BE DRIED OUT BEFORE ATTEMPTING TO WELD.
10. CONNECTIONS ARE TO BE PLACED A MINIMUM OF 6" APART. UNSUCCESSFUL WELDS ARE TO BE ABANDONED AND MOVED TO ANOTHER PREPARED SURFACE NOT LESS THAN 6" AWAY.

A2 EXOTHERMIC WELDING PROCESS

NTS

CU202
CU502

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. DAVIS
DRAWN BY: K. MAU
CHECKED BY: J. CARDENAS
SUBMITTED BY:
FILE NUMBER:
SIZE: ANSI 'D'
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
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CONTRACT NO.:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

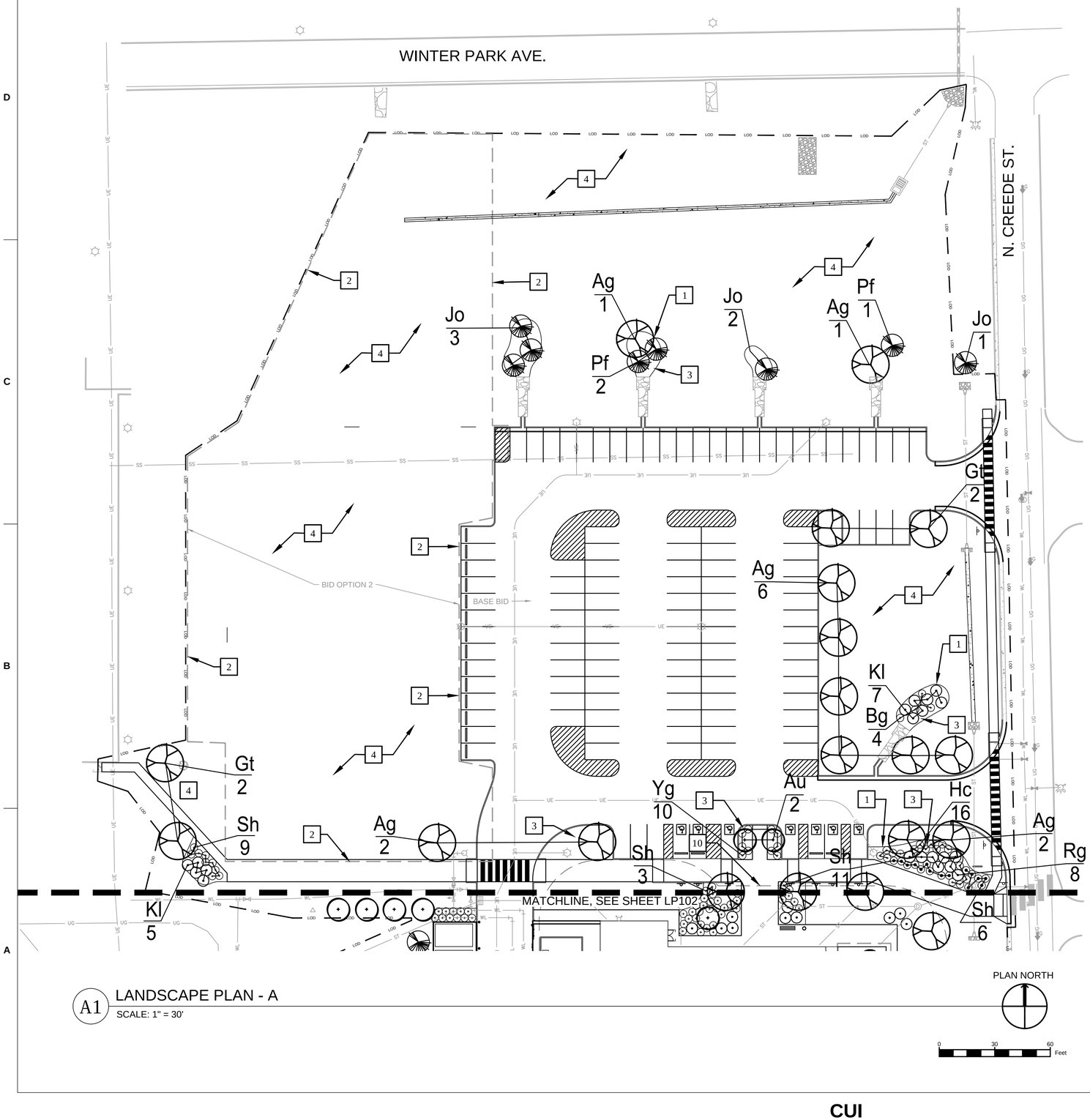
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

CIVIL - UTILITY DETAILS

SHEET ID

CU502



A1 LANDSCAPE PLAN - A
SCALE: 1" = 30'

GENERAL SHEET NOTES

A. ORNAMENTAL TREES MUST BE SPACED A MINIMUM OF 12' O.C.
B. ROOT BARRIERS MUST BE INSTALLED WHENEVER CANOPY OR ORNAMENTAL TREES ARE INSTALLED WITHIN 6' OF SIDEWALKS OR PARKING LOT PAVEMENT NOT BOUNDED BY CURBS, AND WITHIN 10' OF UNDERGROUND UTILITIES.
C. PLANTINGS MUST CONSIST OF NATIVE PLANTS ADAPTED TO THE ENVIRONMENT - CONTRACTOR MUST WATER PLANTS DURING THE FIRST YEAR OF ESTABLISHMENT. PERMANENT IRRIGATION WILL NOT BE INSTALLED.
D. BID OPTION 2 INDICATED BY THE GREY DASHED LINE.

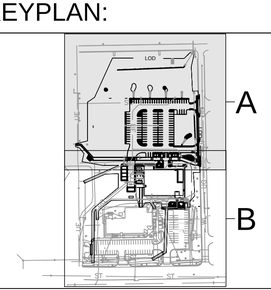
SHEET KEYED NOTES:

1. LANDSCAPE BED EDGING
2. BID OPTION 2 LINE
3. LANDSCAPE BED STABILIZATION (SEE L-501, DETAIL A4)
4. COLORADO NATIVE GROUNDCOVER (SEE L-501, DETAIL B4)

LEGEND

- CANOPY TREE
- ORNAMENTAL TREE
- CONIFEROUS TREE
- LARGE SHRUB
- SMALL SHRUB
- TRASH RECEPTACLE
- 8' BENCH

KEYPLAN:



Scott Richard Davis
Lic. No. 035184
12•14•2022
COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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FILE NAME:

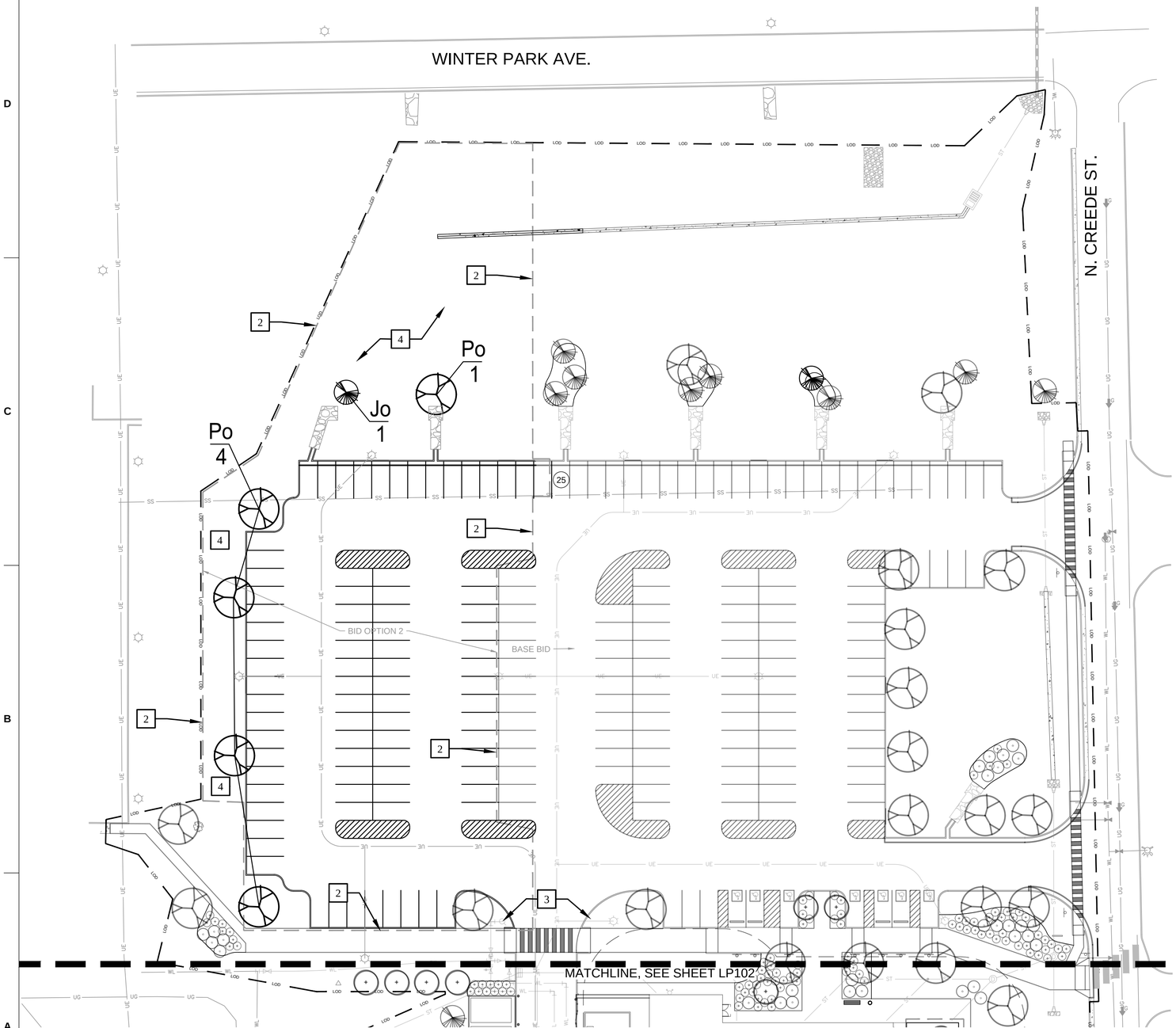
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

LANDSCAPE
LANDSCAPE PLAN - A

SHEET ID
LP101



A1 LANDSCAPE PLAN - A (BID OPTION 2)
SCALE: 1" = 30'

PLAN NORTH

0 30 60 Feet

GENERAL SHEET NOTES

A. ORNAMENTAL TREES MUST BE SPACED A MINIMUM OF 12' O.C.
B. ROOT BARRIERS MUST BE INSTALLED WHENEVER CANOPY OR ORNAMENTAL TREES ARE INSTALLED WITHIN 6' OF SIDEWALKS OR PARKING LOT PAVEMENT NOT BOUNDED BY CURBS, AND WITHIN 10' OF UNDERGROUND UTILITIES.
C. PLANTINGS MUST CONSIST OF NATIVE PLANTS ADAPTED TO THE ENVIRONMENT - CONTRACTOR MUST WATER PLANTS DURING THE FIRST YEAR OF ESTABLISHMENT. PERMANENT IRRIGATION WILL NOT BE INSTALLED.
D. BID OPTION 2 INDICATED BY THE GREY DASHED LINE.

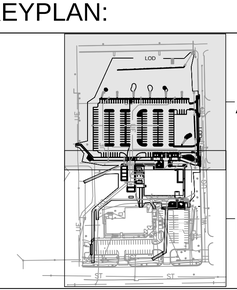
SHEET KEYED NOTES:

1. LANDSCAPE BED EDGING
2. BID OPTION 2 LINE
3. LANDSCAPE BED STABILIZATION (SEE L-501, DETAIL A4)
4. COLORADO NATIVE GROUNDCOVER (SEE L-501, DETAIL B4)

LEGEND

- CANOPY TREE
- ORNAMENTAL TREE
- CONIFEROUS TREE
- LARGE SHRUB
- SMALL SHRUB
- TRASH RECEPTACLE
- 8' BENCH

KEYPLAN:



COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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US ARMY CORPS OF ENGINEERS
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JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SPB, CO

LANDSCAPE
LANDSCAPE PLAN - A (BID OPTION 2)

SHEET ID
LP101A

RTA SUBMISSION

B4 BID OPTION 1
SCALE: 1" = 30'

A1 LANDSCAPE PLAN - B
SCALE: 1" = 30'

PLAN NORTH

0 30 60 Feet

COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

GENERAL SHEET NOTES

A. ORNAMENTAL TREES MUST BE SPACED A MINIMUM OF 12' O.C.
B. ROOT BARRIERS MUST BE INSTALLED WHENEVER CANOPY OR ORNAMENTAL TREES ARE INSTALLED WITHIN 6' OF SIDEWALKS OR PARKING LOT PAVEMENT NOT BOUNDED BY CURBS, AND WITHIN 10' OF UNDERGROUND UTILITIES.
C. PLANTINGS MUST CONSIST OF NATIVE PLANTS ADAPTED TO THE ENVIRONMENT - CONTRACTOR MUST WATER PLANTS DURING THE FIRST YEAR OF ESTABLISHMENT. PERMANENT IRRIGATION WILL NOT BE INSTALLED.
D. BID OPTION 1 INDICATED BY THE GREY DASHED LINE.

SHEET KEYED NOTES:

1. 4' GRAVEL MOW STRIP (SEE L-501, DETAIL A1)
2. 8' BENCH (SEE L-501, DETAIL B2)
3. TRASH RECEPTACLE (SEE L-501, DETAIL A2)
4. COLORADO NATIVE GROUNDCOVER (SEE L-501, DETAIL B5)
5. LANDSCAPE BED STABILIZATION (SEE L-501, DETAIL A4)
6. BIKE RACK (SEE L-501, DETAIL B4)
7. BID OPTION 1 INSET DETAIL, SEE B4/LP102
8. LANDSCAPE BED EDGING
9. NATIVE GRASS STABILIZATION (NO MOWING - SEE L-501, DETAIL B5)
10. 33' UNOBSTRUCTED SPACE SETBACK LINE

LEGEND

- CANOPY TREE
- ORNAMENTAL TREE
- CONIFEROUS TREE
- LARGE SHRUB
- SMALL SHRUB
- TRASH RECEPTACLE
- 8' BENCH

KEYPLAN:

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: DPD
DRAWN BY: DPD
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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

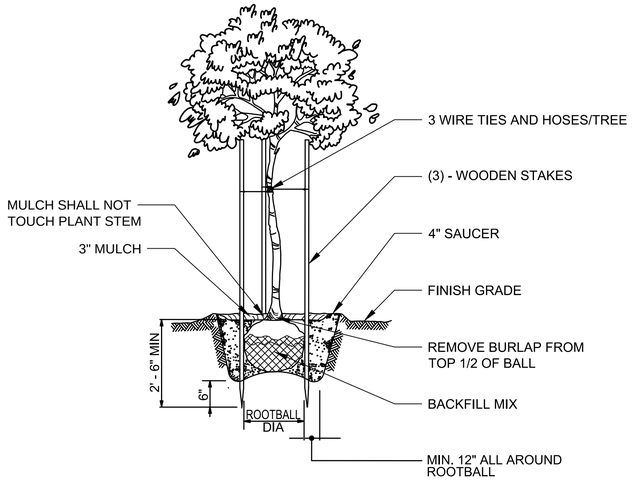
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

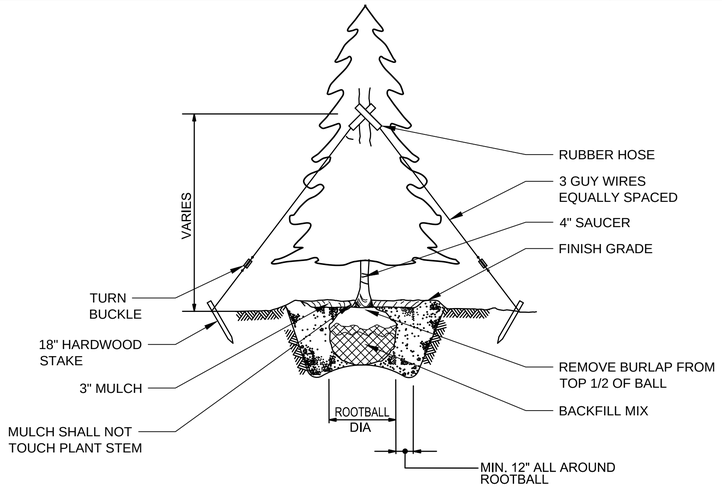
LANDSCAPE
LANDSCAPE PLAN - B

SHEET ID

LP102



C1 DECIDUOUS TREE PLANTING
NTS



C3 EVERGREEN TREE PLANTING
NTS

TREES

Key	Quantity	Botanical Name	Common Name	Size	Condition	Notes
Ag	12	Acer grandidentatum	Bigtooth Maple 'Highland Park'	2.5" cal. min	B & B	Highland Park or similar variety with single trunk
Gt	12	Gleditsia triocanthos var. inermis	Thornless Honeylocust Vanerworlf's Pyramid Limber	2.5" cal. min	B & B	
Pf	3	Pinus flexilis 'Vanderwolf's'	Pine	10' ht.	B & B	
Jo	16	Juniperus osteosperma	Utah Juniper	8' ht	B & B	
Au	2	Amelanchier utahensis	Utah Serviceberry	6' ht.		
Cc	12	Crataegus crus galli var. inermis	ThornlessCockspur Hawthorne	8' ht.		

SHRUBS

Key	Quantity	Botanical Name	Common Name	Size	Condition
Kl	12	Krascheninnikovia lanata	Winterfat	1 gal.	cont.
Ra	5	Ribes aureum	Golden Currant	5 gal.	cont.
Rg	25	Rhus aromatica 'Gro-Low'	Grow Low Sumac	1 gal.	cont.

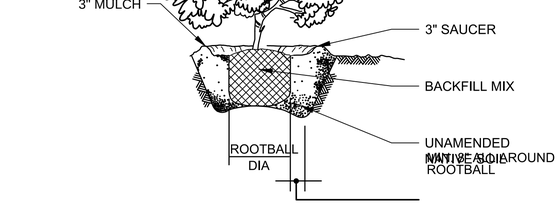
GROUNDCOVERS/GRASSES

Key	Quantity	Botanical Name	Common Name	Size	Condition
Yg	10	Yucca glauca	Soapweed Yucca	1 gal.	cont.
Ss	12	Schizachyrium scoparium	Badlands Little Bluestem	1 gal.	cont.
Bg	19	Bouteloua gracilis	Blue Gama Grass	1 gal.	cont.
Hc	28	Helictotrichon sapphire	Blue Avena Grass	1 gal.	cont.
Sh	46	Sporobolus heterolepsis	Prarie Dropseed	1 gal.	cont.

C5 BASE BID PLANT LIST
NTS

BID OPTION LANDSCAPE

BID OPTION 1: DELETE 3 CC
BID OPTION 2: ADD 5 Ag & 1 Jo



B1 SHRUB PLANTING
NTS

B2 BENCH DETAIL
NTS

B4 BIKE RACK DETAL
NTS
NOTE: PROVIDE CAPACITY FOR 7 BICYCLES

BOTANICAL NAME	COMMON NAME	MIX RATE
Pascopyrum smithii	Western Wheatgrass	**6.0 PLS#**
Buchloe dactyloides	Buffalograss	6.0 PLS#
Lolium perenne	Perennial Ryegrass	3.0 PLS#
Schizachyrium scoparium	Little Bluestem	2.0 PLS#
Bouteloua curtipendula	Sideoats Gama	2.0 PLS#
Bouteloua gracilis	Blue Gama	1.8 PLS#
		20.8 lbs/acre

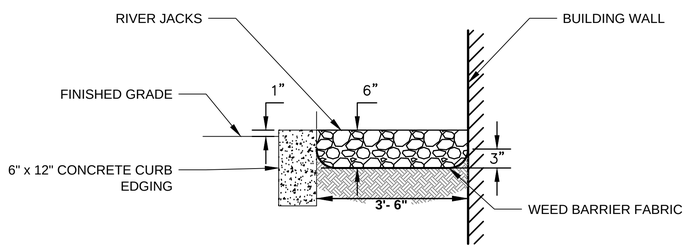
B5 COLORADO NATIVE SEED MIX
NTS
NOTE: MIX AVAILABLE LOCALLY THROUGH ARKANSAS VALLEY SEED

NOTES:
1. **IMAGES REPRESENT STYLES AND MATERIALS OF FURNISHINGS. BENCHES AND TRASH RECEPTACLES MUST FEATURE RECYCLED PLASTIC, WOOD-LOOK SEATING SURFACES OR SIDES.**
2. **ALL FABRICATED METAL COMPONENTS MUST BE STEEL SHOT BLASTED, ETCHED, PHOSPHATIZED, PREHEATED AND ELECTROSTATICALLY POWDER COATED WITH TGIC POLYESTER POWDER COATING IN COLOR SILVER.**
3. **TRASH RECEPTACLE MUST HAVE A TOP OPENING MAXIMUM 6" IN ANY DIRECTION.**
4. **ALL FURNISHINGS MUST BE FASTENED TO CONCRETE PER MANUFACTURER'S RECOMMENDATIONS.**

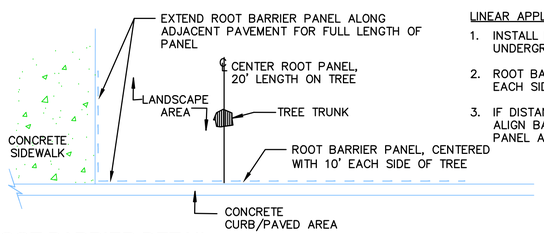
A2 36 GAL. TRASH RECEPTACLE DETAIL
NTS

USE	SIZE/TYPE	COLOR
MOW STRIP	4"-6"/RIVER JACKS	GREY/BEIGE/WHITE MIX
LANDSCAPE BEDS	1"-3"/CRUSHED AGGREGATE	GREY/BEIGE/WHITE MIX

A4 LANDSCAPE STONE SCHEDULE
NTS



A1 GRAVEL MOW STRIP
NTS



A3 ROOT BARRIER DETAIL
NTS

LINEAR APPLICATION

1. INSTALL ROOT BARRIER IF TREES ARE LESS THAN 5 FEET FROM PAVING OR CURB, 10' FROM UNDERGROUND UTILITY.
2. ROOT BARRIER PANELS ARE TO BE 20' IN LENGTH CENTERED ON TREE TRUNK, 10' FEET ON EACH SIDE OF THE TRUNK, RUNNING PARALLEL TO PAVING AS SHOWN.
3. IF DISTANCE FROM CENTER OF TREE IS LESS THAN 10' TO AN ADJACENT PAVED SURFACE, ALIGN BARRIER TO MATCH ADJACENT PAVED SURFACE AND EXTEND REMAINING LENGTH OF PANEL ALONG PERIMETER OF TREE PLANTING/LANDSCAPE AREA.

COMMONWEALTH OF VIRGINIA
Scott Richard Davis
Lic. No. 035184
12•14•2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: DPD
DRAWN BY: DPD
CHECKED BY: Checker
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

LANDSCAPE - DETAILS

SHEET ID
LP501

RTA SUBMISSION

DRAWING ORGANIZATION
1. ELEVATIONS INDICATED ON THE STRUCTURAL DRAWINGS ARE RELATIVE TO A GROUND FLOOR ELEVATION OF 0'-0". SEE CIVIL DRAWINGS FOR ELEVATIONS BASED ON MEAN SEA LEVEL DATUM.
2. DETAILS LABELED "TYPICAL DETAILS" OR DETAILS ON "TYPICAL DETAILS" SHEETS APPLY TO SITUATIONS THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. SUCH DETAILS AND DIMENSIONS APPLY WHETHER OR NOT DETAILS ARE REFERENCED AT EACH LOCATION.
3. SLOPING DECK PLANES ARE DEFINED BY A WORK POINT ELEVATION AND A SLOPE, UON. STEEL MEMBERS SUPPORTING A SLOPING DECK PLANE HAVE THEIR TOP OF STEEL COINCIDENT WITH THE BOTTOM OF DECK.
4. ISOMETRIC REPRESENTATIONS OF THE STRUCTURE ARE FOR INFORMATION ONLY.

CONSTRUCTION REQUIREMENTS
1. REVIEW AND VERIFY AS-BUILT CONDITIONS AND ACTUAL EQUIPMENT DIMENSIONS USING APPROVED MANUFACTURER/ VENDOR DRAWINGS PRIOR TO SUBMISSION OF SHOP DRAWINGS.
2. REVIEW AND VERIFY LOCATION OF CHASES, INSERTS, OPENINGS, SLEEVES, FINISHES, DEPRESSIONS, PADS, AND WALL OPENINGS. COORDINATE WITH OTHER DISCIPLINE SHEETS
3. DO NOT SCALE DRAWINGS FOR THE PURPOSE OF ESTABLISHING DIMENSIONS.
4. DO NOT STORE OR STACK CONSTRUCTION MATERIALS ON FLOORS/ROOFS IN EXCESS OF 80 PERCENT OF LIVE LOAD.
5. PROVIDE BRACING AND SHORING TO MAINTAIN THE STABILITY OF, AND TO AVOID OVER-LOADING, THE STRUCTURE DURING CONSTRUCTION. THE STRUCTURE IS DESIGNED FOR THE COMPLETED CONDITION ONLY.
6. CUT NO HOLES IN STRUCTURAL MEMBERS WITHOUT WRITTEN APPROVAL FROM THE COR.

STRUCTURAL TESTS AND INSPECTIONS
1. COMPLY WITH THE REQUIREMENTS OF SPECIFICATION SECTION 01 45 35, STRUCTURAL TESTS AND INSPECTIONS.

DESIGN CRITERIA
THE STRUCTURAL DESIGN CONFORMS TO THE FOLLOWING CODES/STANDARDS:
1. UFC 1-200-01 DOD BUILDING CODE, CHANGE 1 (1 OCTOBER 2020)
2. UFC 3-220-01 GEOTECHNICAL ENGINEERING (1 NOVEMBER 2012)
3. UFC 3-301-01 STRUCTURAL ENGINEERING (1 OCTOBER 2019)
4. UFC 4-010-01 DOD MINIMUM ANTITERRORISM STANDARDS FOR BUILDINGS, CHANGE 1 (19 AUGUST 2020)
5. IBC 2018 INTERNATIONAL BUILDING CODE, AS MODIFIED BY THE UFC
6. ASCE/SEI 7–16 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, AS MODIFIED BY THE UFC
7. ACI 318-14, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
8. TMS 402/602-16, BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES
9. AISC 360-16, SPECIFICATION FOR STRUCTUREL STEEL BUILDINGS
10. AWS D 1.1-15, STRUCTURAL STEEL WELDING CODE
11. SDI C-2017, STANDARD FOR COMPOSITE STEEL FLOOR DECK - SLABS
12. SDI RD-2017, STANDARD FOR STEEL ROOF DECKS

DESIGN LOADS

1.	SUPERIMPOSED DEAD LOAD:	(SEE LOAD PLAN)
2.	FLOOR AND ROOF LIVE LOAD:	(SEE LOAD PLAN)
3.	SNOW	
A.	GROUND SNOW LOAD:	40 PSF
B.	FLAT & SLOPED SNOW LOAD:	28 PSF
C.	CANOPY SNOW LOAD:	40 PSF
D.	SNOW LOAD IMPORTANCE FACTOR:	1.0
E.	THERMAL FACTOR:	1.0
F.	SLOPE FACTOR:	1.0
G.	DRIFT & UNBALANCED SURCHARGE:	(SEE LOAD PLANS)
4.	WIND	
A.	ULTIMATE DESIGN WIND SPEED, V:	115 MPH
B.	ASD WIND SPEED, V_{ASD}:	89 MPH
C.	RISK CATEGORY:	II
D.	WIND EXPOSURE:	C
E.	INTERNAL PRESSURE COEFFICIENT:	+/-0.18
F.	10 YEAR MRI WIND SPEED:	77 MPH
G.	DESIGN BASE SHEAR:	
a.	NORTH-SOUTH:	140 KIPS
b.	EAST-WEST:	105 KIPS
5.	EARTHQUAKE	
A.	RISK CATEGORY:	II
B.	SEISMIC IMPORTANCE FACTOR:	1.0
C.	SITE SOIL CLASSIFICATION:	C
D.	MAPPED SPECTRAL ACCELERATION	
a.	SHORT PERIOD , S_S:	0.192 g
b.	1-SECOND PERIOD, S_1:	0.055 g
E.	DESIGN SPECTRAL ACCELERATION	
a.	SHORT PERIOD, S_{DS}:	0.205 g
b.	1-SECOND PERIOD, S_{D1}:	0.088 g
F.	SEISMIC DESIGN CATEGORY:	B
G.	ANALYSIS PROCEDURE :	EQUIVALENT LATERAL FORCE
H.	SEISMIC FORCE-RESISTING SYSTEM:	ORDINARY REINFORCED MASONRY SHEAR WALLS
I.	RESPONSE MODIFICATION COEFFICIENT, R:	2
J.	OVERSTRENGTH FACTOR, Ω_0:	2.5
K.	DEFLECTION AMPLIFICATION FACTOR, C_d:	1.75
L.	SEISMIC RESPONSE COEFFICIENT, C_S:	0.102
M.	DESIGN BASE SHEAR:	
a.	BASE BID	460 KIPS
b.	BID OPTION 1	500 KIPS
6.	RAIN LOADS	
A.	15-MINUTE/100-YEAR RAIN INTENSITY:	5.77 IN/HR
B.	60-MINUTE/100-YEAR RAIN INTENSITY:	2.44 IN/HR

FOUNDATIONS AND EARTHWORK
1. FOUNDATION DESIGN CONFORMS TO THE FOLLOWING PARAMETERS:
   - A. BUILDING FOUNDATION SYSTEM: STRAIGHT-SHAFT, CAST-IN-PLACE PIERS/SHAFTS CONSTRUCTED IN BEDROCK.
     - a. MIN PIER LENGTH: 35 FT
     - b. MIN BEDROCK EMBEDMENT: 20 FT
     - c. MAX ALLOWABLE END-BEARING PRESSURE: 25 KSF
     - d. MAX ALLOWABLE SKIN FRICTION: 2 KSF
       - SKIN FRICTION MUST BE NEGLECTED FOR THE UPPER 5 FT OF EACH SHAFT, AND WHERE SHAFT IS IN FILL OR OVERBURDEN SOILS
     - e. MIN EMBEDMENT BELOW FINISHED GRADE:
       - EXTERIOR GRADE BEAMS: 52 IN
       - INTERIOR COLUMNS: 18 IN
     - f. SHEAR RINGS: 3 IN HIGH BY 3 IN DEEP AT 16 IN ON CENTER WITHIN BOTTOM 20 FT OF SHAFT
     - g. VOID THICKNESS: 10 IN
   - B. INTERIOR FLOOR SYSTEM: STRUCTURALLY SUPPORTED FLOOR SYSTEM.
     - a. VOID THICKNESS: 12 IN
   - C. SITE CLASSIFICATION: C
   - D. RETAINING WALLS: MODULAR BLOCK WALLS < 5 FT IN HEIGHT
     - a. ACTIVE EARTH PRESSURE COEFFICIENT, Ka:
       - CLAY: 0.47
       - SAND: 0.33
     - b. AT REST EARTH PRESSURE COEFFICIENT, Ko:
       - CLAY: 0.64
       - SAND: 0.50
     - c. PASSIVE EARTH PRESSURE COEFFICIENT, Kp:
       - CLAY: 2.1
       - SAND: 3.0
2. EMBEDMENT TO REDUCE FROST HEAVE POTENTIAL: 36 IN
3. PROTECT FOUNDATIONS FROM FROST HEAVE DURING CONSTRUCTION UNTIL BACKFILL IS IN PLACE TO ACHIEVE MINIMUM FROST DEPTH COVER.

CAST-IN-PLACE CONCRETE
1. PROVIDE NORMAL WEIGHT CONCRETE, UON.
2. MINIMUM 28-DAY COMPRESSIVE STRENGTHS:
   - A. FOOTINGS AND FOUNDATION WALLS: 5,000 PSI
   - B. SLABS, DRILLED PIERS, AND PIER CAPS: 5,000 PSI
   - C. ALL OTHER CONCRETE: 4,000 PSI
3. CONCRETE REINFORCING:
   - A. DEFORMED BARS: ASTM A615, GRADE 60, UON
   - B. PLAIN WELDED WIRE: ASTM A1064; SUPPLIED IN FLAT SHEETS
4. WATER TO CEMENT RATIO MUST NOT EXCEED 0.45.
5. UFC ENVIRONMENTAL SEVERITY CLASSIFICATION: C2
6. COVER FOR CONCRETE REINFORCING:
   - A. CAST AGAINST AND PERMANENTLY IN CONTACT WITH SOIL: 3"
   - B. EXPOSED TO WEATHER OR IN CONTACT WITH SOIL:
     - a. #5 AND SMALLER: 1 1/2"
     - b. #6 AND LARGER: 2"
   - C. NOT EXPOSED TO WEATHER OR IN CONTACT WITH SOIL: 3/4"
7. SPLICE REINFORCING BARS PER ACI 318 WITH CLASS B TENSION LAP SPLICES AS INDICATED IN THE REINFORCING BAR DEVELOPMENT LENGTH TABLE IN DETAIL C1/S-601.
8. PLACE WELDED WIRE FABRIC TO BE AT MID-HEIGHT OF SLAB, UON.
9. WELDED WIRE FABRIC MUST BE LAP SPLICED PER ACI 318 AND TIED SECURELY.
10. DOWELS MUST MATCH SIZE AND SPACING OF THE MAIN REINFORCEMENT AND BE CLASS B TENSION LAP SPLICED, UON.
11. DO NOT WELD OR FIELD BEND REINFORCING UNLESS INDICATED OR APPROVED IN WRITING BY THE COR. DO NOT HEAT REINFORCING WITH A TORCH IN THE FIELD.
12. PLACE AND FINISH COMPOSITE CONCRETE SLABS TO ACHIEVE A LEVEL FLOOR FINISH. THE ADDITIONAL CONCRETE REQUIRED TO ACHIEVE A LEVEL FLOOR FINISH HAS BEEN ACCOUNTED FOR IN THE DESIGN WITH A 5 PSF PRE-COMPOSITE SUPERIMPOSED DEAD LOAD. DO NOT ALLOW ADDITIONAL CONCRETE WEIGHT TO EXCEED THIS AMOUNT.
13. EMBEDDED ITEMS IN CONCRETE SLABS:
   - A. CONDUIT, PIPING, AND FLOOR BOXES MUST BE FABRICATED AND INSTALLED SO THAT CUTTING, BENDING, OR DISPLACEMENT OF REINFORCEMENT FROM ITS SPECIFIED LOCATION IS NOT REQUIRED.
   - B. CONCRETE COVER FOR PIPE AND CONDUIT EMBEDMENTS (WITH THEIR FITTINGS) MUST BE AT LEAST 1 1/2" FOR CONCRETE EXPOSED TO EARTH OR WEATHER, AND AT LEAST 3/4" FOR CONCRETE NOT EXPOSED TO WEATHER, OR IN CONTACT WITH GROUND.
   - C. DO NOT SPACE CONDUITS OR PIPES CLOSER THAN THREE DIAMETERS OR WIDTHS ON CENTER.
   - D. FOR CONDUIT INSTALLED HORIZONTALLY WITHIN REINFORCED SLABS, PLACE CONDUIT BETWEEN THE TOP AND BOTTOM LAYERS OF REINFORCEMENT WITHIN THE CENTER THIRD OF THE SLAB.
   - E. CONDUIT INSTALLED PARALLEL TO COMPOSITE STEEL BEAMS WITHIN CONCRETE ON COMPOSITE METAL DECK MUST BE PLACED A MINIMUM OF 12 INCHES FROM THE CENTERLINE OF THE BEAM.
   - F. FLOOR BOXES CAST INTO CONCRETE ON COMPOSITE METAL DECK BUT BE PLACED A MINIMUM OF 12 INCHES FROM THE CENTERLINE OF COMPOSITE STEEL BEAMS.
   - G. PIPE AND CONDUIT EMBEDMENTS MUST NOT BE ALUMINUM.

STRUCTURAL STEEL
1. STRUCTURAL STEEL MATERIALS:
   - A. W & WT SHAPES: ASTM A992
   - B. CHANNELS: ASTM A36
   - C. ANGLES: ASTM A36
   - D. RECTANGULAR AND SQUARE HSS: ASTM A500, GRADE C
   - E. COLUMN BASE PLATES: ASTM A36
   - F. OTHER SHAPES AND PLATES: ASTM A36
2. WELDING ELECTRODES MUST COMPLY WITH AWS REQUIREMENTS. PROVIDE FILLER METAL WITH A MINIMUM TENSILE STRENGTH OF 70 KSI.
3. BOLTS, CONNECTORS AND ANCHORS:
   - A. HIGH-STRENGTH BOLTS: ASTM F3125 GRADES A325 OR A490, TYPE 1, HEAVY-HEX STRUCTURAL STEEL BOLTS
   - B. NUTS: ASTM A563, GRADE C, HEAVY-HEX CARBON STEEL NUTS
   - C. WASHERS: ASTM F436, TYPE 1, HARDENED CARBON-STEEL WASHERS; ALL WITH PLAIN FINISH
   - D. DIRECT TENSION INDICATORS: ASTM F959, TYPE 325 OR TYPE 490 COMPRESSIBLE WASHER TYPE WITH PLAIN FINISH
   - E. TENSION CONTROL, HIGH-STRENGTH BOLT-NUT-WASHER ASSEMBLIES: ASTM F1852, TYPE 1, HEAVY HEX OR ROUND HEAD ASSEMBLIES CONSISTING OF STEEL STRUCTURAL BOLTS W/ SPLINED ENDS. HEAVY HEX CARBON STEEL NUTS AND HARDENED CARBON STEEL WASHERS.
   - F. SHEAR CONNECTORS: ASTM A29, GRADES 1010 THROUGH 1020, HEADED-STUD TYPE, COLD-FINISHED CARBON STEEL; AWS D1.1/D1.1M, TYPE B.
   - G. UNHEADED ANCHOR RODS: ASTM F1554, GRADE 36
   - H. HEADED ANCHOR RODS: ASTM F1554, GRADE 55- S1 (WELDABLE)
   - I. THREADED RODS: ASTM A36
4. PROVIDE SPRAYED FIRE-RESISTIVE MATERIAL FOR STEEL MEMBERS DENOTED ON THE PLANS. APPLY OVER THE ENTIRE LENGTH OF THE MEMBER INCLUDING CONNECTIONS. REFER TO SPECIFICATION SECTION 07 81 00 FOR REQUIREMENTS.
5. DO NOT SPLICE STRUCTURAL MEMBERS EXCEPT WHERE SPECIFICALLY DETAILED ON THE DRAWINGS.
6. FILLET WELDS MUST HAVE A MINIMUM SIZE OF 1/4", UON. INCREASE THE EFFECTIVE THROAT OF THE WELD TO MAINTAIN THE REQUIRED WELD SIZE WHEN PARTS JOINED BY FILLET WELDS ARE SEPARATED. THE ROOT OPENING MUST NOT EXCEED 3/16".
7. BOLTED CONNECTIONS MUST HAVE A MINIMUM OF TWO (2) 3/4" DIAMETER HIGH STRENGTH BOLTS.
8. HOT DIP GALVANIZE ELEMENTS EXPOSED TO WEATHER.
9. PROVIDE ZINC COATED (GALVANIZED) BOLTS, NUTS AND WASHERS TO COMPLY GALVANIZED STEEL MEMBERS.
10. BEAMS FRAMING INTO MASONRY OR CONCRETE MUST BE DETAILED TO SUIT THE HORIZONTAL FIELD TOLERANCES.

MASONRY
1. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF NON-LOAD BEARING MASONRY WALLS AND PARTITIONS.
2. CONCRETE MASONRY COMPONENTS AND ASSEMBLIES MUST BE AS FOLLOWS:
   - A. CONCRETE MASONRY UNITS: ASTM C90, LIGHTWEIGHT
   - B. MASONRY NET COMP STRENGTH: 2,000 PSI
   - C. GROUT: ASTM C476, f'c = 3,000 PSI
   - D. MASONRY DESIGN STRENGTH: f'm = 2,000 PSI
   - E. MORTAR: ASTM C270, TYPE S
3. REINFORCING BARS: ASTM A615, GRADE 60 UON
4. COORDINATE FIRE-RATED CONCRETE MASONRY ASSEMBLIES WITH ARCHITECTURE AND LIFE SAFETY. PROVIDE UL LISTED UNITS THAT MEET FIRE-RATING AND STRUCTURAL REQUIREMENTS.
5. PLACE MASONRY UNITS IN A RUNNING BOND PATTERN, UON.
6. PROVIDE BOND BEAMS AS FOLLOWS, UON:
   - A. CONTINUOUS WITH 2-#5 AT EACH STRUCTURALLY CONNECTED ROOF AND FLOOR ELEVATION.
   - B. CONTINUOUS WITH 2-#5 AT WALL OPENINGS EXTENDING NOT LESS THAN 24 INCHES PAST EACH END OF OPENINGS.
7. REINFORCE MASONRY WALLS AS FOLLOWS, UON:
   - A. HORIZONTAL JOINT REINFORCEMENT: GALVANIZED W2.8x2.8 LADDER TYPE HORIZONTAL BED JOINT REINFORCEMENT AT 16 INCHES OC.
   - B. VERTICAL REINFORCEMENT:
     - a. #5 @ 32" OC, PARTIALLY GROUTED UON
     - b. #5 @ 16" OC, FULLY GROUTED BETWEEN OPENINGS (LEFT/RIGHT) ON GRIDS A & B,
     - c. #5 @ 32" OC, FULLY GROUTED BETWEEN ALL OTHER OPENINGS (LEFT/RIGHT)
     - d. #5 @ 32" OC, FULLY GROUTED AT ELEVATOR SHAFT
     - e. #5 @ 40" OC, PARTIALLY GROUTED AT NON-LOAD BEARING PARTITIONS.
     - f. PROVIDE AT LEAST ONE #5 VERTICAL AT THE FOLLOWING LOCATIONS:
       - WITHIN 16 INCHES OF EACH SIDE OF OPENINGS
       - WITHIN 8 INCHES OF EACH SIDE OF MOVEMENT JOINTS
       - WITHIN 8 INCHES OF ENDS OF WALLS
   - C. PROVIDE BOND BEAMS WITH (1) #5 BAR AT MAX VERTICAL SPACING OF 40 INCHES FOR FULL LENGTH AND HEIGHT OF WALLS
8. LAP REINFORCEMENT AS FOLLOWS FOR 8" MASONRY, UON:
   - A. #3 BARS: 18"
   - B. #4 BARS: 24"
   - C. #5 BARS: 30"
9. DOWELS MUST MATCH REINFORCING SIZE AND SPACING, UON.
10. POINTS OF BEARING MUST BE ON TWO (2) COURSES OF FULLY GROUTED MASONRY, MINIMUM.
11. MASONRY BELOW GRADE MUST BE FULLY GROUTED. DO NOT PLACE CONTROL JOINTS IN PORTIONS OF WALLS BELOW GRADE.
12. LINTELS MUST BEAR A MINIMUM OF 8 INCHES AT EACH END. USE ANY ONE OF THE FOLLOWING LINTELS WHEN THE HEAD OF THE MASONRY OPENING IS BELOW FLOOR OR ROOF BEARING ELEMENTS BY A MINIMUM OF 75% OF THE LINTEL SPAN, UON:
   - A. CMU LINTELS PER 8" THICKNESS
     - a. 0 TO 4 FEET: 8 INCH DEEP WITH 2-#5 BOT
     - b. >4 TO 6 FEET: 8 INCH DEEP WITH 2-#5 BOT
     - c. >6 TO 8 FEET: 16 INCH DEEP WITH 2-#5 BOT
     - d. >8 TO 12 FEET: 16 INCH DEEP WITH 2-#5 BOT
   - B. STEEL LINTELS PER 8" THICKNESS:
     - a. 0 TO 4 FEET: (2) L4x3 1/2x1/4 LLV
     - b. >4 TO 6 FEET: (2) L5x3 1/2x1/4 LLV
     - c. >6 TO 8 FEET: (2) L5x3 1/2x1/4 LLV
     - d. >8 TO 12 FEET: W8x13
     - e. >12 TO 22 FEET: W16x40
   - C. STEEL LINTELS PER 4" ARCH MASONRY VENEER
     - a. 0 TO 4 FEET: L4x3 1/2x1/4 LLV
     - b. >4 TO 6 FEET: L5x3 1/2x1/4 LLV
     - c. >6 TO 8 FEET: L5x3 1/2x1/4 LLV

STEEL DECKING
1. STEEL DECKING DESIGN CONFORMS WITH SDI ANSI/RD1.0–10 STANDARD FOR COMPOSITE AND NON-COMPOSITE STEEL FLOOR AND ROOF DECK, AS MODIFIED BY THE UFC.
2. METAL DECK MUST CONFORM TO THE REQUIREMENTS OF ASTM A653, GALVANIZED G90, UON.
3. SPECIFIED DECK DEPTH AND GAGES ARE MINIMUM, AND HAVE BEEN SELECTED BASED ON UNSHORED TRIPLE SPAN CONDITIONS.
4. PLACE DECK IN TRIPLE SPAN CONDITION WHEREVER POSSIBLE.
5. PROVIDE CONTINUOUS SHEET METAL CLOSURES AT SLAB OPENINGS AND EDGES AND CONTINUOUS DECK CLOSURES AT DECK ENDS.
6. PROVIDE SUPPLEMENTAL FRAMING AT OPENINGS FOR SUPPORT OF METAL DECK. OPENINGS MUST BE COORDINATED WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS.
7. WHEN PLACING CONCRETE ON STEEL DECK ENSURE CONCRETE PLACEMENT BEGINS BY DEPOSITING FRESH CONCRETE DIRECTLY OVER SUPPORTING MEMBERS FIRST, FOLLOWED BY PLACEMENT TOWARD THE MIDDLE OF THE DECK SPANS. AVOID ACCUMULATING THICK PILES OF CONCRETE AND LIMIT CONSTRUCTION LIVE LOAD TO 20 PSF.
8. DO NOT SUSPEND CONCENTRATED LOADS GREATER THAN 50 POUNDS EACH OVER AN AREA OF FOUR SQUARE FEET FROM COMPOSITE SLABS ON METAL DECK. WHERE GREATER LOADS ARE SUSPENDED, PROVIDE SUPPLEMENTAL FRAMING IN COORDINATION WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION.
9. DO NOT SUSPEND CONCENTRATED LOADS FROM ROOF DECK INCLUDING LIGHTING AND ARCHITECTURAL CEILING SYSTEMS.

COLD FORMED METAL FRAMING
1. COLD-FORMED METAL FRAMING DESIGN MUST CONFORM TO AISI S100-16 NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS.
2. METAL STUDS SUPPORTING INTERIOR PARTITIONS MUST BE DESIGNED FOR A MINIMUM OF 16 PSF (LRFD) OR 10 PSF (ASD) LATERAL PRESSURE.
3. METAL STUDS SUPPORTING EXTERIOR ENCLOSURES MUST BE 6 INCHES DEEP, MINIMUM 18 GUAGE, SPACED 16 INCHES OC MAX.

SERVICEABILITY
1. SERVICEABILITY DESIGN FOR DEFLECTION CONFORMS TO IBC 2018 AND ASCE 7-16 APPENDIX C AND COMMENTARY AS MODIFIED BY THE UFC
   - A. VERTICAL LIMITS BASED ON UNFACTORED LOADS: 1/360 OF SPAN OF MEMBERS SUBJECTED TO FULL NOMINAL LIVE LOAD, 1/240 OF SPAN OF MEMBERS SUBJECTED TO DEAD PLUS LIVE LOAD, THE LESSER OF 1/360 OF SPAN OR 1 INCH FOR PRECOMPOSITE DEAD LOAD, AND 1/600 OF SPAN OF MEMBERS SUPPORTING MASONRY.
   - B. LATERAL LIMITS: 1/480 OF BUILDING HEIGHT BASED ON THE 10 YEAR MEAN RECURRENCE INTERVAL WIND SPEED.
2. LATERAL SEISMIC DRIFT LIMITS PER ASCE 7-16, TABLE 12.12-1:
   - A. SECOND FLOOR: 1.34 INCHES
   - B. ROOF: 1.47 INCHES
3. SERVICEABILITY DESIGN FOR FLOOR FRAMING VIBRATION CONFORMS TO AISC DESIGN GUIDE 11.
   - A. TOLERANCE LIMIT PEAK ACCELERATION: 0.5% g

DELEGATED DESIGN
THE FOLLOWING DESIGN ITEMS ARE DELEGATED:
1. COLD-FORMED METAL FRAMING: THE CONTRACTOR'S LICENSED PROFESSIONAL ENGINEER MUST DESIGN COLD-FORMED METAL FRAMING NOT SPECIFICALLY DETAILED ON THE DRAWINGS. FRAMING SUPPORTING EXTERIOR ENCLOSURE SYSTEMS TO BE DESIGNED FOR THE WIND AND SEISMIC LOADS INDICATED HEREIN. COORDINATE EXTERIOR ENCLOSURE AND INTERIOR PARTITION WALLS WITH ARCHITECTURE.
2. UNISTRUT SYSTEMS: THE CONTRACTOR MUST SELECT AND DESIGN UNISTRUT FRAMING FOR SUPPORT OF MEP AND TELECOM SYSTEMS FROM THE STRUCTURAL FRAMING. REFER TO MAJOR EQUIPMENT LOADS ON THE LOAD PLANS AND COORDINATE WITH FINAL EQUIPMENT PURCHASED.
3. THE CONTRACTOR'S LICENSED PROFESSIONAL ENGINEER MUST DESIGN STAIRS, RAILINGS AND OTHER MISCELLANEOUS METAL FABRICATIONS NOT EXPLICITLY DETAILED ON THE DRAWINGS.

POST-INSTALLED ANCHORS
1. MATERIALS:
   - A. CARBON STEEL WEDGE ANCHOR STUDS: ASTM A 510 OR ASTM A 108.
   - B. NUT & WASHER: COMPATIBLE WITH STUD MATERIAL & FINISH.
   - C. CARBON STEEL THREADED ROD: ISO 898 CLASS 5.8.
   - D. CONCRETE REINFORCING DOWELS: ASTM A 615, GR 60
   - E. MESH SCREEN TUBE: CYLINDRICAL SHAPE WITH ONE END CLOSED MANUFACTURED FROM ZINC PLATED LOW CARBON STEEL OR STAINLESS STEEL. MESH SIZE, DIAMETER, AND LENGTH AS SPECIFIED BY ADHESIVE MANUFACTURER.
2. MECHANICAL ANCHORS AND THREADED INSERTS TO BE CARBON STEEL WITH ZINC PLATING IN ACCORDANCE WITH ASTM B 633,TYPE III Fe/Zn 5 (SC1), UNLESS NOTED OTHERWISE.
3. ANCHORING TO CONCRETE: TYPE AND SIZE AS INDICATED.
   - A. MECHANICAL ANCHORS:
     - a. MECHANICAL ANCHORS USED IN CONCRETE MUST BE TESTED AND PREQUALIFIED FOR PERFORMANCE IN CRACKED AND UNCRACKED CONCRETE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193, INCLUDING SEISMIC SHEAR AND TENSION.
     - b. EXPANSION ANCHORS: WEDGE TYPE, TORQUE CONTROLLED ANCHORS.
   - B. ADHESIVE ANCHORS:
     - a. ANCHORS CONSISTING OF AN INSERT AND CARTRIDGE TYPE, TWO COMPONENT, EPOXY OR HYBRID ADHESIVE DISPENSED AND MIXED THROUGH A STATIC MIXING NOZZLE PROVIDED BY THE ADHESIVE MANUFACTURER.
     - b. ADHESIVE TO BE TESTED AND PREQUALIFIED FOR PERFORMANCE IN CRACKED AND UNCRACKED CONCRETE IN ACCORDANCE WITH ICC-ES AC308, INCLUDING SEISMIC SHEAR & TENSION, HORIZONTAL AND OVERHEAD INSTALLATIONS, AND LONG TERM CREEP.
     - c. ADHESIVE ANCHORS MUST BE TENSION PROOF LOADED TO THE GREATER OF 50% OF EXPECTED ADHESIVE ULTIMATE STRENGTH OR 80% OF STEEL YIELD STRENGTH OF THE ANCHOR RODS. PROOF LOADING MUST BE PERFORMED AFTER A MINIMUM CURING PERIOD SPECIFIED BY THE MANUFACTURER.
4. ANCHORING TO GROUT FILLED CONCRETE MASONRY: TYPE AND SIZE AS INDICATED
   - A. EXPANSION ANCHORS MUST BE WEDGE TYPE, TORQUE CONTROLLED ANCHORS AND MUST HAVE BEEN TESTED AND PREQUALIFIED IN ACCORDANCE WITH ICC-ES AC01, INCLUDING SEISMIC SHEAR AND TENSION.
   - B. SCREW ANCHORS USED IN GROUT FILLED MASONRY MUST HAVE BEEN TESTED AND PREQUALIFIED IN ACCORDANCE WITH ICC-ES AC106, INCLUDING SEISMIC SHEAR AND TENSION.
5. ANCHORING TO HOLLOW CONCRETE MASONRY: TYPE AND SIZE AS INDICATED
   - A. ADHESIVE ANCHORS
     - a. ANCHORS CONSISTING OF AN INSERT AND CARTRIDGE TYPE, TWO COMPONENT, EPOXY OR HYBRID ADHESIVE DISPENSED AND MIXED THROUGH A STATIC MIXING NOZZLE PROVIDED BY THE ADHESIVE MANUFACTURER.
     - b. PROVIDE A MESH SCREEN TUBE WHEN ANCHORING TO HOLLOW CONCRETE MASONRY.
     - c. ADHESIVE MUST HAVE BEEN TESTED AND PREQUALIFIED IN ACCORDANCE WITH ICC-ES AC58, INCLUDING FREEZE-THAW CONDITIONS, CRITICAL AND MINIMUM EDGE DISTANCE AND SPACING, AND LONG-TERM CREEP.
6. IDENTIFY LOCATION OF REINFORCING STEEL AND OTHER EMBEDDED ITEMS PRIOR TO DRILLING HOLES FOR ANCHORS. EXERCISE CARE IN DRILLING TO AVOID DAMAGING EXISTING REINFORCING OR EMBEDDED ITEMS. STOP DRILLING AND NOTIFY THE COR IF REINFORCING STEEL OR OTHER EMBEDDED ITEMS ARE ENCOUNTERED DURING DRILLING.
7. INSTALL ANCHORS IN DRY HOLES IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS. EMBED ANCHORS INTO THE SUBSTRATE AS INDICATED IN THE POST-INSTALLED ANCHOR SCHEDULE UON.

POST-INSTALLED ANCHOR SCHEDULE		
ANCHORING TO NORMAL AND LIGHT WEIGHT CONCRETE		
ANCHOR TYPE BASIS OF DESIGN	ANCHOR DIAMETER	MIN EFFECTIVE EMBEDMENT, UON
EXPANSION ANCHOR	1/2"	3 1/4"
	5/8"	4"
	3/4"	4 3/4"
ADHESIVE ANCHOR	1/2" - 1"	AS INDICATED ON DWGS
ADHESIVE ANCHOR	#3 - #8	AS INDICATED ON DWGS

MATTHEW T. BRETTHAUER
Lic. No. 60478
PROFESSIONAL ENGINEER
COMMONWEALTH OF VIRGINIA
12/14/22

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PAQUETTE
DRAWN BY: J. PAQUETTE
CHECKED BY: A. POZOLO
SUBMITTED BY:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
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SIZE: ANSI 'D'
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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - GENERAL NOTES

SHEET ID
S-001

RTA SUBMISSION

ABBREVIATIONS
ABBREVIATIONS SHOWN MAY NOT NECESSARILY BE USED IN THE DRAWINGS.

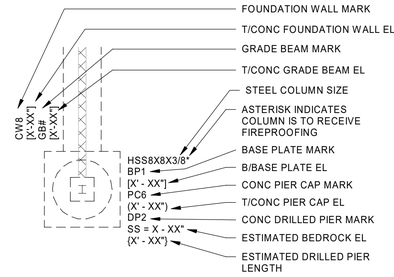
&	AND
@	AT
AB	ANCHOR BOLT
ABV	ABOVE
ACI	AMERICAN CONCRETE INSTITUTE
ADDL	ADDITIONAL
ADH	ADHESIVE
ADJ	ADJACENT
AE	AIR ENTRAINED
AFF	ABOVE FINISH FLOOR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALNMT	ALIGNMENT
ALT	ALTERNATE
ALUM	ALUMINUM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX	APPROXIMATE
AR	ANCHOR ROD
ARCH	ARCHITECT or ARCHITECTURAL
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASD	ALLOWABLE STRESS DESIGN
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS
AWS	AMERICAN WELDING SOCIETY
B/	BOTTOM OF
B/B	BACK TO BACK
BF	BOTH FACES
BLDG	BUILDING
BM	BEAM
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BP	BASE PLATE
BRDG	BRIDGING
BRG	BEARING
BS	BOTH SIDES
BTWN	BETWEEN
C TO C	CENTER TO CENTER
C/C	CENTER TO CENTER
CANT	CANTILEVER
CF	CUBIC FEET
CFMS	COLD-FORMED METAL STUDS
CFRP	CARBON-FIBER-REINFORCED POLYMER
CHFR	CHAMFER
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTER LINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
COORD	COORDINATE
COR	CONTRACTING OFFICER'S REPRESENTATIVE
CY	CUBIC YARD

D	DEPTH
db	REINFORCING BAR DIAMETER
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DEG	DEGREE
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DL	DEAD LOAD
DN	DOWN
DTL	DETAIL
DWG(S)	DRAWING(S)
DWLS	DOWELS
(E)	EXISTING
EA	EACH
EE	EACH END
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELECT	ELECTRIC or ELECTRICAL
ELEV	ELEVATION
EMBED	EMBEDMENT
EOD	EDGE OF DECK
EOS	EDGE OF SLAB
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EACH SIDE
ETC	ETCETERA
EW	EACH WAY
EXIST	EXISTING
EXP JT	EXPANSION JOINT
EXT	EXTERIOR
FD	FLOOR DRAIN
FDN	FOUNDATION
FIN	FINISH or FINISHED
FLG	FLANGE
FLR	FLOOR
FOB	FACE OF BUILDING
FOW	FACE OF WALL
FP	FIRE PROTECTION
FS	FAR SIDE
FT	FOOT or FEET
FTG	FOOTING
GA	GAGE or GAUGE
GALV	GALVANIZED
GACB	GRANULAR AGGREGATE CAPILLARY BREAK
GC	GENERAL CONTRACTOR
GR	GRADE
H	HIGH
HI	HIGH BEAM
HGR	HANGER
HK	HOOK
HORZ	HORIZONTAL
HP	HIGH POINT
HPC	HIGH PERFORMANCE COATING
HS	HIGH STRENGTH
HT	HEIGHT
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
ID	INSIDE DIAMETER
IF	INSIDE FACE
IN	INCH
INCL	INCLUDED
INFO	INFORMATION
INT	INTERIOR
INV	INVERT
JF	JOINT FILLER
JST	JOIST
JT	JOINT
K	KIPS (1000 POUNDS)
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
L	LENGTH
LB(S)	POUND(S)
Ld	REINF BAR DEVELOPMENT LENGTH
LE	LEFT END
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LO	LOW BEAM
LP	LOW POINT
LTWT	LIGHT WEIGHT

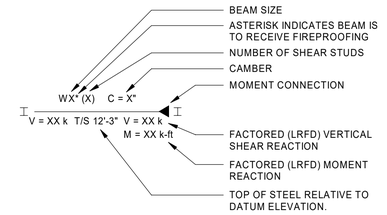
MANUF	MANUFACTURE(R)
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MEP	MECH, ELECT AND PLUMB
MID	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
N	NORTH
(N)	NEW
NLWT	NORMAL WEIGHT
NOM	NOMINAL
No. or #	NUMBER
NS	NEAR SIDE
NS/FS	NEAR SIDE & FAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OHC	OVERHEAD COILING
OPNG	OPENING
OPP	OPPOSITE or OPPOSITE HAND
PEN	PENETRATION
PJF	PREFABRICATED JOINT FILLER
PJP	PARTIAL JOINT PENETRATION
PLUMB	PLUMBING
PROJ	PROJECTION
PS	PRESTRESSED
PSF	POUND PER SQUARE FOOT
PSI	POUND PER SQUARE INCH
R	RISER or RADIUS
RAD	RADIUS
RE	RIGHT END
REBAR	REINFORCING STEEL BARS
REF	REFERENCE
REINF	REINFORCEMENT or REINFORCING
REV	REVISION
RFI	REQUEST FOR INFORMATION
SCHED	SCHEDULE
SDI	STEEL DECK INSTITUTE
SDL	SUPERIMPOSED DEAD LOAD
SEC	SECTION
SHT	SHEET
SIM	SIMILAR
SLV	SLEEVE
SOG	SLAB-ON-GRADE
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STAG	STAGGERED
STD	STANDARD
STIF	STIFFENER
STIR	STIRRUPS
STL	STEEL
STRUC	STRUCTURAL
SUPP	SUPPORT
SW	SHEAR WALL
SYMM	SYMMETRICAL or SYMMETRY
T	TREAD
T/	TOP OF
TB	THROUGH BOLT
T&B	TOP AND BOTTOM
TEMP	TEMPORARY
THK	THICK or THICKNESS
THRU	THROUGH
TMS	THE MASONRY SOCIETY
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOL	TOLERANCE
TOS	TOP OF SLAB
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED

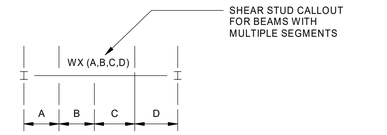
V	VERTICAL
VERT	VERTICAL
VR	VAPOR RETARDER
VIF	VERIFY IN FIELD
W	WIDTH
W/	WITH
W/C	WATER-CEMENTITIOUS MATL RATIO
W/O	WITHOUT
WD	WOOD
WP	WATERPROOFING
WP	WORK POINT
WS	WATERSTOP
WT	WEIGHT
WWR	WELDED WIRE REINF
B#	CONCRETE BEAM MARK
BP#	STEEL BASE PLATE MARK
D#+#	STEEL DECKING MARK
MW#	MASONRY WALL MARK

LEGEND

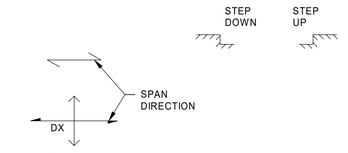


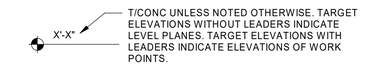
FOUNDATIONS

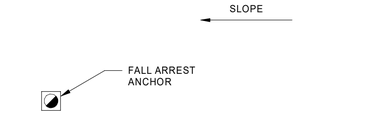




STEEL BEAMS, COLUMNS, BRACES







ANNOTATIONS

COMMONWEALTH OF VIRGINIA
MATTHEW T. BRETTHAUER
Lic. No. 60478
12/14/22
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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Omaha, NE

JACOBS
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ARLINGTON, VA 22201

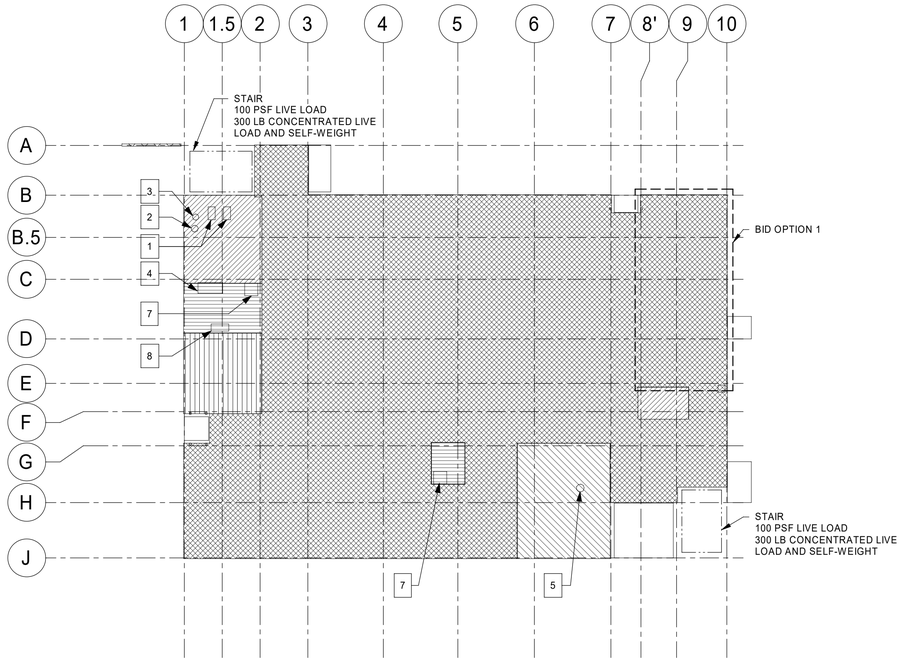
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - ABBREVIATIONS, LEGENDS, AND SYMBOLS

SHEET ID

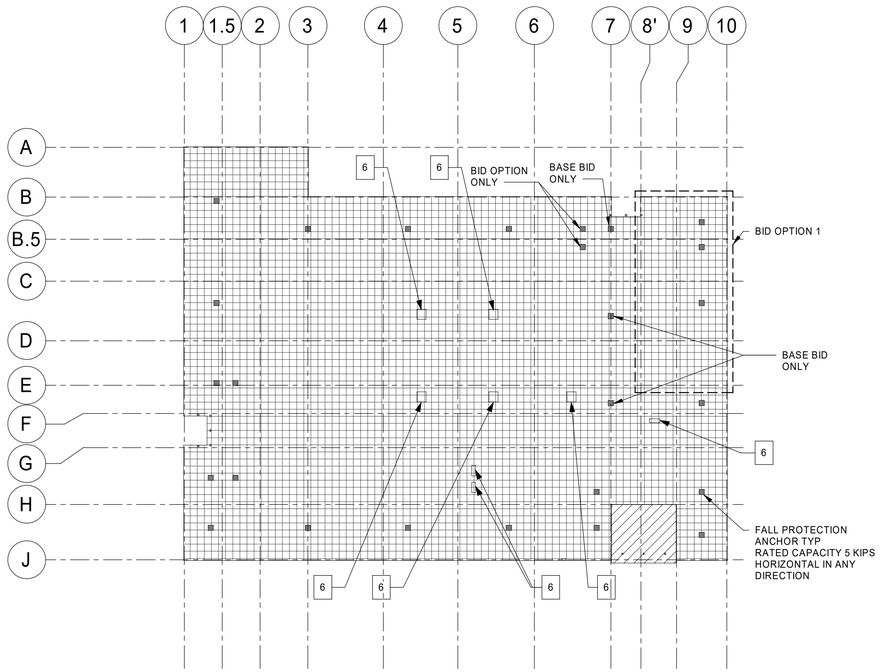
S-002

RTA SUBMISSION



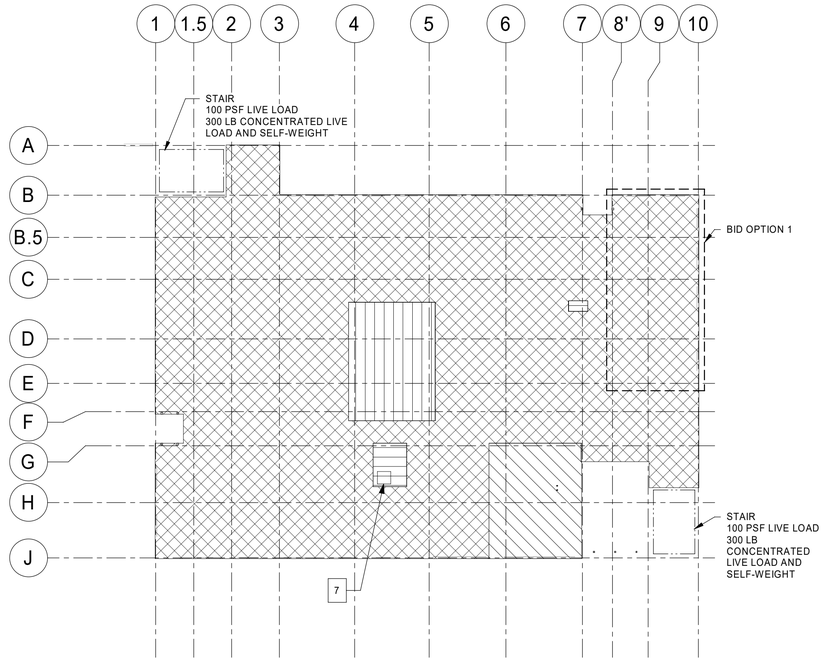
C1 SUPERIMPOSED DEAD AND LIVE LOAD PLAN - FOUNDATION AND FIRST FLOOR

3/64" = 1'-0"



A1 SUPERIMPOSED DEAD AND LIVE LOAD PLAN - ROOF

3/64" = 1'-0"



C4 SUPERIMPOSED DEAD AND LIVE LOAD PLAN - SECOND FLOOR

3/64" = 1'-0"

SUPERIMPOSED DEAD AND LIVE LOAD PLAN LEGEND				
HATCH	AREA	SUPERIMPOSED DEAD LOAD	LIVE LOAD (UNIFORM)	LIVE LOAD (CONCENTRATED)
	FIRST FLOOR - MAIN LOBBY, CORRIDORS, AND OFFICE	25 PSF	100 PSF	2000 LB
	FIRST FLOOR - MECHANICAL, ELEVATOR MACHINE ROOM	25 PSF	150 PSF	-
	FIRST FLOOR - COMM	25 PSF	250 PSF	2000 LB
	FIRST FLOOR - ELECTRICAL	25 PSF	250 PSF	2000 LB
	FIRST FLOOR - WET AREA	35 PSF	100 PSF	-
	SECOND FLOOR - CORRIDORS, OFFICE	25 PSF	100 PSF	2000 LB
	SECOND FLOOR - COMM	25 PSF	250 PSF	2000 LB
	SECOND FLOOR - ELECTRICAL	25 PSF	250 PSF	2000 LB
	SECOND FLOOR - WET AREA	35 PSF	100 PSF	-
	ROOFED AREAS	50 PSF	20 PSF	300 LB
	ROOFED AREAS - ENTRANCE	40 PSF	20 PSF	300 LB

NOTES:

1. LOADS ARE UNFACTORED (SERVICE).

2. LOADS INCLUDE 15 PSF PARTITION LOAD WHERE REQUIRED BY ASCE 7-16. THE "SECOND FLOOR - CORRIDORS, OFFICE" LOAD CONSIDERS ADDITIONAL LOAD FOR RELATIVELY TALL PARTITIONS.

MAJOR EQUIP. LOADS (KIPS)		
MARK	EQUIP. DESIGNATION	LOAD
1	WATER HEATER	2.0
2	BUFFER TANK	1.5
3	GLYCOL FEEDER	0.5
4	MAIN DISTRIBUTION PANEL	1.5
5	WATER HEATER (SUSPENDED)	0.75
6	CONDENSING UNITS	0.5
7	TRANSFORMER	0.75
8	INVERTER	3.0

NOTE:

REFER TO MECH, ELEC, AND PLUMB FOR FURTHER EQUIPMENT INFO. LOADS SHOWN HERE FOR INFORMATION ONLY.

COMMONWEALTH OF VIRGINIA
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US ARMY CORPS OF ENGINEERS
Omaha District
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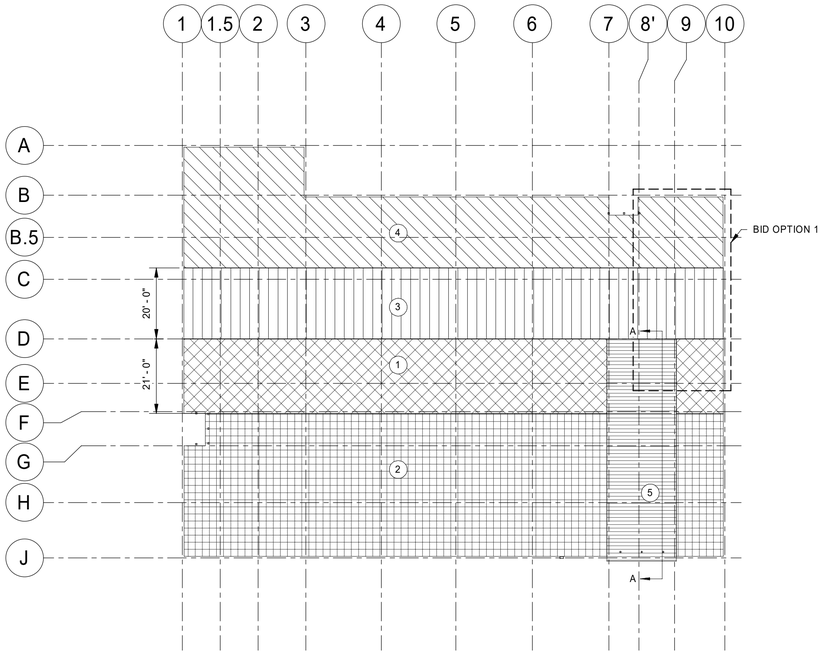
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - LOAD PLANS

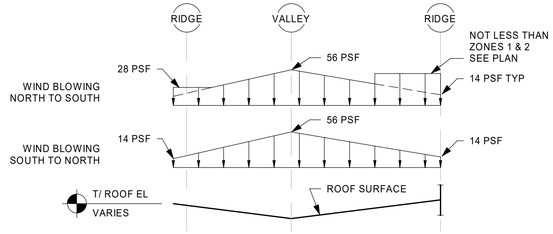
SHEET ID

S-003



C1 UNBALANCED SNOW LOAD PLAN - ROOF

3/64" = 1'-0"

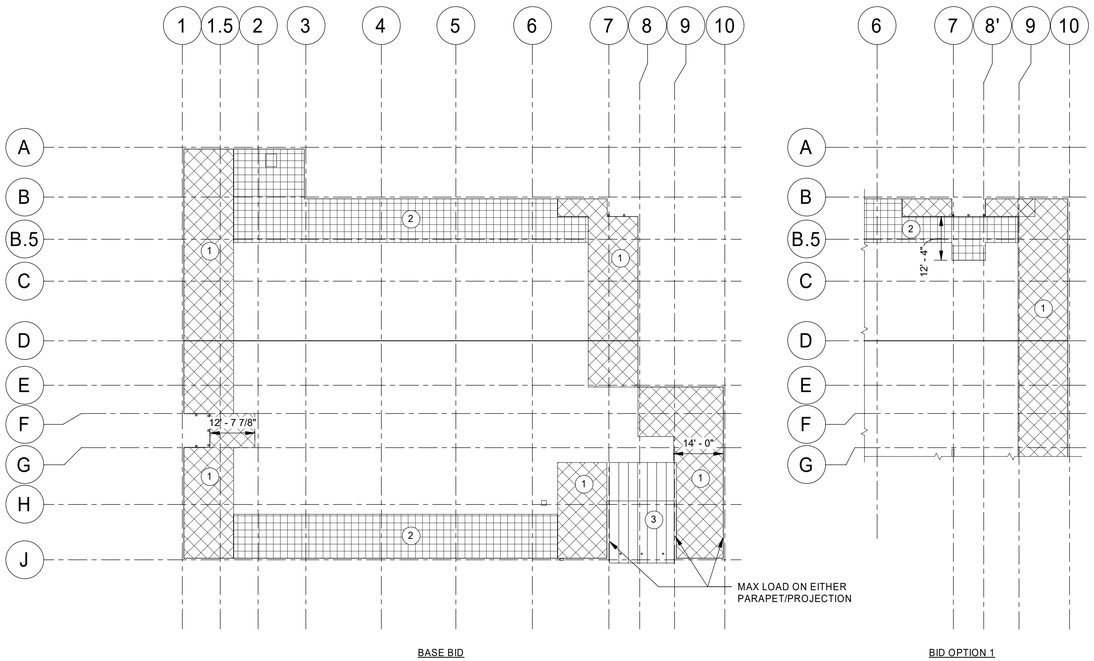


SECTION A-A - NOT TO SCALE

BUILDING UNBALANCED SNOW LOADS (PSF)		
HATCH	WIND BLOWING NORTH TO SOUTH	WIND BLOWING SOUTH TO NORTH
1	50	9
2	28	9
3	9	50
4	9	28
5	SEE SECTION A-A	SEE SECTION A-A

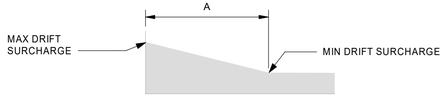
NOTES:

1. LOADS LISTED ABOVE ARE UNFACTORED LOADS. DO NOT ADD TO THE FLAT & SLOPED ROOF LOAD.
2. DRIFT AND SLIDING LOADS NEED NOT BE USED IN COMBINATION WITH UNBALANCED LOADS.



A1 SNOW DRIFT LOAD & SLIDING LOAD PLAN - ROOF

3/64" = 1'-0"



BUILDING SNOW SURCHARGE LOADS (PSF)				
LOAD TYPE	HATCH	SNOW SURCHARGE (PSF)		
		MAX	MIN	A
DRIFT	1	67	0	SEE PLAN
DRIFT	2	59	0	SEE PLAN
DRIFT/SLIDING	3	67	22	SEE PLAN

NOTES:

1. SURCHARGE LOADS LISTED IN THE ABOVE TABLE ARE UNFACTORED AND TO BE ADDED TO THE FLAT & SLOPED ROOF SNOW LOAD. REFER TO DESIGN LOADS FOR ADDITIONAL SNOW LOADING CRITERIA.
2. THE MAX SNOW DRIFT LOAD INDICATED IS THE PEAK VALUE ADJACENT TO THE VERTICAL FACE.
3. IN AREAS WITH MULTIPLE SNOW SURCHARGE LOADS, USE THE LARGER SNOW LOAD.
4. IF "A" EXCEEDS ROOF WIDTH THEN THE MINIMUM SNOW DRIFT SURCHARGE LOAD IS TAKEN AT THE FREE EDGE OF THE ROOF.
5. SLIDING LOADS ARE CONSERVATIVELY APPLIED IN COMBINATION WITH DRIFT LOADS.

US Army Corps of Engineers ®

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STRUCTURAL - LOAD PLANS

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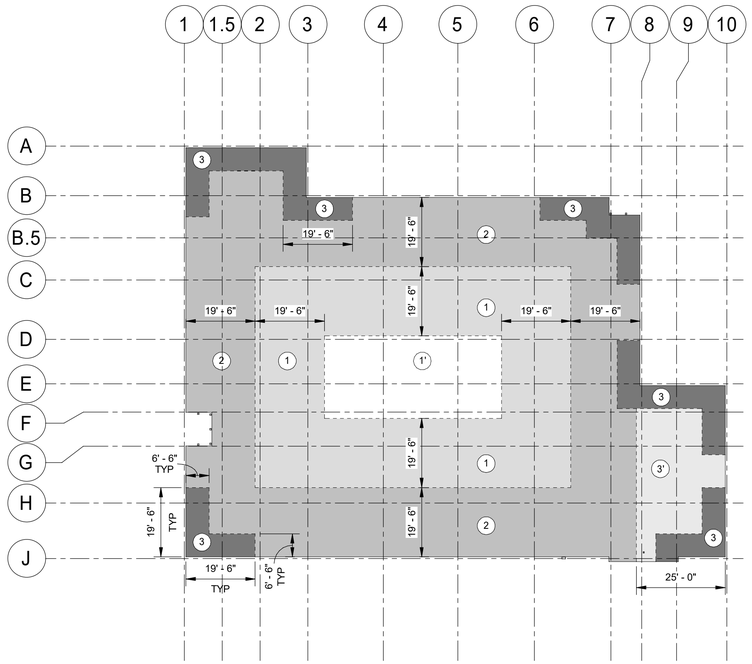
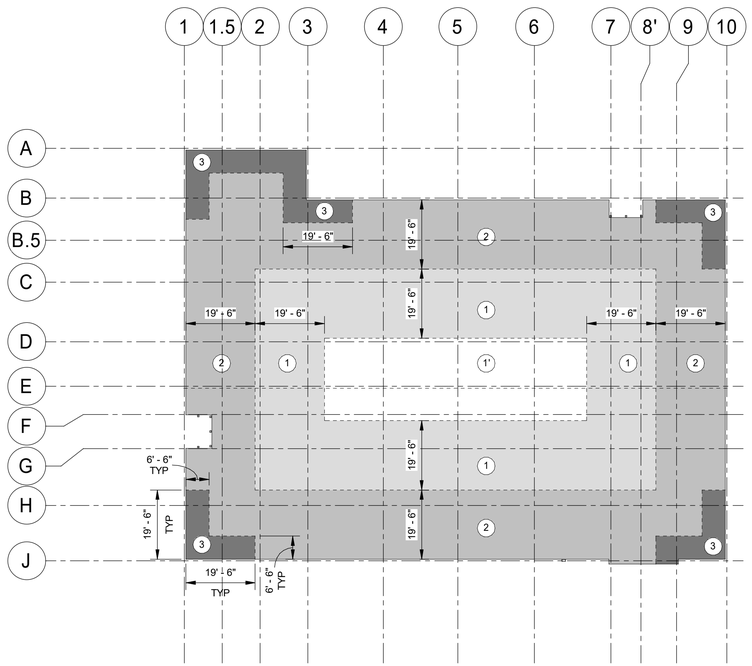
RTA SUBMISSION



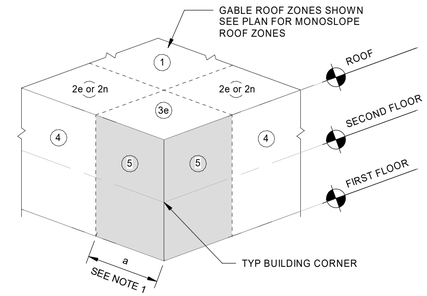
C1 WIND COMPONENTS AND CLADDING LOAD PLAN - ROOF

3/64" = 1'-0"



A1 WIND COMPONENTS AND CLADDING LOAD PLAN - ROOF (BID OPTION 1)

3/64" = 1'-0"



BUILDING COMPONENTS & CLADDING WIND PRESSURE (PSF)					
AREA	ZONE	EFFECTIVE WIND AREA (SF)			
		≤10	20	50	≥100
ROOFS - GABLE	1'	+16 / -26	+16 / -26	+16 / -26	+16 / -26
	1	+16 / -46	+16 / -43	+16 / -39	+16 / -36
	2	+16 / -60	+16 / -56	+16 / -51	+16 / -47
	3	+16 / -82	+16 / -74	+16 / -64	+16 / -56
ROOFS - OTHER	3'	+16 / -68	+16 / -64	+16 / -58	+16 / -53
WALLS	4	+26 / -29	+22 / -27	+21 / -26	+20 / -25
	5	+26 / -35	+22 / -33	+21 / -30	+20 / -27

1. WIDTH OF PRESSURE COEFFICIENT ZONE IS a = 12'-6" IN ACCORDANCE WITH ASCE 7-16 CHAPTER 26.
2. FOR CLADDING FASTENERS, THE EFFECTIVE WIND AREA MUST NOT BE GREATER THAN THE AREA THAT IS TRIBUTARY TO AN INDIVIDUAL FASTENER.
3. WIND PRESSURES ARE THE GROSS WIND PRESSURE FOR COMPONENTS AND CLADDING (SUM OF THE INTERNAL AND EXTERNAL PRESSURES) APPLIED NORMAL TO THE CLADDING SURFACE. THE MAGNITUDES DO NOT INCLUDE COMPONENT SELF WEIGHTS.
4. WIND PRESSURE MAGNITUDES ARE FACTORED/ ULTIMATE (LRFD) VALUES.
5. POSITIVE VALUES INDICATE PRESSURE TOWARDS THE SURFACE AND NEGATIVE VALUES INDICATE PRESSURE AWAY FROM THE SURFACE.

COMMONWEALTH OF VIRGINIA
MATTHEW T. BRETTHAUER
Lic. No. 60478
PROFESSIONAL ENGINEER
12/14/22

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PAQUETTE
DRAWN BY: J. PAQUETTE
CHECKED BY: A. POZOLO
SUBMITTED BY:
SIZE: ANSI 'D'
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

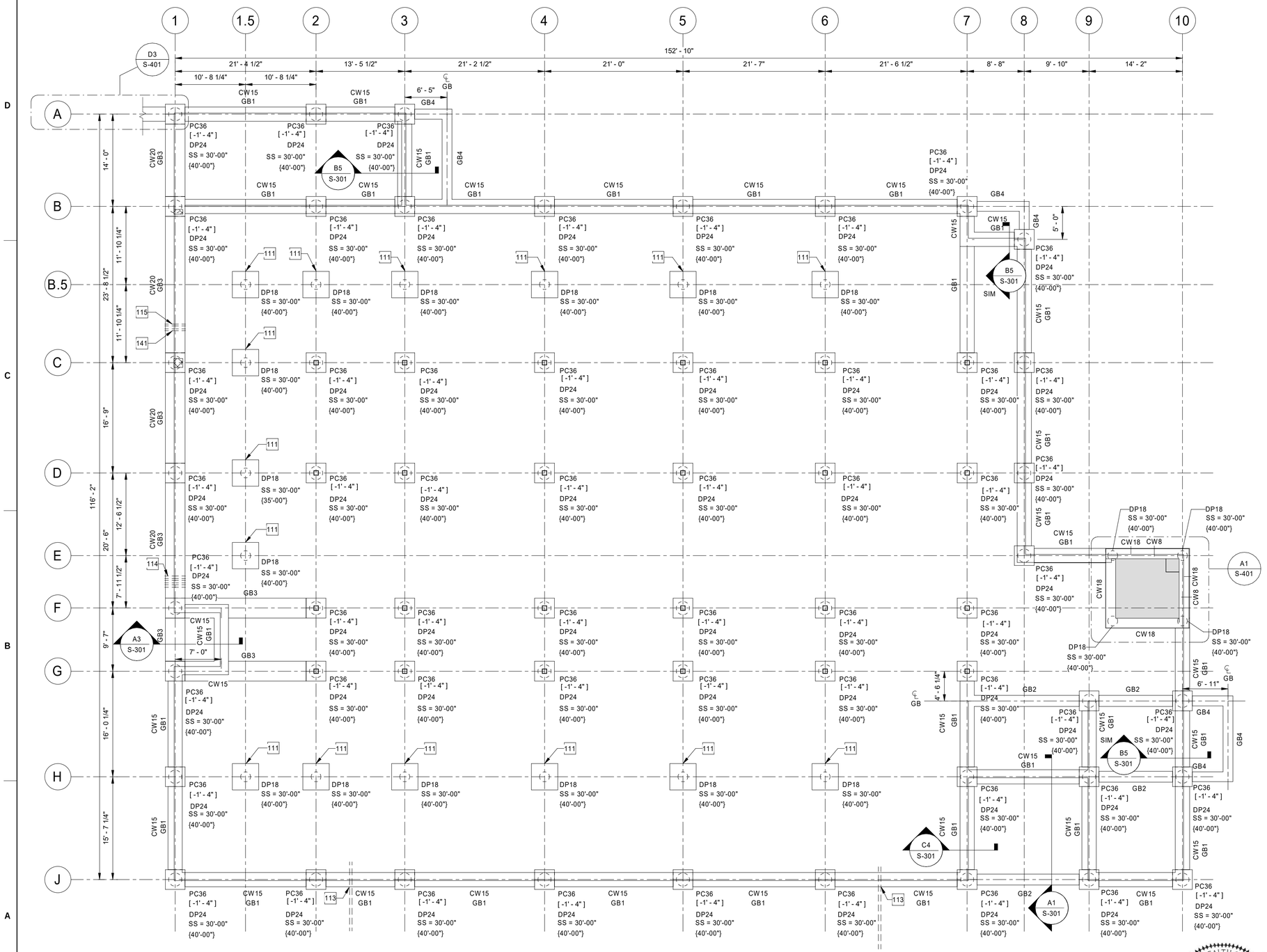
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SPB, CO

STRUCTURAL - LOAD PLANS

SHEET ID

S-005



A1 FOUNDATION PLAN

1/8" = 1'-0"

GENERAL SHEET NOTES

1. ELEVATIONS SHOWN THUS [X' - X"]. REFER TO LEGEND ON SHEET S-002.
2. COLUMNS, PIERS, AND PIER CAPS ARE CENTERED ON GRID INTERSECTIONS, UON.
3. GRADE BEAMS ARE CENTERED ON GRID LINES, UON.
4. DRILLED PIER LENGTHS NOTED (X'-XX") ARE FOR BIDDING PURPOSES ONLY. DRILLED PIERS ARE TO ACHIEVE MINIMUM BEDROCK EMBEDMENTS SHOWN IN THE DRILLED PIER SCHEDULE.
5. T/GRADE BEAM EL = -1'-4" UON.
6. T/CONCRETE WALL EL = 0'-0" UON.

KEYNOTES

#	
111	48"X48"X10" DROP PANEL. SEE DETAIL B3/S-503.
113	PIPE THROUGH GRADE BEAM. SEE PLUMB FOR LOCATION. SEE DETAIL B3/S-501.
114	CONDUIT THROUGH GRADE BEAM. SEE TELECOM FOR LOCATION. SEE DETAIL B3/S-501.
115	PIPE BELOW GRADE BEAM. SEE FP FOR LOCATION. SEE DETAIL A3/S-501.
141	PIPE BELOW GRADE BEAM. SEE PLUMB FOR LOCATION. SEE DETAIL A3/S-501.

LEGEND

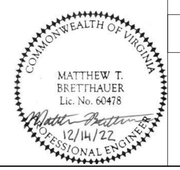
FOUNDATION WALL SCHEDULE..... D1 / S-501
PIER CAP SCHEDULE..... D3 / S-501
DRILLED PIER SCHEDULE..... D4 / S-501
GRADE BEAM SCHEDULE..... C1 / S-502
STEEL BASEPLATE SCHEDULE..... A1 / S-506
STEEL DECKING SCHEDULE..... A2 / S-510
ONE WAY SLAB SCHEDULE..... C3 / S-503

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH



US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PAQUETTE
DRAWN BY: J. PAQUETTE
CHECKED BY: A. POZOLO
SUBMITTED BY:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912QR22R0017
CONTRACT NO.:
FILE NUMBER:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

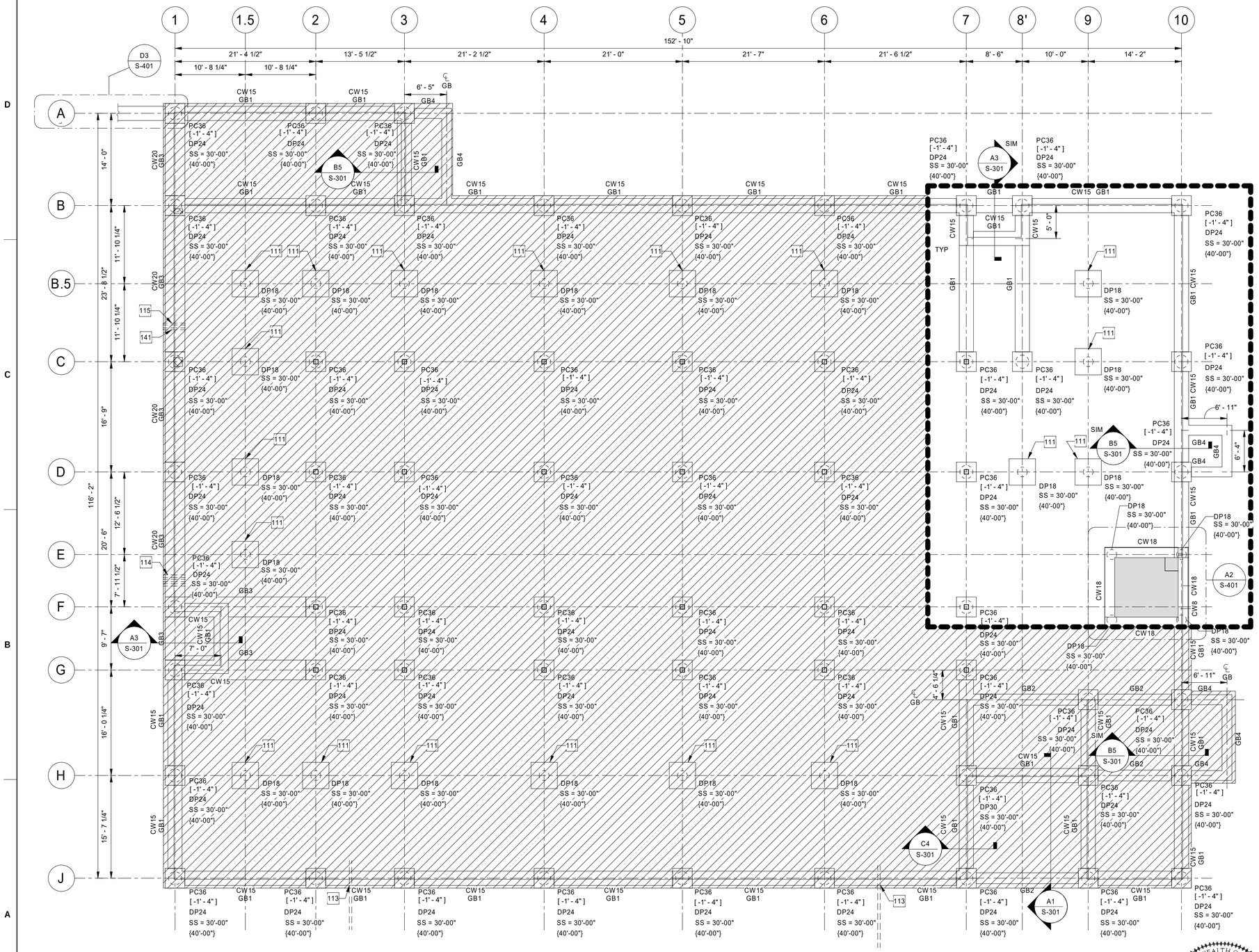
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - FOUNDATION PLAN

SHEET ID

S-101



A1 FOUNDATION PLAN (BID OPTION 1)

1/8" = 1'-0"

GENERAL SHEET NOTES

1. ELEVATIONS SHOWN THUS [X' - X"]. REFER TO LEGEND ON SHEET S-002.
2. COLUMNS, PIERS, AND PIER CAPS ARE CENTERED ON GRID INTERSECTIONS, UON.
3. GRADE BEAMS ARE CENTERED ON GRID LINES, UON.
4. DRILLED PIER LENGTHS NOTED (X'-XX") ARE FOR BIDDING PURPOSES ONLY. DRILLED PIERS ARE TO ACHIEVE MINIMUM BEDROCK EMBEDMENTS SHOWN IN THE DRILLED PIER SCHEDULE.
5. T/GRADE BEAM EL = -1'-4" UON.
6. T/CONCRETE WALL EL = 0'-0" UON.

KEYNOTES

#	
111	48"X48"X10" DROP PANEL. SEE DETAIL B3/S-503.
113	PIPE THROUGH GRADE BEAM. SEE PLUMB FOR LOCATION. SEE DETAIL B3/S-501.
114	CONDUIT THROUGH GRADE BEAM. SEE TELECOM FOR LOCATION. SEE DETAIL B3/S-501.
115	PIPE BELOW GRADE BEAM. SEE FP FOR LOCATION. SEE DETAIL A3/S-501.
141	PIPE BELOW GRADE BEAM. SEE PLUMB FOR LOCATION. SEE DETAIL A3/S-501.

LEGEND

FOUNDATION WALL SCHEDULE	D1 / S-501
PIER CAP SCHEDULE	D3 / S-501
DRILLED PIER SCHEDULE	D4 / S-501
GRADE BEAM SCHEDULE	C1 / S-502
STEEL BASEPLATE SCHEDULE	A1 / S-506
STEEL DECKING SCHEDULE	A2 / S-510
ONE WAY SLAB SCHEDULE	C3 / S-503

AREA OF BID OPTION 1

AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

COMMONWEALTH OF VIRGINIA
MATTHEW T. BRETTHAUER
Lic. No. 60478
PROFESSIONAL ENGINEER
12/14/22

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. PAQUETTE
DRAWN BY:	J. PAQUETTE
CHECKED BY:	A. POZZOLO
SUBMITTED BY:	
SIZE: ANSI 'D'	FILE NAME:
ISSUE DATE:	14 DECEMBER 2022
SOLICITATION NO.:	W912BF22R0017
CONTRACT NO.:	
FILE NUMBER:	

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

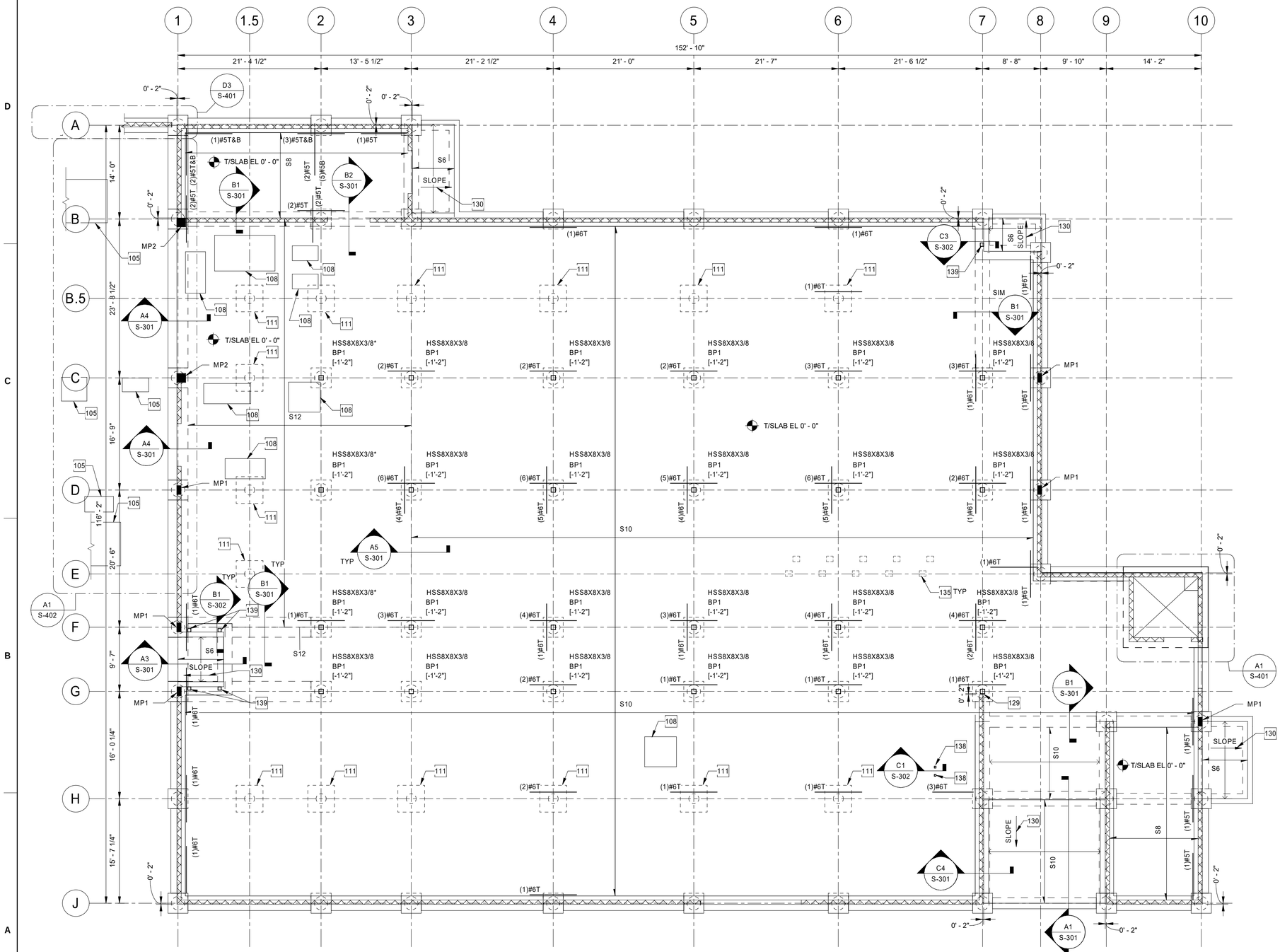
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - FOUNDATION PLAN (BID OPTION 1)

SHEET ID

S-101A



A1 FIRST FLOOR PLAN

1/8" = 1'-0"

GENERAL SHEET NOTES

1. ELEVATIONS SHOWN THUS [X' - X"], REFER TO LEGEND ON SHEET S-002.
2. COLUMNS, PIERS, AND PIER CAPS ARE CENTERED ON GRID INTERSECTIONS, UON.
3. REINFORCE 12" THICK CONCRETE SLABS AS FOLLOWS:
   - A. COLUMN STRIP
     - a. BOTTOMMOST (NORTH-SOUTH): #7@12"
     - b. BOTTOM (EAST WEST): #7@12"
     - c. TOP (EAST-WEST): #7@12"
     - d. TOPMOST (NORTH-SOUTH): #7@12"
   - B. MIDDLE STRIP
     - a. BOTTOMMOST (NORTH-SOUTH): #7@12"
     - b. BOTTOM (EAST WEST): #7@12"
     - c. TOP (EAST-WEST): #7@12"
     - d. TOPMOST (NORTH-SOUTH): #7@12"
4. REINFORCE 10" THICK CONCRETE SLABS AS FOLLOWS:
   - A. COLUMN STRIP
     - a. BOTTOMMOST (NORTH-SOUTH): #6@12"
     - b. BOTTOM (EAST WEST): #6@12"
     - c. TOP (EAST-WEST): #6@12"
     - d. TOPMOST (NORTH-SOUTH): #6@12"
   - B. MIDDLE STRIP
     - a. BOTTOMMOST (NORTH-SOUTH): #6@12"
     - b. BOTTOM (EAST WEST): #6@12"
     - c. TOP (EAST-WEST): #6@12"
     - d. TOPMOST (NORTH-SOUTH): #6@12"
5. REINFORCE 8" THICK CONCRETE SLABS AS FOLLOWS:
   - A. COLUMN STRIP
     - a. BOTTOMMOST (NORTH-SOUTH): #5@12"
     - b. BOTTOM (EAST WEST): #5@12"
     - c. TOP (EAST-WEST): #5@12"
     - d. TOPMOST (NORTH-SOUTH): #5@12"
   - B. MIDDLE STRIP
     - a. BOTTOMMOST (NORTH-SOUTH): #5@12"
     - b. BOTTOM (EAST WEST): #5@12"
     - c. TOP (EAST-WEST): #5@12"
     - d. TOPMOST (NORTH-SOUTH): #5@12"
6. PROVIDE ADDITIONAL BARS SHOWN DISTRIBUTED UNIFORMLY WITHIN THE APPLICABLE DESIGN STRIP. T = ADDITIONAL TOP REINFORCING, B = ADDITIONAL BOTTOM REINFORCING. PLACE ADDITIONAL TOP BARS IN COLUMN STRIP CENTERED ON PIERS/DROP CAPS.
7. DO NOT CUT OR INTERRUPT REINFORCEMENT FOR PLACEMENT OF EMBEDDED ITEMS IN CONCRETE SLAB. ADJUST LOCATION OR QUANTITY TO MAINTAIN THE REQUIRED AREA OF REINFORCEMENT STATED.
8. PROVIDE FIREPROOFING FOR DESIGNATED BEAMS AND COLUMNS. REFER TO GENERAL NOTES.
9. PROVIDE STANDARD HOOK AT ENDS OF ADDITIONAL REINFORCEMENT AT DISCONTINUOUS SLAB EDGES.

KEYNOTES

105 EXTERIOR CONCRETE EQUIPMENT PAD.

108 INTERIOR CONCRETE EQUIPMENT PAD. COORDINATE DIMENSIONS AND LOCATION WITH MEP AND EQUIPMENT MANUFACTURER REQUIREMENTS. SEE DETAIL D1/S-503.

111 48"X48"X10" DROP PANEL. SEE DETAIL B3/S-503.

129 PROVIDE MIN 2" GAP BETWEEN END OF CMU WALL AND HSS COLUMN. SEE B1/S-207 FOR WALL LENGTH.

130 SLOPE AND FINISH STOOPS IN COORDINATION WITH CIVIL.

135 EMBEDDED FLOOR BOX, TYP. COORDINATE WITH ELECTRICAL. REFER TO CONCRETE GENERAL NOTES FOR REQUIREMENTS.

138 HSS3X3X1/4 SUPPORT POST FOR WALL MOUNTED WATER HEATER. COORDINATE LOCATION WITH ARCH AND MEP.

139 HSS6X6X1/4 CANOPY SUPPORT. COORDINATE LOCATION WITH ARCH AND CANOPY MANUF.

LEGEND

FOUNDATION WALL SCHEDULE..... D1 / S-501
PIER CAP SCHEDULE..... D3 / S-501
DRILLED PIER SCHEDULE..... D4 / S-501
GRADE BEAM SCHEDULE..... C1 / S-502
STEEL BASEPLATE SCHEDULE..... A1 / S-506
STEEL DECKING SCHEDULE..... A2 / S-510
ONE WAY SLAB SCHEDULE..... C3 / S-503

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

COMMONWEALTH OF VIRGINIA
MATTHEW T. BRETTHAUER
Lic. No. 60478
PROFESSIONAL ENGINEER
12/14/22

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PAQUETTE
DRAWN BY: J. PAQUETTE
CHECKED BY: A. POZOLO
SUBMITTED BY:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:

SIZE: ANSI D
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

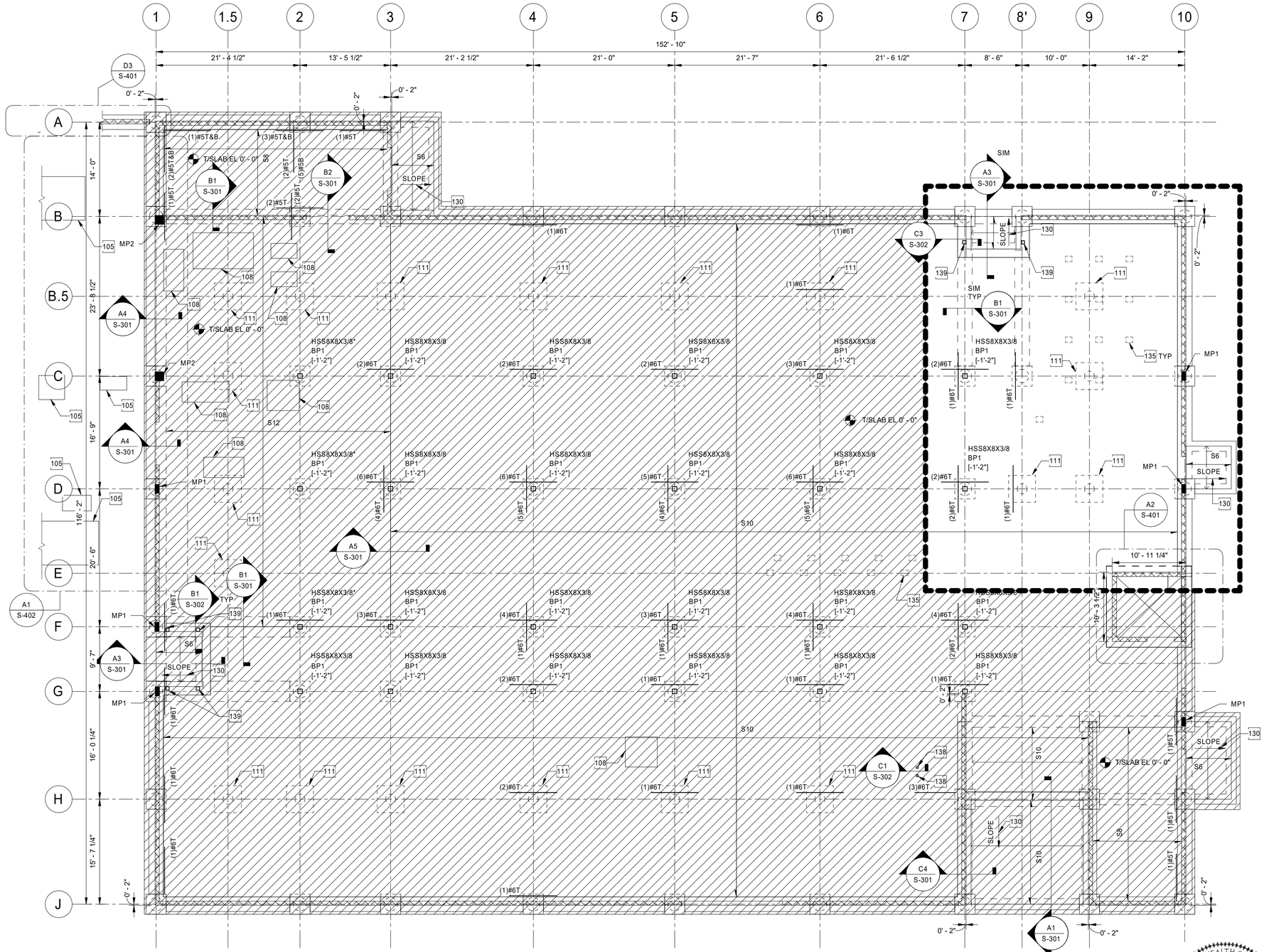
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - FIRST FLOOR PLAN

SHEET ID

S-110



GENERAL SHEET NOTES

1. ELEVATIONS SHOWN THUS [X' - X"], REFER TO LEGEND ON SHEET S-002.
2. COLUMNS, PIERS, AND PIER CAPS ARE CENTERED ON GRID INTERSECTIONS. UON.
3. REINFORCE 12" THICK CONCRETE SLABS AS FOLLOWS:
   - A. COLUMN STRIP
     - a. BOTTOMMOST (NORTH-SOUTH): #7@12"
     - b. BOTTOM (EAST WEST): #7@12"
     - c. TOP (EAST-WEST): #7@12"
     - d. TOPMOST (NORTH-SOUTH): #7@12"
   - B. MIDDLE STRIP
     - a. BOTTOMMOST (NORTH-SOUTH): #7@12"
     - b. BOTTOM (EAST WEST): #7@12"
     - c. TOP (EAST-WEST): #7@12"
     - d. TOPMOST (NORTH-SOUTH): #7@12"
4. REINFORCE 10" THICK CONCRETE SLABS AS FOLLOWS:
   - A. COLUMN STRIP
     - a. BOTTOMMOST (NORTH-SOUTH): #6@12"
     - b. BOTTOM (EAST WEST): #6@12"
     - c. TOP (EAST-WEST): #6@12"
     - d. TOPMOST (NORTH-SOUTH): #6@12"
   - B. MIDDLE STRIP
     - a. BOTTOMMOST (NORTH-SOUTH): #6@12"
     - b. BOTTOM (EAST WEST): #6@12"
     - c. TOP (EAST-WEST): #6@12"
     - d. TOPMOST (NORTH-SOUTH): #6@12"
5. REINFORCE 8" THICK CONCRETE SLABS AS FOLLOWS:
   - A. COLUMN STRIP
     - a. BOTTOMMOST (NORTH-SOUTH): #5@12"
     - b. BOTTOM (EAST WEST): #5@12"
     - c. TOP (EAST-WEST): #5@12"
     - d. TOPMOST (NORTH-SOUTH): #5@12"
   - B. MIDDLE STRIP
     - a. BOTTOMMOST (NORTH-SOUTH): #5@12"
     - b. BOTTOM (EAST WEST): #5@12"
     - c. TOP (EAST-WEST): #5@12"
     - d. TOPMOST (NORTH-SOUTH): #5@12"
6. PROVIDE ADDITIONAL BARS SHOWN DISTRIBUTED UNIFORMLY WITHIN THE APPLICABLE DESIGN STRIP. T = ADDITIONAL TOP REINFORCING, B = ADDITIONAL BOTTOM REINFORCING. PLACE ADDITIONAL TOP BARS IN COLUMN STRIP CENTERED ON PIERS/DROP CAPS.
7. DO NOT CUT OR INTERRUPT REINFORCEMENT FOR PLACEMENT OF EMBEDDED ITEMS IN CONCRETE SLAB. ADJUST LOCATION OR QUANTITY TO MAINTAIN THE REQUIRED AREA OF REINFORCEMENT STATED.
8. PROVIDE FIREPROOFING FOR DESIGNATED BEAMS AND COLUMNS. REFER TO GENERAL NOTES.
9. PROVIDE STANDARD HOOK AT ENDS OF ADDITIONAL REINFORCEMENT AT DISCONTINUOUS SLAB EDGES.

KEYNOTES

#	
105	EXTERIOR CONCRETE EQUIPMENT PAD.
108	INTERIOR CONCRETE EQUIPMENT PAD. COORDINATE DIMENSIONS AND LOCATION WITH MEP AND EQUIPMENT MANUFACTURER REQUIREMENTS. SEE DETAIL D1/S-503.
111	48"X48"X10" DROP PANEL. SEE DETAIL B3/S-503.
130	SLOPE AND FINISH STOOPS IN COORDINATION WITH CIVIL.
135	EMBEDDED FLOOR BOX, TYP. COORDINATE WITH ELECTRICAL. REFER TO CONCRETE GENERAL NOTES FOR REQUIREMENTS.
138	HSS3X3X1/4 SUPPORT POST FOR WALL MOUNTED WATER HEATER. COORDINATE LOCATION WITH ARCH AND MEP.
139	HSS6X6X1/4 CANOPY SUPPORT. COORDINATE LOCATION WITH ARCH AND CANOPY MANUF.

LEGEND

FOUNDATION WALL SCHEDULE..... D1 / S-501
PIER CAP SCHEDULE..... D3 / S-501
DRILLED PIER SCHEDULE..... D4 / S-501
GRADE BEAM SCHEDULE..... C1 / S-502
STEEL BASEPLATE SCHEDULE..... A1 / S-506
STEEL DECKING SCHEDULE..... A2 / S-510
ONE WAY SLAB SCHEDULE..... C3 / S-503

AREA OF BID OPTION 1

AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

A1 FIRST FLOOR PLAN (BID OPTION 1)

1/8" = 1'-0"

MATTHEW T. BRETTHAUER
Lic. No. 60478
COMMONWEALTH OF VIRGINIA
12/14/22
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PAQUETTE
DRAWN BY: J. PAQUETTE
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ISSUE DATE: 14 DECEMBER 2022
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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

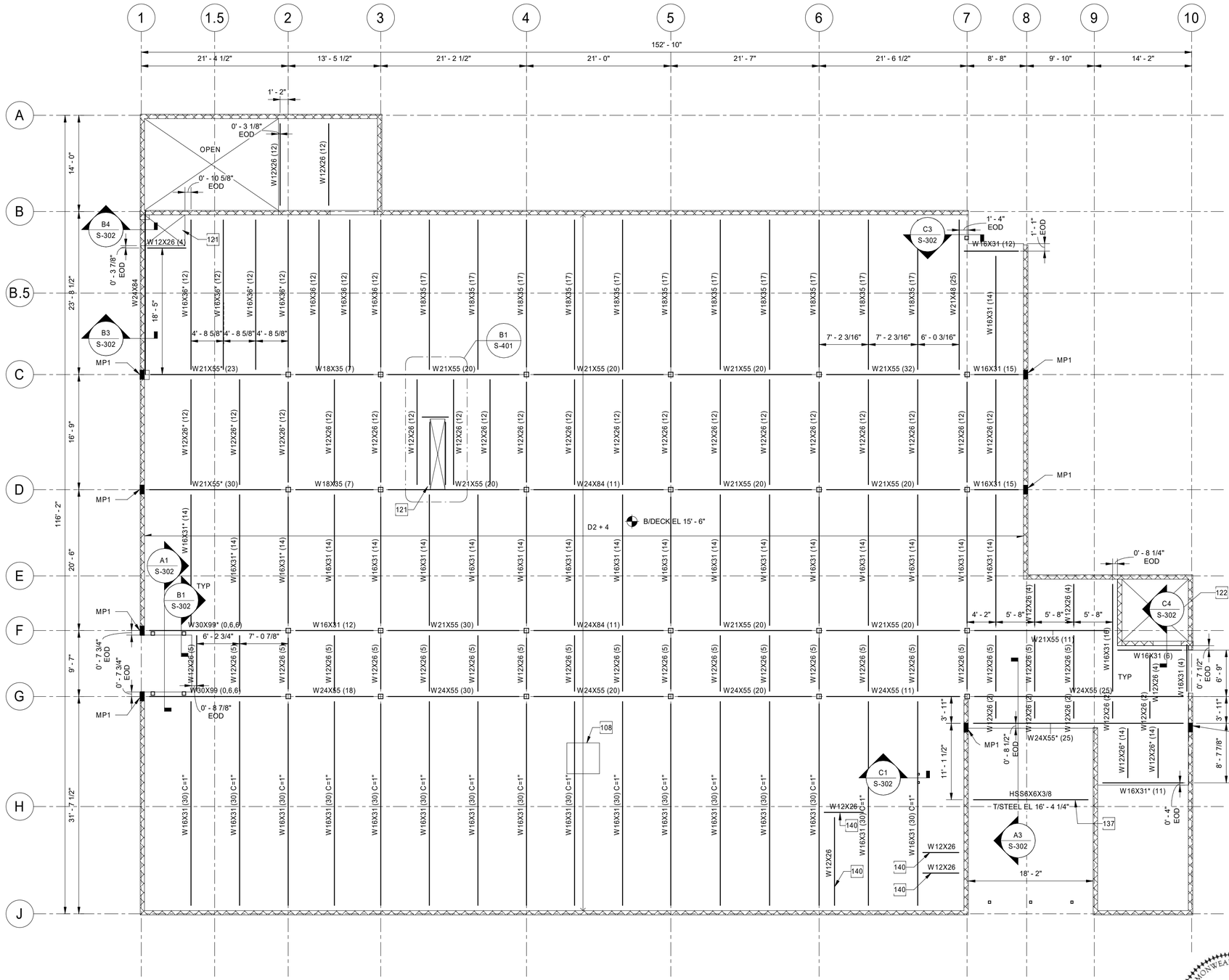
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - FIRST FLOOR PLAN (BID OPTION 1)

SHEET ID

S-110A


1
1.5
2
3
4
5
6
7
8
9
10
152' - 10"
21' - 4 1/2"
13' - 5 1/2"
21' - 2 1/2"
21' - 0"
21' - 7"
21' - 6 1/2"
8' - 8"
9' - 10"
14' - 2"
A
B
B.5
C
D
E
F
G
H
J
1' - 2"
0' - 3 1/8" EOD
OPEN
0' - 10 5/8" EOD
W12X26 (12)
W12X26 (12)
14' - 0"
B4 S-302
W12X26 (4)
121
0' - 3 7/8" EOD
W24X84
23' - 8 1/2"
18' - 5"
B3 S-302
MP1
W16X36* (12)
W16X36* (12)
W16X36* (12)
W16X36* (12)
W16X36 (12)
W16X36 (12)
W16X36 (12)
W18X35 (17)
W18X35 (17)
W18X35 (17)
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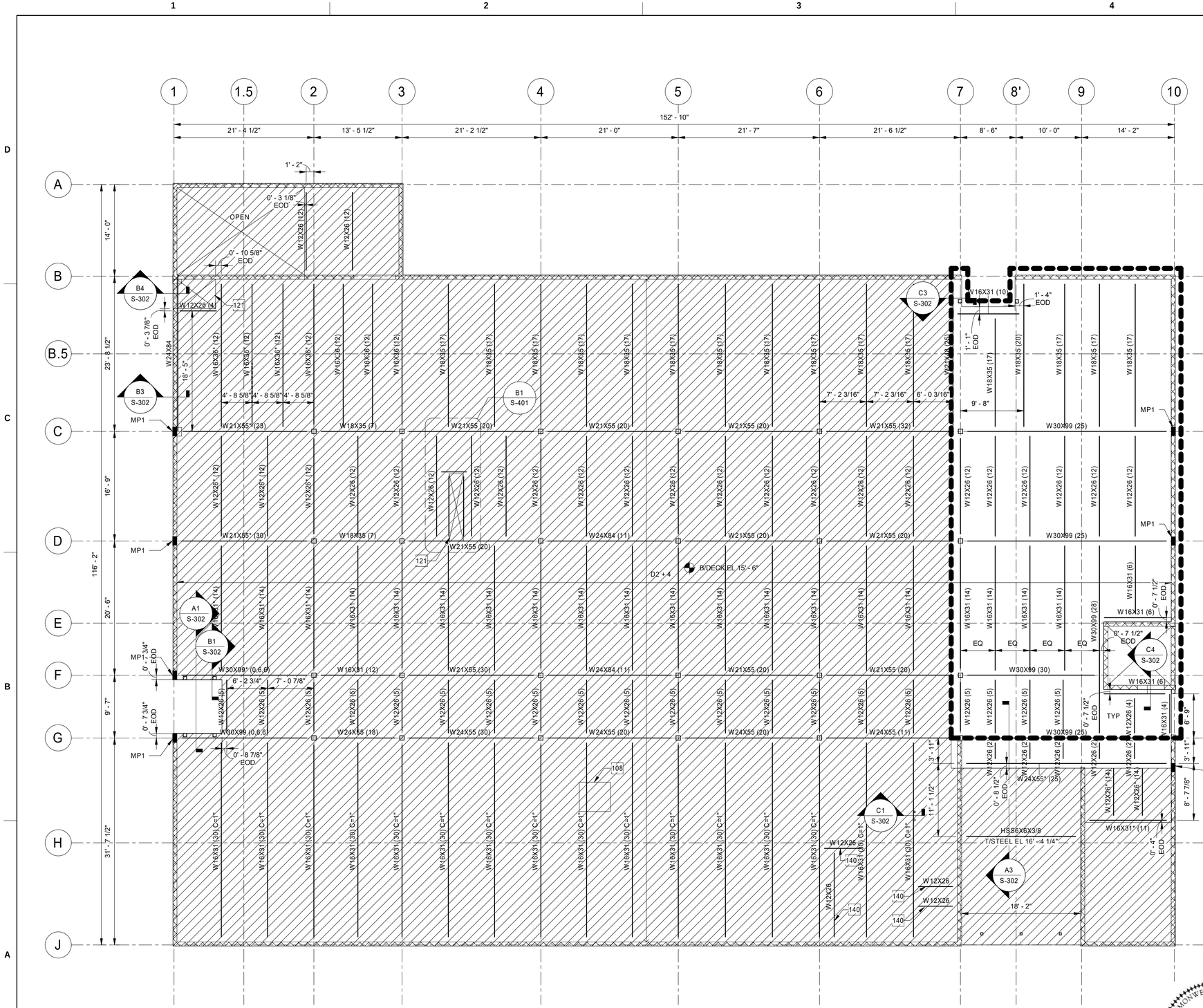
W18X35 (17)
W18X35 (17)
W18X35 (17)
W18X35 (17)
W18X35 (17)
W18X35 (17)
W21X48 (25)
W16X31 (14)
4' - 8 5/8"
4' - 8 5/8"
4' - 8 5/8"
B1 S-401
7' - 2 3/16"
7' - 2 3/16"
6' - 0 3/16"
C3 S-302
1' - 4" EOD
W16X31 (12)
1' - 1" EOD
W21X55* (23)
W18X35 (7)
W21X55 (20)
W21X55 (20)
W21X55 (20)
W21X55 (32)
W16X31 (15)
MP1
16' - 9"
W12X26* (12)
W12X26* (12)
W12X26* (12)
W12X26 (12)
W12X26 (12)
W12X26



A1 SECOND FLOOR FRAMING PLAN (BID OPTION 1)

1/8" = 1'-0"

GENERAL SHEET NOTES

1. ELEVATIONS SHOWN ARE BOTTOM OF STRUCTURAL SLAB/DECK.
2. BEAMS ARE EQUALLY SPACED BETWEEN GIRDERS AND GRIDS, UON.
3. PROVIDE NUMBER OF SHEAR STUDS SHOWN ON PLAN BUT NOT LESS THAN ONE SHEAR STUD PER FOOT. ADJUST STUD SPACING FOR EMBEDDED ITEMS.
4. COORDINATE LOCATIONS OF PENETRATIONS THROUGH CONCRETE ON METAL DECK WITH MEP, FP, AND TELECOM.
5. DO NOT CUT OR INTERRUPT REINFORCEMENT FOR PLACEMENT OF EMBEDDED ITEMS IN CONCRETE SLAB ON METAL DECK. ADJUST LOCATION OR QUANTITY TO MAINTAIN THE REQUIRED AREA OF REINFORCEMENT STATED.
6. PROVIDE FIREPROOFING FOR DESIGNATED BEAMS AND COLUMNS. REFER TO GENERAL NOTES.

KEYNOTES

#	
108	INTERIOR CONCRETE EQUIPMENT PAD. COORDINATE DIMENSIONS AND LOCATION WITH MEP AND EQUIPMENT MANUFACTURER REQUIREMENTS. SEE DETAIL D1/S-503.
121	OPENING IN FLOOR FOR MEP CHASE. COORDINATE WITH MECH.
140	FRAMING FOR TOILET PARTITION SUPPORT. COORDINATE LOCATION WITH ARCH AND EQUIPMENT MANUF. SEE DETAIL A4/S-506.

LEGEND

FOUNDATION WALL SCHEDULE	D1 / S-501
PIER CAP SCHEDULE	D3 / S-501
DRILLED PIER SCHEDULE	D4 / S-501
GRADE BEAM SCHEDULE	C1 / S-502
STEEL BASEPLATE SCHEDULE	A1 / S-506
STEEL DECKING SCHEDULE	A2 / S-510
ONE WAY SLAB SCHEDULE	C3 / S-503

AREA OF BID OPTION 1

AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

COMMONWEALTH OF VIRGINIA
MATTHEW T. BRETTHAUER
Lic. No. 60478
PROFESSIONAL ENGINEER
12/14/22

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PAQUETTE
DRAWN BY: J. PAQUETTE
CHECKED BY: A. POZOLO
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128P22R0017
CONTRACT NO.:
FILE NUMBER:
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

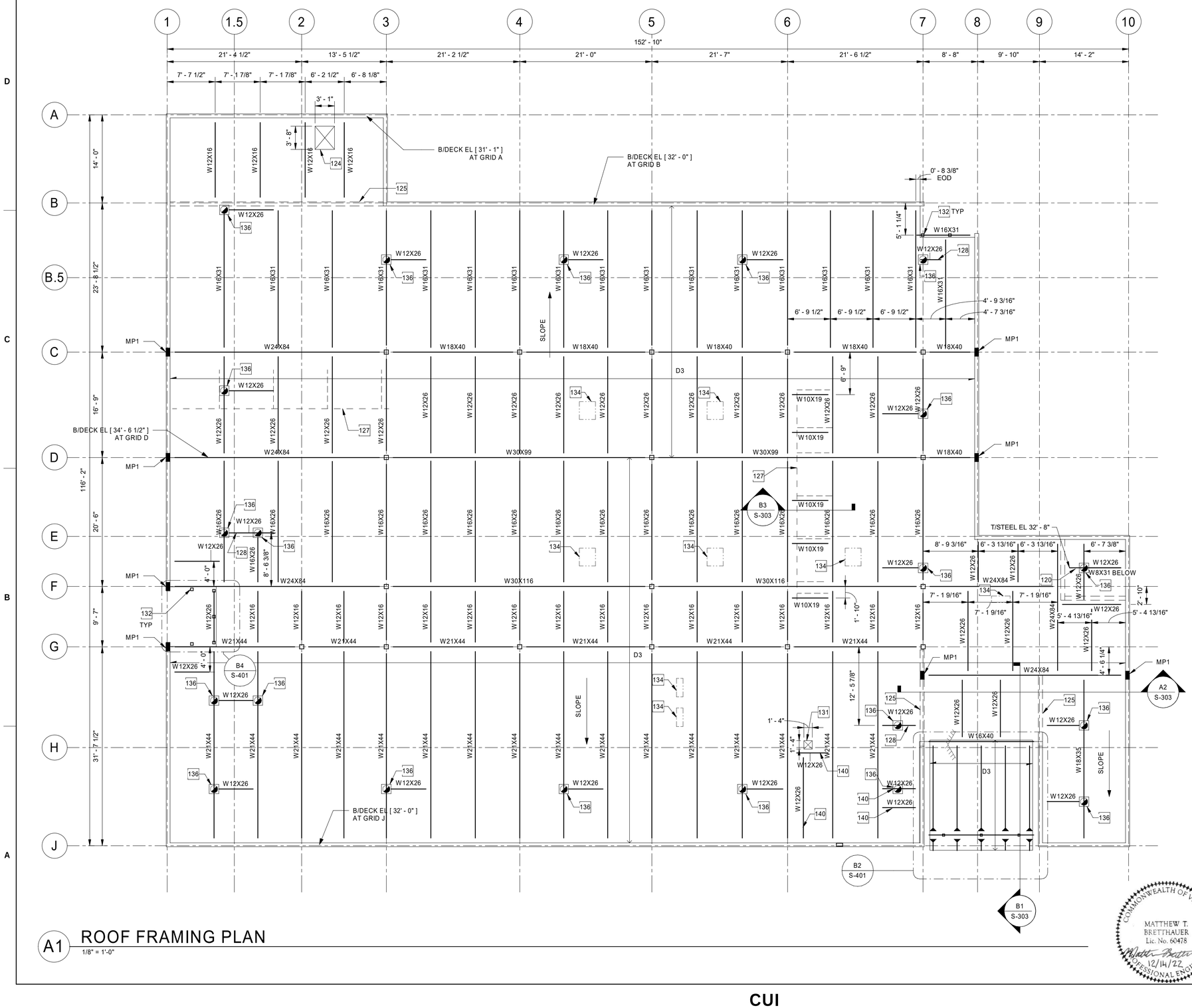
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - SECOND FLOOR FRAMING PLAN (BID OPTION 1)

SHEET ID

S-120A



GENERAL SHEET NOTES

1. ELEVATIONS SHOWN ARE BOTTOM OF DECK.
2. BEAMS ARE EQUALLY SPACED BETWEEN GIRDERS AND GRIDS, UON.
3. REFER TO ARCH AND PLUMB FOR ROOF DRAIN LOCATIONS AND ASSEMBLIES.

KEYNOTES

#	
120	ELEVATOR HOIST BEAM. COORDINATE LOCATION WITH ELEVATOR MANUFACTURER.
124	OPENING IN ROOF DECK FOR HATCH. COORDINATE SIZE AND LOCATION WITH ARCH. SEE DETAIL B3/S-506.
125	SEE DETAIL D1/S-505 FOR ROOF DECK ATTACHMENT.
127	OPERABLE PARTITION SUPPORT. SEE DETAIL D3/S-506.
128	ROOF FALL PROTECTION ANCHOR SUPPORT BEAM. COORDINATE LOCATION WITH ARCH.
131	OPENING IN ROOF DECK FOR MECH EQUIP. COORDINATE SIZE AND LOCATION WITH MECH. SEE DETAIL B3/S-506.
132	HSSSX5X5/16 PARAPET SUPPORT POST. COORDINATE HEIGHT WITH ARCH AND CFMS MANUFACTURER.
134	ROOFTOP CONDENSING UNIT. REFER TO DETAIL B3/S-506 FOR SUPPORT OF ROOFTOP CURB OR STANCHIONS. COORDINATE ANCHORAGE WITH EQUIPMENT MANUF.
136	ROOF FALL PROTECTION ANCHOR. COORDINATE LOCATION WITH ARCH.
140	FRAMING FOR TOILET PARTITION SUPPORT. COORDINATE LOCATION WITH ARCH AND EQUIPMENT MANUF. SEE DETAIL A4/S-506.

LEGEND

FOUNDATION WALL SCHEDULE..... D1 / S-501
PIER CAP SCHEDULE..... D3 / S-501
DRILLED PIER SCHEDULE..... D4 / S-501
GRADE BEAM SCHEDULE..... C1 / S-502
STEEL BASEPLATE SCHEDULE..... A1 / S-506
STEEL DECKING SCHEDULE..... A2 / S-510
ONE WAY SLAB SCHEDULE..... C3 / S-503

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

A1 ROOF FRAMING PLAN

1/8" = 1'-0"

COMMONWEALTH OF VIRGINIA
MATTHEW T. BRETTHAUER
Lic. No. 60478
PROFESSIONAL ENGINEER
12/14/22

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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SIZE: ANSI D
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FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

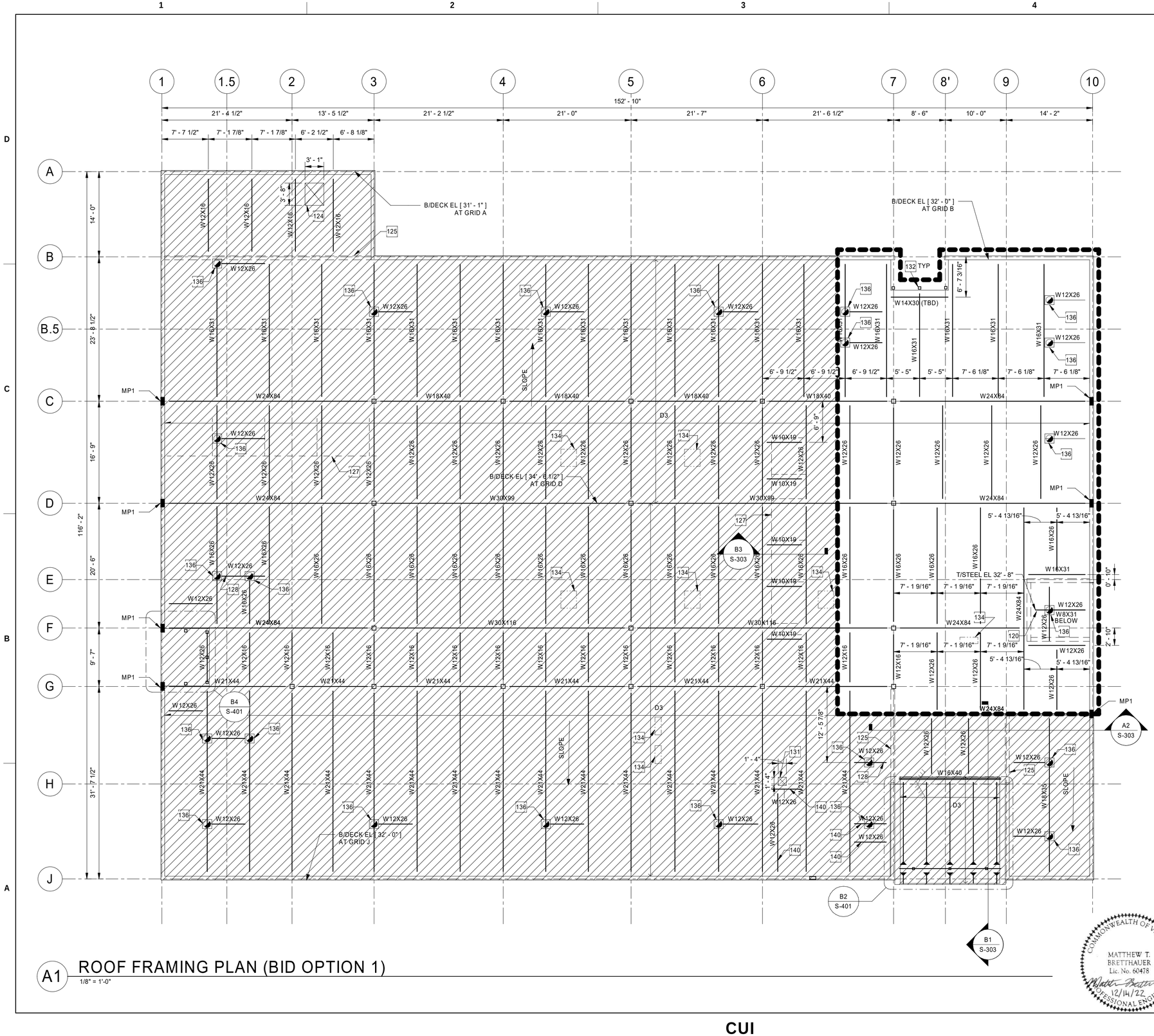
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - ROOF FRAMING PLAN

SHEET ID

S-130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8'
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152' - 10"
21' - 4 1/2"
13' - 5 1/2"
21' - 2 1/2"
21' - 0"
21' - 7"
21' - 6 1/2"
8' - 6"
10' - 0"
14' - 2"
7' - 7 1/2"
7' - 1 7/8"
7' - 1 7/8"
6' - 2 1/2"
6' - 8 1/8"
3' - 1"
A
B
B.5
C
D
E
F
G
H
J
14' - 0"
23' - 8 1/2"
16' - 9"
1'6" - 2"
20' - 6"
9' - 7"
31' - 7 1/2"
B/DECK EL [31' - 1"] AT GRID A
B/DECK EL [32' - 0"] AT GRID B
B/DECK EL [34' - 6 1/2"] AT GRID D
B/DECK EL [32' - 0"] AT GRID J
W12X16
W16X31
W12X26
W16X26
W24X84
W18X40
W30X99
W30X116
W21X44
W10X19
W14X30 (TBD)
W16X40
W24X94
W16X36
W8X31 BELOW
W12X28
W12X36
W16X35
W16X45
W16X50
W16X57
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W16X89
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W16X31
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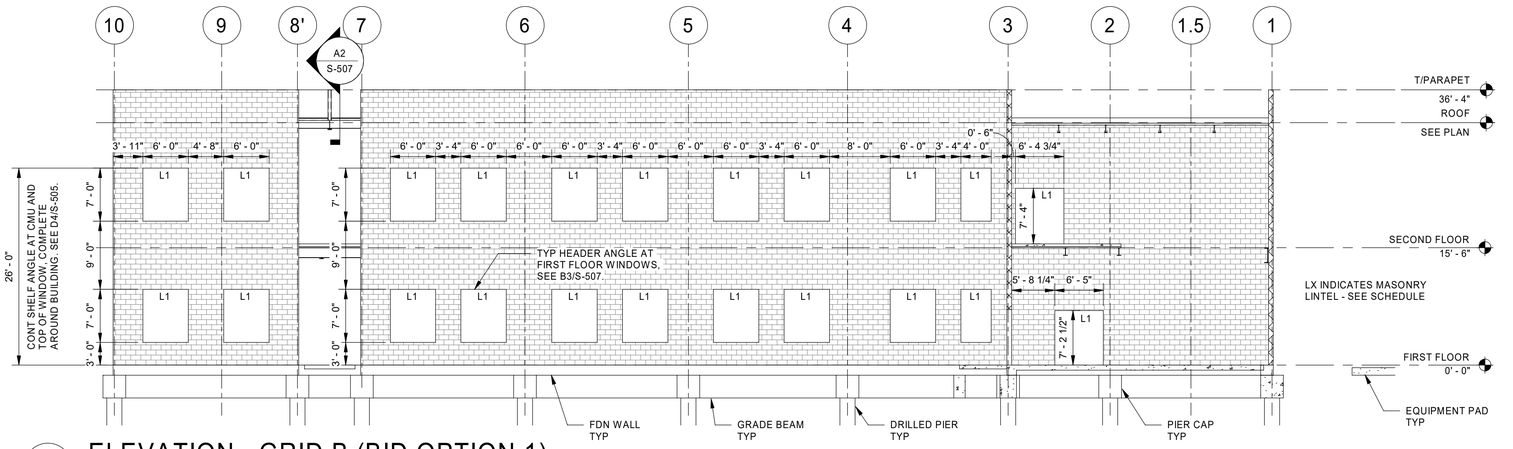

C1 ELEVATION - GRID B (BID OPTION 1)

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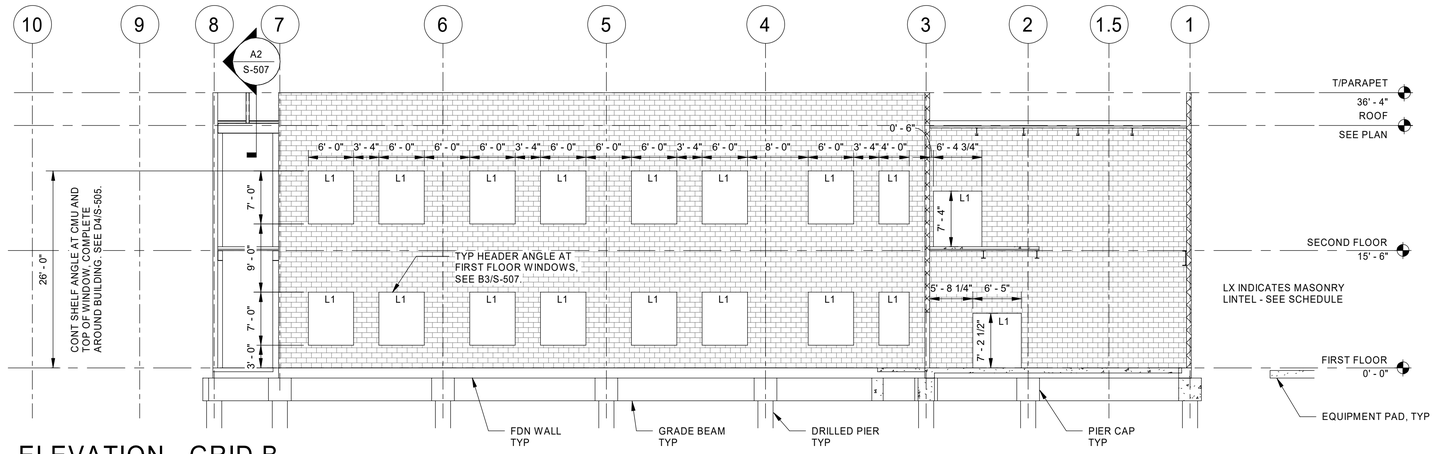
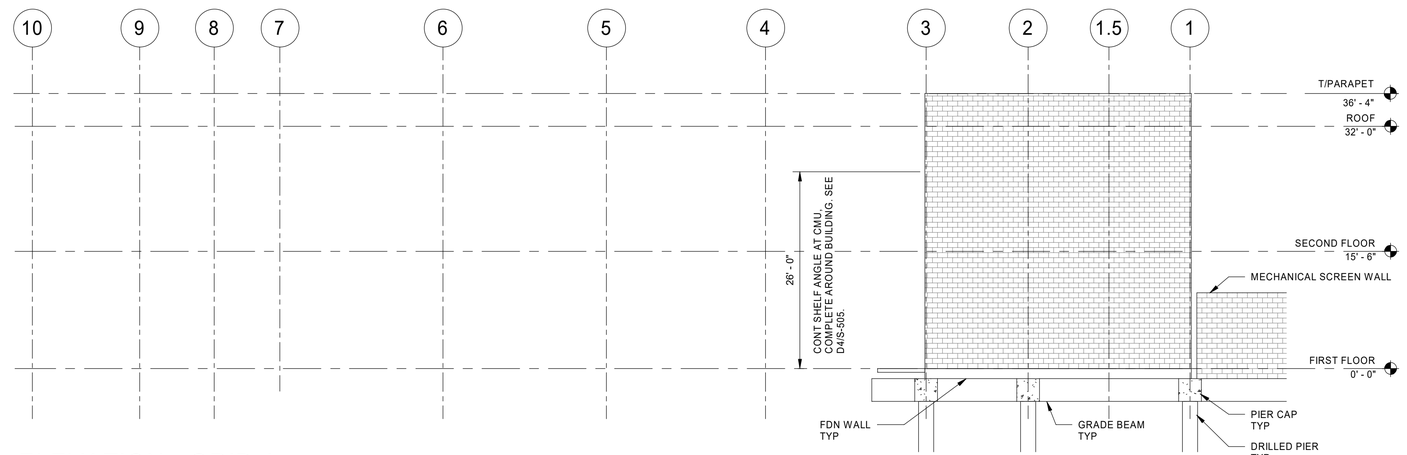


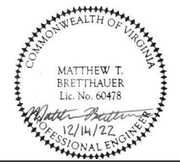
B1 ELEVATION - GRID B

1" = 10'-0"



A1 ELEVATION - GRID A

1" = 10'-0"



US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: J. PAQUETTE
DRAWN BY: J. PAQUETTE
CHECKED BY: A. POZOLO
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

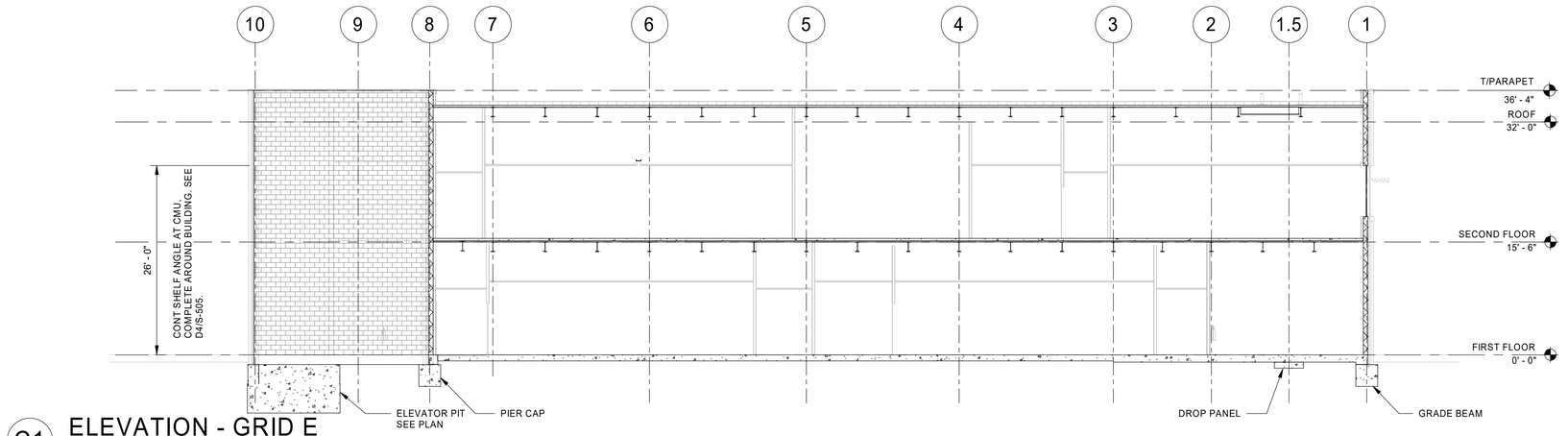
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - ELEVATIONS

SHEET ID

S-201



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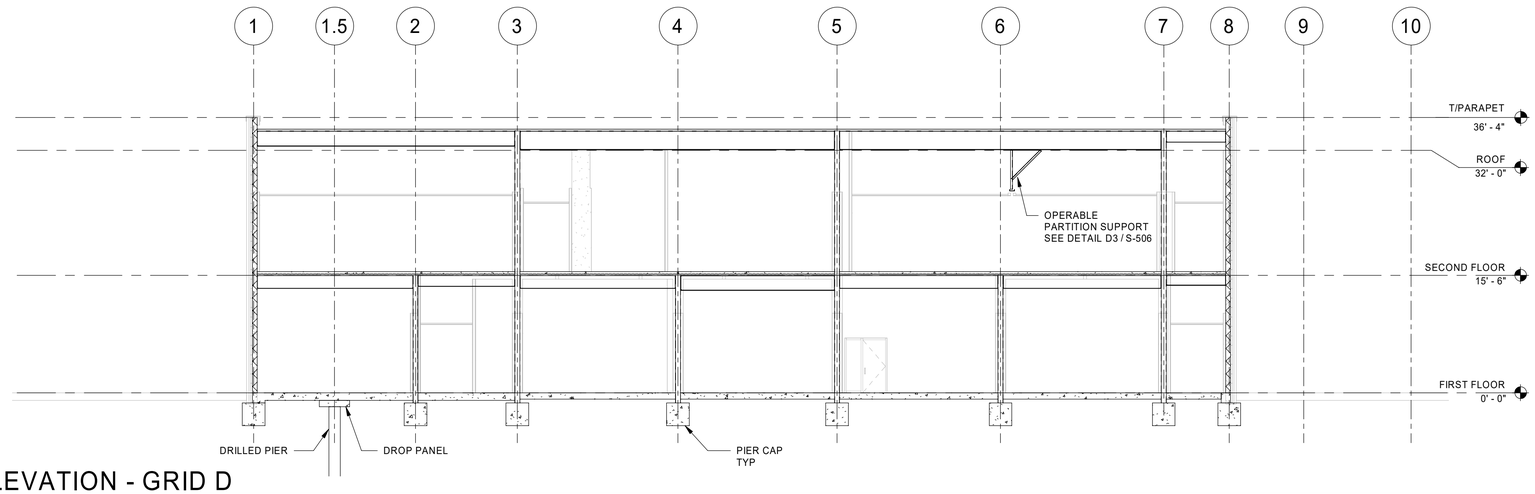

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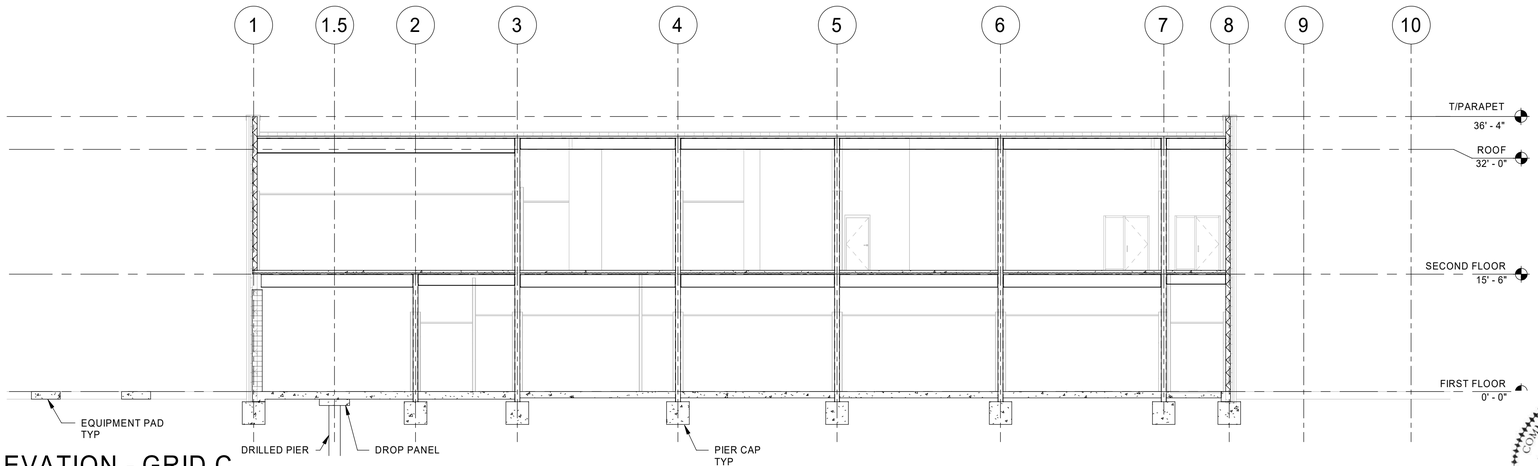

A1 ELEVATION - GRID C
1" = 10'-0"

MATTHEW T. BRETTHAUER
Lic. No. 60478
PROFESSIONAL ENGINEER
12/14/22

US Army Corps of Engineers ®

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DRAWN BY: J. PAQUETTE
CHECKED BY: A. POZOLO
SUBMITTED BY:
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FILE NAME:

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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

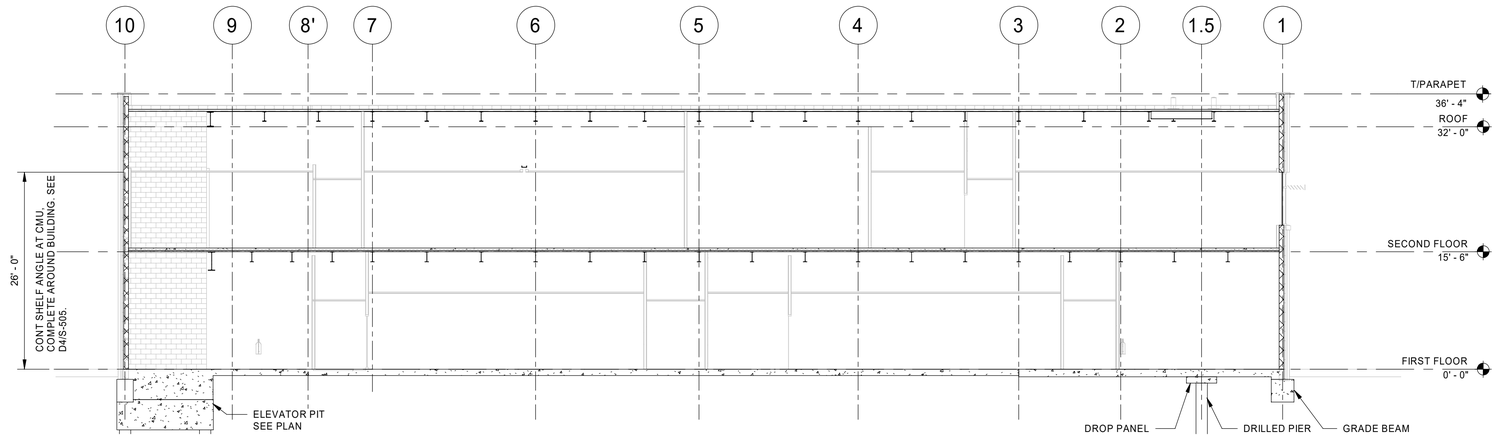
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - ELEVATIONS

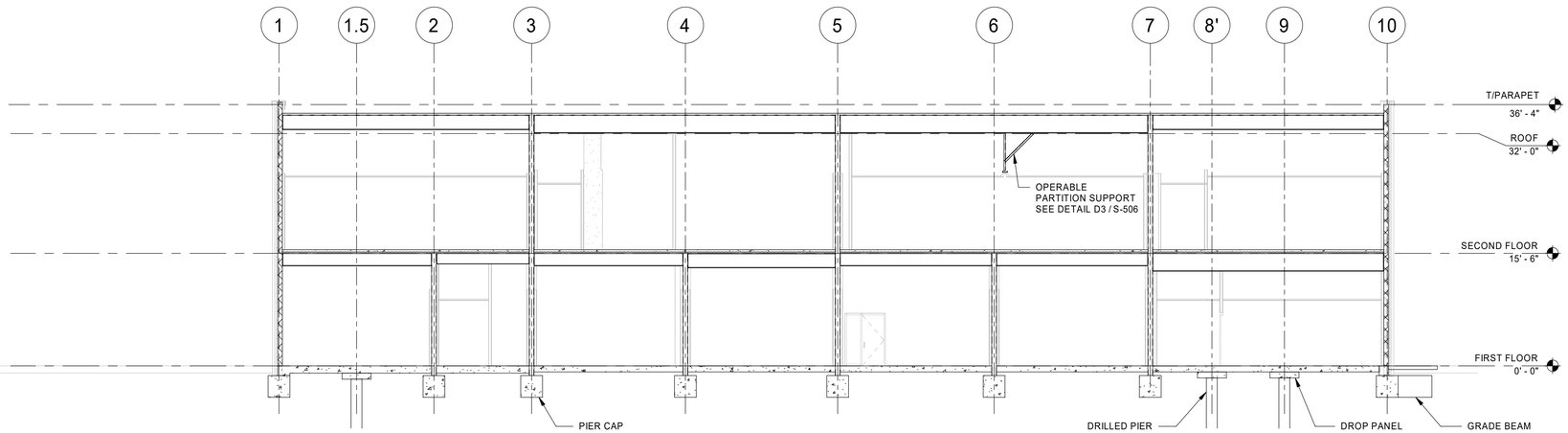
SHEET ID
S-202

RTA SUBMISSION



C1 ELEVATION - GRID E (BID OPTION 1)

1" = 10'-0"



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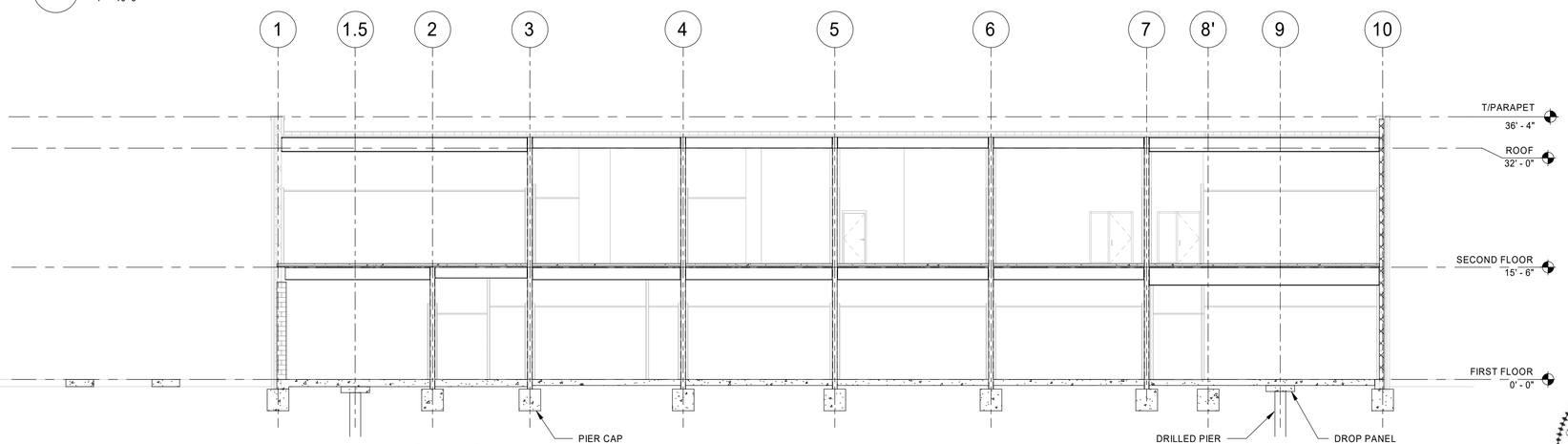
1" = 10'-0"



A1 ELEVATION - GRID C (BID OPTION 1)

1" = 10'-0"

COMMONWEALTH OF VIRGINIA
MATTHEW T. BRETTHAUER
Lic. No. 60478
PROFESSIONAL ENGINEER
12/14/22

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PAQUETTE
DRAWN BY: J. PAQUETTE
CHECKED BY: A. POZOLO
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
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FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

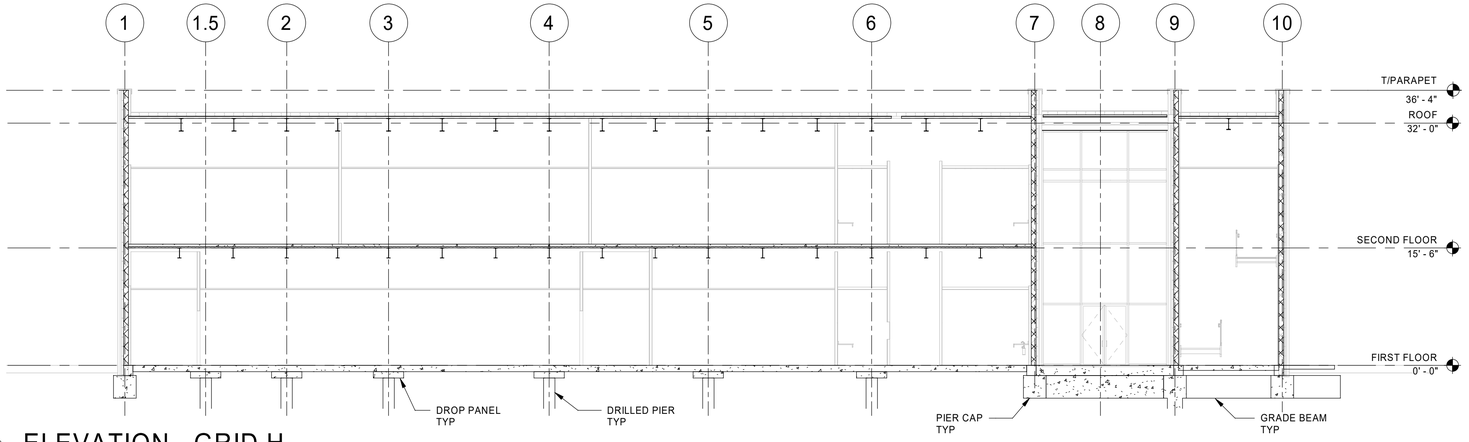
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - ELEVATIONS

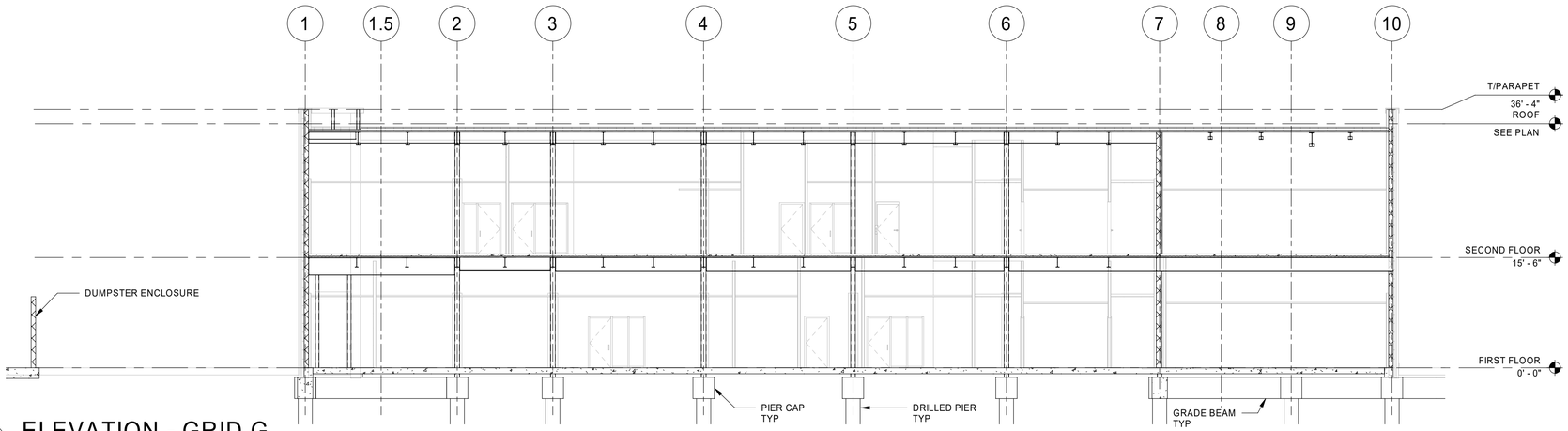
SHEET ID

S-203

RTA SUBMISSION



C1 ELEVATION - GRID H
1" = 10'-0"



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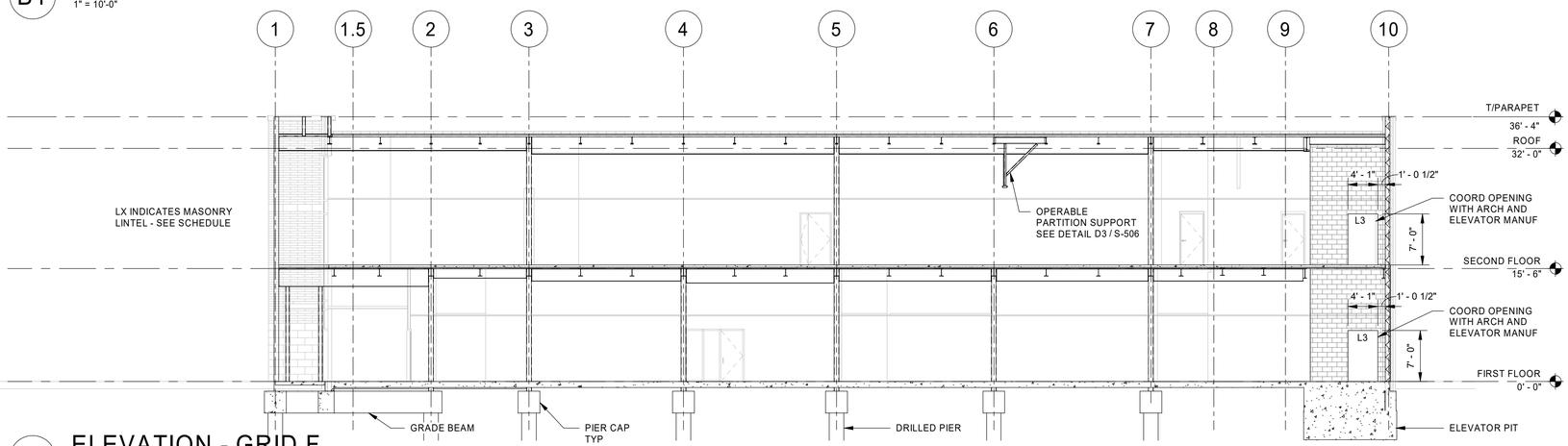


A1 ELEVATION - GRID F
1" = 10'-0"

COMMONWEALTH OF VIRGINIA
MATTHEW T. BRETTHAUER
Lic. No. 60478
12/14/22
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PAQUETTE
DRAWN BY: J. PAQUETTE
CHECKED BY: A. POZOLO
SUBMITTED BY:
SIZE: ANSI D'
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

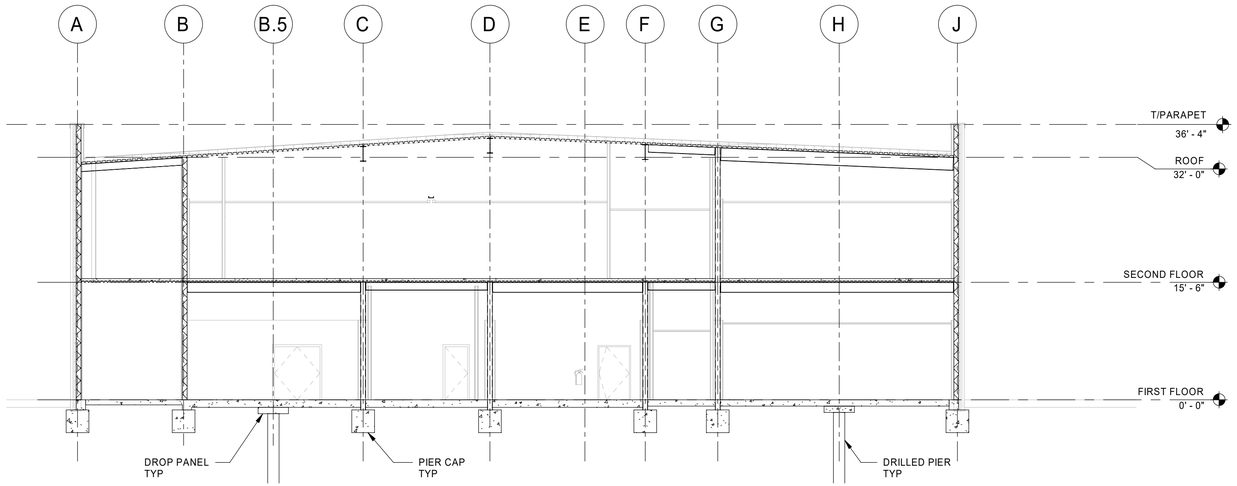
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - ELEVATIONS

SHEET ID
S-204

RTA SUBMISSION



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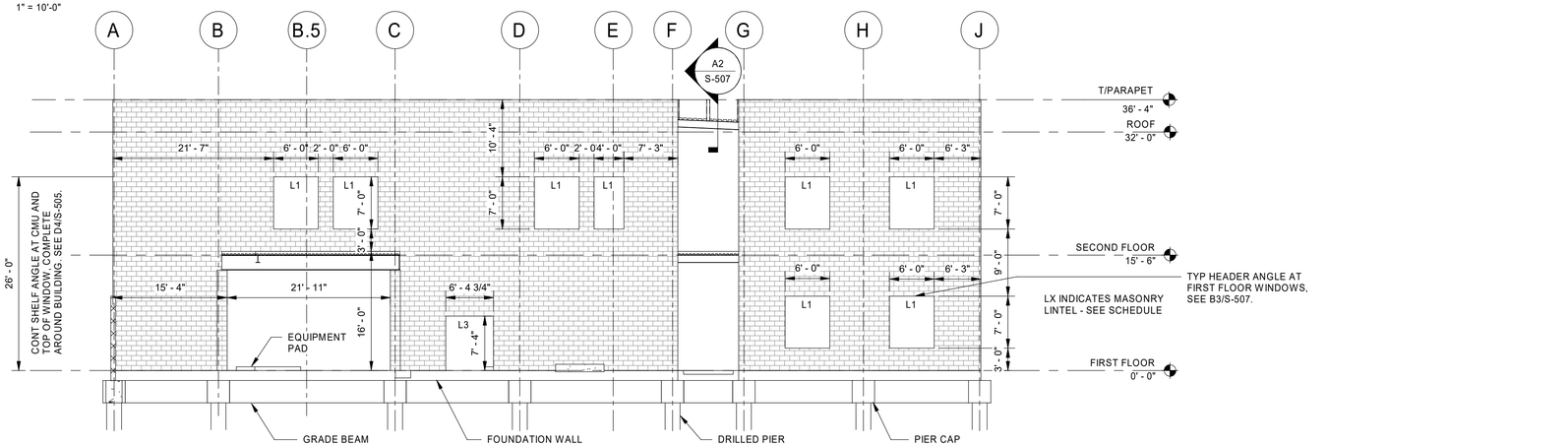

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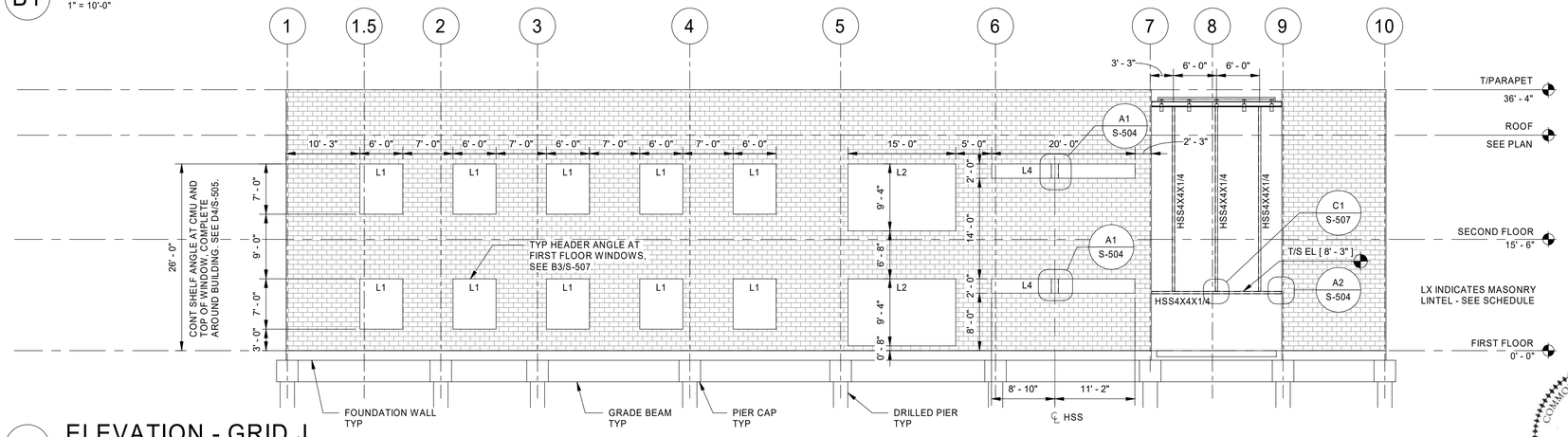

A1 ELEVATION - GRID J

1" = 10'-0"

MATTHEW T. BRETTHAUER
Lic. No. 60478
12/14/22
PROFESSIONAL ENGINEER
COMMONWEALTH OF VIRGINIA

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128P22R0017
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FILE NUMBER:

DESIGNED BY: J. PAQUETTE
DRAWN BY: J. PAQUETTE
CHECKED BY: A. POZOLO
SUBMITTED BY:
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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

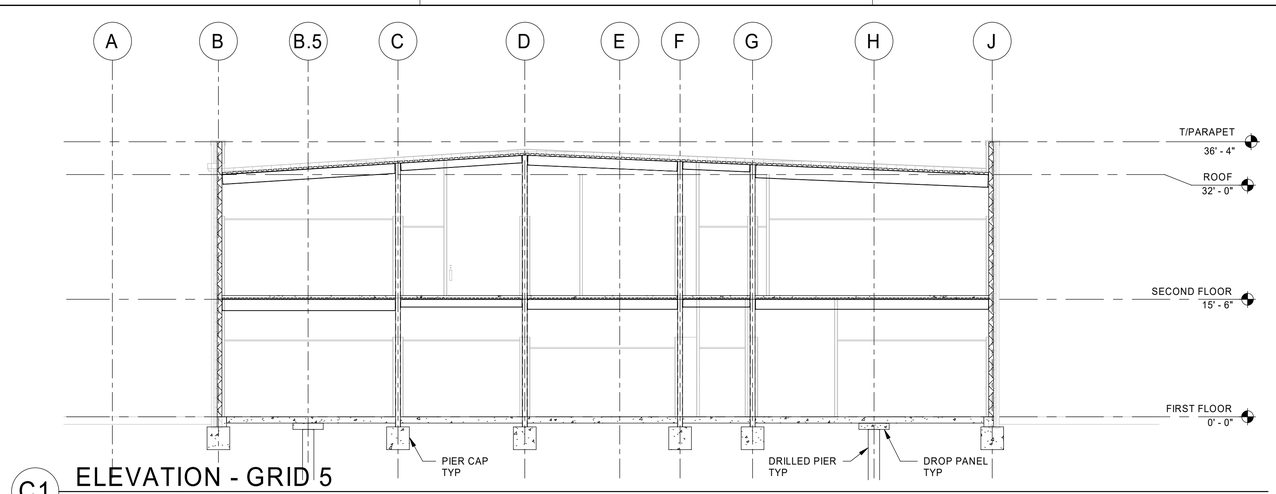
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

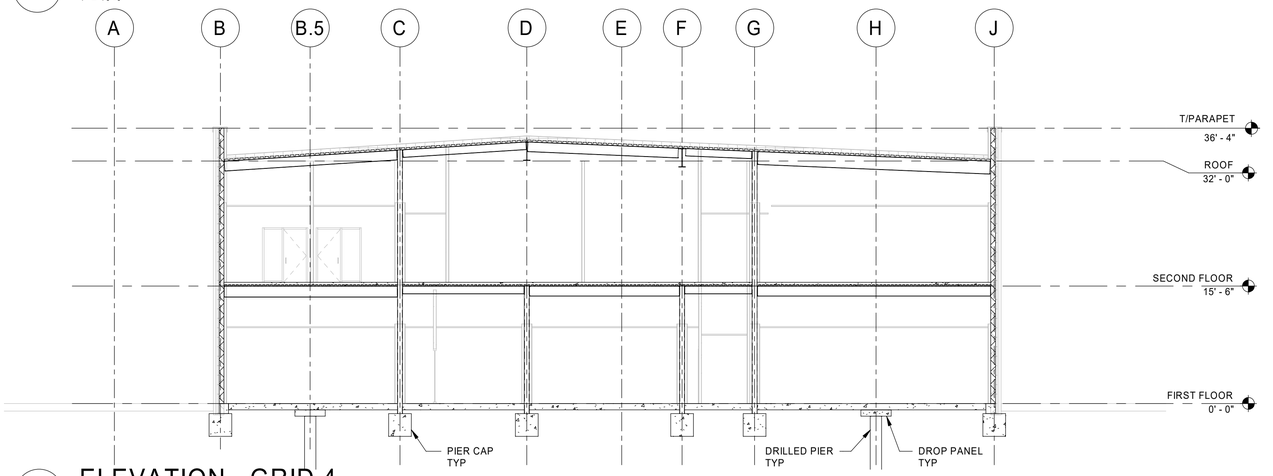
STRUCTURAL - ELEVATIONS

SHEET ID

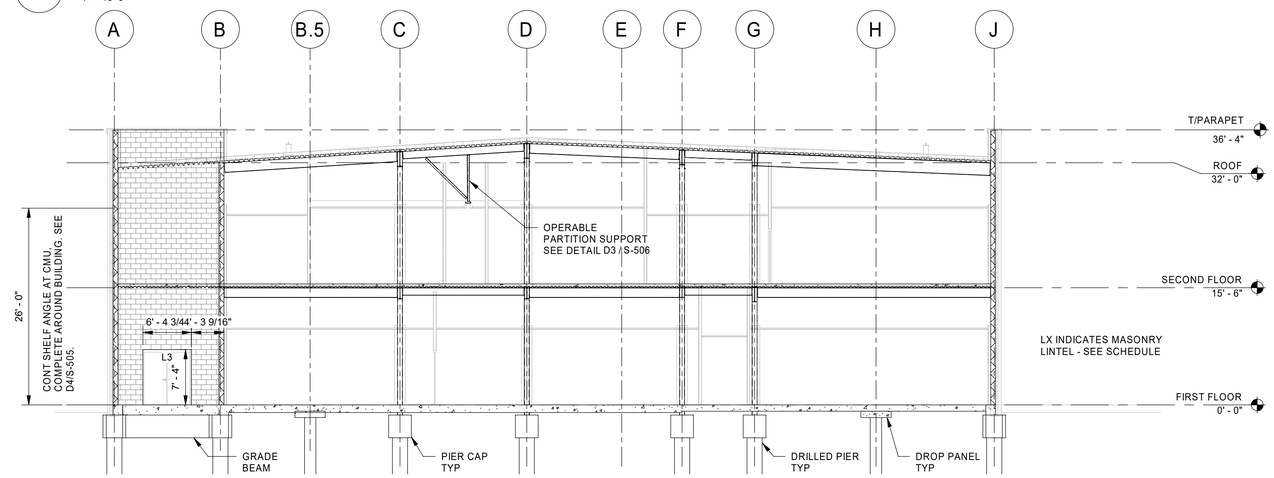
S-205



C1 ELEVATION - GRID 5
1" = 10'-0"



B1 ELEVATION - GRID 4
1" = 10'-0"



A1 ELEVATION - GRID 3
1" = 10'-0"

MATTHEW T. BRETTHAUER
Lic. No. 60478
12/14/22
COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PAQUETTE
DRAWN BY: J. PAQUETTE
CHECKED BY: A. POZOLO
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

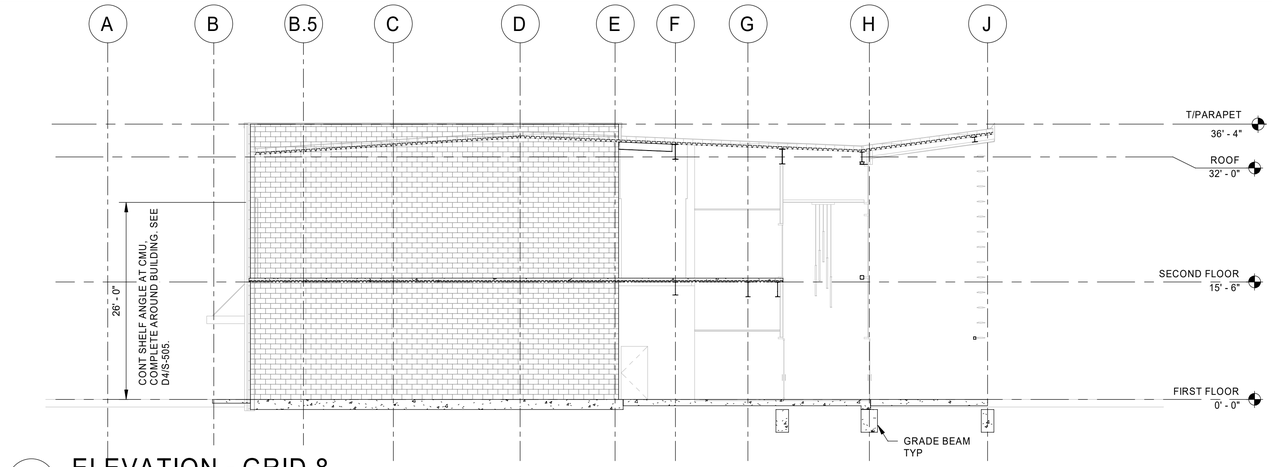
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

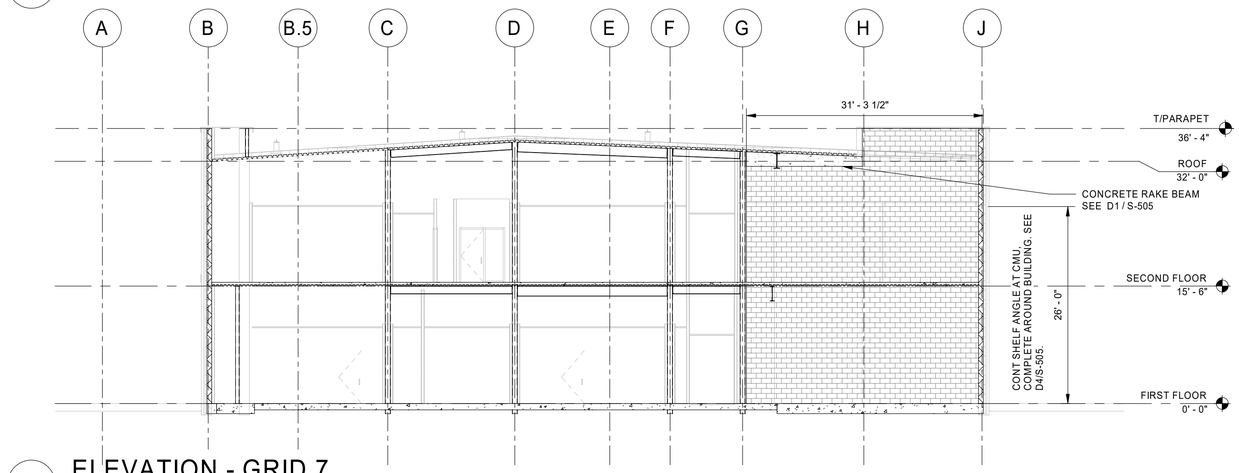
STRUCTURAL - ELEVATIONS

SHEET ID
S-206

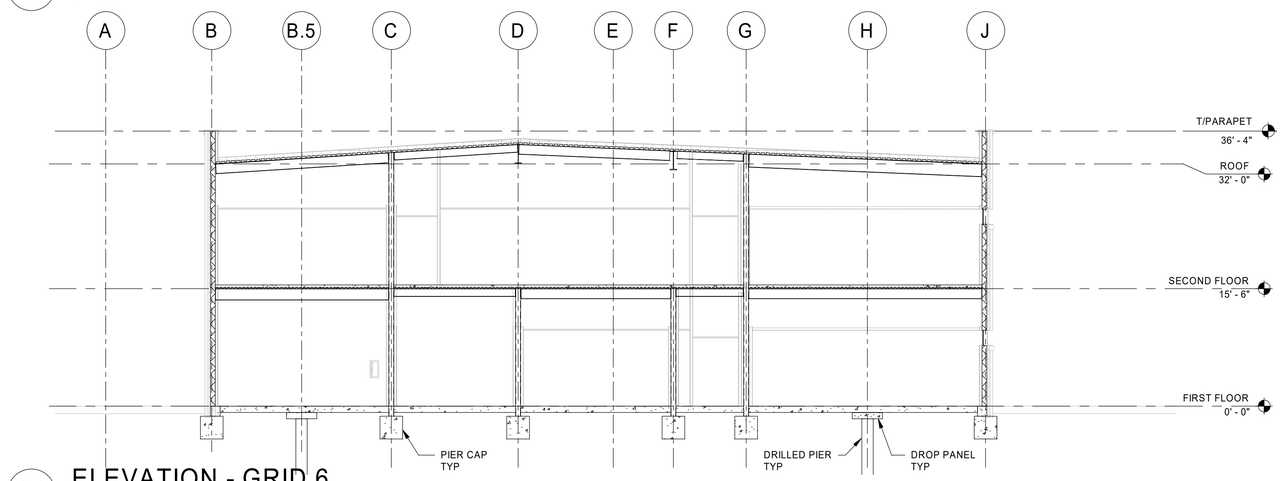
RTA SUBMISSION



C1 ELEVATION - GRID 8
1" = 10'-0"



B1 ELEVATION - GRID 7
1" = 10'-0"



A1 ELEVATION - GRID 6
1" = 10'-0"

MATTHEW T. BRETHAUER
Lic. No. 60478
12/14/22
COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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DRAWN BY: J. PAQUETTE	SOLICITATION NO.: W9128P22R0017
CHECKED BY: A. POZOLO	CONTRACT NO.:
SUBMITTED BY:	FILE NUMBER:
SIZE: ANSI D	FILE NAME:

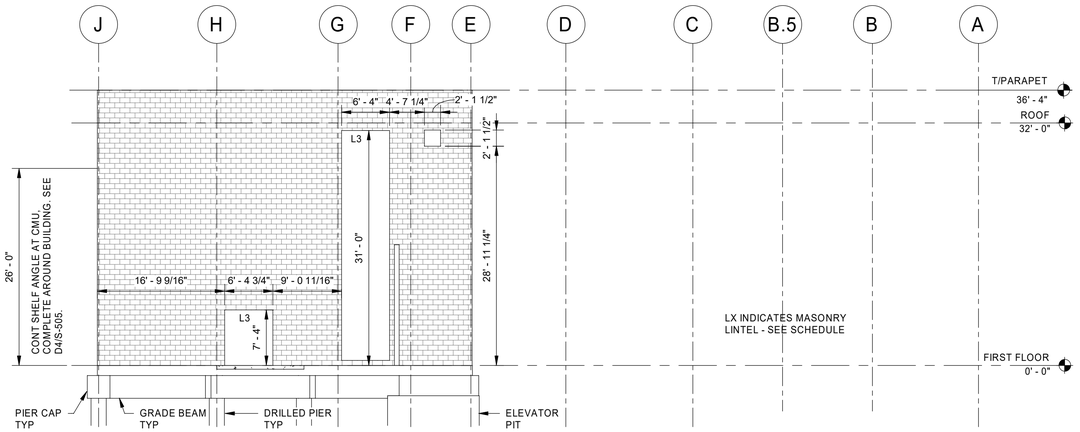
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

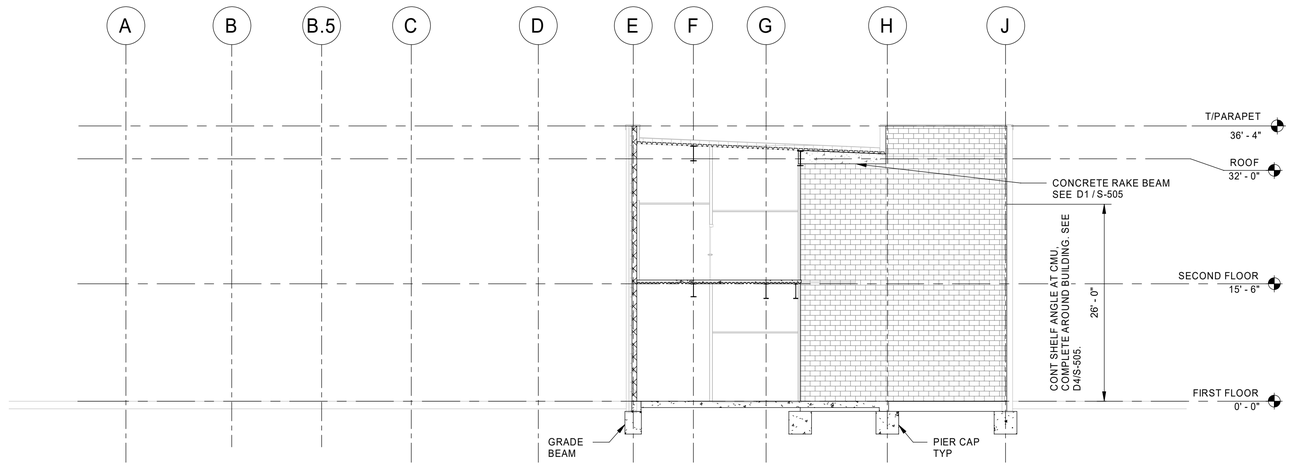
STRUCTURAL - ELEVATIONS

SHEET ID
S-207



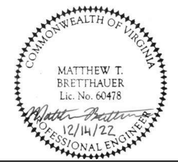
B1 ELEVATION - GRID 10

1" = 10'-0"



A1 ELEVATION - GRID 9

1" = 10'-0"



US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PAQUETTE
DRAWN BY: J. PAQUETTE
CHECKED BY: A. POZOLO
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
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FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

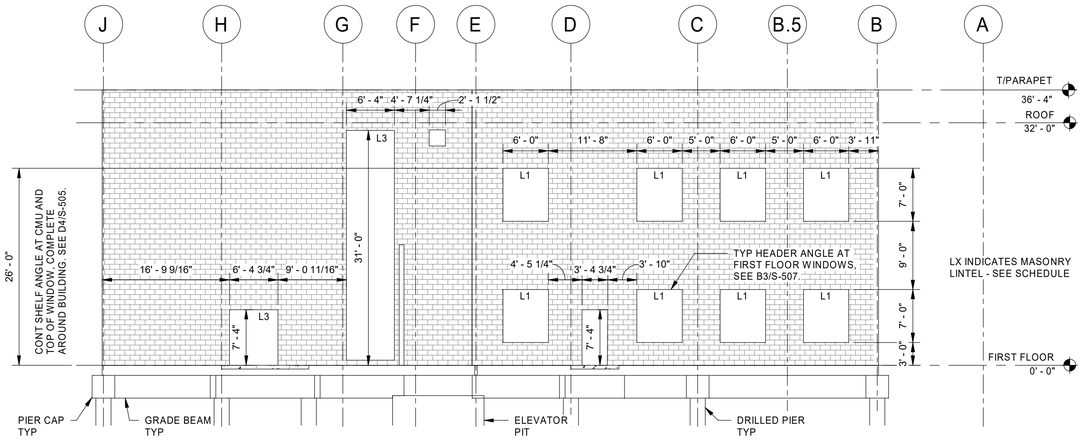
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - ELEVATIONS

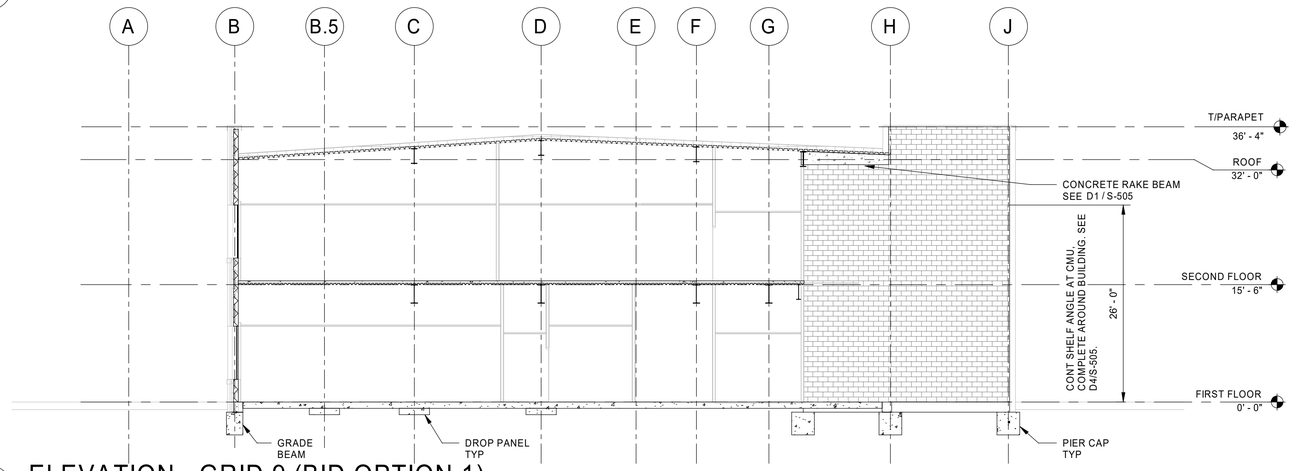
SHEET ID

S-208



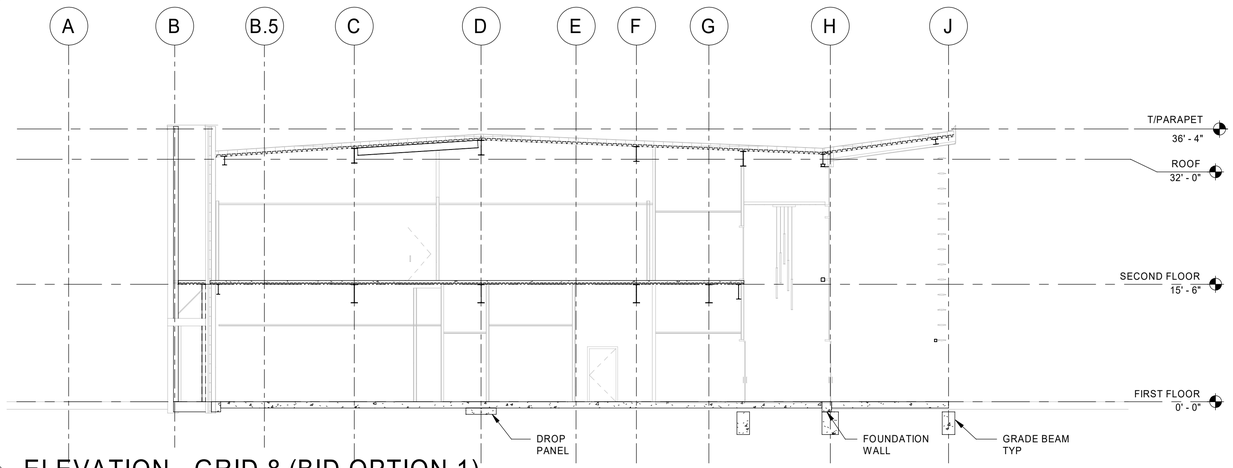
C1 ELEVATION - GRID 10 (BID OPTION 1)

1" = 10'-0"



B1 ELEVATION - GRID 9 (BID OPTION 1)

1" = 10'-0"



A1 ELEVATION - GRID 8 (BID OPTION 1)

1" = 10'-0"

US Army Corps of Engineers ®

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PAQUETTE
DRAWN BY: J. PAQUETTE
CHECKED BY: A. POZOLO
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

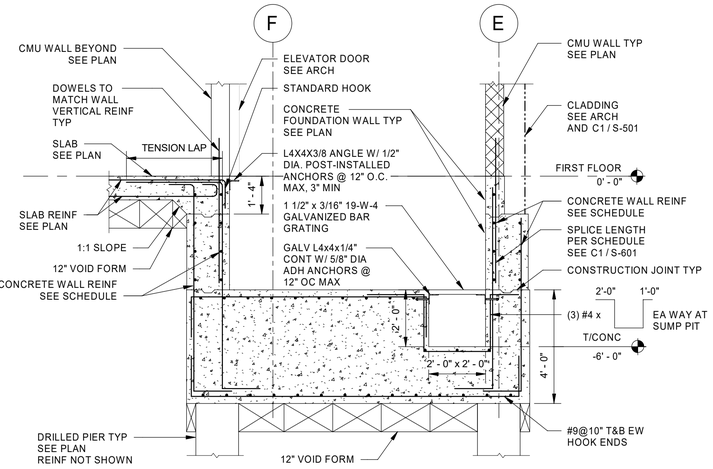
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - ELEVATIONS

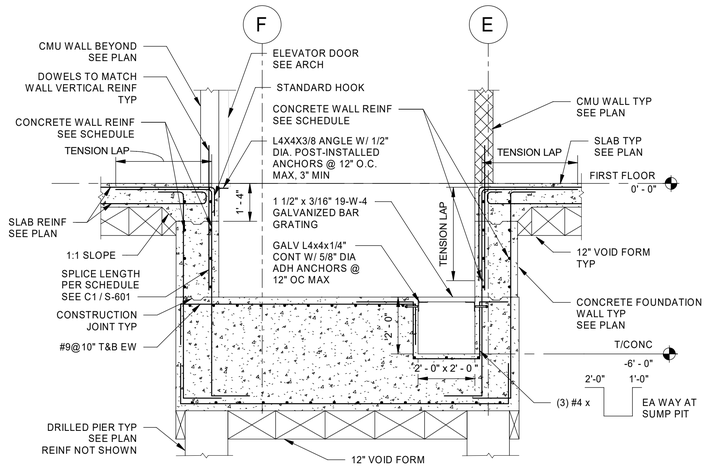
SHEET ID

S-209

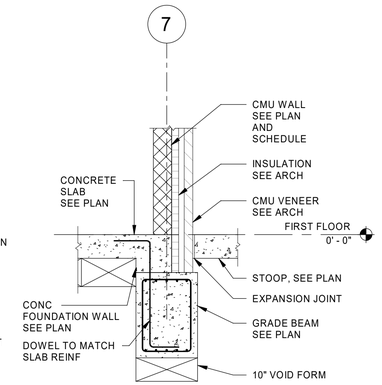
COMMONWEALTH OF VIRGINIA
MATTHEW T. BRETTHAUER
Lic. No. 60478
12/14/22
PROFESSIONAL ENGINEER



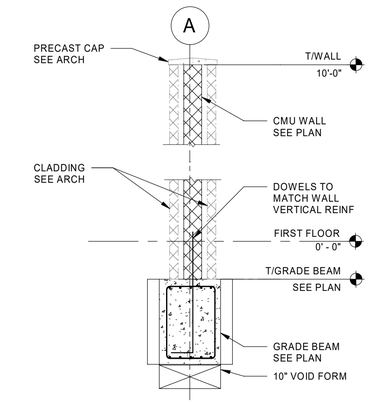
C1 ELEVATOR PIT
3/8" = 1'-0"



C2 ELEVATOR PIT (BID OPTION 1)
3/8" = 1'-0"



C4 ENTRY SECTION
3/8" = 1'-0"



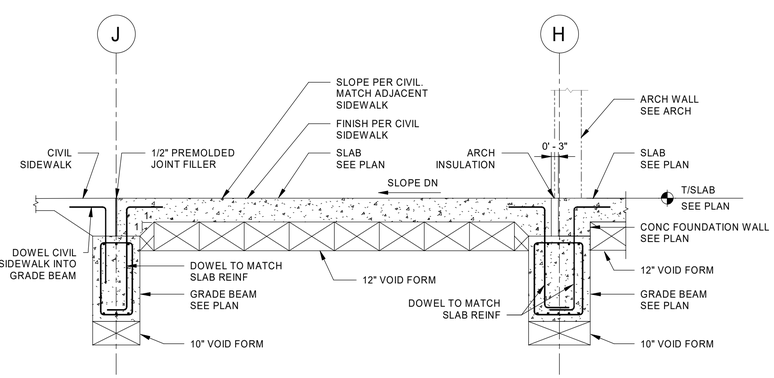
C5 MECHANICAL SCREEN WALL SECTION
3/8" = 1'-0"

B1 CONCRETE SLAB TRANSITION OVER GRADE BEAM
3/8" = 1'-0"

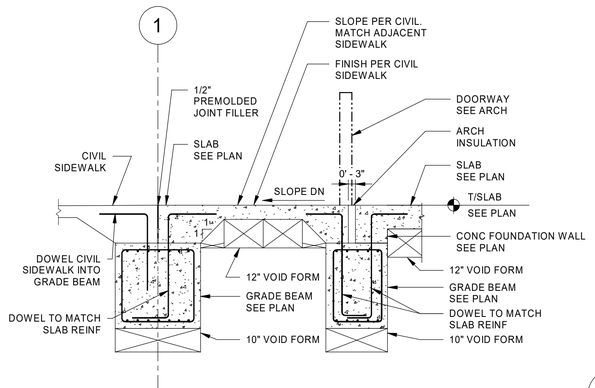
B2 INTERIOR DOOR SECTION
3/8" = 1'-0"

B3 ELEVATOR PIT
3/8" = 1'-0"

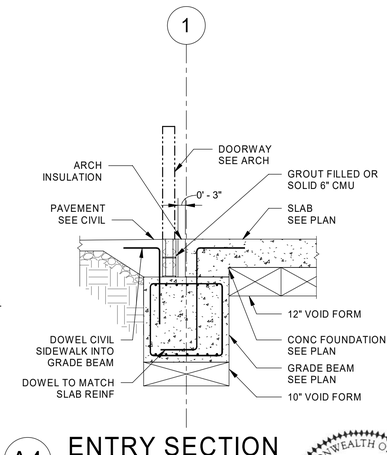
B5 ENTRY SECTION
3/8" = 1'-0"



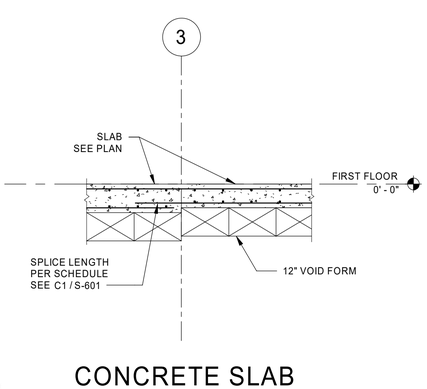
A1 ENTRY SECTION
3/8" = 1'-0"



A3 WEST ENTRY SECTION
3/8" = 1'-0"



A4 ENTRY SECTION
3/8" = 1'-0"



A5 CONCRETE SLAB TRANSITION
3/8" = 1'-0"

COMMONWEALTH OF VIRGINIA
MATTHEW T. BRETTHAUER
Lic. No. 60478
PROFESSIONAL ENGINEER
12/14/22

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: J. PAQUETTE
DRAWN BY: J. PAQUETTE
CHECKED BY: A. POZOLO
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

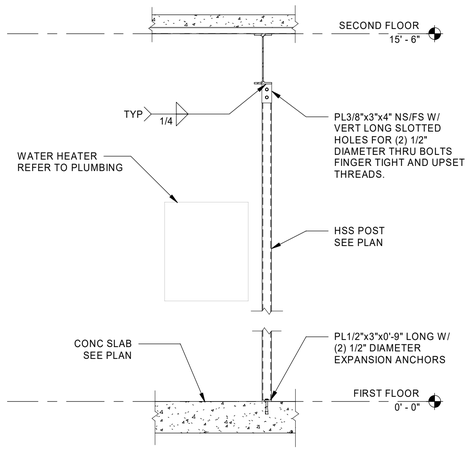
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - SECTIONS - FOUNDATIONS

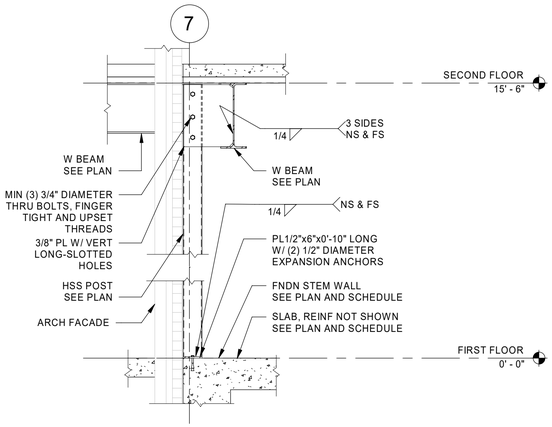
SHEET ID
S-301

RTA SUBMISSION



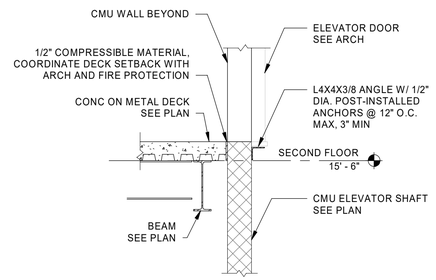
C1 WALL MOUNTED WATER HEATER SUPPORT POST

1/2" = 1'-0"



C3 ENTRANCE CANOPY SUPPORT

1/2" = 1'-0"



C4 ELEVATOR DOOR SUPPORT

1/2" = 1'-0"

B1 ENTRANCE CANOPY SUPPORT

1/2" = 1'-0"

B3 SHELF ANGLE SECTION

1/2" = 1'-0"

B4 SHELF ANGLE SECTION

1/2" = 1'-0"

A1 WEST ENTRANCE

3/8" = 1'-0"

A3 SOUTH ENTRANCE

3/8" = 1'-0"

A4 MEP CHASE OPENING FRAMING SECTION

3/8" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: J. PAQUETTE
DRAWN BY: J. PAQUETTE
CHECKED BY: A. POZOLO
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

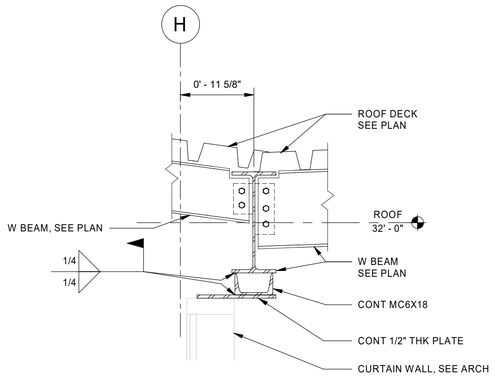
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

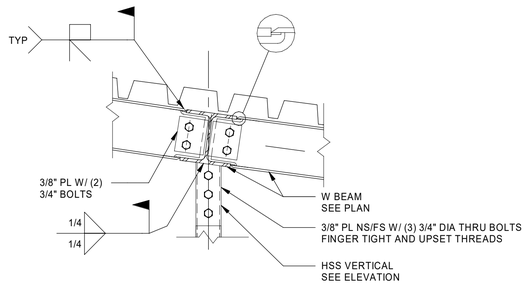
STRUCTURAL - SECTIONS - SECOND FLOOR

SHEET ID

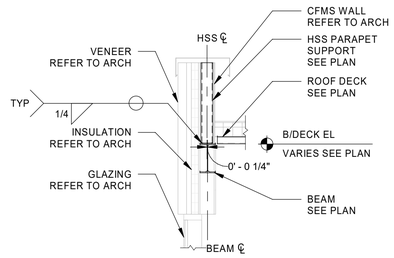
S-302



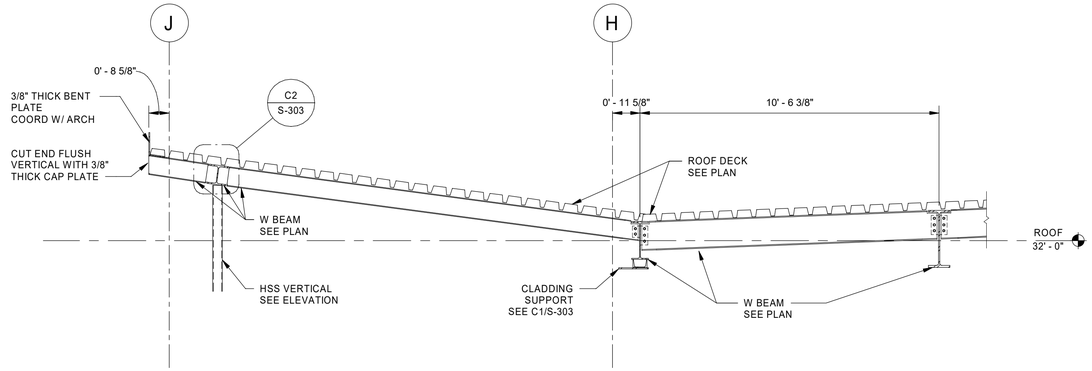
C1 SOUTH ENTRANCE FRAMING SECTION
1" = 1'-0"



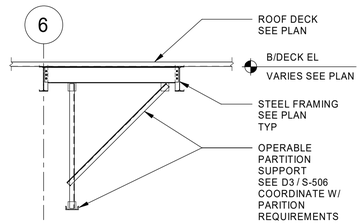
C2 SOUTH ENTRANCE FRAMING SECTION
1" = 1'-0"



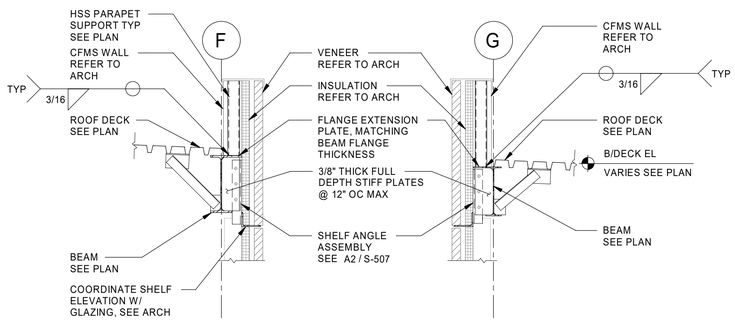
B4 WEST ENTRANCE
3/8" = 1'-0"



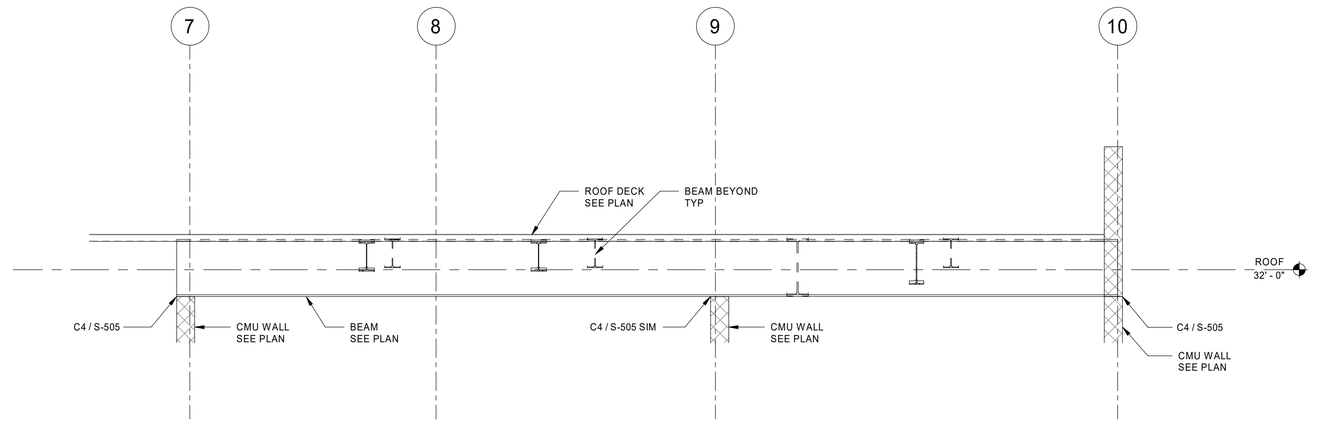
B1 SOUTH ENTRANCE
3/8" = 1'-0"



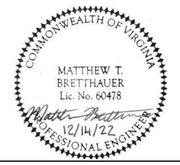
B3 OPERABLE PARTITION SUPPORT
1/4" = 1'-0"



A1 WEST ENTRANCE
3/8" = 1'-0"



A2 SOUTH ENTRANCE
3/8" = 1'-0"



US Army Corps of Engineers ®

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DESIGNED BY: J. PAQUETTE
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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

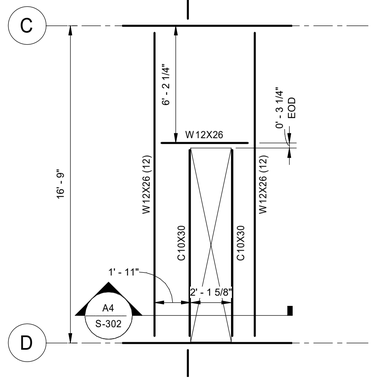
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

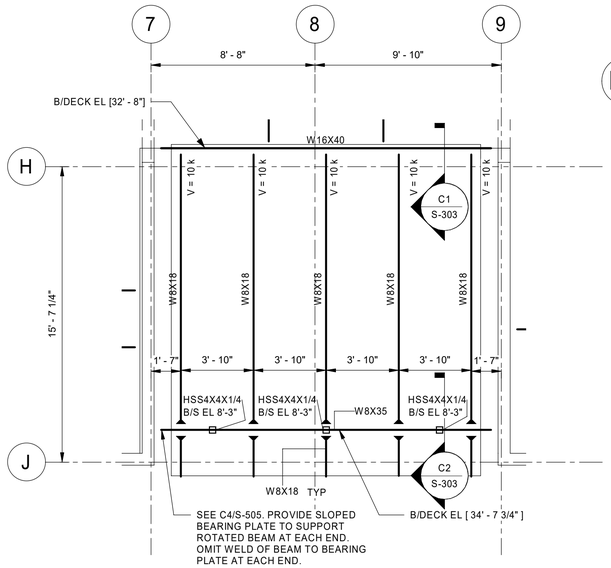
STRUCTURAL - SECTIONS - ROOF

SHEET ID
S-303

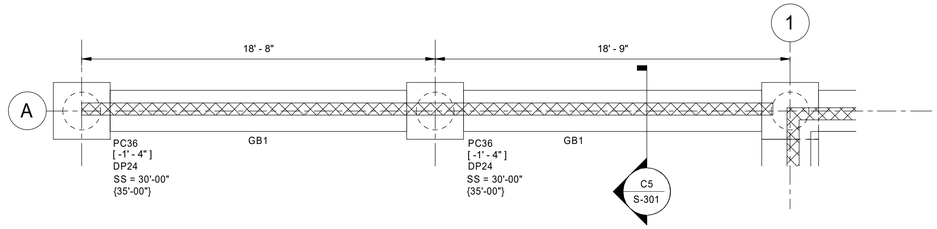
RTA SUBMISSION



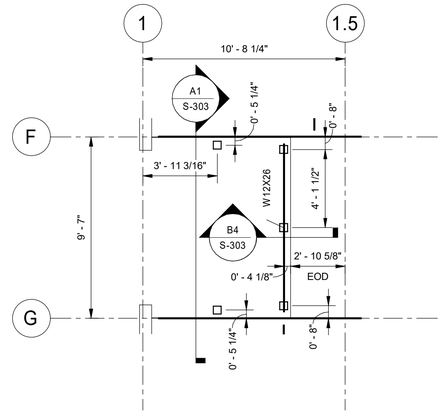
B1 MEP CHASE OPENING FRAMING PLAN
1/4" = 1'-0"



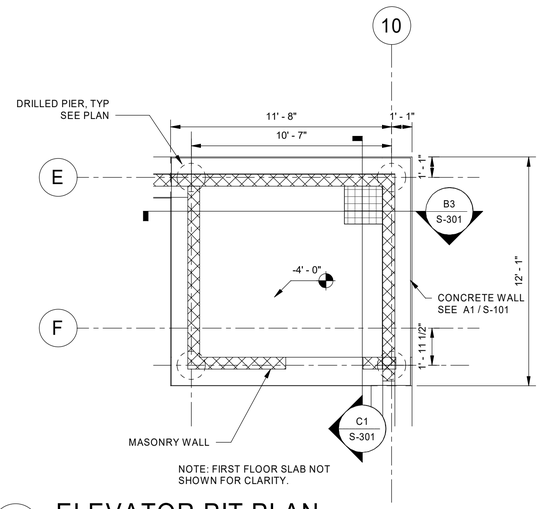
B2 ROOF ENTRANCE CANOPY FRAMING PLAN
1/4" = 1'-0"



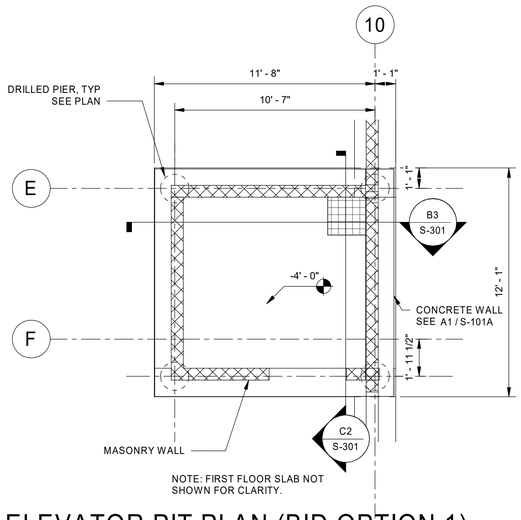
D3 MECHANICAL SCREEN WALL PLAN
1/4" = 1'-0"



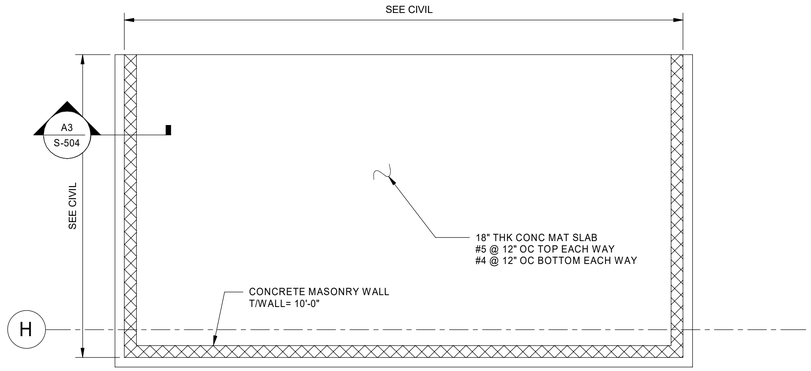
B4 WEST ROOF ENTRANCE FRAMING PLAN
1/4" = 1'-0"



A1 ELEVATOR PIT PLAN
1/4" = 1'-0"



A2 ELEVATOR PIT PLAN (BID OPTION 1)
1/4" = 1'-0"



NOTES
1. REFER TO CIVIL DRAWINGS FOR LOCATION.
2. COORDINATE FINISHES WITH ARCH.

A4 DUMPSTER ENCLOSURE
1/4" = 1'-0"

COMMONWEALTH OF VIRGINIA
MATTHEW T. BRETTHAUER
Lic. No. 60478
PROFESSIONAL ENGINEER
12/14/22

US Army Corps of Engineers ®

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DRAWN BY: J. PAQUETTE
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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

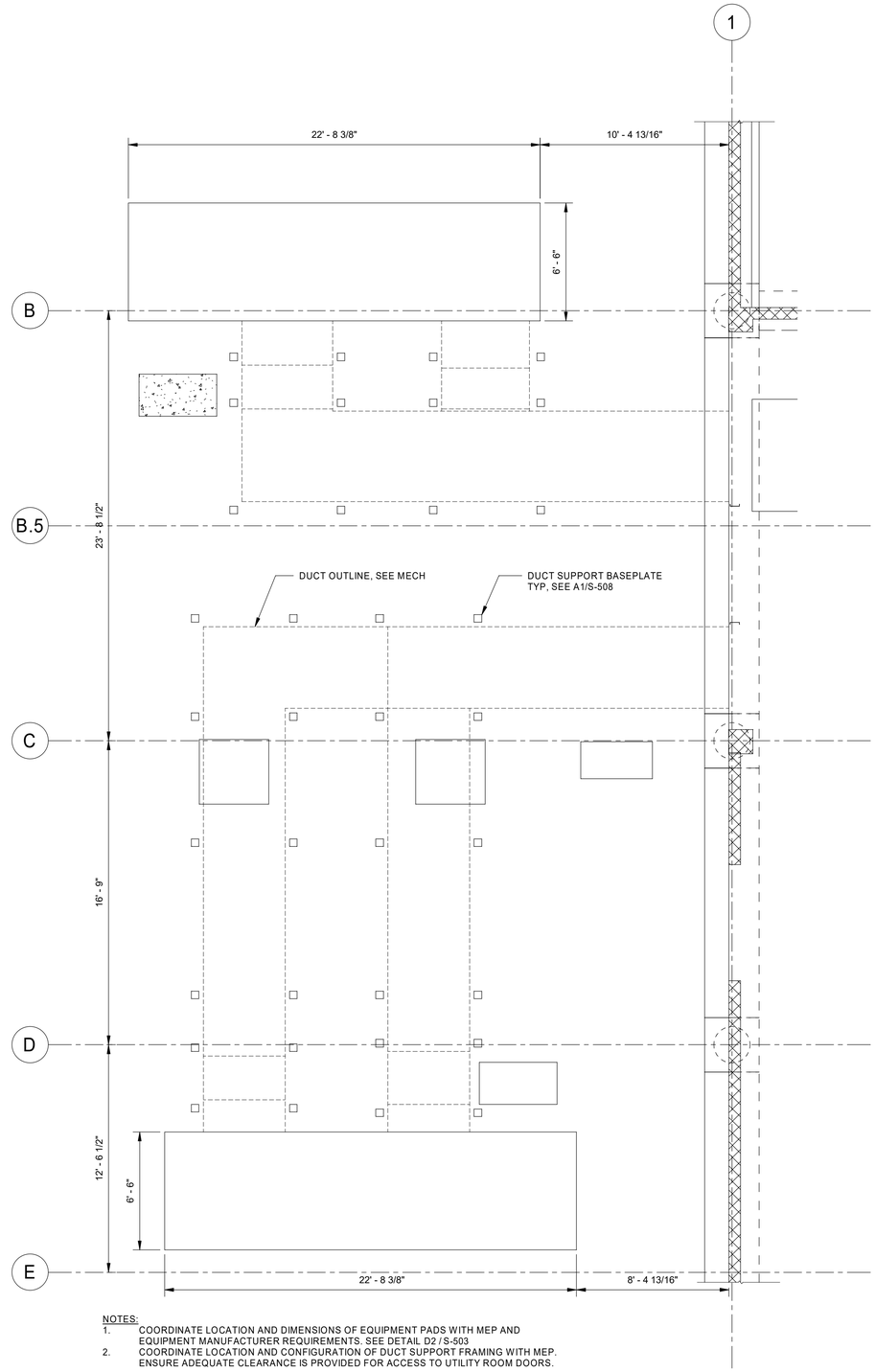
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - ENLARGED VIEWS

SHEET ID
S-401

RTA SUBMISSION



NOTES:
1. COORDINATE LOCATION AND DIMENSIONS OF EQUIPMENT PADS WITH MEP AND EQUIPMENT MANUFACTURER REQUIREMENTS. SEE DETAIL D2 / S-503
2. COORDINATE LOCATION AND CONFIGURATION OF DUCT SUPPORT FRAMING WITH MEP. ENSURE ADEQUATE CLEARANCE IS PROVIDED FOR ACCESS TO UTILITY ROOM DOORS.

A1 EXTERIOR MECHANICAL PADS PLAN
1/4" = 1'-0"

COMMONWEALTH OF VIRGINIA
MATTHEW T. BRETTHAUER
Lic. No. 60478
12/14/22
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. PAQUETTE
DRAWN BY:	J. PAQUETTE
CHECKED BY:	A. POZOLO
SUBMITTED BY:	
SIZE:	
ANSI 'D'	
FILE NAME:	

ISSUE DATE:	14 DECEMBER 2022
SOLICITATION NO.:	W9128P22R0017
CONTRACT NO.:	
FILE NUMBER:	

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - ENLARGED VIEWS

SHEET ID
S-402

CONCRETE FOUNDATION WALL SCHEDULE						
MARK	THICKNESS (IN)	REINF "A"	REINF "B"	REINF "C"	REINF "D"	REMARKS
CW8	8	#4@12"	#4@12"	-	-	-
CW15	15	#4@12"	#4@12"	#4@12"	#4@12"	-
CW18	18	#6@12"	#4@12"	#5@12"	#4@12"	-

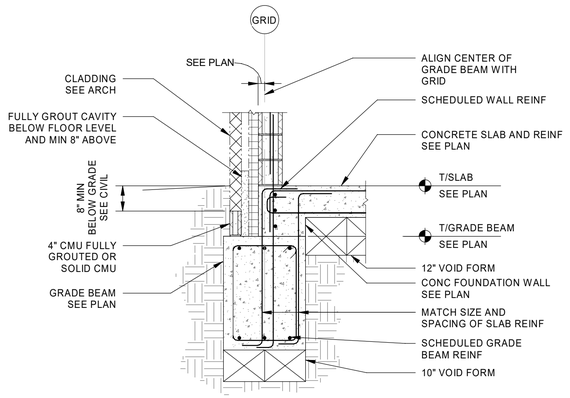
D1 FOUNDATION WALL SCHEDULE
NTS

PIER CAP SCHEDULE				
MARK	LENGTH	WIDTH	THICKNESS	REINFORCEMENT
PC30	2'-6"	2'-6"	3'-0"	(3) #5 T&B
PC36	3'-0"	3'-0"	3'-0"	(4) #5 T&B
PC42	3'-6"	3'-6"	3'-0"	(5) #5 T&B

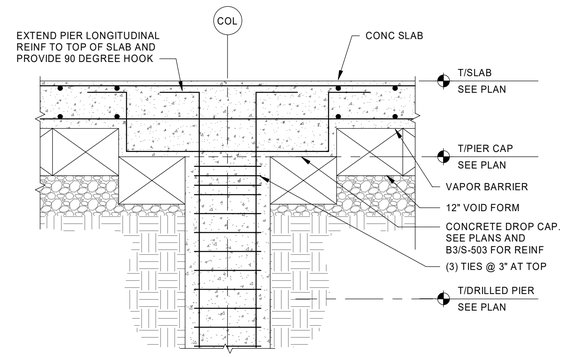
D3 PIER CAP SCHEDULE
NTS

DRILLED PIER SCHEDULE				
MARK	DIAMETER	VERT REINF	TIES	REMARKS
DP18	1'-6"	6#7	#3@6" TOP 15', #3@12 R	VERT REINF FULL LENGTH OF PIER
DP24	2'-0"	8#8	#3@6" TOP 15', #3@12 R	VERT REINF FULL LENGTH OF PIER

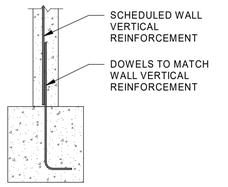
D4 DRILLED PIER SCHEDULE
NTS



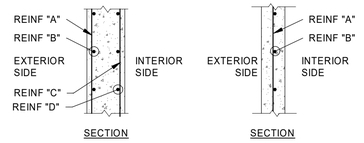
C1 SLAB CONNECTION TO FOUNDATION WALL AND GRADE BEAM
NTS



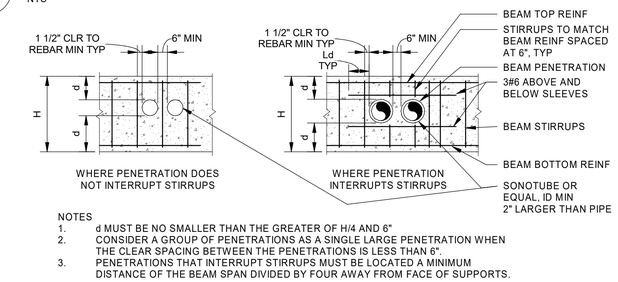
C3 SLAB AT DRILLED PIER
NTS



B1 CONCRETE WALL BEARING ON FOUNDATION
NTS

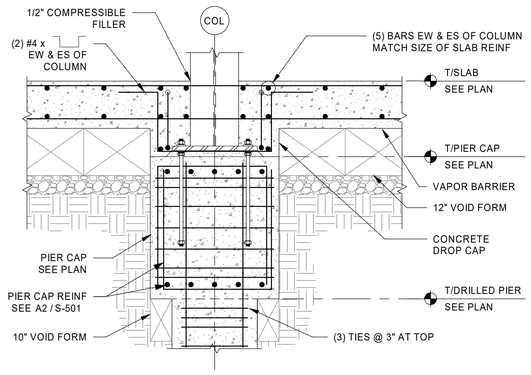


B2 FOUNDATION WALL REINFORCEMENT
NTS

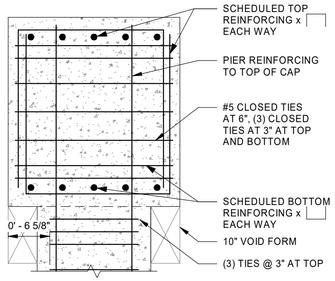


NOTES
1. d MUST BE NO SMALLER THAN THE GREATER OF H/4 AND 6"
2. CONSIDER A GROUP OF PENETRATIONS AS A SINGLE LARGE PENETRATION WHEN THE CLEAR SPACING BETWEEN THE PENETRATIONS IS LESS THAN 6".
3. PENETRATIONS THAT INTERRUPT STIRRUPS MUST BE LOCATED A MINIMUM DISTANCE OF THE BEAM SPAN DIVIDED BY FOUR AWAY FROM FACE OF SUPPORTS.

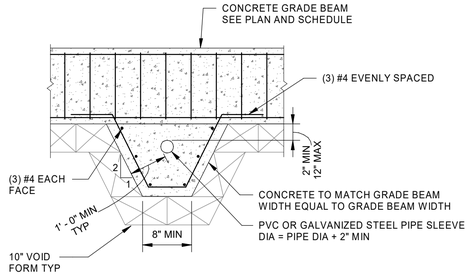
B3 GRADE BEAM PENETRATION
1/2" = 1'-0"



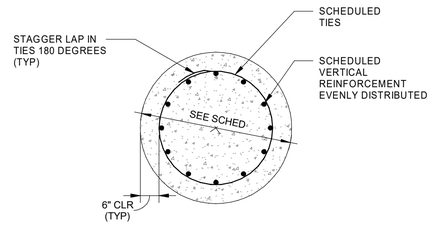
A1 PIER CAP & SLAB CONNECTION
3/4" = 1'-0"



A2 PIER CAP ELEVATION
NTS



A3 PIPE SLEEVE UNDERNEATH BEAM
1/2" = 1'-0"



A4 DRILLED PIER SECTION
NTS

COMMONWEALTH OF VIRGINIA
MATTHEW T. BRETTHAUER
Lic. No. 60478
12/14/22
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

DATE	DESCRIPTION	MARK

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DESIGNED BY: J. PAQUETTE
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CHECKED BY: A. POZOLO
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - TYPICAL DETAILS - FOUNDATION

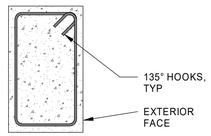
SHEET ID
S-501

RTA SUBMISSION

CONCRETE GRADE BEAM SCHEDULE

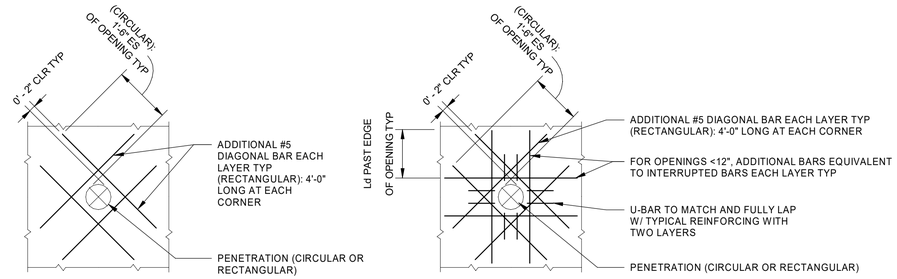
MARK	BEAM SIZE		REINFORCEMENT								
	WIDTH (IN)	DEPTH (IN)	TOP BARS			BOT BARS	SIDE BARS	STIRRUPS			REMARKS
			LEFT	CONT	RIGHT			TYPE	SIZE	SPACING	
GB1	26	36	-	(5) #9	-	(5) #9	-	C1	#4	@6" FOR 1/3 SPAN, R@12"	
GB2	20	36	-	(4) #9	-	(4) #9	-	C1	#4	@12"	
GB3	36	36	-	(8) #7	-	(8) #7	-	C1	#4	@6" FOR 1/3 SPAN, R@12"	
GB4	18	36	-	(4) #7	-	(4) #7	-	C1	#4	@12"	

C1 CONCRETE GRADE BEAM SCHEDULE
12" = 1'-0"



TYPE C1

C3 STIRRUP TYPES
NTS

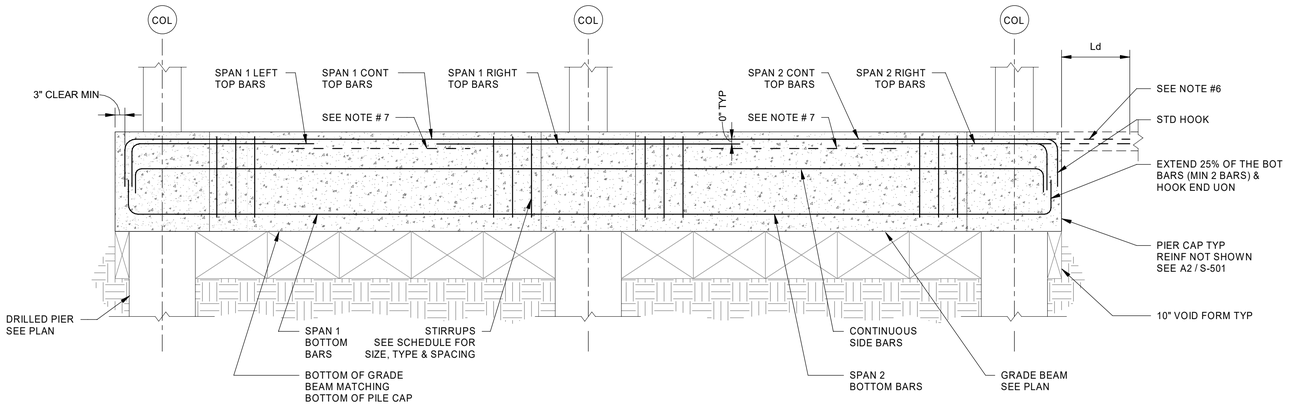


PENETRATION DOES NOT INTERRUPT TYPICAL REINFORCING

PENETRATION INTERRUPTS TYPICAL REINFORCING

NOTES: 1. TYPICAL SLAB/SOG/MAT/WALL REINFORCING NOT SHOWN.
2. OPENINGS LESS THAN 6" MAY BE CORE DRILLED WITH WRITTEN APPROVAL OF EOR.

C4 CONCRETE SLAB PENETRATION (>6")
NTS

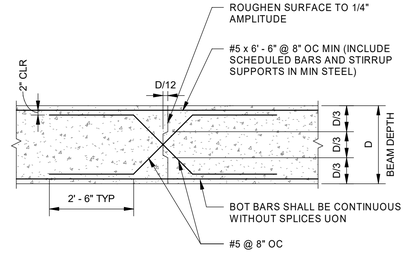


CONCRETE GRADE BEAM

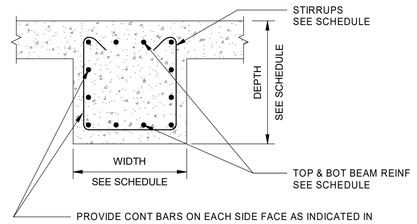
NOTES:

1. Ln IS THE GREATER OF ADJACENT CLEAR SPANS Ln1 AND Ln2.
2. Ld = TENSION DEVELOPMENT LENGTH.
3. TOP REINFORCEMENT OVER A SUPPORT COMMON TO TWO SPANS IS THE GREATER OF THE TYPICAL (SHORT) TOP BARS SCHEDULED FOR THE APPLICABLE ENDS OF THE ADJACENT BEAMS PLUS THE GREATER OF THE FULL LENGTH TOP BARS SCHEDULED.
4. IF NOT SPECIFIED IN THE SCHEDULE, AT LEAST 33% OF THE TOP BARS SHALL BE FULL LENGTH, 2 BARS MIN.
5. FULL LENGTH TOP BARS MUST BE CONTINUOUS OR SPLICED AT MIDSPAN WITH A CLASS B TENSION LAP.
6. EXTEND TOP BARS WHERE SLAB IS CONTINUOUS BEYOND SUPPORT IN LIEU OF STD HOOK.
7. ADDL #5 STIRRUP SUPPORT BARS AS REQ'D TO PROVIDE A BAR IN EVERY CORNER OF THE STIRRUPS.
8. WHERE SIDE FACE REINFORCEMENT IS REQD, PROVIDE EQUAL SPACING BETWEEN INNERMOST LAYERS OF BEAM MAIN REINFORCEMENT.
9. THE LEFT AND RIGHT ENDS OF BEAMS ARE DETERMINED FROM THE BEAM MARK WHICH READS LEFT TO RIGHT.

A1 CONCRETE GRADE BEAM REINFORCEMENT
NTS



B4 CONC BEAM CONSTRUCTION JOINT
NTS



A4 CONC BEAM REINF SECTION
NTS

COMMONWEALTH OF VIRGINIA
MATTHEW T. BRETTHAUER
Lic. No. 60478
12/14/22
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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FILE NUMBER:

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SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

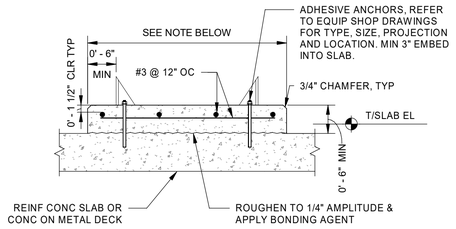
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - TYPICAL DETAILS - FOUNDATION & CONCRETE SLAB

SHEET ID
S-502

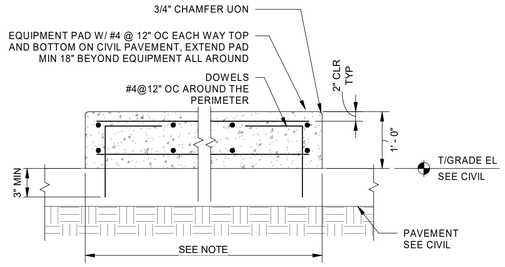
RTA SUBMISSION



NOTE: COORDINATE PAD LOCATIONS AND SIZE WITH ELECTRICAL & MECHANICAL DRAWINGS AND EQUIP MANUFACTURER'S RECOMMENDATIONS

D1 INTERIOR EQUIPMENT PAD DETAIL

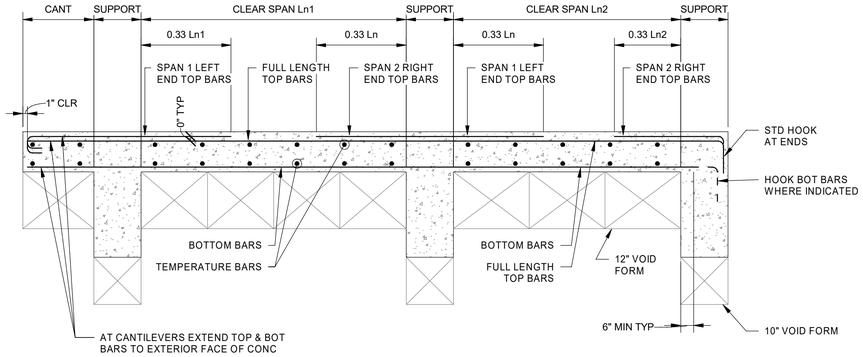
NTS



NOTE: COORDINATE PAD LOCATION AND SIZE WITH ARCHITECURAL, CIVIL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS AND EQUIPMENT MANUFACTURER'S RECOMMENDATIONS

D2 EXTERIOR EQUIPMENT PAD

NTS



CONCRETE ONE-WAY SLAB SCHEDULE

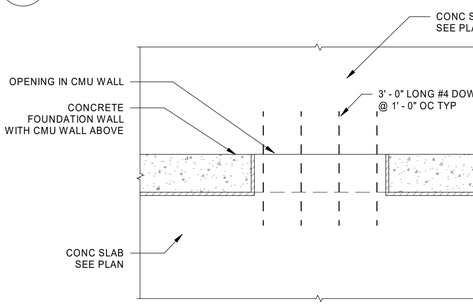
MARK	SLAB THK (in)	REINFORCING					REMARKS
		TOP BARS			BOT BARS	TEMP BARS	
		LEFT END	CONT	RIGHT END			
S6	6	-	#4@10"	-	#4@10"	#4@12"	BOT BARS
S10	10	-	#5@10"	-	#5@10"	#4@12"	TOP & BOT BARS

1-WAY CONCRETE SLAB NOTES:

1. Ln IS THE GREATER OF ADJACENT CLEAR SPANS Ln1 AND Ln2.
2. TOTAL TOP REINF OVER A SUPPORT COMMON TO TWO SPANS IS THE GREATER OF THE TOP (SHORT) BARS SCHEDULED FOR THE APPLICABLE ENDS OF THE ADJACENT SLABS PLUS THE GREATER OF THE SCHEDULED FULL LENGTH BARS.
3. FULL LENGTH TOP BARS MUST BE CONTINUOUS OR SPLICED AT MIDSPAN WITH A CLASS B TENSION LAP.
4. ALTERNATE BARS OF DIFFERING LENGTHS.
5. FOR SLABS 6" AND LESS THICK PROVIDE TEMPERATURE BARS IN THE BOTTOM, FOR SLABS GREATER THAN 6" THICK PROVIDE TEMPERATURE BARS IN BOTH THE TOP AND BOTTOM.
6. TEMPERATURE REINFORCING MUST BE CONTINUOUS OR SPLICED WITH A CLASS B TENSION LAP.

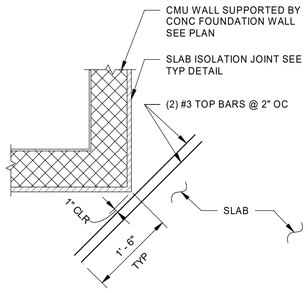
C3 1-WAY CONCRETE SLAB REINFORCING DETAIL

NTS



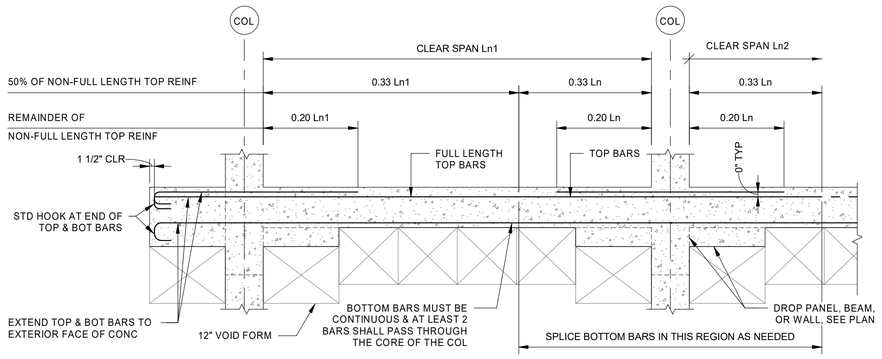
C1 SLAB REINF AT INTERIOR DOORS

NTS



C2 SLAB RE-ENTRANT CORNER REINF

NTS

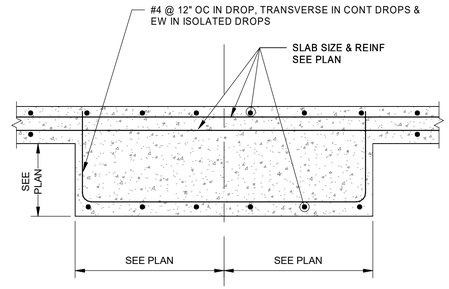


TYPICAL 2-WAY CONCRETE SLAB NOTES:

1. Ln IS THE GREATER OF ADJACENT CLEAR SPANS Ln1 AND Ln2
2. SEE PLAN FOR SLAB THICKNESS, DROP PANEL SIZE, AND ADDITIONAL REINFORCING.
3. FULL LENGTH BARS MUST BE CONTINUOUS OR SPLICED WITH A CLASS B TENSION LAP. SPLICE TOP BARS AT MIDSPAN.
4. ALTERNATE DIFFERENT LENGTH BARS.
5. BOTTOM BARS WITHIN CONTINUOUS DROP PANELS MUST BE PLACED IN THE BOTTOM OF DROP PANEL.

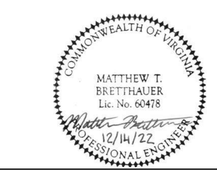
A1 2-WAY SLAB - COLUMN AND MIDDLE STRIP REINF DETAIL

NTS



B3 2-WAY SLAB DROP REINF

NTS



US Army Corps of Engineers ®

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DRAWN BY: J. PAQUETTE
CHECKED BY: A. POZOLO
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

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JACOBS
1100 N. GLEBE ROAD, SUITE 500
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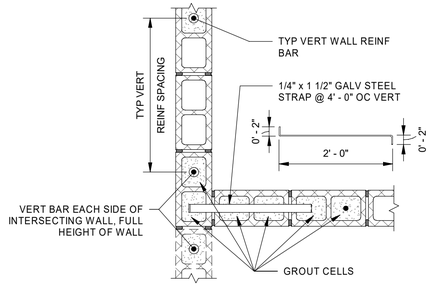
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

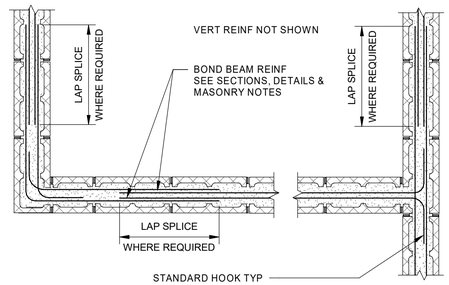
STRUCTURAL - TYPICAL DETAILS - CONCRETE SLAB

SHEET ID

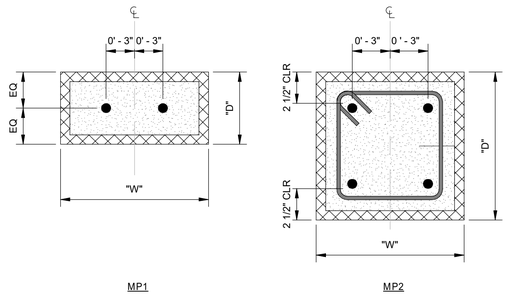
S-503



D1 MASONRY CORNER REINFORCING
NTS

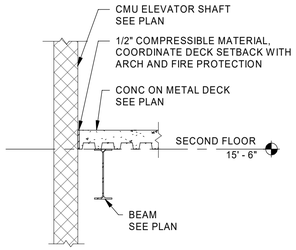


D2 CMU BOND BEAM CORNERS
NTS

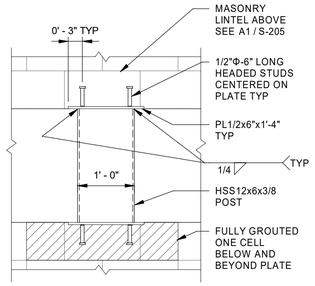


MASONRY PIER SCHEDULE					
MARK	WIDTH, "W"	DEPTH, "D"	VERT REINF	HORIZ REINF	REMARKS
MP1	16"	8"	2#4	-	
MP2	16"	16"	4#5	#3@8"	
-	-	-	-	-	

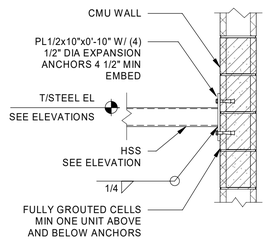
B1 MASONRY PIER SCHEDULE
NTS



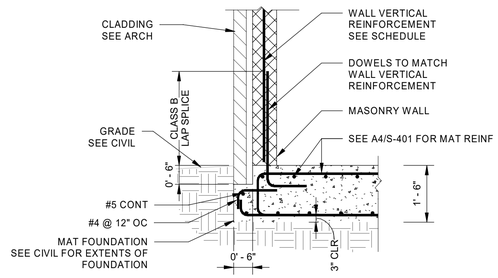
B2 DECK SETBACK AT ELEVATOR
1/2" = 1'-0"



A1 HSS CMU SUPPORT
NTS



A2 HSS TO CMU CONNECTION
NTS



A3 DUMPSTER ENCLOSURE FOUNDATION UNDER MASONRY WALL
NTS

US Army Corps of Engineers ®

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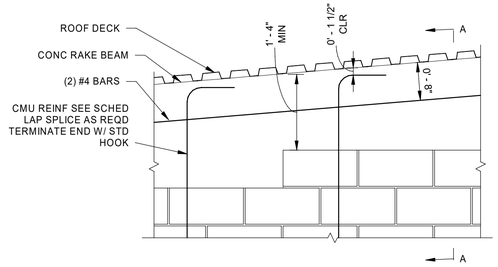
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - TYPICAL DETAILS - MASONRY

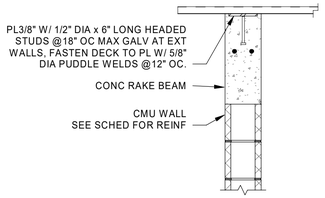
SHEET ID
S-504

RTA SUBMISSION



D1 CONCRETE RAKE BEAM

NTS

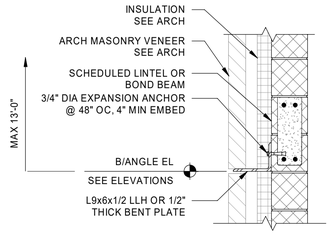


SECTION A-A

MASONRY LINTEL SCHEDULE					
MARK	DEPTH (IN)	TOP REINF	BOT REINF	STIRRUPS	REMARKS
L1	24	--	(2) #5	#4@16" OC	--
L2	48	--	(2) #6	#4@16" OC	--
L3	16	--	(1) #5	--	--
L4	48	(2) #5	(2) #5	#4@16" OC	--

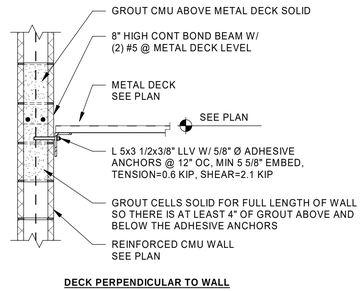
D3 MASONRY LINTEL SCHEDULE

NTS

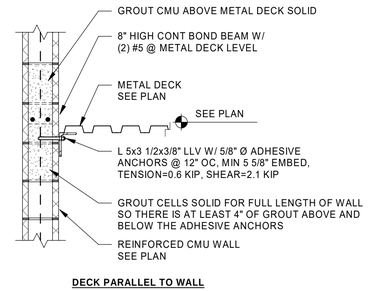


D4 TYPICAL SHELF ANGLE

3/4" = 1'-0"



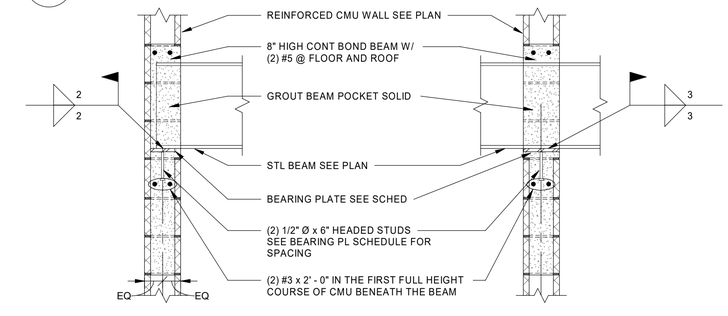
DECK PERPENDICULAR TO WALL



DECK PARALLEL TO WALL

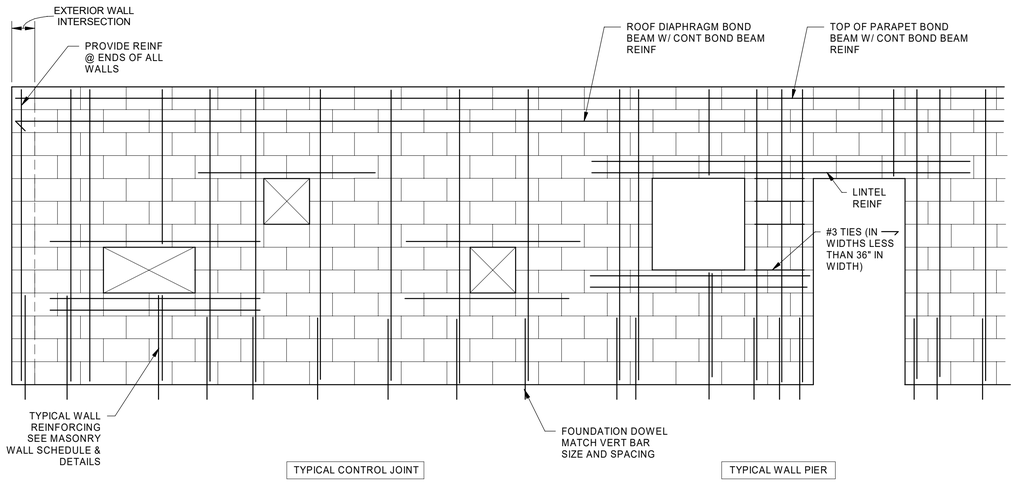
C2 METAL DECK SUPPORT AT CMU WALL

NTS



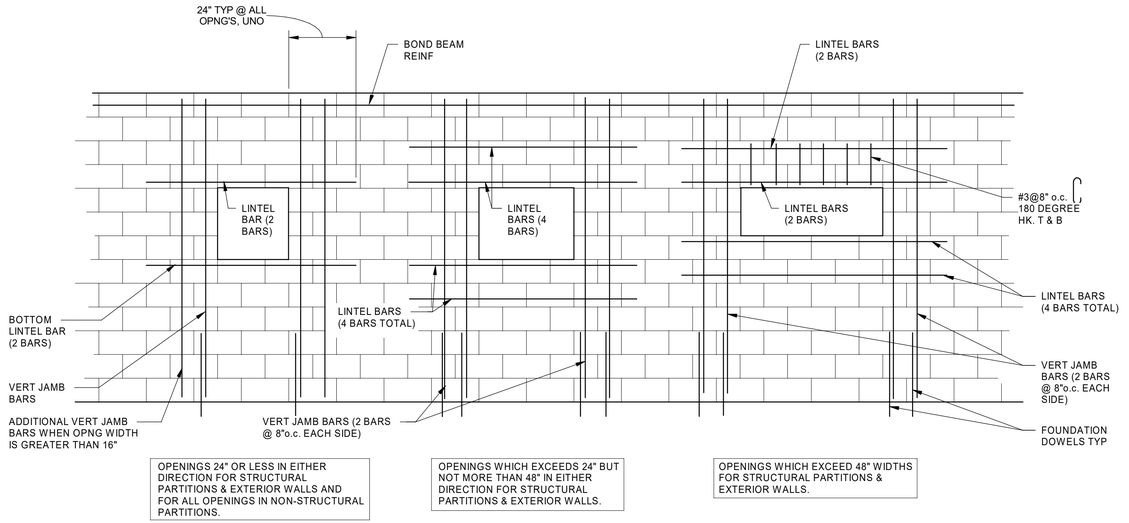
C4 STEEL BEAM ON CMU WALL

NTS



NOTES:
1. PROVIDE 135 DEGREE HOOK FOR BOND BEAM REINF AT ENDS OR CORNERS OF WALLS. HOOK HORIZ REINF AROUND VERT REINF.
2. PROVIDE CONTROL JOINT (CJ) SPACING AT NON-LOADBEARING CMU WALLS AT A DISTANCE EQUAL TO THE LESSER OF 25'-0" OR 1.5 TIMES THE WALL HEIGHT TYP UON. PROVIDE CONTROL JOINT SPACING AT LOAD-BEARING CMU WALLS AS INDICATED ON THE WALL ELEVATIONS, SEE S-200 SERIES DRAWINGS.
3. STOP HORZ JOINT REINF ON EITHER SIDE OF CJ.
4. REINFORCE NON-LOAD BEARING CMU WALLS WITH #5@48" O.C.

TYPICAL REINFORCED CMU DETAILS

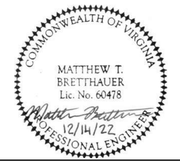


NOTES:
1. TYPICAL WALL REINFORCING NOT SHOWN FOR CLARITY.
2. TYPICAL LINTEL/BOND BEAM BARS EQUAL 2-#5
3. VERTICAL JAMB REINF MUST MATCH TYP WALL REINF.
4. TYPICAL BOND BEAMS NOT SHOWN FOR CLARITY.
5. ONLY SOLID BOTTOM LINTEL BLOCK UNITS WILL BE ALLOWED OVER DOORS/WINDOWS.
6. OPENINGS WITH LESS THAN 24" BETWEEN THEM MUST BE CONSIDERED AS SINGLE OPENING WHEN SELECTING LINTEL SIZE.

MINIMUM REINFORCEMENT AROUND CMU OPENINGS

A1 TYPICAL CMU DETAILS

1" = 1'-0"



US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: J. PAQUETTE
DRAWN BY: J. PAQUETTE
CHECKED BY: A. POZOLO
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

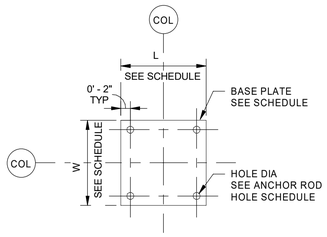
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

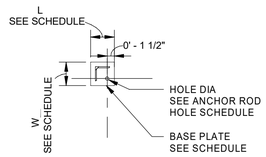
STRUCTURAL - TYPICAL DETAILS - MASONRY

SHEET ID

S-505



TYPE 1



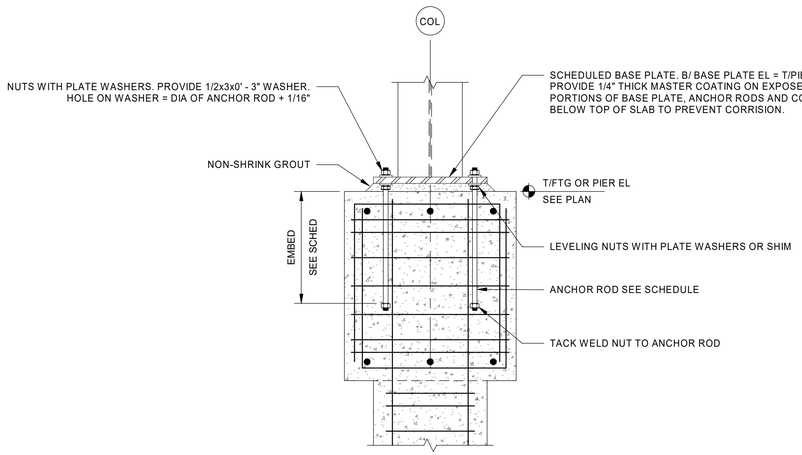
TYPE 2

NOTES:

1. SET AND SECURE ANCHOR RODS WITH TEMPLATES PRIOR TO PLACING CONCRETE.
2. PROVIDE 1/2" MINIMUM EXTENSION OF ANCHOR RODS ABOVE TOP OF NUT.
3. INSTALL GROUT AFTER COLUMN HAS BEEN PLUMBED.

C1 COLUMN BASE PLATE PLANS

NTS



B1 ANCHOR ROD

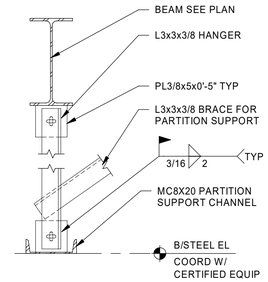
NTS

BASE PLATE SCHEDULE										
BASE PLATE MARK	TYPE	PLATE DIMENSION			WELD A (in)	ANCHOR ROD DIA (in)	SHEAR LUG			
		W (in)	L (in)	THK (in)			DEPTH (in)	THK (in)	WELD B (in)	PARALLEL TO (in)
B1	1	16	16	3/4	1/4	3/4	-	-	-	-
B2	2	5	5	3/8	3/16	3/4	-	-	-	-

ANCHOR ROD SCHEDULE		
AHR ROD DIA (in)	HOLE DIA (in)	EMBED (in)
3/4	1 5/16	12

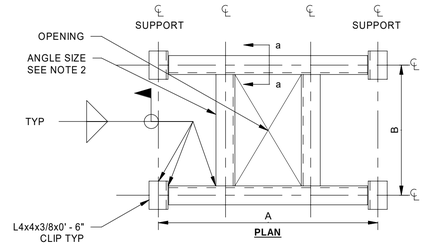
A1 BASE PLATE DETAILING SCHEDULE

NTS

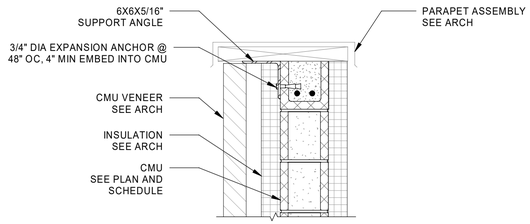


D3 SUPPORT FOR OPERABLE PARTITIONS

NTS

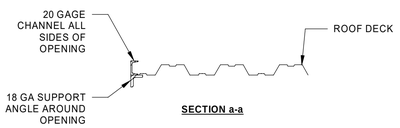


PLAN



D4 PARAPET SUPPORT

NTS



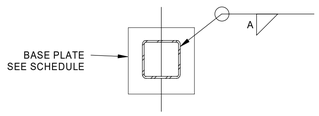
SECTION a-a

NOTES:

1. COORD SIZE AND LOCATION OF OPENING AND FRAME W/ ACTUAL EQUIPMENT FURNISHED.
2. FRAME ANGLE SIZES: (GREATER OF SPAN A OR B)
   0' - 0" TO 2' - 0" = L3x3x1/4"
   2' - 0" TO 5' - 0" = L4x3 1/2x5/16" LLV
   5' - 0" TO 10' - 0" = L5x3 1/2x3/8" LLV

B3 FLOOR AND ROOF DECK PENETRATION FRAMING

NTS

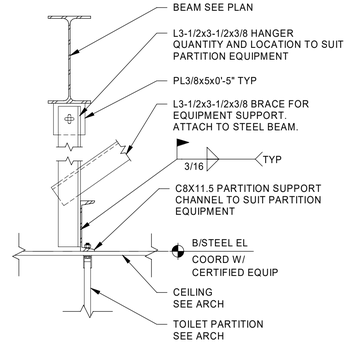


NOTE:

1. "A" INDICATES WELD SIZE, SEE SCHEDULE.

A3 BPL TO STL COL WELD

NTS



A4 SUPPORT FOR TOILET PARTITIONS

NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: J. PAQUETTE
DRAWN BY: J. PAQUETTE
CHECKED BY: A. POZOLO
SUBMITTED BY:
FILE NAME:
SIZE: ANSI 'D'

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

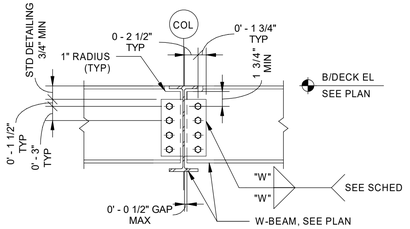
STRUCTURAL - TYPICAL DETAILS - STEEL FRAMING

SHEET ID

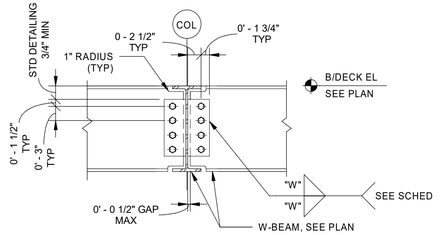
S-506

SINGLE PLATE SHEAR CONNECTION SCHEDULE FOR 3/4" ⌀ BOLTS				
BEAM SIZE	NO. OF BOLT ROWS	A36 PLATE SIZE	FILLET WELD SIZE "W"	ϕRn CAPACITY
W12	3	PL 3/8x4-1/2x0'-9"	1/4"	44k
W16 W18	4	PL 3/8x4-1/2x1'-0"	1/4"	63k
W21	5	PL 3/8x4-1/2x1'-3"	1/4"	82k
W24	6	PL 3/8x4-1/2x1'-6"	1/4"	100k
W30	8	PL 3/8x4-1/2x2'-0"	1/4"	137k

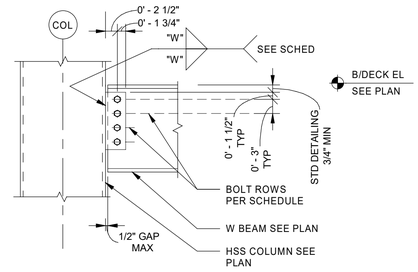
D1 SHEAR CONNECTION SCHEDULE
NTS



AT UNEQUAL BEAM DEPTH



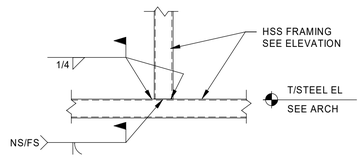
AT EQUAL BEAM DEPTH



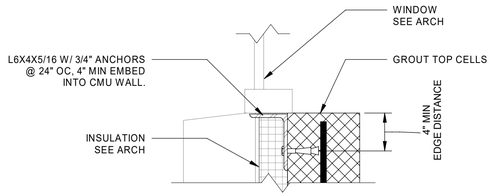
NOTES:

1. PROVIDE SHEAR CONNECTION IN ACCORDANCE WITH AISC STANDARD.
2. ALL BOLTS HOLES ARE SHORT SLOTTED HOLES IN THE PLATE AND STD HOLES IN THE BEAM WEB.
3. ALTERNATIVE CONNECTION MAY BE USED IN LIEU OF CONNECTION SHOWN. IN THIS CASE, SUPPORTING CALCULATIONS MUST BE PROVIDED.
4. PROVIDE SHEAR CONNECTION WITH FACTORED SHEAR CAPACITY (LRFD) TO EXCEED SHEAR DEMAND INDICATED IN THE SCHEDULE. MIN BOLTS INDICATED IN GEN NOTES.

D2 TYP SHEAR CONNECTION
NTS

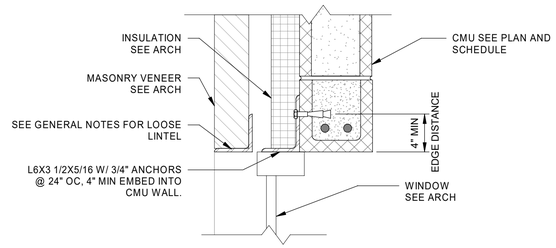


C1 HSS TO HSS CONNECTION
NTS



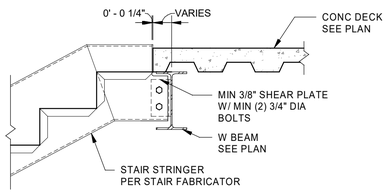
NOTE: COORDINATE LENGTH OF SUPPORT ANGLE WITH WINDOWS SIZE. REFER TO ARCH WINDOW SCHEDULE.

C2 TYP WINDOW LEDGER ANGLE
NTS

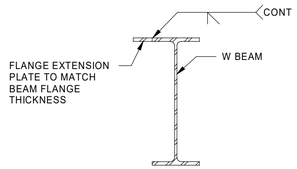


NOTE: COORDINATE LENGTH OF SUPPORT ANGLE WITH WINDOWS SIZE. REFER TO ARCH WINDOW SCHEDULE.

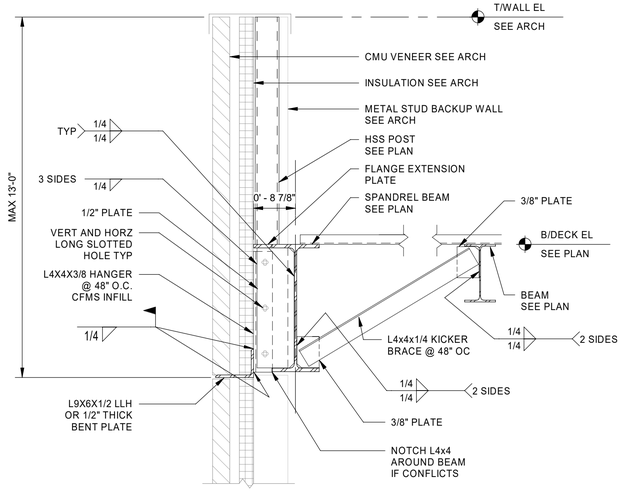
C3 TYP 1ST FLOOR WINDOW HEADER ANGLE
NTS



B1 TYP STAIR STRINGER
NTS

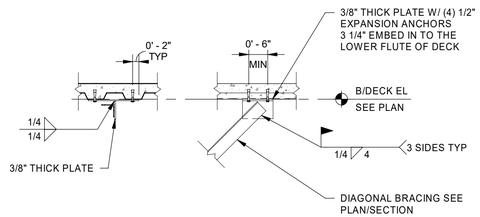


A1 TYP FLANGE EXTENSION PLATE
NTS



NOTE: MAINTAIN CONSISTENT ELEVATION OF SHELF ANGLE AROUND THE STRUCTURE WHERE THIS DETAIL APPLIES.

A2 SHELF ANGLE AT METAL STUD WALLS
NTS



A4 TYP BRACING CONNECTION TO METAL DECK
NTS

MATTHEW T. BRETTHAUER
Lic. No. 60478
12/14/22
COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. PAQUETTE
DRAWN BY: J. PAQUETTE
CHECKED BY: A. POZOLO
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:
ISSUE DATE: 14 DECEMBER 2022
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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

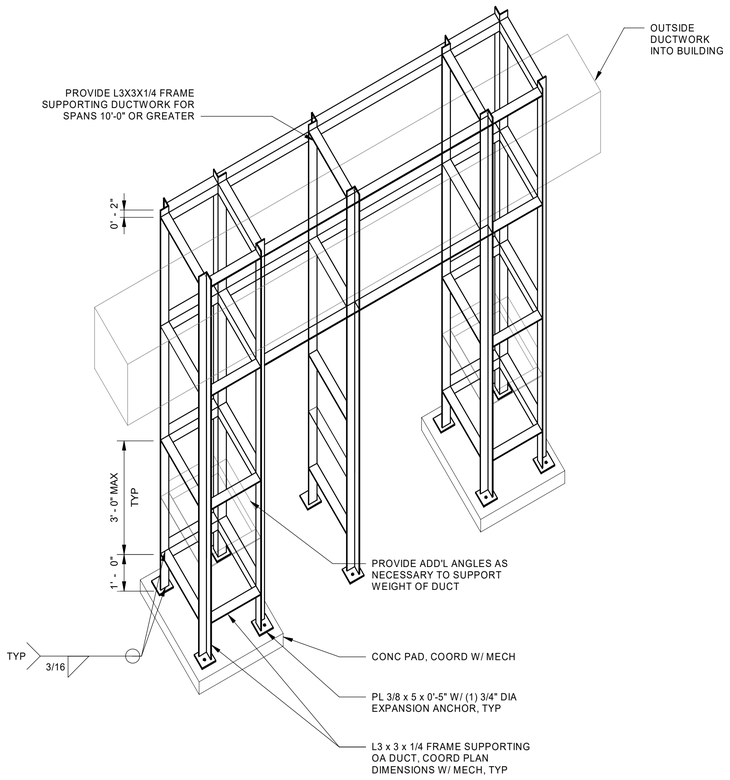
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

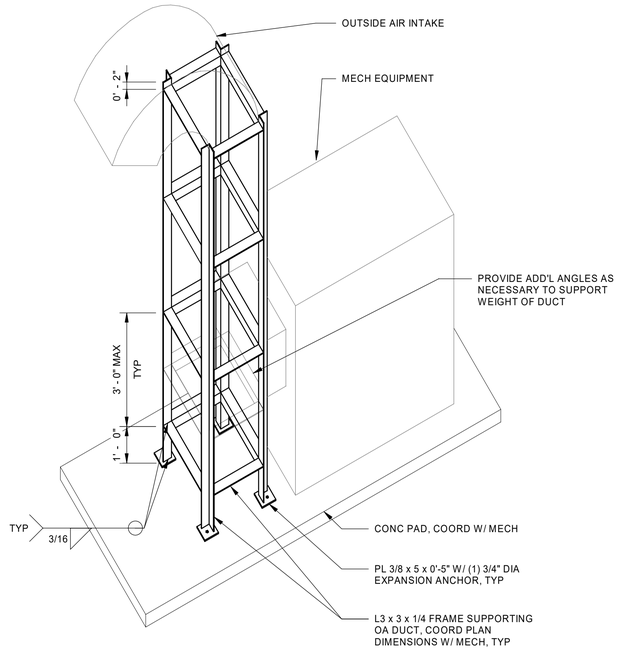
STRUCTURAL - TYPICAL DETAILS - STEEL FRAMING

SHEET ID
S-507

RTA SUBMISSION



A1 DUCT SUPPORT
NTS



A3 DUCT SUPPORT
NTS

COMMONWEALTH OF VIRGINIA
MATTHEW T. BRETTHAUER
Lic. No. 60478
PROFESSIONAL ENGINEER
12/14/22

US Army Corps of Engineers ®

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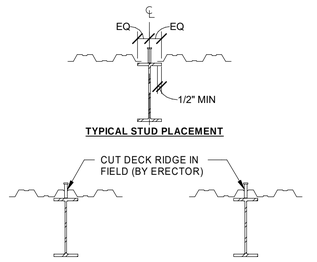
BUCKLEY SFB, CO

STRUCTURAL - TYPICAL DETAILS - STEEL FRAMING

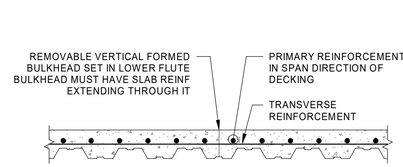
SHEET ID
S-508

RTA SUBMISSION



C1 COMPOSITE DECK - PLACEMENT DETAIL

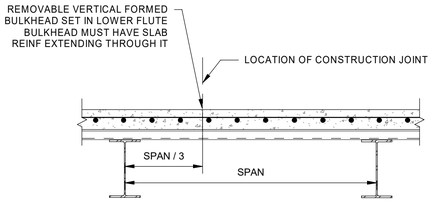
NTS



NOTE:

1. CONSTRUCTION JOINTS SHALL BE LOCATED NO CLOSER THAN 5' - 0" FROM THE CENTER LINE OF THE NEAREST GIRDER.

PARALLEL TO DECK FLUTES



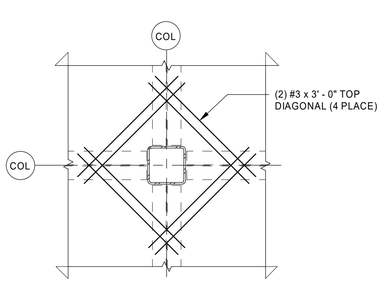
NOTES:

1. CHAIR REINFORCING TO MAINTAIN CLEARANCE SHOWN.

PERPENDICULAR TO DECK FLUTES

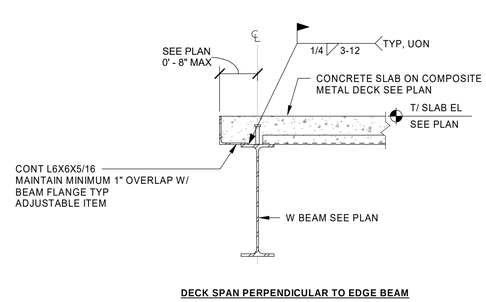
C2 CONCRETE SLAB ON METAL DECK - CONSTRUCTION JOINT

NTS



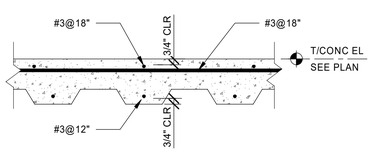
B1 SLAB ON MTL DECK REINF AT INT COL

NTS



B2 COMPOSITE DECK SLAB EDGE - 6" TO 8" OVERHANG

NTS



A1 COMPOSITE DECK REINFORCEMENT

NTS

STEEL DECKING SCHEDULE

MARK[1]	DECKING DEPTH (IN)	DECKING RIB WIDTH	MIN I (IN^4/FT)	MIN S (IN^3/FT)	MIN YIELD STRESS (KSI)	MIN UNCOATED SHEET THICKNESS	SPAN CONDITION	CONCRETE THICKNESS[2] (IN)	SHEAR CONNECTOR SIZE (DIA X LENGTH)	FASTENER PATTERN
D3	3	DEEP	1.238	0.688	40	0.0474	TRIPLE	-	-	SUPPORTS: 3/4" PUDDLE WELDS WITH 24/4 PATTERN. SIDELAPS: 5/8" PUDDLE WELDS @ 10"
D2+4	2	N/A	0.558	0.485	50	0.0474	TRIPLE	4	3/4X4	SUPPORTS: 5/8" PUDDLE WELDS WITH 36/4 PATTERN. SIDELAPS: #10 SCREWS @ 12" OC

NOTES:
1. THE ORIENTATION OF THE MARK ON THE PLAN INDICATES THE DIRECTION OF THE DECK SPAN.
2. CONCRETE THICKNESS IS THICKNESS ABOVE TOP OF DECKING.
3. DECKS FILLED WITH CONCRETE MUST BE COMPOSITE DECKS.

A2 STEEL DECKING SCHEDULE

NTS

COMMONWEALTH OF VIRGINIA
MATTHEW T. BRETTHAUER
Lic. No. 60478
PROFESSIONAL ENGINEER
12/14/22

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: J. PAQUETTE
DRAWN BY: J. PAQUETTE
CHECKED BY: A. POZOLO
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - TYPICAL DETAILS - STEEL DECKING

SHEET ID

S-510

RTA SUBMISSION

SHEAR STUD LAYOUT PROCEDURE - DECK SPANING PERPENDICULAR TO BEAM

READ THROUGH THE ENTIRE LAYOUT PROCEDURE BEFORE INSTALLING ANY SHEAR STUDS, BECAUSE THE LOCATION OF THE STUDS IN THE DECK RIB IS DEPENDENT ON THE NUMBER OF STUDS THAT ULTIMATELY GET INSTALLED IN THAT RIB.

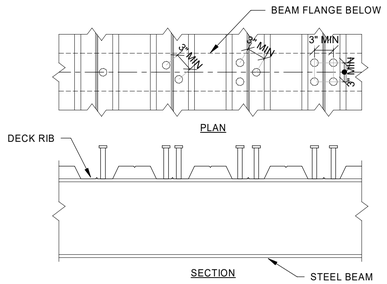
BEGIN LAYING OUT SHEAR STUDS AT THE ENDS OF THE BEAM (OR BEAM SEGMENT) AND WORK TOWARD THE CENTER OF THE BEAM.

1. FIRST SET OF SHEAR STUDS
   - A. LAYOUT THE FIRST SHEAR STUD OF THE FIRST SET IN THE FIRST RIB FROM THE END OF THE BEAM.
   - B. LAYOUT THE SECOND SHEAR STUD OF THE FIRST SET IN THE RIB THREE FEET FROM THE FIRST SHEAR STUD OF THE FIRST SET.
   - C. LAYOUT THE THIRD SHEAR STUD OF THE FIRST SET IN THE RIB THREE FEET FROM THE SECOND SHEAR STUD OF THE FIRST SET.
   - D. CONTINUE UNTIL YOU REACH THE CENTER OF THE BEAM (OR THE END OF THE BEAM SEGMENT).
   - E. REPEAT THIS AT THE OTHER END OF THE BEAM.
2. SECOND SET OF SHEAR STUDS
   - A. IF THERE ARE ADDITIONAL STUDS TO BE LAYED OUT, LAYOUT THE FIRST SHEAR STUD OF THE SECOND SET IN THE RIB NEXT TO THE FIRST SHEAR STUD OF THE FIRST SET.
   - B. LAYOUT THE SECOND SHEAR STUD OF THE SECOND SET IN THE RIB THREE FEET FROM THE FIRST SHEAR STUD OF THE SECOND SET.
   - C. LAYOUT THE THIRD SHEAR STUD OF THE SECOND SET IN THE RIB THREE FEET FROM THE SECOND SHEAR STUD OF THE SECOND SET.
   - D. CONTINUE UNTIL YOU REACH THE CENTER OF THE BEAM (OR THE END OF THE BEAM SEGMENT) OR UNTIL YOU RUN OUT OF SHEAR STUDS.
   - E. REPEAT THIS AT THE OTHER END OF THE BEAM.
3. THIRD SET OF SHEAR STUDS
   - A. IF THERE ARE ADDITIONAL STUDS TO BE LAYED OUT, LAYOUT THE FIRST SHEAR STUD OF THE THIRD SET IN THE RIB NEXT THE FIRST SHEAR STUD OF THE SECOND SET.
   - B. LAYOUT THE SECOND SHEAR STUD OF THE THIRD SET IN THE RIB THREE FEET FROM THE FIRST SHEAR STUD OF THE THIRD SET.
   - C. LAYOUT THE THIRD SHEAR STUD OF THE THIRD SET IN THE RIB THREE FEET FROM THE SECOND SHEAR STUD OF THE THIRD SET.
   - D. CONTINUE UNTIL YOU REACH THE CENTER OF THE BEAM (OR THE END OF THE BEAM SEGMENT) OR UNTIL YOU RUN OUT OF SHEAR STUDS.
   - E. REPEAT THIS AT THE OTHER END OF THE BEAM.
4. FOURTH SET OF SHEAR STUDS
   - A. IF THERE ARE ADDITIONAL STUDS TO BE LAYED OUT, LAYOUT THE FIRST SHEAR STUD OF THE FOURTH SET IN THE SAME RIB AS THE FIRST SHEAR STUD OF THE FIRST SET.
   - B. LAYOUT THE SECOND SHEAR STUD OF THE FOURTH SET IN THE SAME RIB AS THE SECOND SHEAR STUD OF THE FIRST SET.
   - C. LAYOUT THE THIRD SHEAR STUD OF THE FOURTH SET IN THE SAME RIB AS THE THIRD SHEAR STUD OF THE FIRST SET.
   - D. CONTINUE UNTIL YOU REACH THE CENTER OF THE BEAM (OR THE END OF THE BEAM SEGMENT) OR UNTIL YOU RUN OUT OF SHEAR STUDS.
   - E. REPEAT THIS AT THE OTHER END OF THE BEAM.
5. FIFTH SET OF SHEAR STUDS
   - A. IF THERE ARE ADDITIONAL STUDS TO BE LAYED OUT, LAYOUT THE FIRST SHEAR STUD OF THE FIFTH SET IN THE SAME RIB AS THE FIRST SHEAR STUD OF THE SECOND SET.
   - B. LAYOUT THE SECOND SHEAR STUD OF THE FIFTH SET IN THE SAME RIB AS THE SECOND SHEAR STUD OF THE SECOND SET.
   - C. LAYOUT THE THIRD SHEAR STUD OF THE FIFTH SET IN THE SAME RIB AS THE THIRD SHEAR STUD OF THE SECOND SET.
   - D. CONTINUE UNTIL YOU REACH THE CENTER OF THE BEAM (OR THE END OF THE BEAM SEGMENT) OR UNTIL YOU RUN OUT OF SHEAR STUDS.
   - E. REPEAT THIS AT THE OTHER END OF THE BEAM.
6. CONTINUE TO LAYOUT SHEAR STUDS IN THE PATTERN ESTABLISHED ABOVE.

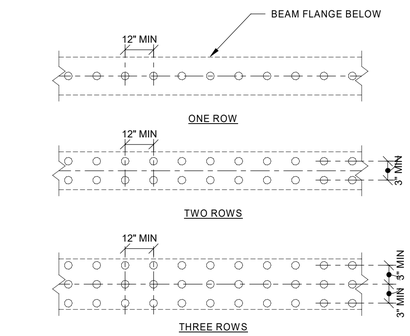
SHEAR STUD LAYOUT PROCEDURE - DECK SPANNING PARALLEL TO BEAM

READ THROUGH THE ENTIRE LAYOUT PROCEDURE BEFORE INSTALLING ANY SHEAR STUDS, BECAUSE THE LOCATION OF THE STUDS ON THE BEAM FLANGE IS DEPENDENT ON THE NUMBER OF STUDS THAT ULTIMATELY GET INSTALLED.

SPACE SHEAR STUDS IN A SINGLE ROW UNIFORMLY OVER THE LENGTH OF THE BEAM (OR BEAM SEGMENT). IF THE RESULTING SPACING IS LESS THAN 4-1/2" INCHES, USE TWO ROWS. IF RESULTING SPACING IS STILL LESS THAN 4-1/2" USE THREE ROWS.



MINIMUM SHEAR STUD SPACING - DECK SPANNING PERPENDICULAR TO BEAM



MINIMUM SHEAR STUD SPACING - DECK SPANNING PARALLEL TO BEAM

A1 COMPOSITE DECK - SHEAR STUD LAYOUT

NTS

COMMONWEALTH OF VIRGINIA
MATTHEW T. BRETTHAUER
Lic. No. 60478
12/14/22
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DRAWN BY: J. PAQUETTE
CHECKED BY: A. POZOLO
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

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Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - TYPICAL DETAILS - STEEL DECKING

SHEET ID
S-511

REINFORCING BAR DEVELOPMENT LENGTHS (INCHES), 4000 PSI				
	TOP BARS		OTHER BARS	
	CASE 1	CASE 2	CASE 1	CASE 2
#3	19	28	15	22
#4	25	37	19	29
#5	31	47	24	36
#6	37	56	29	43
#7	54	81	42	63
#8	62	93	48	72
#9	70	105	54	81
#10	79	118	61	91
#11	87	131	67	101

REINFORCING BAR DEVELOPMENT LENGTHS (INCHES), 5000 PSI				
	TOP BARS		OTHER BARS	
	CASE 1	CASE 2	CASE 1	CASE 2
#3	17	25	13	19
#4	22	33	17	25
#5	28	41	21	32
#6	33	50	25	38
#7	48	72	37	56
#8	55	83	42	64
#9	62	93	48	72
#10	70	105	54	81
#11	78	117	60	90

NOTES:
(1) TOP BARS AS DEFINED AS ANY BARS IN WHICH THE DEPTH OF THE CONCRETE CAST IN ONE LIFT BENEATH THE BARS EXCEEDS 1'-0".
(2) CASE 1: CLEAR SPACING OF BARS DEVELOPED OR SPLICED NOT LESS THAN db, CLEAR COVER NOT LESS THAN db, AND STIRRUPS OR TIES THROUGHOUT Ld NOT LESS THAN THE CODE MINIMUM OR CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN 2db AND CLEAR COVER NOT LESS THAN db.

CASE 2: BARS DEVELOPED OR SPLICED WITH CLEAR COVER AND/OR SPACING NOT MEETING THE REQUIREMENTS OF CASE 1.
(3) SPLICE LENGTHS:
a. CLASS A TENSION SPLICE, Lst = 1.0 Ld, 12 in MIN
b. CLASS B TENSION SPLICE, Lst = 1.3 Ld, 12 in MIN
c IF BARS OF DIFFERENT SIZES ARE LAP SPLICED IN TENSION, LAP SPLICE LENGTH (Lst) MUST BE THE GREATER OF Ld OF THE LARGER BAR AND Lst OF THE SMALLER BAR.
d. COMPRESSION SPLICE, Lsc = 30db, 12 in MIN
e. IF BARS OF DIFFERENT SIZES ARE LAP SPLICED IN COMPRESSION, LAP SPLICE LENGTH (Lsc) MUST BE THE GREATER OF 19db OF THE LARGER BAR AND Lsc OF THE SMALLER BAR.

(4) VALUES IN TABLES ARE FOR UNCOATED REBAR ONLY.

C1

REINFORCING BAR DEVELOPMENT LENGTH SCHEDULE

NTS

MATTHEW T. BRETTHAUER
Lic. No. 60478
12/14/22
COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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Omaha, NE

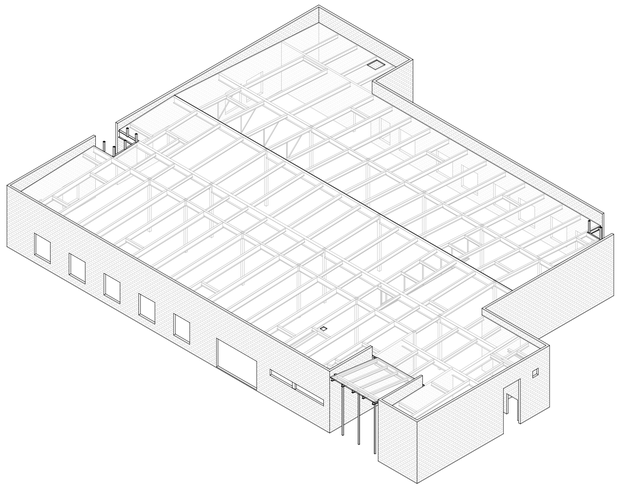
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

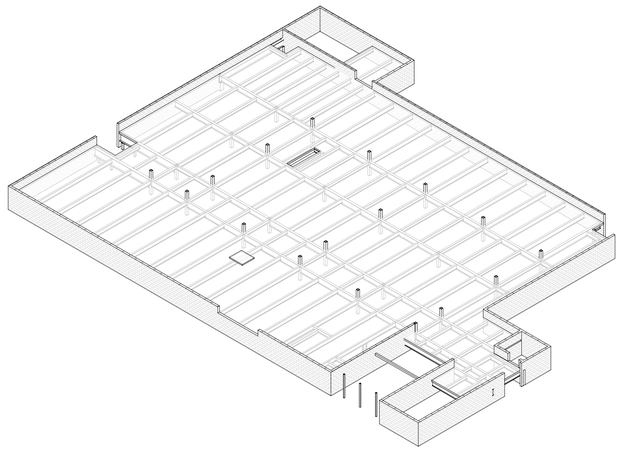
STRUCTURAL - SCHEDULES

SHEET ID
S-601

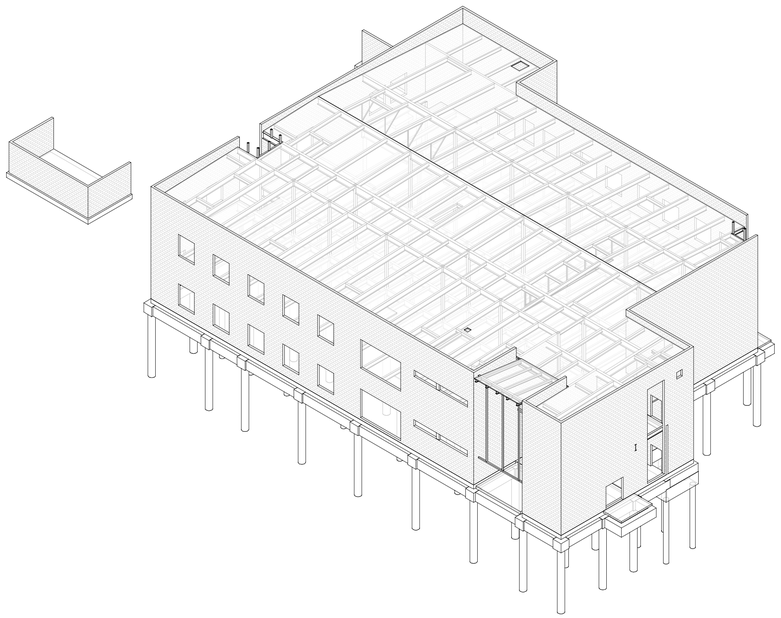
RTA SUBMISSION



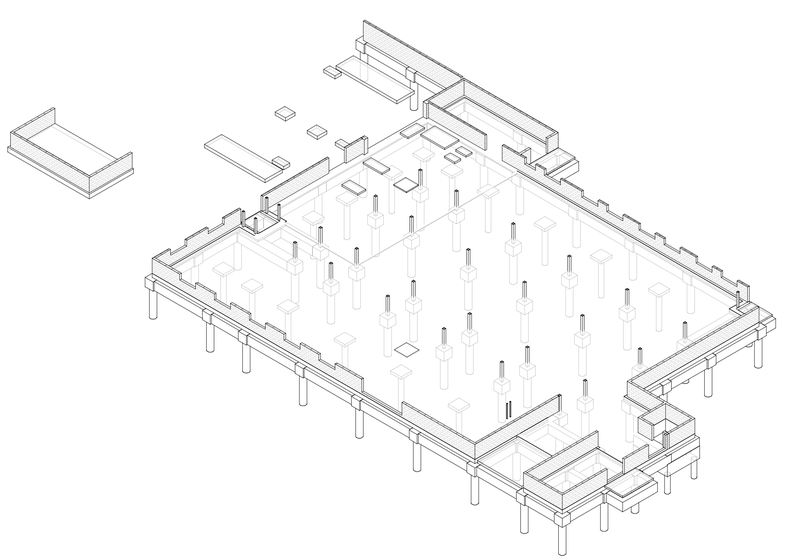
C1 ROOF - VIEW FROM SOUTHEAST



C3 SECOND FLOOR - VIEW FROM SOUTHEAST



A1 ISOMETRIC VIEW FROM SOUTHEAST



A3 FOUNDATION AND FIRST FLOOR - VIEW FROM SOUTHEAST

COMMONWEALTH OF VIRGINIA
MATTHEW T. BRETTHAUER
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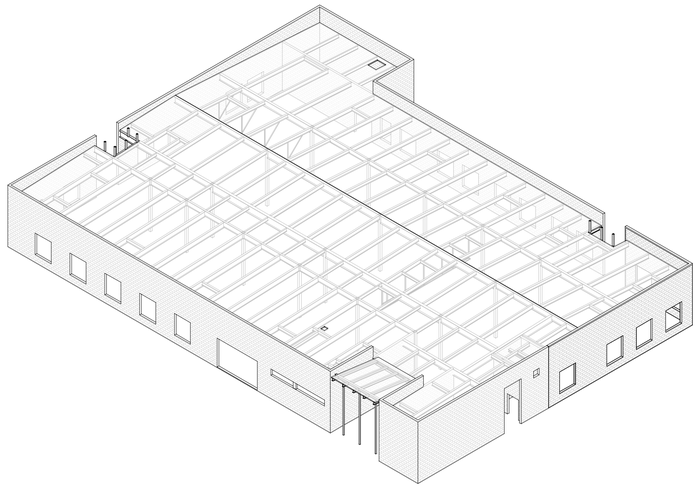
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

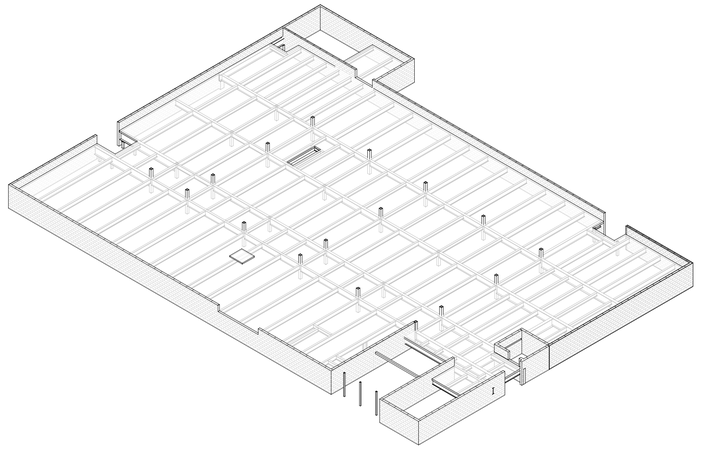
STRUCTURAL - 3D REPRESENTATIONS

SHEET ID
S-901

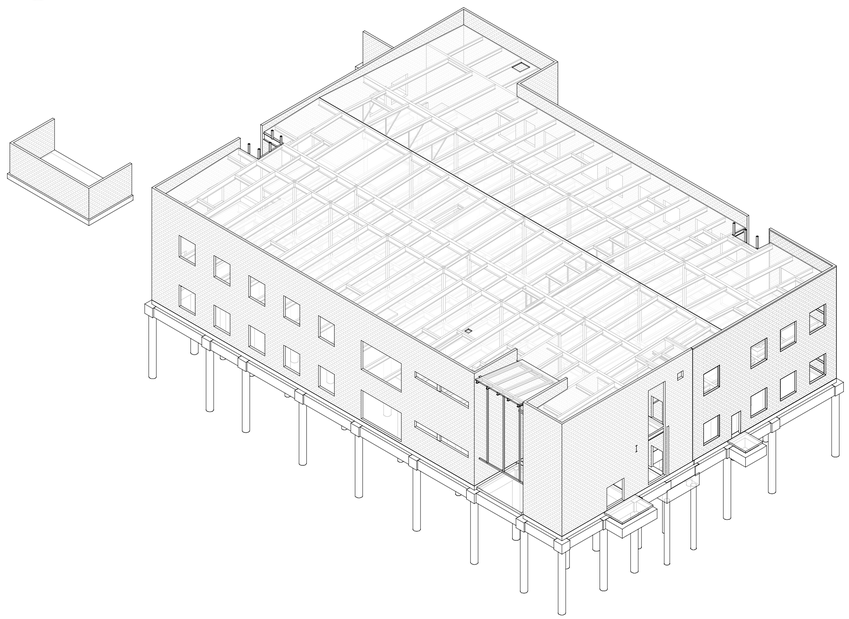
RTA SUBMISSION



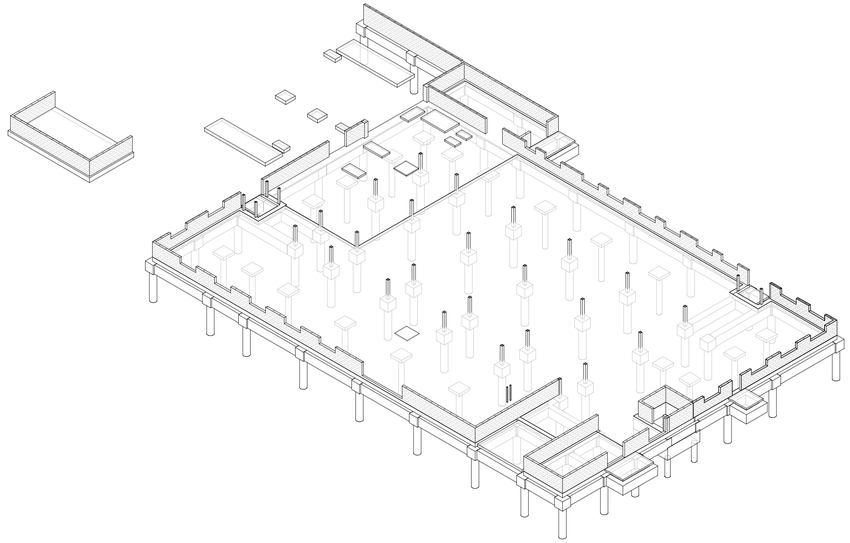
C1 ROOF - VIEW FROM SOUTHEAST (BID OPTION 1)



C3 SECOND FLOOR - VIEW FROM SOUTHEAST (BID OPTION 1)



A1 ISOMETRIC VIEW FROM SOUTHEAST (BID OPTION 1)



A3 FOUNDATION AND FIRST FLOOR - VIEW FROM SOUTHEAS (BID OPTION 1)

COMMONWEALTH OF VIRGINIA
MATTHEW T. BRETTHAUER
Lic. No. 60478
12/14/22
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

STRUCTURAL - 3D REPRESENTATIONS
(BID OPTION 1)

SHEET ID

S-901A

RTA SUBMISSION

DRAWING ABBREVIATIONS

A	--------------------
A LABEL	CLASS A DOOR
A/C	AIR CONDITION
A/C UNIT	AIR CONDITIONING UNIT
A/E	ARCHITECT/ENGINEER
ABA	ARCHITECTURAL BARRIERS ACT
AB	ANCHOR BOLT
ACC	ACCESSIBLE
ACS	AUTOMATIC CONTROL SYSTEM
ACS DR	ACCESS DOOR
ACS PNL	ACCESS PANEL
ACT	ACOUSTICAL CEILING TILE
ADA	AMERICANS WITH DISABILITIES ACT
ADMIN	ADMINISTRATION
AFB	AIR FORCE BASE
AFC	ABOVE FINISHED COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFS	ABOVE FINISHED SLAB
AGGR	AGGREGATE
AHU	AIR HANDLING UNIT
AIB	AIR INFILTRATION BARRIER
ALT	ALTERNATE
ALUM	ALUMINUM
ANOD	ANODIZE
APC	ACOUSTICAL PANEL CEILING
APPROX	APPROXIMATE
AR	AS REQUIRED
ARCH	ARCHITECT
ASC	ABOVE SUSPENDED CEILING
ASSY	ASSEMBLY
ATC	ACOUSTICAL TILE CEILING
AVG	AVERAGE
AW	ARCHITECTURAL WOODWORK
AWT	ACOUSTICAL WALL TREATMENT
B	--------------------
B LABEL	CLASS B DOOR
BALC	BALCONY
BB	BASEBOARD
BC	BOOKCASE
BD	BOARD
BDRY	BOUNDARY
BFF	BELOW FINISH FLOOR
BHMA	BUILDER'S HARDWARE MANUFACTURER'S ASSOCIATION
BLDG	BUILDING
BLKG	BLOCKING
BLT IN	BUILT-IN
BN	BULLNOSE
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BP	BUILDING PAPER
BRKT	BRACKET
BSMT	BASEMENT
BTWN	BETWEEN
BUR	BUILT-UP ROOFING
C	--------------------
C CONC	CAST CONCRETE
C LABEL	CLASS C DOOR
CAB	CABINET
CATW	CATWALK
CAV	CAVITY
CBB	CEMENTITIOUS (BACKER) BOARD
CD	CONSTRUCTION DOCUMENTS
CDW	CHILLED DRINKING WATER
CEM PLAS	CEMENT PLASTER
CER	CERAMIC
CF	CONTRACTOR FURNISHED
CF/CI	CONTRACTOR FURNISHED/CONTRACTOR INSTALLED
CFE	CONTRACTOR FURNISHED EQUIPMENT
CFLG	COUNTERFLASHING
CFM	CUBIC FEET PER MINUTE
CFMF	COLD-FORMED METAL FRAMING
CFS	CUBIC FEET PER SECOND
CG	CORNER GUARD
CI	CAST IRON
c.i.	CONTINUOUS INSULATION
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CL	CENTER LINE
CLG	CEILING
CLG DIFF	CEILING DIFFUSER
CLG HT	CEILING HEIGHT
CLL	COLUMN LINE
CLO	CLOSET
CLR	COLOR
CLRM	CLASSROOM
CMU	CONCRETE MASONRY UNIT
CNDS	CONDENSATE
CDR	CARD READER
CO	CLEANOUT
COL	COLUMN
COMM	COMMUNICATION
CONC	CONCRETE
CONC FLR	CONCRETE FLOOR
CONF	CONFERENCE
CONT	CONTINUE
COORD	COORDINATE
COR	CONTRACTING OFFICER'S REPRESENTATIVE
CORR	CORRIDOR
CP	CONCRETE PIPE
CPT	CARPET
CR	CONTROL ROOM
CS	CAST STONE
CSWK	CASEWORK
CT	CERAMIC TILE
CTB	CERAMIC TILE BASE
CTF	CERAMIC TILE FLOOR
CTR	CENTER
CUI	CONTROLLED UNCLASSIFIED INFORMATION
CU FT	CUBIC FEET
CW	CASEMENT WINDOW
D	--------------------
D	DEPTH
D LABEL	CLASS D DOOR
DBL	DOUBLE
DEMO	DEMOLITION
DEPT	DEPARTMENT
DET	DETAIL
DIA	DIAMETER
DIR	DIRECTION
DIST	DISTANCE
DOC	DOCUMENT
DR	DOOR
DS	DOWNSPOUT
E	--------------------
E LABEL	CLASS E DOOR
EA	EACH
EF	EACH FACE
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EJ	EXPANSION JOINT
ES	EACH SIDE
EL	ELEVATION
ELEV	ELEVATOR
ENTR	ENTRANCE
EPS	EXPANDED POLYSTYRENE BOARD (INSULATION)
EQ	EQUAL
EWC	ELECTRIC WATER COOLER
EXP	EXPOSED
EXT	EXTERIOR
EXT	EXTINGUISHER
EXT GR	EXTERIOR GRADE

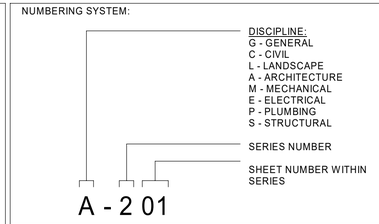
F	--------------------
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FAS BD	FASCIA BOARD
FC BRK	FACE BRICK
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDTN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FED	FEDERAL
FF	FINISH FACE
FF EL	FINISH FLOOR ELEVATION
FF INSUL	FOIL BACKED INSULATION
FGL	FIBERGLASS
FH	FIRE HOSE
FHP	FULL HEIGHT PARTITION
FIN	FINISH
FIN BS	FINISH BOTH SIDES
FIN FLR	FINISH FLOOR
FIN GR	FINISH GRADE
FIXT	FIXTURE
FLDG	FOLDING
FLEX	FLEXIBLE
FLG	FLOORING
FLMT	FLUSH MOUNT
FLR	FLOOR
FM	FACTORY MUTUAL
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FR	FIRE RESISTANT
FRG	FIBER REINFORCED GYPSUM
FRMG	FRAMING
FRP	FIBERGLASS REINFORCED PLASTIC
FRTW	FIRE RETARDANT TREATED WOOD
FS	FEDERAL SPECIFICATION
FSTNR	FASTENER
FT	FEET
FTG	FOOTING
FWC	FABRIC WALLCOVERING
G	--------------------
G	NATURAL GAS
GALV	GALVANIZED
GB	GRAB BAR
GFCI	GOVERNMENT FURNISHED CONTRACTOR INSTALLED
GFGI	GOVERNMENT INSTALLED FURNISHED INSTALLED BY GOVERNMENT
GFRG	GLASS-FIBER-REINFORCED GYPSUM
GLZ	GLAZING
GR FL	GROUND FLOOR
GUT	GUTTER
GYP BD	GYPSUM BOARD
GYP PLAS	GYPSUM PLASTER
H	----------
HB	HOSE BIBB
HDPE	HIGH DENSITY POLYETHYLENE
HDW	HARDWARE
HDWD	HARDWOOD
HEPA	HIGH EFFICIENCY PARTICULATE AIR (FILTER)
HM	HOLLOW METAL
HMD	HOLLOW METAL DOOR
HORIZ	HORIZONTAL
HT	HEIGHT
HYDR	HYDRAULIC
I	----------
IBC	INTERNATIONAL BUILDING CODE
INSUL	INSULATION
INT	INTERIOR
ILO	IN LIEU OF
J	--------------------
JAN	JANITOR
K	--------------------
KPD	KEYPAD
KIT	KITCHEN
KO	CONTRACTING OFFICER
KPL	KICKPLATE
L	--------------------
LAM	LAMINATE
LAV	LAVATORY
LBR	LUMBER
LBS	POUND
LDG	LANDING
LF	LINEAR FEET (FOOT)
LIB	LIBRARY
LIN	LINEAR
LKR	LOCKER
LOC	LOCATION
LT	LIGHT
LVDR	LOUVER DOOR
LVR	LOUVER
M	--------------------
MACH RM	MACHINE ROOM
MATL	MATERIAL
MAX	MAXIMUM
MC	MOISTURE CONTENT
MD	METAL DECK
MECH	MECHANICAL
MECH RM	MECHANICAL ROOM
MEMB	MEMBRANE
MF	MILL FINISH
MFR	MANUFACTURER
MID	MIDDLE
MIL STD	MILITARY STANDARD
MIN	MINIMUM, MINUTE
MIRR	MIRROR
MISC	MISCELLANEOUS
MLDG	MOLDING (MOULDING)
MO	MASONRY OPENING
MOD	MODIFY
MB	MOISTURE BARRIER
MTG	MOUNTING
MTL	METAL
MVBL	MOVABLE
MWP	MEMBRANE WATERPROOFING
N	--------------------
N	NORTH
NA	NOT APPLICABLE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NP	NO PAINT
NRC	NOISE REDUCTION COEFFICIENT
NTS	NOT TO SCALE
O	--------------------
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFD	OVERFLOW DRAIN
OFF	OFFICE
OGL	OBSCURE GLASS
OITC	OUTDOOR/INDOOR TRANSMISSION CLASS
OPH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
OPQ	OPAQUE

OWSJ	OPEN WEB STEEL JOIST
OPR	OPERABLE
ORD	OVERFLOW ROOF DRAIN
ORIG	ORIGINAL
P	--------------------
PA	PUBLIC ADDRESS
PAR	PARAPET
PAT	PATTERN
PB	PULL BOX
PBD	PARTICLEBOARD
PCC	PRECAST CONCRETE
PCF	POUNDS PER CUBIC FOOT
PCT	PERCENT
PERF	PERFORATED
PERIM	PERIMETER
PH	PHASE
PIL	PILASTER
PL	PROPERTY LINE
PL GL	PLATE GLASS
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLBG	PLUMBING
PLG	PILING
PLYWD	PLYWOOD
PNL	PANEL
PP PL	PUSH/PULL PLATE
PR	PAIR
PRCST	PRECAST
PRKG	PARKING
PS CONC	PRESTRESSED CONCRETE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
PTD	PAPER TOWEL DISPENSER
PTDR	PAPER TOWEL DISPENSER AND RECEPTACLE
PTN	PARTITION
PWR	POWER
Q	--------------------
QT	QUARRY TILE
QTY	QUANTITY
R	--------------------
RACS	REGULATED ASBESTOS CONTAINING SOIL
RB	RESILIENT BASE
RBM	REINFORCED BRICK MASONRY
RBR	RUBBER
RC	REINFORCED CONCRETE
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
RDG INS	RIGID INSULATION, SOLID
REC	RECESSED
REC ROOM	RECREATION ROOM
REF	REFERENCE
REM	REMOVABLE
REP	REPAIR
REPL	REPLACE
REQ	REQUIRE
REQD	REQUIRED
RESIL	RESILIENT
REST	RESTROOM
RF	RESILIENT FLOORING
RFG	ROOFING
RH	ROOF HATCH
RHR	RIGHT HAND REVERSE
RL	ROOF LEADER
RLG	RAILING
RM	ROOM
RO	ROUGH OPENING
RSD	ROLLING STEEL DOOR
RV	ROOF VENT
RVL	REVEAL
S	--------------------
SB	SPLASH BLOCK
SCHED	SCHEDULE
SD	SMOKE DETECTOR
SF	SQUARE FOOT (FEET)
SFTWD	SOFTWOOD
SGL	SINGLE
SHT MTL FLASH	SHEET METAL (FLASHING)
SHTHG	SHEATHING
SHV	SHELVING
SIM	SIMILAR
SJ	SCORED JOINT
SKLT	SKYLIGHT
SLNT	SEALANT
SMK	SMOKE
SMLS	SEAMLESS
SP EL	SPOT ELEVATION
SPEC	SPECIFICATION
SQ	SQUARE
SQ IN	SQUARE INCH
SQ YD	SQUARE YARD
SST	STAINLESS STEEL
ST	STAIRS
STD	STANDARD
STL JST	STEEL JOIST
STL RF DK	STEEL ROOF DECK
STOR	STORAGE
STR	STRINGERS
STRB/HRN	STROBE/HORN
SUB FL	SUBFLOOR
SV	SHEET VINYL
SW	SIDEWALK
T	--------------------
T	TREAD
T/S	TUB/SHOWER
TC	TERRA COTTA
TD	TRENCH DRAIN
TEL	TELEPHONE
TEMP	TEMPORARY
TER	TERRAZZO
TFF	TOP OF FINISH FLOOR
THK	THICKNESS
TK BD	TACKBOARD
TMPD GL	TEMPERED GLASS
TN	TRUE NORTH
TOF	TOP OF FOOTING
TOM	TOP OF MASONRY
TOP	TOP OF PARAPET
TOPO	TOPOGRAPHY
TOS	TOP OF SLAB
TRANS	TRANSOM
TRTD	TREATED
TV	TELEVISION
TYP	TYPICAL
U	--------------------
UNF/UN	UNFINISHED
UON	UNLESS OTHERWISE NOTED
UTL	UTILITY
V	--------------------
VB	VAPOR BARRIER
VCT	VINYL COMPOSITE
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
VOL	VOLUME
VT	VINYL TILE
VTR	VENT THROUGH ROOF

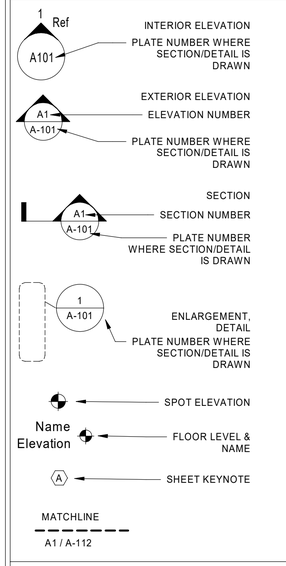
W	--------------------
W/	WITH
WC	WATER COOLER
WD	WOOD
WLT	WATER LEAN-TO
WP	WATERPROOF
WT	WEIGHT
Y	--------------------
YD	YARD

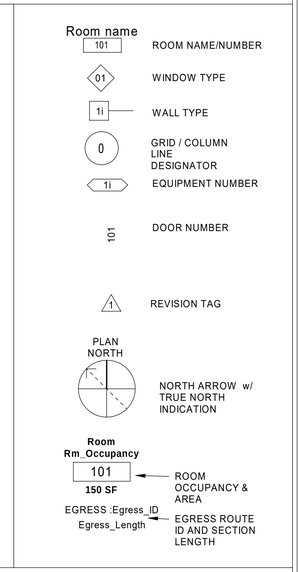
GENERAL LEGEND

NUMBERING SYSTEM:



ANNOTATION CALLOUTS/DRAWING SYMBOLS





GENERAL NOTES

GENERAL ARCHITECTURAL NOTES

1. UNLESS OTHERWISE INDICATED, PLAN DIMENSIONS ARE TO NOMINAL SURFACE OF MASONRY, FACE OF WALLBOARD ON STUDS AND FACE OF CONCRETE WALLS
2. "FLOOR LINE" REFER TO TOP OF CONCRETE SLABS. FINISH FLOORING IS INSTALLED ABOVE THE FLOOR LINE. FOR DEPRESSED FLOORS AND CURBS, REFER TO STRUCTURAL DRAWINGS.
3. REPETITIVE FEATURES ARE NOT DRAWN IN THEIR ENTIRETY AND MUST BE COMPLETELY PROVIDED AS IF DRAWN IN FULL.
4. PARTITIONS THAT HAVE SOUND ATTENUATION BATT AND ARE FULL HEIGHT MUST BE SEALED BOTH SIDES WITH ACOUSTIC SEALANT; TOP, BOTTOM, INTERSECTION, DOOR FRAMES, GLAZED OPENING FRAMES, AND OTHER PENETRATIONS.
5. LINE OF FINISH GRADES, AS SHOWN ON THE BUILDING ELEVATIONS AND SECTIONS ARE APPROXIMATE, REFER TO CIVIL.
6. VERIFY ROUGH-IN DIMENSIONS FOR EQUIPMENT PROVIDED AS PART OF THE WORK, OR BY OTHERS.
7. REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND OTHER CATEGORIES FOR ADDITIONAL INFORMATION.
8. VERIFY SIZE AND LOCATION OF REQUIRED OPENINGS THROUGH FLOORS AND WALLS. PROVIDE ACCESS DOORS, FURRING, CURBS, ANCHORS, AND INSERTS.
9. OPENINGS DIMENSIONED IN THE CONCRETE STRUCTURAL WALLS ARE SHOWN NOMINALLY.
10. REFER TO LIFE SAFETY FOR CODE INFORMATION.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE:	14 DECEMBER 2022
SOLICITATION NO.:	
CONTRACT NO.:	W912PP22R0017
FILE NUMBER:	
DESIGNED BY:	G. GAN
DRAWN BY:	T. LORENZEN-SCHMIDT
CHECKED BY:	W. STEVENS
SUBMITTED BY:	
SIZE:	ANSI 'D'
FILE NAME:	

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

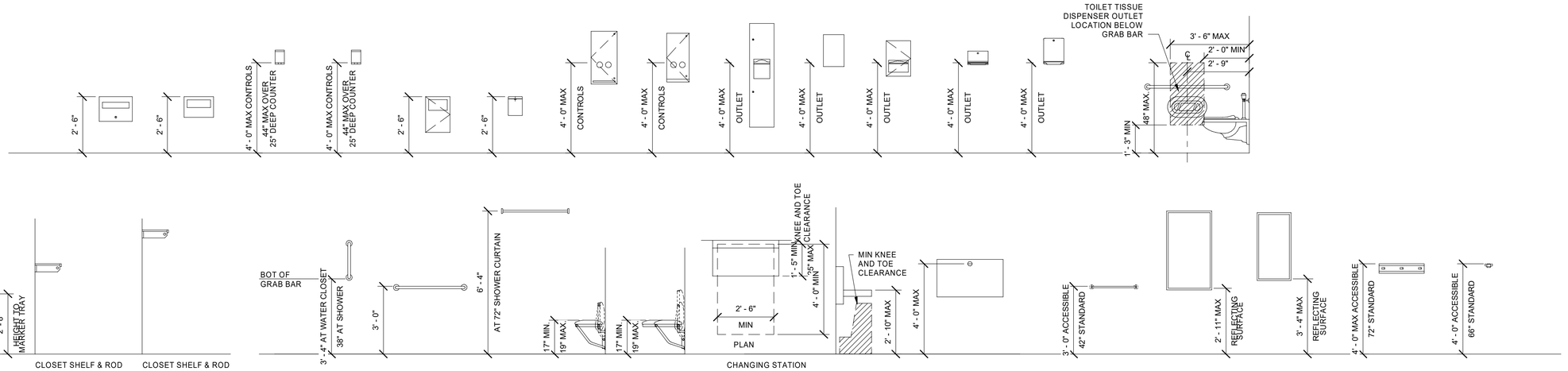
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - NOTES AND ABBREVIATIONS

SHEET ID

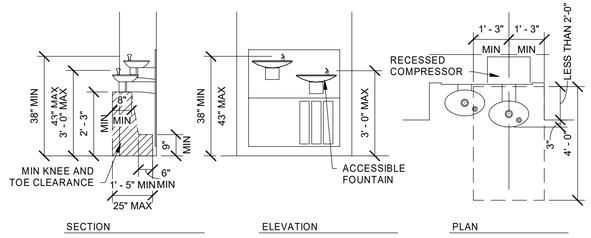
A-001



ACCESSORY MOUNTING HEIGHTS

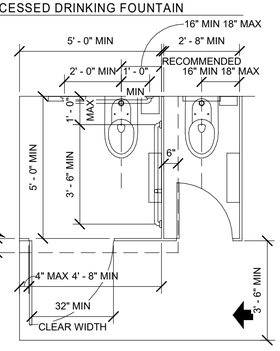
SCALE: 3/8" = 1'-0"

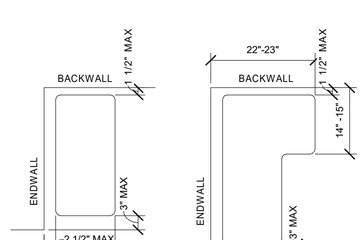
1. 48" MAX HEIGHT IS FOR UNOBSTRUCTED FORWARD REACH.
2. AN OPERABLE PART IS TO BE WITHIN MOUNTING HEIGHT.
3. FOR SURFACE MOUNTED ACCESSORIES AND RECESSED ACCESSORIES PROJECTING MORE THAN 1/4" MAX, COORDINATE CLEARANCE AROUND GRAB BARS. REFER TO DETAIL G.
4. RECESSED FIXTURES SHOULD NOT BE LOCATED IN FIRE RATED PARTITIONS, UNLESS FIXTURE IS INTENDED TO BE INSTALLED IN FIRE RATED PARTITION.
5. ACCESSIBLE ACCESSORIES MUST BE MOUNTED PER MANUFACTURER'S INSTRUCTIONS TO BE ACCESSIBLE.

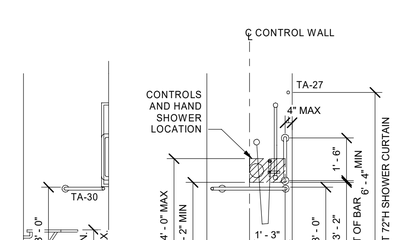


ACCESSIBLE AND NON-ACCESSIBLE RECESSED DRINKING FOUNTAIN

SCALE: 3/8" = 1'-0"

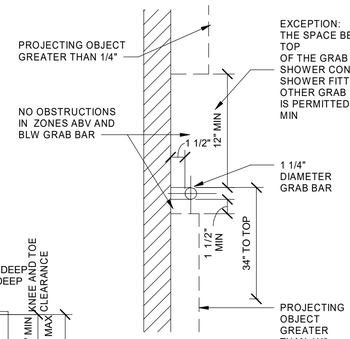






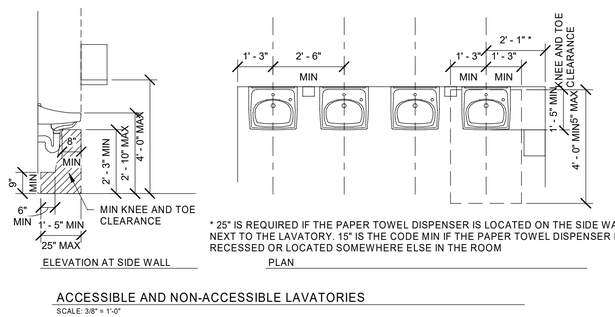
ACCESSIBLE SHOWER SEATS

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

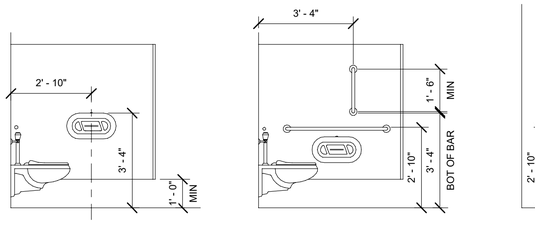


ACCESSIBLE TRANSFER SHOWER COMPARTMENT

SCALE: 3/8" = 1'-0"

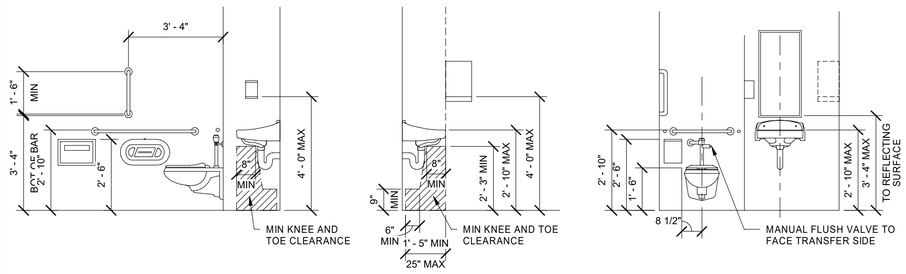


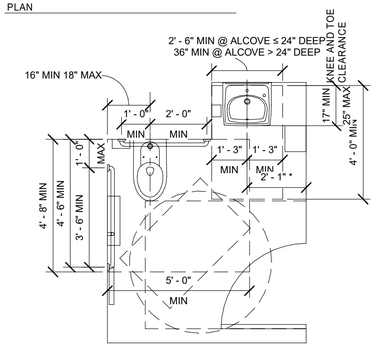
* 25" IS REQUIRED IF THE PAPER TOWEL DISPENSER IS LOCATED ON THE SIDE WALL NEXT TO THE LAVATORY. 15" IS THE CODE MIN IF THE PAPER TOWEL DISPENSER IS RECESSED OR LOCATED SOMEWHERE ELSE IN THE ROOM



ACCESSIBLE AND NON-ACCESSIBLE TOILET COMPARTMENTS

SCALE: 3/8" = 1'-0"

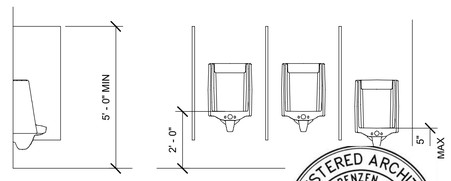




* 25" IS REQUIRED IF THE PAPER TOWEL DISPENSER IS LOCATED ON THE SIDE WALL NEXT TO THE LAVATORY. 15" IS THE CODE MIN IF THE PAPER TOWEL DISPENSER IS RECESSED OR LOCATED SOMEWHERE ELSE IN THE ROOM.

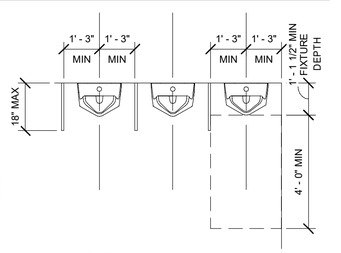
GRAB BAR SPACING

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



ACCESSIBLE AND NON-ACCESSIBLE LAVATORIES

SCALE: 3/8" = 1'-0"



ACCESSIBLE AND NON-ACCESSIBLE UR

SCALE: 3/8" = 1'-0"

REGISTERED ARCHITECT
LORENZEN-SCHMIDT
03/14/14
STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:

SIZE: ANSI D
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

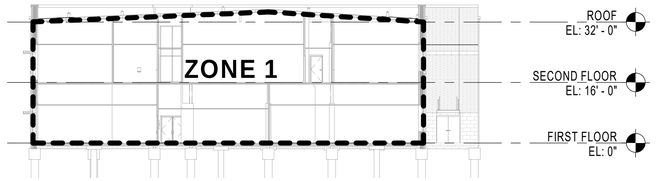
ARCHITECTURAL - TYPICAL MOUNTING HEIGHTS AND ACCESSIBILITY STANDARDS

SHEET ID

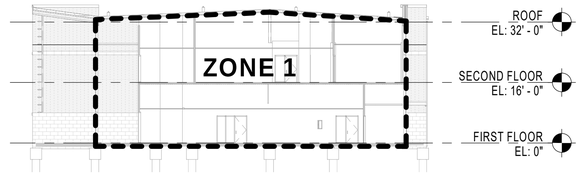
A-002

AIR BARRIER GENERAL NOTES:

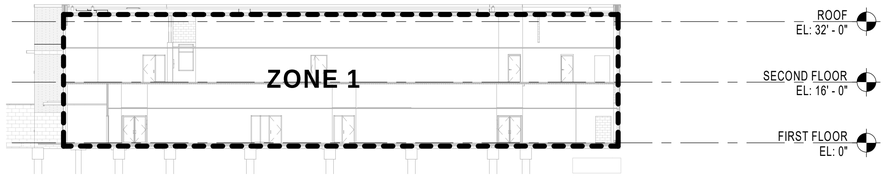
1. PROVIDE A COMPLETE PRELIMINARY DOCUMENTS REVIEW AND BUILDING ENVELOPE ASSESSMENT BY A PROFESSIONAL CERTIFIED ABAA AUDITOR. REFER TO SPEC SECTION 07 27 10.00 10
2. SEAL (OR CAULK) AT WINDOW SILL/APRON: SEAL (CAULK) JOINT AT WINDOW APRON/GYPSUM BOARD.
3. CONCRETE FLOOR IS AN AIR BARRIER AT GRADE AND AS SUCH, ALL CONCRETE FLOOR PENETRATIONS ARE TO BE SEALED.
4. SEAL (CAULK) MECHANICAL, ELECTRICAL AND FIRE ALARM BOXES AND FIRE ALARM DEVICES.
   - A. ADD NON-COMBUSTIBLE INSULATION IN WALL AROUND BOXES, NON-COMBUSTIBLE INSULAITON (OR CAULK) INSIDE CONDUIT AFTER WIRES ARE PULLED AT ELECTRICAL BOXES AND FIRE ALARM DEVICES FOR AIR TIGHT SEAL.
   - B. WHERE THERE IS NOT SUFFICIENT ACCESS TO SEAL THE BACK OF THE ELECTRICAL BOXES, USE HIGH PRESSURE DUCT SEALER TO PRESSURE SENSITIVE FOIL (FSK) DUCT TAPE FOR AIR TIGHT SEAL.
5. IF AIR BARRIER ENVELOPE ZONES ARE ADJUSTED, GOVERNMENT APPROVAL IS REQUIRED FOR ANY DEVIATIONS TO AIR BARRIER ZONES.
6. PROVIDE THE AIR BARRIER SYSTEM. THE AIR BARRIER SHALL BE CONTIGUOUS AND CONNECTED ACROSS ALL SURFACES OF THE ENCLOSED AIR BARRIER ENVELOPE INDICATED.
7. PROVIDE AIR BARRIER TRANSITION MEMBRANE BETWEEN ADJACENT AIR BARRIER SYSTEMS. TRANSITION AIR BARRIER MEMBRANE MUST BE COMPATIBLE WITH BOTH AIR BARRIER MEMBRANES
8. PROVIDE A FLEXIBLE AIR BARRIER MEMBRANE BETWEEN BUILIDNG COMPONENTS WITH VARYING ANTICIPATED MOVEMENT RESULTING FROM INCLUDING BUT NOT LIMITED TO DEFLECTION, THERMAL EXPANSION AND CONTRACTION OR OTHER FACTORS ACTING UPON THE BUILDING JOINTS. SUCH JOINTS INCLUDE BUT NOT LIMITED TO EXTERIOR GLAZED OPENINGS
9. REFER TO SPEC SECTIONS 07 05 23, 07 27 10.00 10, 07 27 19.01 & 07 27 26



D3 BUILDING SECTION
1" = 20'-0"



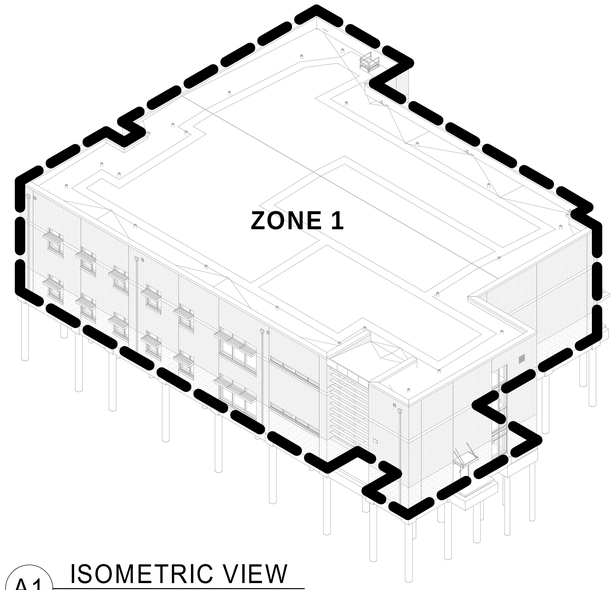
D4 BUILDING SECTION
1" = 20'-0"



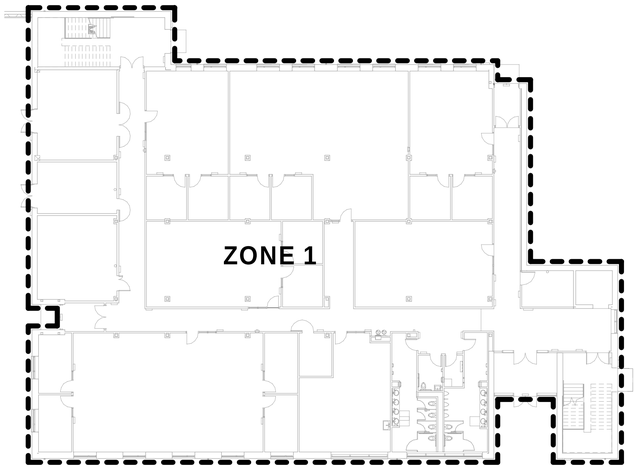
C3 BUILDING SECTION
1" = 20'-0"

AIR BARRIER ZONE 1

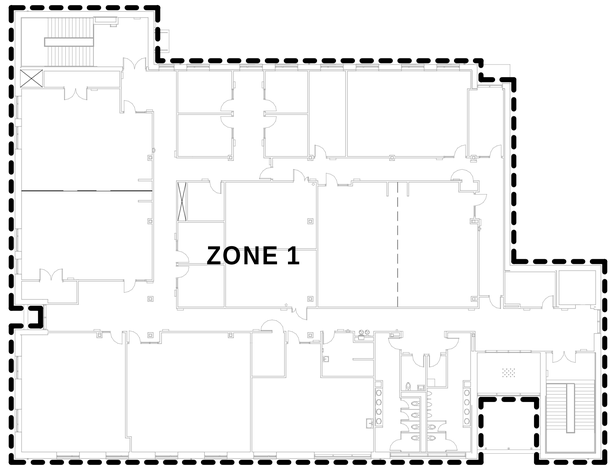
AREA TITLE	ENVELOPE SURFACE AREA	ALLOWABLE LEAKAGE RATE BASED ON 0.25 CFM/ SF
ROOF	14,161 SF	3,540.25
FIRST FLOOR	10,002 SF	2,500.50
SECOND FLOOR	10,197 SF	2,549.25
FLOOR	14,161 SF	3,540.25
TOTAL	**48,521 SF**	**12,130.25**



A1 ISOMETRIC VIEW



A3 FIRST FLOOR PLAN
1" = 20'-0"



A4 SECOND FLOOR PLAN
1" = 20'-0"

REGISTERED ARCHITECT
TIMOTHY LORENZEN-SCHMIDT
037141
STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - BUILDING FLOOR PLANS AIR BARRIER

SHEET ID
A-003

RTA SUBMISSION

AIR BARRIER GENERAL NOTES:

1. PROVIDE A COMPLETE PRELIMINARY DOCUMENTS REVIEW AND BUILDING ENVELOPE ASSESSMENT BY A PROFESSIONAL CERTIFIED ABAA AUDITOR. REFER TO SPEC SECTION 07 27 10.00 10
2. SEAL (OR CAULK) AT WINDOW SILL/APRON: SEAL (CAULK) JOINT AT WINDOW APRON/GYPSUM BOARD.
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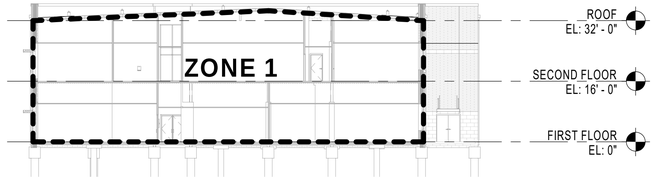
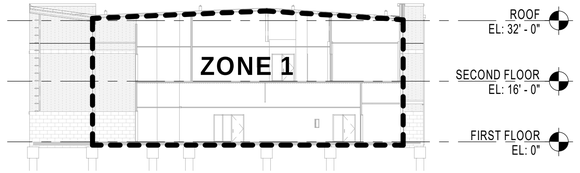
   - A. ADD NON-COMBUSTIBLE INSULATION IN WALL AROUND BOXES, NON-COMBUSTIBLE INSULAITON (OR CAULK) INSIDE CONDUIT AFTER WIRES ARE PULLED AT ELECTRICAL BOXES AND FIRE ALARM DEVICES FOR AIR TIGHT SEAL.
   - B. WHERE THERE IS NOT SUFFICIENT ACCESS TO SEAL THE BACK OF THE ELECTRICAL BOXES, USE HIGH PRESSURE DUCT SEALER TO PRESSURE SENSITIVE FOIL (FSK) DUCT TAPE FOR AIR TIGHT SEAL.
5. IF AIR BARRIER ENVELOPE ZONES ARE ADJUSTED, GOVERNMENT APPROVAL IS REQUIRED FOR ANY DEVIATIONS TO AIR BARRIER ZONES.
6. PROVIDE THE AIR BARRIER SYSTEM. THE AIR BARRIER SHALL BE CONTIGUOUS AND CONNECTED ACROSS ALL SURFACES OF THE ENCLOSED AIR BARRIER ENVELOPE INDICATED.
7. PROVIDE AIR BARRIER TRANSITION MEMBRANE BETWEEN ADJACENT AIR BARRIER SYSTEMS. TRANSITION AIR BARRIER MEMBRANE MUST BE COMPATIBLE WITH BOTH AIR BARRIER MEMBRANES
8. PROVIDE A FLEXIBLE AIR BARRIER MEMBRANE BETWEEN BUILIDNG COMPONENTS WITH VARYING ANTICIPATED MOVEMENT RESULTING FROM INCLUDING BUT NOT LIMITED TO DEFLECTION, THERMAL EXPANSION AND CONTRACTION OR OTHER FACTORS ACTING UPON THE BUILDING JOINTS. SUCH JOINTS INCLUDE BUT NOT LIMITED TO EXTERIOR GLAZED OPENINGS
9. REFER TO SPEC SECTIONS 07 05 23, 07 27 10.00 10, 07 27 19.01 & 07 27 26



D3 BUILDING SECTION
1" = 20'-0"



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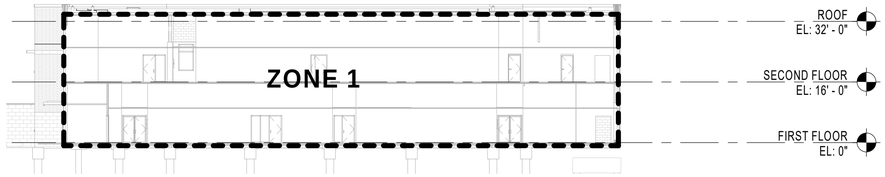
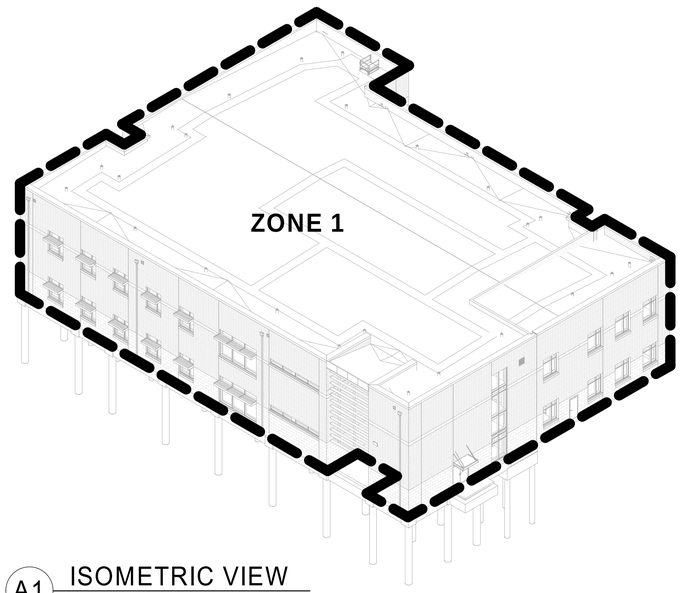


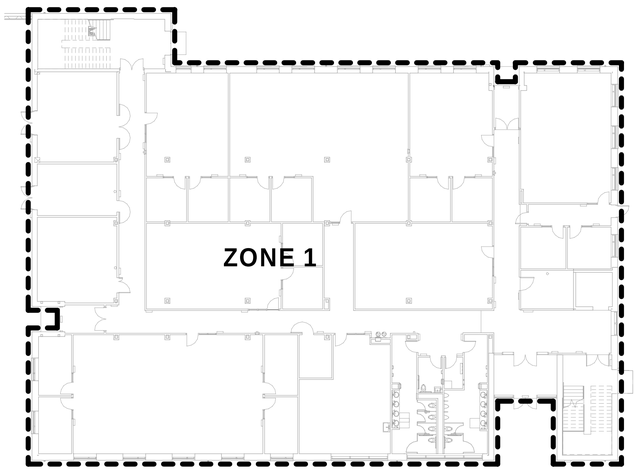
C3 BUILDING SECTION
1" = 20'-0"

AIR BARRIER ZONE 1 - (BID OPTION 1)

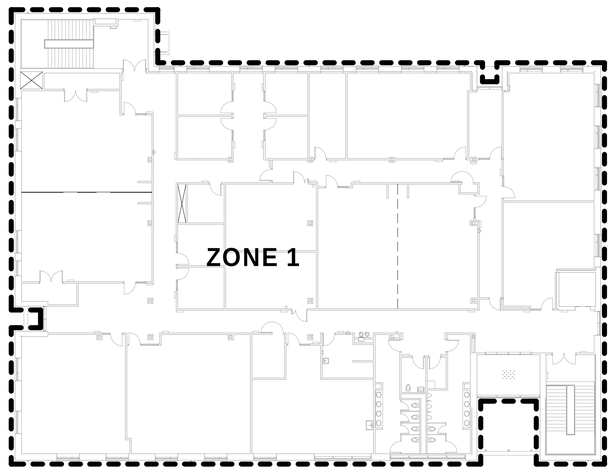
AREA TITLE	ENVELOPE SURFACE AREA	ALLOWABLE LEAKAGE RATE BASED ON 0.25 CFM/ SF
ROOF	15,437 SF	3,859.25
FIRST FLOOR	10,093 SF	2,523.25
SECOND FLOOR	10,290 SF	2,572.50
FLOOR	16,243 SF	4,060.75
TOTAL	**52,063 SF**	**13,015.75**



A1 ISOMETRIC VIEW



A3 FIRST FLOOR PLAN
1" = 20'-0"



A4 SECOND FLOOR PLAN
1" = 20'-0"

REGISTERED ARCHITECT
HWO LORENZEN-SCHMIDT
037114
STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

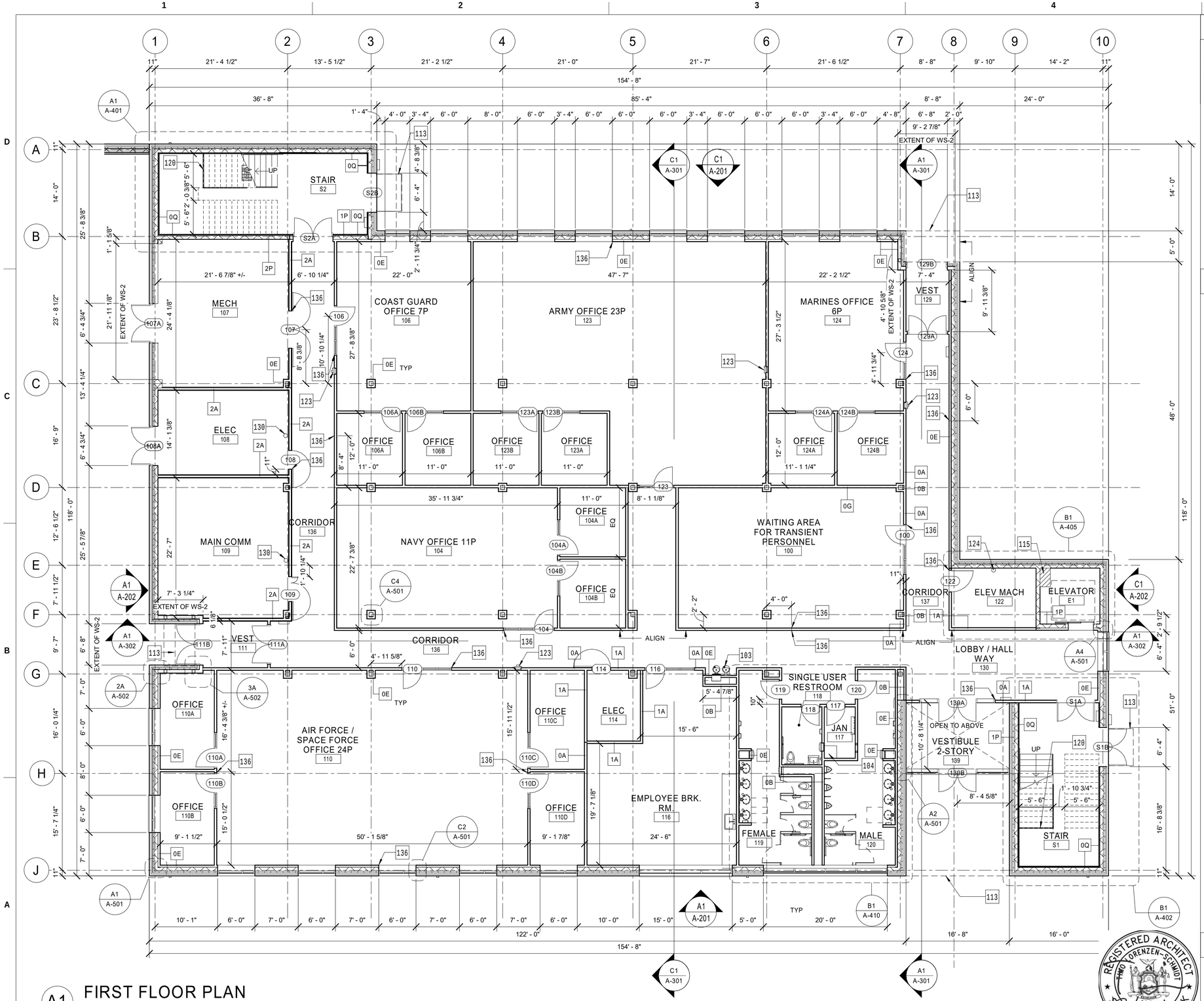
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - BUILDING FLOOR PLANS AIR BARRIER (BID OPTION 1)

SHEET ID
A-003A

RTA SUBMISSION



A1 FIRST FLOOR PLAN
1/8" = 1'-0"

GENERAL SHEET NOTES

1. INTERIOR'S PARTITIONS ARE TYPE 0A PARTITIONS UON
2. PROVIDE BLOCKING FOR WALL MOUNTED ITEMS
3. EXTERIOR WALL ASSEMBLIES ARE WS-1 UON. REFER TO SHEET A-320 FOR EXTERIOR WALL ASSEMBLY TYPES

KEYNOTES

#	
103	DRINKING FOUNTAIN WITH BOTTLE FILLER, REFER TO PLUMBING
104	MOP SINK, REFER TO PLUMBING
113	CANOPY ABOVE
115	HOIST WAY ENTRAPMENT PROTECTION SPACE
120	CANE DETECTION LOW RAIL, STEEL PAINTED
123	SEMI-RECESSED FIRE EXTINGUISHER CABINET WITH DRY CHEMICAL EXTINGUISHER, REFER TO FIRE PROTECTION DRAWINGS
124	WALL MOUNTED A:B:C TYPE FE
130	WALL MOUNTED CO2 FE
136	GWB CONTROL JOINT

GRAPHIC SCALE(S)

8 4 0 8 16

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

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

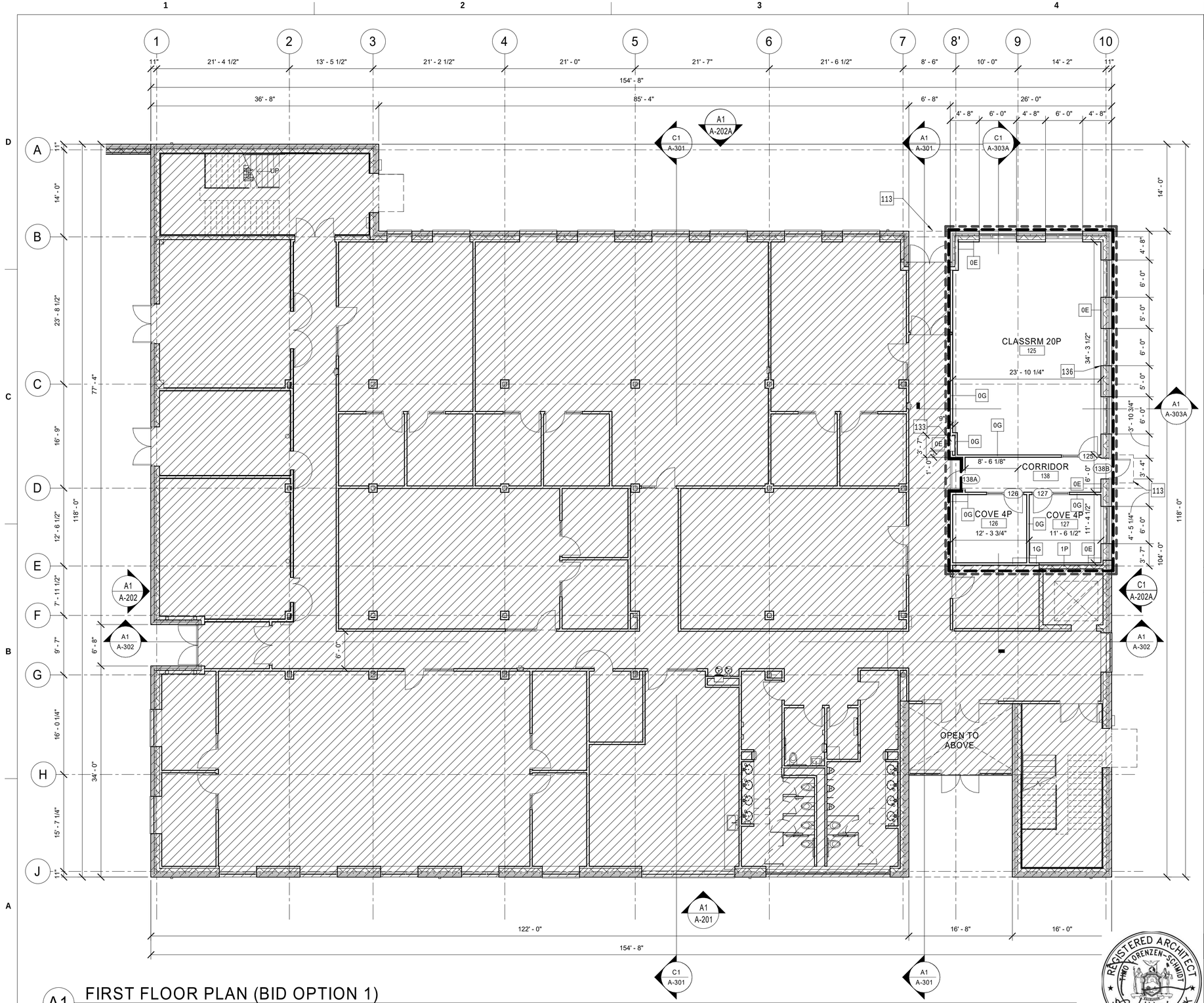
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - FIRST FLOOR PLAN

REGISTERED ARCHITECT
THOMAS LORENZEN-SCHMIDT
037144
STATE OF NEW YORK

SHEET ID
A-110



A1 FIRST FLOOR PLAN (BID OPTION 1)

1/8" = 1'-0"

GENERAL SHEET NOTES

1. SEE SIGNAGE SCHEDULE, DRAWING AS-601 FOR SPECIFIC SIGN TYPE AND DESCRIPTION.
2. REFER TO NOTE 19 ON CIVIL SITE PLAN SHEET CS101 AND CS101A FOR EXTERIOR BUILDING IDENTITY SIGN TYPE MID.

KEYNOTES

#	
113	CANOPY ABOVE
133	CELL PHONE STORAGE LOCKER, RECESSED
136	GWB CONTROL JOINT

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 4 0 8 16

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

PLAN NORTH

REGISTERED ARCHITECT LORENZEN-SCHMIDT 037114 STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - FIRST FLOOR PLAN (BID OPTION 1)

SHEET ID

A-110A

RTA SUBMISSION

A1 SECOND FLOOR PLAN

1/8" = 1'-0"

GENERAL SHEET NOTES

1. INTERIOR'S PARTITIONS ARE TYPE 0A PARTITIONS UON
2. PROVIDE BLOCKING FOR WALL MOUNTED ITEMS
3. EXTERIOR WALL ASSEMBLIES ARE WS-1 UON. REFER TO SHEET A-320 FOR EXTERIOR WALL ASSEMBLY TYPES

KEYNOTES

#	
101	FOLDABLE PANEL PARTITION. OPF-1
103	DRINKING FOUNTAIN WITH BOTTLE FILLER, REFER TO PLUMBING
104	MOP SINK, REFER TO PLUMBING
113	CANOPY ABOVE
115	HOIST WAY ENTRAPMENT PROTECTION SPACE
119	CANOPY BELOW
122	OSHA COMPLIANT ROOF ACCESS WALL MOUNTED LADDER
123	SEMI-RECESSED FIRE EXTINGUISHER CABINET WITH DRY CHEMICAL EXTINGUISHER, REFER TO FIRE PROTECTION DRAWINGS
126	AREA OF REFUGE, REFER TO LIFE SAFETY AND FIRE PROTECTION
127	AIRFOIL BLADE SUN SHADING SYSTEM
130	WALL MOUNTED CO2 FE
133	CELL PHONE STORAGE LOCKER, RECESSED
134	AT-8, REFER TO TOILET ACCESSORY SCHEDULE ON A-410
135	AT-10, REFER TO TOILET ACCESSORY SCHEDULE ON A-410
136	GWB CONTROL JOINT

LEGEND

SECURE AREA

GRAPHIC SCALE(S)

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

PLAN NORTH

REGISTERED ARCHITECT — LORENZEN-SCHMIDT — 037114 — STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

SIZE: ANSI D
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

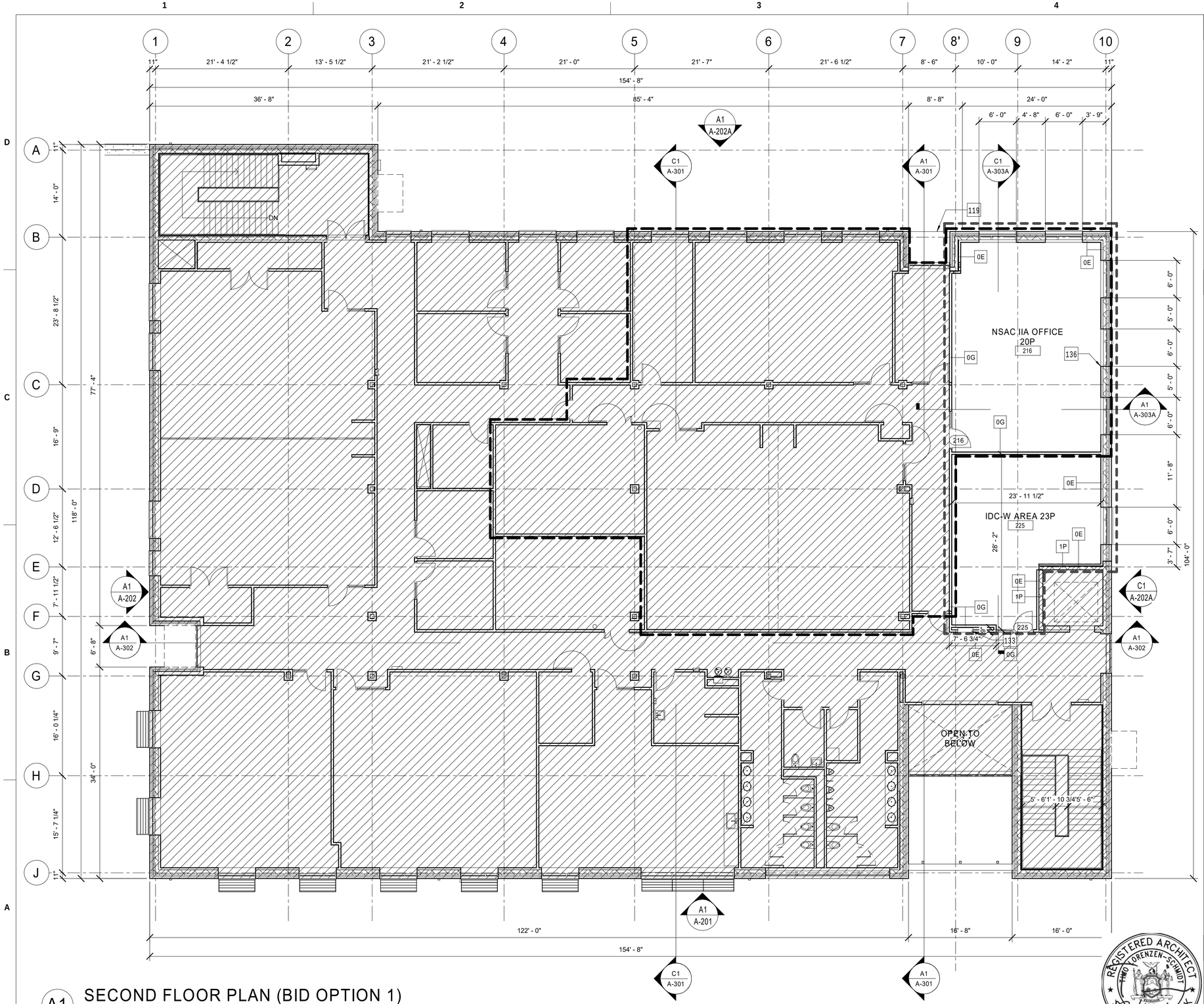
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - SECOND FLOOR PLAN

SHEET ID

A-120



A1 SECOND FLOOR PLAN (BID OPTION 1)
1/8" = 1'-0"

GENERAL SHEET NOTES

1. SEE SIGNAGE SCHEDULE, DRAWING AS-601 FOR SPECIFIC SIGN TYPE AND DESCRIPTION.
2. REFER TO NOTE 19 ON CIVIL SITE PLAN SHEET CS101 AND CS101A FOR EXTERIOR BUILDING IDENTITY SIGN TYPE MID.

KEYNOTES

#	
119	CANOPY BELOW
133	CELL PHONE STORAGE LOCKER, RECESSED
136	GWB CONTROL JOINT

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 4 0 8 16
SCALE: 1/8" = 1'-0"

PLAN NORTH

REGISTERED ARCHITECT
THEO LORENZEN-SCHMIDT
037114
STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN	ISSUE DATE: 14 DECEMBER 2022
DRAWN BY: T. LORENZEN-SCHMIDT	SOLICITATION NO.: W9128F22R0017
CHECKED BY: W. STEVENS	CONTRACT NO.:
SUBMITTED BY:	FILE NUMBER:
SIZE: ANSI D'	FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

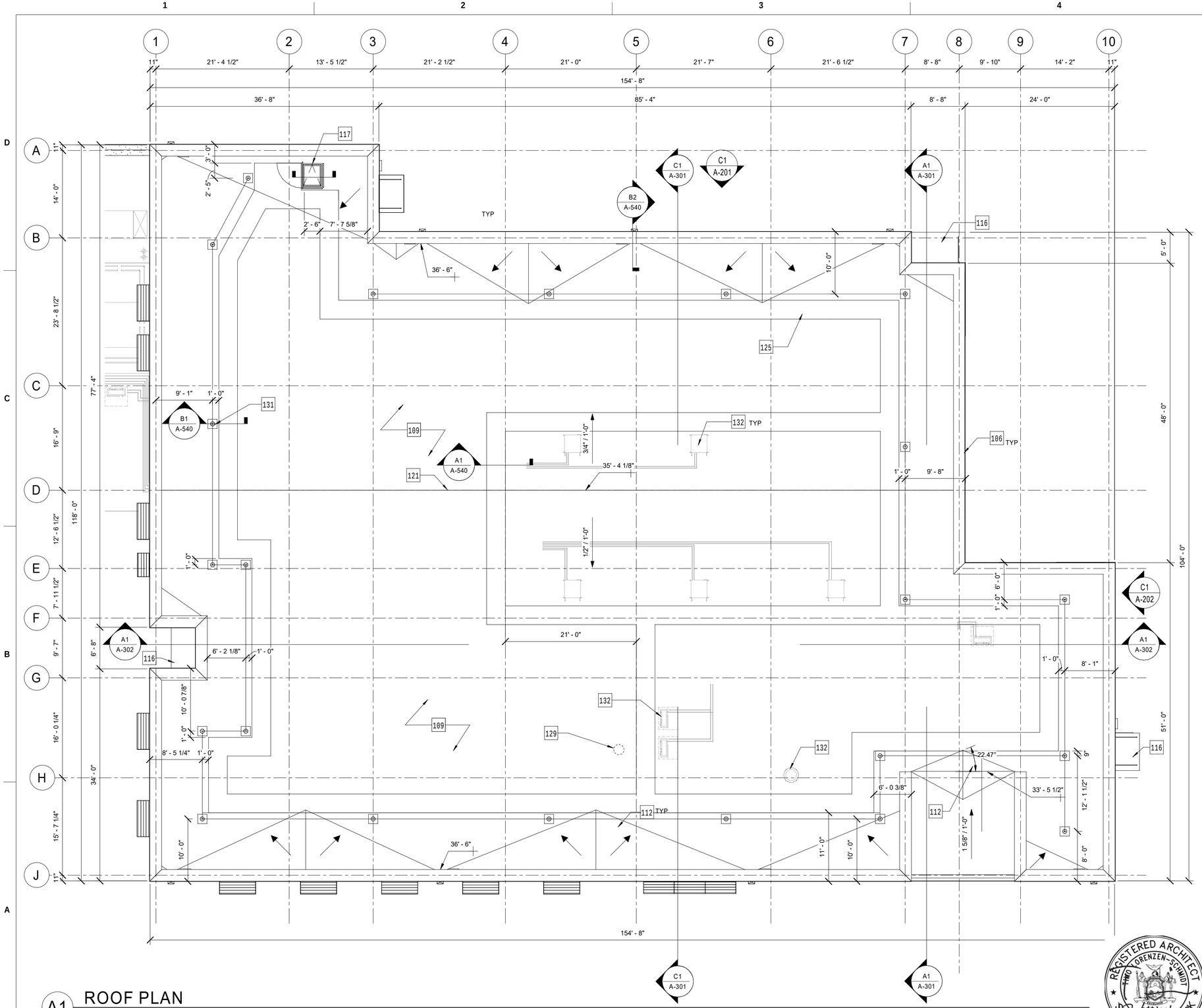
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - SECOND FLOOR PLAN
(BID OPTION 1)

SHEET ID
A-120A

RTA SUBMISSION



A1 ROOF PLAN
1/8" = 1'-0"

GENERAL SHEET NOTES

1. DOWNSPOUTS MUST BE ROUND AND OF 5" DIAMETER
2. FOR LIGHTNING PROTECTION, REFER TO ELECTRICAL
3. ELEVATIONS SHOWN ARE TOP OF ROOFING SURFACE. REFER TO STRUCTURAL DRAWINGS FOR STRUCTURAL ELEVATIONS

KEYNOTES

#	
106	METAL COPING, MTL-1
109	RS-1 SINGLE PLY ROOFING SYSTEM
112	CRICKET
116	CANOPY BELOW
117	30"X37" MIN. OSHA COMPLIANT ROOF HATCH W/ GUARDRAIL AND SWING GATE
121	ROOF RIDGE
125	4'-0" ACCESS WALKWAY
129	SATELLITE DISH BY OTHERS, REFER TO TELECOM
131	FALL PROTECTION DAVIT FOR LIFE LINE, LOCATE DAVITS ON STRUCTURAL BEAMS
132	MECHANICAL EQUIPMENT, REFER TO MECHANICAL DRAWINGS

LEGEND

GRAPHIC SCALE(S)

8 4 0 8 16
SCALE: 1/8" = 1'-0"

PLAN NORTH

REGISTERED ARCHITECT
TIMOTHY LORENZEN-SCHMIDT
037114
STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

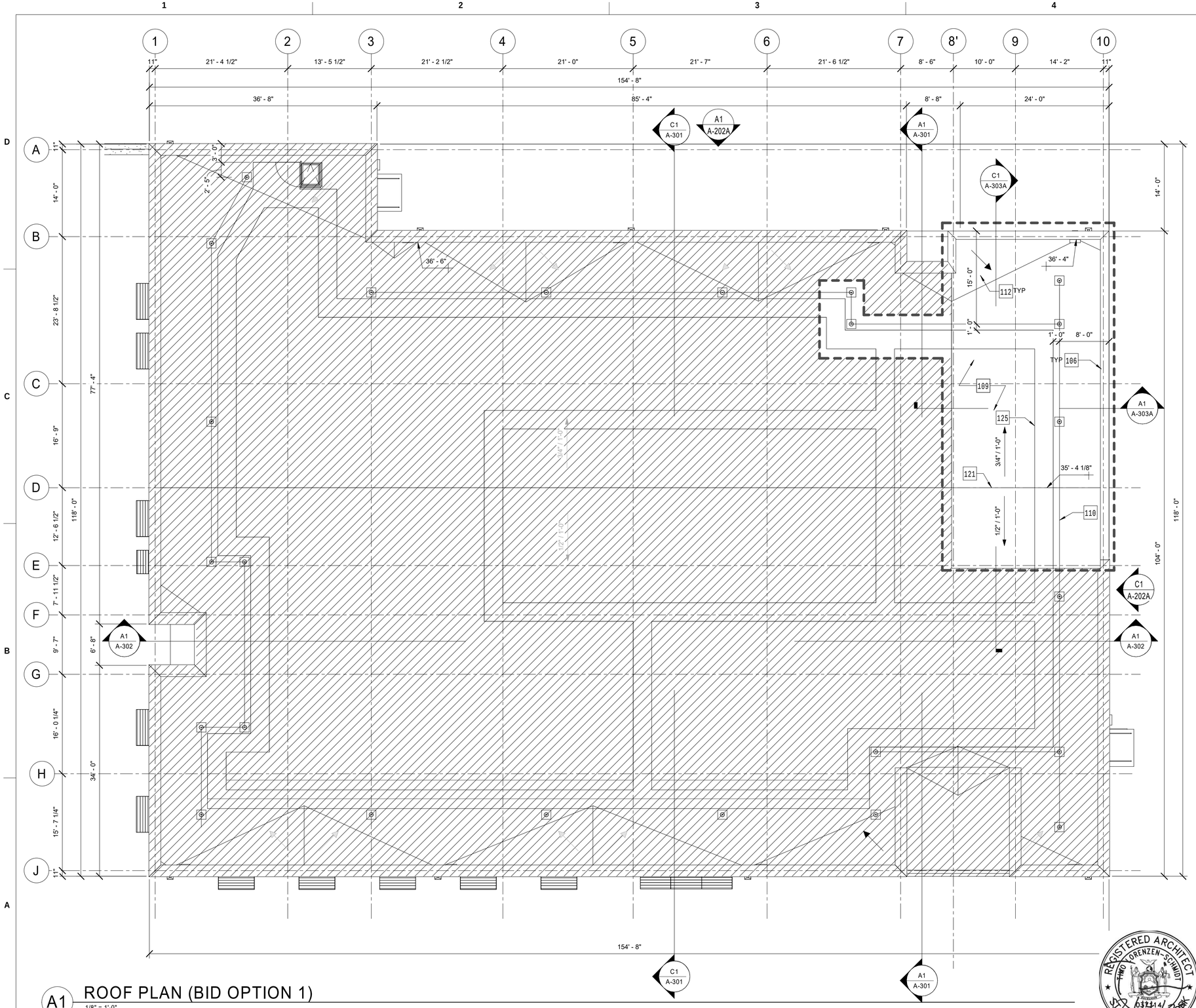
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - ROOF PLAN

SHEET ID
A-130



A1 ROOF PLAN (BID OPTION 1)
1/8" = 1'-0"

GENERAL SHEET NOTES

1. DOWNSPOUTS MUST BE ROUND AND OF 5" DIAMETER
2. FOR LIGHTNING PROTECTION, REFER TO ELECTRICAL
3. ELEVATIONS SHOWN ARE TOP OF ROOFING SURFACE. REFER TO STRUCTURAL DRAWINGS FOR STRUCTURAL ELEVATIONS

KEYNOTES

#	
106	METAL COPING, MTL-1
109	RS-1 SINGLE PLY ROOFING SYSTEM
110	HORIZONTAL LIFELINE FALL PROTECTION SYSTEM
112	CRICKET
121	ROOF RIDGE
125	4'-0" ACCESS WALKWAY

LEGEND

AREA OF BID OPTION 1

AREA OF BASE BID

GRAPHIC SCALE(S)

8 4 0 8 16

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

PLAN NORTH

REGISTERED ARCHITECT
THOMAS LORENZEN-SCHMIDT
037114
STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9126P22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

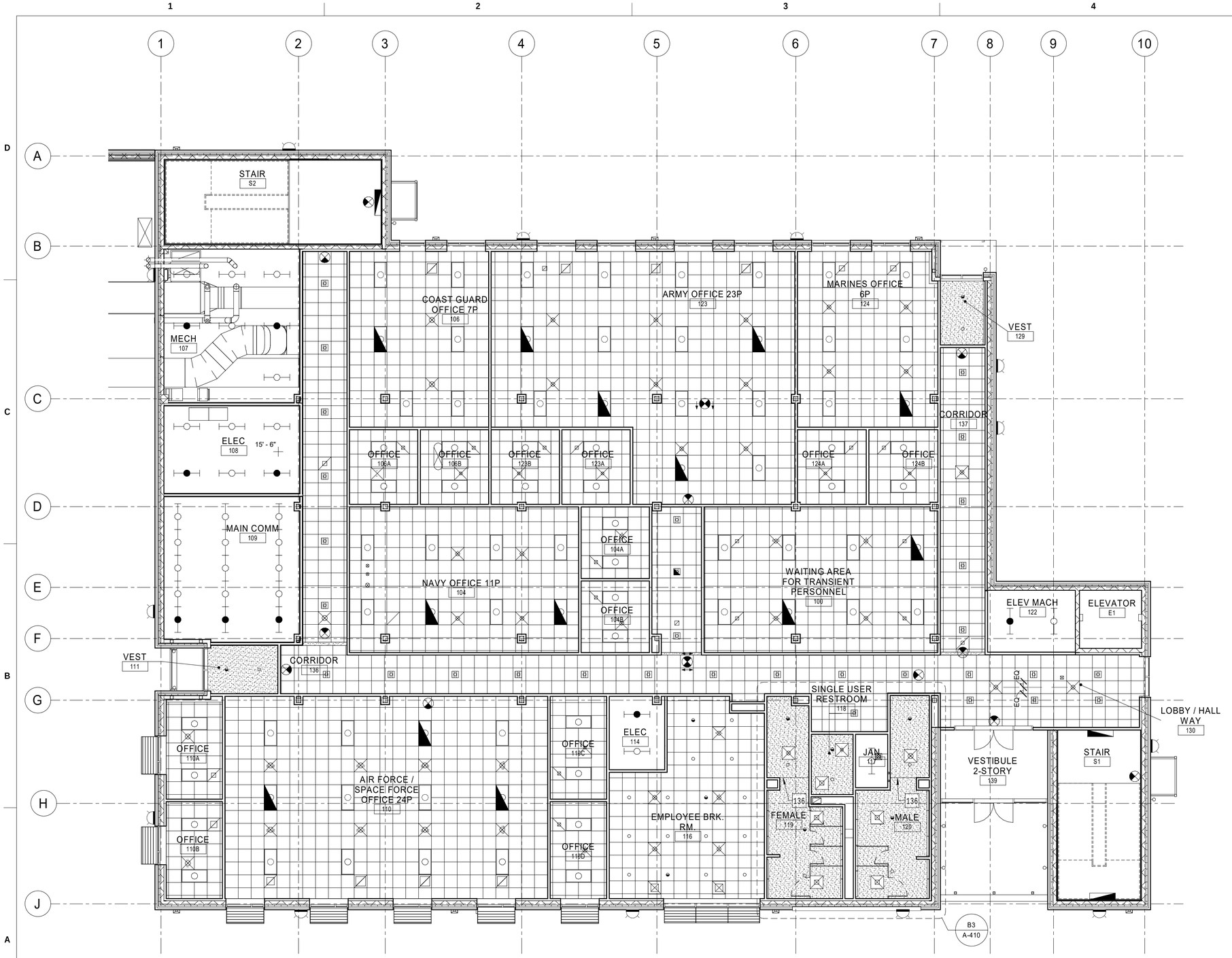
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SPB, CO

ARCHITECTURAL - ROOF PLAN (BID OPTION 1)

SHEET ID

A-130A



A1 FIRST FLOOR REFLECTED CEILING PLAN

1/8" = 1'-0"

GENERAL SHEET NOTES

1. CEILING HEIGHTS TO BE 10'-0" TYPICAL UON
2. ALL CEILING GRIDS SHALL BE CENTERED ON ROOM/ SPACE UON
3. ALL FIXTURES, DIFFUSER, GRILLS, SPRINKLER HEADS, SPEAKERS OR OTHER DEVICES SHALL BE LOCATED IN THE CENTER OF A CEILING TILE OR CENTER OF A PANEL INSCRIBED ON A TILE, UON
4. ACCESS PANELS ARE TO BE PROVIDED AS NEEDED IN ALL INACCESSIBLE CEILINGS.
5. PROVIDE SUPPLEMENTAL STEEL TO SUPPORT CEILINGS AND CEILING MOUNTED DEVICES. DO NOT SUPPORT FROM ROOF METAL DECK.

KEYNOTES

#	
136	GWB CONTROL JOINT

LEGEND

- 2' x 2' ACOUSTICAL CEILING PANELS
- GWB CEILING
- SMOKE DETECTOR (REFER TO FA DWGS)
- EXIT SIGN LOCATION (REFER TO FA DWGS)
- RECESSED CAN LIGHTING FIXTURE
- PENDANT
- 2' x 2' DOWNLIGHT
- 2' x 4' DOWNLIGHT
- 2' x 4' DOWNLIGHT
- EMERGENCY LIGHTING FIXTURE, REFER TO ELECTRICAL
- 6'-0" PROJECTION SCREEN
- DIFFUSER
- RETURN
- CEILING ACCESS HATCH
- LINEAR/STRIP LIGHT FIXTURE
- WALL MOUNTED LIGHT FIXTURE
- 1'-0" A.F.F. CEILING HEIGHT, ABOVE FINISH FLOOR

GRAPHIC SCALE(S)

8 4 0 8 16

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

PLAN NORTH

REGISTERED ARCHITECT THEO LORENZEN-SCHMIDT 037114 STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

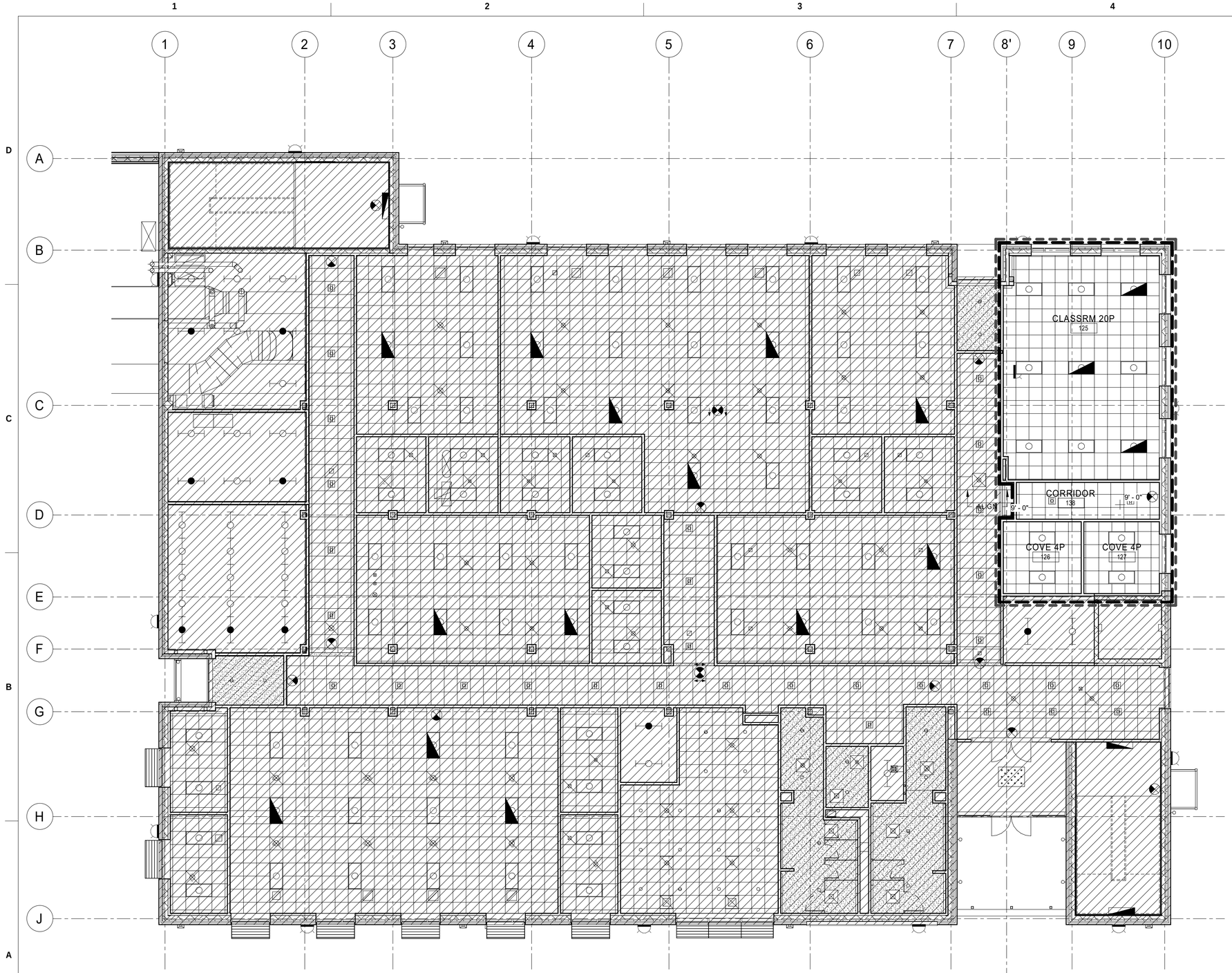
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - FIRST FLOOR REFLECTED CEILING PLAN

SHEET ID

A-141

RTA SUBMISSION



GENERAL SHEET NOTES

1. CEILING HEIGHTS TO BE 10'-0" TYPICAL UON
2. ALL CEILING GRIDS SHALL BE CENTERED ON ROOM/ SPACE UON
3. ALL FIXTURES, DIFFUSER, GRILLS, SPRINKLER HEADS, SPEAKERS OR OTHER DEVICES SHALL BE LOCATED IN THE CENTER OF A CEILING TILE OR CENTER OF A PANEL INSCRIBED ON A TILE, UON
4. ACCESS PANELS ARE TO BE PROVIDED AS NEEDED IN ALL INACCESSIBLE CEILINGS.
5. PROVIDE SUPPLEMENTAL STEEL TO SUPPORT CEILINGS AND CEILING MOUNTED DEVICES. DO NOT SUPPORT FROM ROOF METAL DECK.

KEYNOTES

#

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID
- 2' x 2' ACOUSTICAL CEILING PANELS
- GWB CEILING
- SD — SMOKE DETECTOR (REFER TO FA DWGS)
- EXIT SIGN LOCATION (REFER TO FA DWGS)
- RECESSED CAN LIGHTING FIXTURE
- PENDANT
- 2' x 2' DOWNLIGHT
- 2' x 4' DOWNLIGHT
- 2' x 4' DOWNLIGHT
- EMERGENCY LIGHTING FIXTURE, REFER TO ELECTRICAL
- 6'-0" — PROJECTION SCREEN
- DIFFUSER
- RETURN
- CEILING ACCESS HATCH
- LINEAR/STRIP LIGHT FIXTURE
- WALL MOUNTED LIGHT FIXTURE
- 1'-0" A.F.F. — CEILING HEIGHT, ABOVE FINISH FLOOR

GRAPHIC SCALE(S)

8 4 0 8 16

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

PLAN NORTH

REGISTERED ARCHITECT — THEO LORENZEN-SCHMIDT — 037114 — STATE OF NEW YORK

A1 FIRST FLOOR REFLECTED CEILING PLAN (BID OPTION 1)
1/8" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.:
CONTRACT NO.: W9128F22R0017
FILE NUMBER:

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

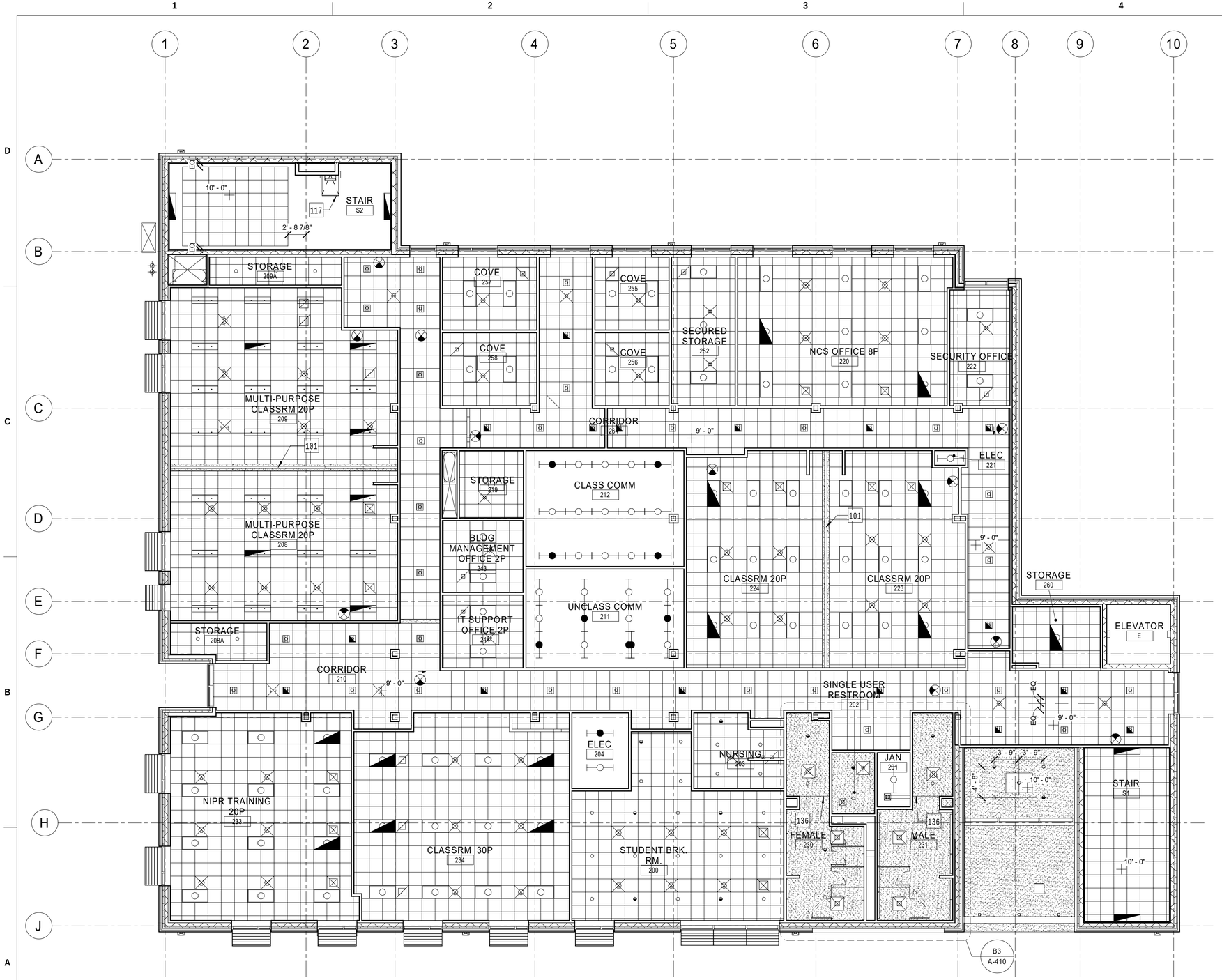
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - FIRST FLOOR
REFLECTED CEILING PLAN (BID OPTION 1)

SHEET ID
A-141A

RTA SUBMISSION



GENERAL SHEET NOTES

1. CEILING HEIGHTS TO BE 10'-0" TYPICAL UON
2. ALL CEILING GRIDS SHALL BE CENTERED ON ROOM/ SPACE UON
3. ALL FIXTURES, DIFFUSER, GRILLS, SPRINKLER HEADS, SPEAKERS OR OTHER DEVICES SHALL BE LOCATED IN THE CENTER OF A CEILING TILE OR CENTER OF A PANEL INSCRIBED ON A TILE, UON
4. ACCESS PANELS ARE TO BE PROVIDED AS NEEDED IN ALL INACCESSIBLE CEILINGS.
5. PROVIDE SUPPLEMENTAL STEEL TO SUPPORT CEILINGS AND CEILING MOUNTED DEVICES. DO NOT SUPPORT FROM ROOF METAL DECK.

KEYNOTES

#	
101	FOLDABLE PANEL PARTITION. OPF-1
117	30"X37" MIN. OSHA COMPLIANT ROOF HATCH W/ GUARDRAIL AND SWING GATE
136	GWB CONTROL JOINT

LEGEND

- 2' x 2' ACOUSTICAL CEILING PANELS
- GWB CEILING
- SD — SMOKE DETECTOR (REFER TO FA DWGS)
- EXIT SIGN LOCATION (REFER TO FA DWGS)
- RECESSED CAN LIGHTING FIXTURE
- PENDANT
- 2' x 2' DOWNLIGHT
- 2' x 4' DOWNLIGHT
- 2' x 4' DOWNLIGHT
- EMERGENCY LIGHTING FIXTURE, REFER TO ELECTRICAL
- 6'-0" — PROJECTION SCREEN
- DIFFUSER
- RETURN
- CEILING ACCESS HATCH
- LINEAR/STRIP LIGHT FIXTURE
- CH — WALL MOUNTED LIGHT FIXTURE
- 1'-0" A.F.F. — CEILING HEIGHT, ABOVE FINISH FLOOR

GRAPHIC SCALE(S)

8 4 0 8 16

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

PLAN NORTH

REGISTERED ARCHITECT THEO LORENZEN-SCHMIDT 031141 STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

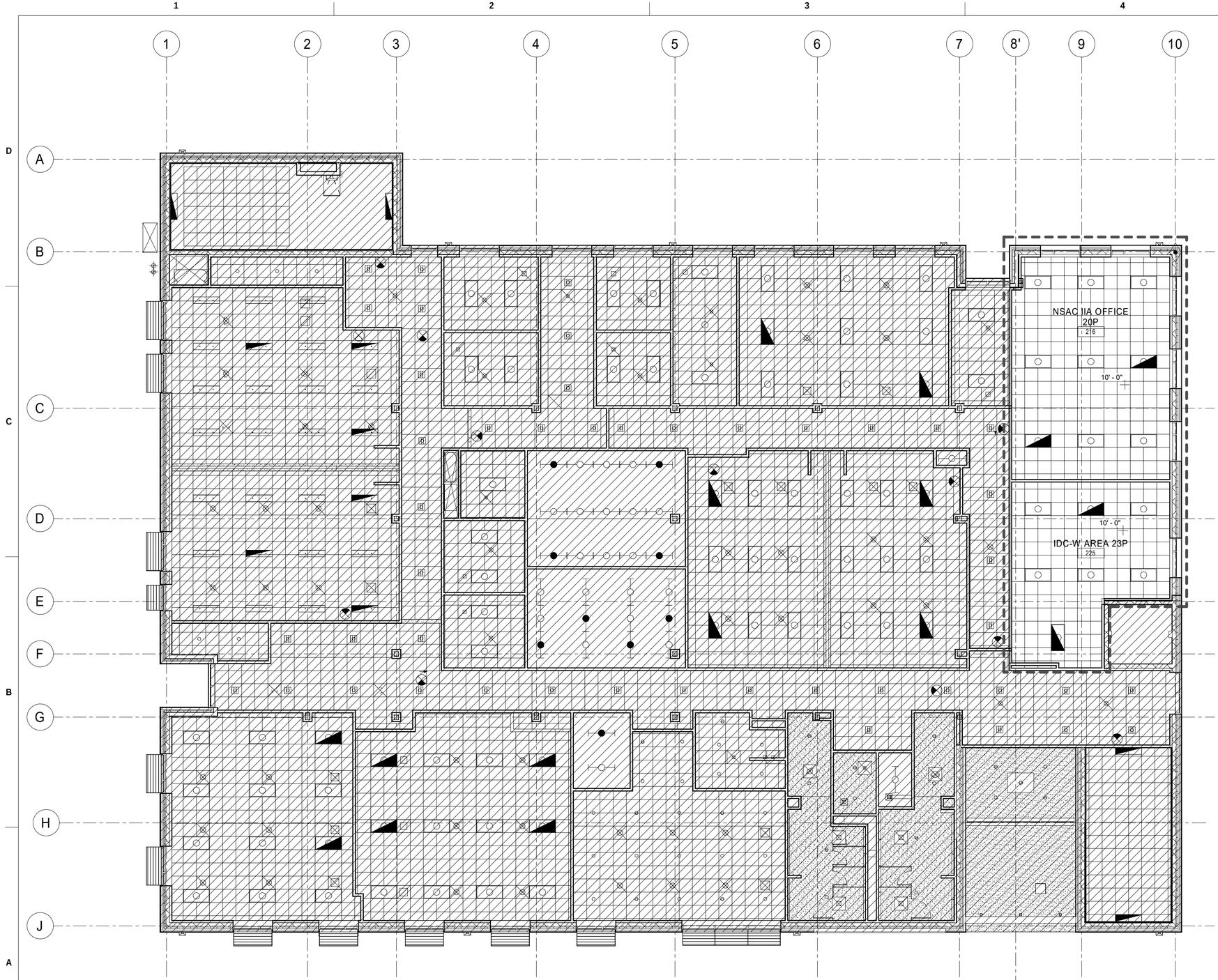
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - SECOND FLOOR REFLECTED CEILING PLAN

SHEET ID

A-151

A1 SECOND FLOOR REFLECTED CEILING PLAN
1/8" = 1'-0"



GENERAL SHEET NOTES

1. CEILING HEIGHTS TO BE 10'-0" TYPICAL UON
2. ALL CEILING GRIDS SHALL BE CENTERED ON ROOM/ SPACE UON
3. ALL FIXTURES, DIFFUSER, GRILLS, SPRINKLER HEADS, SPEAKERS OR OTHER DEVICES SHALL BE LOCATED IN THE CENTER OF A CEILING TILE OR CENTER OF A PANEL INSCRIBED ON A TILE, UON
4. ACCESS PANELS ARE TO BE PROVIDED AS NEEDED IN ALL INACCESSIBLE CEILINGS.
5. PROVIDE SUPPLEMENTAL STEEL TO SUPPORT CEILINGS AND CEILING MOUNTED DEVICES. DO NOT SUPPORT FROM ROOF METAL DECK.

KEYNOTES

#

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID
- 2' x 2' ACOUSTICAL CEILING PANELS
- GWB CEILING
- SD SMOKE DETECTOR (REFER TO FA DWGS)
- EXIT SIGN LOCATION (REFER TO FA DWGS)
- RECESSED CAN LIGHTING FIXTURE
- PENDANT
- 2' x 2' DOWNLIGHT
- 2' x 4' DOWNLIGHT
- 2' x 4' DOWNLIGHT
- EMERGENCY LIGHTING FIXTURE, REFER TO ELECTRICAL
- 6'-0" PROJECTION SCREEN
- DIFFUSER
- RETURN
- CEILING ACCESS HATCH
- LINEAR/STRIP LIGHT FIXTURE
- CH WALL MOUNTED LIGHT FIXTURE
- 1'-0" A.F.F. CEILING HEIGHT, ABOVE FINISH FLOOR

GRAPHIC SCALE(S)

8 4 0 8 16

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

PLAN NORTH

REGISTERED ARCHITECT THEO LORENZEN-SCHMIDT 031141 STATE OF NEW YORK

A1 SECOND FLOOR REFLECTED CEILING PLAN (BID OPTION 1)
1/8" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:
SIZE: ANSI D
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

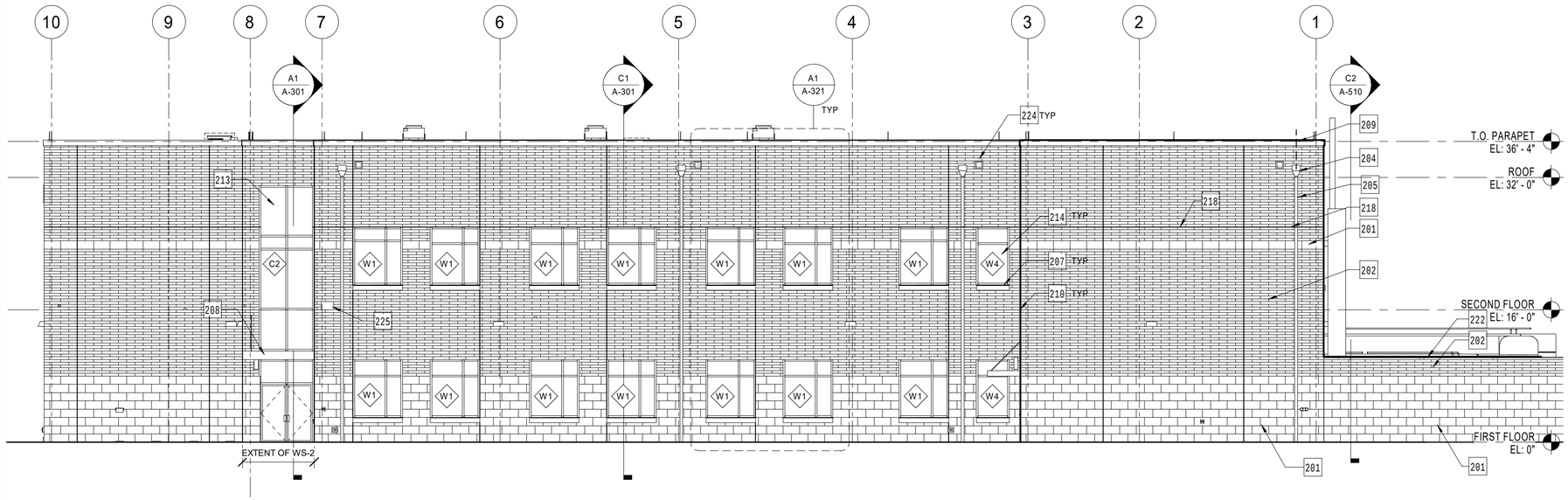
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - SECOND FLOOR
REFLECTED CEILING PLAN (BID OPTION 1)

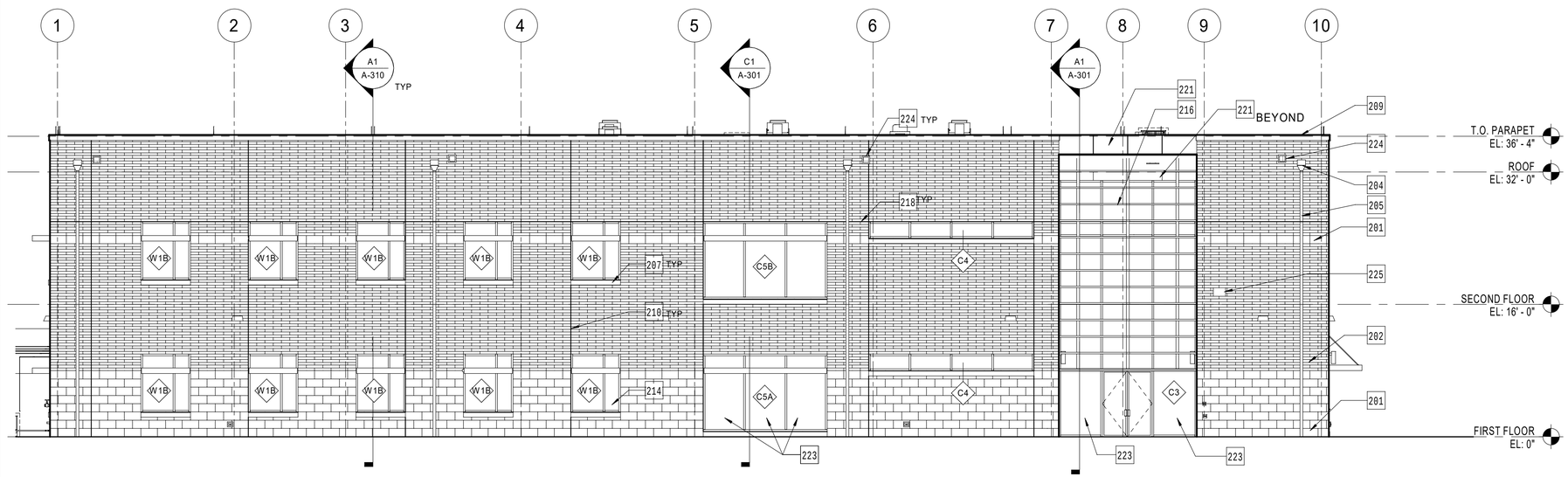
SHEET ID
A-151A

RTA SUBMISSION



C1 NORTH ELEVATION

1/8" = 1'-0"



A1 SOUTH ELEVATION

1/8" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO SHEET A-320 FOR WALL SYSTEM (WS-) TYPES
2. REFER TO A-321 FOR TYPICAL EXTERIOR WALL PATTERN
3. REFER TO A-601 FOR EXTERIOR MATERIAL SCHEDULE
4. REFER TO CIVIL FOR GRADE ELEVATIONS
5. REFER TO A-560 FOR WINDOW & LOUVER SCHEDULE

KEYNOTES

#	
201	AB-1 ARCHITECTURAL FACE CMU
202	AB-2 ARCHITECTURAL FACE CMU
204	METAL CONDUCTOR BOX, MTL-3
205	METAL DOWNSPOUT, MTL-3
207	ST-1 CMU SILL
208	PRE-FABRICATED ALUMINUM HANGER ROD FLAT SOFFIT CANOPY, MTL-5
209	MTL-1 METAL COPING
210	CONTROL JOINT, 20' OC MAX
213	ALUMINUM FRAMED CURTAIN WALL
214	ALUMINUM-FRAMED CURTAIN WALL WINDOW
216	SUN CONTROL SYSTEM, CUSTOM
218	SHELF ANGLE SUPPORT, SEE STRUCTURAL DRAWINGS
221	METAL COMPOSITE PANELS, MTL-4
222	PRECAST STONE WALL COPING
223	SAFETY GLAZING
224	OVERFLOW SCUPPER
225	BUILDING NUMBER SIGN, REFER TO SIGNAGE DRAWINGS, COORDINATE THE FINAL LOCATION WITH THE COTR, PROVIDE MASONRY WITH SMOOTH SURFACE FOR SIGNAGE SUBSTRATE

REGISTERED ARCHITECT
THEO LORENZEN-SCHMIDT
037114
STATE OF NEW YORK

GRAPHIC SCALE(S)

8 4 0 8 16

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

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

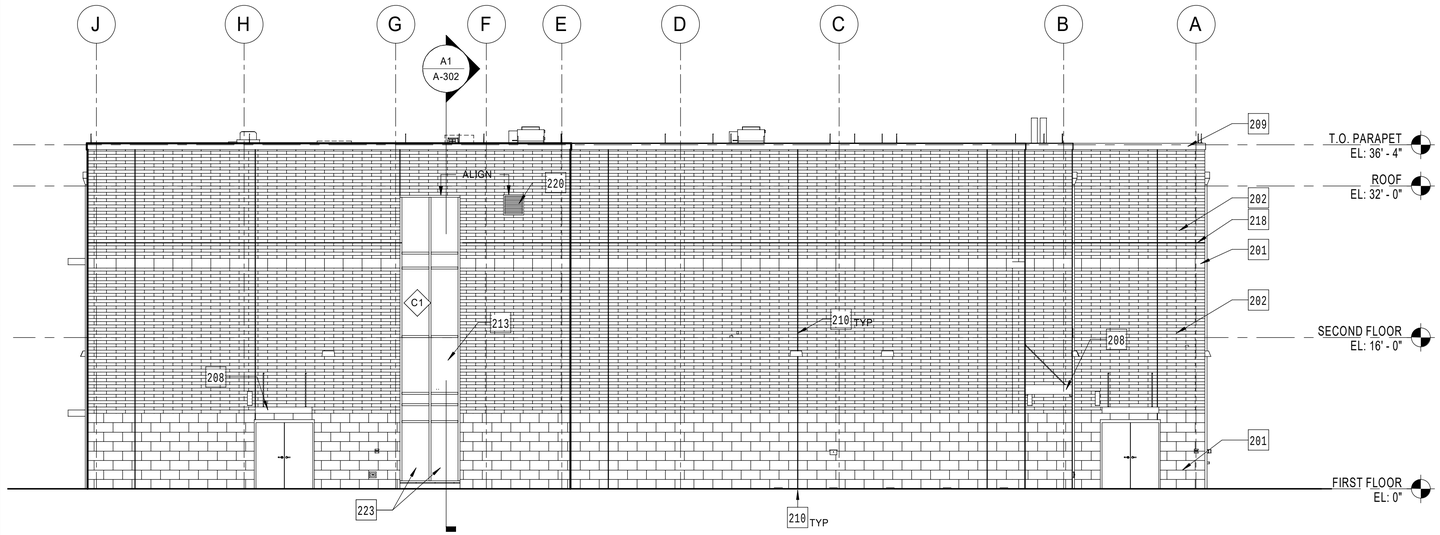
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

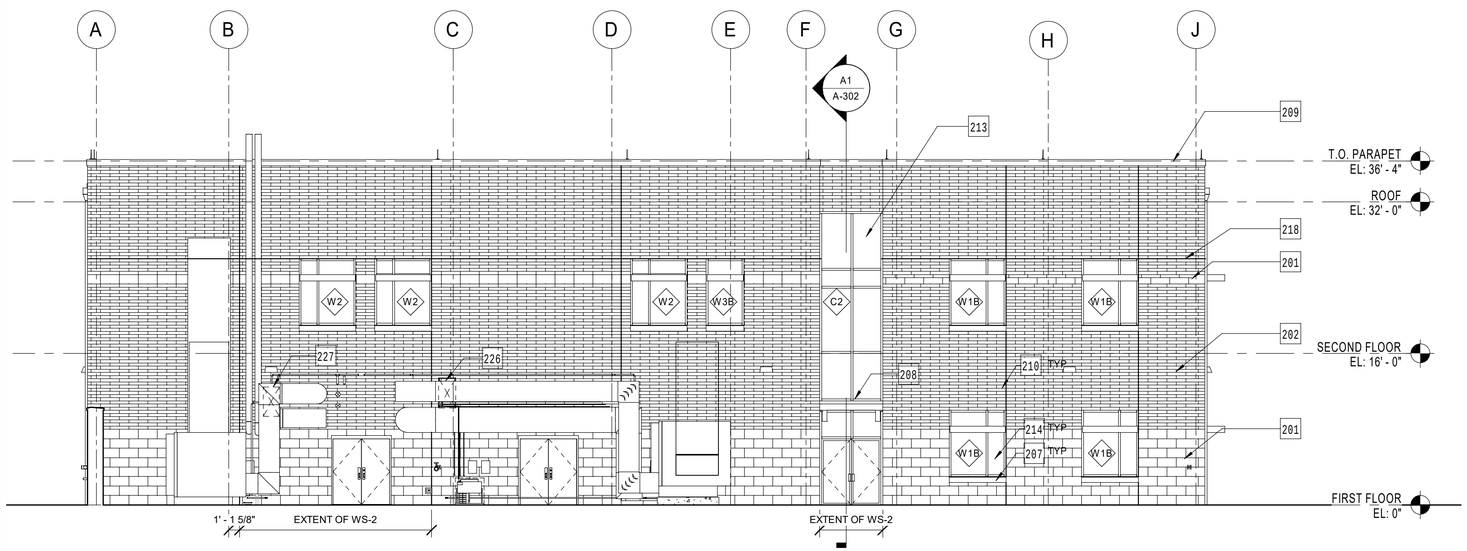
ARCHITECTURAL - EXTERIOR
ELEVATIONS - NORTH AND SOUTH

SHEET ID

A-201



C1 EAST ELEVATION
1/8" = 1'-0"



A1 WEST ELEVATION
1/8" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO SHEET A-320 FOR WALL SYSTEM (WS-) TYPES
2. REFER TO A-321 FOR TYPICAL EXTERIOR WALL PATTERN
3. REFER TO A-601 FOR EXTERIOR MATERIAL SCHEDULE
4. REFER TO CIVIL FOR GRADE ELEVATIONS
5. REFER TO A-560 FOR WINDOW & LOUVER SCHEDULE

KEYNOTES

#	
201	AB-1 ARCHITECTURAL FACE CMU
202	AB-2 ARCHITECTURAL FACE CMU
207	ST-1 CMU SILL
208	PRE-FABRICATED ALUMINUM HANGER ROD FLAT SOFFIT CANOPY, MTL-5
209	MTL-1 METAL COPING
210	CONTROL JOINT, 20' OC MAX
213	ALUMINUM FRAMED CURTAIN WALL
214	ALUMINUM-FRAMED CURTAIN WALL WINDOW
218	SHELF ANGLE SUPPORT, SEE STRUCTURAL DRAWINGS
220	LV-1 EXTERIOR DRAINABLE LOUVER
223	SAFETY GLAZING
226	LV-2 EXTERIOR DRAINABLE LOUVER BEYOND
227	LV-3 EXTERIOR DRAINABLE LOUVER BEYOND

GRAPHIC SCALE(S)

8 4 0 8 16

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

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN	ISSUE DATE: 14 DECEMBER 2022
DRAWN BY: T. LORENZEN-SCHMIDT	SOLICITATION NO.: W9128F22R0017
CHECKED BY: W. STEVENS	CONTRACT NO.:
SUBMITTED BY:	FILE NUMBER:
SIZE: ANSI D	FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

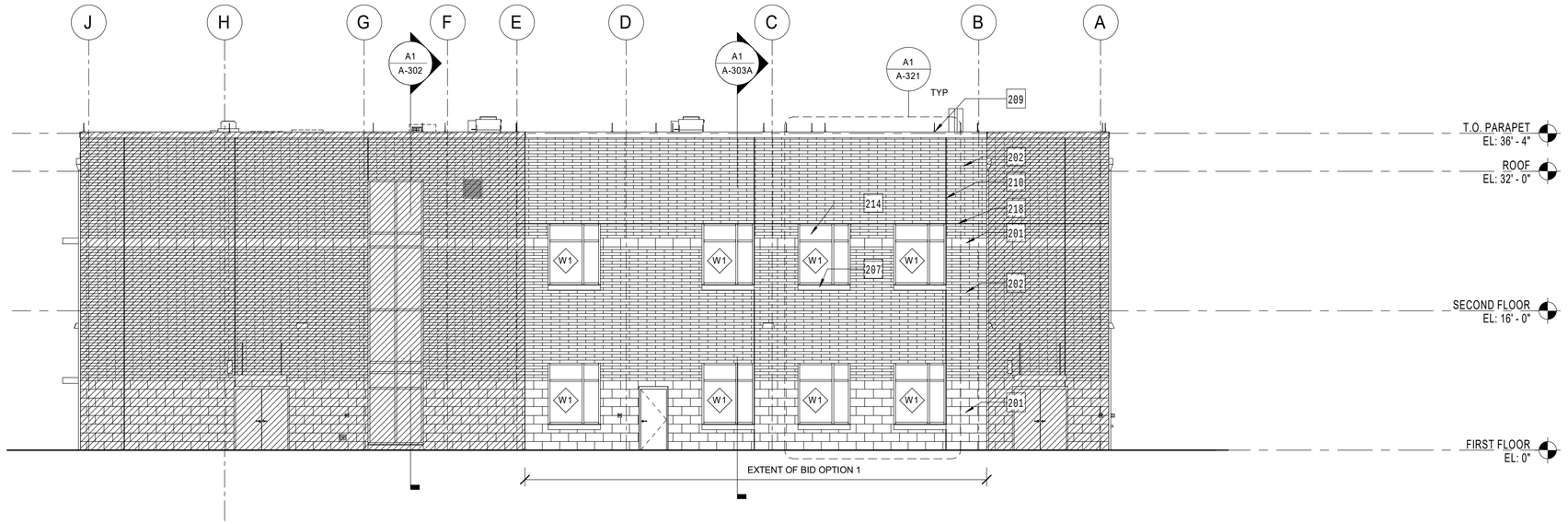
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - EXTERIOR
ELEVATIONS - EAST AND WEST

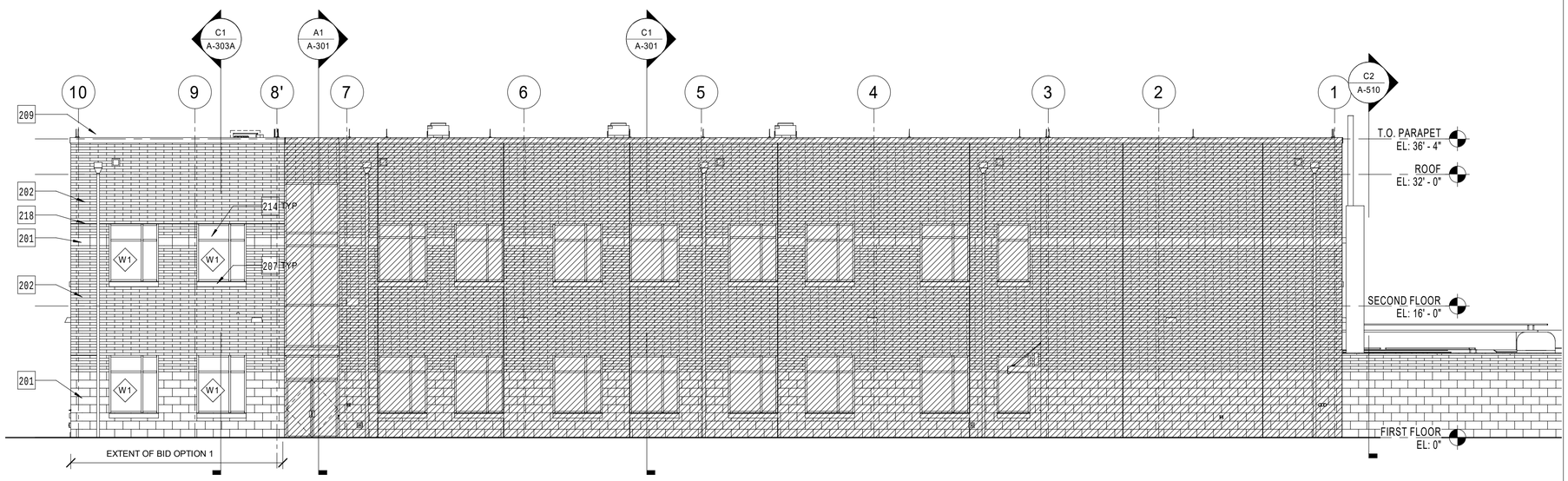
SHEET ID

A-202



C1 EAST ELEVATION (BID OPTION 1)

1/8" = 1'-0"



A1 NORTH ELEVATION (BID OPTION 1)

1/8" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO SHEET A-320 FOR WALL SYSTEM (WS-) TYPES
2. REFER TO A-321 FOR TYPICAL EXTERIOR WALL PATTERN
3. REFER TO A-601 FOR EXTERIOR MATERIAL SCHEDULE
4. REFER TO CIVIL FOR GRADE ELEVATIONS
5. REFER TO A-560 FOR WINDOW & LOUVER SCHEDULE

KEYNOTES

#	
201	AB-1 ARCHITECTURAL FACE CMU
202	AB-2 ARCHITECTURAL FACE CMU
207	ST-1 CMU SILL
209	MTL-1 METAL COPING
210	CONTROL JOINT, 20' OC MAX
214	ALUMINUM-FRAMED CURTAIN WALL WINDOW
218	SHELF ANGLE SUPPORT, SEE STRUCTURAL DRAWINGS

REGISTERED ARCHITECT
THEO J. LORENZEN-SCHMIDT
037114
STATE OF NEW YORK

GRAPHIC SCALE(S)

8 4 0 8 16

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

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

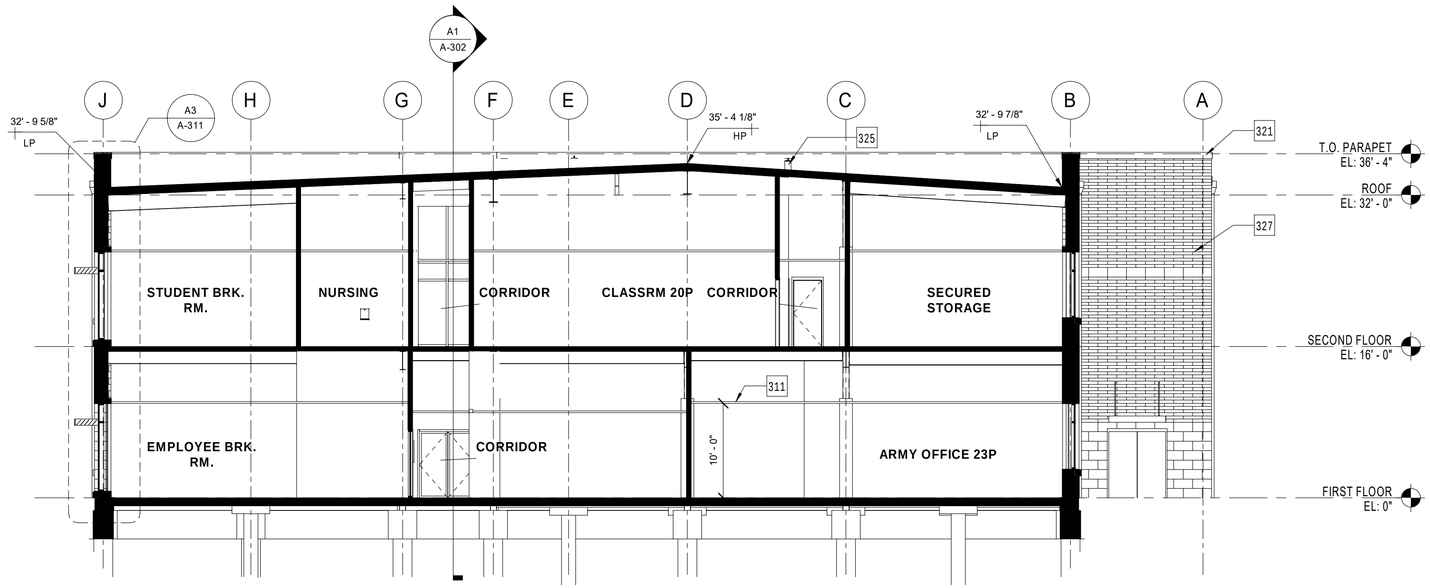
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - EXTERIOR
ELEVATIONS (BID OPTION 1)

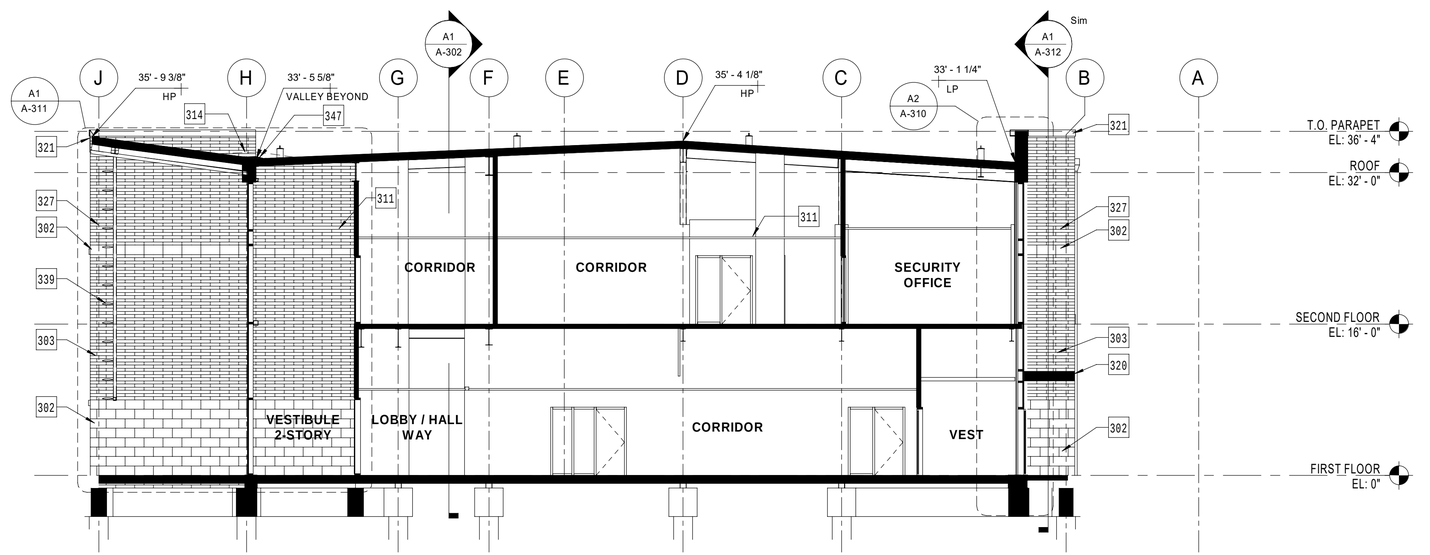
SHEET ID

A-202A

RTA SUBMISSION



C1 BUILDING SECTION
1/8" = 1'-0"



A1 BUILDING SECTION
1/8" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO SHEET A-320 FOR WALL SYSTEMS (WS-) & ROOF SYSTEMS (RS-) TYPES

KEYNOTES

#	
302	AB-1 ARCHITECTURAL FACE CMU
303	AB-2 ARCHITECTURAL FACE CMU
311	CEILING AS SCHEDULED
314	TAPERED ROOF INSULATION BEYOND, SEE ROOF PLAN
320	PRE-FABRICATED ALUMINUM FLAT SOFFIT CANOPY, MTL-5
321	MTL-1 METAL COPING
325	FALL PROTECTION DAVIT FOR LIFE LINE
327	SHELF ANGLE SUPPORT, REFER TO STRUCTURAL DRAWINGS
339	AIRFOIL BLADE SUN SHADING SYSTEM, ATTACH ENDS OF AIRFOIL BLADE EXTRUSIONS TO END PLATE TO CMU FACE
347	TAPERED ROOF INSULATION

GRAPHIC SCALE(S)

8 4 0 8 16
SCALE: 1/8" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN	ISSUE DATE: 14 DECEMBER 2022
DRAWN BY: T. LORENZEN-SCHMIDT	SOLICITATION NO.: W9128F22R0017
CHECKED BY: W. STEVENS	CONTRACT NO.:
SUBMITTED BY:	FILE NUMBER:
SIZE: ANSI D	FILE NAME:

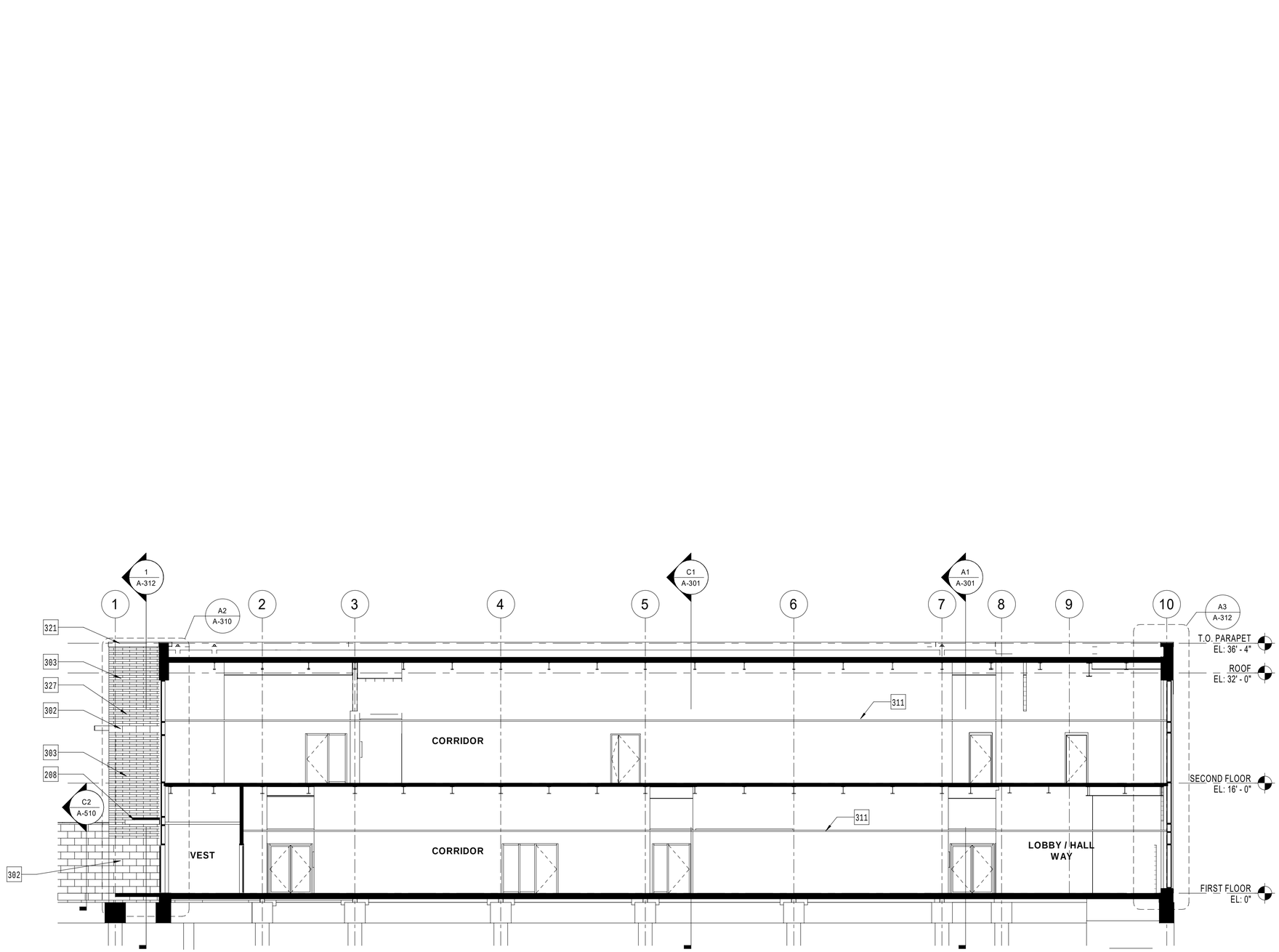
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - BUILDING SECTIONS - CROSS

SHEET ID
A-301



A1 BUILDING SECTION
1/8" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO SHEET A-320 FOR WALL SYSTEMS (WS-) & ROOF SYSTEMS (RS-) TYPES

KEYNOTES

#	
208	PRE-FABRICATED ALUMINUM HANGER ROD FLAT SOFFIT CANOPY, MTL-5
302	AB-1 ARCHITECTURAL FACE CMU
303	AB-2 ARCHITECTURAL FACE CMU
311	CEILING AS SCHEDULED
321	MTL-1 METAL COPING
327	SHELF ANGLE SUPPORT, REFER TO STRUCTURAL DRAWINGS

REGISTERED ARCHITECT
T.M. LORENZEN-SCHMIDT
037414
STATE OF NEW YORK

GRAPHIC SCALE(S)

8 4 0 8 16

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

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

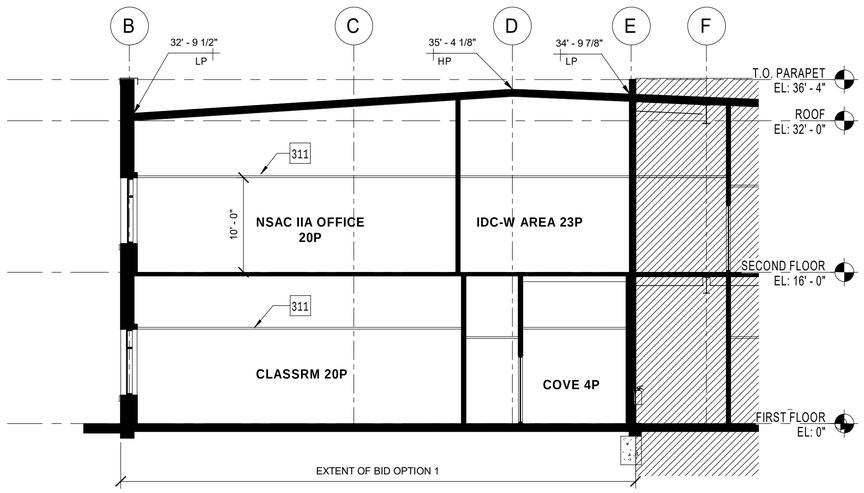
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

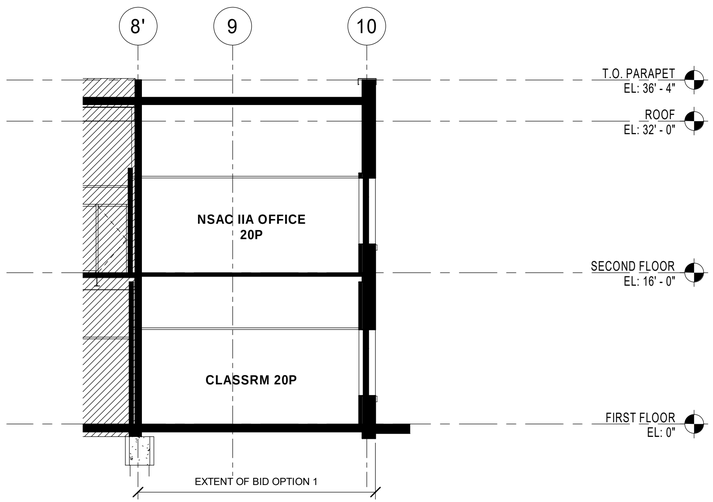
ARCHITECTURAL - BUILDING SECTIONS - LONGITUDINAL

SHEET ID

A-302



C1 BUILDING SECTION
1/8" = 1'-0"



A1 BUILDING SECTION
1/8" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO SHEET A-320 FOR WALL SYSTEMS (WS-) & ROOF SYSTEMS (RS-) TYPES

KEYNOTES

#	
311	CEILING AS SCHEDULED

GRAPHIC SCALE(S)

8 4 0 8 16

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

REGISTERED ARCHITECT
FRED T. LORENZEN-SCHMIDT
037114
STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:
SIZE: ANSI D
FILE NAME:

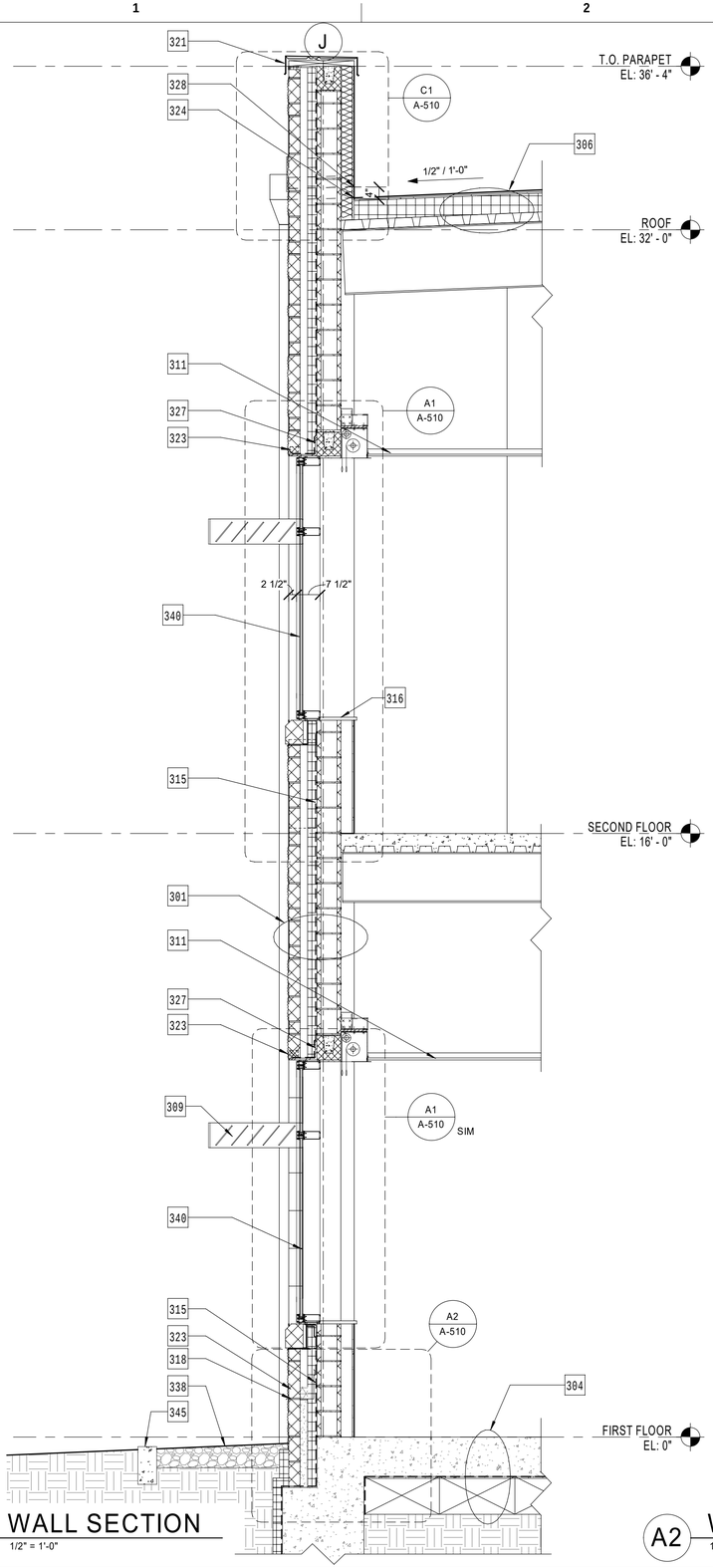
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

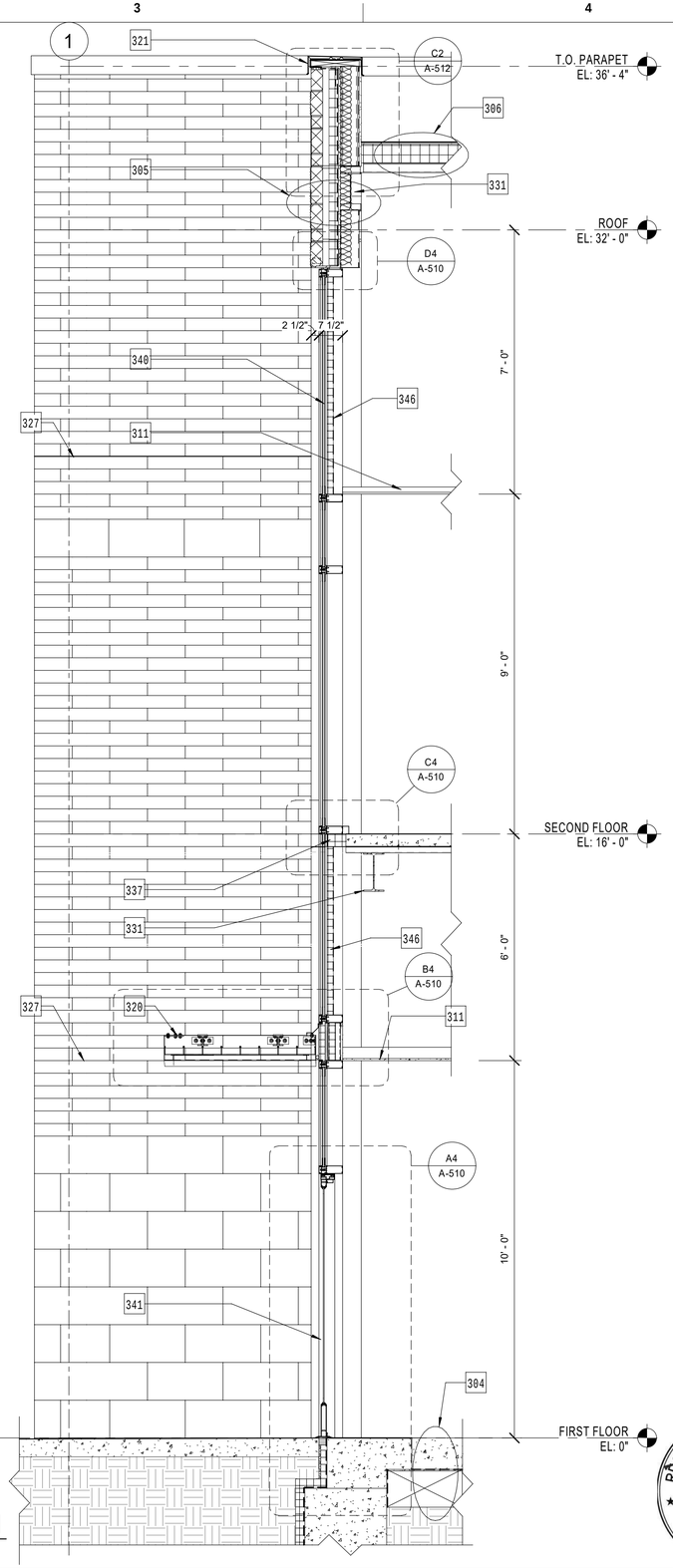
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - BUILDING SECTIONS
(BID OPTION 1)

SHEET ID
A-303A



A1 WALL SECTION
1/2" = 1'-0"



A2 WALL SECTION
1/2" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO CIVIL FOR GRADE ELEVATION
2. FOR LOAD BEARING CMU, REFER TO STRUCTURAL
3. REFER TO SHEET A-320 FOR EXTERIOR ASSEMBLY TYPES
4. REFER TO SHEET A-560 FOR WINDOW SCHEDULE

KEYNOTES

#	
301	WS-1 ARCHITECTURAL CONCRETE MASONRY UNIT ON STRUCTURAL MASONRY CONCRETE UNIT
304	FS-1 SLAB ON GRADE
305	WS-2 ARCHITECTURAL CONCRETE MASONRY UNIT ON COLD FORMED STEEL FRAMING
306	RS-1 SINGLE PLY ROOFING SYSTEM
309	SUN CONTROLS BY ALUMINUM CURTAIN WALL MANUFACTURER
311	CEILING AS SCHEDULED
315	COMBINED AIR BARRIER AND VAPOR RETARDER
316	SOLID SURFACE WINDOW STOOL
318	THROUGH-WALL METAL FLASHING
320	PRE-FABRICATED ALUMINUM FLAT SOFFIT CANOPY, MTL-5
321	MTL-1 METAL COPING
323	FLASHING & WEEP HOLES AT 2-8" OC
324	SCUPPER BEYOND
327	SHELF ANGLE SUPPORT, REFER TO STRUCTURAL DRAWINGS
328	METAL OVERFLOW SCUPPER
331	STEEL BEAM, REFER TO STRUCTURAL DRAWINGS
337	SMOKE BARRIER SYSTEM
338	MOW STRIP, REFER TO LANDSCAPE
340	ALUMINUM FRAMED CURTAIN WALL
341	ALUMINUM FRAMED ENTRANCE DOOR
345	CONCRETE CURB EDGING, SEE LANDSCAPE DRAWINGS
346	2" SPANDREL INSULATION, IN-8

REGISTERED ARCHITECT
TIMOTHY LORENZEN-SCHMIDT
037414
STATE OF NEW YORK

GRAPHIC SCALE(S)

2 1 0 2 4
SCALE: 1/2" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:
SIZE: ANSI D
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

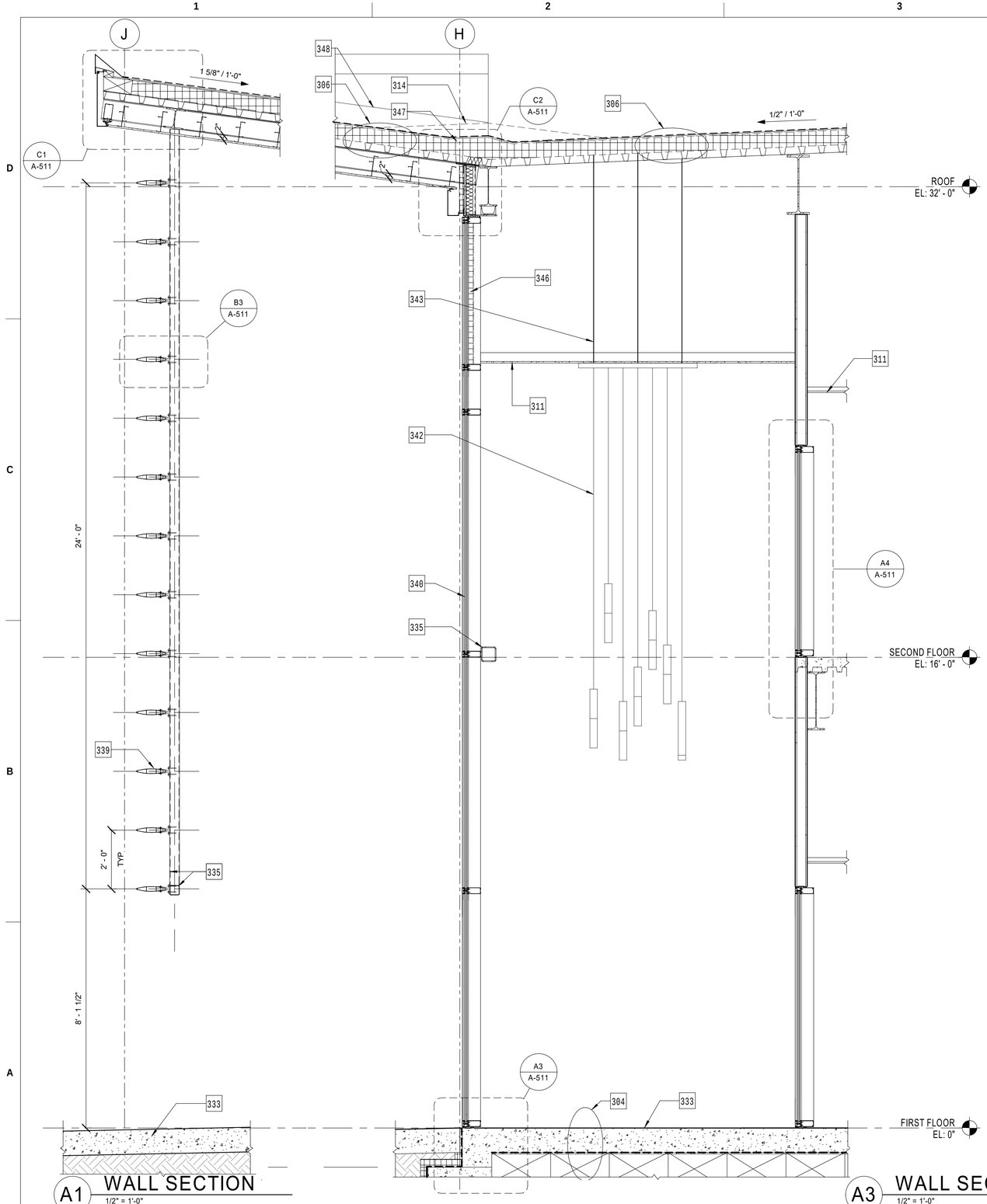
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

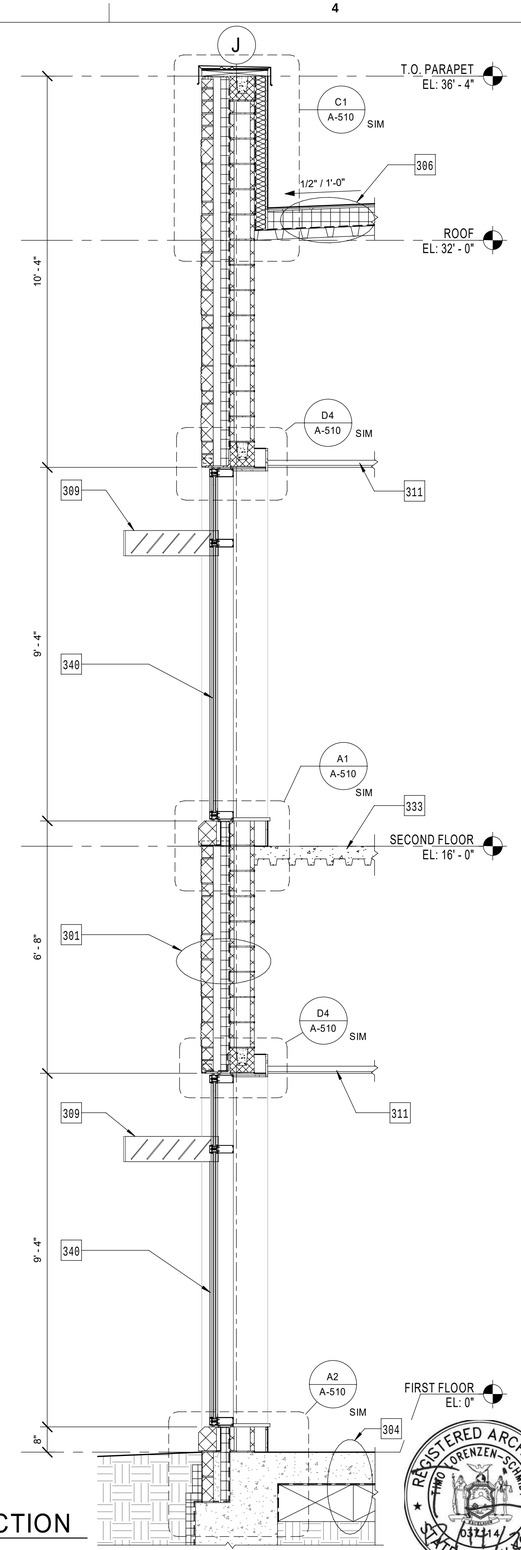
ARCHITECTURAL - WALL SECTIONS

SHEET ID
A-310

RTA SUBMISSION



A1 WALL SECTION
1/2" = 1'-0"



A3 WALL SECTION
1/2" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO CIVIL FOR GRADE ELEVATION
2. FOR LOAD BEARING CMU, REFER TO STRUCTURAL
3. REFER TO SHEET A-320 FOR EXTERIOR ASSEMBLY TYPES
4. REFER TO SHEET A-560 FOR WINDOW SCHEDULE

KEYNOTES

#	
301	WS-1 ARCHITECTURAL CONCRETE MASONRY UNIT ON STRUCTURAL MASONRY CONCRETE UNIT
304	FS-1 SLAB ON GRADE
306	RS-1 SINGLE PLY ROOFING SYSTEM
309	SUN CONTROLS BY ALUMINUM CURTAIN WALL MANUFACTURER
311	CEILING AS SCHEDULED
314	TAPERED ROOF INSULATION BEYOND, SEE ROOF PLAN
333	FLOOR SLAB, REFER TO STRUCTURAL DRAWINGS
335	STEEL TUBE, REFER TO STRUCTURAL DRAWINGS
339	AIRFOIL BLADE SUN SHADING SYSTEM, ATTACH ENDS OF AIRFOIL BLADE EXTRUSIONS TO END PLATE TO CMU FACE
340	ALUMINUM FRAMED CURTAIN WALL
342	VESTIBULE PENDANT LUMINAIRES, SEE ELECTRICAL DRAWINGS
343	LUMINAIRE CANOPY HANGER BY LUMINAIRE MANUFACTURER
346	2" SPANDREL INSULATION, IN-8
347	TAPERED ROOF INSULATION
348	VERTICAL FLASHING AT PARAPET BEYOND

GRAPHIC SCALE(S)

2 1 0 2 4
SCALE: 1/2" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

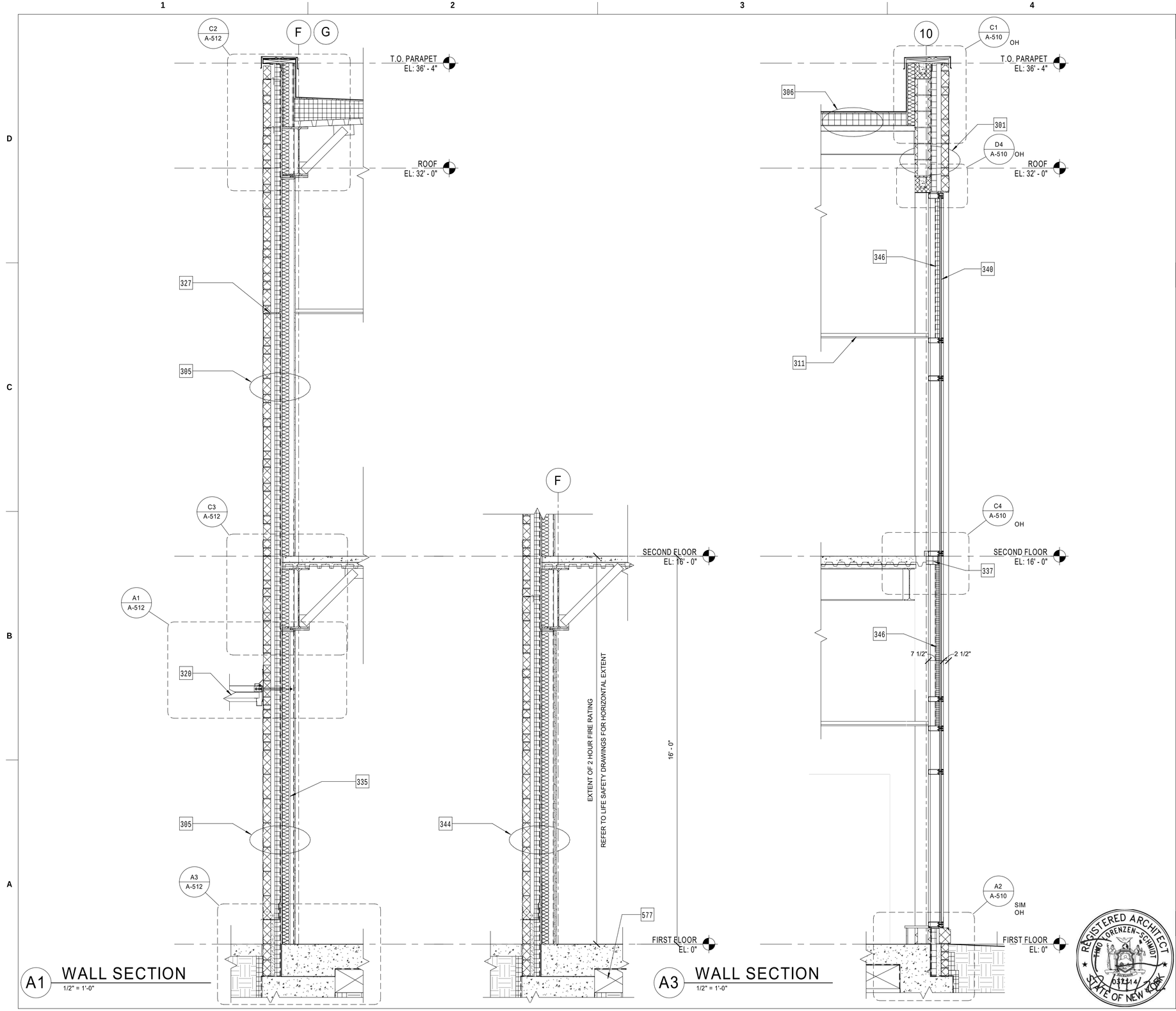
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - WALL SECTIONS

SHEET ID
A-311

REGISTERED ARCHITECT
TIMOTHY LORENZEN-SCHMIDT
037414
STATE OF NEW YORK



A1 WALL SECTION
1/2" = 1'-0"

A3 WALL SECTION
1/2" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO CIVIL FOR GRADE ELEVATION
2. FOR LOAD BEARING CMU, REFER TO STRUCTURAL
3. REFER TO SHEET A-320 FOR EXTERIOR ASSEMBLY TYPES
4. REFER TO SHEET A-560 FOR WINDOW SCHEDULE

KEYNOTES

#	
301	WS-1 ARCHITECTURAL CONCRETE MASONRY UNIT ON STRUCTURAL MASONRY CONCRETE UNIT
305	WS-2 ARCHITECTURAL CONCRETE MASONRY UNIT ON COLD FORMED STEEL FRAMING
306	RS-1 SINGLE PLY ROOFING SYSTEM
311	CEILING AS SCHEDULED
320	PRE-FABRICATED ALUMINUM FLAT SOFFIT CANOPY, MTL-5
327	SHELF ANGLE SUPPORT, REFER TO STRUCTURAL DRAWINGS
335	STEEL TUBE, REFER TO STRUCTURAL DRAWINGS
337	SMOKE BARRIER SYSTEM
340	ALUMINUM FRAMED CURTAIN WALL
344	EXTERIOR WALL ASSEMBLY, VARIANT TYPE WS-2', 2 HOUR RATED IN ACCORDANCE W/ UL V499 OR EQUAL
346	2" SPANDREL INSULATION, IN-8
577	VOID FORM, SEE STRUCTURAL DRAWINGS

REGISTERED ARCHITECT
THEO LORENZEN-SCHMIDT
037114
STATE OF NEW YORK

GRAPHIC SCALE(S)

2 1 0 2 4
SCALE: 1/2" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE:	14 DECEMBER 2022
SOLICITATION NO.:	W9128F22R0017
CONTRACT NO.:	
FILE NUMBER:	
DESIGNED BY: G. GAN	
DRAWN BY: T. LORENZEN-SCHMIDT	
CHECKED BY: W. STEVENS	
SUBMITTED BY:	
SIZE: ANSI D'	FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

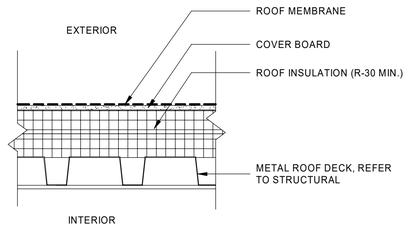
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - WALL SECTIONS

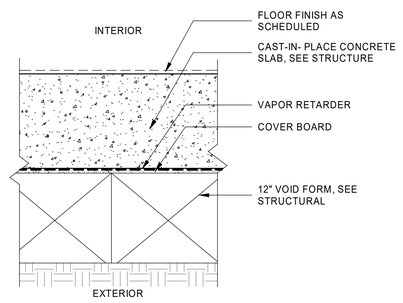
SHEET ID
A-312

RTA SUBMISSION



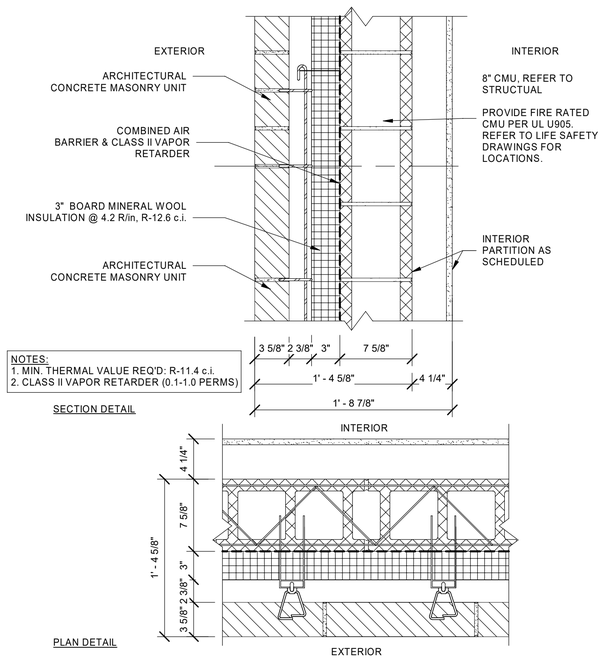
NOTES:
1. MIN. THERMAL VALUE: R-30 c.i.
2. PROVIDE TAPERED POLYISOCYANURATE INSULATION ROOF CRICKETS AS INDICATED ON THE ROOF PLAN

B1 RS-1 SINGLE PLY ROOFING
1 1/2" = 1'-0"



NOTES:
1. CLASS I VAPOR RETARDER (<0.1 PERMS)

A1 FS-1 SLAB ON GRADE
1 1/2" = 1'-0"

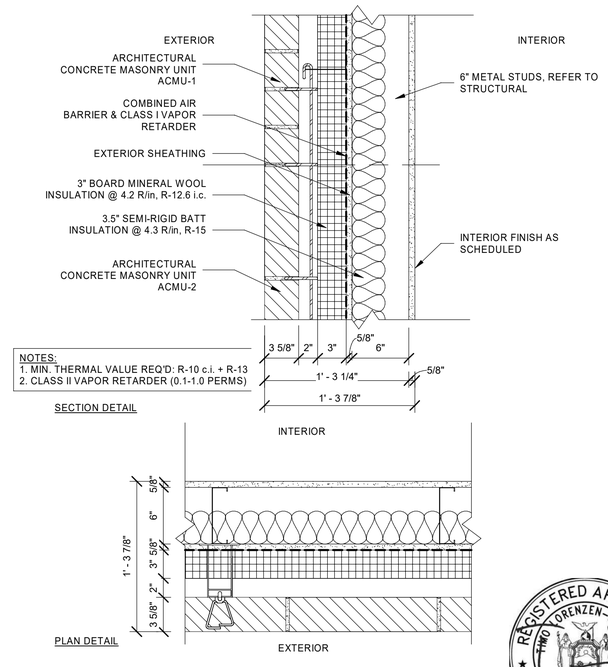


NOTES:
1. MIN. THERMAL VALUE REQ'D: R-11.4 c.i.
2. CLASS II VAPOR RETARDER (0.1-1.0 PERMS)

SECTION DETAIL

PLAN DETAIL

A2 WS-1 FACE CMU ON CMU
1 1/2" = 1'-0"



NOTES:
1. MIN. THERMAL VALUE REQ'D: R-10 c.i. + R-13
2. CLASS II VAPOR RETARDER (0.1-1.0 PERMS)

SECTION DETAIL

PLAN DETAIL

A3 WS-2 FACE CMU ON CFSF
1 1/2" = 1'-0"

GENERAL SHEET NOTES

LEGEND

WS-X	WALL SYSTEM
RS-X	ROOF STSTEM
FL-X	FLOOR SYSTEM

REGISTERED ARCHITECT
THOMAS J. LORENZEN-SCHMIDT
037414
STATE OF NEW YORK

GRAPHIC SCALE(S)

1 0 1

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

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

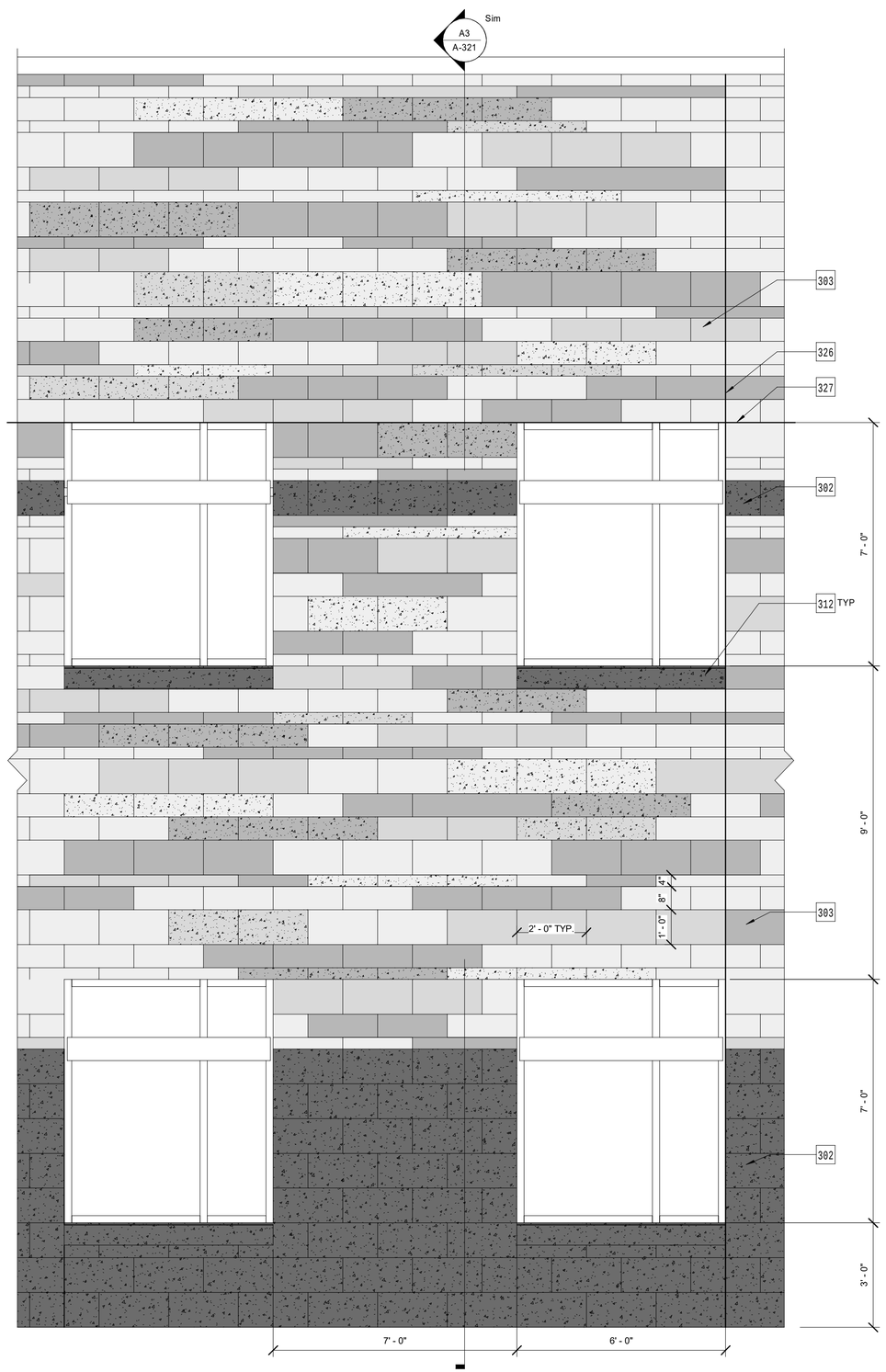
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

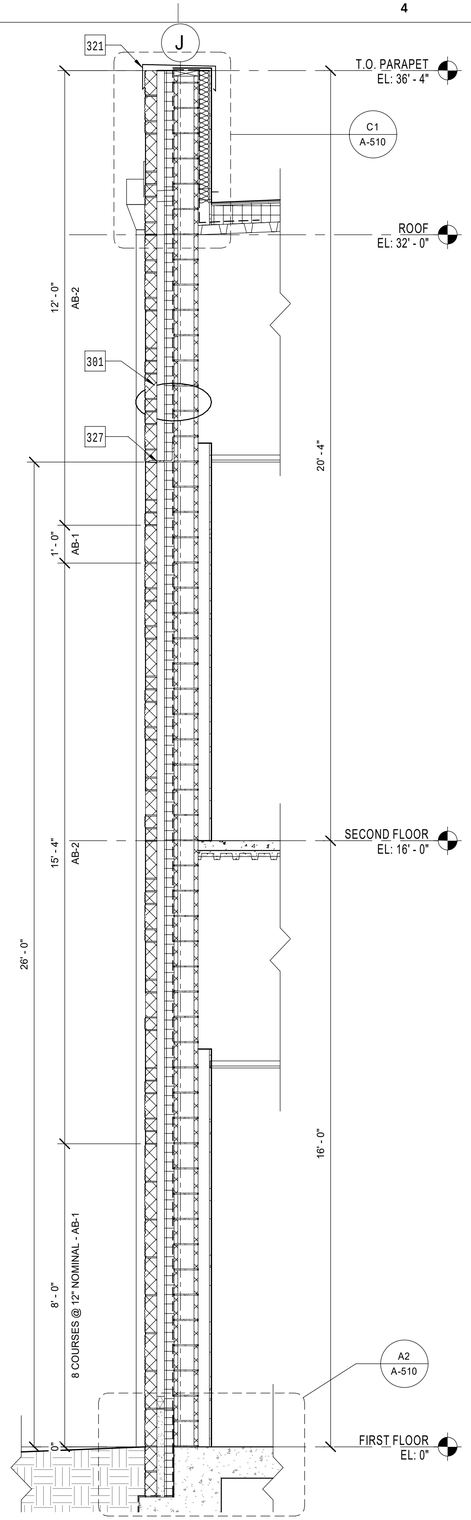
ARCHITECTURAL - EXTERIOR ASSEMBLY TYPES

SHEET ID
A-320

RTA SUBMISSION



A1 TYPICAL MASONRY ELEVATION
1/2" = 1'-0"



A3 WALL SECTION
1/2" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO A-601 FOR EXTERIOR MATERIAL SCHEDULE
2. REFER TO SHEET A-320 FOR RS & WS TYPES
3. REFER TO CIVIL FOR GRADE ELEVATIONS

KEYNOTES

#	
301	WS-1 ARCHITECTURAL CONCRETE MASONRY UNIT ON STRUCTURAL MASONRY CONCRETE UNIT
302	AB-1 ARCHITECTURAL FACE CMU
303	AB-2 ARCHITECTURAL FACE CMU
312	ST-1 PRECAST STONE SILL
321	MTL-1 METAL COPING
326	CONTROL JOINT
327	SHELF ANGLE SUPPORT, REFER TO STRUCTURAL DRAWINGS

LEGEND

TOP BOND MIX % AB-2

#	PATTERN	PRODUCT	COLOR	%
ST2		CORDOVA STONE (GROUND FACE)	ALABASTER	39%
ST3		CORDOVA STONE (GROUND FACE)	BUFF	28.6%
ST4		CORDOVA STONE (GROUND FACE)	LIMESTONE	15.6%
ST5		CORDOVA STONE (ROCK FACE)	BUFF	6.6%
ST6		CORDOVA STONE (ROCK FACE)	ALABASTER	6.6%
ST7		CORDOVA STONE (ROCK FACE)	LIMESTONE	3.6%

PEDESTAL BOND MIX % AB-1

#		PRODUCT	COLOR	%
ST1		CORDOVA STONE (CHISEL FACE)	MIDNIGHT	100%

GRAPHIC SCALE(S)

2 1 0 2 4
SCALE: 1/2" = 1'-0"

REGISTERED ARCHITECT
THEO LORENZEN-SCHMIDT
NEBRASKA
STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN	ISSUE DATE: 14 DECEMBER 2022
DRAWN BY: T. LORENZEN-SCHMIDT	SOLICITATION NO.: W9128F22R0017
CHECKED BY: W. STEVENS	CONTRACT NO.:
SUBMITTED BY:	FILE NUMBER:
SIZE: ANSI 'D'	FILE NAME:

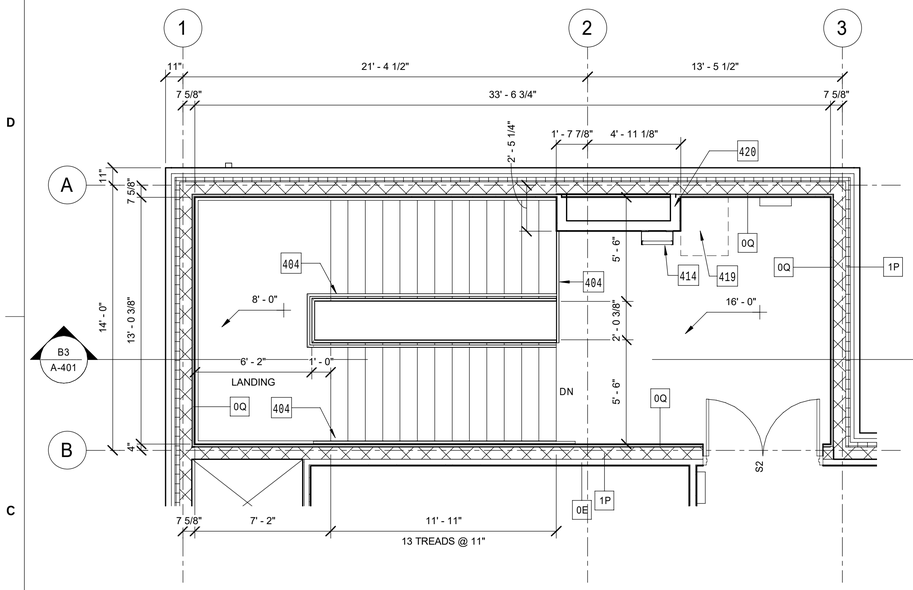
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

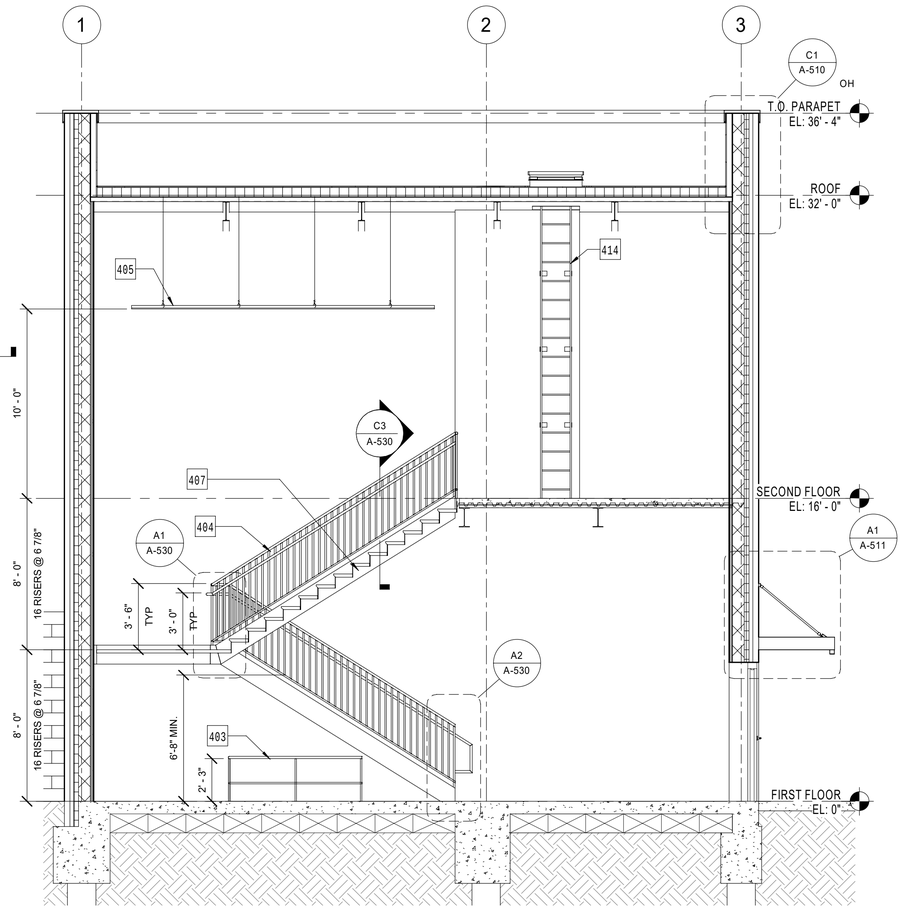
ARCHITECTURAL - EXTERIOR WALL PATTERNS

SHEET ID
A-321



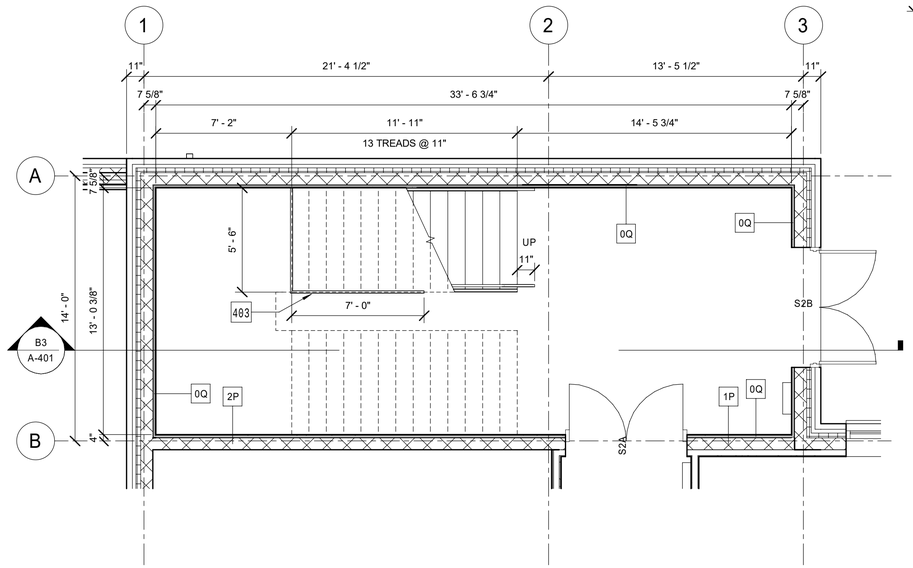
C1 SECOND FLOOR PLAN - STAIR 1

1/4" = 1'-0"



B3 ENLARGED SECTION - STAIR 1

1/4" = 1'-0"



A1 FIRST FLOOR PLAN - STAIR 1

1/4" = 1'-0"

GENERAL SHEET NOTES

1. PROVIDE 3'-6" HIGH PAINTED STEEL GUARDRAIL WITH 3'-0" HIGH PAINTED STEEL HANDRAIL ABOVE STAIR NOSING/ LANDING
2. REFER TO A-530 FOR STAIR DETAILS

KEYNOTES

#	
403	CANE DETECTION LOW RAIL, STEEL PAINTED, PT-6
404	STEEL GUARD RAIL WITH HAND RAIL, PT-6
405	CEILING AS SCHEDULED
407	STEEL STAIR, PT-6
414	OSHA COMPLIANT ROOF ACCESS WALL MOUNTED LADDER, PT-6
419	AREA OF REFUGE, REFER TO LIFE SAFETY AND FIRE PROTECTION
420	(1) LAYER OF 5/8" GWB ON COLD FORMED STEEL FRAMING

GRAPHIC SCALE(S)

4 3 2 1 0 4 8

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

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

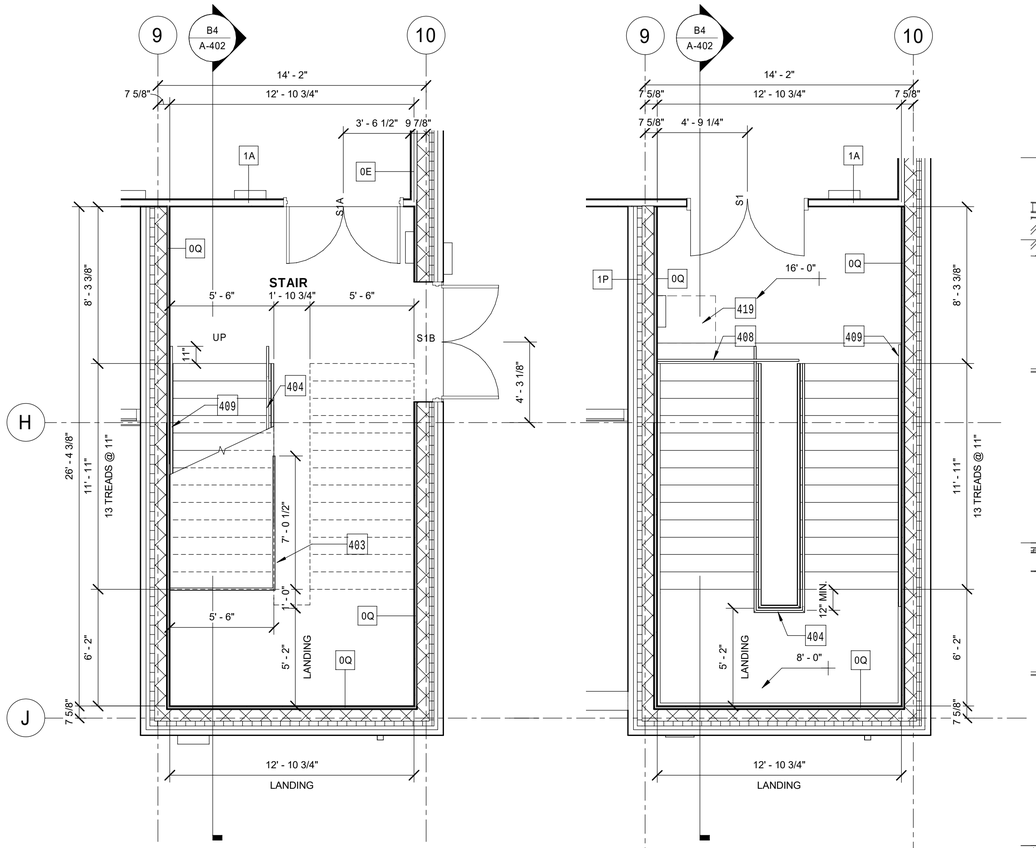
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - ENLARGED PLANS & SECTIONS - STAIR S1

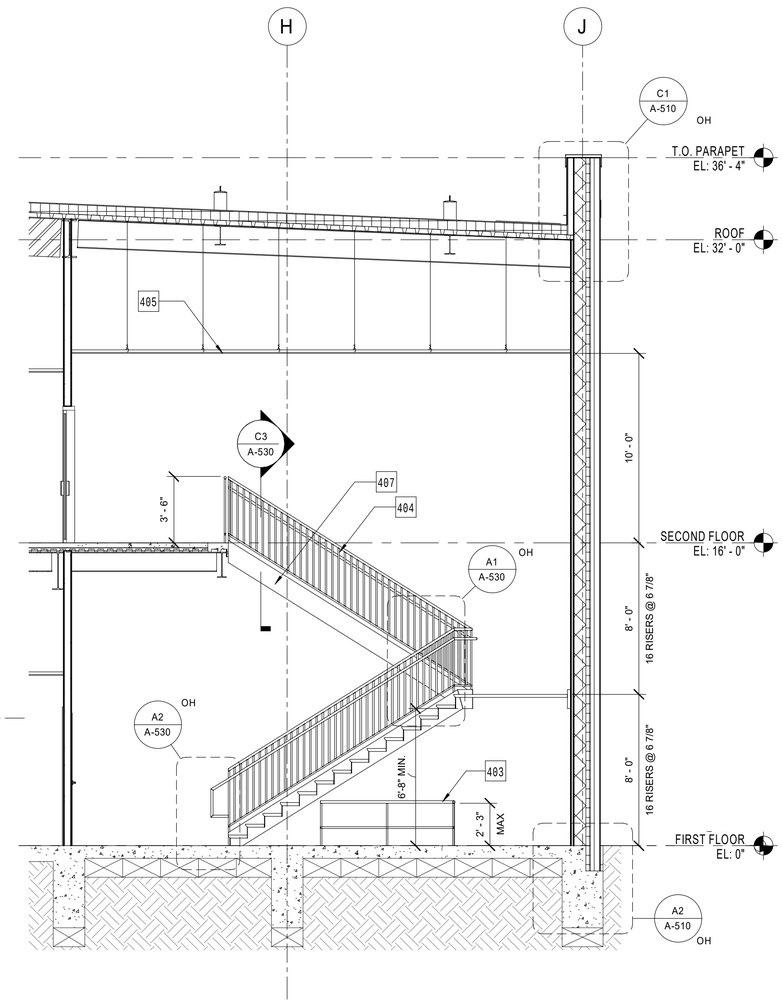
SHEET ID

A-401



B1 FIRST FLOOR PLAN - STAIR 2
1/4" = 1'-0"

B2 SECOND FLOOR PLAN - STAIR 2
1/4" = 1'-0"



B4 ENLARGED SECTION - STAIR 2
1/4" = 1'-0"

GENERAL SHEET NOTES

1. PROVIDE 3'-6" HIGH PAINTED STEEL GUARDRAIL WITH 3'-0" HIGH PAINTED STEEL HANDRAIL ABOVE STAIR NOSING/ LANDING
2. REFER TO A-530 FOR STAIR DETAILS

KEYNOTES

#	
403	CANE DETECTION LOW RAIL, STEEL PAINTED, PT-6
404	STEEL GUARD RAIL WITH HAND RAIL, PT-6
405	CEILING AS SCHEDULED
407	STEEL STAIR, PT-6
408	STEEL GUARD RAIL, PT-6
409	STEEL HANDRAIL, WALL MOUNTED, PT-6
419	AREA OF REFUGE, REFER TO LIFE SAFETY AND FIRE PROTECTION

REGISTERED ARCHITECT
LORENZEN-SCHMIDT
037141
STATE OF NEW YORK

GRAPHIC SCALE(S)

4 3 2 1 0 4 8
SCALE: 1/4" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:
SIZE: ANSI 'D'
FILE NAME:

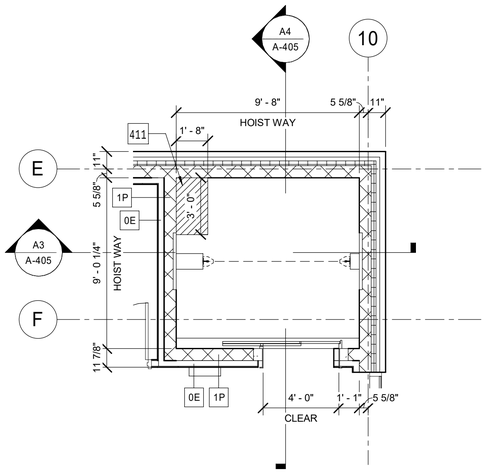
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

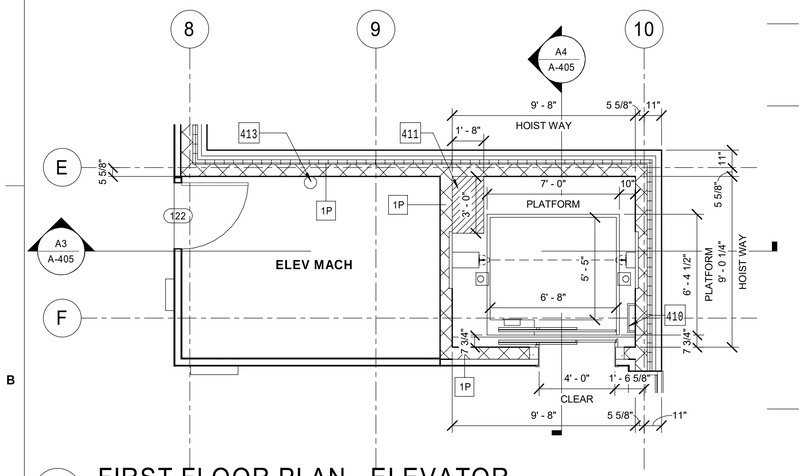
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - ENLARGED PLANS & SECTIONS - STAIR S2

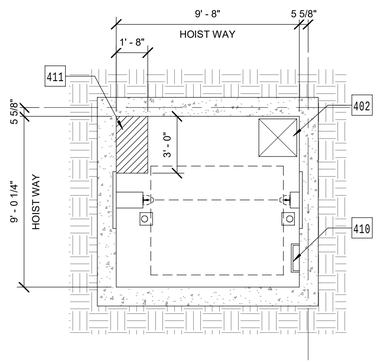
SHEET ID
A-402



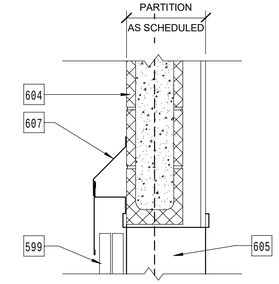
C1 SECOND FLOOR PLAN - ELEVATOR
1/4" = 1'-0"

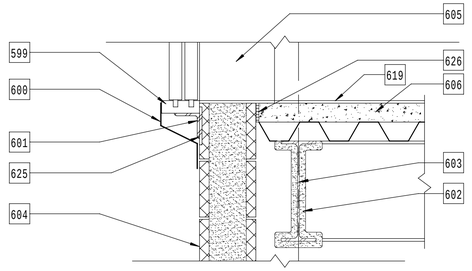


B1 FIRST FLOOR PLAN - ELEVATOR
1/4" = 1'-0"

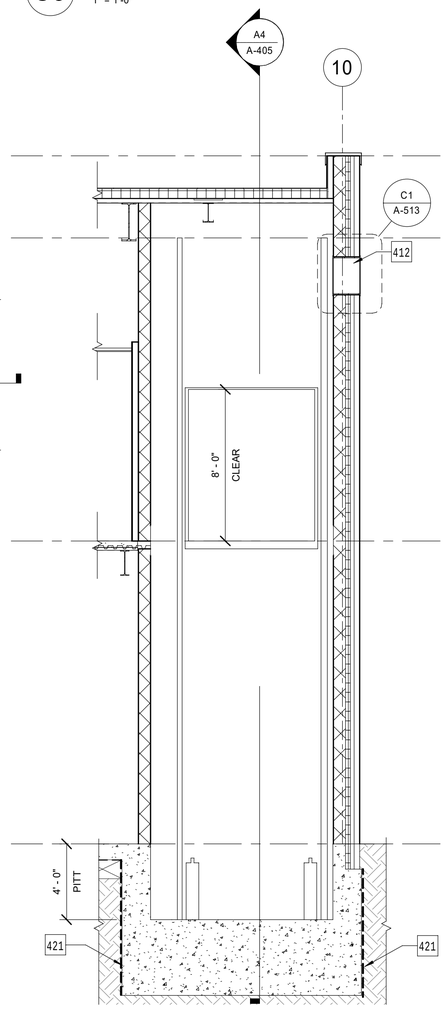


A1 ELEVATOR PIT
1/4" = 1'-0"

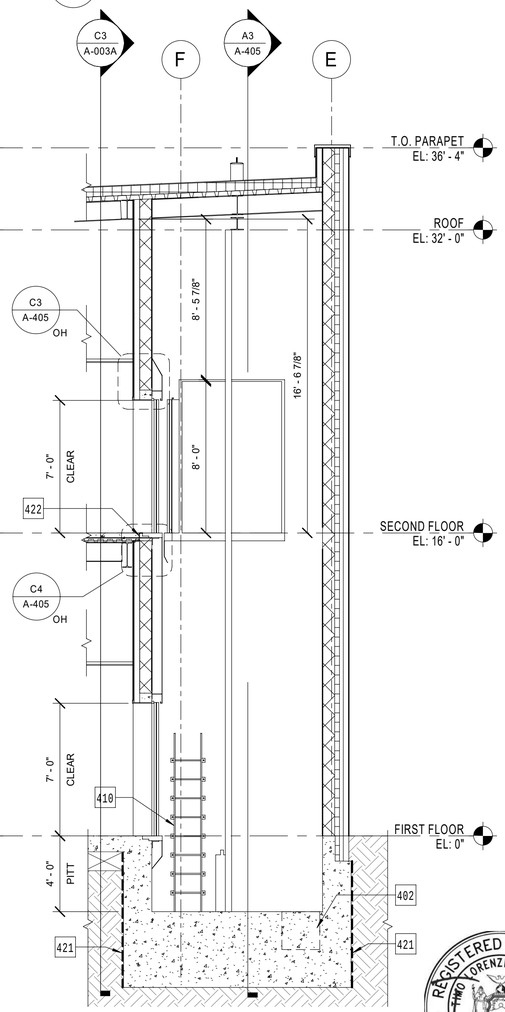




C3 SECTION DETAIL
1" = 1'-0"



C4 SECTION DETAIL
1" = 1'-0"



A3 SECTION - ELEVATOR
1/4" = 1'-0"

A4 SECTION - ELEVATOR
1/4" = 1'-0"

GENERAL SHEET NOTES

1. COORDINATE SIZE AND DIMENSIONS OF ELEVATOR HOISTWAY & STEEL MEMBERS WITH THE ELEVATOR MANUFACTURER. MAINTAIN HOISTWAY PIT ENTRAPMENT PROTECTION CLEARANCE. 3'-0" X 1'-8" PER UFC 3-490-06 PARAGRAPH 3-3.1
2. REFER TO STUCTURAL FOR DIMENSIONS AND LOCATIONS OF ELEVATOR HOISTWAY STEEL MEMBER
3. COMPLY WITH ICC/ANSI A117.2-2017 FOR ACCESSIBILITY COMPLIANCE, SUCH AS, BUT NOT LIMITED TO: MOUNTING HEIGHTS, CLEARANCES AND EQUIPMENT REQUIRED

KEYNOTES

#	
402	SUMP PUMP, REFER TO STRUCTURAL AND PLUMBING
410	ELEVATOR PIT LADDER
411	HOIST WAY ENTRAPMENT PROTECTION SPACE
412	LV-1 EXTERIOR DRAINABLE LOUVER
413	WALL MOUNTED A;B;C TYPE FE
421	ELASTOMERIC WATERPROOFING SYSTEM, INSULATION W/ PROTECTION BOARD
422	SMOKE BARRIER SYSTEM
599	ELEVATOR DOOR BY ELEVATOR SUPPLIER
600	ELEVATOR DOOR SILL BY ELEVATOR SUPPLIER
601	STEEL ANGLE SEE STRUCTURE
602	FIRE PROTECTION AS SCHEDULED
603	STEEL BEAM, REFER TO STRUCTURE
604	LINE OF CLEAR HOIST WAY
605	ELEVATOR JAMB BY ELEVATOR SUPPLIER
606	CONCRETE ON METAL DECK, REFER TO STRUCTURE
607	CONTINUOUS SHEET METAL ELEVATOR FASCIA
619	SCHEDULED FLOOR FINISH
625	EMBED, SEE STRUCTURAL
626	SMOKE BARRIER SYSTEM

REGISTERED ARCHITECT
THEO LORENZEN-SCHMIDT
037414
STATE OF NEW YORK

GRAPHIC SCALE(S)

4 3 2 1 0 4 8
SCALE: 1/4" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI 'D'
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128P22R0017
CONTRACT NO.:
FILE NUMBER:
FILE NAME:

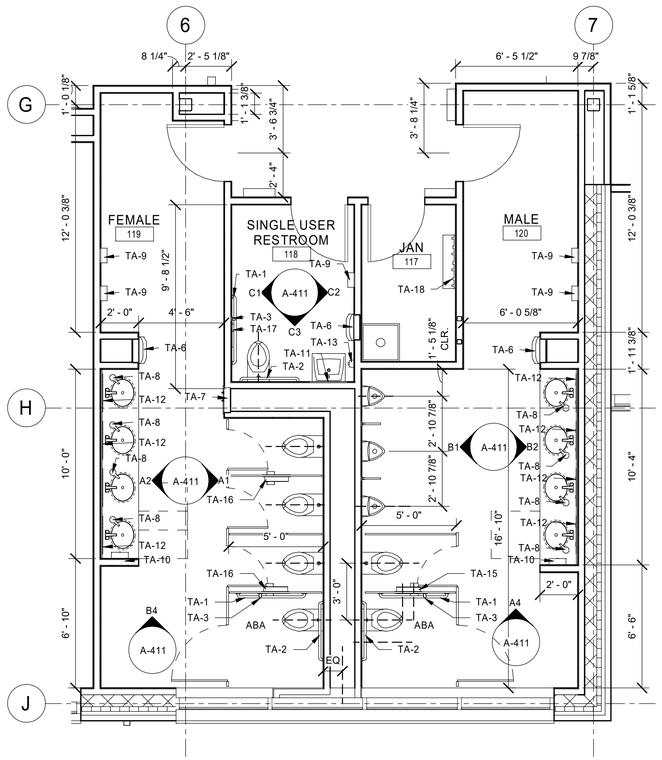
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

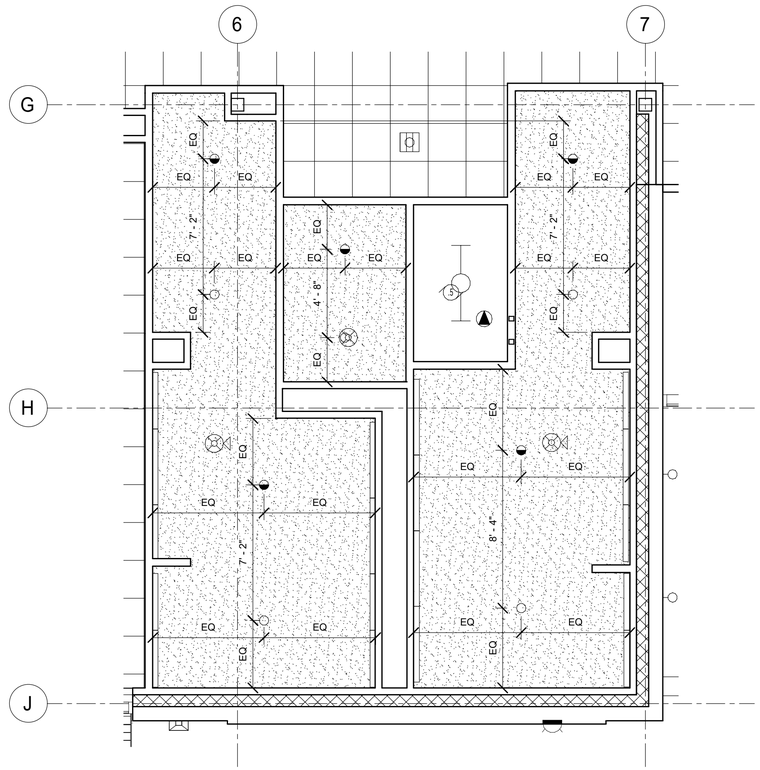
ARCHITECTURAL - ENLARGED PLANS & SECTIONS - ELEVATOR

SHEET ID
A-405



B1 FIRST FLOOR PLAN - TOILET ROOMS

1/4" = 1'-0"



B3 FIRST FLOOR REFLECTED CEILING PLAN - TOILET ROOMS

1/4" = 1'-0"

TOILET ACCESSORY SCHEDULE			
CODE	DESCRIPTION	MANUFACTURER (BASIS OF DESIGN)	MODEL
TA-1	36" GRAB BAR, STRAIGHT	BOBRICK	6806
TA-2	42" GRAB BAR, STRAIGHT	BOBRICK	6806
TA-3	18" GRAB BAR, VERTICAL	BOBRICK	6806
TA-6	TOWEL DISPENSER WASTE, SEMI-RECESSED	BRADLEY CORP	2A15-1036
TA-7	NAPKIN/TAMPON DISPENSER	BRADLEY CORP	407
TA-8	COUNTER SOAP DISPENSER, SENSOR OPERATED	BRADLEY CORP	6315
TA-9	HAND DRYER/AIRBLADE	DYSON	307174-01
TA-10	WALL MOUNTED PAPER TOWEL DISPENSER	BOBRICK	B-262
TA-11	MIRROR, ANGLE FRAME	BRADLEY CORP	780
TA-12	MIRROR, FRAMELESS	BRADLEY CORP	747
TA-13	SOAP DISPENSER, WALL MOUNTED	BRADLEY CORP	6563
TA-15	COMBINATION UNIT: PARTITION-MOUNTED, TOILET SEAT-COVER AND TOILET TISSUE DISPENSER	BOBRICK	B-3471
TA-16	COMBINATION UNIT: PARTITION-MOUNTED, TOILET SEAT-COVER DISPENSER, SANITARY NAPKIN DISPOSAL AND TOILET TISSUE DISPENSER	BOBRICK	B-3571
TA-17	COMBINATION UNIT: SEAT-COVER DISPENSER, SANITARY NAPKIN DISPOSAL AND TOILET TISSUE...	BOBRICK	B-35745
TA-18	MOP-BROOM HOLDER WITH HOLDERS	BRADLEY CORP	9983
TA-19	DOUBLE GARMENT HOOK	BRADLEY CORP	9125

GENERAL SHEET NOTES

1. REFER TO SHEET A-001 FOR TYPICAL MOUNTING HEIGHTS AND ACCESSIBILITY STANDARDS
2. FOR INTERIORS ELEVATIONS AND INTERIORS FINISH SCHEDULE, REFER TO INTERIORS DRAWINGS
3. FOR TOILET PARTITION SUPPORT REFER TO STRUCTURAL DRAWINGS

KEYNOTES

#

GRAPHIC SCALE(S)

4 3 2 1 0 4 8

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

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

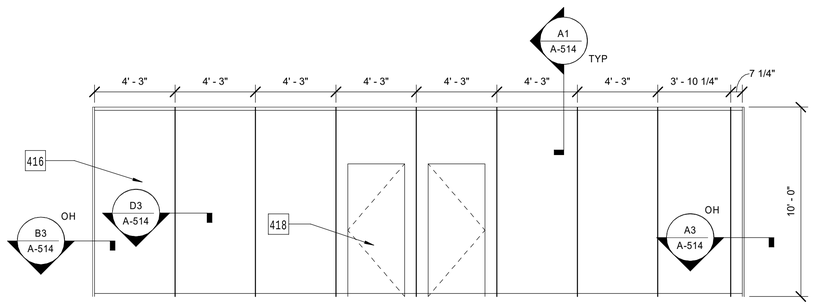
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - ENLARGED PLANS - TOILET ROOMS

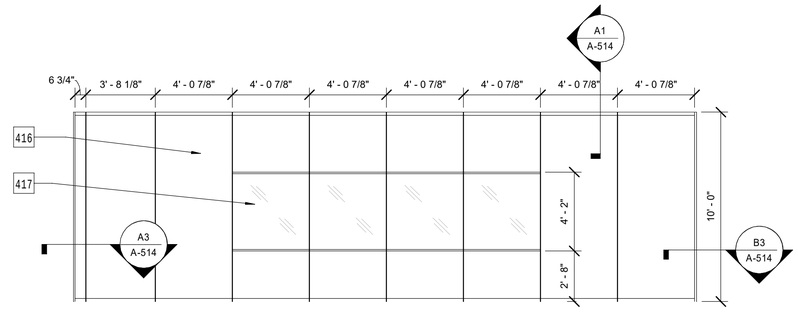
SHEET ID

A-410



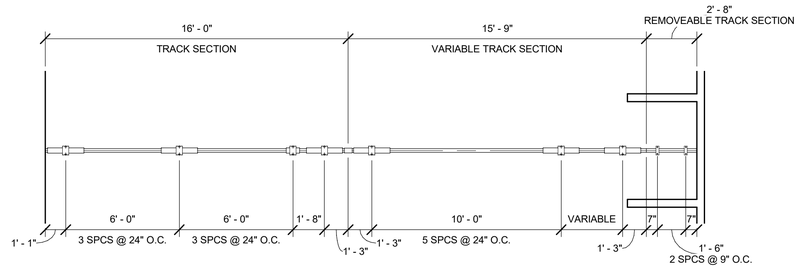
C1 FOLDABLE PANEL PARTITION 1 - ELEVATION

1/4" = 1'-0"



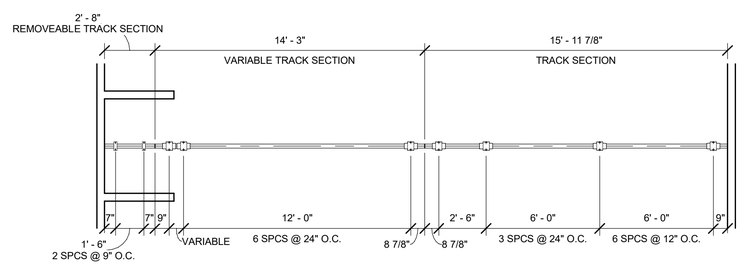
C3 FOLDABLE PANEL PARTITION 2 - ELEVATION

1/4" = 1'-0"



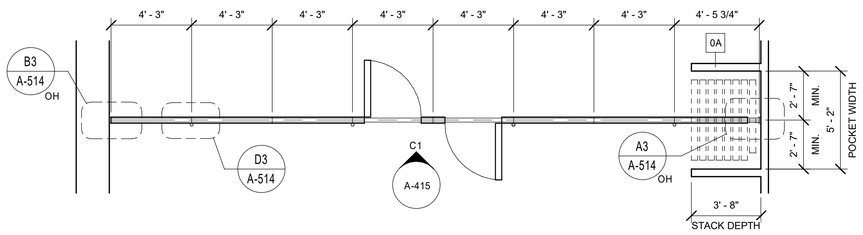
B1 FOLDABLE PANEL PARTITION 1 - TRACK LAYOUT

1/4" = 1'-0"



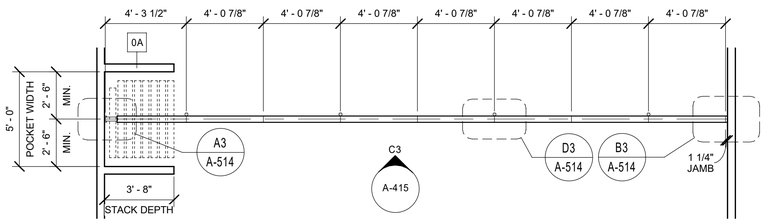
B3 FOLDABLE PANEL PARTITION 2 - TRACK LAYOUT

1/4" = 1'-0"



A1 FOLDABLE PANEL PARTITION 1 - PANEL LAYOUT

1/4" = 1'-0"



A3 FOLDABLE PANEL PARTITION 2 - PANEL LAYOUT

1/4" = 1'-0"

GENERAL SHEET NOTES

1. 3'-0" X 7'-0" PASS DOORS, HAND PULL W/ ROLLER LATCH AND CONCEALED DOOR CLOSURE
2. PUNCH OR DRILL .44" DIA. HOLES, 2 1/4" EACH SIDE OF CENTERLINE, 4 1/2" GAGE, AT ALL LOCATIONS, AS NOTED ON TRACK LAYOUT
3. CONSTRUCTION MUST MEET ASTM E557 5.3
4. ANY CROWN OR BASE MOLD MUST NOT INTERFERE WITH THE SEALING OF THE PARTITION TO THE WALL

KEYNOTES

#	
416	FOLDABLE PANEL PARTITION. OPF-1
417	MARKER BOARD
418	PASS DOOR

GRAPHIC SCALE(S)

4 3 2 1 0 4 8

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

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

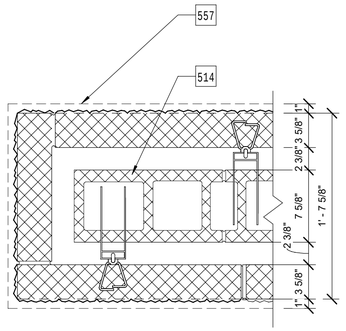
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

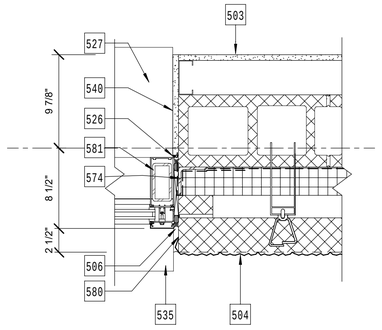
ARCHITECTURAL - ENLARGED PLANS - FOLDABLE PANEL PARTITIONS

SHEET ID

A-415



C1 PLAN DETAIL
1 1/2" = 1'-0"



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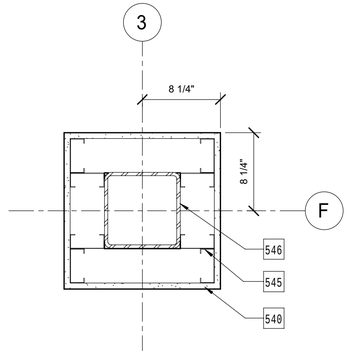

C4 PLAN DETAIL
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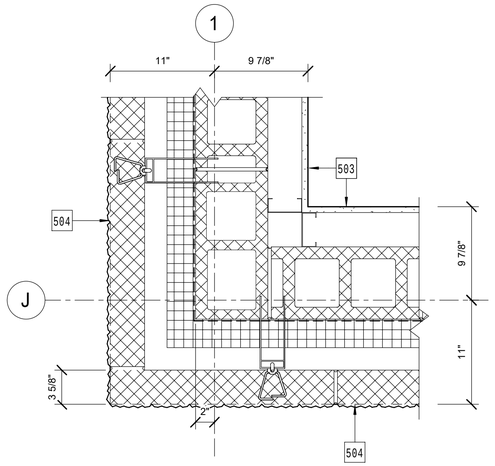
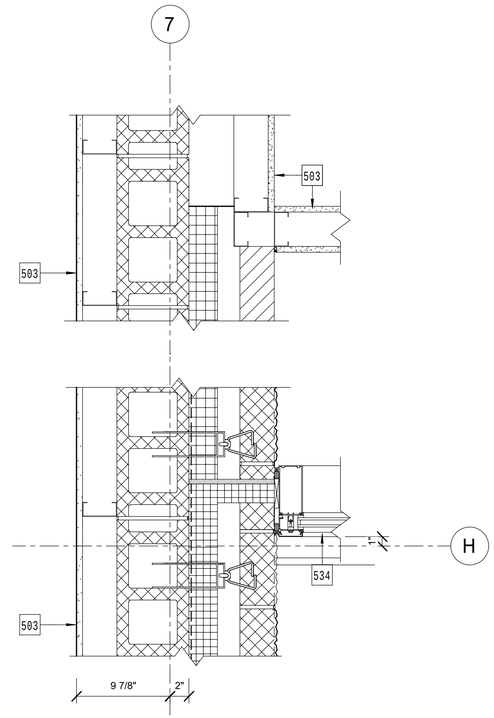


A1 PLAN DETAIL
1 1/2" = 1'-0"



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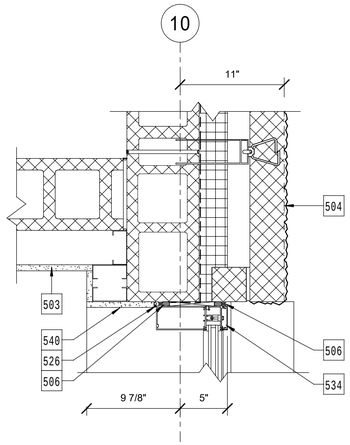


A4 PLAN DETAIL
1 1/2" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO CIVIL FOR GRADE ELEVATION
2. FOR LOAD BEARING CMU, REFER TO STRUCTURAL
3. REFER TO SHEET A-320 FOR EXTERIOR ASSEMBLY TYPES
4. REFER TO SHEET A-560 FOR WINDOW SCHEDULE

KEYNOTES

#	
503	SCHEDULED PARTITION
504	EXTERIOR WALL ASSEMBLY, TYPE WS-1
506	BACKER ROD AND SEALANT
514	8" REINFORCED CMU WALL, REFER TO STRUCTURAL DRAWINGS
526	SEALANT
527	SOLID SURFACE WINDOW STOOL, TYP
534	SCHEDULED CURTAIN WALL
535	WINDOW STOOL BEYOND, TYP
540	5/8" GYPSUM WALL BOARD
545	3 5/8" METAL STUD, TYP
546	STRUCTURE, REFER TO STRUCTURAL DRAWINGS
557	ST-1 STONE WALL COPING WITH SEALANT JOINTS
574	NON CONTINUOUS STEEL ANGLE AT SUN CONTROL ELEVATION, SEE STRUCTURAL DRAWINGS
580	SMOOTH SURFACE AT ROUGH OPENING TO ACCOMMODATE, WINDOW MULLION, BACK BOX ETC.
581	STEEL REINFORCEMENT BY CURTAIN WALL MANUFACTURER AS REQUIRED TO SUPPORT THE SUN CONTROL

REGISTERED ARCHITECT
LORENZEN-SCHMIDT
03/14/14
STATE OF NEW YORK

GRAPHIC SCALE(S)

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

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

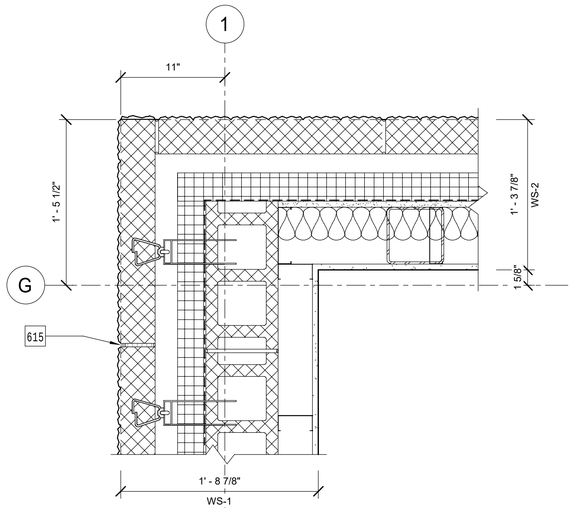
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

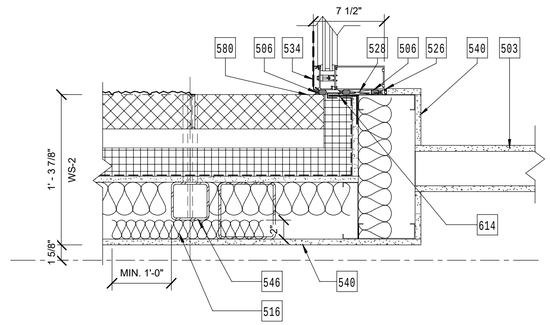
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - ENLARGED DETAILS

SHEET ID
A-501



2A PLAN DETAIL
1 1/2" = 1'-0"



3A PLAN DETAIL
1 1/2" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO CIVIL FOR GRADE ELEVATION
2. FOR LOAD BEARING CMU, REFER TO STRUCTURAL
3. REFER TO SHEET A-320 FOR EXTERIOR ASSEMBLY TYPES
4. REFER TO SHEET A-560 FOR WINDOW SCHEDULE

KEYNOTES

#	
503	SCHEDULED PARTITION
506	BACKER ROD AND SEALANT
516	BATT INSULATION
526	SEALANT
528	BLOCKING
534	SCHEDULED CURTAIN WALL
540	5/8" GYPSUM WALL BOARD
546	STRUCTURE, REFER TO STRUCTURAL DRAWINGS
580	SMOOTH SURFACE AT ROUGH OPENING TO ACCOMMODATE, WINDOW MULLION, BACK BOX ETC.
614	CONTINUOUS COLD FORMED STEEL FRAMING ANGLE
615	DOOR FRAME

REGISTERED ARCHITECT
THEO LORENZEN-SCHMIDT
037114
STATE OF NEW YORK

GRAPHIC SCALE(S)

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

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
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US ARMY CORPS OF ENGINEERS
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1100 N. GLEBE ROAD, SUITE 500
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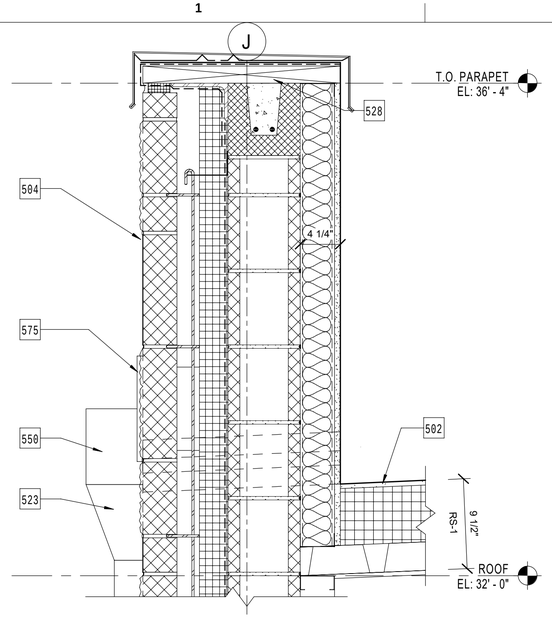
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - ENLARGED DETAILS

SHEET ID
A-502

RTA SUBMISSION



C1 SECTION DETAIL
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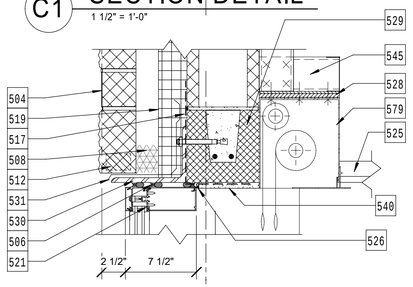
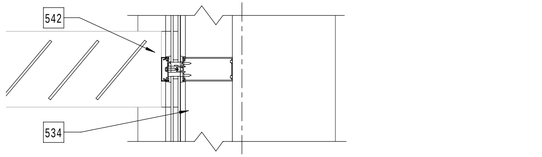
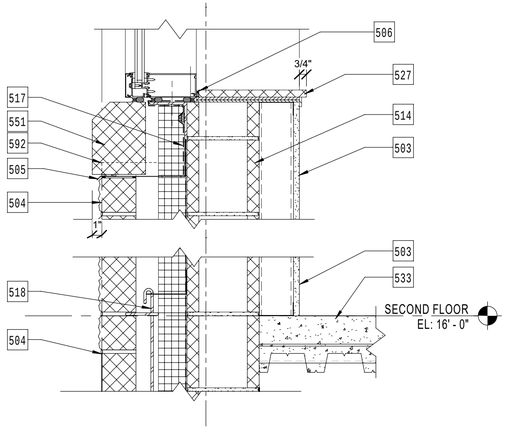
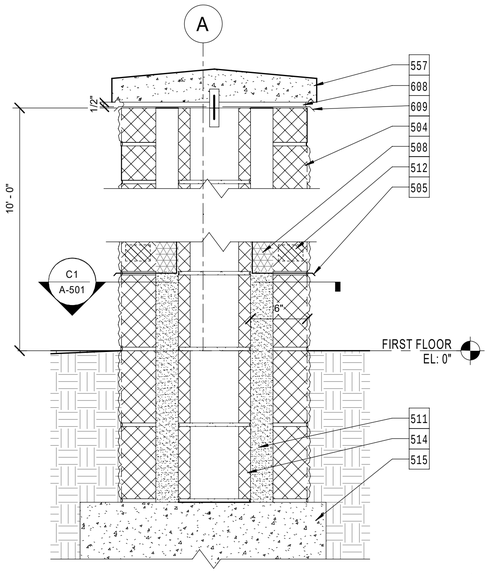






A1 SECTION DETAIL
1 1/2" = 1'-0"



C2 SECTION DETAIL
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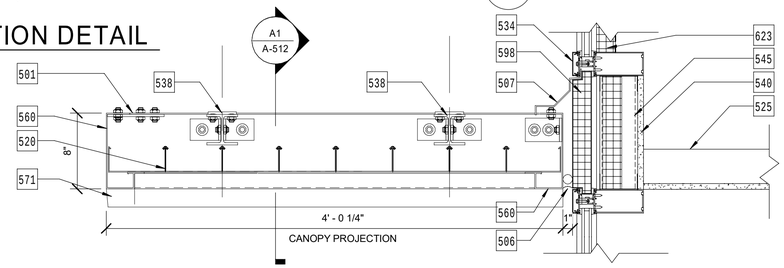

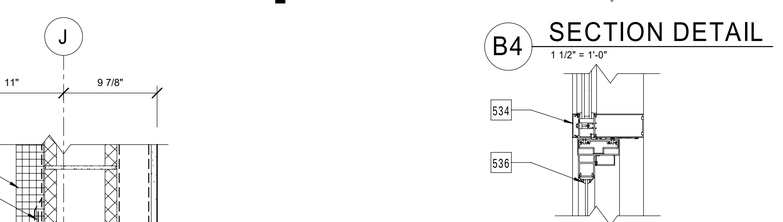

A2 SECTION DETAIL
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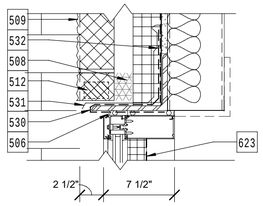
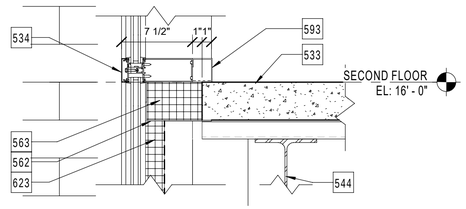
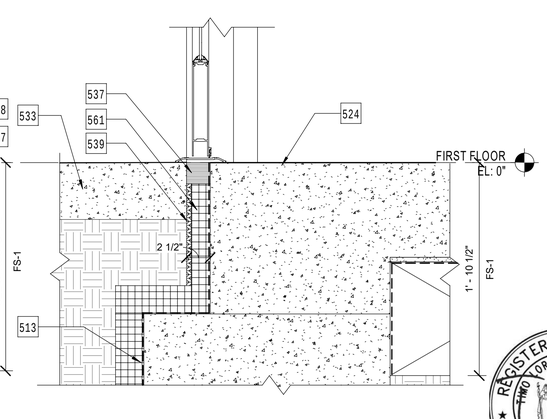


D4 SECTION DETAIL
1 1/2" = 1'-0"



C4 SECTION DETAIL
1 1/2" = 1'-0"

B4 SECTION DETAIL
1 1/2" = 1'-0"



A4 SECTION DETAIL
1 1/2" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO CIVIL FOR GRADE ELEVATION
2. FOR LOAD BEARING CMU, REFER TO STRUCTURAL
3. REFER TO SHEET A-320 FOR EXTERIOR ASSEMBLY TYPES
4. REFER TO SHEET A-560 FOR WINDOW SCHEDULE

KEYNOTES

#	
501	PRE-FABRICATED ALUMINUM FLAT SOFFIT CANOPY, MTL-5
502	ROOF ASSEMBLY, TYPE RS-1
503	SCHEDULED PARTITION
504	EXTERIOR WALL ASSEMBLY, TYPE WS-1
505	METAL FLASHING, STAINLESS STEEL
506	BACKER ROD AND SEALANT
507	FLASHING BY CANOPY MANUFACTURER
508	MORTAR NET
509	EXTERIOR WALL ASSEMBLY, TYPE WS-2
510	AIR BARRIER MEMBRANE OVER FLASHING
511	GROUT CAVITY
512	CAVITY DRAINAGE MATERIAL AND WEEPS AT 24" OC
513	ELASTOMERIC WATERPROOFING SYSTEM, INSULATION W/ PROTECTION BOARD
514	8" REINFORCED CMU WALL, REFER TO STRUCTURAL DRAWINGS
515	FOUNDATION, REFER TO STRUCTURAL DRAWINGS
517	COMBINED VAPOR RETARDER AND AIR BARRIER
518	THERMALLY BROKEN ARCHITECTURAL VENEER ANCHOR
519	3" SEMI-RIGID BUILDING INSULATION
520	EXTERIOR ALUMINUM INTERLOCKING, FLAT SOFFIT DECKING BY CANOPY MANUFACTURER
521	SCHEDULED WINDOW
523	MTL-3 METAL DOWNSPOUT BEYOND
524	FLOOR SLAB, REFER TO STRUCTURAL DRAWINGS
525	SCHEDULED CEILING
526	SEALANT
527	SOLID SURFACE WINDOW STOOL, TYP
528	BLOCKING
529	BOND BEAM, REFER TO STRUCTURAL DRAWINGS
530	GALV MTL SHELF ANGLE, REFER TO STRUCTURAL DRAWINGS, PT-12
531	THROUGH WALL FLASHING, STAINLESS STEEL
532	TRANSITION SHEET/AIR BARRIER
533	CONCRETE SLAB, REFER TO STRUCTURAL DRAWINGS
534	SCHEDULED CURTAIN WALL
536	SCHEDULED DOOR
537	COMPRESSIBLE FILL
538	EXTERIOR ALUMINUM CANOPY SUPPORT I BEAM, BY CANOPY MANUFACTURER
539	5/8" PROTECTION BOARD/SHEATHING
540	5/8" GYPSUM WALL BOARD
542	SUN CONTROLS BY ALUMINUM CURTAIN WALL MANUFACTURER
544	STEEL BEAM, REFER TO STRUCTURAL DRAWINGS
545	3 5/8" METAL STUD, TYP
550	MTL-3 CONDUCTOR HEAD BOX
551	CMU SILL, SINGLE CHAMFERED, 7 5/8" H X 5 5/8" W X 23 5/8" L, ST-1
557	ST-1 STONE WALL COPING WITH SEALANT JOINTS
560	8" EXTERIOR ALUMINUM FASCIA, BY CANOPY MANUFACTURER
561	XPS INSULATION, IN-2
562	SAFING INSULATION W/ COVER
563	SMOKE SEALANT W/ 1" MIN. OVERLAP ON SLAB
571	DRAIN STUB, BY CANOPY MANUFACTURER
575	OVERFLOW SCUPPER
577	VOID FORM, SEE STRUCTURAL DRAWINGS
578	VAPOR RETARDER
579	ROLLER WINDOW SHADES AS SCHEDULED, SEE INTERIORS
592	END DAM
593	MULLION EXTENSION BY CURTAIN WALL MANUFACTURER
598	INSULATED SPANDREL PANEL BY CURTAIN WALL MANUFACTURER
608	MORTAR JOINT
609	KEYED FLASHING
623	2" SPANDREL INSULATION, IN-8

GRAPHIC SCALE(S)

1 0 1

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

REGISTERED ARCHITECT
TIMOTHY LORENZEN-SCHMIDT
037414
STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
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US ARMY CORPS OF ENGINEERS
Omaha District
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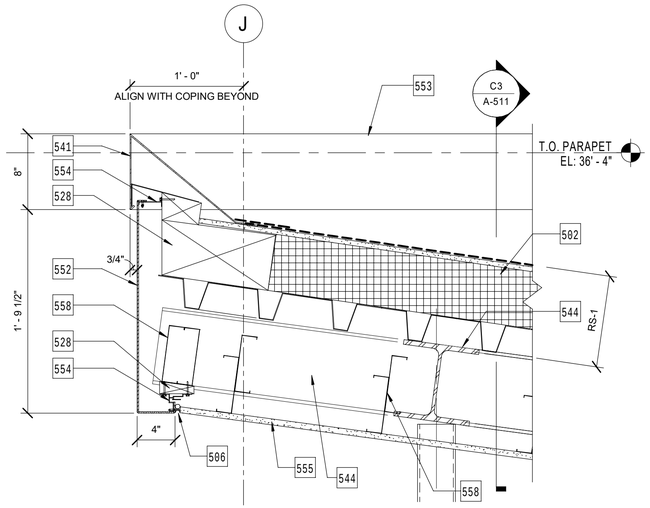
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

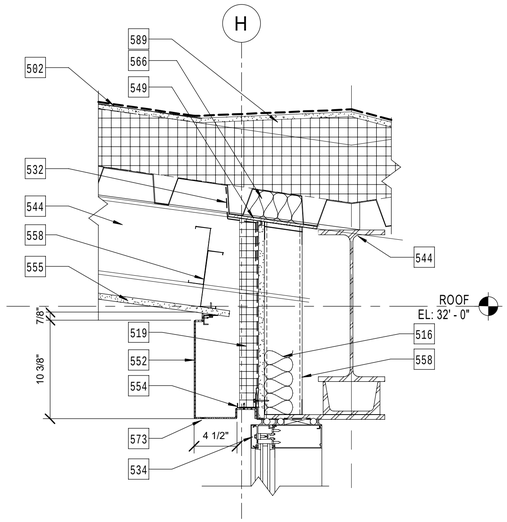
ARCHITECTURAL - ENLARGED DETAILS

SHEET ID

A-510



C1 SECTION DETAIL
1 1/2" = 1'-0"



C2 SECTION DETAIL
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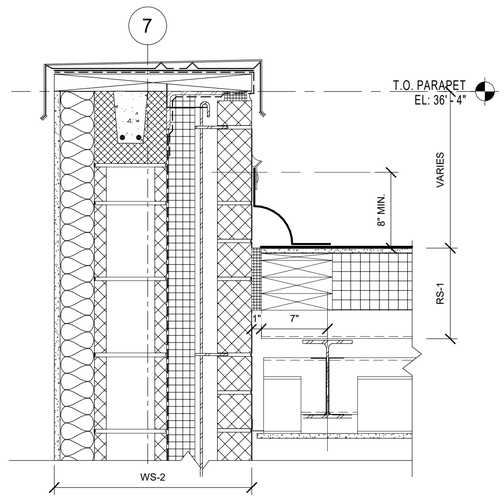
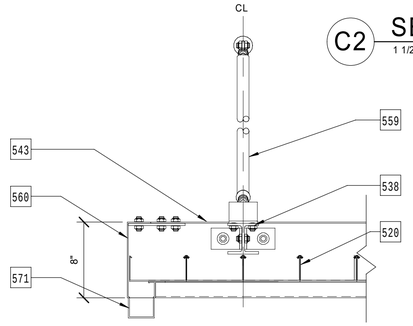


C3 SECTION DETAIL
1 1/2" = 1'-0"



B2 SECTION DETAIL
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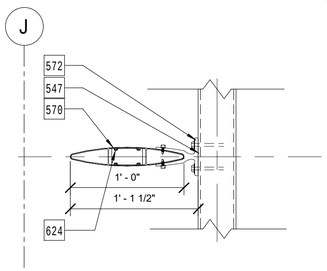
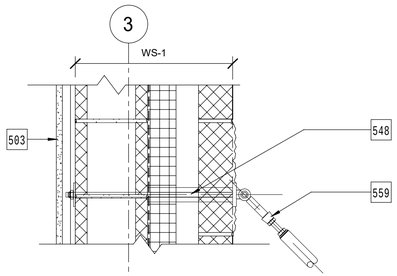
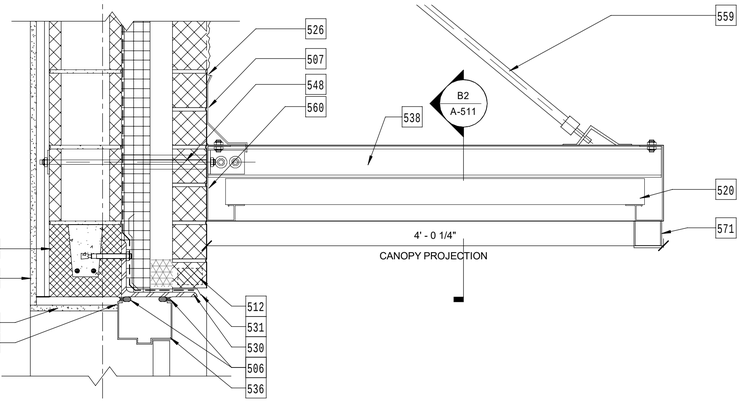
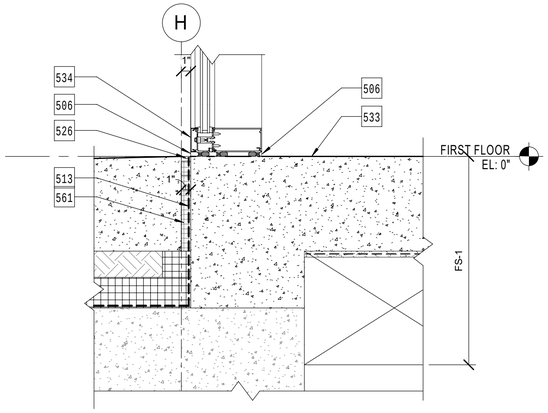


B3 SECTION DETAIL
1 1/2" = 1'-0"

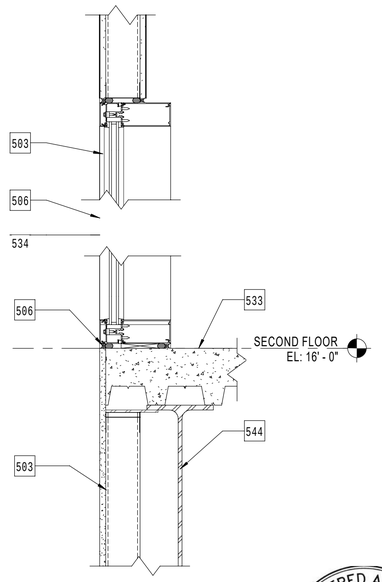




A1 SECTION DETAIL
1 1/2" = 1'-0"



A3 SECTION DETAIL
1 1/2" = 1'-0"



A4 SECTION DETAIL
1 1/2" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO CIVIL FOR GRADE ELEVATION
2. FOR LOAD BEARING CMU, REFER TO STRUCTURAL
3. REFER TO SHEET A-320 FOR EXTERIOR ASSEMBLY TYPES
4. REFER TO SHEET A-560 FOR WINDOW SCHEDULE

KEYNOTES

#	
502	ROOF ASSEMBLY, TYPE RS-1
503	SCHEDULED PARTITION
506	BACKER ROD AND SEALANT
507	FLASHING BY CANOPY MANUFACTURER
512	CAVITY DRAINAGE MATERIAL AND WEEPS AT 24" OC
513	ELASTOMERIC WATERPROOFING SYSTEM, INSULATION W/ PROTECTION BOARD
516	BATT INSULATION
519	3" SEMI-RIGID BUILDING INSULATION
520	EXTERIOR ALUMINUM INTERLOCKING, FLAT SOFFIT DECKING BY CANOPY MANUFACTURER
526	SEALANT
528	BLOCKING
529	BOND BEAM, REFER TO STRUCTURAL DRAWINGS
530	GALV MTL SHELF ANGLE, REFER TO STRUCTURAL DRAWINGS, PT-12
531	THROUGH WALL FLASHING, STAINLESS STEEL
532	TRANSITION SHEET/AIR BARRIER
533	CONCRETE SLAB, REFER TO STRUCTURAL DRAWINGS
534	SCHEDULED CURTAIN WALL
536	SCHEDULED DOOR
538	EXTERIOR ALUMINUM CANOPY SUPPORT I BEAM, BY CANOPY MANUFACTURER
540	5/8" GYPSUM WALL BOARD
541	MTL-1 METAL COPING
543	PRE-FABRICATED ALUMINUM HANGER ROD FLAT SOFFIT CANOPY, MTL-5
544	STEEL BEAM, REFER TO STRUCTURAL DRAWINGS
547	STEEL TUBE, REFER TO STRUCTURAL DRAWINGS
548	WALL MOUNT W/ THRU BOLT AND COMPRESSION SLEEVE BY CANOPY MANUFACTURER
549	STEEL PLATE, REFER TO STRUCTURAL DRAWINGS
552	MTL-4 METAL COMPOSITE PANEL
553	MTL-1 METAL COPING BEYOND
554	ALUMINUM EXTRUDED GIRT
555	EXTERIOR SHEATHING, PAINTED PT-13
558	COLD FORMED STEEL FRAMING
559	HANGER PIPE ASSEMBLY, BY CANOPY MANUFACTURER
560	8" EXTERIOR ALUMINUM FASCIA, BY CANOPY MANUFACTURER
561	XPS INSULATION, IN-2
566	SPRAY FOAM INSULATION
570	12" AIRFOIL BLADE
571	DRAIN STUB, BY CANOPY MANUFACTURER
572	MTL CLIP
573	WEEP HOLE AT 24" O.C.
589	TAPERED ROOF INSULATION, SEE ROOF PLAN
624	ATTACH ENDS OF AIRFOIL BLADE EXTRUSIONS TO END PLATE TO CMU FACE

GRAPHIC SCALE(S)

1 0 1

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

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

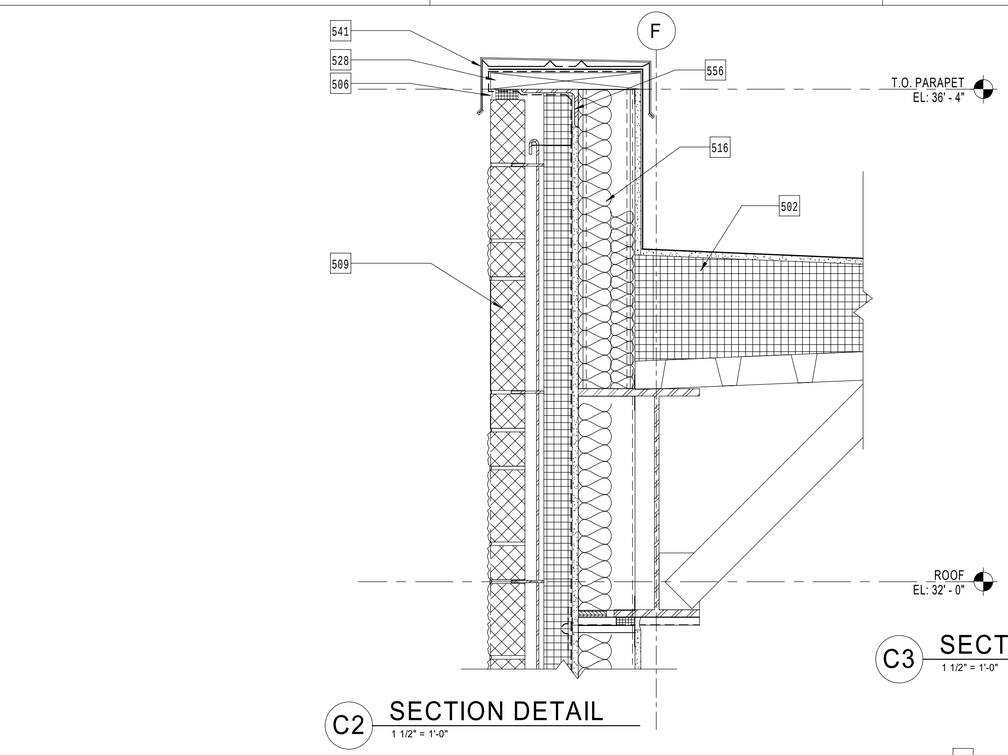
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

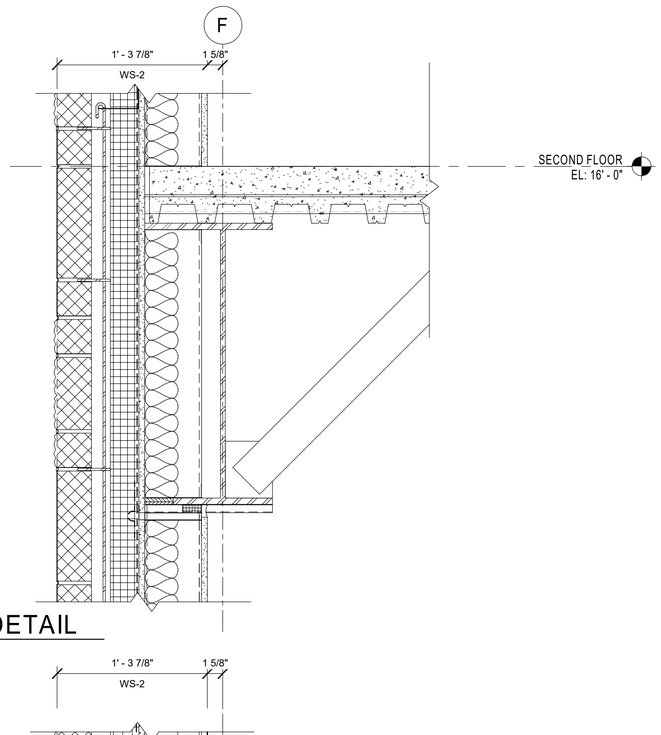
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - ENLARGED DETAILS

SHEET ID
A-511



C2 SECTION DETAIL
1 1/2" = 1'-0"



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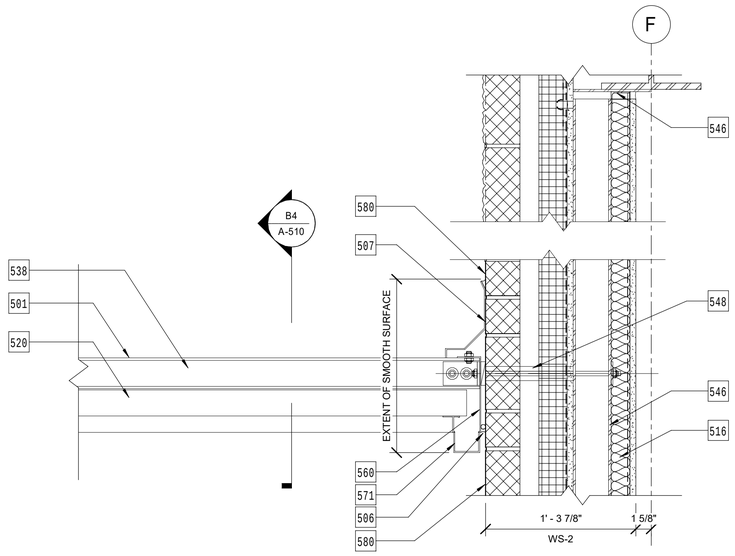
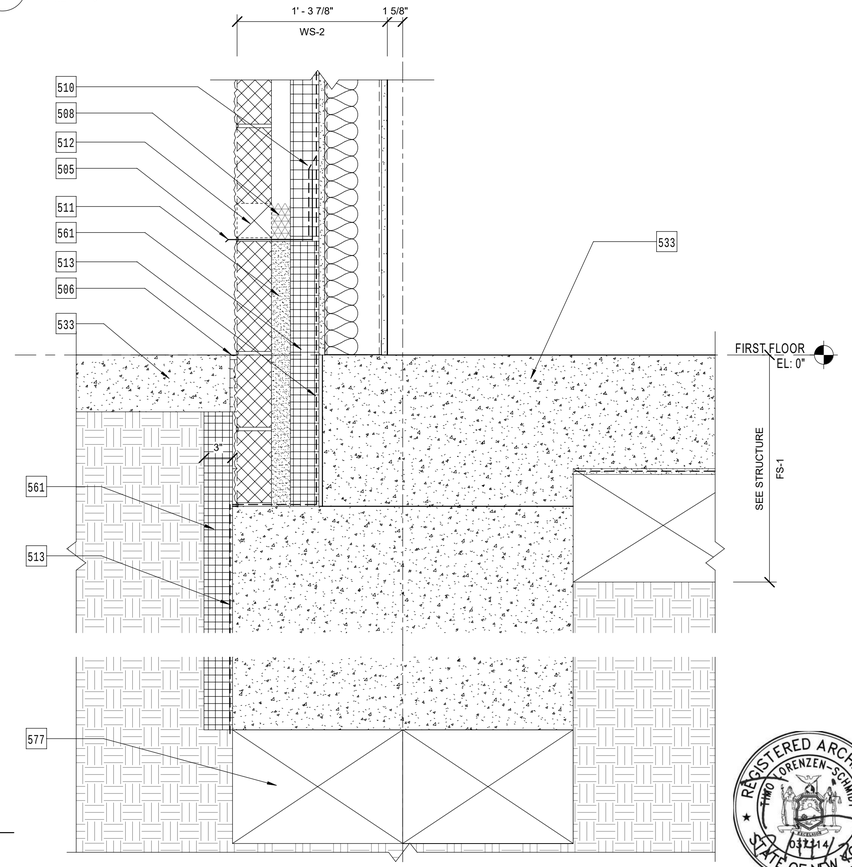
1 1/2" = 1'-0"



A1 SECTION DETAIL
1 1/2" = 1'-0"



A3 SECTION DETAIL
1 1/2" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO CIVIL FOR GRADE ELEVATION
2. FOR LOAD BEARING CMU, REFER TO STRUCTURAL
3. REFER TO SHEET A-320 FOR EXTERIOR ASSEMBLY TYPES
4. REFER TO SHEET A-560 FOR WINDOW SCHEDULE

KEYNOTES

#	
501	PRE-FABRICATED ALUMINUM FLAT SOFFIT CANOPY, MTL-5
502	ROOF ASSEMBLY, TYPE RS-1
505	METAL FLASHING, STAINLESS STEEL
506	BACKER ROD AND SEALANT
507	FLASHING BY CANOPY MANUFACTURER
508	MORTAR NET
509	EXTERIOR WALL ASSEMBLY, TYPE WS-2
510	AIR BARRIER MEMBRANE OVER FLASHING
511	GROUT CAVITY
512	CAVITY DRAINAGE MATERIAL AND WEEPS AT 24" OC
513	ELASTOMERIC WATERPROOFING SYSTEM, INSULATION W/ PROTECTION BOARD
516	BATT INSULATION
520	EXTERIOR ALUMINUM INTERLOCKING, FLAT SOFFIT DECKING BY CANOPY MANUFACTURER
528	BLOCKING
533	CONCRETE SLAB, REFER TO STRUCTURAL DRAWINGS
538	EXTERIOR ALUMINUM CANOPY SUPPORT I BEAM, BY CANOPY MANUFACTURER
541	MTL-1 METAL COPING
546	STRUCTURE, REFER TO STRUCTURAL DRAWINGS
548	WALL MOUNT W/ THRU BOLT AND COMPRESSION SLEEVE BY CANOPY MANUFACTURER
556	STEEL ANGLE, REFER TO STRUCTURAL DRAWINGS
560	8" EXTERIOR ALUMINUM FASCIA, BY CANOPY MANUFACTURER
561	XPS INSULATION, IN-2
571	DRAIN STUB, BY CANOPY MANUFACTURER
577	VOID FORM, SEE STRUCTURAL DRAWINGS
580	SMOOTH SURFACE AT ROUGH OPENING TO ACCOMMODATE, WINDOW MULLION, BACK BOX ETC.

REGISTERED ARCHITECT
THOMAS LORENZEN-SCHMIDT
037414
STATE OF NEW YORK

GRAPHIC SCALE(S)

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

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:
SIZE: ANSI 'D'
FILE NAME:

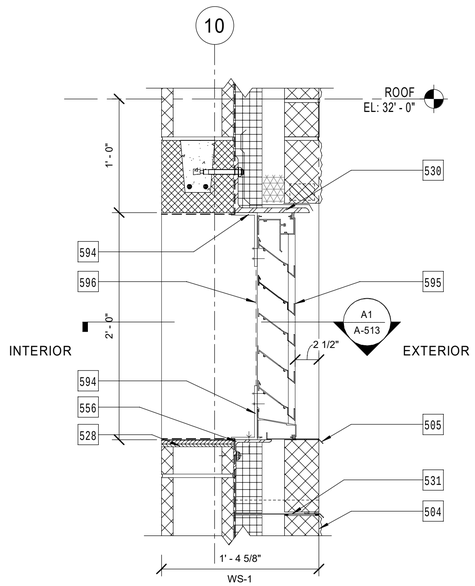
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

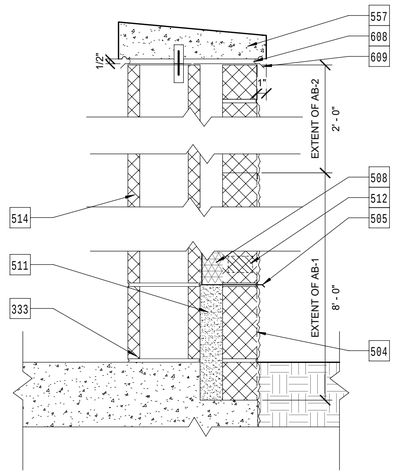
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - ENLARGED DETAILS

SHEET ID
A-512

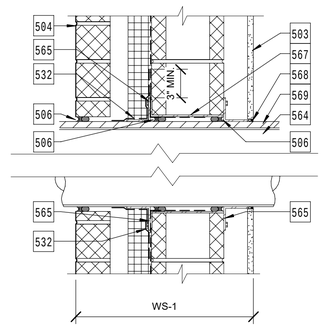


C1 SECTION DETAIL
1 1/2" = 1'-0"



TYPICAL SECTION AT DUMPSTER ENCLOSURE

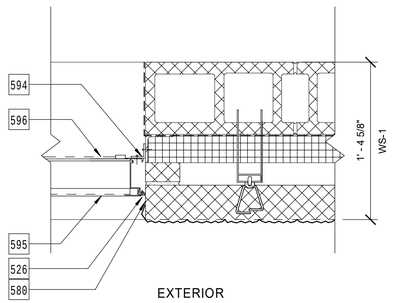
C2 SECTION DETAIL
1 1/2" = 1'-0"



TYPICAL SECTION AT PIPE/ DUCT PENETRATION

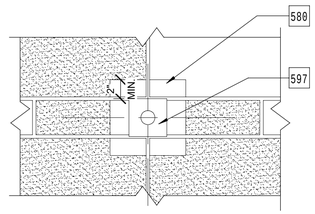
C3 SECTION DETAIL
1 1/2" = 1'-0"

INTERIOR

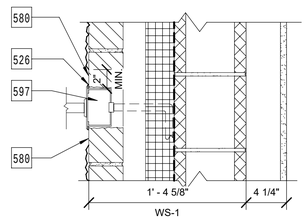


EXTERIOR

A1 PLAN DETAIL
1 1/2" = 1'-0"



ELEVATION VIEW



SECTION DETAIL

TYPICAL BACK BOX MOUNTING DETAIL

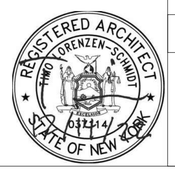
A3 SECTION DETAIL
1 1/2" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO CIVIL FOR GRADE ELEVATION
2. FOR LOAD BEARING CMU, REFER TO STRUCTURAL
3. REFER TO SHEET A-320 FOR EXTERIOR ASSEMBLY TYPES
4. REFER TO SHEET A-560 FOR WINDOW SCHEDULE

KEYNOTES

#	
333	FLOOR SLAB, REFER TO STRUCTURAL DRAWINGS
503	SCHEDULED PARTITION
504	EXTERIOR WALL ASSEMBLY, TYPE WS-1
505	METAL FLASHING, STAINLESS STEEL
506	BACKER ROD AND SEALANT
508	MORTAR NET
511	GROUT CAVITY
512	CAVITY DRAINAGE MATERIAL AND WEEPS AT 24" OC
514	8" REINFORCED CMU WALL, REFER TO STRUCTURAL DRAWINGS
526	SEALANT
528	BLOCKING
530	GALV MTL SHELF ANGLE, REFER TO STRUCTURAL DRAWINGS, PT-12
531	THROUGH WALL FLASHING, STAINLESS STEEL
532	TRANSITION SHEET/AIR BARRIER
556	STEEL ANGLE, REFER TO STRUCTURAL DRAWINGS
557	ST-1 STONE WALL COPING WITH SEALANT JOINTS
564	PIPE OR DUCT WITH INSULATION
565	WATERPROOFING CLAMPING FLANGE
567	PRE-FABRICATED MTL PIPE SLEEVE
568	CAULK BED
569	MTL JACKET
580	SMOOTH SURFACE AT ROUGH OPENING TO ACCOMMODATE, WINDOW MULLION, BACK BOX ETC.
594	ALUMINUM CLIP ANGLE BY LOUVER MANUFACTURER
595	LV-1 EXTERIOR DRAINABLE LOUVER
596	BIRD, INSECT SCREEN BY LOUVER MANUFACTURER
597	TYPICAL BACK BOX, CENTER ON FACE CMU, TYP
608	MORTAR JOINT
609	KEYED FLASHING



GRAPHIC SCALE(S)

0 1/4 1/2 1

SCALE: 3" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:
SIZE: ANSI D
FILE NAME:

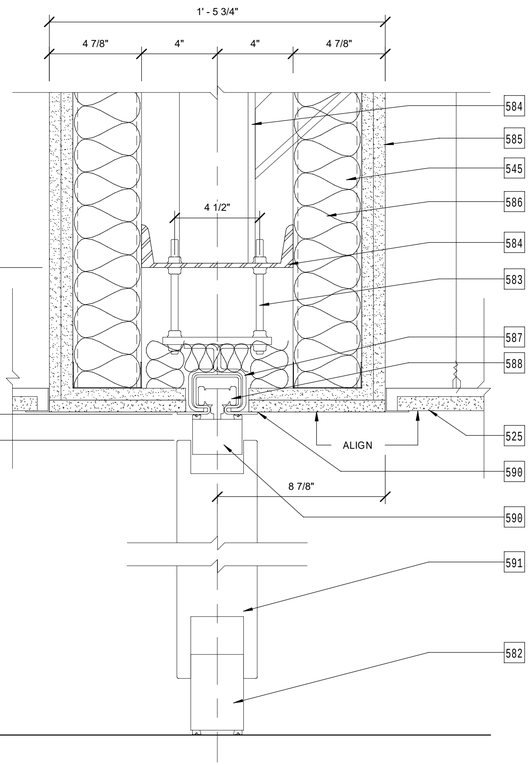
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

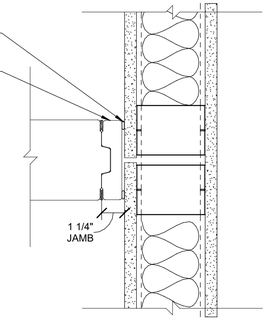
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - ENLARGED DETAILS

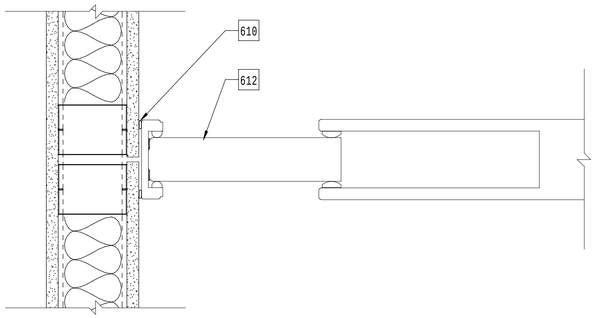
SHEET ID
A-513



A1 SECTION DETAIL
3" = 1'-0"



B3 PLAN DETAIL
3" = 1'-0"



A3 PLAN DETAIL
3" = 1'-0"

D3 PLAN DETAIL
3" = 1'-0"

GENERAL SHEET NOTES

1. CONSTRUCTION MUST MEET ASTM E557 5.3
2. ANY CROWN OR BASE MOLD MUST NOT INTERFERE WITH THE SEALING OF THE PARTITION TO THE WALL
3. EXTEND BULKHEAD TIGHT TO STRUCTURE AND SEAL ALL PERIMETER JOINTS WITH ACCOUSTICAL SEALANTS

KEYNOTES

525	SCHEDULED CEILING
545	3 5/8" METAL STUD, TYP
582	MANUAL DROP SEAL
583	STEEL HANGER BRACKET, HANGER RODS AND LOCKING FLANGE NUTS BY FOLDING PANEL MANUFACTURER
584	STRUCTURAL SUPPORT, REFER TO STRUCTURE
585	(2) LAYERS OF 5/8" GYPSUM WALL BOARD
586	SOUND ATTENUATION BATT INSULATION
587	STEEL TRACK, PRE-PAINTED WITH STANDARD MANUFACTURER'S WHITE
588	4 WHEEL BALL BEARING TROLLEY
590	TAPE AND SPACKLE
591	FOLDABLE PANEL PARTITION. OPF-1
610	ACOUSTICAL CAULKING BETWEEN JAMB AND WALL, BOTH SIDES
611	JAMB WRAPPED WITH MATERIAL
612	EXPANDABLE PANEL NOSE
613	BUTT HINGES

REGISTERED ARCHITECT
TIMOTHY LORENZEN-SCHMIDT
037114
STATE OF NEW YORK

GRAPHIC SCALE(S)

0 1/4 1/2 1

SCALE: 3" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

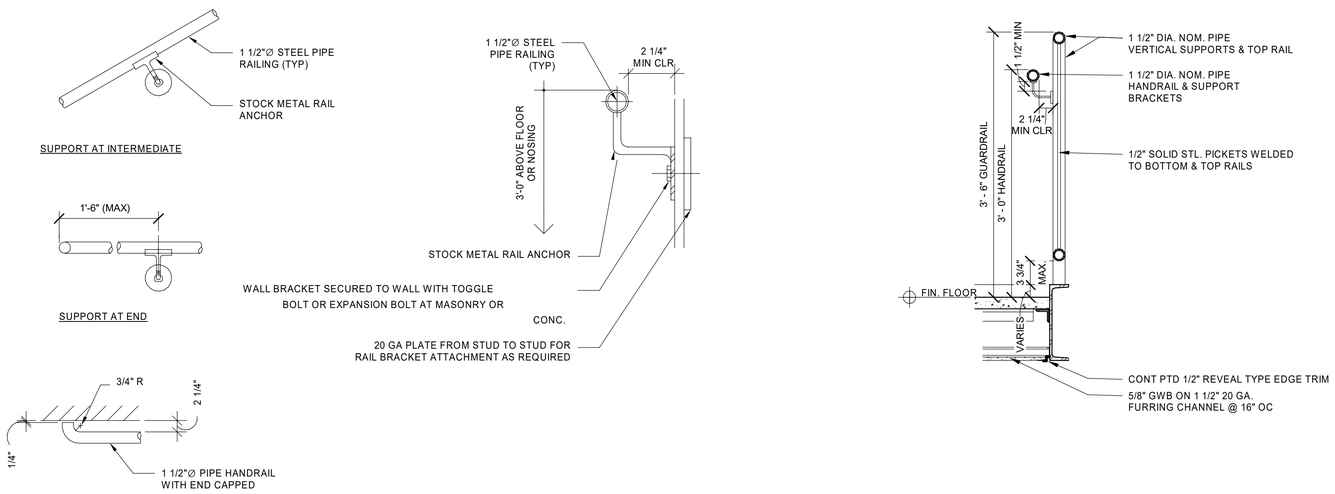
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

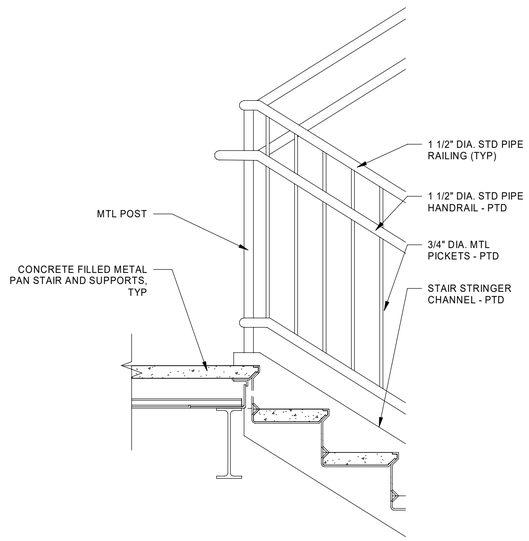
ARCHITECTURAL - ENLARGED DETAILS

SHEET ID
A-514

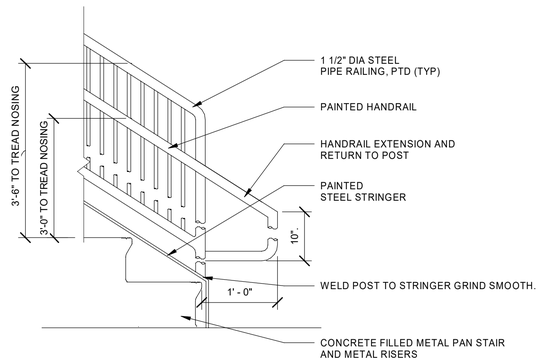


C1 TYP HANDRAIL DETAILS
1" = 1'-0"

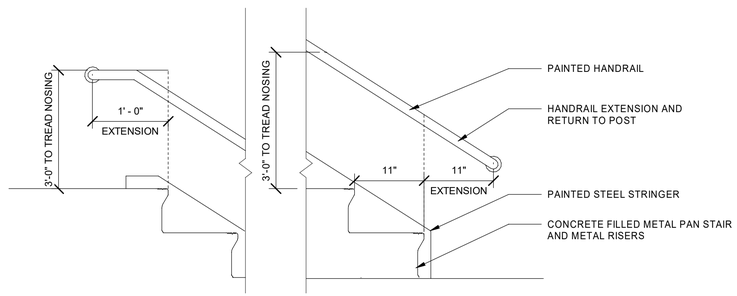
C3 TYP STAIR RAIL DETAIL
1" = 1'-0"



A1 TYP STAIR LANDING DETAIL
1" = 1'-0"



A2 TYP STAIR RAIL DETAIL
1" = 1'-0"



A4 TYP WALL MOUNTED RAIL DETAIL
1" = 1'-0"

REGISTERED ARCHITECT TIMOTHY LORENZEN-SCHMIDT 037414 STATE OF NEW YORK

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

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
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FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

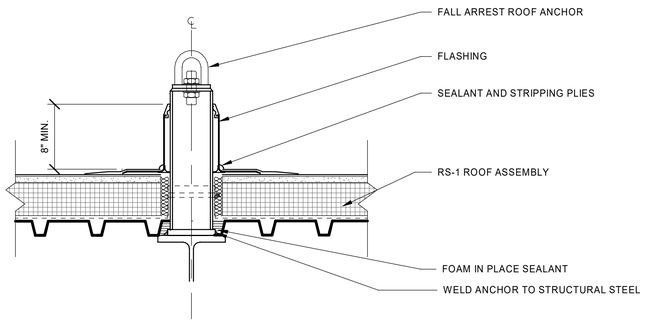
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

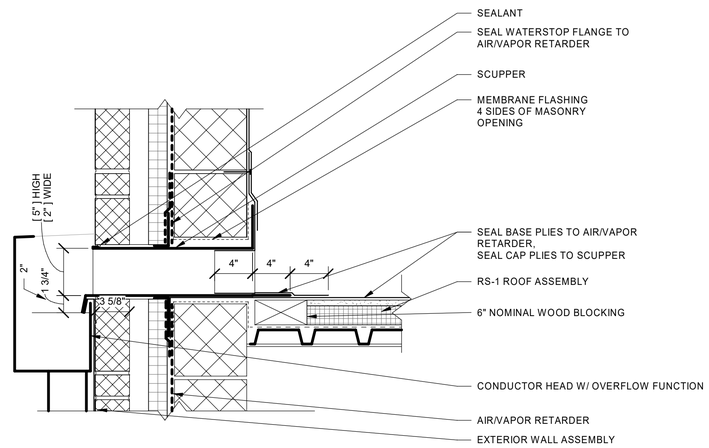
ARCHITECTURAL - TYPICAL STAIR DETAILS

SHEET ID
A-530

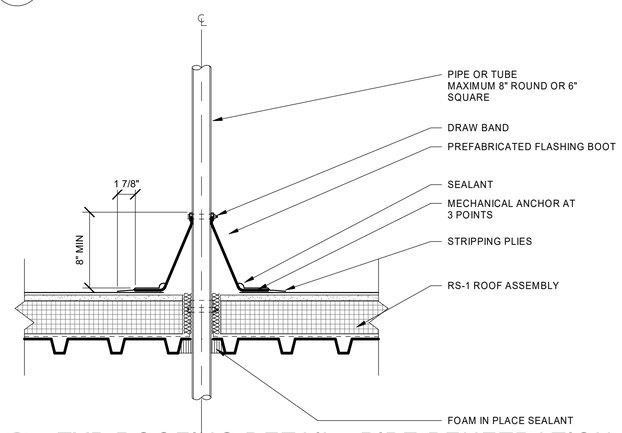
RTA SUBMISSION



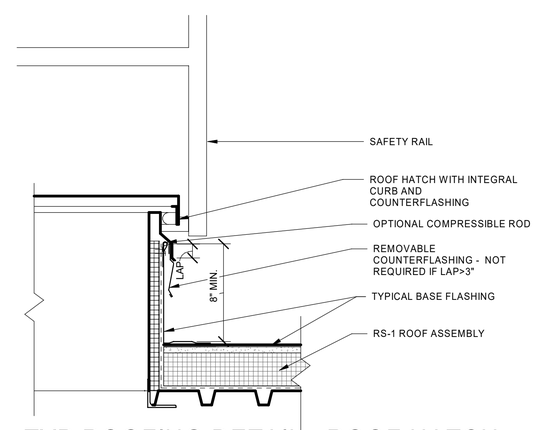
B1 TYP ROOFING DETAIL - DAVIT
1 1/2" = 1'-0"



B2 TYP ROOFING DETAIL - SCUPPER
1 1/2" = 1'-0"



A1 TYP ROOFING DETAIL - PIPE PENETRATION
1 1/2" = 1'-0"



A2 TYP ROOFING DETAIL - ROOF HATCH
1 1/2" = 1'-0"

GENERAL SHEET NOTES

1. FOR RS-1 ROOF ASSEMBLY, REFER TO SHEET A-320 EXTERIOR ASSEMBLY TYPES

GRAPHIC SCALE(S)

1 0 1

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

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

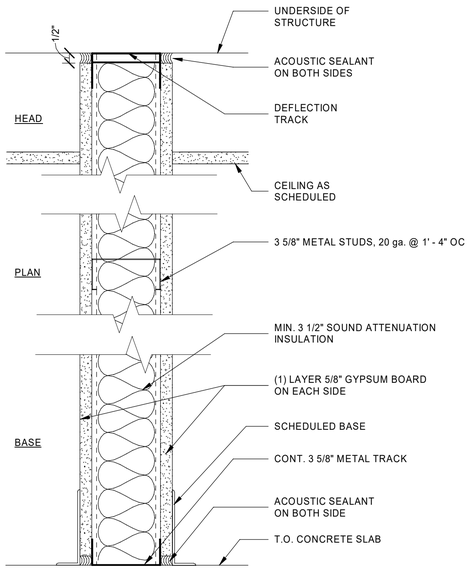
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - TYPICAL ROOF DETAILS

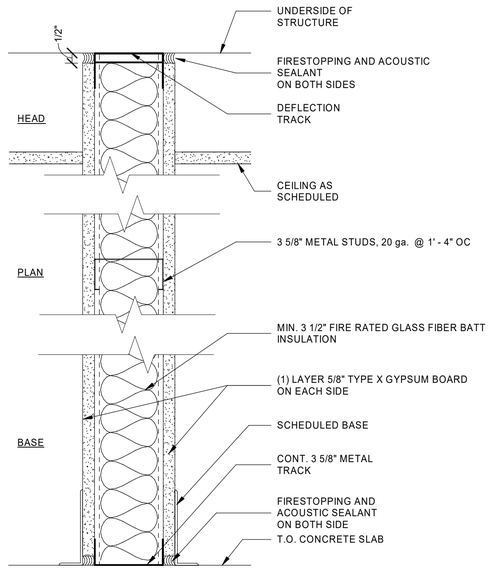
SHEET ID

A-540



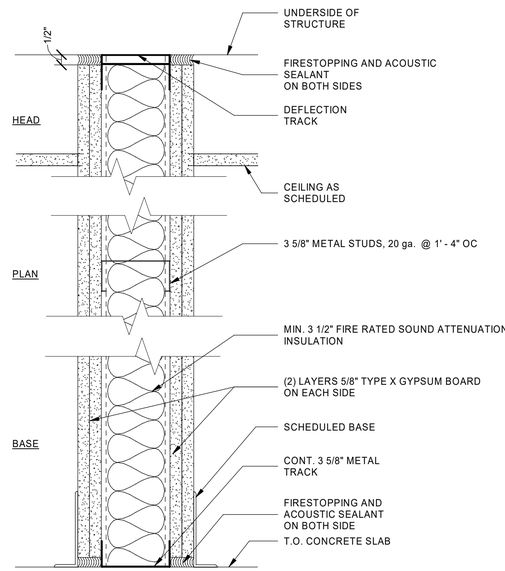
0A	GWB PARTITION - FULL HEIGHT		TH. 4 7/8"
FIRE RATING:	NON-RATED	DESIGN:	N/A
STC RATING:	45	TEST NO.:	NGC 2018106

SCALE: NTS



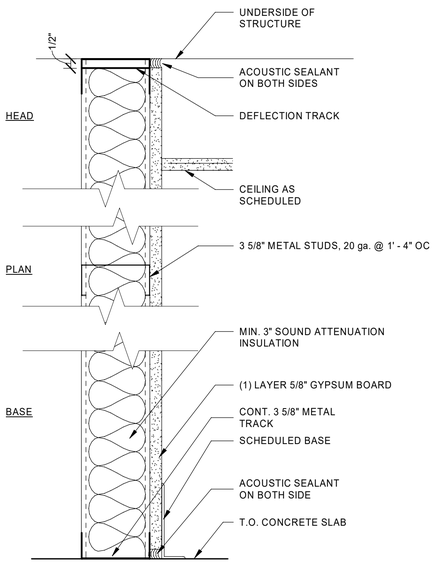
1A	GWB PARTITION - FIRE RATED		TH. 4 7/8"
FIRE RATING:	1 HOUR	DESIGN:	UL U465
STC RATING:	45	TEST NO.:	NGC 2018106

SCALE: NTS

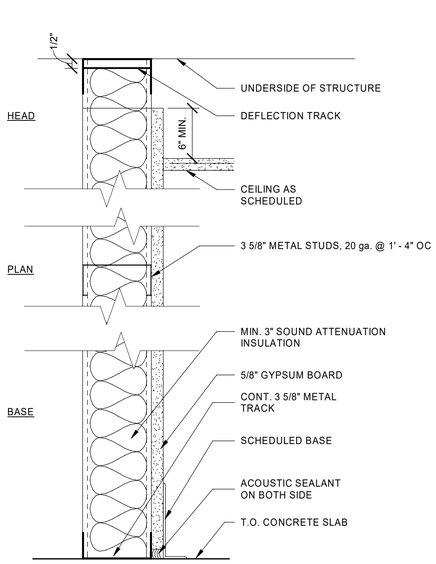


2A	GWB PARTITION - FIRE RATED		TH. 6 1/8"
FIRE RATING:	2 HOUR	DESIGN:	UL U411
STC RATING:	45	TEST NO.:	NGC 2016082

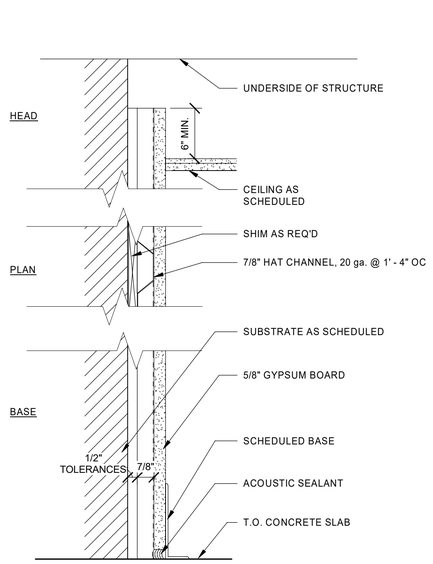
SCALE: NTS



0B	FURRING PARTITON - FULL HEIGHT		TH. 4 1/4"
FIRE RATING:	NON-RATED	DESIGN:	N/A
STC RATING:	N/A	TEST NO.:	N/A



0E	FURRING PARTITON - END ABOVE CEILING		TH. 4 1/4"
FIRE RATING:	NON-RATED	DESIGN:	N/A
STC RATING:	N/A	TEST NO.:	N/A



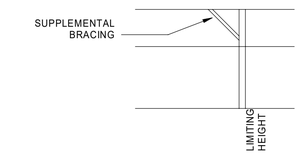
0Q	FURRING PARTITON - END ABOVE CEILING		TH. 2"
FIRE RATING:	NON-RATED	DESIGN:	N/A
STC RATING:	N/A	TEST NO.:	N/A

PARTITION GENERAL NOTES

1. REFER TO LIFE SAFETY PLANS FOR LOCATION AND EXTENT OF FIRE RATED PARTITIONS, TYPICAL.
2. WHERE FIRE TEST IS INDICATED IN PARTITION DESCRIPTION, CONFIGURE AND INSTALL PER TESTING AGENCY CRITERIA OR OTHER TESTS APPROVED BY LOCAL CODE OFFICIALS. TESTING AGENCY CRITERIA MAY INCLUDE ADDITIONAL COMPONENTS NOT SPECIFICALLY INDICATED ON REFERENCED DETAILS.
3. FIRE-RATED PARTITIONS MUST BE FULL HEIGHT FLOOR TO DECK ABOVE. PROVIDE CONTINUOUS FIRESTOPPING AT PERIMETER.
4. WHERE A PARTITION IS INDICATED TO BE FIRE-RATED, PROVIDE THROUGH-PARTITION FIRE STOPPING (TESTED AND COMPATIBLE WITH LEVEL OF RATING INDICATED) AT PENETRATIONS THROUGH PARTITION.
5. FINISH EXPOSED GYPSUM BOARD CONSTRUCTION. FINISH MUST BE IN ACCORDANCE WITH THE ROOM FINISH SCHEDULE AND/OR FINISH LEVELS NOTED IN THE GYPSUM BOARD ASSEMBLIES SPECIFICATION SECTION.
6. PARTITIONS ARE PERPENDICULAR AND/OR PARALLEL TO COLUMN GRID UON.
7. NOTES TO "ALIGN" MEAN TO ALIGN FINISH FACE OF PARTITION UON AND MUST HAVE PRIORITY OVER DIMENSIONED LOCATIONS.
8. PROVIDE MOISTURE-RESISTANT GYPSUM BOARD AT PARTITIONS WHERE PLUMBING FIXTURES ARE MOUNTED UON.
9. WHERE FURRED AREA REQUIRES ELECTRICAL COMPONENTS THAT REQUIRE GREATER CLEARANCE, USE 1-5/8" (20 GAGE) STEEL STUDS AT 16" OC IN LIEU OF 7/8" HAT CHANNELS.
10. PROVIDE STEEL STUDS OF GAGE AND SPACING ADEQUATE TO SUPPORT APPLIED LOADS INCLUDING HANDRAILS, GRAB BARS, WALL MOUNTED FIXTURES, ETC.
11. WHERE NOTED U.L. DESIGNS REFERENCE PROPRIETARY MATERIALS, EQUIVALENT MATERIALS FROM OTHER MANUFACTURERS WILL ONLY BE APPROVED UPON SUBMISSION BY THE CONTRACTOR OF EVIDENCE OR A SUCCESSFUL FIRE TEST BY AN INDEPENDENT TESTING LABORATORY OF THE PROPOSED MANUFACTURER'S ASSEMBLY INDICATING COMPLIANCE WITH THE LISTED FIRE-RESISTANT RATING.
12. PROVIDE MIN 20 GA SHEET METAL BLOCKING IN INTERIOR PARTITIONS AND EXTERIOR WALLS AS REQUIRED TO SECURE EQUIPMENT, ACCESSORIES, HANDRAILS, CASEWORK, ETC.
13. PENETRATIONS THROUGH FIRE RESISTANT AND FIRE RESISTANT SMOKE BARRIER RATINGS MUST BE FIRESTOPPED.
14. TESTED ASSEMBLIES NOTED AS NGC# REFER TO TESTINGS FROM THE NATIONAL GYPSUM SOUNDBOOK 2.0, 2020

GENERAL PARTITION INFORMATION

LIMITING HEIGHTS INDICATE THE MAXIMUM UNSUPPORTED HEIGHT FOR THAT PARTITION TYPE BASED ON A DEFLECTION CRITERIA RATIO OF L/240. WHERE FLOOR TO STRUCTURE HEIGHT OF PARTITION EXCEEDS THE INDICATED LIMITING HEIGHT, PROVIDE SUPPLEMENTAL BRACING AS REQUIRED TO MAINTAIN DEFLECTION RATIO WITHIN L/240. AT FIRE RATED PARTITION PROVIDE BRACING CHANNEL OUTSIDE OF RATED PARTITION.



1. PROVIDE MR GWB AT WET LOCATIONS, WITHOUT TILE I.E. TOILET ROOMS, MOP SINKS.
2. PROVIDE CEMENTITIOUS BACKER FOR TILE BACK UP AT RESTROOM AREAS.
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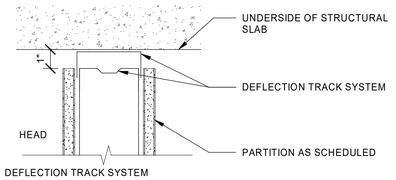
4. PROVIDE BLOCKING WHERE WALL ACCESSORIES AND ARTWORK ARE LOCATED.



US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:
SIZE: ANSI D
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

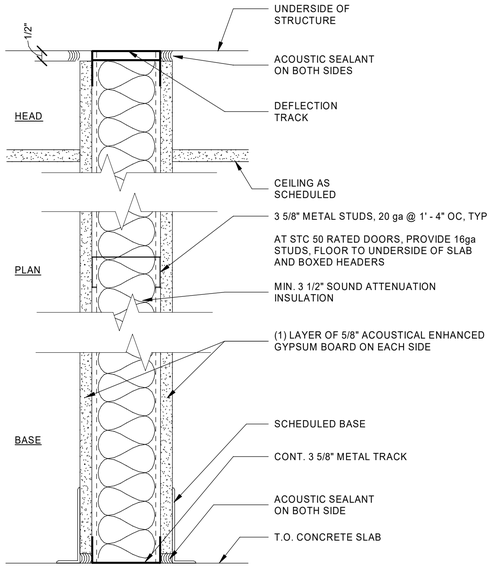
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - PARTITION WALL TYPES

SHEET ID

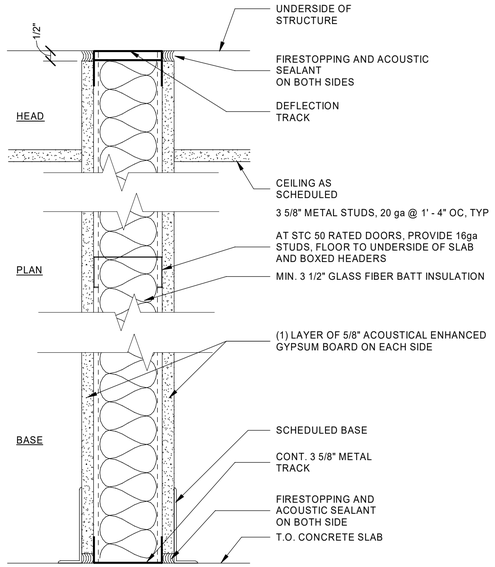
A-550



NOTE: PROVIDE TYPE X GWB FOR ACOUSTICAL RATING

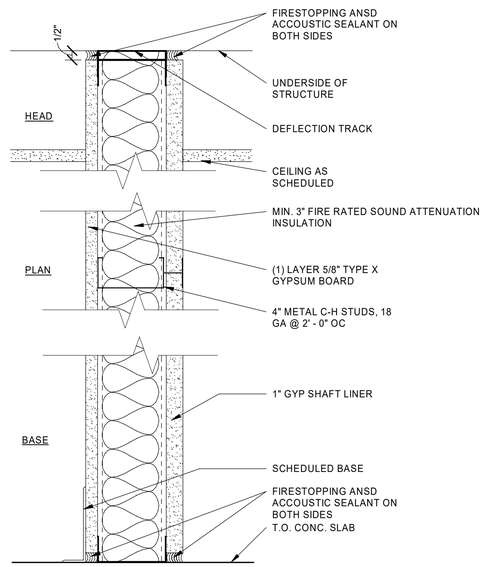
0G	GWB PARTITION - FULL HEIGHT - ACOUSTICAL ENHANCED		TH. 4 7/8"
	FIRE RATING: NON-RATED	DESIGN:	N/A
	STC RATING: 50	TEST NO.:	NGC 2018004

SCALE: NTS



1G	GWB PARTITION - FIRE RATED - ACOUSTICAL ENHANCED		TH. 4 7/8"
	FIRE RATING: 1 HOUR	DESIGN:	UL U465
	STC RATING: 50	TEST NO.:	NGC 2018004

SCALE: NTS



1C	SHAFT PARTITON - FIRE RATED		TH. 4 5/8"
	FIRE RATING: 1 HOUR	DESIGN:	UL U499, W419
	STC RATING: 40	TEST NO.:	NGC 2019011

PARTITION GENERAL NOTES

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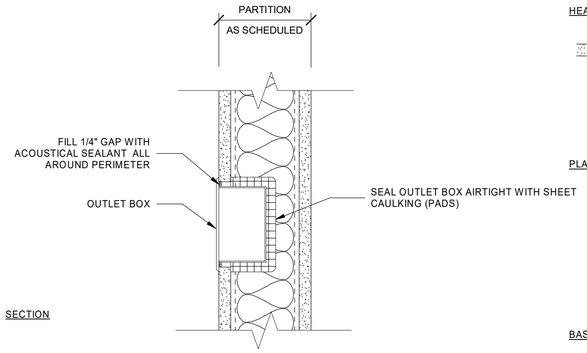
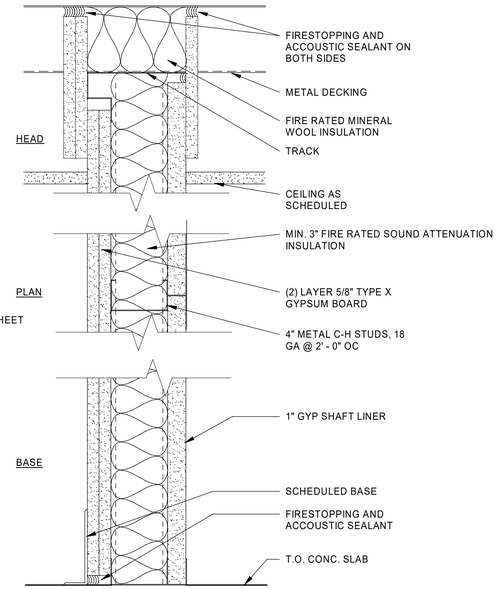


NOTES:

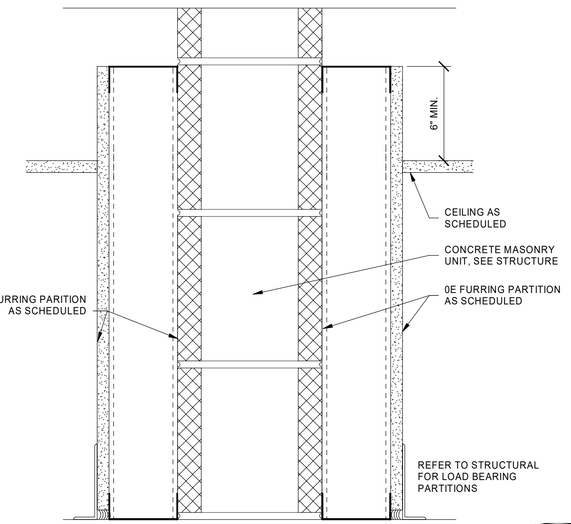
1. WHERE FIRE-RATED PADS ARE REQUIRED FSP FIRESTOP PUTTY (FSP) PADS MAY BE USED.
2. DELETE ACOUSTICAL SEALANT AT RATED WALL. PROVIDE FIRESTOPPING THAT MEETS FIRE RATING OF PENETRATION WALL PER APPLICABLE CODE.
3. SEPERATE OUTLETS ON OPPOSITE SIDES OF THE WALL BY 24"

A1 AC SEALANT AT OUTLET BOX - TYP

3" = 1'-0"



2C	SHAFT PARTITON - FIRE RATED		TH. 5 1/4"
	FIRE RATING: 2 HOUR	DESIGN:	UL U497, W419, HD-D-0119
	STC RATING: N/A	TEST NO.:	NGC 2019012



1P 2P	CMU PARTITION		TH. 7 5/8"
	FIRE RATING: 1 HOUR / 2 HOUR	DESIGN:	UL U906
	STC RATING: STC 50	TEST NO.:	

SCALE: NTS

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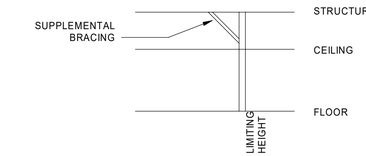

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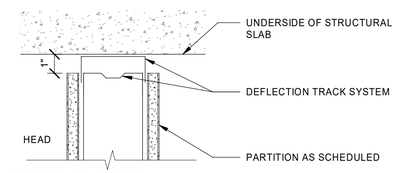


DEFLECTION TRACK SYSTEM

REGISTERED ARCHITECT LORENZEN-SCHMIDT 037141 STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

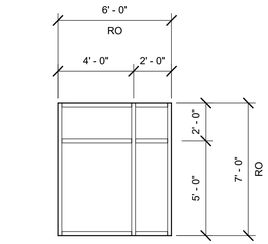
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

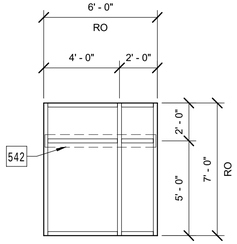
ARCHITECTURAL - PARTITION WALL TYPES

SHEET ID

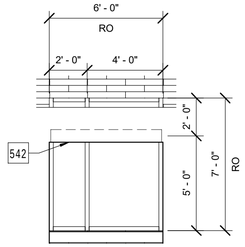
A-551



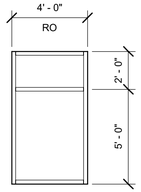
W1A WINDOW TYPE W1A
1/4" = 1'-0"



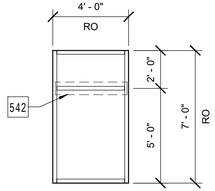
W1B WINDOW TYPE W1B
1/4" = 1'-0"



W2 WINDOW TYPE W2
1/4" = 1'-0"

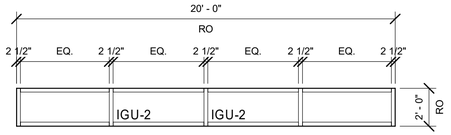


W3A WINDOW TYPE W3A
1/4" = 1'-0"

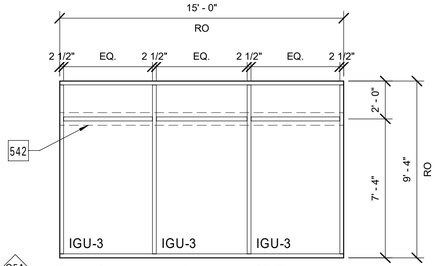


W3B WINDOW TYPE W3B
1/4" = 1'-0"

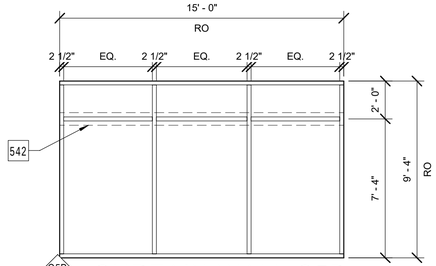
WINDOW TYPES



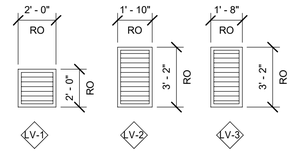
C4 CURTAIN WALL C4
1/4" = 1'-0"



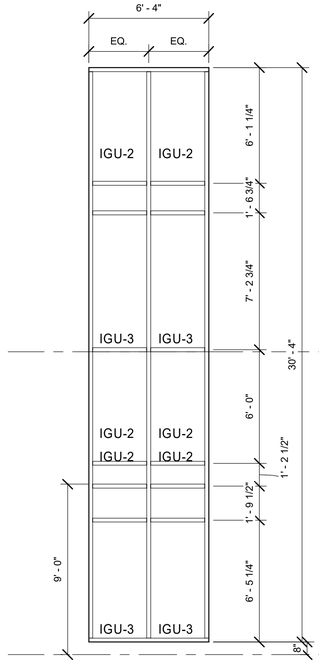
C5A CURTAIN WALL C5A
1/4" = 1'-0"



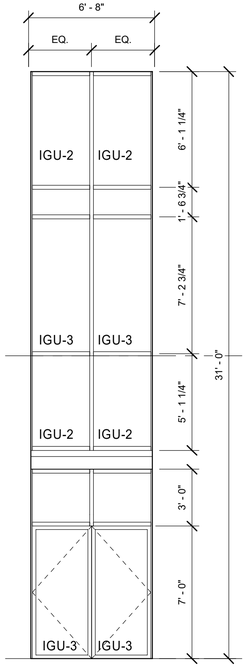
C5B CURTAIN WALL C5B
1/4" = 1'-0"



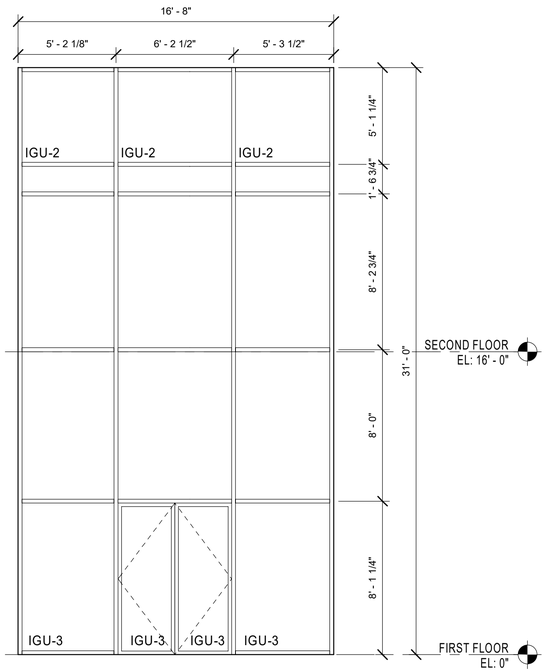
LV-1 LOUVER LV-1
1/4" = 1'-0"



C1 CURTAIN WALL C1
1/4" = 1'-0"



C2 CURTAIN WALL C2
1/4" = 1'-0"



C3 CURTAIN WALL C3
1/4" = 1'-0"

CURTAIN WALL TYPES

GENERAL SHEET NOTES

1. GLASS TYPES ARE IGU-1 UNO
2. REFER TO EXTERIOR MATERIAL SCHEDULE ON SHEET A-601
3. REFER TO DOOR SCHEDULE ON SHEET A-605

KEYNOTES

#	
542	SUN CONTROLS BY ALUMINUM CURTAIN WALL MANUFACTURER

GRAPHIC SCALE(S)

4 3 2 1 0 4 8

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

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
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DESIGNED BY: G. GAN
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US ARMY CORPS OF ENGINEERS
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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - WINDOWS & LOUVER SCHEDULE

SHEET ID
A-560

RTA SUBMISSION

EXTERIOR MATERIALS LEGEND

ITEM CODE	ITEM	MATERIAL	FINISH	COLOR	COMMENTS	BASIS OF DESIGN
AB-1	ARCHITECTURAL BLOCK	ST1 - CMU FACE STONE	CHISEL FACE	MIDNIGHT		CORDOVA STONE- NORTHFIELD/OLD CASTLE COMPANY
AB-2	ARCHITECTURAL BLOCK	ST2 - CMU FACE STONE 39%	GROUND FACE	ALABASTER		
		ST3 - CMU FACE STONE 28.6%		BUFF		
		ST4 - CMU FACE STONE 15.6%		LIMESTONE		
		ST5 - CMU FACE STONE 6.6%	ROCK FACE	BUFF		
		ST6 - CMU FACE STONE 6.6%		ALABASTER		
		ST7 - CMU FACE STONE 3.6%		LIMESTONE		
AFS-1	CURTAIN WALL, ALUMINUM WINDOWS & SUN CONTROLS	ALUMINUM	POLYVINYLDINE FLUORIDE 3-COAT SYSTEM	BLACK		KAWNEER 1600 WALL SYSTEM 1 CURTAIN WALL
ST-8	PRECAST SILLS & COPING	CONCRETE	GROUND FACE	BLACK, MATCH ST-1 MIDNIGHT		
GL-1	INTERIOR GLASS PARTITION, GLAZING	3/8" MONOLITHIC HEAT-STRENGTHENED GLASS	CLEAR			
GL-2	MIRROR	1/4" MONOLITHIC ANNEALED GLASS SILVER COATING ON #2 SURFACE	CLEAR		TYPICAL TOILET RM. MIRROR	
IN-1	BOARD AND BLOCK INSULATION	SEMI RIDGID MINERAL WOOL	PER MANUFACTURER	PER MANUFACTURER	FOR USE IN CAVITY AT EXTERIOR WALL ASSEMBLY, ABOVE GROUND	
IN-2	BOARD AND BLOCK INSULATION	EXTRUDED PREFORMED CELLULAR POLYSTYRENE (XPS)	PER MANUFACTURER	PER MANUFACTURER	FOR USE IN EXTERIOR WALL ASSEMBLY, SUB GRADE & UNDER SLAB ON GRADE	
IN-3	MINERAL FIBER BLANKET INSULATION	MINERAL WOOL BATT	PER MANUFACTURER	PER MANUFACTURER	SOUND ATTENUATION BLANKET FOR USE IN INTERIORS PARTITIONS	
IN-4	MINERAL FIBER BLANKET INSULATION	MINERAL WOOL BATT	PER MANUFACTURER	PER MANUFACTURER	FIRE RATED SOUND ATTENUATION BLANKET FOR USE IN INTERIORS PARTITIONS	
IN-5	SPRAY FOAM	SPRAY FOAM INSULATION, SPF	PER MANUFACTURER	PER MANUFACTURER	FOR USE IN CAVITIES AS INDICATED	
IN-6	MINERAL FIBER BLANKET INSULATION	MINERAL WOOL BATT	PER MANUFACTURER	PER MANUFACTURER	FOR USE IN FIRE PROOFING SYSTEMS	THERMAFIBER
IN-7	ROOF INSULATION	POLYISOCYANURATE	PER MANUFACTURER	PER MANUFACTURER	TYPICAL ROOFING INSULATION	
IN-8	BOARD AND BLOCK INSULATION	FOIL FACED, SEMI RIDGID MINERAL WOOL	PER MANUFACTURER	PER MANUFACTURER	TYPICAL SPANDREL INSULATION, PROVIDE NON-PERMEABLE VAPOR RETARDER FOIL	
IGU-1	1" EXTERIOR GLAZING ASSEMBLY	1/4" HEAT-STRENGTHENED CLEAR GLASS, LOW E COATING ON #2 SURFACE 1/2" ARGON FILLED SPACE 1/4" (2x1/8") ANNEALED FLOAT GLASS LAMINATED CLEAR GLASS U-VALUE: 0.42 SCGH: 0.40 VT: 60%	CLEAR			
IGU-2		1/4" HEAT-STRENGTHENED CLEAR GLASS, LOW E COATING ON #2 SURFACE 1/2" ARGON FILLED SPACE 1/4" (2x1/8") HEAT-STRENGTHENED LAMINATED CLEAR GLASS CERAMIC FRIT ON #4 SURFACE U-VALUE: 0.42 SCGH: 0.40 VT: 0%	SPANDREL	GRAY		
IGU-3		1/4" TEMPERED CLEAR GLASS, LOW E-COATING ON #2 SURFACE 1/2" ARGON FILLED SPACE 1/4" (2x1/8") ANNEALED FLOAT GLASS LAMINATED CLEAR GLASS U-VALUE: 0.42 SCGH: 0.40 VT: 60%	CLEAR, TEMPERED SAFETY			
MTL-1	METAL COPING	GALVANIZED STEEL	SATIN	BLACK, MATCH COLOR OF AFS-1	TYPICAL WALL COPING	
MTL-2	FLASHING/ COUNTER-FLASHING	ALUMINUM	POLYVINYLDINE FLUORIDE 3-COAT SYSTEM	BLACK, MATCH COLOR OF AFS-1	TYPICAL EXPOSED ROOF ACCESSORIES & FLASHING	
MTL-3	CONDUCTOR HEAD BOXES & DOWNSPOUTS	GALVANIZED STEEL	SATIN	BLACK, MATCH COLOR OF AFS-1		
MTL-4	MAIN ENTRANCE CANOPY FASCIA	METAL COMPOSIT PANEL	METALIC	BEIGE, GRAY, MATCH COLOR OF AB-2		
MTL-5	CANOPY	ALUMINUM	METALIC	BLACK		
PT-11	EXTERIOR HM DOOR & FRAME FINISH	HIGH PERFORMANCE COATING SYSTEM	SATIN	BLACK, MATCH COLOR OF AFS-1	TYPICAL EXTERIOR HM DOOR & FRAME FINISH	
PT-12	EXPOSED SHELF ANGLES	STEEL, PRIMED	SEMI GLOSS	BLACK		
PT-13	EXTERIOR CANOPY UNDERSIDE	EXTERIOR GRADE SHEATHING	FLAT	WHITE		
PT-14	INTERIOR ALUMINUM FRAMED GLASS & DOOR PARTITION FRAMES	ALUMINUM	ANODIZED	NATURAL		
LV-1	EXTERIOR LOUVER	ALUMINUM	POLYVINYLDINE FLUORIDE 3-COAT SYSTEM	BLACK, MATCH AFS-1		
WD-1	INTERIOR WOOD DOORS	WOOD VENEER ON STEEL	ROTARY CUT, RANDOM MATCH	WHITE BIRCH		

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY:
SUBMITTED BY: W. STEVENS
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - EXTERIOR MATERIAL SCHEDULE

SHEET ID

A-601

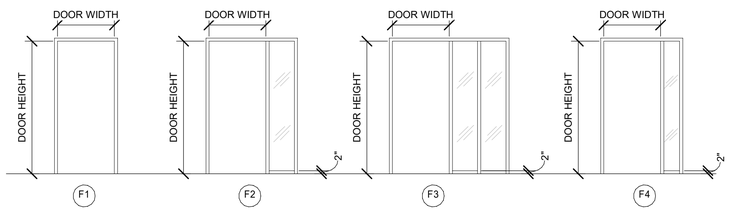
RTA SUBMISSION

FIRST FLOOR DOOR SCHEDULE

DOOR NO.	ROOM	TYPE	DOOR SIZE WIDTH	DOOR SIZE HEIGHT	DOOR SIZE THICKNESS	DOOR MATERIAL	DOOR FINISH	FIRE RATING	STC RATING	FRAMES TYPE	FRAMES MATERIAL	FRAMES FINISH	FRAMES DETAILS HEAD	FRAMES DETAILS JAMB	FRAMES DETAILS SILL	HARDWARE SET	COMMENTS:
101		F	3' - 1"	3' - 1"													
FIRST FLOOR																	
100	WAITING AREA FOR TRANSIENT PERSONNEL	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1		STC 30	F3	AL	PT-14	H3	J3	T1	416	
104	NAVY OFFICE 11P	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1			F3	AL	PT-14	H3	J3	T1	415	CARD READER, MAGNETIC SWITCH
104A	OFFICE	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1			F2	AL	PT-14	H3	J3	T1	412	
104B	OFFICE	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1			F2	AL	PT-14	H3	J3	T1	412	
106	COAST GUARD OFFICE 7P	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1			F3	AL	PT-14	H3	J3	T1	415	CARD READER, MAGNETIC SWITCH
106A	OFFICE	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1			F2	AL	PT-14	H3	J3	T1	412	
106B	OFFICE	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1			F2	AL	PT-14	H3	J3	T1	412	
107	MECH	FF	6' - 0"	7' - 0"	1 3/4"	HM	WD-1	90 MINUTES		F1	HM	PT-15	H1	J1	T1	826	180 DEG SWING, SOUND SEALS, CARD READER, MAGNETIC SWITCH
107A	MECH	FF	6' - 0"	7' - 0"	1 3/4"	HM	PT-11			F1	HM	PT-11	H4	J4	T1	823	EXTERIOR DOOR, MAGNETIC SWITCH
108	ELEC	F	3' - 0"	7' - 0"	1 3/4"	HM	WD-1	90 MINUTES		F1	HM	PT-11	H1	J1	T1	316	180 DEG SWING, SOUND SEALS, CARD READER, MAGNETIC SWITCH
108A	ELEC	FF	6' - 0"	7' - 0"	1 3/4"	HM	PT-11			F1	HM	PT-11	H4	J4	T1	323	EXTERIOR DOOR, MAGNETIC SWITCH
109	MAIN COMM	U	4' - 0"	7' - 0"	1 3/4"	HM	WD-1	90 MINUTES		F1	HM	PT-15	H1	J1	T1	825	180 DEG SWING, EGRESS, CARD READER, MAGNETIC SWITCH
110	AIR FORCE / SPACE FORCE OFFICE 24P	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1			F3	AL	PT-14	H3	J3	T1	415	CARD READER, MAGNETIC SWITCH
110A	OFFICE	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1			F2	AL	PT-14	H3	J3	T1	412	
110B	OFFICE	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1			F2	AL	PT-14	H3	J3	T1	412	
110C	OFFICE	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1			F2	AL	PT-14	H3	J3	T1	412	
110D	OFFICE	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1			F2	AL	PT-14	H3	J3	T1	412	
111A	VEST	DFG	6' - 0"	7' - 0"	1 3/4"	AL/GL	GL-1			F1	AL	PT-14	H3	J3	T1	420	EGRESS
111B	VEST	DFG	6' - 3"	7' - 0"	1 3/4"	AL/GL	GL-1			F1	AL	AFS-1	H2	J2	T1	441	EXTERIOR DOOR, EGRESS, MAGNETIC SWITCH
114	ELEC	F	3' - 0"	7' - 0"	1 3/4"	HM	WD-1	45 MINUTES		F1	HM	PT-15	H1	J1	T1	316	180 DEG SWING, SOUND SEALS, CARD READER, MAGNETIC SWITCH
116	EMPLOYEE BRK. RM.	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1			F3	AL	PT-14	H3	J3	T1	413	
117	JAN	F	3' - 0"	7' - 0"	1 3/4"	HM	WD-1			F1	HM	PT-15	H1	J1	T1	812	
118	SINGLE USER RESTROOM	F	3' - 0"	7' - 0"	1 3/4"	HM	WD-1			F1	HM	PT-15	H1	J1	T1	113	SOUND SEALS
119	FEMALE	F	3' - 0"	7' - 0"	1 3/4"	HM	WD-1			F1	HM	PT-15	H1	J1	T1	210	
120	MALE	F	3' - 0"	7' - 0"	1 3/4"	HM	WD-1			F1	HM	PT-15	H1	J1	T1	210	
122	ELEV MACH	F	3' - 6"	7' - 0"	1 3/4"	HM	WD-1	45 MINUTES		F1	HM	PT-15	H1	J1	T1	816	SOUNDS SEALS
123	ARMY OFFICE 23P	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1			F2	AL	PT-14	H3	J3	T1	415	CARD READER, MAGNETIC SWITCH
123A	OFFICE	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1			F2	AL	PT-14	H3	J3	T1	412	
123B	OFFICE	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1			F2	AL	PT-14	H3	J3	T1	412	
124	MARINES OFFICE 6P	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1			F2	AL	PT-14	H3	J3	T1	415	CARD READER, MAGNETIC SWITCH
124A	OFFICE	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1			F2	AL	PT-14	H3	J3	T1	412	
124B	OFFICE	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1			F2	AL	PT-14	H3	J3	T1	412	
129A	VEST	DFG	6' - 0"	7' - 0"	1 3/4"	AL/GL	GL-1			F1	AL	PT-14	H3	J3	T1	422	EGRESS, POWER OPERATOR
129B	VEST	DFG	6' - 3"	7' - 0"	1 3/4"	AL/GL	GL-1			F1	AL	AFS-1	H2	J2	T1	442	EXTERIOR DOOR, EGRESS, POWER OPERATOR, CARD READER, MAGNETIC SWITCH
139A	VESTIBULE 2-STORY	DFG	6' - 0"	8' - 0"	1 3/4"	AL/GL	GL-1			F1	AL	PT-14	H2	J2	T1	422	EGRESS, POWER OPERATOR
139B	VESTIBULE 2-STORY	DFG	6' - 0"	8' - 0"	1 3/4"	AL/GL	GL-1			F1	AL	AFS-1	H2	J2	T1	442	EXTERIOR DOOR, EGRESS, POWER OPERATOR, CARD READER, MAGNETIC SWITCH
S1A	STAIR	FF	6' - 0"	7' - 0"	1 3/4"	HM	WD-1	60 MINUTES		F1	HM	PT-15	H1	J1	T1	320	EGRESS
S1B	STAIR	FF	6' - 0"	7' - 0"	1 3/4"	HM	PT-11	60 MINUTES		F1	HM	PT-11	H4	J4	T1	322	EXTERIOR DOOR, EGRESS, EXIT ONLY, MAGNETIC SWITCH, ALARMED
S2A	STAIR	FF	6' - 0"	7' - 0"	1 3/4"	HM	WD-1	60 MINUTES		F1	HM	PT-15	H1	J1	T1	320	EGRESS
S2B	STAIR	FF	6' - 0"	7' - 0"	1 3/4"	HM	PT-11	60 MINUTES		F1	HM	PT-11	H4	J4	T1	321	EXTERIOR DOOR, EGRESS, CARD READER, MAGNTIC SWITCH

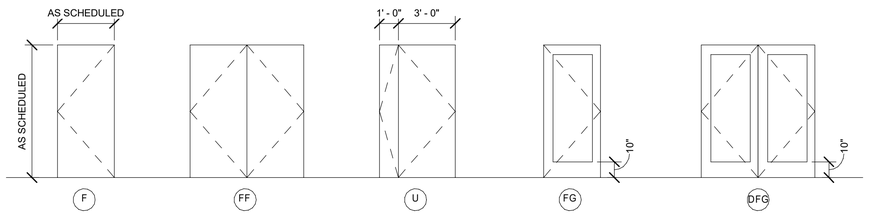
FIRST FLOOR DOOR SCHEDULE - BID OPTION 1

DOOR NO.	ROOM	TYPE	DOOR SIZE WIDTH	DOOR SIZE HEIGHT	DOOR SIZE THICKNESS	DOOR MATERIAL	DOOR FINISH	FIRE RATING	STC RATING	FRAMES TYPE	FRAMES MATERIAL	FRAMES FINISH	FRAMES DETAILS HEAD	FRAMES DETAILS JAMB	FRAMES DETAILS SILL	HARDWARE SET	COMMENTS:
125	CLASSRM 20P	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1		STC 30	F2	AL	PT-14	H3	J3	T1	411	
126	COVE 4P	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1		STC 30	F2	AL	PT-14	H3	J3	T1	411	
127	COVE 4P	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1		STC 30	F2	AL	PT-14	H3	J3	T1	411	
138A	CORRIDOR	F	3' - 0"	7' - 0"	1 3/4"	HM	WD-1		STC 50	F1	HM	PT-15	H1	J1	T1	910	SPIN DIAL LOCK, CARD READER, MAGNTIC SWITCH
138B	CORRIDOR	F	3' - 0"	7' - 0"	1 3/4"	HM	PT-11		STC 50	F1	HM	PT-11	H4	J4	T1	912	EXTERIOR DOOR,EGRESS ONLY, MAGNETIC SWITCH, ALARMED



FRAME TYPES

1/4" = 1'-0"



DOOR TYPES

1/4" = 1'-0"

GENERAL SHEET NOTES

1. EXTERIOR HOLLOW METAL DOORS MUST BE INSULATED AND PAINTED

REGISTERED ARCHITECT
FRED T. LORENZEN-SCHMIDT
037114
STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
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FILE NUMBER:
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - DOOR SCHEDULE

SHEET ID

A-605

SECOND FLOOR DOOR SCHEDULE

DOOR NO.	ROOM	TYPE	DOOR SIZE WIDTH	DOOR SIZE HEIGHT	DOOR THICKNESS	DOOR MATERIAL	DOOR FINISH	FIRE RATING	STC RATING	FRAMES TYPE	FRAMES MATERIAL	FRAMES FINISH	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	HARDWARE SET	COMMENTS:
101		F	3' - 1"	3' - 1"													
SECOND FLOOR																	
200	STUDENT BRK. RM.	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1			F2	AL	PT-14	H3	J3	T1	413	
201	JAN	F	3' - 0"	7' - 0"	1 3/4"	HM	WD-1			F1	HM	PT-15	H1	J1	T1	812	
202	SINGLE USER RESTROOM	F	3' - 0"	7' - 0"	1 3/4"	HM	WD-1			F1	HM	PT-15	H1	J1	T1	113	SOUND SEALS
203	NURSING	F	3' - 0"	7' - 0"	1 3/4"	HM	WD-1			F1	HM	PT-15	H1	J1	T1	814	SOUND SEALS, CARD READER, MAGNETIC SWITCH
204	ELEC	F	3' - 0"	7' - 0"	1 3/4"	HM	WD-1	45 MINUTES		F1	HM	PT-15	H1	J1	T1	316	180 DEG SWING, SOUND SEALS, CARD READER, MAGNETIC SWITCH
208	MULTI-PURPOSE CLASSRM 20P	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1		STC 30	F2	AL	PT-14	H3	J3	T1	431	EXIT DEVICE
208A	STORAGE	FF	6' - 0"	7' - 0"	1 3/4"	HM	WD-1			F1	HM	PT-15	H1	J1	T1	820	
209	MULTI-PURPOSE CLASSRM 20P	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1		STC 30	F2	AL	PT-14	H3	J3	T1	431	EXIT DEVICE
209A	STORAGE	FF	6' - 0"	7' - 0"	1 3/4"	HM	WD-1			F1	HM	PT-15	H1	J1	T1	820	
211	UNCLASS COMM	U	4' - 0"	7' - 0"	1 3/4"	HM	WD-1	45 MINUTES		F1	HM	PT-15	H1	J1	T1	825	180 DEG SWING, SOUND SEALS, CARD READER, MAGNETIC SWITCH
212	CLASS COMM	U	4' - 0"	7' - 0"	1 3/4"	HM	WD-1	45 MINUTES		F1	HM	PT-15	H1	J1	T1	825	180 DEG SWING, SOUND DEALS, CARD READER, MAGNETIC SWITCH
219	STORAGE	F	3' - 0"	7' - 0"	1 3/4"	HM	WD-1			F1	HM	PT-15	H1	J1	T1	810	
220	NCS OFFICE 8P	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1		STC 30	F2	AL	PT-14	H3	J3	T1	414	SOUND SEALS, CARD READER, MAGNETIC SWITCH
221	ELEC	F	3' - 0"	7' - 0"	1 3/4"	HM	WD-1	45 MINUTES		F1	HM	PT-15	H1	J1	T1	811	180 DEG SWING
222	SECURITY OFFICE	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1		STC 30	F2	AL	PT-14	H3	J3	T1	410	SOUND SEALS
223	CLASSRM 20P	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1		STC 30	F2	AL	PT-14	H3	J3	T1	431	180 DEG SWING, SOUND SEALS, DOOR, EXIT DEVICE
224	CLASSRM 20P	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1		STC 30	F2	AL	PT-14	H3	J3	T1	431	180 DEG SWING, SOUND SEALS, DOOR, EXIT DEVICE
230	FEMALE	F	3' - 0"	7' - 0"	1 3/4"	HM	WD-1			F1	HM	PT-15	H1	J1	T1	210	
231	MALE	F	3' - 0"	7' - 0"	1 3/4"	HM	WD-1			F1	HM	PT-15	H1	J1	T1	210	
233	NIPR TRAINING 20P	FG	3' - 0 3/4"	7' - 0"	1 3/4"	AL/GL	WD-1		STC 30	F4	AL	PT-14	H3	J3	T1	416	SOUND SEALS
234	CLASSRM 30P	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1		STC 30	F3	AL	PT-14	H3	J3	T1	416	SOUND SEALS
243	BLDG MANAGEMENT OFFICE 2P	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1			F2	AL	PT-14	H3	J3	T1	412	
244	IT SUPPORT OFFICE 2P	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1			F2	AL	PT-14	H3	J3	T1	412	
252	SECURED STORAGE	F	3' - 0"	7' - 0"	1 3/4"	HM	WD-1	45 MINUTES	STC 30	F1	HM	PT-15	H1	J1	T1	815	CARD READER, MAGNETIC SWITCH
255	COVE	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1		STC 30	F2	AL	PT-14	H3	J3	T1	411	SOUND SEALS
256	COVE	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1		STC 30	F2	AL	PT-14	H3	J3	T1	411	SOUND SEALS
257	COVE	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1		STC 30	F2	AL	PT-14	H3	J3	T1	411	SOUND SEALS
258	COVE	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1		STC 30	F2	AL	PT-14	H3	J3	T1	411	SOUND SEALS
260	STORAGE	F	3' - 0"	7' - 0"	1 3/4"	HM	WD-1	45 MINUTES		F1	HM	PT-15	H1	J1	T1	811	
264A	CORRIDOR	F	3' - 0"	7' - 0"	1 3/4"	HM	WD-1		STC 50	F1	HM	PT-15	H1	J1	T1	910	SPIN DIAL LOCK, CARD READER, MAGNETIC SWITCH
264B	CORRIDOR	F	3' - 0"	7' - 0"	1 3/4"	HM	WD-1		STC 50	F1	HM	PT-15	H1	J1	T1	910	SPIN DIAL LOCK, CARD READER, MAGNETIC SWITCH
S1	STAIR	FF	6' - 0"	7' - 0"	1 3/4"	HM	WD-1	60 MINUTES		F1	HM	PT-15	H1	J1	T1	320	EGRESS
S2	STAIR	FF	6' - 0"	7' - 0"	1 3/4"	HM	WD-1	60 MINUTES		F1	HM	PT-15	H1	J1	T1	320	EGRESS

SECOND FLOOR DOOR SCHEDULE - BID OPTION 1

DOOR NO.	ROOM	TYPE	DOOR SIZE WIDTH	DOOR SIZE HEIGHT	DOOR THICKNESS	DOOR MATERIAL	DOOR FINISH	FIRE RATING	STC RATING	FRAMES TYPE	FRAMES MATERIAL	FRAMES FINISH	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	HARDWARE SET	COMMENTS:
216	NSAC IIA OFFICE 20P	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1		STC 30	F2	AL	PT-14	H3	J3	T1	414	SOUND SEALS, CARD READER, MAGNETIC SWITCH
225	IDC-W AREA 23P	FG	3' - 0"	7' - 0"	1 3/4"	AL/GL	WD-1		STC 30	F2	AL	PT-14	H3	J3	T1	414	SOUND SEALS, CARD READER, MAGNETIC SWITCH

GENERAL SHEET NOTES

1. EXTERIOR HOLLOW METAL DOORS MUST BE INSULATED AND PAINTED

REGISTERED ARCHITECT
FRED L. LORENZEN-SCHMIDT
037114
STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

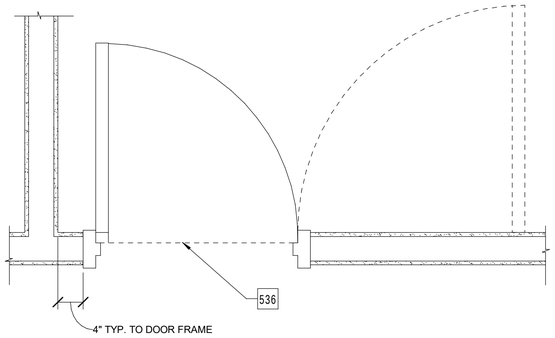
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

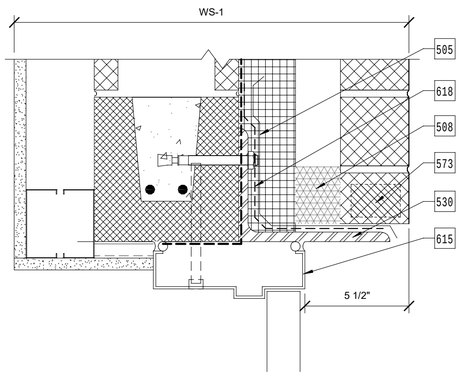
ARCHITECTURAL - DOOR SCHEDULE

SHEET ID

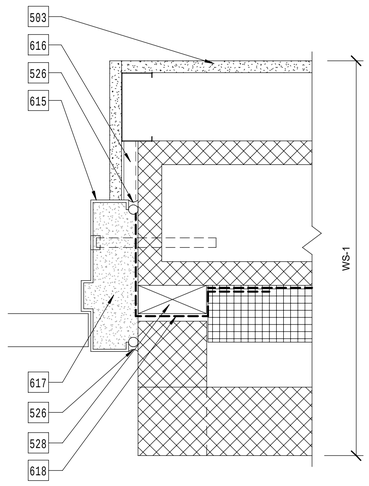
A-606



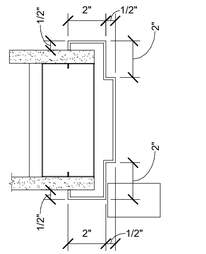
C1 TYP DOOR DISTANCE DIAGRAM
1" = 1'-0"



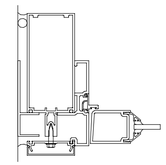
HEAD DETAIL H4



JAMB DETAIL J4



JAMB DETAIL J1



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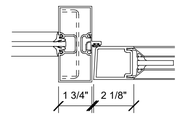

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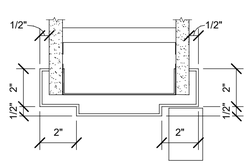
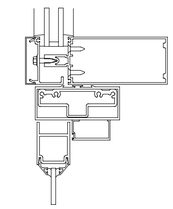
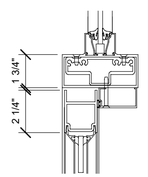


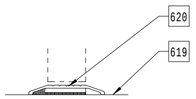
HEAD DETAIL H1



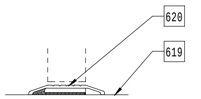
HEAD DETAIL H2



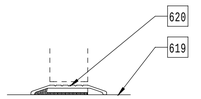
HEAD DETAIL H3



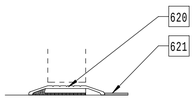
SILL DETAIL T6



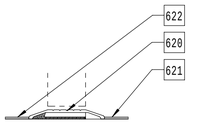
SILL DETAIL T5



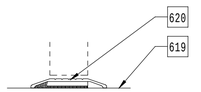
SILL DETAIL T4



SILL DETAIL T3



SILL DETAIL T2



SILL DETAIL T1

A1 TYP DOOR DETAILS
3" = 1'-0"

GENERAL SHEET NOTES

KEYNOTES

#	
503	SCHEDULED PARTITION
505	METAL FLASHING, STAINLESS STEEL
508	MORTAR NET
526	SEALANT
528	BLOCKING
530	GALV MTL SHELF ANGLE, REFER TO STRUCTURAL DRAWINGS, PT-12
536	SCHEDULED DOOR
573	WEEP HOLE AT 24" O.C.
615	DOOR FRAME
616	HAT CHANNEL
617	GROUT FULLY
618	AIR BARRIER TRANSITION SHEET
619	SCHEDULED FLOOR FINISH
620	ACCESSIBLE THRESHOLD PER ANSI/ICC A117-1. REFER TO HARDWARE SCHEDULE
621	CARPET TILE
622	LVT

GRAPHIC SCALE(S)

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

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

REGISTERED ARCHITECT
LORENZEN-SCHMIDT
037141
STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

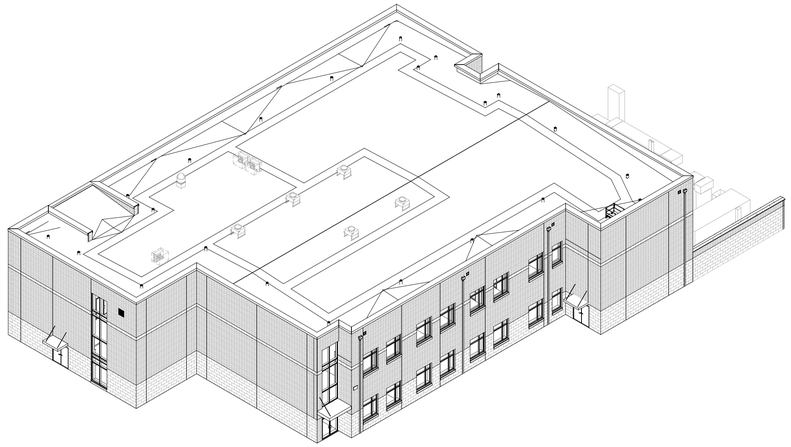
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

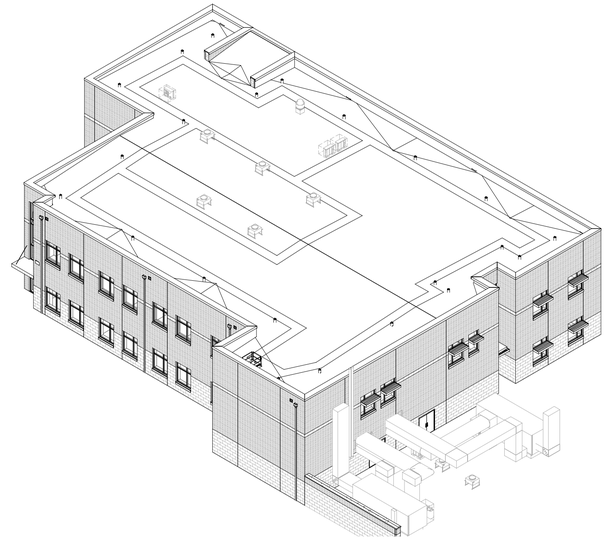
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - OPENING DETAILS

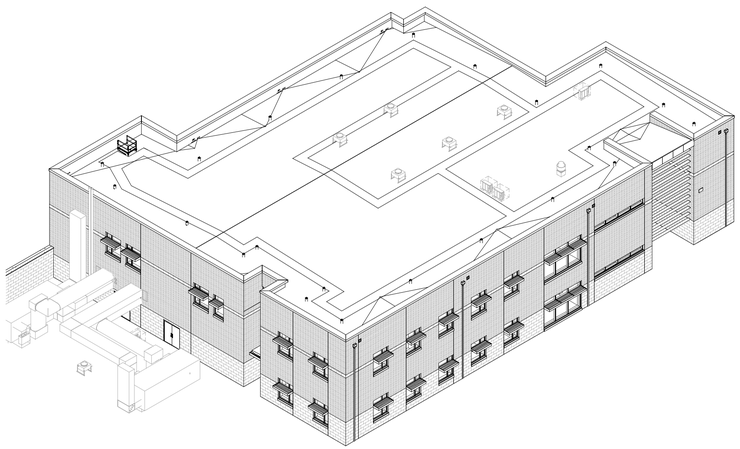
SHEET ID
A-610



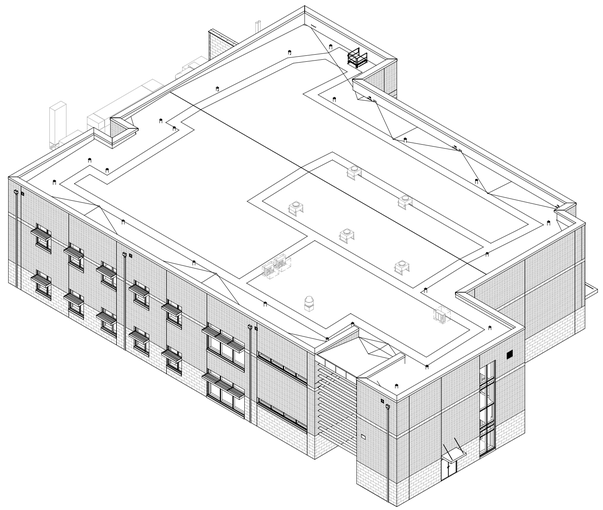
C1 ISOMETRIC VIEW - EAST



C3 ISOMETRIC VIEW - NORTH



A1 ISOMETRIC VIEW - WEST



A3 ISOMETRIC VIEW - SOUTH

REGISTERED ARCHITECT
FRED LORENZEN-SCHMIDT
037114
STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

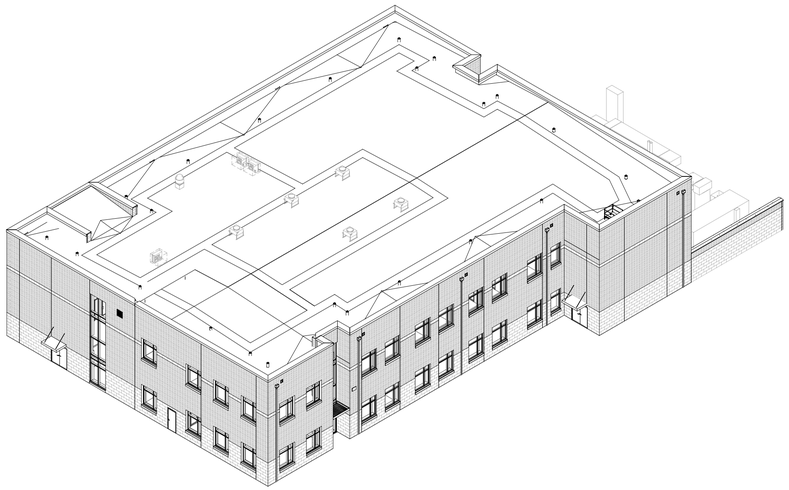
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - PERSPECTIVE VIEWS

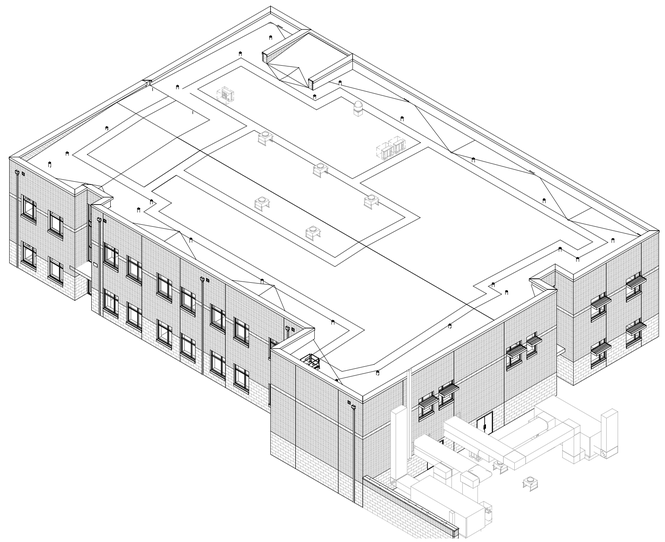
SHEET ID

A-901

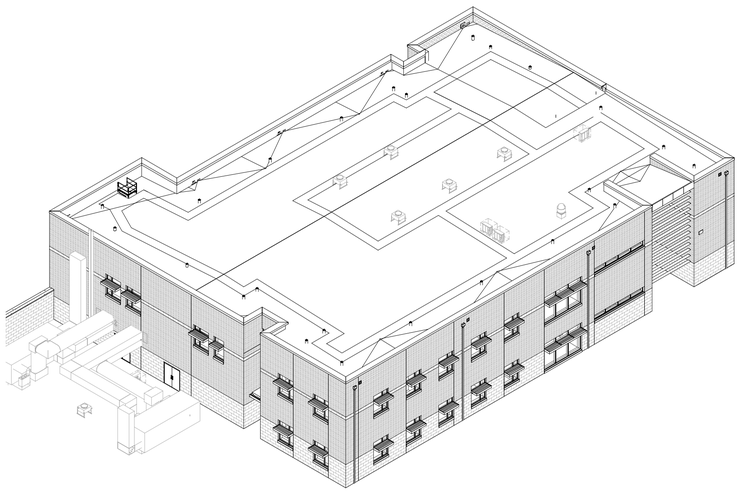
RTA SUBMISSION



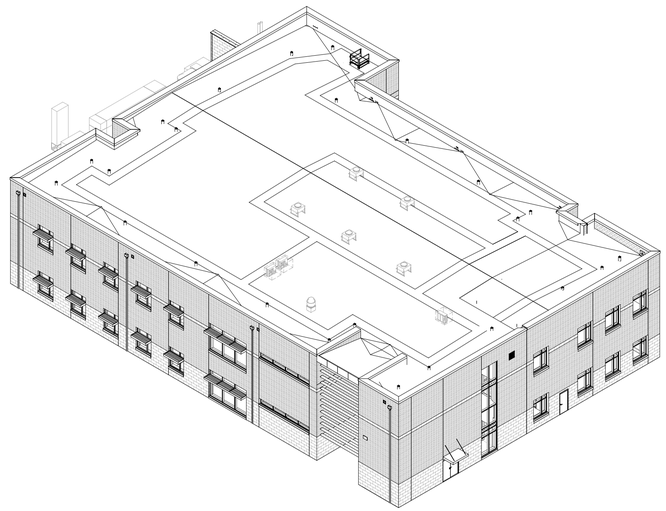
C1 ISOMETRIC VIEW-EAST (BID OPTION 1)



C3 ISOMETRIC VIEW - NORTH (BID OPTION 1)



A1 ISOMETRIC VIEW - WEST (BID OPTION 1)



A3 ISOMETRIC VIEW - SOUTH (BID OPTION 1)

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: G. GAN
DRAWN BY: T. LORENZEN-SCHMIDT
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

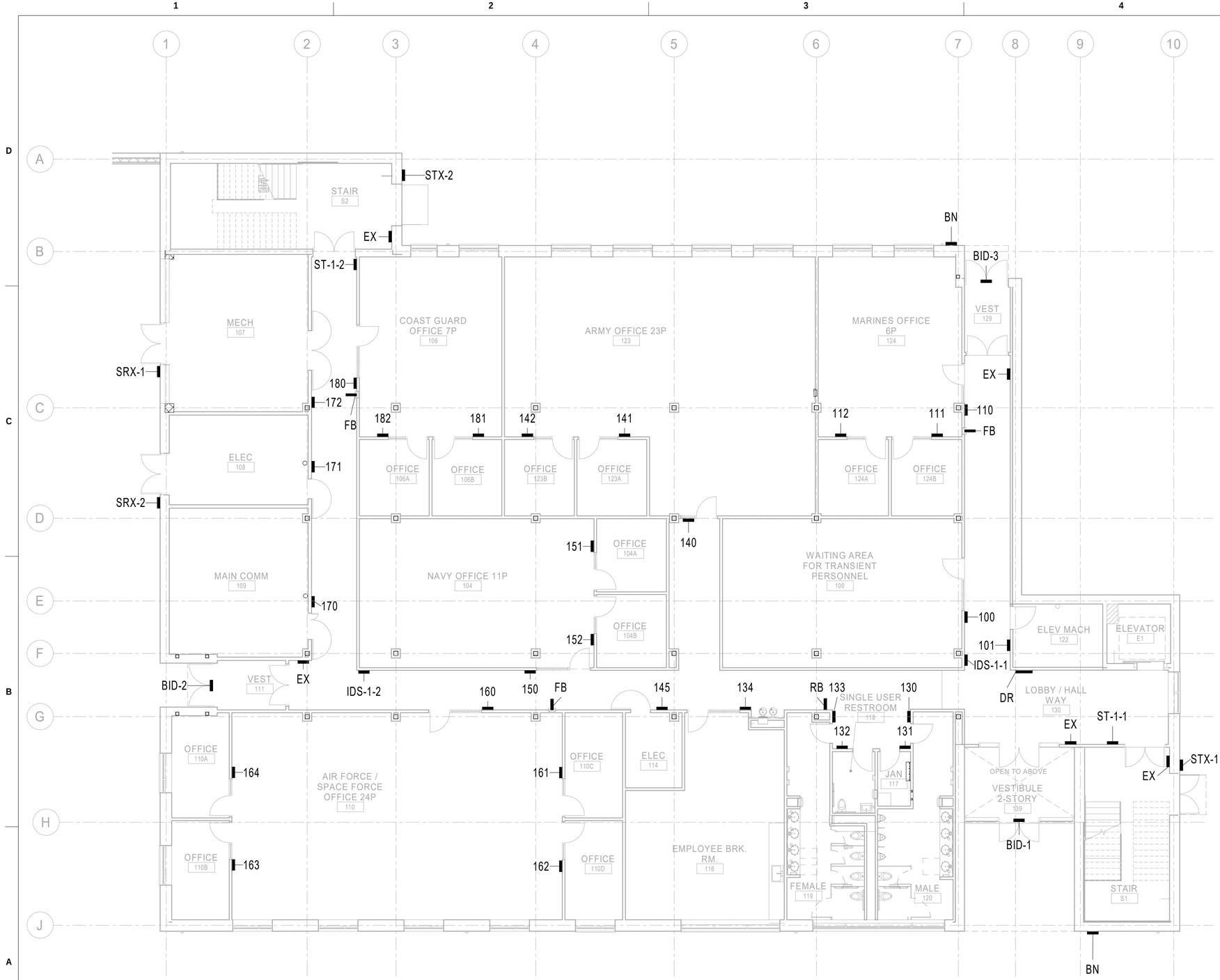
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - PERSPECTIVE VIEWS
(BID OPTION 1)

SHEET ID

A-901A

RTA SUBMISSION



GENERAL SHEET NOTES

1. SEE SIGNAGE SCHEDULE, DRAWING AS-601 FOR SPECIFIC SIGN TYPE AND DESCRIPTION.
2. REFER TO NOTE 19 ON CIVIL SITE PLAN SHEET CS101 AND CS101A FOR EXTERIOR BUILDING IDENTITY SIGN TYPE MID.

A1 FIRST FLOOR SIGNAGE PLAN
1/8" = 1'-0"

REGISTERED ARCHITECT
FRED LORENZEN-SCHMIDT
037114
STATE OF NEW YORK

GRAPHIC SCALE(S)

8 4 0 8 16
SCALE: 1/8" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. POON
DRAWN BY: T. TRAN
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

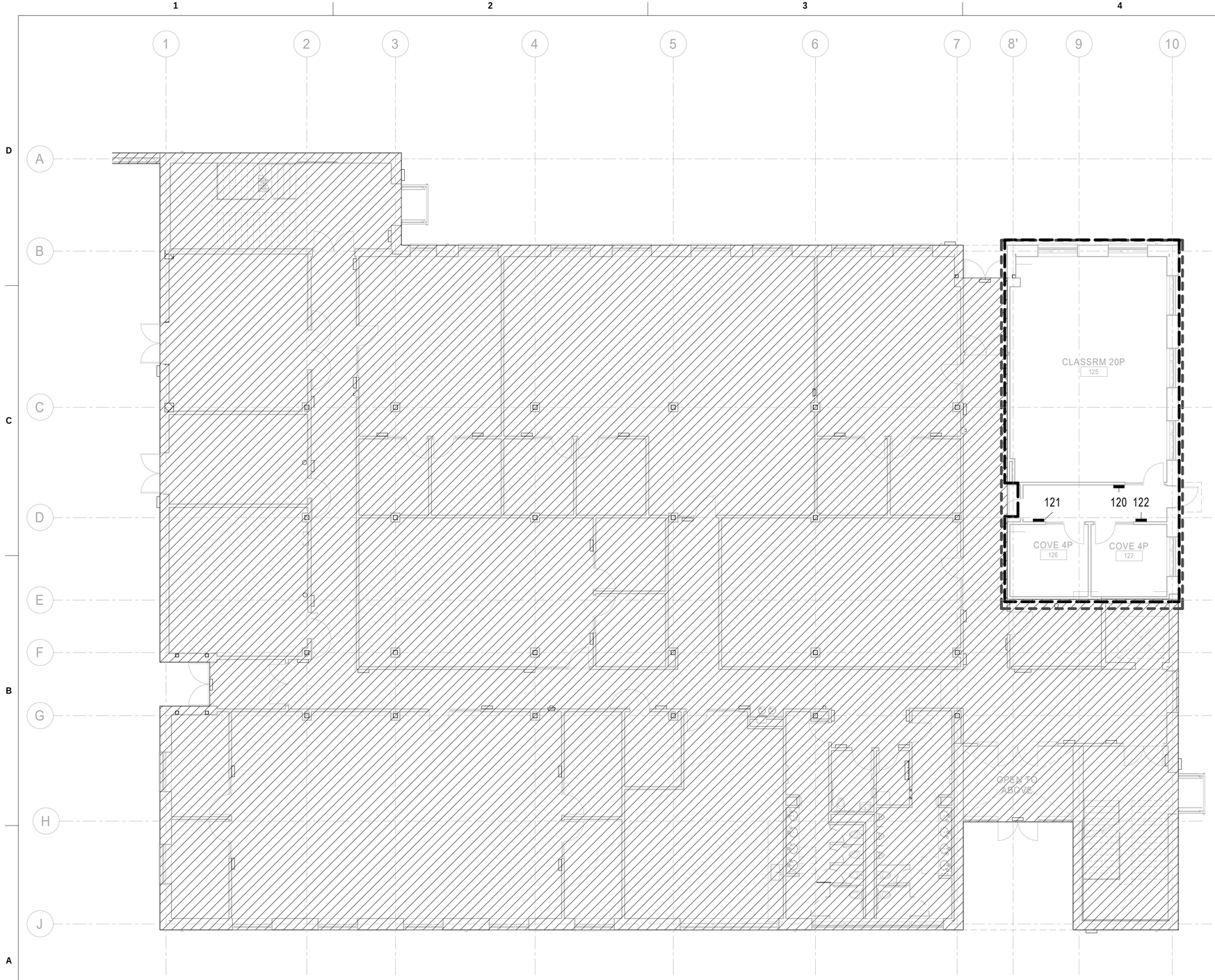
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - FIRST FLOOR SIGNAGE PLAN

SHEET ID
AS111

RTA SUBMISSION



GENERAL SHEET NOTES

1. SEE SIGNAGE SCHEDULE, DRAWING AS-601 FOR SPECIFIC SIGN TYPE AND DESCRIPTION.
2. REFER TO NOTE 19 ON CIVIL SITE PLAN SHEET CS101 AND CS101A FOR EXTERIOR BUILDING IDENTITY SIGN TYPE MID.

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 4 0 8 16

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

PLAN NORTH

REGISTERED ARCHITECT · LORENZEN-SCHMIDT · 037114 · STATE OF NEW YORK

A1 FIRST FLOOR SIGNAGE PLAN (BID OPTION 1)
1/8" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. POON
DRAWN BY: T. TRAN
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

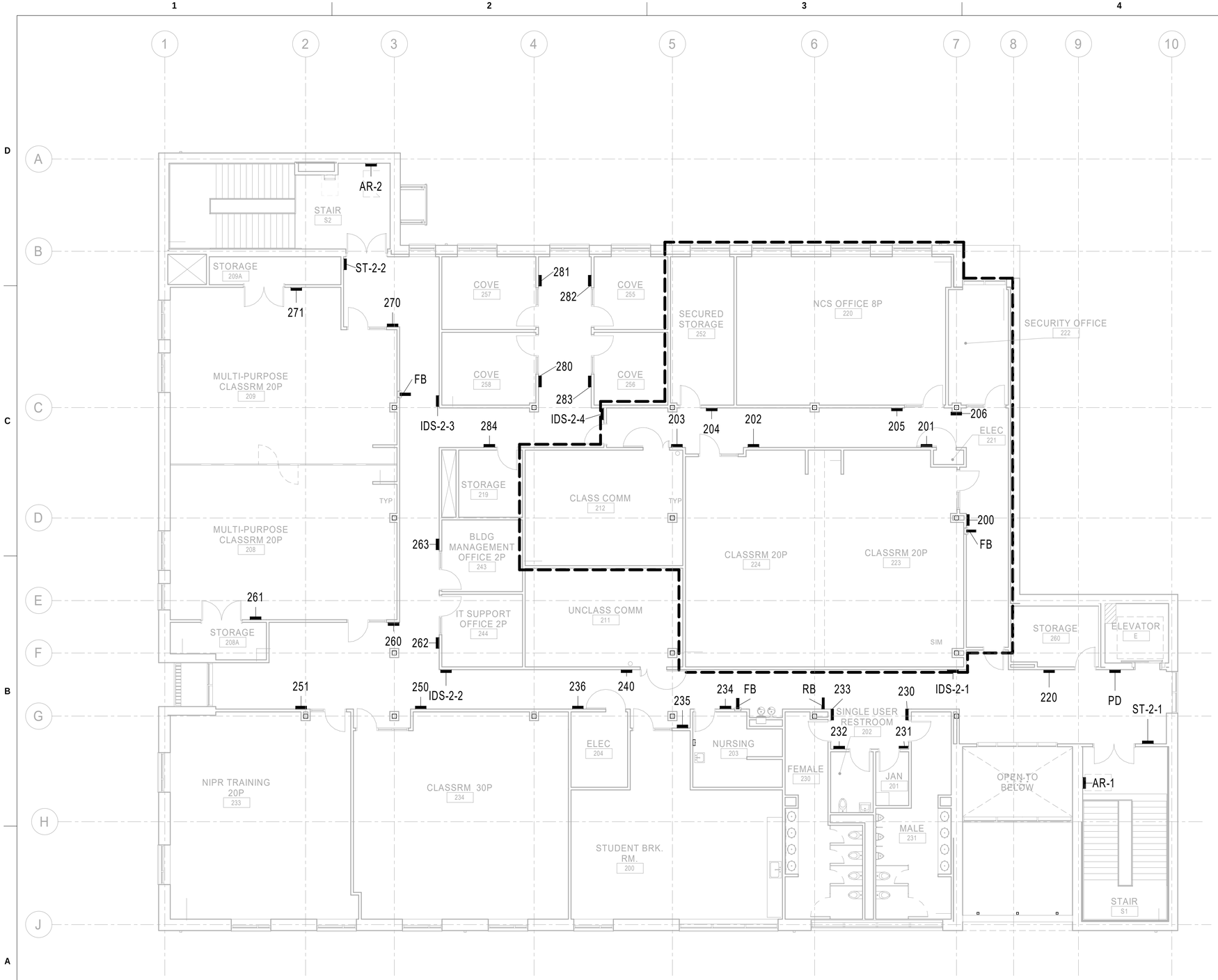
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SPB, CO

ARCHITECTURAL - FIRST FLOOR SIGNAGE PLAN (BID OPTION 1)

SHEET ID
AS111A

RTA SUBMISSION



GENERAL SHEET NOTES

1. SEE SIGNAGE SCHEDULE, DRAWING AS-601 FOR SPECIFIC SIGN TYPE AND DESCRIPTION.
2. REFER TO NOTE 19 ON CIVIL SITE PLAN SHEET CS101 AND CS101A FOR EXTERIOR BUILDING IDENTITY SIGN TYPE MID.

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 4 0 8 16

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

PLAN NORTH

REGISTERED ARCHITECT FRED LORENZEN-SCHMIDT 031114 STATE OF NEW YORK

A1 SECOND FLOOR SIGNAGE PLAN
1/8" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. POON
DRAWN BY: T. TRAN
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

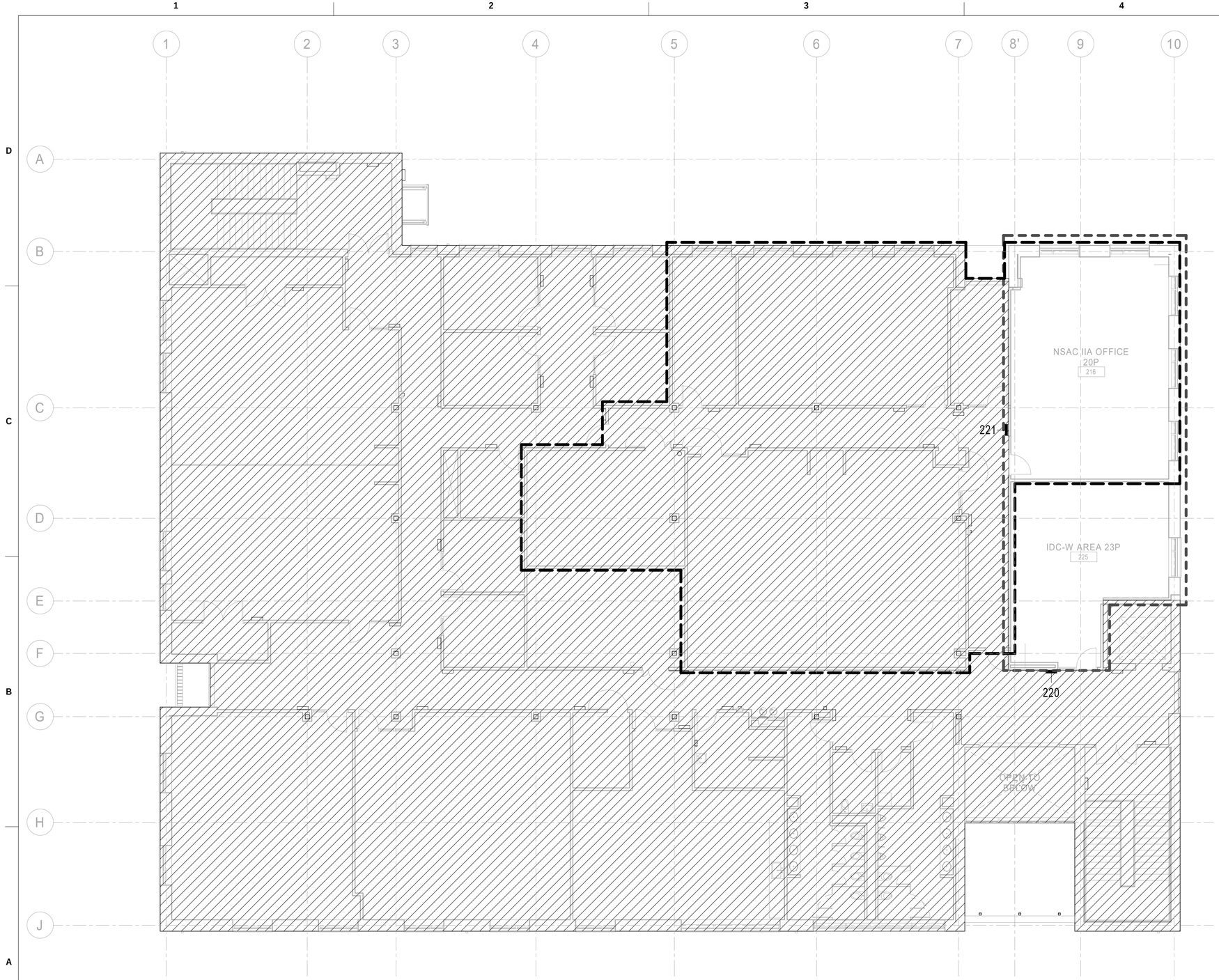
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - SECOND FLOOR SIGNAGE PLAN

SHEET ID
AS121

RTA SUBMISSION



GENERAL SHEET NOTES

1. SEE SIGNAGE SCHEDULE, DRAWING AS-601 FOR SPECIFIC SIGN TYPE AND DESCRIPTION.
2. REFER TO NOTE 19 ON CIVIL SITE PLAN SHEET CS101 AND CS101A FOR EXTERIOR BUILDING IDENTITY SIGN TYPE MID.

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 4 0 8 16

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

PLAN NORTH

A1 SECOND FLOOR SIGNAGE PLAN (BID OPTION 1)

1/8" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: S. POON
DRAWN BY: T. TRAN
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

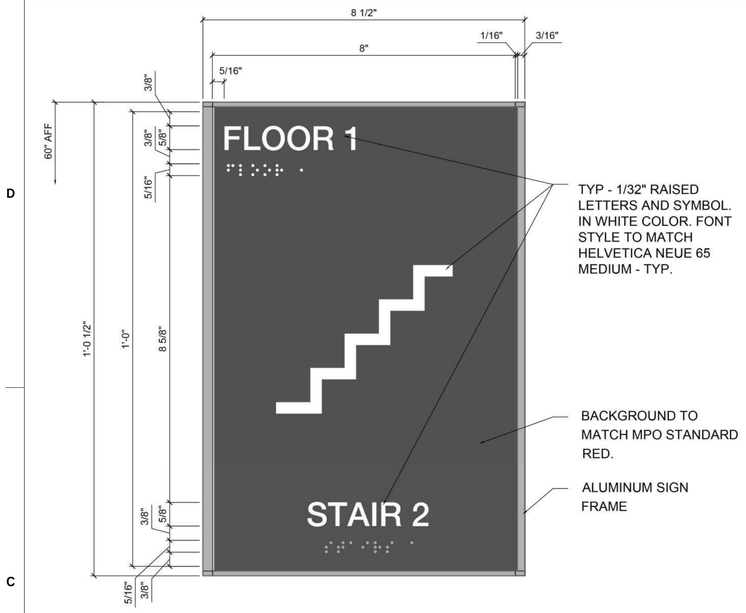
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - SECOND FLOOR SIGNAGE PLAN (BID OPTION 1)

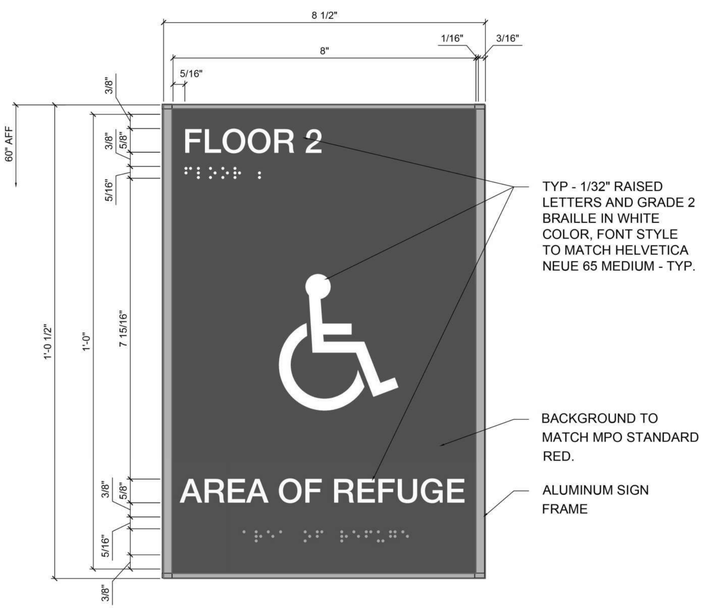
SHEET ID

AS121A

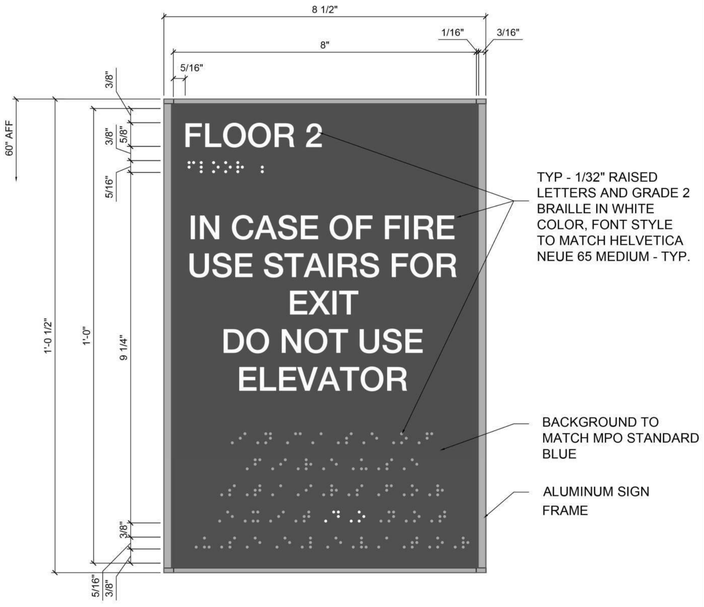
RTA SUBMISSION



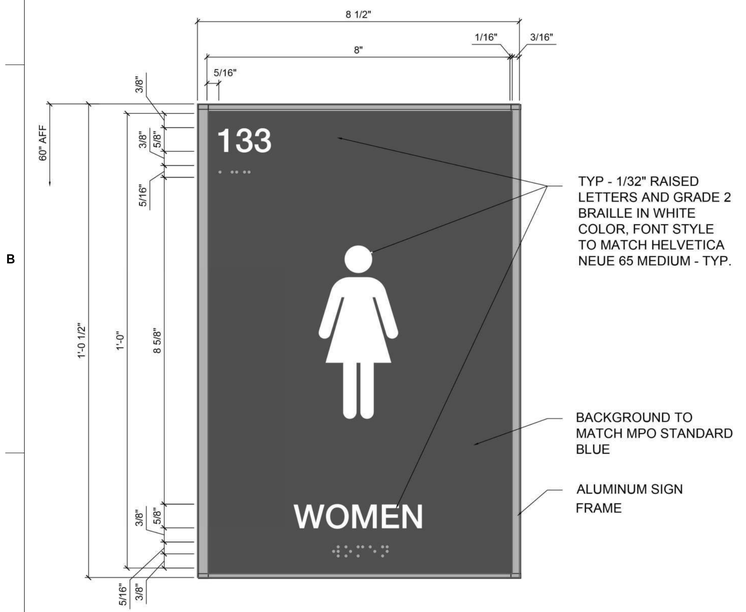
1C SIGN TYPE ST - STAIR SIGN
SCALE: 6' = 1'-0"



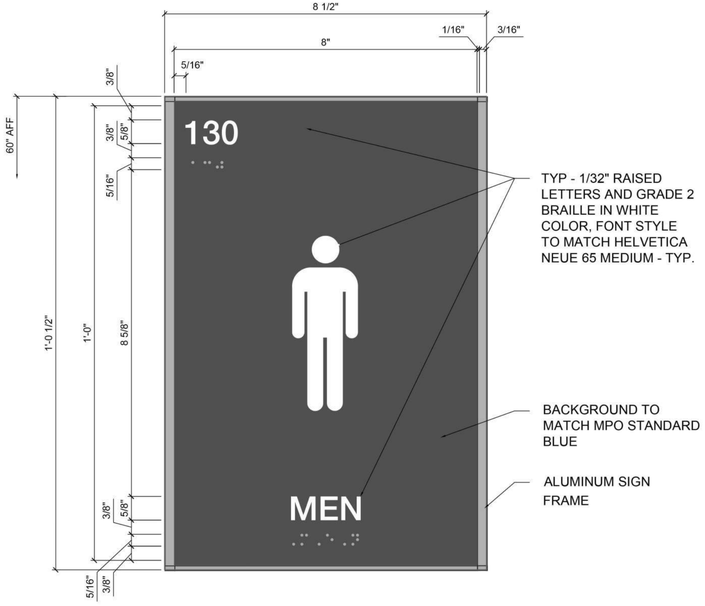
2C SIGN TYPE AR - AREA OF REFUGE SIGN
SCALE: 6' = 1'-0"



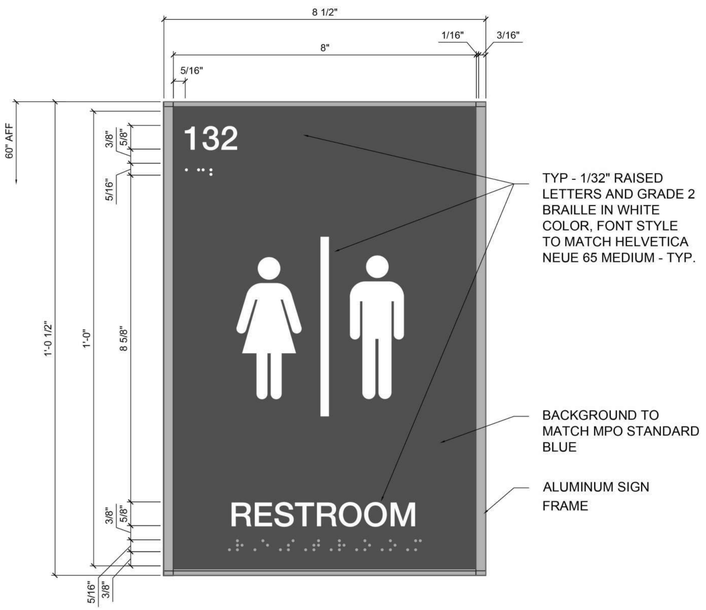
4C SIGN TYPE PD - ELEVATOR LOBBY SIGN
SCALE: 6' = 1'-0"



1A SIGN TYPE WR - WOMEN RESTROOM SIGN
SCALE: 6' = 1'-0"



2A SIGN TYPE MR - MEN RESTROOM SIGN
SCALE: 6' = 1'-0"



4A SIGN TYPE RR - SINGLE USER RESTROOM SIGN
SCALE: 6' = 1'-0"

REGISTERED ARCHITECT
ERIC LORENZEN-SCHMIDT
037114
STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: S. POON
DRAWN BY: T. TRAN
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

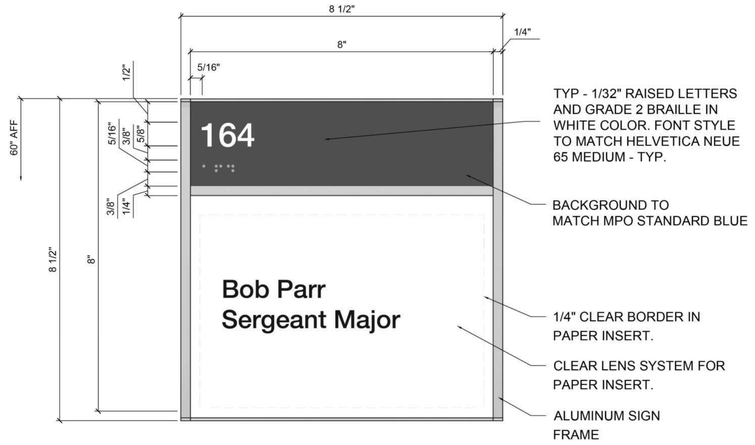
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

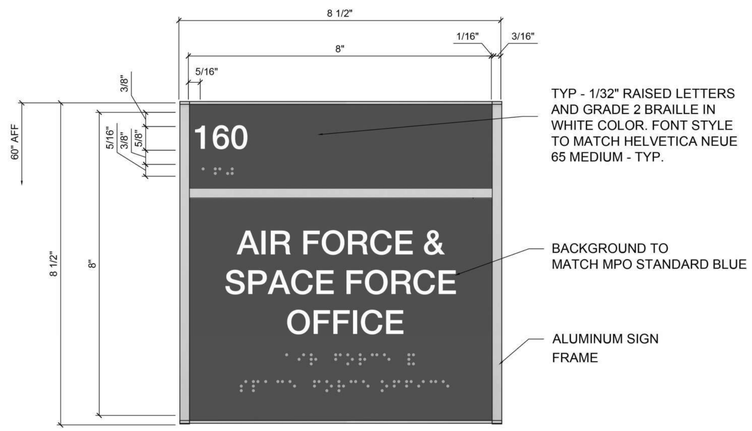
ARCHITECTURAL - SIGNAGE DETAILS

SHEET ID
AS501

RTA SUBMISSION

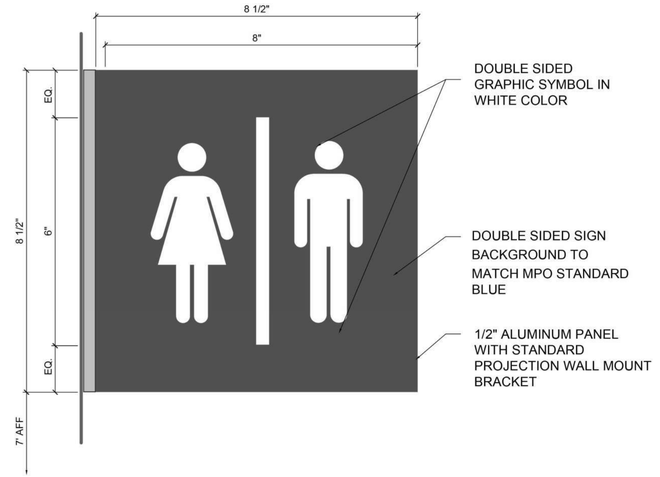


1C SIGN TYPE US-1 - USER SPACE SIGN
SCALE: 6" = 1'-0"

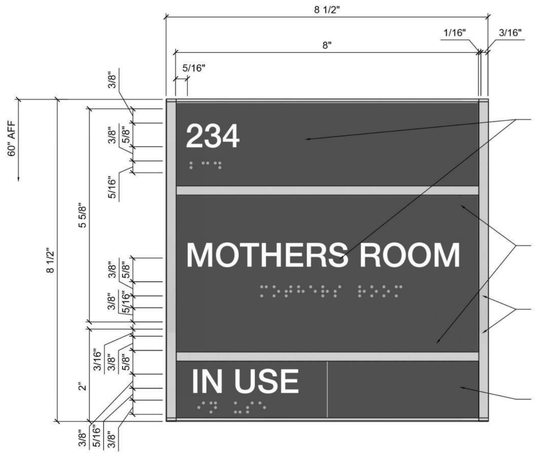


2C SIGN TYPE US-2 - SECONDARY USER SPACE SIGN
SCALE: 6" = 1'-0"

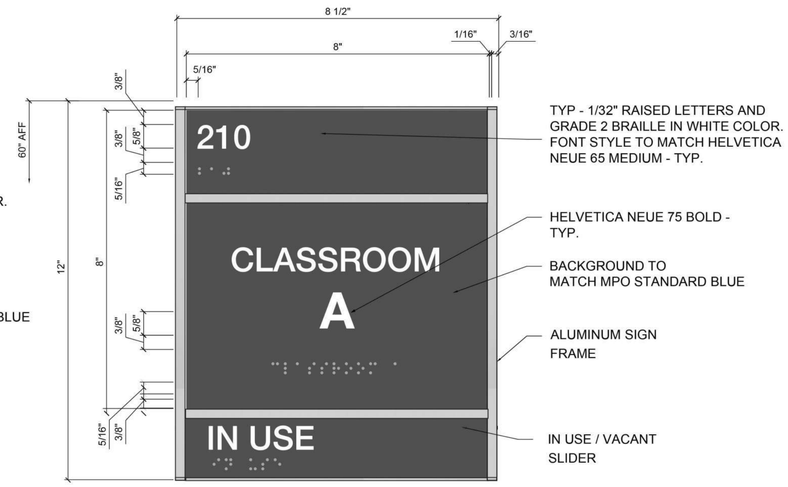
PLAN VIEW OF SIGN PROJECTING FROM WALL.



4C SIGN TYPE RB - RESTROOM BLADE SIGN
SCALE: 6" = 1'-0"

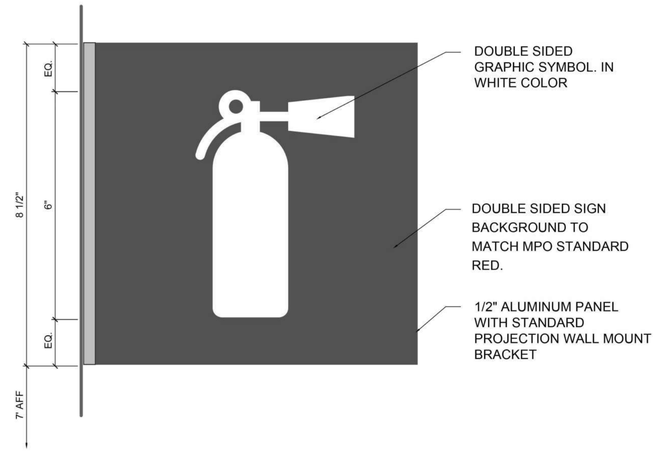


1A SIGN TYPE NM - MOTHERS ROOM SIGN
SCALE: 6" = 1'-0"



2A SIGN TYPE CR - CONFERENCE ROOM SIGN
SCALE: 6" = 1'-0"

PLAN VIEW OF SIGN PROJECTING FROM WALL.



4A SIGN TYPE FB - FIRE EXTINGUISHER BLADE
SCALE: 6" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. POON	ISSUE DATE: 14 DECEMBER 2022		
DRAWN BY: T. TRAN	SOLICITATION NO.: W912BF22R0017		
CHECKED BY: W. STEVENS	CONTRACT NO.:		
SUBMITTED BY:	FILE NUMBER:		
SIZE: ANSI 'D'	FILE NAME:		

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

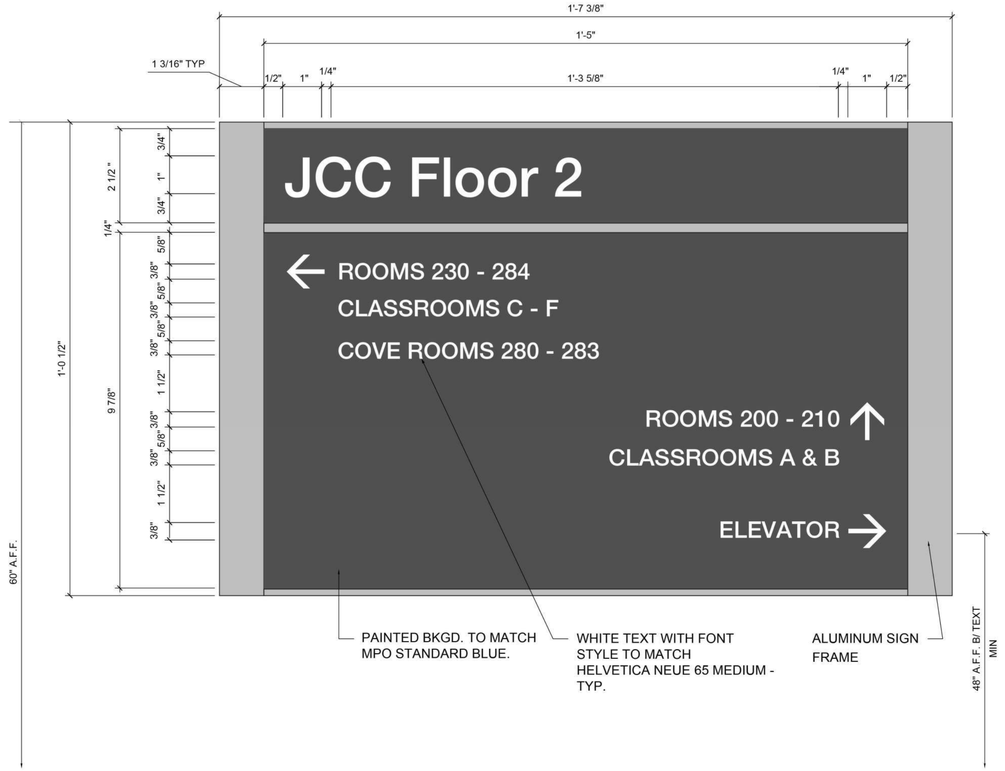
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - SIGNAGE DETAILS

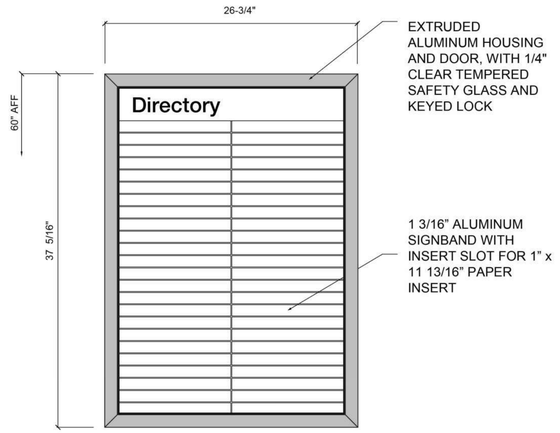
SHEET ID

AS502

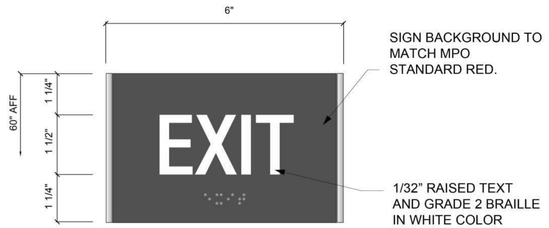
RTA SUBMISSION



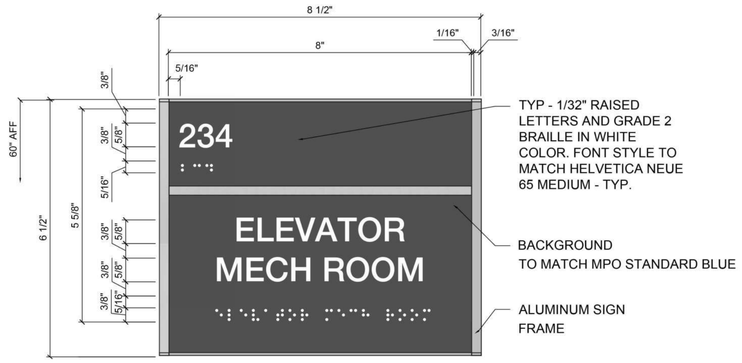
1B SIGN TYPE IDS - INTERIOR DIRECTIONAL SIGN
SCALE: 6" = 1'-0"



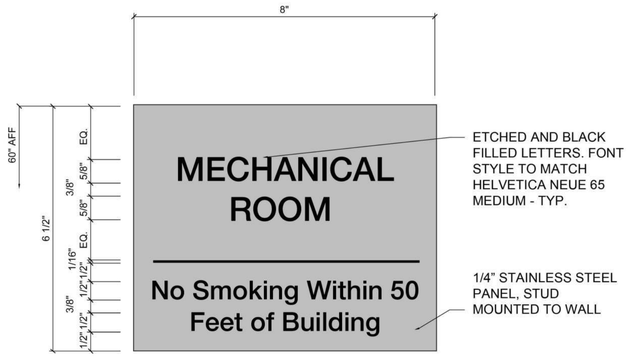
3C SIGN TYPE DR - DIRECTORY SIGN
SCALE: 3" = 1'-0"



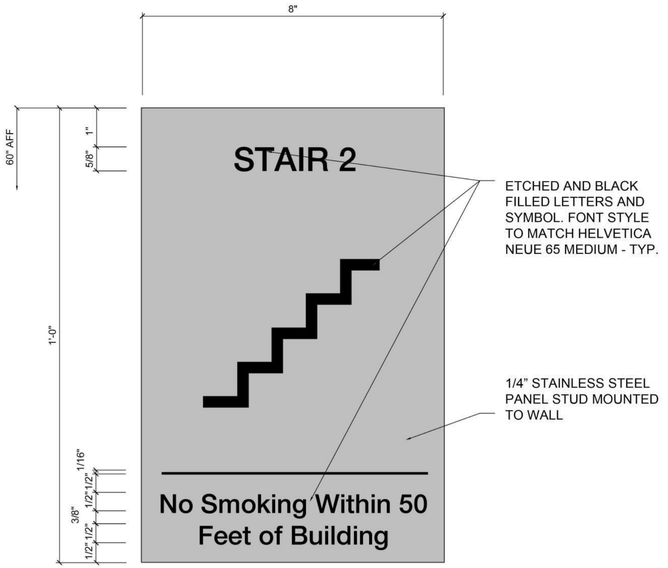
4C SIGN TYPE EX - EXIT SIGN
SCALE: 6" = 1'-0"



1A SIGN TYPE SR - SUPPORT ROOM SIGN
SCALE: 6" = 1'-0"



3A SIGN TYPE SRX - SUPPORT ROOM EXTERIOR SIGN
SCALE: 6" = 1'-0"



4A SIGN TYPE STX - STAIR EXTERIOR SIGN
SCALE: 6" = 1'-0"

REGISTERED ARCHITECT THEO LORENZEN-SCHMIDT 037114 STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	S. POON
DRAWN BY:	T. TRAN
CHECKED BY:	W. STEVENS
SUBMITTED BY:	
SIZE:	ANSI 'D'
ISSUE DATE:	14 DECEMBER 2022
SOLICITATION NO.:	W912BF22R0017
CONTRACT NO.:	
FILE NUMBER:	
FILE NAME:	

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

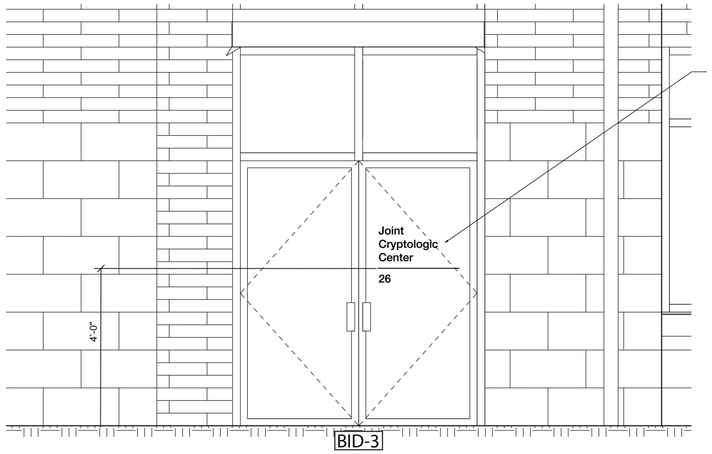
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - SIGNAGE DETAILS

SHEET ID

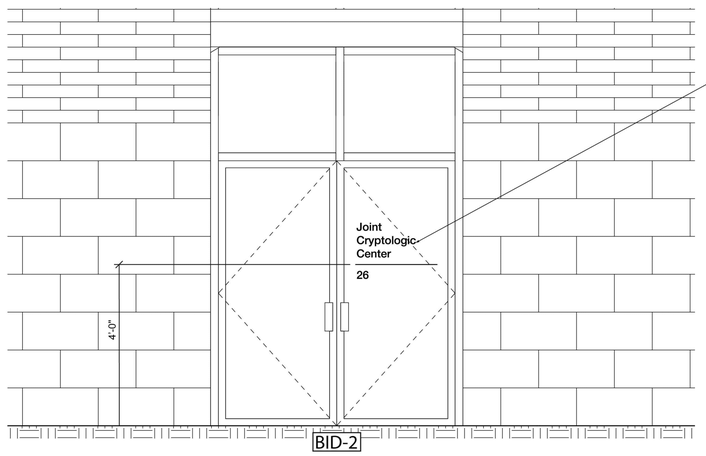
AS503

RTA SUBMISSION



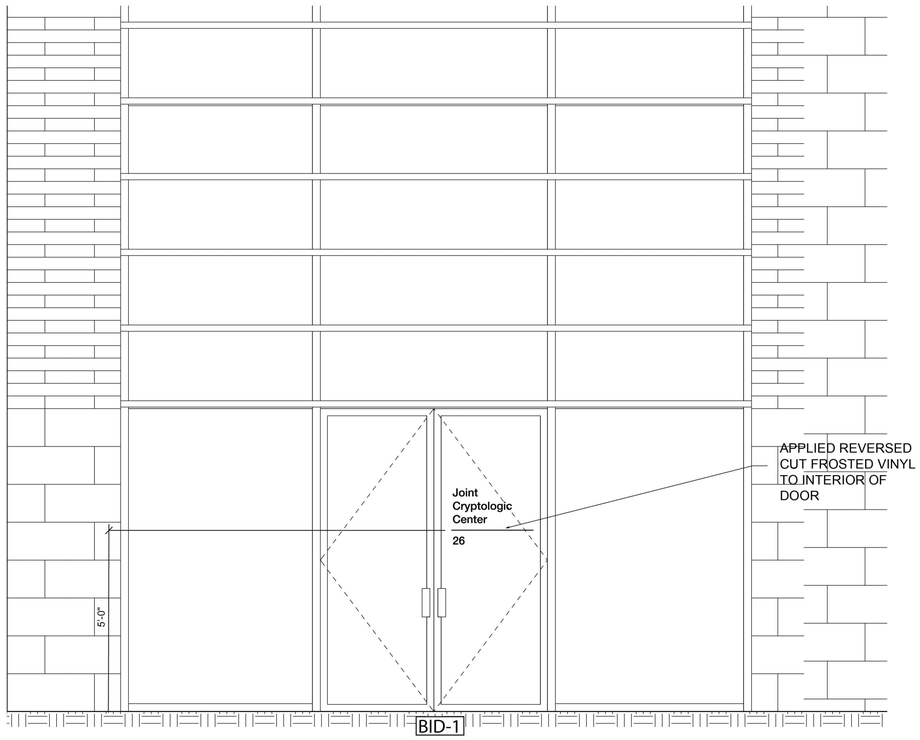
APPLIED REVERSED CUT FROSTED VINYL TO INTERIOR OF DOOR

C1 SIGN TYPE BID - NORTH ENTRANCE
1/2" = 1'-0"



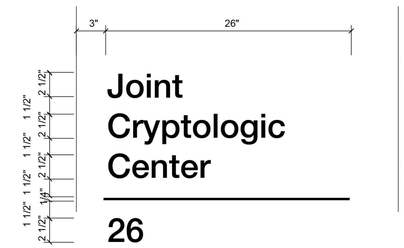
APPLIED REVERSED CUT FROSTED VINYL TO INTERIOR OF DOOR

C3 SIGN TYPE BID - WEST ENTRANCE
1/2" = 1'-0"



APPLIED REVERSED CUT FROSTED VINYL TO INTERIOR OF DOOR

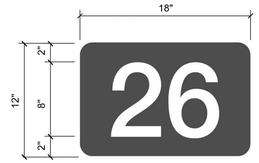
A2 SIGN TYPE BID - MAIN SOUTH ENTRANCE
1/2" = 1'-0"



Joint
Cryptologic
Center

26

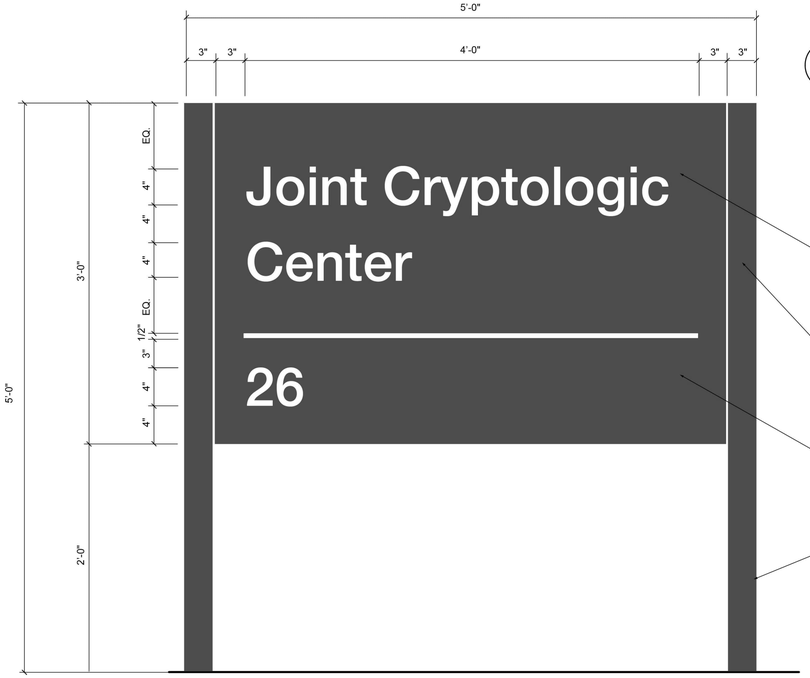
C5 SIGN TYPE BID - BUILDING ID
1 1/2" = 1'-0"



1/4" ALUMINUM PANEL WITH .75" RADIUS CORNERS PAINTED TO MATCH MATTHEWS DARK BRONZE METALLIC WITH APPLIED 3M WHITE REFLECTIVE BUILDING NUMBERS. STUD MOUNTED TO EXTERIOR WALL.

NOTE: REFER TO A201 FOR SIGN TYPE ELEVATIONS (KEY NOTE #225)

B5 SIGN TYPE BN - BUILDING NUMBER
1 1/2" = 1'-0"



APPLIED WHITE REFLECTIVE EXTERIOR GRADE VINYL COPY AND GRAPHIC BAR

DARK BRONZE EXTRUDED ALUMINUM 3" SQUARE POSTS WITH CAPPED TOP ENDS. PAINTED TO MATCH EXISTING BASE STANDARD

PAINTED ALUMINUM SIGN FACE TO MATCH EXISTING BASE STANDARD BKGD

FOOTINGS AS REQUIRED

NOTE: REFER TO SITE PLANS CS101 AND CS102 (KEY NOTE #19) FOR SIGN TYPE DETAILS AND LOCATIONS

A3 SIGN TYPE MID - MAIN IDENTITY SIGNAGE
1 1/2" = 1'-0"

REGISTERED ARCHITECT
TIMOTHY LORENZEN-SCHMIDT
037114
STATE OF NEW YORK

US Army Corps of Engineers ®

DATE	DESCRIPTION	MARK

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: S. POON
DRAWN BY: T. TRAN
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - SIGNAGE ELEVATION

SHEET ID
AS504

RTA SUBMISSION

JCC SIGNAGE SCHEDULE

SIGN / NEW ROOM #	SIGN TYPE	MESSAGES	REMARKS
EXTERIOR			
MID-1	MID	Joint Cryptologic Center / 26	DOUBLE FACED SIGN - NORTH PARKING ENTRANCE
MID-2	MID	Joint Cryptologic Center / 26	DOUBLE FACED SIGN - SOUTH MAIN ENTRANCE
BID-1	BID	Joint Cryptologic Center / 26	
BID-2	BID	Joint Cryptologic Center / 26	
BID-3	BID	Joint Cryptologic Center / 26	
BN	BN	26	QTY: 2
STX-1	STX	STAIR 1 / No Smoking Within 50 Feet of Building	
STX-2	STX	STAIR 2 / No Smoking Within 50 Feet of Building	
SRX-1	SRX	MECHANICAL ROOM / No Smoking Within 50 Feet of Building	
SRX-2	SRX	ELECTRICAL ROOM / No Smoking Within 50 Feet of Building	
LEVEL 1			
100	CR	(WAITING AREA FOR TRANSIENT PERSONNEL)	
101	SR	ELEVATOR MECH ROOM	
110	US-2	MARINES OFFICE	
111	US-1	(OFFICER'S NAME TBD)	
112	US-1	(OFFICER'S NAME TBD)	
130	MR	(MEN SYM.) MEN	
131	SR	JANITOR'S CLOSET	
132	RR	(UNISEX SYM.) RESTROOM	
133	WR	(WOMEN SYM.) WOMEN	
134	US-2	BREAK ROOM	
135	SR	ELECTRICAL CLOSET	
140	US-2	ARMY OFFICE	
141	US-1	(OFFICER'S NAME TBD)	
142	US-1	(OFFICER'S NAME TBD)	
150	US-2	NAVY OFFICE	
151	US-1	(OFFICER'S NAME TBD)	
152	US-1	(OFFICER'S NAME TBD)	
160	US-2	AIR FORCE & SPACE FORCE OFFICE	
161	US-1	(OFFICER'S NAME TBD)	
162	US-1	(OFFICER'S NAME TBD)	
163	US-1	(OFFICER'S NAME TBD)	
164	US-1	(OFFICER'S NAME TBD)	
170	SR	COMMUNICATION ROOM	
171	SR	ELECTRICAL ROOM	
172	SR	MECHANICAL ROOM	
180	US-2	COAST GUARD OFFICE	
181	US-1	(OFFICER'S NAME TBD)	
182	US-1	(OFFICER'S NAME TBD)	
FB	FB	(FIRE EXTINGUISHER SYM.)	QTY: 3
IDS-1-1	IDS	(RIGHT ARROW) ROOMS 100-120 , WAITING AREA 100, MARINES 110, (UP ARROW) ROOMS 130-182, ARMY 140, NAVY 150 AIR FORCE & SPACE FORCE 160, COAST GUARD 180	
IDS-1-2	IDS	(RIGHT ARROW) ROOMS 160-100, AIR FORCE & SPACE FORCE 160, NAVY 150, ARMY 140, MARINES 110, WAITING AREA 100, ELEVATOR, RESTROOMS (UP ARROW) ROOMS 170 - 182, COAST GUARD 180	
DR	DR	DIRECTORY	
EX	EX	EXIT	QTY: 5
RB	RB	(RESTROOM SYM.)	
ST-1-1	ST	FLOOR 1 (STAIR SYM.) STAIR 1	
ST-1-2	ST	FLOOR 1 (STAIR SYM.) STAIR 2	

SIGN / NEW ROOM #	SIGN TYPE	MESSAGES	REMARKS
LEVEL 2			
206	US-2	SOCIAL SECURITY OFFICE	
205	US-2	NCS OFFICE	
204	SR	SECURED STORAGE	
203	SR	CLASSIFIED COMM ROOM	
200	CR	CLASSROOM A	
202	CR	CLASSROOM B	
201	SR	ELECTRICAL CLOSET	
220	SR	STORAGE	
230	MR	(MEN SYM.) MEN	
231	SR	JANITOR'S CLOSET	
232	RR	(UNISEX SYM.) RESTROOM	
233	WR	(WOMEN SYM.) WOMEN	
234	NM	MOTHER'S ROOM	
235	US-2	BREAK ROOM	
236	SR	ELECTRICAL CLOSET	
240	SR	UNCLASSIFIED COM	
284	US-2	STORAGE	
250	CR	CLASSROOM C	
251	CR	NIPR TRAINING CLASSROOM D	
260	CR	MULTI PURPOSE CLASSROOM E	
261	SR	STORAGE	
262	US-2	IT SUPPORT OFFICE	
262	US-2	MANAGEMENT OFFICE	
270	CR	MULTI PURPOSE CLASSROOM F	
271	SR	STORAGE	
280	CR	COVE ROOM	
281	CR	COVE ROOM	
282	CR	COVE ROOM	
283	CR	COVE ROOM	
AR-1	AR	FLOOR 2 / STAIR 1 (HC SYM.) AREA OF REFUGE	
AR-2	AR	FLOOR 2 / STAIR 2 (HC SYM.) AREA OF REFUGE	
FB	FB	(FIRE EXTINGUISHER SYM.)	QTY: 3
IDS-2-1	IDS	(LEFT ARROW) ROOMS 230-284, CLASSROOMS C-F, COVE ROOMS 280-283 (UP ARROW) ROOMS 200-210, CLASSROOMS A & B (RIGHT ARROW) ELEVATOR	
IDS-2-2	IDS	(UP ARROW) ROOMS 260-284, CLASSROOM E & F, COVE ROOMS 280-283 (RIGHT ARROW) ROOMS 240-200, CLASSROOM A & B, RESTROOMS, ELEVATOR	
IDS-2-3	IDS	(LEFT ARROW) CLASSROOM F (UP ARROW) COVE ROOMS 280-283, ROOMS 200-220, CLASSROOM A & B (RIGHT ARROW) ROOMS 263 - 220, CLASSROOM C-E, RESTROOMS, ELEVATOR	
IDS-2-4	IDS	(UP ARROW) ROOMS 200-206, CLASSROOM A & B,	
ST-2-1	ST	FLOOR 2 (STAIR SYM.) STAIR 1	
ST-2-2	ST	FLOOR 2 (STAIR SYM.) STAIR 2	

SIGN / NEW ROOM #	SIGN TYPE	MESSAGES	REMARKS
LEVEL 1 OPTION			
120	CR	(CLASSROOM TBD)	
121	CR	COVE ROOM	
122	CR	COVE ROOM	
IDS-1-1	IDS	(RIGHT ARROW) ROOMS 100-120 , WAITING AREA 100, MARINES 110, CLASSROOM 120, COVE ROOMS 121-122 (UP ARROW) ROOMS 130-182, ARMY 140, NAVY 150 AIR FORCE & SPACE FORCE 160, COAST GUARD 180	New sign message for directional
IDS-1-2	IDS	(RIGHT ARROW) ROOMS 160-100, AIR FORCE & SPACE FORCE 160, NAVY 150, ARMY 140, COVE ROOMS 121-122, CLASSROOM 120, MARINES 110, WAITING AREA 100 ELEVATOR, RESTROOMS (UP ARROW) ROOMS 170 - 182, COAST GUARD 180	New sign message for directional
LEVEL 2 OPTION			
220	US-2	IDC-W OFFICE	
221	US-2	NSAC IIA OFFICE	
IDS-2-1	IDS	(LEFT ARROW) ROOMS 230-284, CLASSROOMS C-F, COVE ROOMS 280-283 (UP ARROW) ROOMS 200-221, CLASSROOMS A & B (RIGHT ARROW) IDC-W OFFICE 220, ELEVATOR	New sign message for directional
IDS-2-2	IDS	(UP ARROW) ROOMS 260-284, CLASSROOMS E & F, COVE ROOMS 280-283 (RIGHT ARROW) ROOMS 240-200, CLASSROOMS A & B, IDC-W OFFICE 220, RESTROOMS, ELEVATOR	New sign message for directional
IDS-2-3	IDS	(LEFT ARROW) CLASSROOM F (UP ARROW) COVE ROOMS 280-283, ROOMS 200-221, CLASSROOMS A & B (RIGHT ARROW) ROOMS 263 - 220, CLASSROOMS C-E, IDC-W OFFICE 220, RESTROOMS, ELEVATOR	New sign message for directional
IDS-2-4	IDS	(UP ARROW) ROOMS 200-221, CLASSROOMS A & B	New sign message for directional

REGISTERED ARCHITECT
FRED LORENZEN-SCHMIDT
037114
STATE OF NEW YORK

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: S. POON
DRAWN BY: T. TRAN
CHECKED BY: W. STEVENS
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ARCHITECTURAL - SIGNAGE SCHEDULE

SHEET ID

AS601

RTA SUBMISSION

PROJECT NOTES - FURNITURE

1. REFER TO THE FURNITURE LEGEND ON SHEET I-001 FOR ALL TAGS FOR FF&E ITEMS SHOWN ON THE FURNITURE PLANS.

2. FF&E PACKAGE IS PROVIDED AS A BASIS OF DESIGN, FINAL FF&E ITEMS ARE TO BE APPROVED BY THE DESIGNER OF RECORD PRIOR TO PROCUREMENT AND INSTALLATION.

3. FURNITURE IS A BID OPTION TO THE CONSTRUCTION CONTRACT. REFER TO THE FF&E PACKAGE, WHICH IS AN ATTACHMENT TO THE FURNITURE AND FURNITURE INSTALLATION SPECIFICATION 12 50 00.13 10, FOR COMPLETE DETAILS AND REQUIREMENTS OF ALL FURNITURE ITEMS AND QUANTITIES.

4. FF&E REQUIREMENTS ARE IDENTIFIED IN SPECIFICATIONS SECTIONS 12 50 00.13 10 AND 12 59 00. ANY DISCREPANCIES OR INTERFERENCES THAT WOULD REQUIRE CHANGES TO THE LAYOUT AS SHOWN WILL FOLLOW THE GUIDELINES SET FORTH IN THESE SECTIONS.

5. BUILDING CONTRACTOR TO COORDINATE AND PROVIDE ALL ELECTRICAL, TELECOMMUNICATIONS, DATA AND PLUMBING REQUIREMENTS FOR ALL FF&E.

6. FF&E CONTRACTOR TO FIELD VERIFY ROOM DIMENSIONS AND COORDINATE FURNITURE SIZES PRIOR TO PROCUREMENT AND INSTALLATION.

7. REFER TO EP110/110A AND EP120/120A ELECTRICAL DRAWINGS FOR POWER LOCATIONS. REFER TO T-110/110A AND T-120/120A FOR DATA LOCATIONS. VERIFY ALL POWER AND DATA LOCATIONS WITH FF&E PRIOR TO ORDERING.

8. REFER TO TA160/160A AND TA170 FOR AUDIO-VISUAL PLAN.

FURNITURE LEGEND

A01	TACKBOARD, 4'-0"W X 3'-0"H
A02	MARKERBOARD, 4'-0"W X 3'-0"H
A03	MARKERBOARD, 6'-0"W X 4'-0"H
A04	MARKERBOARD, 10'-0"W X 4'-0"H
A05	WALL CLOCK
A06	TRASH RECEPTACLE
A07	RECYCLE RECEPTACLE
A08	TRASH/RECYCLE RECEPTACLE
A09	TRASH RECEPTACLE, NURSING
A10	MAGAZINE RACK
A11	MARKERBOARD, 2'-0"W X 3'-0"H
AV1	65" TV/MONITOR
AV2	75" TV/MONITOR
AV3	86" TV/MONITOR
CH1	TASK CHAIR
CH2	SIDE/GUEST CHAIR
CH3	CONFERENCE CHAIR
CH4	CLASSROOM CHAIR
CH5	LARGE CLASSROOM CHAIR
CH6	MULTI-PURPOSE CHAIR
CH7	COVE STOOL
CH8	INSTRUCTOR STOOL
CH9	LOUNGE CHAIR
CH10	NURSING CHAIR
D01	DESK, PRIVATE OFFICE 1
D02	DESK, HEIGHT ADJUSTABLE
D03	DESK, BENCHING (SINGLE-SIDED)
D04	DESK, BENCHING (DOUBLE-SIDED)
D05	DESK, PRIVATE OFFICE 2
E02	MICROWAVE
E03	REFRIGERATOR, FULL SIZE
E04	REFRIGERATOR, UNDERCOUNTER
ST1	LATERAL FILE, 30"W x 40"H
ST2	LATERAL FILE, 36"W x 40"H
ST3	STORAGE CREDENZA, 72"W
ST4	STORAGE CREDENZA, 60"W
ST5	LECTERN
ST6	STORAGE CABINET, 30"W x 40"H
ST7	STORAGE TOWER
ST8A	COMMON TOP, 96"W x 18"D
ST8B	COMMON TOP, 108"W x 18"D
ST8C	COMMON TOP, 66"W x 18"D
ST8D	COMMON TOP, 60"W x 18"D
ST8E	COMMON TOP, 30"W x 18"D
ST8F	COMMON TOP, 36"W x 18"D
TB1	CONFERENCE TABLE, 60"W x 30"D
TB2	CONFERENCE TABLE, 72"W x 30"D
TB3	COLLABORATION TABLE
TB4	COVE MEDIA TABLE, STOOL-HEIGHT
TB5	COVE MEDIA TABLE, DESK-HEIGHT
TB6	TRAINING TABLE
TB7	INSTRUCTOR'S TABLE
TB8	MEETING TABLE, 42" ROUND
TB9	BREAK ROOM TABLE, 36" SQUARE
TB10	OCCASIONAL TABLE
TB11	NURSING TABLE
TB12	TRAINING TABLE - SPLIT-LEVEL
WS1	WORKSTATION W/ POWERED PANELS
WS2	WORKSTATION W/ NON-POWERED PANELS

EXAMPLE:

CH 01

- CH — FURNITURE ITEM
- 01 — FURNITURE CATEGORY

FURNITURE ABBREVIATIONS:

A	ACCESSORIES
AV	AUDIO/VISUAL
CH	SEATING (ALL TYPES)
D	DESKS (ALL TYPES)
E	EQUIPMENT
ST	STORAGE
TB	TABLES
WS	WORKSTATIONS

FINISH ABBREVIATIONS:

ACP	ACOUSTICAL CEILING PANEL
AWP	ACOUSTICAL WALL PANEL
CG	CORNER GUARD
CPT	CARPET TILE
CWT	CERAMIC WALL TILE
ECC	ELEVATOR CAB CEILING
ECW	ELEVATOR CAB WALL
GRT	GROUT
LVT	LUXURY VINYL TILE
MS	METAL EDGE STRIP
PBT	PORCELAIN TILE BASE
PC	PRIVACY CURTAIN
PFT	PORCELAIN FLOOR TILE
PL	PLASTIC LAMINATE
PT	PAINT
PWT	PORCELAIN WALL TILE
RB	RUBBER WALL BASE
RF	RUBBER FLOOR TILE
RST	RUBBER STAIR TREAD/RISERS
SC	SEALED CONCRETE
SDT	STATIC DISSIPATIVE TILE
SS	SOLID SURFACE MATERIAL
TP	TOILET PARTITIONS
TS	FLOOR TRANSITION
WS	WINDOW SHADES

REGISTERED INTERIOR DESIGNER
HEATHER A. WILSON
7351
STATE OF TEXAS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: H. WILSON
DRAWN BY: H. WILSON
CHECKED BY: K. CHARBONEAU
SUBMITTED BY: K. CHARBONEAU
SIZE: ANSI D
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
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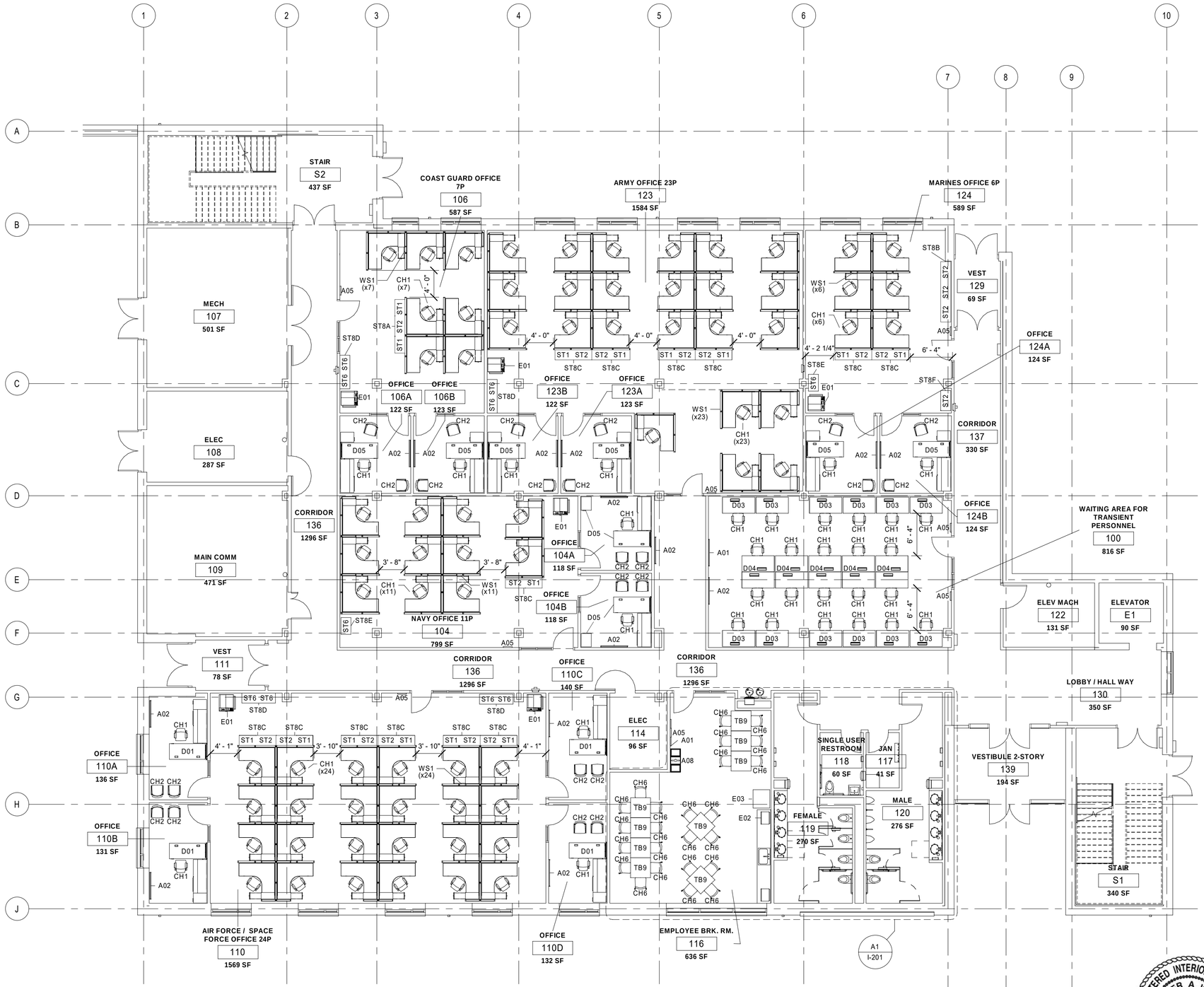
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

INTERIORS - SYMBOLS, LEGENDS, ABBREVIATIONS AND NOTES

SHEET ID

I-001



A1 FIRST FLOOR FURNITURE PLAN

1/8" = 1'-0"

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4. PROVIDE BLOCKING AS REQUIRED IN WALLS FOR INSTALLATION OF ALL WALL MOUNTED ITEMS.
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FURNITURE PLAN LEGEND

A01	TACKBOARD, 4'-0"W X 3'-0"H
A02	MARKERBOARD, 4'-0"W X 3'-0"H
A03	MARKERBOARD, 6'-0"W X 4'-0"H
A04	MARKERBOARD, 10'-0"W X 4'-0"H
A05	WALL CLOCK
A06	TRASH RECEPTACLE
A07	RECYCLE RECEPTACLE
A08	TRASH/RECYCLE RECEPTACLE
A09	TRASH RECEPTACLE, NURSING
A10	MAGAZINE RACK
A11	MARKERBOARD, 2'-0"W X 3'-0"H
AV1	65" TV/MONITOR
AV2	75" TV/MONITOR
AV3	86" TV/MONITOR
CH1	TASK CHAIR
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ST1	LATERAL FILE, 30"W x 40"H
ST2	LATERAL FILE, 36"W x 40"H
ST3	STORAGE CREDENZA, 72"W
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ST8A	COMMON TOP, 96"W x 18"D
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WS1	WORKSTATION W/ POWERED PANELS
WS2	WORKSTATION W/ NON-POWERED PANELS

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: H. WILSON
DRAWN BY: H. WILSON
CHECKED BY: K. CHARBONEAU
SUBMITTED BY: K. CHARBONEAU
SIZE: ANSI 'D'

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

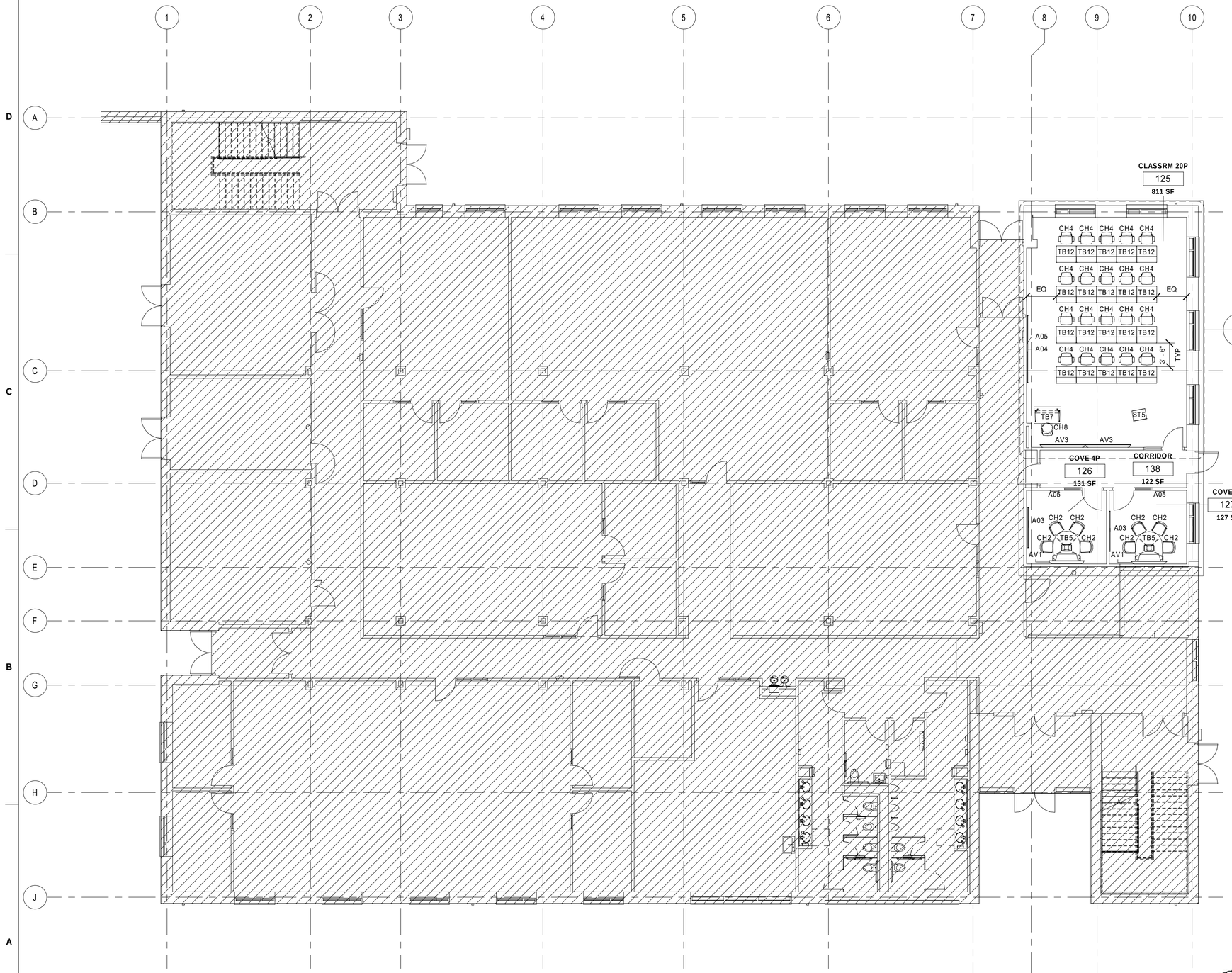
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

INTERIORS - FIRST FLOOR FURNITURE PLAN

SHEET ID

I-110



A1 FIRST FLOOR FURNITURE PLAN (BID OPTION 1)
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- SECURE AREA
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HEATHER A. WILSON
11857
STATE OF TEXAS

US Army Corps of Engineers ®

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SHEET ID
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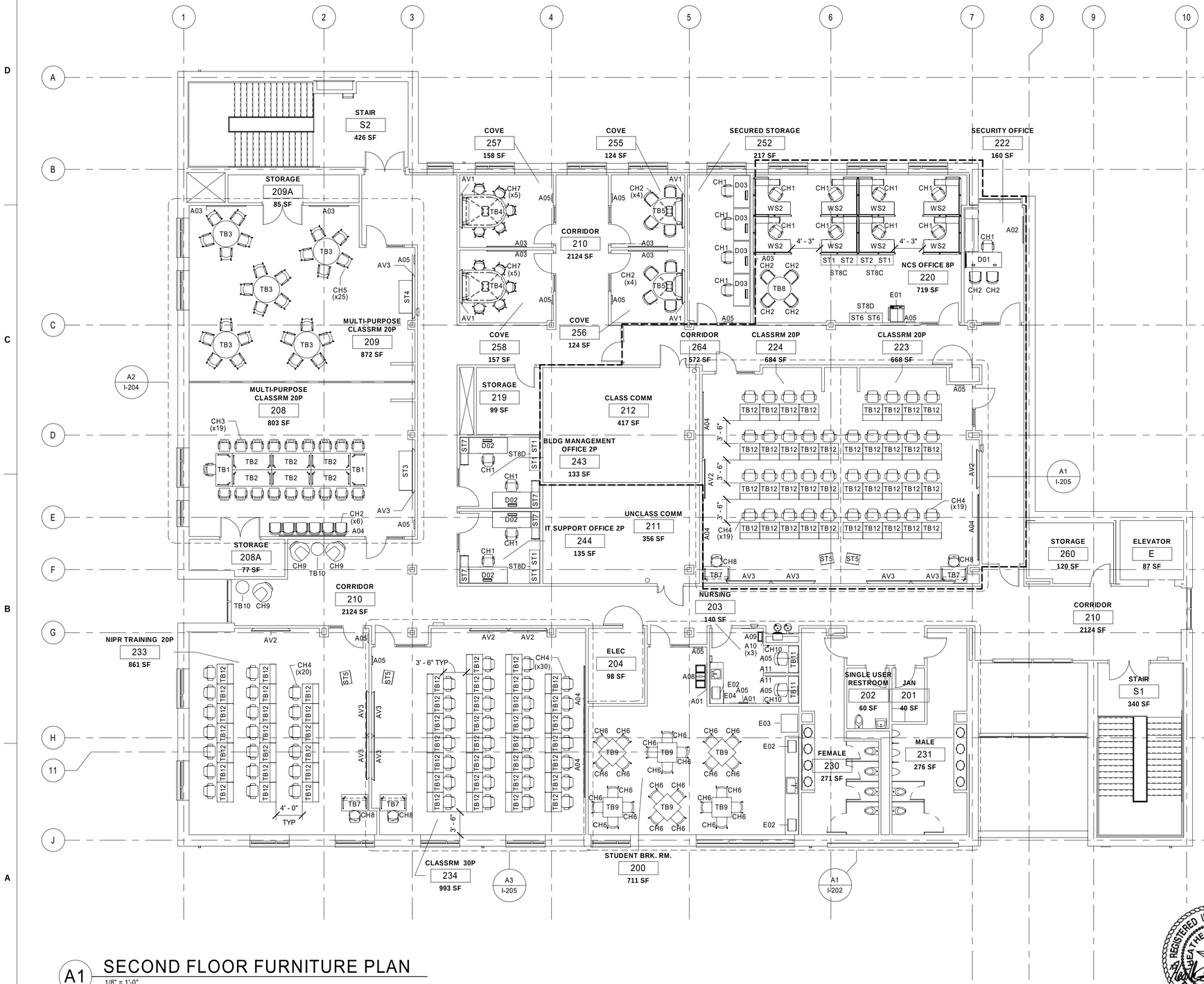
RTA SUBMISSION



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LEGEND

SECURE AREA

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REGISTERED INTERIOR DESIGNER ★ HEATHER A. WILSON ★ 17857 ★ STATE OF TEXAS

US Army Corps of Engineers ®

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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
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INTERIORS - SECOND FLOOR FURNITURE PLAN

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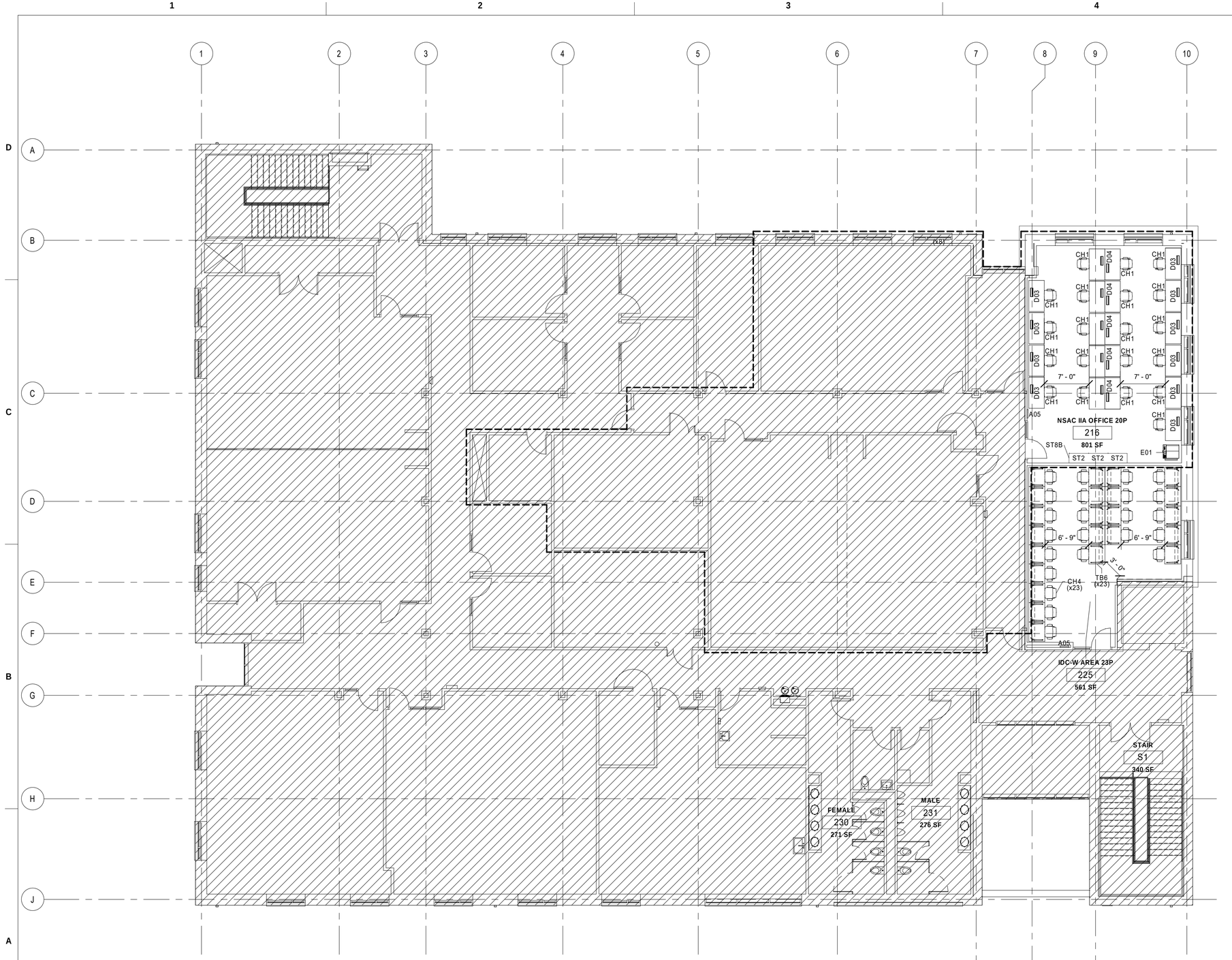

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LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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PLAN NORTH

REGISTERED INTERIOR DESIGNER HEATHER A. WILSON STATE OF TEXAS

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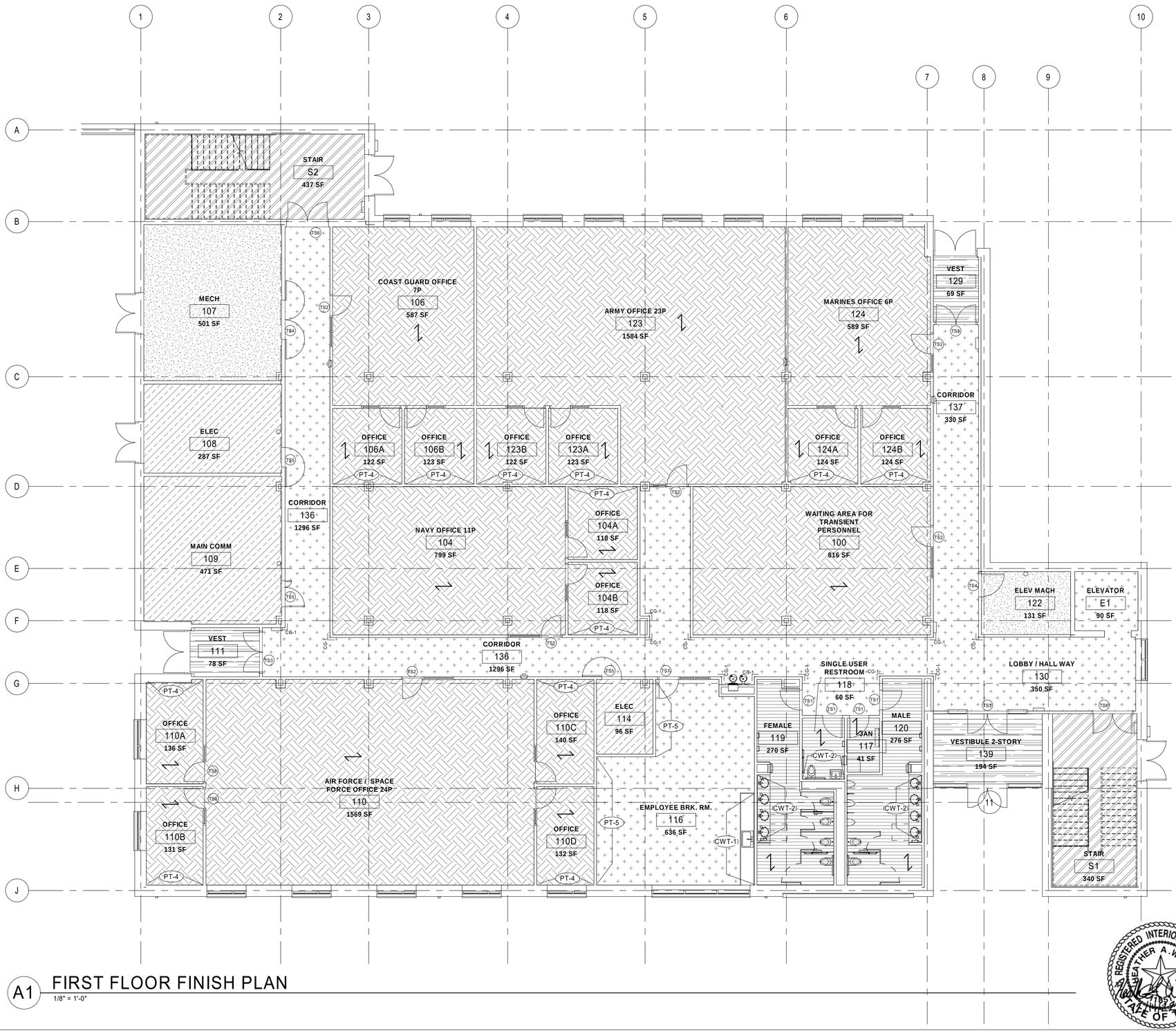

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2. ALL FINISHES ARE TO BE INSTALLED/APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
3. ALL FLOORING TRANSITIONS ARE TO OCCUR IN THE CENTERLINE OF THE DOOR, DOORWAY, OR CEILING U.O.N.
4. WHEN INSTALLING TILE, USE ALL APPLICABLE MATCHING TRIM PIECES, I.E. INSIDE AND OUTSIDE CORNERS AND EDGES. LEAVE NO EXPOSED TILE EDGES.
5. REFER TO ROOM FINISH SCHEDULE ON SHEET I-602 FOR FINISH SELECTIONS IN EACH ROOM.
6. REFER TO THE FINISH MATERIAL LEGEND ON SHEET I-601 FOR FINISH ABBREVIATIONS AND INFORMATION.
7. FLOORING MATERIAL/FINISH AS SPECIFIED FOR EACH AREA MUST EXTEND UNDERNEATH ALL EQUIPMENT AND CASEWORK U.O.N.
8. ACCENT PAINT COLOR WILL RUN CORNER TO CORNER AND FLOOR TO CEILING WHERE INDICATED.
9. PAINT ALL ACCESS PANELS TO MATCH ADJACENT SURFACE.
10. SEE INTERIOR DETAIL SHEET I-504 FOR FLOORING TRANSITION DETAILS.
11. SEE INTERIOR ELEVATIONS FOR WALL TILE PATTERNS.
12. HATCHING IS INTENDED TO ILLUSTRATE FLOOR MATERIAL ONLY. FOR FLOOR PATTERNS SEE ENLARGED PLANS WHERE INDICATED.

FINISH FLOOR LEGEND

- CPT-1 CARPET TILE (OFFICE AREAS)
- CPT-2 CARPET TILE (MEETING AREAS)
- CPT-3 WALK-OFF CARPET TILE (VESTIBULE)
- LVT-1 LUXURY VINYL TILE
- PFT-1 PORCELAIN TILE FLOOR
- RF-1 RUBBER FLOOR TILE
- SC-1 SEALED CONCRETE
- SDT-1 STATIC DISSIPATIVE TILE

- (?) FINISH TAG: DENOTES WALL FINISH EXTENT WHERE MULTIPLE FINISHES ARE PRESENT IN A ROOM
- CG CORNER GUARD
- (TS) FLOOR TRANSITION. REFER TO SHEET I-502 AND I-601
- FLOOR DIRECTIONAL ARROW
- SECURE AREA

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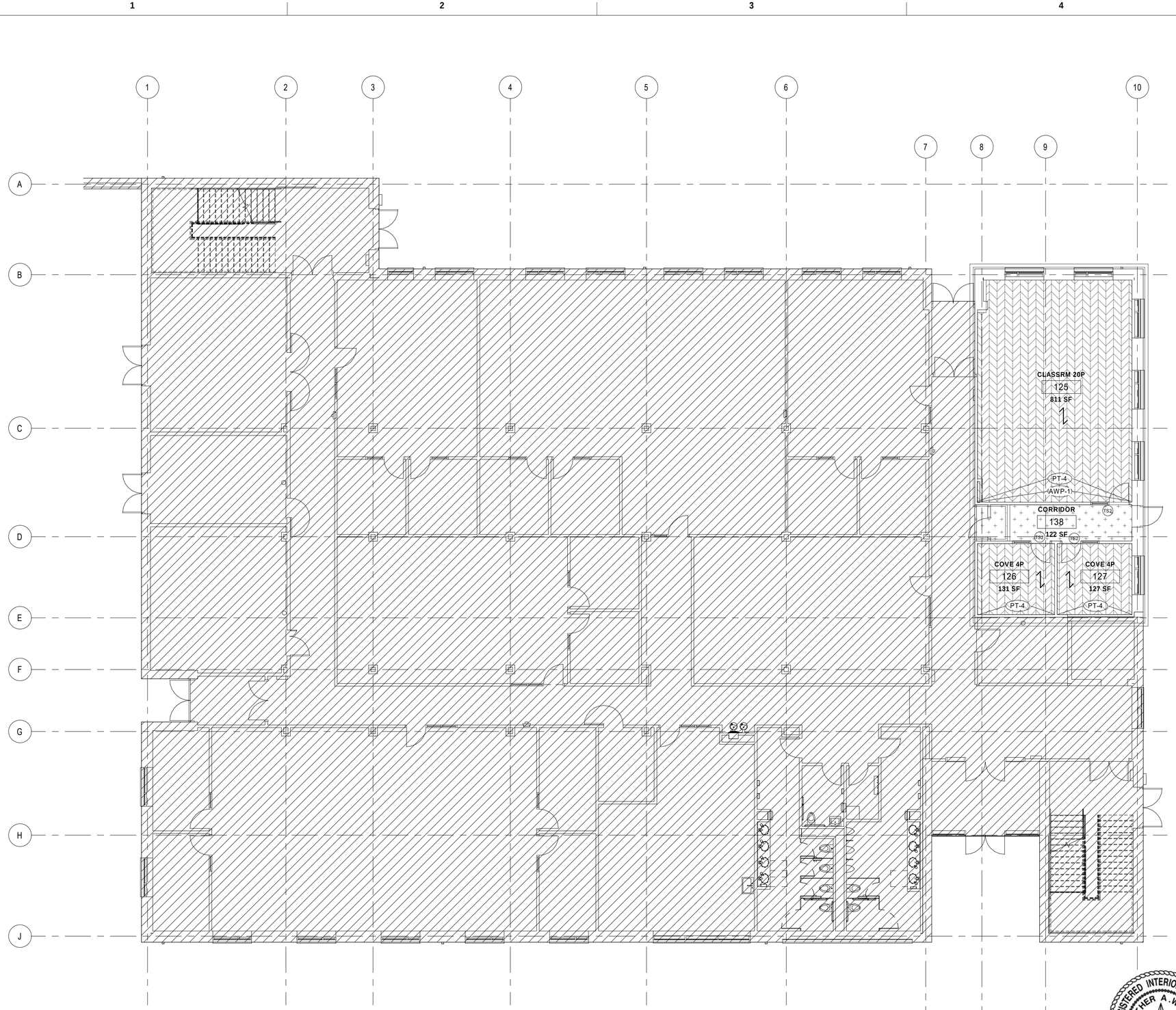

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6. REFER TO THE FINISH MATERIAL LEGEND ON SHEET I-601 FOR FINISH ABBREVIATIONS AND INFORMATION.
7. FLOORING MATERIAL/FINISH AS SPECIFIED FOR EACH AREA MUST EXTEND UNDERNEATH ALL EQUIPMENT AND CASEWORK U.O.N.
8. ACCENT PAINT COLOR WILL RUN CORNER TO CORNER AND FLOOR TO CEILING WHERE INDICATED.
9. PAINT ALL ACCESS PANELS TO MATCH ADJACENT SURFACE.
10. SEE INTERIOR DETAIL SHEET I-504 FOR FLOORING TRANSITION DETAILS.
11. SEE INTERIOR ELEVATIONS FOR WALL TILE PATTERNS.
12. HATCHING IS INTENDED TO ILLUSTRATE FLOOR MATERIAL ONLY. FOR FLOOR PATTERNS SEE ENLARGED PLANS WHERE INDICATED.

FINISH FLOOR LEGEND

- CPT-1 CARPET TILE (OFFICE AREAS)
- CPT-2 CARPET TILE (MEETING AREAS)
- CPT-3 WALK-OFF CARPET TILE (VESTIBULE)
- LVT-1 LUXURY VINYL TILE
- PFT-1 PORCELAIN TILE FLOOR
- RF-1 RUBBER FLOOR TILE
- SC-1 SEALED CONCRETE
- SDT-1 STATIC DISSIPATIVE TILE

- (?) FINISH TAG: DENOTES WALL FINISH EXTENT WHERE MULTIPLE FINISHES ARE PRESENT IN A ROOM
- CG CORNER GUARD
- TS FLOOR TRANSITION. REFER TO SHEET I-502
- FLOOR DIRECTIONAL ARROW
- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

REGISTERED INTERIOR DESIGNER
HEATHER A. WILSON
6082
STATE OF TEXAS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: H. WILSON
DRAWN BY: H. WILSON
CHECKED BY: K. CHARBONEAU
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

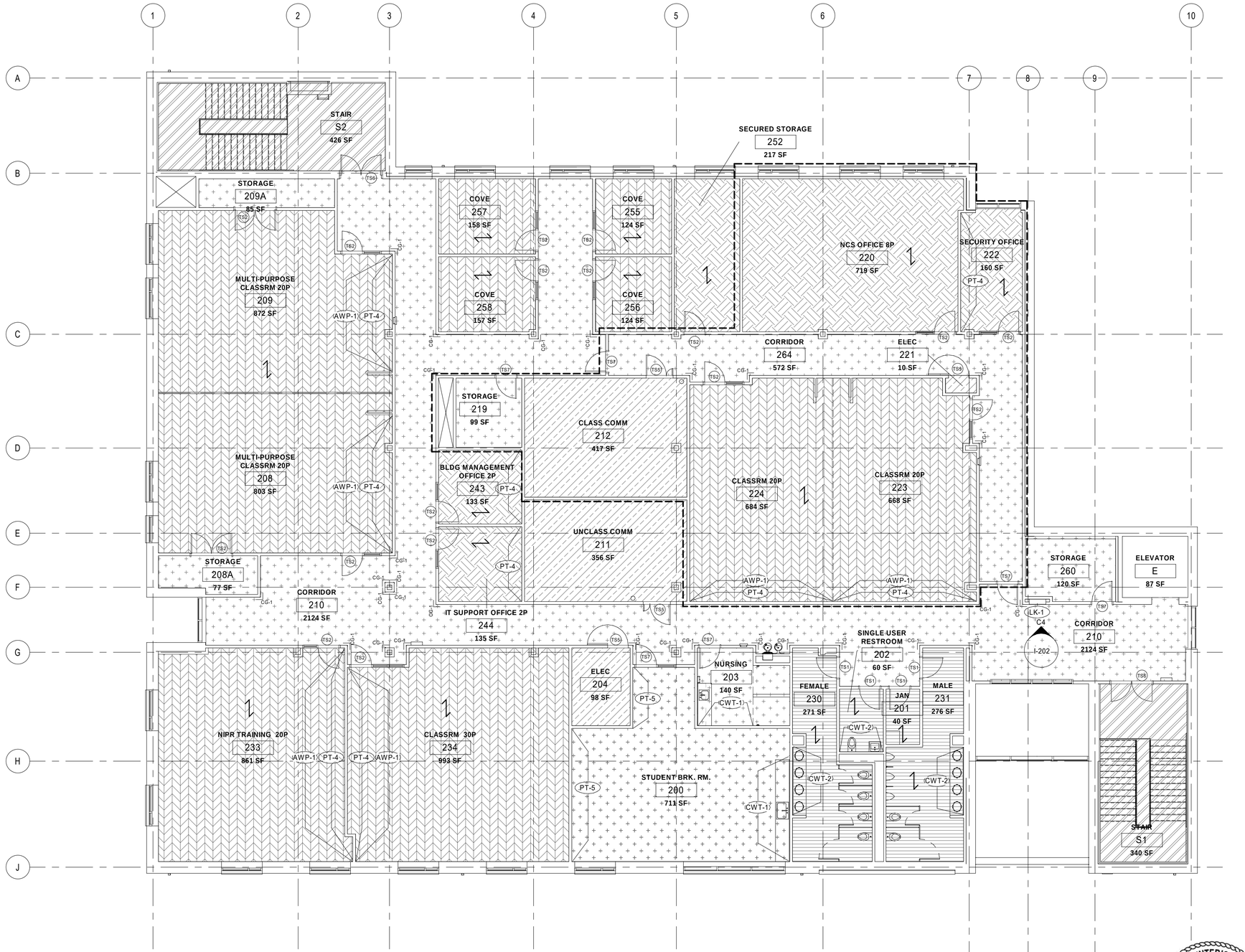
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

INTERIORS - FIRST FLOOR FINISH PLAN (BID OPTION 1)

SHEET ID
I-130A

RTA SUBMISSION



GENERAL SHEET NOTES

1. REVIEW DOCUMENTS, VERIFY DIMENSIONS, AND FIELD CONDITIONS AND CONFIRM THAT WORK IS BUILDABLE AS SHOWN. REPORT ANY CONFLICTS OR OMISSIONS TO THE GOVERNMENT FOR CLARIFICATION PRIOR TO PERFORMING ANY WORK IN QUESTION.
2. ALL FINISHES ARE TO BE INSTALLED/APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
3. ALL FLOORING TRANSITIONS ARE TO OCCUR IN THE CENTERLINE OF THE DOOR, DOORWAY, OR CEILING U.O.N.
4. WHEN INSTALLING TILE, USE ALL APPLICABLE MATCHING TRIM PIECES, I.E. INSIDE AND OUTSIDE CORNERS AND EDGES. LEAVE NO EXPOSED TILE EDGES.
5. REFER TO ROOM FINISH SCHEDULE ON SHEET I-602 FOR FINISH SELECTIONS IN EACH ROOM.
6. REFER TO THE FINISH MATERIAL LEGEND ON SHEET I-601 FOR FINISH ABBREVIATIONS AND INFORMATION.
7. FLOORING MATERIAL/FINISH AS SPECIFIED FOR EACH AREA MUST EXTEND UNDERNEATH ALL EQUIPMENT AND CASEWORK U.O.N.
8. ACCENT PAINT COLOR WILL RUN CORNER TO CORNER AND FLOOR TO CEILING WHERE INDICATED.
9. PAINT ALL ACCESS PANELS TO MATCH ADJACENT SURFACE.
10. SEE INTERIOR DETAIL SHEET I-504 FOR FLOORING TRANSITION DETAILS.
11. SEE INTERIOR ELEVATIONS FOR WALL TILE PATTERNS.
12. HATCHING IS INTENDED TO ILLUSTRATE FLOOR MATERIAL ONLY. FOR FLOOR PATTERNS SEE ENLARGED PLANS WHERE INDICATED.

FINISH FLOOR LEGEND

- CPT-1 CARPET TILE (OFFICE AREAS)
- CPT-2 CARPET TILE (MEETING AREAS)
- CPT-3 WALK-OFF CARPET TILE (VESTIBULE)
- LVT-1 LUXURY VINYL TILE
- PFT-1 PORCELAIN TILE FLOOR
- RF-1 RUBBER FLOOR TILE
- SC-1 SEALED CONCRETE
- SDT-1 STATIC DISSIPATIVE TILE

- (?) FINISH TAG: DENOTES WALL FINISH EXTENT WHERE MULTIPLE FINISHES ARE PRESENT IN A ROOM
- CG CORNER GUARD
- (TS) FLOOR TRANSITION. REFER TO SHEET I-502 AND I-601
- FLOOR DIRECTIONAL ARROW
- SECURE AREA

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

A1 SECOND FLOOR FINISH PLAN
1/8" = 1'-0"

REGISTERED INTERIOR DESIGNER HEATHER A. WILSON 11882 STATE OF TEXAS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: H. WILSON
DRAWN BY: H. WILSON
CHECKED BY: K. CHARBONEAU
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

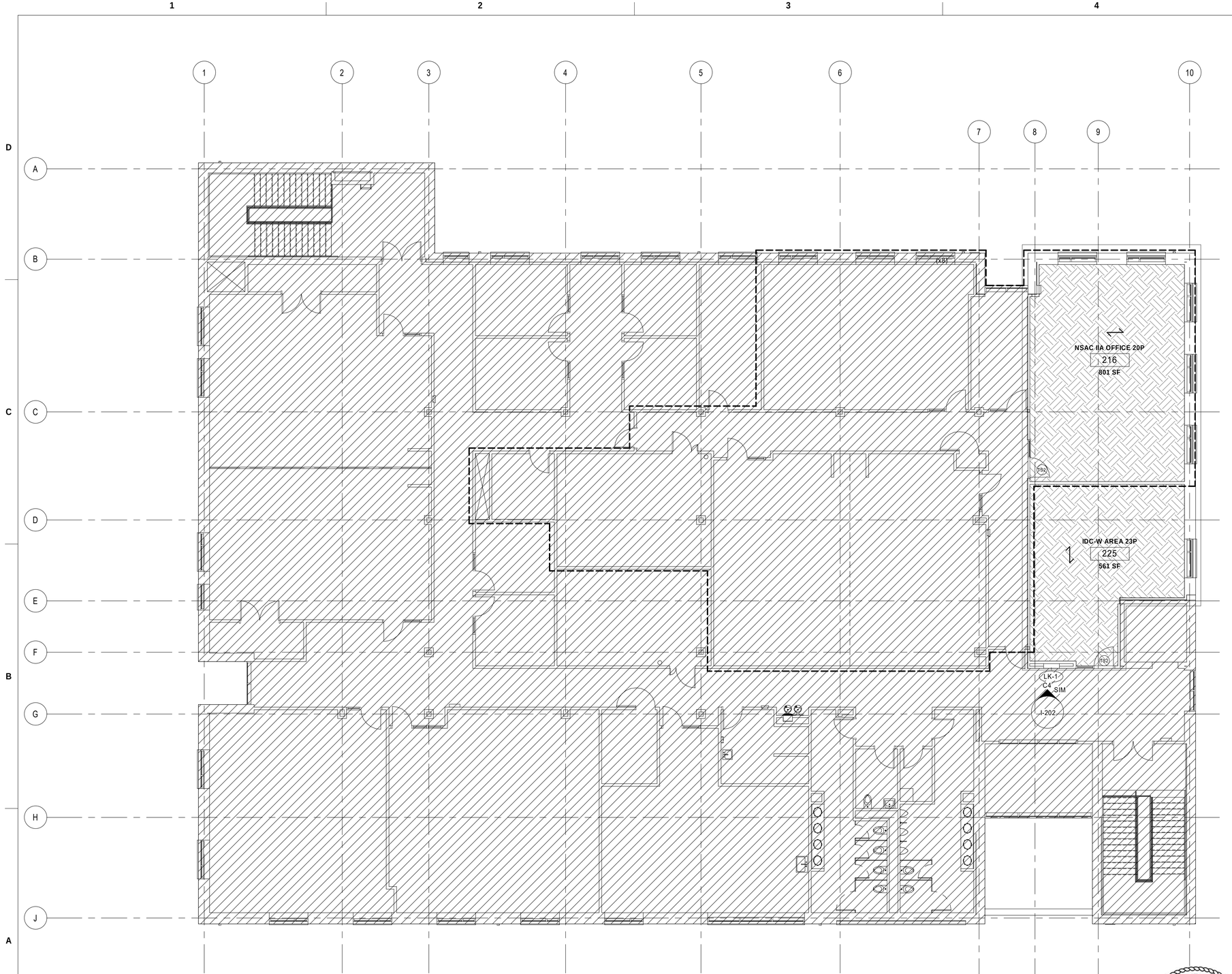
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

INTERIORS - SECOND FLOOR FINISH PLAN

SHEET ID
I-140



A1 SECOND FLOOR FINISH PLAN (BID OPTION 1)
1/8" = 1'-0"

GENERAL SHEET NOTES

1. REVIEW DOCUMENTS, VERIFY DIMENSIONS, AND FIELD CONDITIONS AND CONFIRM THAT WORK IS BUILDABLE AS SHOWN. REPORT ANY CONFLICTS OR OMISSIONS TO THE GOVERNMENT FOR CLARIFICATION PRIOR TO PERFORMING ANY WORK IN QUESTION.
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7. FLOORING MATERIAL/FINISH AS SPECIFIED FOR EACH AREA MUST EXTEND UNDERNEATH ALL EQUIPMENT AND CASEWORK U.O.N.
8. ACCENT PAINT COLOR WILL RUN CORNER TO CORNER AND FLOOR TO CEILING WHERE INDICATED.
9. PAINT ALL ACCESS PANELS TO MATCH ADJACENT SURFACE.
10. SEE INTERIOR DETAIL SHEET I-504 FOR FLOORING TRANSITION DETAILS.
11. SEE INTERIOR ELEVATIONS FOR WALL TILE PATTERNS.
12. HATCHING IS INTENDED TO ILLUSTRATE FLOOR MATERIAL ONLY. FOR FLOOR PATTERNS SEE ENLARGED PLANS WHERE INDICATED.

FINISH FLOOR LEGEND

- CPT-1 CARPET TILE (OFFICE AREAS)
- CPT-2 CARPET TILE (MEETING AREAS)
- CPT-3 WALK-OFF CARPET TILE (VESTIBULE)
- LVT-1 LUXURY VINYL TILE
- PFT-1 PORCELAIN TILE FLOOR
- RF-1 RUBBER FLOOR TILE
- SC-1 SEALED CONCRETE
- SDT-1 STATIC DISSIPATIVE TILE

- (?) FINISH TAG: DENOTES WALL FINISH EXTENT WHERE MULTIPLE FINISHES ARE PRESENT IN A ROOM
- CG CORNER GUARD
- (TS) FLOOR TRANSITION. REFER TO SHEET I-502
- FLOOR DIRECTIONAL ARROW
- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16
SCALE: 1/8" = 1'-0"

PLAN NORTH

REGISTERED INTERIOR DESIGNER HEATHER A. WILSON 17881 STATE OF TEXAS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: H. WILSON
DRAWN BY: H. WILSON
CHECKED BY: K. CHARBONEAU
SUBMITTED BY:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:
SIZE: ANSI D
FILE NAME:

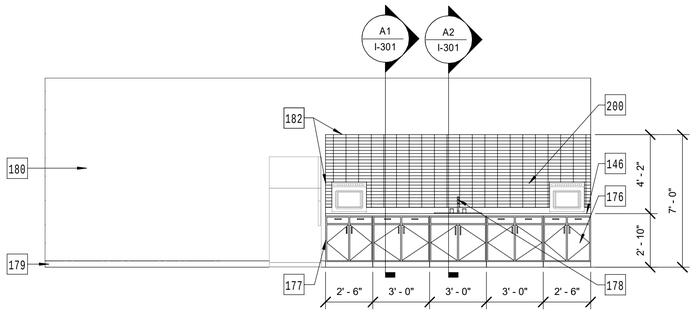
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

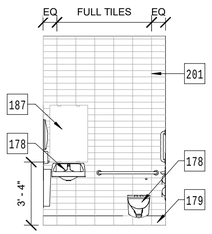
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

INTERIORS - SECOND FLOOR FINISH PLAN
(BID OPTION 1)

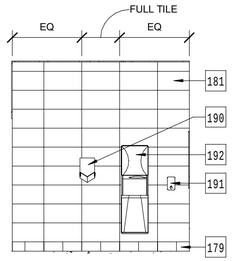
SHEET ID
I-140A



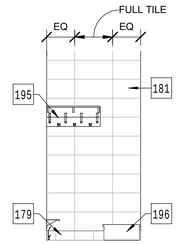
C1 EMPLOYEE BRK. 116 ROOM EAST ELEVATION
1/4" = 1'-0"



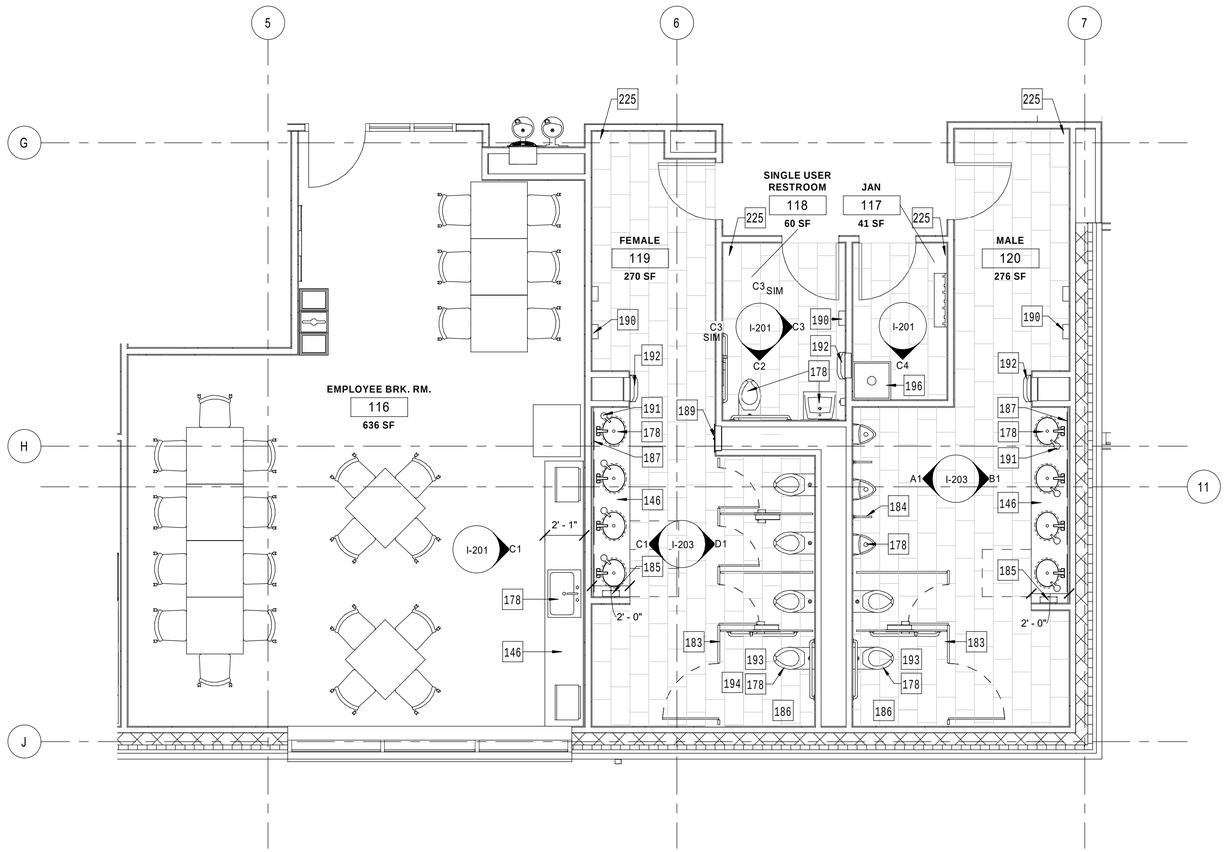
C2 RESTROOM 118/202 TYPICAL ACCENT TILE ELEVATION
1/4" = 1'-0"



C3 RESTROOM 118/202 TYPICAL TILE ELEVATION
1/4" = 1'-0"



C4 JANITOR 117 SOUTH ELEVATION
1/4" = 1'-0"



A1 ENLARGED PLAN - FIRST FLOOR
1/4" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO ARCHITECTURAL PLANS FOR DOOR NUMBERS, ADDITIONAL DIMENSIONS, AND PARTITION TYPE DESIGNATIONS, IF NOT INDICATED ON ENLARGED PLANS.
2. REFER TO INTERIOR DESIGN (I) SHEETS FOR ROOM FINISHES, WALL PATTERNS, CASEWORK, AND INTERIOR DETAILS.
3. FURNITURE IS SHOWN FOR COORDINATION ONLY. FURNITURE IS A BID OPTION TO THE CONSTRUCTION CONTRACT. REFER TO THE FF&E PACKAGE WHICH IS AN ATTACHMENT TO THE FURNITURE AND FURNITURE INSTALLATION SPECIFICATION 12 50 00.13 10.
4. ELEVATIONS ARE SHOWN TO INDICATE FINISHES ONLY. REFER TO ARCHITECTURAL AND PLUMBING PLANS FOR TYPE, LOCATION AND PLACEMENT OF PLUMBING FIXTURES.
5. REFER TO ARCHITECTURAL PLANS FOR TYPE, LOCATION, AND MOUNTING HEIGHT OF TOILET ACCESSORIES, GRAB BARS, ETC.
6. REFER TO REFLECTED CEILING PLAN FOR CEILING HEIGHTS AND ADDITIONAL CEILING INFORMATION.
7. WHERE TILE IS INSTALLED, UTILIZE MANUFACTURER'S MATCHING BASE TRIM PIECE AT INSIDE AND OUTSIDE CORNERS UON. LEAVE NO EXPOSED TILE EDGES.
8. INSTALL FULL HEIGHT TILE BEHIND PLUMBING FIXTURES PARTIAL HEIGHT ELSEWHERE, UON.

KEYNOTES

146	SOLID SURFACE COUNTER TOP, SS-1
176	PLASTIC LAMINATE CASEWORK, PL-1
177	FINISHED END PANEL
178	PLUMBING FIXTURE
179	BASE AS SCHEDULED
180	PAINT WALL AS SCHEDULED
181	WALL TILE, PWT-1
182	INSTALL METAL EDGE STRIP. REFER TO D4/I-505 FOR DETAIL
183	TOILET PARTITION, TP-1, TYPICAL
184	URINAL SCREEN, TP-1, TYPICAL
185	PAPER TOWEL DISPENSER
187	MIRROR
189	SANITARY NAPKIN DISPENSER
190	HAND DRYER
191	SOAP DISPENSER
192	PAPER TOWEL DISPENSER AND WASTE RECEPTACLE
195	UTILITY SHELF
196	MOP SINK
200	ACCENT WALL TILE, CWT-1
201	ACCENT WALL TILE, CWT-2
225	START TILE PATTERN HERE WITH FULL TILE

GRAPHIC SCALE(S)

4 3 2 1 0 4 8
SCALE: 1/4" = 1'-0"

PLAN NORTH

REGISTERED INTERIOR DESIGNER
HEATHER A. WILSON
STATE OF TEXAS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: H. WILSON
DRAWN BY: H. WILSON
CHECKED BY: K. CHARBONEAU
SUBMITTED BY: K. CHARBONEAU
SIZE: ANSI 'D'
FILE NAME:

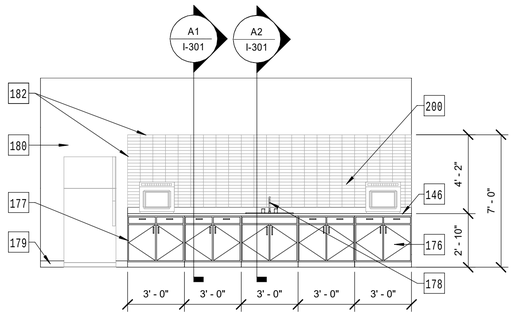
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

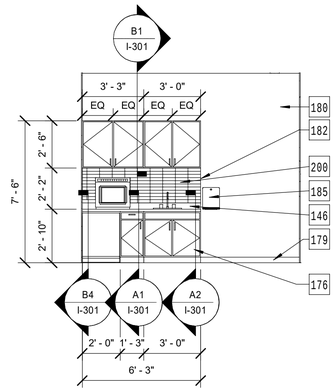
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

INTERIORS - ENLARGED PLANS/ELEVATIONS

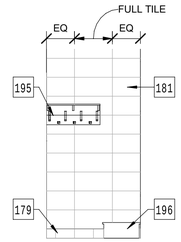
SHEET ID
I-201



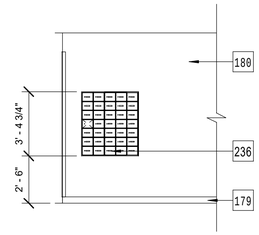
C1 STUDENT BRK. RM. 200 EAST ELEVATION
1/4" = 1'-0"



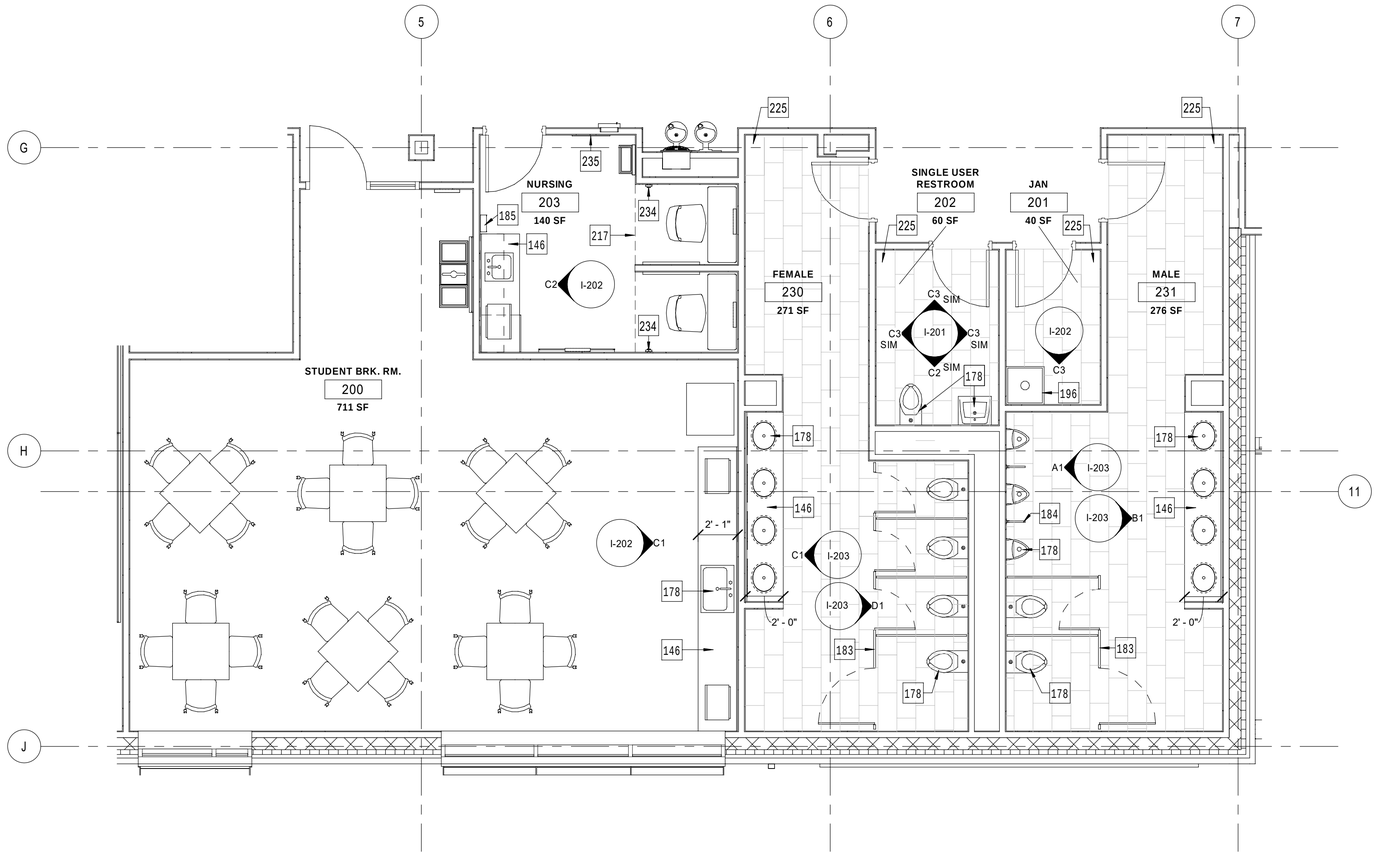
C2 NURSING 203 WEST ELEVATION
1/4" = 1'-0"



C3 JANITOR 201 SOUTH ELEVATION
1/4" = 1'-0"



C4 TYPICAL CELL PHONE LOCKER ELEVATION
1/4" = 1'-0"



A1 ENLARGED PLAN - SECOND FLOOR
1/4" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO ARCHITECTURAL PLANS FOR DOOR NUMBERS, ADDITIONAL DIMENSIONS, AND PARTITION TYPE DESIGNATIONS, IF NOT INDICATED ON ENLARGED PLANS.
2. REFER TO INTERIOR DESIGN (I) SHEETS FOR ROOM FINISHES, WALL PATTERNS, CASEWORK, AND INTERIOR DETAILS.
3. FURNITURE IS SHOWN FOR COORDINATION ONLY. FURNITURE IS A BID OPTION TO THE CONSTRUCTION CONTRACT. REFER TO THE FF&E PACKAGE WHICH IS AN ATTACHMENT TO THE FURNITURE AND FURNITURE INSTALLATION SPECIFICATION 12 50 00.13 10.
4. ELEVATIONS ARE SHOWN TO INDICATE FINISHES ONLY. REFER TO ARCHITECTURAL AND PLUMBING PLANS FOR TYPE, LOCATION AND PLACEMENT OF PLUMBING FIXTURES.
5. REFER TO ARCHITECTURAL PLANS FOR TYPE, LOCATION, AND MOUNTING HEIGHT OF TOILET ACCESSORIES, GRAB BARS, ETC.
6. REFER TO REFLECTED CEILING PLAN FOR CEILING HEIGHTS AND ADDITIONAL CEILING INFORMATION.
7. WHERE TILE IS INSTALLED, UTILIZE MANUFACTURER'S MATCHING BASE TRIM PIECE AT INSIDE AND OUTSIDE CORNERS UON. LEAVE NO EXPOSED TILE EDGES.
8. INSTALL FULL HEIGHT TILE BEHIND PLUMBING FIXTURES PARTIAL HEIGHT ELSEWHERE, UON.

KEYNOTES

#	
146	SOLID SURFACE COUNTER TOP, SS-1
176	PLASTIC LAMINATE CASEWORK, PL-1
177	FINISHED END PANEL
178	PLUMBING FIXTURE
179	BASE AS SCHEDULED
180	PAINT WALL AS SCHEDULED
181	WALL TILE, PWT-1
182	INSTALL METAL EDGE STRIP. REFER TO D4/I-505 FOR DETAIL
183	TOILET PARTITION, TP-1, TYPICAL
184	URINAL SCREEN, TP-1, TYPICAL
185	PAPER TOWEL DISPENSER
195	UTILITY SHELF
196	MOP SINK
200	ACCENT WALL TILE, CWT-1
217	PRIVACY CURTAIN, REFER TO A4/I-505 FOR DETAIL
225	START TILE PATTERN HERE WITH FULL TILE
234	STAINLESS STEEL WALL COAT HOOK
235	WALL MOUNTED, FULL LENGTH MIRROR WITH 1/2" STAINLESS STEEL FRAME, 24" X 60"
236	RECESSED CELL PHONE STORAGE LOCKER UNIT, WITH 35 DOORS (34 USABLE), LK-1.

REGISTERED INTERIOR DESIGNER HEATHER A. WILSON 17861 STATE OF TEXAS

GRAPHIC SCALE(S)

4 3 2 1 0 4 8
SCALE: 1/4" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:
DESIGNED BY: H. WILSON
DRAWN BY: H. WILSON
CHECKED BY: K. CHARBONEAU
SUBMITTED BY:
AUTHORIZED BY:
SIZE: ANSI D
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

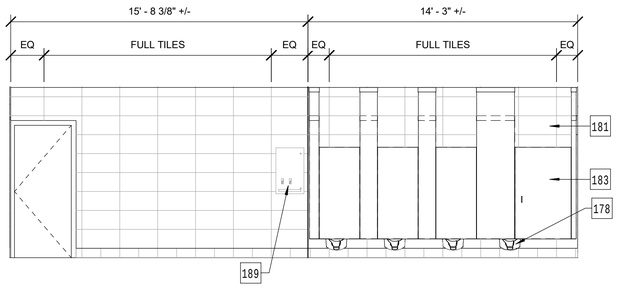
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

INTERIORS - ENLARGED PLANS/ELEVATIONS

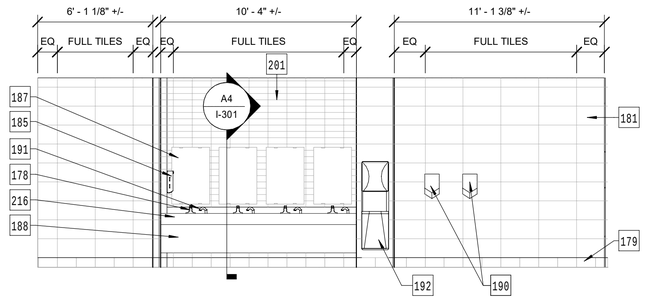
SHEET ID
I-202

RTA SUBMISSION



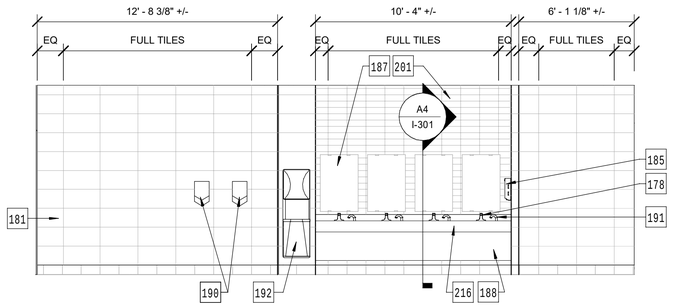
D1 FEMALE RESTROOM EAST ELEVATION, TYPICAL

1/4" = 1'-0"



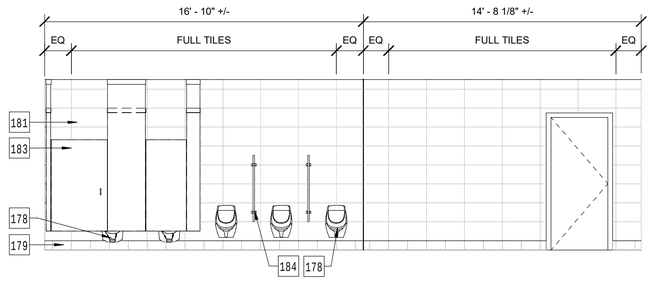
C1 FEMALE RESTROOM WEST ELEVATION, TYPICAL

1/4" = 1'-0"



B1 MALE RESTROOM EAST ELEVATION, TYPICAL

1/4" = 1'-0"



A1 MALE RESTROOM WEST ELEVATION, TYPICAL

1/4" = 1'-0"

GENERAL SHEET NOTES

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4. ELEVATIONS ARE SHOWN TO INDICATE FINISHES ONLY. REFER TO ARCHITECTURAL AND PLUMBING PLANS FOR TYPE, LOCATION AND PLACEMENT OF PLUMBING FIXTURES.
5. REFER TO ARCHITECTURAL PLANS FOR TYPE, LOCATION, AND MOUNTING HEIGHT OF TOILET ACCESSORIES, GRAB BARS, ETC.
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7. WHERE TILE IS INSTALLED, UTILIZE MANUFACTURER'S MATCHING BASE TRIM PIECE AT INSIDE AND OUTSIDE CORNERS UON. LEAVE NO EXPOSED TILE EDGES.
8. INSTALL FULL HEIGHT TILE BEHIND PLUMBING FIXTURES PARTIAL HEIGHT ELSEWHERE, UON.

KEYNOTES

#	
178	PLUMBING FIXTURE
179	BASE AS SCHEDULED
181	WALL TILE, PWT-1
183	TOILET PARTITION, TP-1, TYPICAL
184	URINAL SCREEN, TP-1, TYPICAL
185	PAPER TOWEL DISPENSER
187	MIRROR
188	PLASTIC LAMINATE APRON, PL-2
189	SANITARY NAPKIN DISPENSER
190	HAND DRYER
191	SOAP DISPENSER
192	PAPER TOWEL DISPENSER AND WASTE RECEPTACLE
201	ACCENT WALL TILE, CWT-2
216	SOLID SURFACE COUNTER TOP, SS-2

REGISTERED INTERIOR DESIGNER
HEATHER A. WILSON
STATE OF TEXAS
13951

GRAPHIC SCALE(S)

4 3 2 1 0 4 8

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

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: H. WILSON
DRAWN BY: H. WILSON
CHECKED BY: K. CHARBONEAU
SUBMITTED BY: K. CHARBONEAU
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

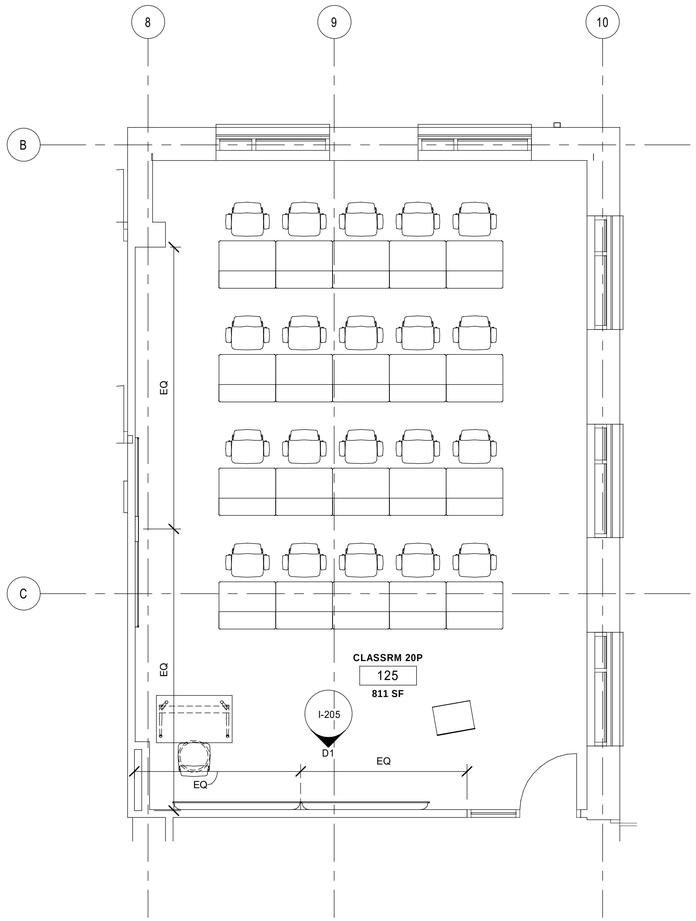
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

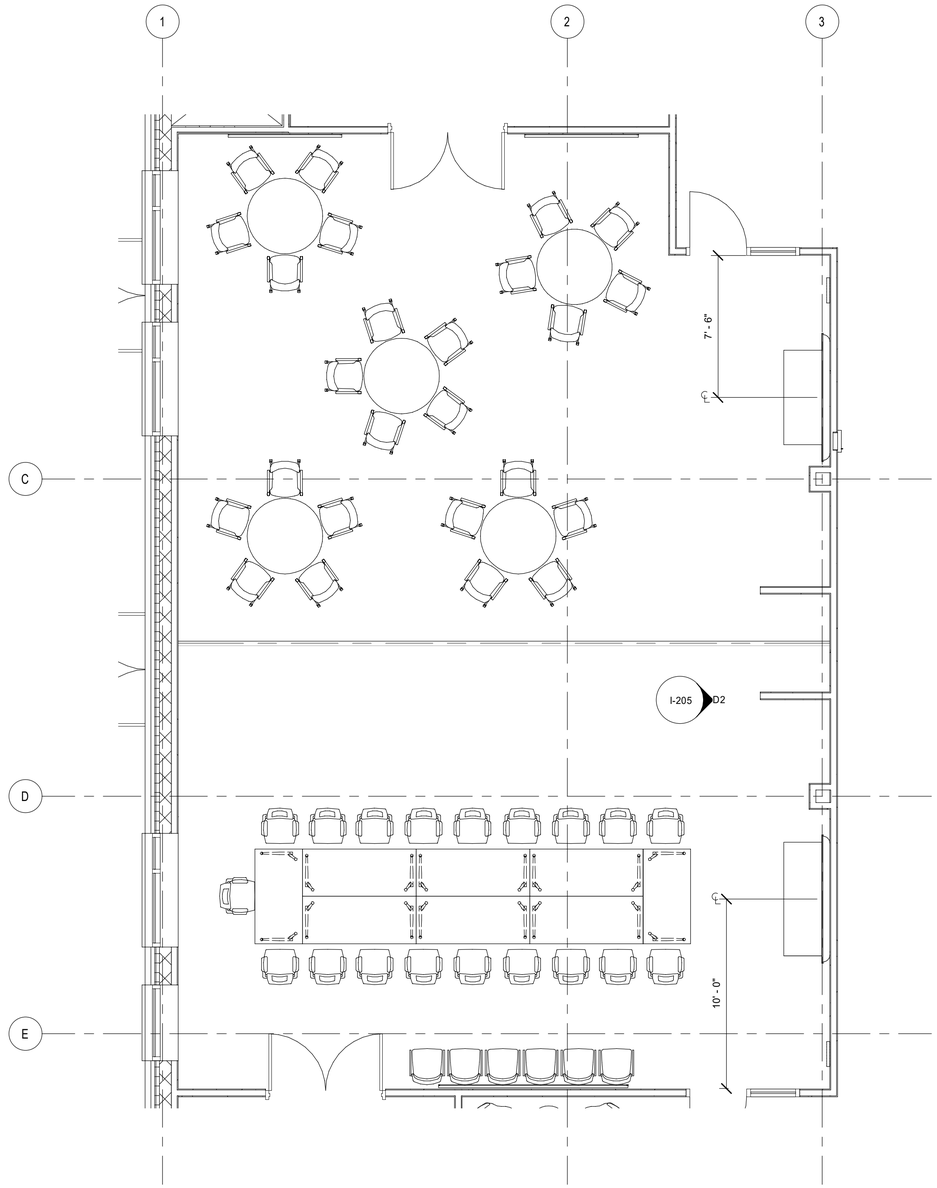
INTERIORS - ENLARGED PLANS/ELEVATIONS

SHEET ID

I-203



A1 ENLARGED PLAN - CLASSROOM 125
1/4" = 1'-0"



A2 ENLARGED PLAN - MULTI-PURPOSE CLASSROOM 208/209
1/4" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO ARCHITECTURAL PLANS FOR DOOR NUMBERS, ADDITIONAL DIMENSIONS, AND PARTITION TYPE DESIGNATIONS, IF NOT INDICATED ON ENLARGED PLANS.
2. REFER TO INTERIOR DESIGN (I) SHEETS FOR ROOM FINISHES, WALL PATTERNS, CASEWORK, AND INTERIOR DETAILS.
3. FURNITURE IS SHOWN FOR COORDINATION ONLY. FURNITURE IS A BID OPTION TO THE CONSTRUCTION CONTRACT. REFER TO THE FF&E PACKAGE WHICH IS AN ATTACHMENT TO THE FURNITURE AND FURNITURE INSTALLATION SPECIFICATION 12 50 00.13 10.
4. ELEVATIONS ARE SHOWN TO INDICATE FINISHES ONLY. REFER TO ARCHITECTURAL AND PLUMBING PLANS FOR TYPE, LOCATION AND PLACEMENT OF PLUMBING FIXTURES.
5. REFER TO ARCHITECTURAL PLANS FOR TYPE, LOCATION, AND MOUNTING HEIGHT OF TOILET ACCESSORIES, GRAB BARS, ETC.
6. REFER TO REFLECTED CEILING PLAN FOR CEILING HEIGHTS AND ADDITIONAL CEILING INFORMATION.
7. WHERE TILE IS INSTALLED, UTILIZE MANUFACTURER'S MATCHING BASE TRIM PIECE AT INSIDE AND OUTSIDE CORNERS UON. LEAVE NO EXPOSED TILE EDGES.
8. INSTALL FULL HEIGHT TILE BEHIND PLUMBING FIXTURES PARTIAL HEIGHT ELSEWHERE, UON.

REGISTERED INTERIOR DESIGNER
HEATHER A. WILSON
11351
STATE OF TEXAS

GRAPHIC SCALE(S)

4 3 2 1 0 4 8
SCALE: 1/4" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	H. WILSON
DRAWN BY:	H. WILSON
CHECKED BY:	K. CHARBONEAU
SUBMITTED BY:	K. CHARBONEAU
SIZE:	FILE NAME:
ANSI 'D'	

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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

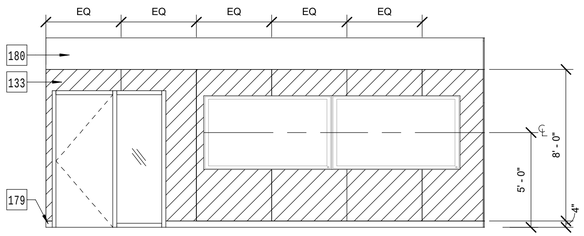
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

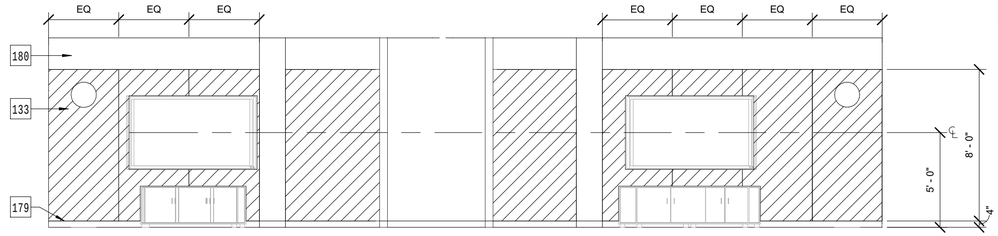
INTERIORS - ENLARGED PLANS/ELEVATIONS

SHEET ID
I-204

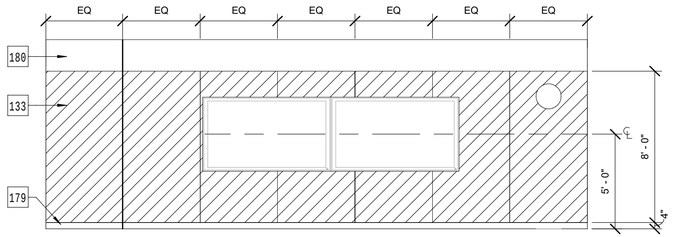
RTA SUBMISSION



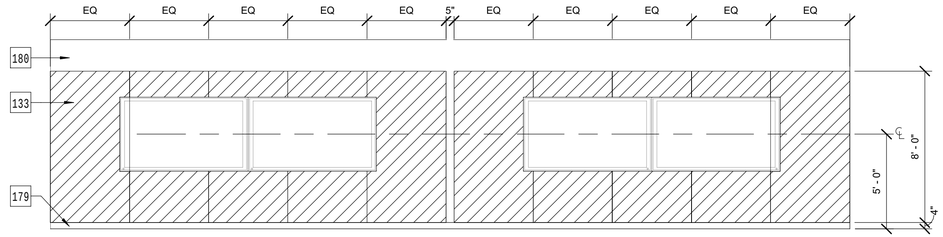
D1 CLASSROOM 125 SOUTH ELEVATION
1/4" = 1'-0"



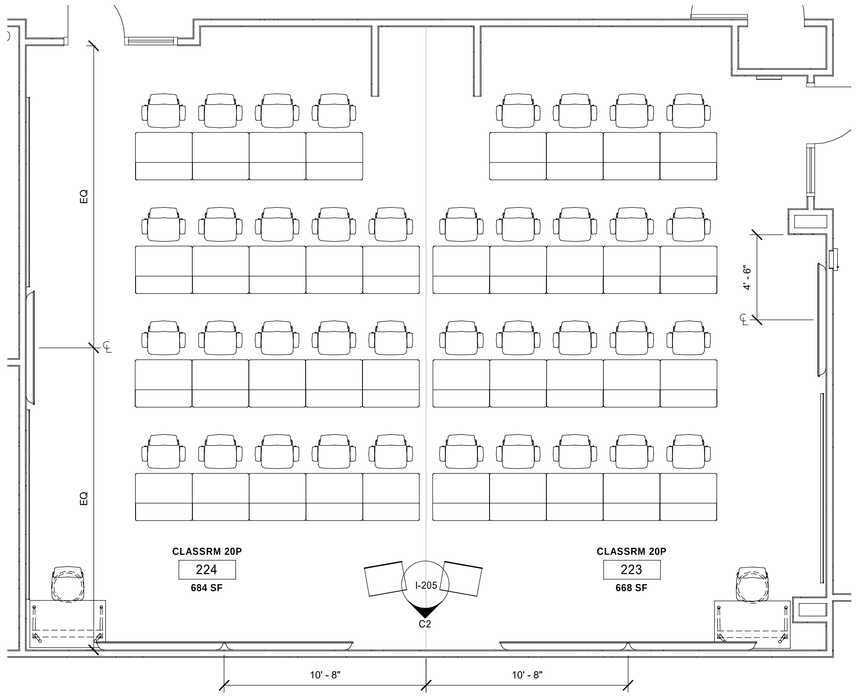
D2 MULTI-PURPOSE CLASSROOM 208/209 EAST ELEVATION
1/4" = 1'-0"



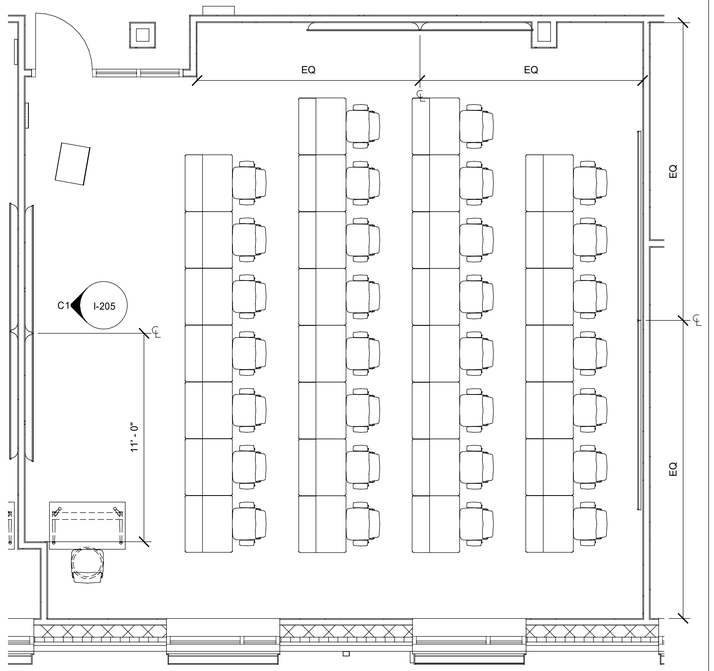
C1 CLASSROOM 234 WEST ELEVATION
1/4" = 1'-0"



C2 CLASSROOM 223/224 SOUTH ELEVATION
1/4" = 1'-0"



A1 ENLARGED PLAN - CLASSROOM 223/224
1/4" = 1'-0"



A3 ENLARGED PLAN - CLASSROOM 234
1/4" = 1'-0"

GENERAL SHEET NOTES

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KEYNOTES

#	
133	ACOUSTIC WALL PANEL (AWP-1)
179	BASE AS SCHEDULED
180	PAINT WALL AS SCHEDULED

REGISTERED INTERIOR DESIGNER
HEATHER A. WILSON
11382
STATE OF TEXAS

GRAPHIC SCALE(S)

4 3 2 1 0 4 8
SCALE: 1/4" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

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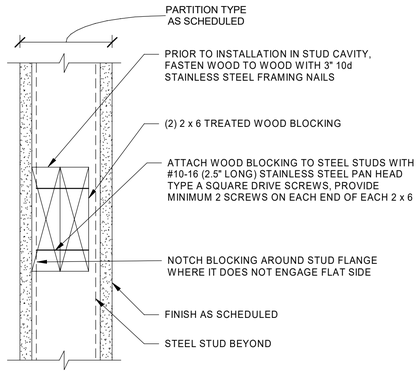
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

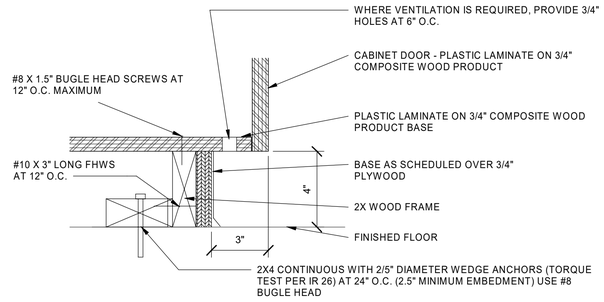
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

INTERIORS - ENLARGED PLANS/ELEVATIONS

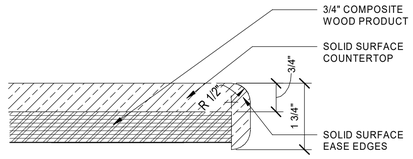
SHEET ID
I-205



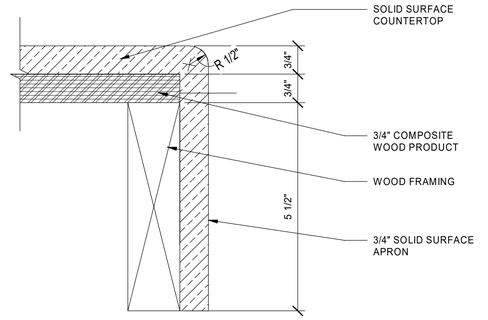
D1 BLOCKING DETAIL
3" = 1'-0"



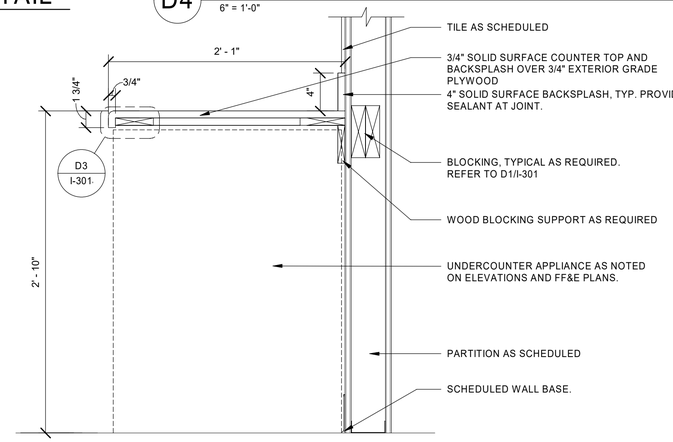
D2 TYPICAL CABINET BASE DETAIL
3" = 1'-0"

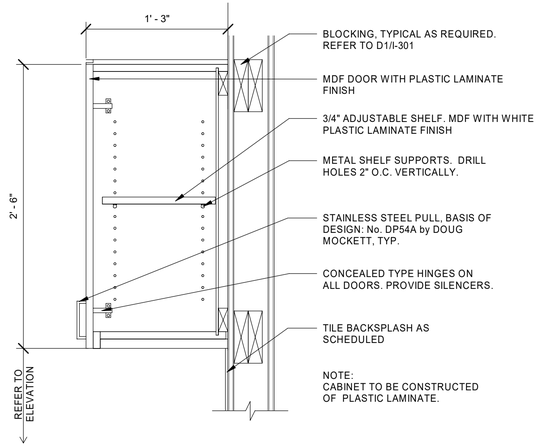


D3 EASED EDGE DETAIL
6" = 1'-0"

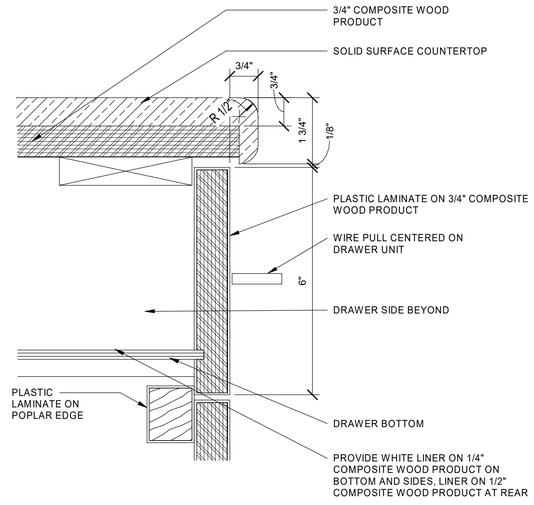


D4 RESTROOM COUNTERTOP EDGE DETAIL
6" = 1'-0"

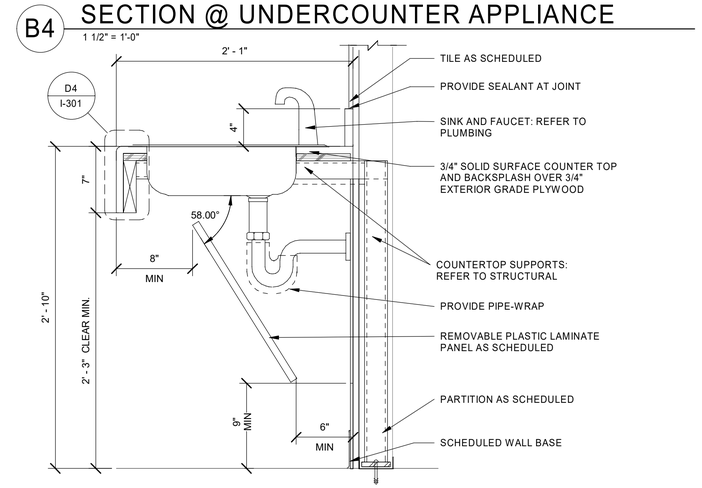




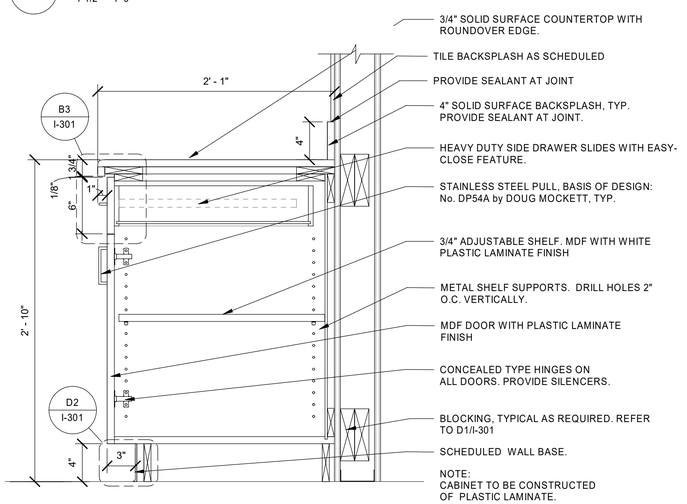
B1 SECTION @ UPPER CABINET
1 1/2" = 1'-0"



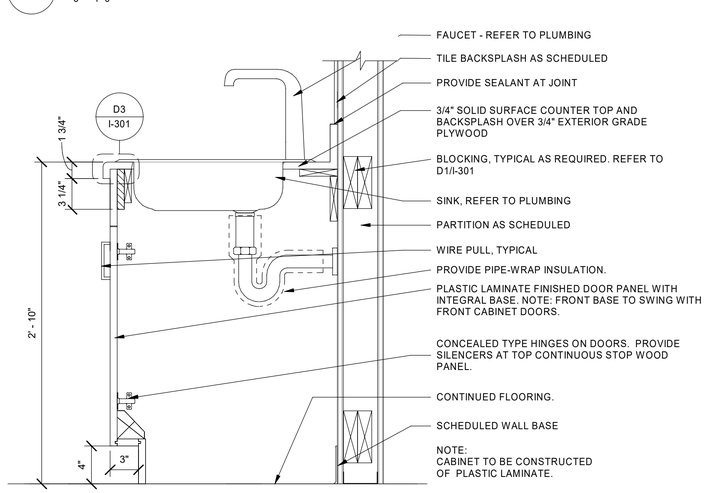
B3 COUNTERTOP EDGE DETAIL
6" = 1'-0"



B4 SECTION @ UNDERCOUNTER APPLIANCE
1 1/2" = 1'-0"



A1 SECTION @ BASE CABINET
1 1/2" = 1'-0"



A2 SECTION @ SINK
1 1/2" = 1'-0"

A4 SECTION @ RESTROOM SINK WITH APRON
1 1/2" = 1'-0"

US Army Corps of Engineers ®

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DESIGNED BY: H. WILSON
DRAWN BY: H. WILSON
CHECKED BY: K. CHARBONEAU
SUBMITTED BY:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9126P22R0017
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FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

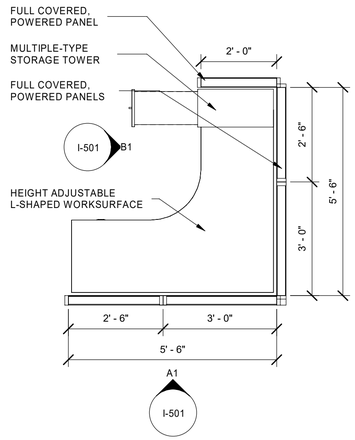
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

INTERIORS - MILLWORK SECTIONS AND DETAILS

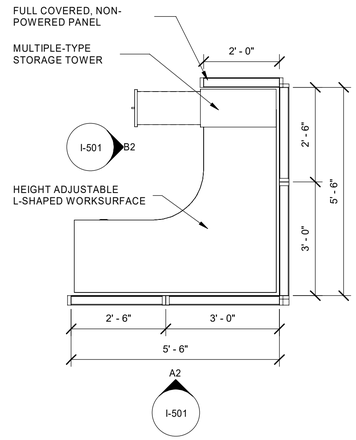
SHEET ID
I-301

RTA SUBMISSION



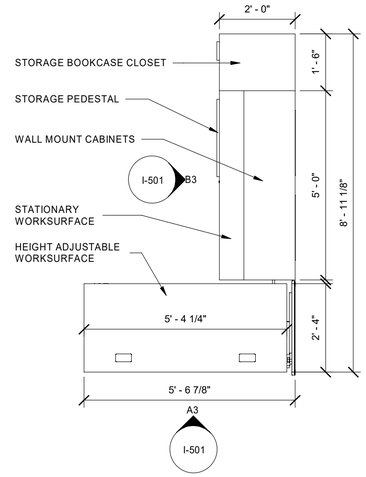
C1 WS1 - OPEN OFFICE WORKSTATION

1/2" = 1'-0"



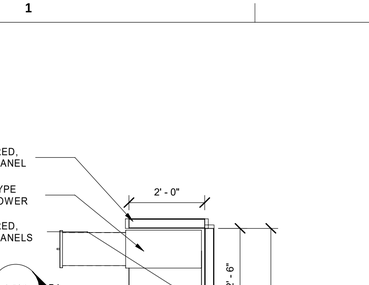
C2 WS2 - OPEN OFFICE WORKSTATION

1/2" = 1'-0"



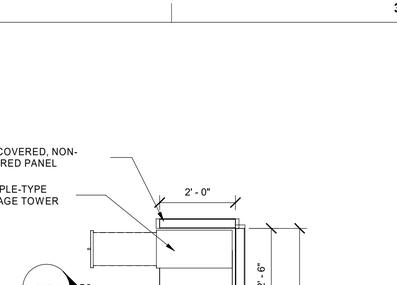
C3 D01 - PRIVATE OFFICE DESK

1/2" = 1'-0"



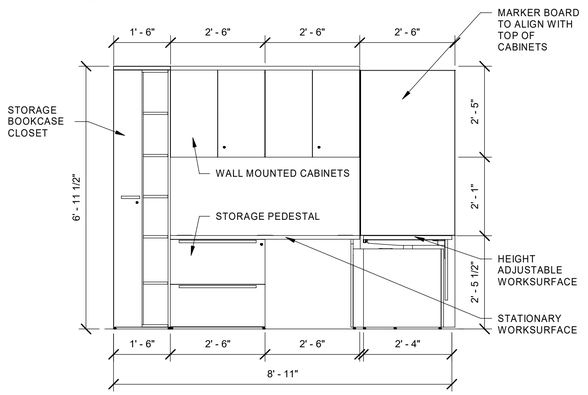
B1 WS1 EAST ELEVATION

1/2" = 1'-0"



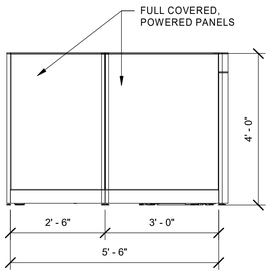
B2 WS2 EAST ELEVATION

1/2" = 1'-0"



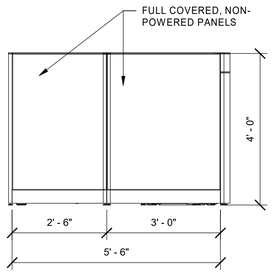
B3 D01 EAST ELEVATION

1/2" = 1'-0"



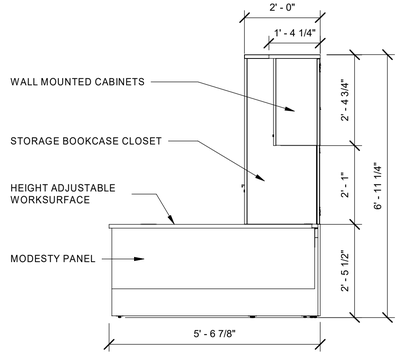
A1 WS1 NORTH ELEVATION

1/2" = 1'-0"



A2 WS2 NORTH ELEVATION

1/2" = 1'-0"



A3 D01 NORTH ELEVATION

1/2" = 1'-0"

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2. REFER TO THE FF&E PACKAGE FOR DESK AND WORKSTATION ACCESSORIES.
3. REFER TO ELECTRICAL AND TELECOM DRAWINGS FOR POWER AND COMM INFORMATION.
4. DESKS AND WORKSTATIONS MAY BE LEFT- OR RIGHT-HAND. REFER TO FURNITURE PLANS FOR CONFIGURATION.

REGISTERED INTERIOR DESIGNER HEATHER A. WILSON 13571 STATE OF TEXAS

GRAPHIC SCALE(S)

2 1 0 2 4

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

US Army Corps of Engineers ®

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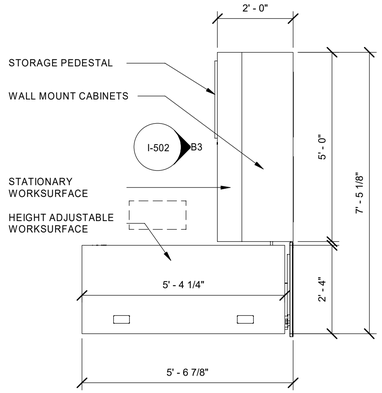
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

INTERIORS - FURNITURE DETAILS

SHEET ID

I-501

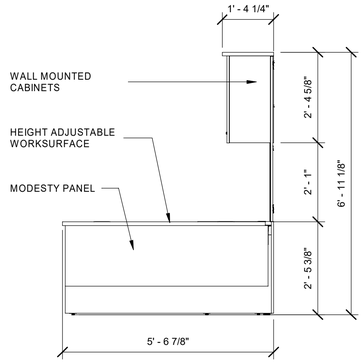


NOTE: STORAGE BOOKCASE CLOSET IS LOCATED SEPARATELY. REFER TO PLANS.

B2
I-502

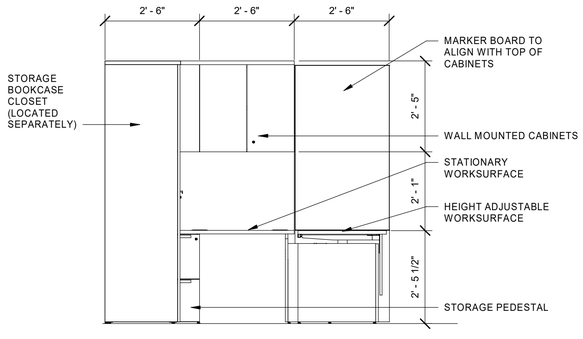
B1 D05 - PRIVATE OFFICE DESK

1/2" = 1'-0"



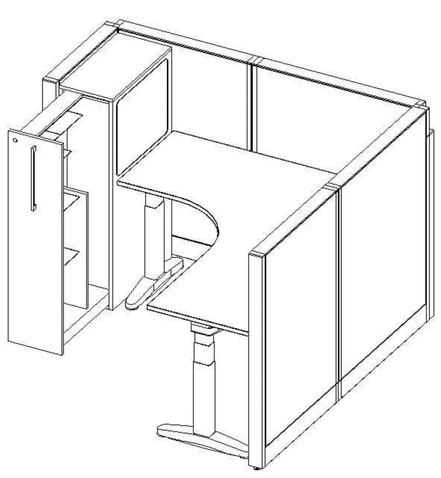
B2 D05 NORTH ELEVATION

1/2" = 1'-0"



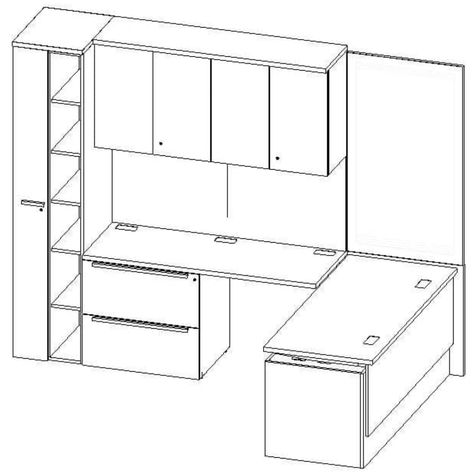
B3 D05 EAST ELEVATION

1/2" = 1'-0"



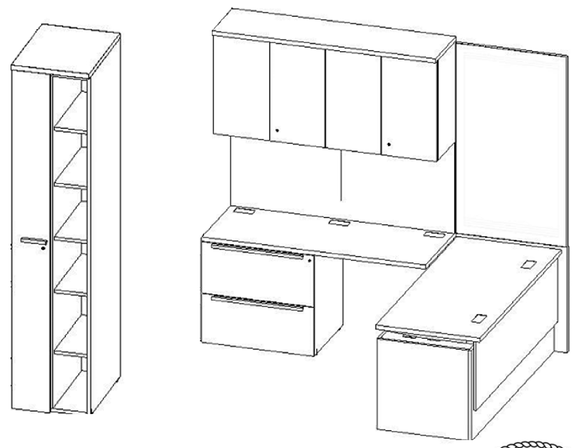
A1 WS1 & WS2 ISOMETRIC VIEW

NTS



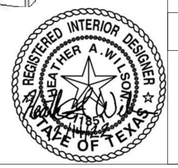
A2 D01 ISOMETRIC VIEW

NTS



A3 D05 ISOMETRIC VIEW

NTS



GENERAL SHEET NOTES

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2. REFER TO THE FF&E PACKAGE FOR DESK AND WORKSTATION ACCESSORIES.
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2 1 0 2 4

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

US Army Corps of Engineers ®

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CHECKED BY: K. CHARBONEAU
SUBMITTED BY: K. CHARBONEAU
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

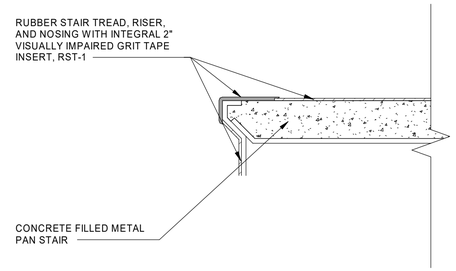
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

INTERIORS - FURNITURE DETAILS

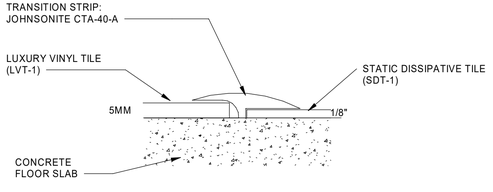
SHEET ID

I-502

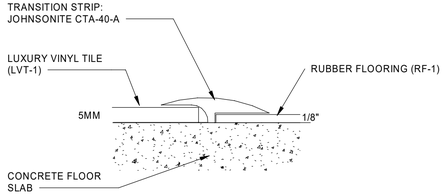
RTA SUBMISSION



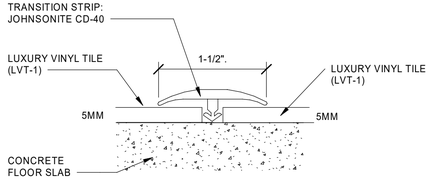
C4 STAIR NOSING DETAIL
3" = 1'-0"



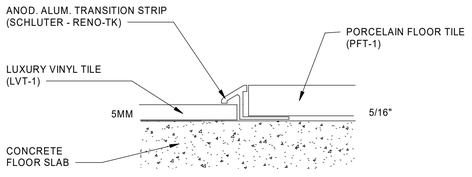
TS-5 LVT-1 TO SDT-1



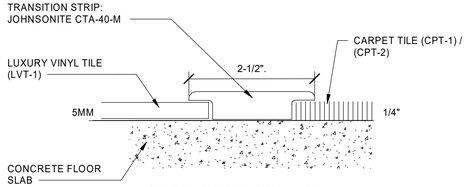
TS-6 LVT-1 TO RF-1



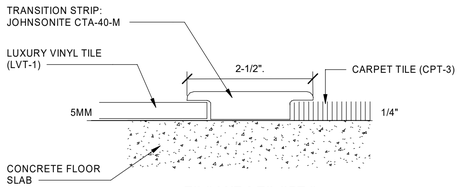
TS-7 LVT-1 TO LVT-1



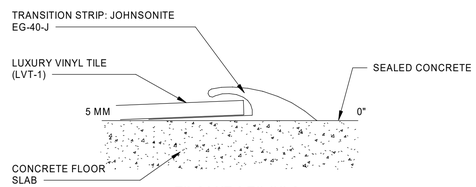
TS-1 LVT-1 TO PFT-1



TS-2 LVT-1 TO CPT-1 / CPT-2



TS-3 LVT-1 TO CPT-3



TS-4 LVT-1 TO SC-1

A1 FLOORING TRANSITION DETAILS
12" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: H. WILSON	ISSUE DATE: 14 DECEMBER 2022
DRAWN BY: H. WILSON	SOLICITATION NO.: W9128F22R0017
CHECKED BY: K. CHARBONEAU	CONTRACT NO.:
SUBMITTED BY:	FILE NUMBER:
SIZE: ANSI D	FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

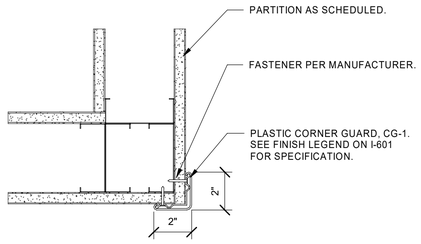
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

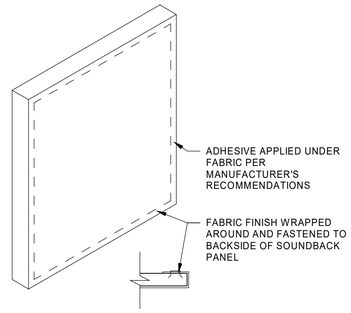
INTERIORS - DETAILS

SHEET ID
I-504

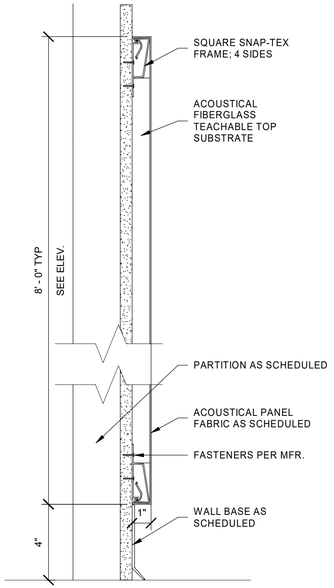
RTA SUBMISSION



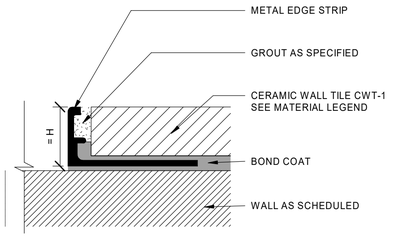
D1 CORNER GUARD DETAIL
3" = 1'-0"



C1 ACOUSTICAL WALL PANEL DETAIL
1/2" = 1'-0"

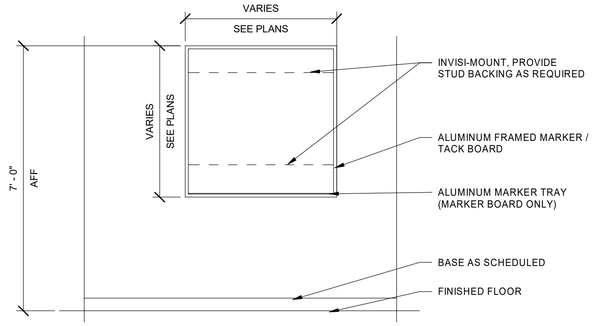


C2 TYPICAL ACOUSTICAL PANEL MOUNTING DETAIL
3" = 1'-0"

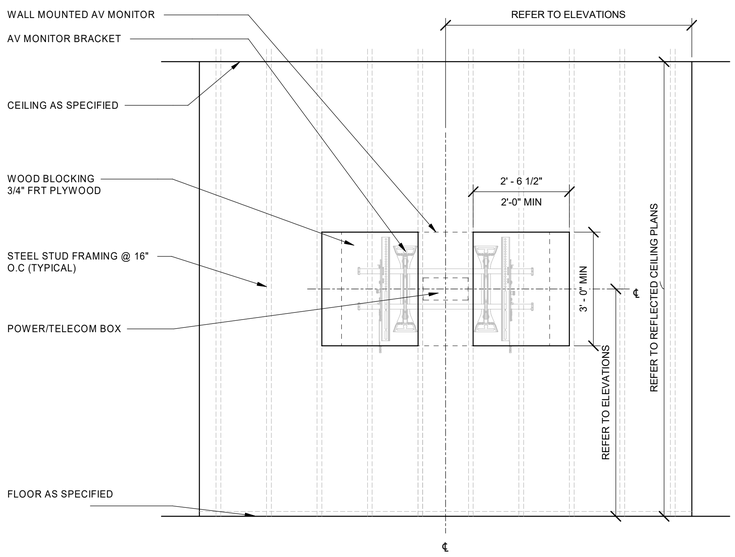


H = COORDINATE WITH SPECIFIED WALL TILE

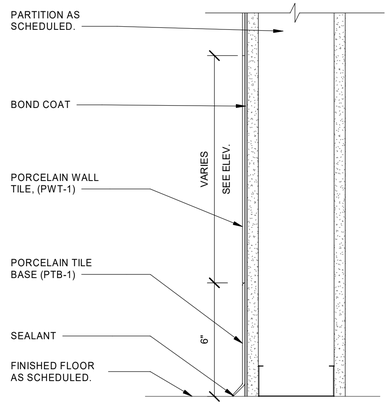
D4 METAL EDGE STRIP DETAIL
12" = 1'-0"



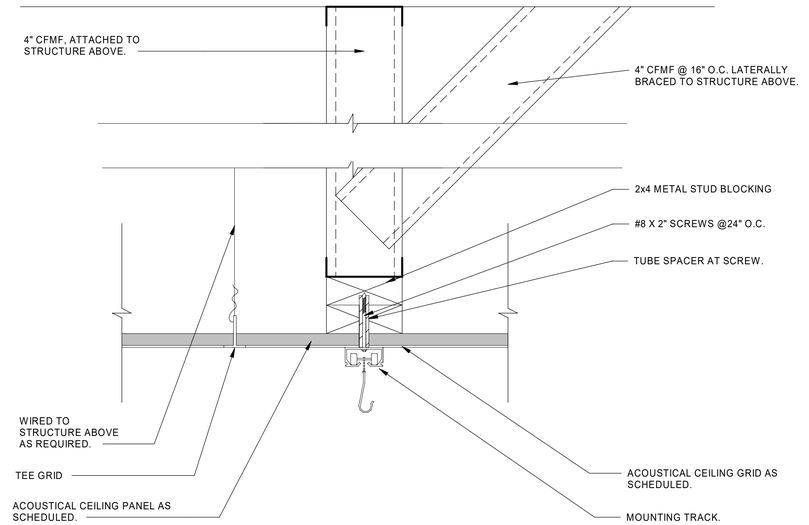
C4 MARKER AND TACK BOARD
1/2" = 1'-0"



A1 AV MONITOR - BLOCKING HEIGHT
1/2" = 1'-0"



A3 WALL TILE DETAIL
3" = 1'-0"



A4 PRIVACY CURTAIN MOUNTING DETAIL
3" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: H. WILSON
DRAWN BY: H. WILSON
CHECKED BY: K. CHARBONEAU
SUBMITTED BY:
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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
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INTERIORS - DETAILS

SHEET ID
I-505

RTA SUBMISSION

INTERIOR MATERIAL FINISH LEGEND

CODE	SURFACE	MATERIAL	MANUFACTURER	MODEL/STYLE	COLOR	SIZE	REMARKS
FLOORING							
CPT-1	FLOOR	CARPET TILE (OFFICE AREAS)	TARKETT	COLORKNIT 11128	REGAL BLUE 30230	24" x 24"	MONOLITHIC INSTALLATION; ADMIN AND OFFICE AREAS
CPT-2	FLOOR	CARPET TILE (MEETING AREAS)	TARKETT	STACK 9 04332	WATERSTONE 75008	24" x 24"	ASHLAR INSTALLATION; CLASSROOMS AND TRAINING AREAS
CPT-3	FLOOR	WALK-OFF CARPET TILE (VESTIBULE)	TARKETT	ABRASIVE ACTION II 02578	CHARCOAL 19100	24" x 24"	MONOLITHIC INSTALLATION; VESTIBULES
LVT-1	FLOOR	LUXURY VINYL TILE	SHAW CONTRACT	AMALGAM 4113V	FAULT 13530	20" x 20"	BREAK ROOM; ELEVATOR
PFT-1	FLOOR	PORCELAIN FLOOR TILE	DALTILE	IRONCRAFT	CHARCOAL GREY IC13	12" x 24" x 5/16" THICK	RESTROOMS; INSTALL WITH 1/3 OFFSET PATTERN
RF-1	FLOOR	RUBBER FLOOR TILE	JOHNSONITE	SOLID RUBBER RAISED SQUARE	TG2 SHARK FIN CG	24" x 24"	STAIRS - LANDINGS
RST-1	STAIRS	RUBBER STAIR TREADS/RISERS	JOHNSONITE	SOLID RUBBER RAISED SQUARE, SQUARE NOSE	TG2 SHARK FIN CG	-	STAIRS - TREADS, RISERS, AND NOSING; NOSING TO INCLUDE 2" VISUALLY IMPAIRED GRIT TAPE INSERT
SC-1	FLOOR	SEALED CONCRETE	-	-	-	-	MECHANICAL; ELEVATOR MACHINE ROOM
SDT-1	FLOOR	STATIC DISSIPATIVE TILE	ROPPE	ESD VINYL STATIC CONTROL TILE	750 CUMULOUS WHITE	24" x 24" x1/8"	ELECTRICAL ROOMS
BASE							
PBT-1	BASE	PORCELAIN BASE TILE	DALTILE	IRONCRAFT	CHARCOAL GREY IC13	6" x 12" x 5/16" THICK	RESTROOMS
RB-1	BASE	RUBBER WALL BASE	JOHNSONITE	PERCEPTIONS RECESSED TOE RWDC-63	TG4 BLACK MAGIC B	4"HIGH	GENERAL USE
WALLS							
AWP-1	WALL	ACOUSTICAL WALL PANEL	MAHARAM	TEK-WALL BILLOW 399984	TIDE 010	REFER TO ELEVATIONS ON I-205	CLASSROOMS AND TRAINING AREAS
CWT-1	WALL	CERAMIC WALL TILE	TILEBAR	ENIGMA	WHITE	2" X 8"	BREAK ROOM/NURSING ROOM
CWT-2	WALL	CERAMIC WALL TILE	DALTILE	MYTHOLOGY	MY96 TITAN	4" X 12" x 5/16" THICK	RESTROOMS
ECW-1	WALL	ELEVATOR CAB WALL	OTIS	LAMINATED PANEL	GLOSSY NICKEL	-	ELEVATOR CAB; PROVIDE SATIN STAINLESS STEEL FLAT HANDRAIL.
OPF-1	WALL	FOLDING PANEL PARTITION FINISH	MODERNFOLD / MAHARAM	TEK-WALL RIDGE 300048	TONIC 002	-	CLASSROOMS; REFER TO ARCHITECTURE FOR OPERABLE PARTITION DETAILS; USE ON BOTH PARTITION WALLS AND PASS-THRU DOORS
PT-1	WALL	PAINT - FIELD	BENJAMIN MOORE	EGGSHELL FINISH	OC 130 CLOUD WHITE	-	GENERAL WALL FIELD PAINT
PT-2	WALL	PAINT	BENJAMIN MOORE	EGGSHELL FINISH	1471 SHORELINE	-	OFFICES
PT-3	WALL	PAINT	BENJAMIN MOORE	EGGSHELL FINISH	CC-816 ATHABASCA	-	MEETING AREAS
PT-4	WALL	PAINT - ACCENT	BENJAMIN MOORE	EGGSHELL FINISH	1460 SILVER DOLLAR	-	ACCENT WALLS AS NOTED
PT-5	WALL	PAINT - ACCENT	SHERWIN-WILLIAMS	EGGSHELL FINISH	SW 6244 NAVAL	-	ACCENT WALLS AS NOTED
PWT-1	WALL	PORCELAIN WALL TILE	DALTILE	IRONCRAFT	CASPER GREY IC12	12" x 24" x 5/16" THICK	RESTROOMS
CEILING							
ACP-1	CEILING	ACOUSTICAL CEILING PANEL	ARMSTRONG	OPTIMA SQUARE TEGULAR 3254	WHITE	24" x 24"	OPEN OFFICE AREAS
ACP-2	CEILING	ACOUSTICAL CEILING PANEL	ARMSTRONG	ULTIMA SQUARE LAY-IN 1910	WHITE	24" x 24"	CLASSROOMS AND TRAINING AREAS
ECC-1	CEILING	ELEVATOR CAB CEILING	OTIS	6-LED DROP CEILING	STAINLESS STEEL	-	ELEVATOR CAB
PT-7	CEILING	PAINT	SHERWIN-WILLIAMS	FLAT FINISH	SW 7007 CEILING BRIGHT WHITE	-	GENERAL USE - GWB CEILINGS; MOISTURE RESISTANT FINISH
MISCELLANEOUS							
CG-1	WALL	CORNER GUARD	CONSTRUCTION SPECIALTIES	SSM-20AN	934 PEARL	90 DEGREE, LEG: 2", HEIGHT: 4', 1/4" NOSE RADIUS	GENERAL USE
GRT-1	FLOOR	GROUT	MAPEI	EPOXY, KERAPOXY	27 SILVER	-	USE WITH PFT-1 AND PBT-1
GRT-2	WALL	GROUT	MAPEI	EPOXY, KERAPOXY	77 FROST	-	USE WITH PWT-1, CWT-1, AND CWT-2
LK-1	WALL	CELL PHONE LOCKER	SALSBURY	RECESSED MOUNTED CELL PHONE STORAGE LOCKER, 19178-35ARK	ALUMINUM	35.75"W x 8.75"D x 49.75"H	REFER TO FINISH PLAN AND ARCHITECTURAL DRAWINGS FOR LOCATION
MS-1	WALL	METAL EDGE STRIP	SCHLUTER	JOLLY A80 ACGB	BRUSHED CHROME ANODIZED ALUMINUM	5/16" HEIGHT	INSTALLED AT EDGES OF CWT-1 IN BREAK ROOMS AND NURSING ROOM
PC-1	CEILING	PRIVACY CURTAIN ON CEILING MOUNTED CUBICLE TRACK	MAHARAM	SIDESTEP	511460-009 HORIZON	VERIFY IN FIELD	NURSING ROOM; INSTALL WITH WHITE MESH AT TOP OF PRIVACY CURTAIN EXTENDING TO 18" BELOW SPRINKLER DEFLECTORS. WHITE MESH MUST BE 70% OPEN WEAVE MINIMUM
PL-1	MILLWORK	PLASTIC LAMINATE	NEVAMAR	TEXTURED	NAVY MATRIX II MR3008T	-	BREAK ROOM/NURSING ROOM MILLWORK
PL-2	MILLWORK	PLASTIC LAMINATE	NEVAMAR	TEXTURED	NEUTRAL GRAY S6012T	-	RESTROOM MILLWORK
PT-6	DOOR FRAMES, TRIM	PAINT	SHERWIN-WILLIAMS	SEMI-GLOSS FINISH	SW 7674 PEPPERCORN	-	GENERAL USE - DOOR FRAMES, HOLLOW METAL DOORS, STAIR HANDRAILS, STRINGERS, AND MISC. TRIM ITEMS AS NOTED ON A-401
SS-1	COUNTERTOP	SOLID SURFACE MATERIAL	CORIAN	FABRICATED COUNTERTOP	RAIN CLOUD	-	BREAK ROOM/NURSING COUNTERS
SS-2	COUNTERTOP	SOLID SURFACE MATERIAL	CORIAN	FABRICATED COUNTERTOP	EVEREST	-	RESTROOM COUNTERS
SS-3	WINDOW STOOL	SOLID SURFACE MATERIAL	CORIAN	FABRICATED WINDOW STOOLS	GLACIER WHITE	-	WINDOW STOOLS
TP-1	TOILET PARTITIONS	TOILET PARTITIONS	BRADLEY CORP	STAINLESS STEEL PARTITIONS	BRUSHED STAINLESS STEEL	-	TOILET PARTITIONS AND URINAL SCREENS
TS-1	FLOOR	METAL TRANSITION STRIP	SCHLUTER	RENO-TK	ALUMINUM	-	LVT-1 TO PFT-1 TRANSITION
TS-2	FLOOR	RUBBER TRANSITION STRIP	JOHNSONITE	CTA-40-M	40 BLACK	-	LVT-1 TO CPT-1/CPT-2 TRANSITION
TS-3	FLOOR	RUBBER TRANSITION STRIP	JOHNSONITE	CTA-40-M	40 BLACK	-	LVT-1 TO CPT-3 TRANSITION
TS-4	FLOOR	RUBBER TRANSITION STRIP	JOHNSONITE	EG-40-J	40 BLACK	-	LVT-1 TO SC-1 TRANSITION
TS-5	FLOOR	RUBBER TRANSITION STRIP	JOHNSONITE	CTA-40-A	40 BLACK	-	LVT-1 TO SDT-1 TRANSITION
TS-6	FLOOR	RUBBER TRANSITION STRIP	JOHNSONITE	CTA-40-A	40 BLACK	-	LVT-1 TO RF-1 TRANSITION
TS-7	FLOOR	RUBBER TRANSITION STRIP	JOHNSONITE	CD-40	40 BLACK	-	LVT-1 TO LVT-1 TRANSITION
WD-1	DOOR	WOOD DOOR FINISH (WOOD VENEER ON STEEL)	-	ROTARY CUT, RANDOM MATCH	WHITE BIRCH	-	REFER TO DOOR SCHEDULE ON A-605 AND A-606 FOR ADDITIONAL DETAILS
WS-1	WINDOW	WINDOW SHADES	MECHO SHADE	ECOVEIL SCREENS 1550 SERIES / 3% OPEN	40 BLACK	VERIFY IN FIELD	USE ON ALL WINDOWS, UON REFER TO ARCHITECTURE FOR MOUNTING DETAILS.
WS-2	WINDOW	WINDOW SHADES	MECHO SHADE	EQUINOX BLACKOUT 0100 SERIES / OPAQUE	0114 MARBLE	VERIFY IN FIELD	INSTALL AS DOUBLE SHADE WITH WS-1 ON CLASSROOM WINDOWS; REFER TO ARCHITECTURE FOR MOUNTING DETAILS.

NOTE: MANUFACTURER REFERENCES PROVIDED AS BASIS OF DESIGN AND NOT INTENDED TO LIMIT SELECTION OF EQUAL PRODUCT BY OTHER MANUFACTURERS.

GENERAL NOTES - FINISH LEGEND

1	INTERIOR WALL COLOR APPLIES TO THE ENTIRE WALL SURFACE, INCLUDING REVEALS, VERTICAL FURRED SPACES, GRILLES, DIFFUSERS, ELECTRICAL, ACCESS PANELS, PIPING AND CONDUIT ADJACENT TO WALL SURFACES UNLESS OTHERWISE SPECIFIED. ITEMS NOT SPECIFIED OTHERWISE SHALL BE PAINTED TO MATCH ADJACENT WALL SURFACES.
2	CEILING COLORS APPLY TO CEILING SURFACES INCLUDING SOFFITS, FURRED DOWN AREA, GRILLES, DIFFUSERS, REGISTERS, AND ACCESS PANELS. CEILING COLOR SHALL ALSO APPLY TO JOIST, UNDERSIDE OF ROOF DECK, CONDUIT, AND PIPING WHERE JOISTS AND DECK ARE EXPOSED AND REQUIRED TO BE PAINTED.
3	RESILIENT COVE BASE TO BE USED WITH CONCRETE FLOORS.
4	ALL WINDOW STOOLS TO BE SOLID SURFACE, SS-3
5	ALL PORCELAIN TILE GROUT MUST BE EPOXY.
6	CEILINGS FOR RESTROOMS MUST BE WATER RESISTANT. USE MOISTURE RESISTANT PAINT, PT-7
7	REFER TO A-141/141A AND A-151/151A REFLECTED CEILING PLANS FOR CEILING HEIGHTS.
8	WHEN INSTALLING TILE, USE TRIM PIECE AT INSIDE AND OUTSIDE CORNERS AND EDGES. LEAVE NO EXPOSED TILE EDGES.
9	REFER TO THE ROOM FINISH SCHEDULE ON SHEET I-602 FOR FINISH SELECTIONS IN EACH ROOM.
10	REFER TO THE FINISH MATERIAL LEGEND ON SHEET I-601 FOR FINISH ABBREVIATIONS AND SPECIFICATIONS.
11	FLOORING MATERIAL / FINISH AS SPECIFIED FOR EACH AREA MUST EXTEND UNDERNEATH ALL EQUIPMENT UNLESS OTHERWISE NOTED.
12	WHERE FLOOR FINISHES CHANGE BETWEEN ROOMS, PROVIDE THE TRANSITION AT THE CENTERLINE OF THE FLOOR UNLESS INDICATED OTHERWISE.
13	MANUFACTURERS AND COLORS LISTED ARE INTENDED TO ESTABLISH LEVEL OF QUALITY, COLOR & FINISH, AND ARE NOT INTENDED TO LIMIT THE SELECTION OF OTHER MANUFACTURERS FOR EQUAL PRODUCTS.
14	FIELD VERIFY ALL DIMENSIONS PRIOR TO ORDERING FINISH MATERIALS.
15	ALL FINISHES MUST BE INSTALLED/ APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
16	REFER TO DOOR SCHEDULE ON A-605 AND A-606 FOR ADDITIONAL DOOR FINISH INFORMATION.
17	REDUCER STRIPS/ TRANSITIONS WHERE SPECIFIED MUST MATCH ADJACENT RESILIENT BASE COLOR.
18	REFER TO A-601 FOR EXTERIOR FINISH INFORMATION.

REGISTERED INTERIOR DESIGNER HEATHER A. WILSON STATE OF TEXAS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: H. WILSON
DRAWN BY: H. WILSON
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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

INTERIORS - FINISH LEGEND

SHEET ID

I-601

RTA SUBMISSION

ROOM FINISH SCHEDULE

ROOM NO	ROOM NAME	WALL FINISH				BASE FINISH				FLOOR	CEILING		NOTES & REMARKS (SEE NOTES)
		NORTH	EAST	SOUTH	WEST	NORTH	EAST	SOUTH	WEST	FIN.	MAT.	FIN.	
100	WAITING AREA FOR TRANSIENT PERSONNEL	PT-2	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-2	
104	MARINES OFFICE 11P	PT-2	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
104A	OFFICE	PT-4	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
104B	OFFICE	PT-2	PT-2	PT-4	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
106	COAST GUARD OFFICE 7P	PT-2	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	8
106A	OFFICE	PT-2	PT-2	PT-4	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
106B	OFFICE	PT-2	PT-2	PT-4	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
107	MECH	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	SC-1	EXP	PT-7	
108	ELEC	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	SDT-1	EXP	PT-7	
109	MAIN COMM	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	SDT-1	EXP	PT-7	
110	AIR FORCE / SPACE FORCE OFFICE 24P	PT-2	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	8
110A	OFFICE	PT-4	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	8
110B	OFFICE	PT-2	PT-2	PT-4	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	8
110C	OFFICE	PT-4	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
110D	OFFICE	PT-2	PT-2	PT-4	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	8
111	VEST	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	CPT-3	GWB	PT-7	
114	ELEC	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	SDT-1	EXP	PT-7	
116	EMPLOYEE BRK. RM.	PT-1	PT-1 / CWT-1	PT-1	PT-5	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-1	1, 2, 3, 4, 8, 12
117	JAN	PWT-1	PWT-1	PWT-1	PWT-1	PBT-1	PBT-1	PBT-1	PBT-1	PFT-1	EXP	PT-7	1, 2
118	SINGLE USE RESTROOM	PWT-1	PWT-1	CWT-2	PWT-1	PBT-1	PBT-1	PBT-1	PBT-1	PFT-1	GWB	PT-7	1, 2
119	FEMALE	PWT-1	PWT-1	PWT-1	PWT-1 / CWT-2	PBT-1	PBT-1	PBT-1	PBT-1	PFT-1	GWB	PT-7	1, 2, 5, 9, 10
120	MALE	PWT-1	PWT-1 / CWT-2	PWT-1	PWT-1	PBT-1	PBT-1	PBT-1	PBT-1	PFT-1	GWB	PT-7	1, 2, 5, 9, 10
122	ELEV. MACH	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	SC-1	EXP	PT-7	
123	ARMY OFFICE 23P	PT-2	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	8
123A	OFFICE	PT-2	PT-2	PT-4	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
123B	OFFICE	PT-2	PT-2	PT-4	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
124	NAVY OFFICE 6P	PT-2	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	8
124A	OFFICE	PT-2	PT-2	PT-4	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
124B	OFFICE	PT-2	PT-2	PT-4	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
125	CLASSRM 20P	PT-3	PT-3	PT-4/ AWP-1	PT-3	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	11
126	COVE 4P	PT-3	PT-3	PT-4	PT-3	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	
127	COVE 4P	PT-3	PT-3	PT-4	PT-3	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	11
129	VEST	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	CPT-3	GWB	PT-7	
130	LOBBY / HALL WAY	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-1	7, 8
136	CORRIDOR	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-1	7
137	CORRIDOR	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-1	7
138	CORRIDOR	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-1	7
139	VESTIBULE 2-STORY	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	CPT-3	GWB	PT-7	
200	STUDENT BRK. RM.	PT-1	PT-1 / CWT-1	PT-1	PT-5	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-1	1, 2, 3, 4, 8, 12
201	JAN	PWT-1	PWT-1	PWT-1	PWT-1	PBT-1	PBT-1	PBT-1	PBT-1	PFT-1	EXP	PT-7	1, 2
202	SINGLE USE RESTROOM	PWT-1	PWT-1	CWT-2	PWT-1	PBT-1	PBT-1	PBT-1	PBT-1	PFT-1	GWB	PT-7	1, 2
203	NURSING	PT-1	PT-1	PT-1 / CWT-1	PT-1	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-1	1, 2, 6, 12
204	ELEC	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	SDT-1	EXP	PT-7	
208	MULTI-PURPOSE CLASSRM 20P	PT-3	PT-4/ AWP-1	PT-3	PT-3	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	11
208A	STORAGE	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-2	
209	MULTI-PURPOSE CLASSRM 20P	PT-3	PT-4/ AWP-1	PT-3	PT-3	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	11
209A	STORAGE	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-2	
210	CORRIDOR	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-1	7, 8
211	UNCLASS COMM	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	SDT-1	EXP	PT-7	
212	CLASS COMM	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	SDT-1	EXP	PT-7	
216	NSAC IIA OFFICE 20P	PT-2	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	11
219	STORAGE	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-1	
220	NCS OFFICE 8P	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	11
222	SECURITY OFFICE	PT-2	PT-2	PT-2	PT-4	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	11
223	CLASSRM 20P	PT-3	PT-3	PT-4/ AWP-1	PT-3	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	
224	CLASSRM 20P	PT-3	PT-3	PT-4/ AWP-1	PT-3	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	
225	IDC-W AREA 23P	PT-2	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	11
230	FEMALE	PWT-1	PWT-1	PWT-1	PWT-1 / CWT-2	PBT-1	PBT-1	PBT-1	PBT-1	PFT-1	GWB	PT-7	1, 2, 5, 9, 10
231	MALE	PWT-1	PWT-1 / CWT-2	PWT-1	PWT-1	PBT-1	PBT-1	PBT-1	PBT-1	PFT-1	GWB	PT-7	1, 2, 5, 9, 10
233	NIPR TRAINING 20P	PT-3	PT-4/ AWP-1	PT-3	PT-3	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	11
234	CLASSRM 30P	PT-3	PT-3	PT-3	PT-4/ AWP-1	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	11
243	BLDG MANAGEMENT OFFICE 2P	PT-2	PT-4	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
244	IT SUPPORT OFFICE 2P	PT-2	PT-4	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
252	SECURED STORAGE	PT-2	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	8
255	COVE	PT-3	PT-4	PT-3	PT-3	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	11
256	COVE	PT-3	PT-4	PT-3	PT-3	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	
257	COVE	PT-3	PT-3	PT-3	PT-4	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	11
258	COVE	PT-3	PT-3	PT-3	PT-4	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	
260	STORAGE	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-1	
E1	ELEVATOR	ECW-1	ECW-1	ECW-1	ECW-1	N/A	N/A	N/A	N/A	LVT-1	SUSP.	ECC-1	
S1	STAIR	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	RF-1/ RST-1	SUSP.	ACP-1	
S2	STAIR	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	RF-1/ RST-1	SUSP.	ACP-1	

GENERAL NOTES - FINISH LEGEND

1	INTERIOR WALL COLOR APPLIES TO THE ENTIRE WALL SURFACE, INCLUDING REVEALS, VERTICAL FURRED SPACES, GRILLES, DIFFUSERS, ELECTRICAL, ACCESS PANELS, PIPING AND CONDUIT ADJACENT TO WALL SURFACES UNLESS OTHERWISE SPECIFIED. ITEMS NOT SPECIFIED OTHERWISE SHALL BE PAINTED TO MATCH ADJACENT WALL SURFACES.
2	CEILING COLORS APPLY TO CEILING SURFACES INCLUDING SOFFITS, FURRED DOWN AREA, GRILLES, DIFFUSERS, REGISTERS, AND ACCESS PANELS. CEILING COLOR SHALL ALSO APPLY TO JOIST, UNDERSIDE OF ROOF DECK, CONDUIT, AND PIPING WHERE JOISTS AND DECK ARE EXPOSED AND REQUIRED TO BE PAINTED.
3	RESILIENT COVE BASE TO BE USED WITH CONCRETE FLOORS.
4	ALL WINDOW STOOLS TO BE SOLID SURFACE, SS-3
5	ALL PORCELAIN TILE GROUT MUST BE EPOXY.
6	CEILINGS FOR RESTROOMS MUST BE WATER RESISTANT. USE MOISTURE RESISTANT PAINT, PT-7
7	REFER TO A-141/141A AND A-151/151A REFLECTED CEILING PLANS FOR CEILING HEIGHTS.
8	WHEN INSTALLING TILE, USE TRIM PIECE AT INSIDE AND OUTSIDE CORNERS AND EDGES. LEAVE NO EXPOSED TILE EDGES.
9	REFER TO THE ROOM FINISH SCHEDULE ON SHEET I-602 FOR FINISH SELECTIONS IN EACH ROOM.
10	REFER TO THE FINISH MATERIAL LEGEND ON SHEET I-601 FOR FINISH ABBREVIATIONS AND SPECIFICATIONS.
11	FLOORING MATERIAL / FINISH AS SPECIFIED FOR EACH AREA MUST EXTEND UNDERNEATH ALL EQUIPMENT UNLESS OTHERWISE NOTED.
12	WHERE FLOOR FINISHES CHANGE BETWEEN ROOMS, PROVIDE THE TRANSITION AT THE CENTERLINE OF THE FLOOR UNLESS INDICATED OTHERWISE.
13	MANUFACTURERS AND COLORS LISTED ARE INTENDED TO ESTABLISH LEVEL OF QUALITY, COLOR & FINISH, AND ARE NOT INTENDED TO LIMIT THE SELECTION OF OTHER MANUFACTURERS FOR EQUAL PRODUCTS.
14	FIELD VERIFY ALL DIMENSIONS PRIOR TO ORDERING FINISH MATERIALS.
15	ALL FINISHES MUST BE INSTALLED/ APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
16	REFER TO DOOR SCHEDULE ON A-605 AND A-606 FOR ADDITIONAL DOOR FINISH INFORMATION.
17	REDUCER STRIPS/ TRANSITIONS WHERE SPECIFIED MUST MATCH ADJACENT RESILIENT BASE COLOR.
18	REFER TO A-601 FOR EXTERIOR FINISH INFORMATION.

FINISH LEGEND COMMENTS

1	PROVIDE WALL GROUT (GRT-2) AS REQUIRED.
2	SEE INTERIOR ELEVATIONS ON I-201 THROUGH I-203 FOR WALL TILE PATTERNS
3	PROVIDE SOLID SURFACE COUNTER (SS-1) IN THIS LOCATION. SEE INTERIOR DETAIL SHEETS FOR INFORMATION.
4	PROVIDE PLASTIC LAMINATE CASEWORK (PL-1) IN THIS LOCATION.
5	PROVIDE TOILET PARTITIONS (TP-1) IN THIS LOCATION AS REQUIRED.
6	PROVIDE PRIVACY CURTAIN, PC-1.
7	PROVIDE CORNER GUARD (CG-1) AT ALL INTERIOR CORNERS. SEE INTERIOR DETAIL SHEET FOR INFORMATION.
8	PROVIDE SINGLE ROLLER WITH WINDOW SHADE FABRIC (WS-1) ON EXTERIOR WINDOWS AS INDICATED. SEE ARCHITECTURE FOR MOUNTING DETAIL.
9	PROVIDE SOLID SURFACE COUNTER (SS-2) IN THIS LOCATION. SEE INTERIOR DETAIL SHEETS FOR INFORMATION.
10	PROVIDE PLASTIC LAMINATE CASEWORK (PL-2) IN THIS LOCATION.
11	PROVIDE DOUBLE ROLLER WITH WINDOW SHADE FABRIC (WS-1) AND (WS-2) AS INDICATED. SEE ARCHITECTURE FOR MOUNTING INFORMATION
12	PROVIDE METAL EDGE STRIP (MS-1) AT EDGE OF TILE. SEE SHEET I-505 FOR DETAIL.

FINISH ABBREVIATIONS

CODE	DESCRIPTIONS
ACP	ACOUSTICAL CEILING PANEL
AWP	ACOUSTICAL WALL PANEL
CG	CORNER GUARD
CPT	CARPET TILE
CWT	CERAMIC WALL TILE
ECC	ELEVATOR CAB CEILING
ECW	ELEVATOR CAB WALL
GRT	GROUT
LVT	LUXURY VINYL TILE
MS	METAL EDGE STRIP
PBT	PORCELAIN BASE TILE
PC	PRIVACY CURTAIN
PFT	PORCELAIN FLOOR TILE
PL	PLASTIC LAMINATE
PT	PAINT
PWT	PORCELAIN WALL TILE
RB	RUBBER WALL BASE
RF	RUBBER FLOOR TILE
RST	RUBBER STAIR TREAD/ RISERS
SC	SEALED CONCRETE
SDT	STATIC DISSIPATIVE TILE
SS	SOLID SURFACE MATERIAL
TP	TOILET PARTITION
TS	TRANSITION STRIP
WS	WINDOW SHADES

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE
D	BACKCHECK SUBMISSION	11/14/2022
C	100% DESIGN SUBMISSION	09/27/2022
B	65% DESIGN SUBMITTAL	12/14/2021
A	REVISED 35% DESIGN SUBMITTAL	09/29/2021

DESIGNED BY: H. WILSON
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SUBMITTED BY: SUBMITTER
SIZE: ANSI D
ISSUE DATE: 14 NOVEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

INTERIORS - FINISH SCHEDULE

SHEET ID
I-602

BACKCHECK SUBMISSION

ROOM FINISH SCHEDULE

ROOM NO	ROOM NAME	WALL FINISH				BASE FINISH				FLOOR	CEILING		NOTES & REMARKS (SEE NOTES)
		NORTH	EAST	SOUTH	WEST	NORTH	EAST	SOUTH	WEST	FIN.	MAT.	FIN.	
100	WAITING AREA FOR TRANSIENT PERSONNEL	PT-2	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-2	
104	MARINES OFFICE 11P	PT-2	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
104A	OFFICE	PT-4	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
104B	OFFICE	PT-2	PT-2	PT-4	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
106	COAST GUARD OFFICE 7P	PT-2	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	8
106A	OFFICE	PT-2	PT-2	PT-4	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
106B	OFFICE	PT-2	PT-2	PT-4	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
107	MECH	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	SC-1	EXP	PT-7	
108	ELEC	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	SDT-1	EXP	PT-7	
109	MAIN COMM	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	SDT-1	EXP	PT-7	
110	AIR FORCE / SPACE FORCE OFFICE 24P	PT-2	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	8
110A	OFFICE	PT-4	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	8
110B	OFFICE	PT-2	PT-2	PT-4	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	8
110C	OFFICE	PT-4	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
110D	OFFICE	PT-2	PT-2	PT-4	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	8
111	VEST	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	CPT-3	GWB	PT-7	
114	ELEC	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	SDT-1	EXP	PT-7	
116	EMPLOYEE BRK. RM.	PT-1	PT-1 / CWT-1	PT-1	PT-5	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-1	1, 2, 3, 4, 8, 12
117	JAN	PWT-1	PWT-1	PWT-1	PWT-1	PBT-1	PBT-1	PBT-1	PBT-1	PFT-1	EXP	PT-7	1, 2
118	SINGLE USE RESTROOM	PWT-1	PWT-1	CWT-2	PWT-1	PBT-1	PBT-1	PBT-1	PBT-1	PFT-1	GWB	PT-7	1, 2
119	FEMALE	PWT-1	PWT-1	PWT-1	PWT-1 / CWT-2	PBT-1	PBT-1	PBT-1	PBT-1	PFT-1	GWB	PT-7	1, 2, 5, 9, 10
120	MALE	PWT-1	PWT-1 / CWT-2	PWT-1	PWT-1	PBT-1	PBT-1	PBT-1	PBT-1	PFT-1	GWB	PT-7	1, 2, 5, 9, 10
122	ELEV. MACH	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	SC-1	EXP	PT-7	
123	ARMY OFFICE 23P	PT-2	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	8
123A	OFFICE	PT-2	PT-2	PT-4	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
123B	OFFICE	PT-2	PT-2	PT-4	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
124	NAVY OFFICE 6P	PT-2	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	8
124A	OFFICE	PT-2	PT-2	PT-4	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
124B	OFFICE	PT-2	PT-2	PT-4	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
125	CLASSRM 20P	PT-3	PT-3	PT-4/ AWP-1	PT-3	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	11
126	COVE 4P	PT-3	PT-3	PT-4	PT-3	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	
127	COVE 4P	PT-3	PT-3	PT-4	PT-3	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	11
129	VEST	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	CPT-3	GWB	PT-7	
130	LOBBY / HALL WAY	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-1	7, 8
136	CORRIDOR	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-1	7
137	CORRIDOR	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-1	7
138	CORRIDOR	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-1	7
139	VESTIBULE 2-STORY	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	CPT-3	GWB	PT-7	
200	STUDENT BRK. RM.	PT-1	PT-1 / CWT-1	PT-1	PT-5	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-1	1, 2, 3, 4, 8, 12
201	JAN	PWT-1	PWT-1	PWT-1	PWT-1	PBT-1	PBT-1	PBT-1	PBT-1	PFT-1	EXP	PT-7	1, 2
202	SINGLE USE RESTROOM	PWT-1	PWT-1	CWT-2	PWT-1	PBT-1	PBT-1	PBT-1	PBT-1	PFT-1	GWB	PT-7	1, 2
203	NURSING	PT-1	PT-1	PT-1 / CWT-1	PT-1	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-1	1, 2, 6, 12
204	ELEC	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	SDT-1	EXP	PT-7	
208	MULTI-PURPOSE CLASSRM 20P	PT-3	PT-4/ AWP-1	PT-3	PT-3	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	11
208A	STORAGE	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-2	
209	MULTI-PURPOSE CLASSRM 20P	PT-3	PT-4/ AWP-1	PT-3	PT-3	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	11
209A	STORAGE	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-2	
210	CORRIDOR	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-1	7, 8
211	UNCLASS COMM	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	SDT-1	EXP	PT-7	
212	CLASS COMM	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	SDT-1	EXP	PT-7	
216	NSAC IIA OFFICE 20P	PT-2	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	11
219	STORAGE	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-1	
220	NCS OFFICE 8P	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	11
222	SECURITY OFFICE	PT-2	PT-2	PT-2	PT-4	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	11
223	CLASSRM 20P	PT-3	PT-3	PT-4/ AWP-1	PT-3	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	
224	CLASSRM 20P	PT-3	PT-3	PT-4/ AWP-1	PT-3	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	
225	IDC-W AREA 23P	PT-2	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	11
230	FEMALE	PWT-1	PWT-1	PWT-1	PWT-1 / CWT-2	PBT-1	PBT-1	PBT-1	PBT-1	PFT-1	GWB	PT-7	1, 2, 5, 9, 10
231	MALE	PWT-1	PWT-1 / CWT-2	PWT-1	PWT-1	PBT-1	PBT-1	PBT-1	PBT-1	PFT-1	GWB	PT-7	1, 2, 5, 9, 10
233	NIPR TRAINING 20P	PT-3	PT-4/ AWP-1	PT-3	PT-3	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	11
234	CLASSRM 30P	PT-3	PT-3	PT-3	PT-4/ AWP-1	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	11
243	BLDG MANAGEMENT OFFICE 2P	PT-2	PT-4	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
244	IT SUPPORT OFFICE 2P	PT-2	PT-4	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	
252	SECURED STORAGE	PT-2	PT-2	PT-2	PT-2	RB-1	RB-1	RB-1	RB-1	CPT-1	SUSP.	ACP-1	8
255	COVE	PT-3	PT-4	PT-3	PT-3	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	11
256	COVE	PT-3	PT-4	PT-3	PT-3	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	
257	COVE	PT-3	PT-3	PT-3	PT-4	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	11
258	COVE	PT-3	PT-3	PT-3	PT-4	RB-1	RB-1	RB-1	RB-1	CPT-2	SUSP.	ACP-2	
260	STORAGE	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	LVT-1	SUSP.	ACP-1	
E1	ELEVATOR	ECW-1	ECW-1	ECW-1	ECW-1	N/A	N/A	N/A	N/A	LVT-1	SUSP.	ECC-1	
S1	STAIR	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	RF-1/ RST-1	SUSP.	ACP-1	
S2	STAIR	PT-1	PT-1	PT-1	PT-1	RB-1	RB-1	RB-1	RB-1	RF-1/ RST-1	SUSP.	ACP-1	

GENERAL NOTES - FINISH LEGEND

1	INTERIOR WALL COLOR APPLIES TO THE ENTIRE WALL SURFACE, INCLUDING REVEALS, VERTICAL FURRED SPACES, GRILLES, DIFFUSERS, ELECTRICAL, ACCESS PANELS, PIPING AND CONDUIT ADJACENT TO WALL SURFACES UNLESS OTHERWISE SPECIFIED. ITEMS NOT SPECIFIED OTHERWISE SHALL BE PAINTED TO MATCH ADJACENT WALL SURFACES.
2	CEILING COLORS APPLY TO CEILING SURFACES INCLUDING SOFFITS, FURRED DOWN AREA, GRILLES, DIFFUSERS, REGISTERS, AND ACCESS PANELS. CEILING COLOR SHALL ALSO APPLY TO JOIST, UNDERSIDE OF ROOF DECK, CONDUIT, AND PIPING WHERE JOISTS AND DECK ARE EXPOSED AND REQUIRED TO BE PAINTED.
3	RESILIENT COVE BASE TO BE USED WITH CONCRETE FLOORS.
4	ALL WINDOW STOOLS TO BE SOLID SURFACE, SS-3
5	ALL PORCELAIN TILE GROUT MUST BE EPOXY.
6	CEILINGS FOR RESTROOMS MUST BE WATER RESISTANT. USE MOISTURE RESISTANT PAINT, PT-7
7	REFER TO A-141/141A AND A-151/151A REFLECTED CEILING PLANS FOR CEILING HEIGHTS.
8	WHEN INSTALLING TILE, USE TRIM PIECE AT INSIDE AND OUTSIDE CORNERS AND EDGES. LEAVE NO EXPOSED TILE EDGES.
9	REFER TO THE ROOM FINISH SCHEDULE ON SHEET I-602 FOR FINISH SELECTIONS IN EACH ROOM.
10	REFER TO THE FINISH MATERIAL LEGEND ON SHEET I-601 FOR FINISH ABBREVIATIONS AND SPECIFICATIONS.
11	FLOORING MATERIAL / FINISH AS SPECIFIED FOR EACH AREA MUST EXTEND UNDERNEATH ALL EQUIPMENT UNLESS OTHERWISE NOTED.
12	WHERE FLOOR FINISHES CHANGE BETWEEN ROOMS, PROVIDE THE TRANSITION AT THE CENTERLINE OF THE FLOOR UNLESS INDICATED OTHERWISE.
13	MANUFACTURERS AND COLORS LISTED ARE INTENDED TO ESTABLISH LEVEL OF QUALITY, COLOR & FINISH, AND ARE NOT INTENDED TO LIMIT THE SELECTION OF OTHER MANUFACTURERS FOR EQUAL PRODUCTS.
14	FIELD VERIFY ALL DIMENSIONS PRIOR TO ORDERING FINISH MATERIALS.
15	ALL FINISHES MUST BE INSTALLED/ APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
16	REFER TO DOOR SCHEDULE ON A-605 AND A-606 FOR ADDITIONAL DOOR FINISH INFORMATION.
17	REDUCER STRIPS/ TRANSITIONS WHERE SPECIFIED MUST MATCH ADJACENT RESILIENT BASE COLOR.
18	REFER TO A-601 FOR EXTERIOR FINISH INFORMATION.

FINISH LEGEND COMMENTS

1	PROVIDE WALL GROUT (GRT-2) AS REQUIRED.
2	SEE INTERIOR ELEVATIONS ON I-201 THROUGH I-203 FOR WALL TILE PATTERNS
3	PROVIDE SOLID SURFACE COUNTER (SS-1) IN THIS LOCATION. SEE INTERIOR DETAIL SHEETS FOR INFORMATION.
4	PROVIDE PLASTIC LAMINATE CASEWORK (PL-1) IN THIS LOCATION.
5	PROVIDE TOILET PARTITIONS (TP-1) IN THIS LOCATION AS REQUIRED.
6	PROVIDE PRIVACY CURTAIN, PC-1.
7	PROVIDE CORNER GUARD (CG-1) AT ALL INTERIOR CORNERS. SEE INTERIOR DETAIL SHEET FOR INFORMATION.
8	PROVIDE SINGLE ROLLER WITH WINDOW SHADE FABRIC (WS-1) ON EXTERIOR WINDOWS AS INDICATED. SEE ARCHITECTURE FOR MOUNTING DETAIL.
9	PROVIDE SOLID SURFACE COUNTER (SS-2) IN THIS LOCATION. SEE INTERIOR DETAIL SHEETS FOR INFORMATION.
10	PROVIDE PLASTIC LAMINATE CASEWORK (PL-2) IN THIS LOCATION.
11	PROVIDE DOUBLE ROLLER WITH WINDOW SHADE FABRIC (WS-1) AND (WS-2) AS INDICATED. SEE ARCHITECTURE FOR MOUNTING INFORMATION
12	PROVIDE METAL EDGE STRIP (MS-1) AT EDGE OF TILE. SEE SHEET I-505 FOR DETAIL.

FINISH ABBREVIATIONS

CODE	DESCRIPTIONS
ACP	ACOUSTICAL CEILING PANEL
AWP	ACOUSTICAL WALL PANEL
CG	CORNER GUARD
CPT	CARPET TILE
CWT	CERAMIC WALL TILE
ECC	ELEVATOR CAB CEILING
ECW	ELEVATOR CAB WALL
GRT	GROUT
LVT	LUXURY VINYL TILE
MS	METAL EDGE STRIP
PBT	PORCELAIN BASE TILE
PC	PRIVACY CURTAIN
PFT	PORCELAIN FLOOR TILE
PL	PLASTIC LAMINATE
PT	PAINT
PWT	PORCELAIN WALL TILE
RB	RUBBER WALL BASE
RF	RUBBER FLOOR TILE
RST	RUBBER STAIR TREAD/ RISERS
SC	SEALED CONCRETE
SDT	STATIC DISSIPATIVE TILE
SS	SOLID SURFACE MATERIAL
TP	TOILET PARTITION
TS	TRANSITION STRIP
WS	WINDOW SHADES

REGISTERED INTERIOR DESIGNER
HEATHER A. WILSON
STATE OF TEXAS
13511

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: H. WILSON
DRAWN BY: H. WILSON
CHECKED BY: K. CHARBONEAU
SUBMITTED BY: K. CHARBONEAU
SIZE: ANSI D
FILE NAME:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

INTERIORS - ROOM FINISH SCHEDULE

SHEET ID

I-602

GENERAL NOTES AND SYMBOLS

(ALL SYMBOLS SHOWN ARE NOT NECESSARILY USED ON THE DRAWINGS)

FIRE SPRINKLER SYMBOLS

PIPING SYMBOLS

- SYSTEM RISER
- ELBOW UP
- ELBOW DOWN
- VALVE IN DROP
- VALVE IN CENTER DROP
- VALVE IN RISE
- DIRECTION OF FLOW
- DIRECTION OF SLOPE DOWN
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- TEE OUTLET UP
- TEE OUTLET DOWN
- UNION
- STRAINER WITH BLOWDOWN VALVE
- GATE VALVE
- CHECK VALVE
- PRESSURE CONTROL VALVE
- RELIEF VALVE
- PRESSURE GAUGE WITH GAUGE COCK
- TEST PORT
- FLOW SWITCH
- OH — ORDINARY HAZARD
- LH — LIGHT HAZARD

SPRINKLER SYMBOLS

- PENDENT SPRINKLER, STANDARD TEMPERATURE
- UPRIGHT SPRINKLER, STANDARD TEMPERATURE
- SIDEWALL SPRINKLER, STANDARD TEMPERATURE

MISCELLANEOUS

- POINT OF NEW CONNECTION TO EXISTING PIPING
- CALCULATION NODE POINT (2 NODES)
- CALCULATION NODE POINT (1 NODE)

FIRE SPRINKLER NOTES

1. PROVIDE COMPLETE WET PIPE FIRE SPRINKLER SYSTEMS FOR THE ENTIRE BUILDING DESIGNED AND INSTALLED IN ACCORDANCE WITH

   UFC 3-600-01 FIRE PROTECTION ENGINEERING FOR FACILITIES (8 AUGUST 2016, WITH CHANGE 5, 24 SEPTEMBER 2020)
   -2019 INTERNATIONAL BUILDING CODE (IBC) (2018 EDITION)
   -NFPA 13: STANDARD FOR INSTALLATION OF SPRINKLER SYSTEMS (2019 EDITION)
   - FC 3-600-01 MPO FIRE PROTECTION ENGINEERING FOR FACILITIES - MPO (2020)
   -TSFPEWG 3-600-01.01 AIR FORCE FIRE PROTECTION CRITERIA AND TECHNICAL GUIDANCE FOR MISSION CONTINUITY OF ELECTRONIC, INFORMATION TECHNOLOGY, AND TELECOMMUNICATION EQUIPMENT INSTALLATION (25 FEBRUARY 2021, WITH 21 APRIL 2021)

2. VERIFY ALL LOCATIONS AND MEASUREMENTS AS CONDITIONS MAY VARY THROUGHOUT CONSTRUCTION. ALL CHANGES FROM THE ORIGINAL DESIGN MUST BE APPROVED BY THE FPDOR.
3. SPRINKLER CONTRACTOR MUST INSTALL TAMPER AND FLOW SWITCHES. CONNECTIONS TO THE FIRE ALARM SYSTEM'S SIGNALING LINE CIRCUIT MUST BE MADE UNDER SPECIFICATION DIVISION 28.
4. SPRINKLER CONTRACTOR MUST UTILIZE FLOW DATA PROVIDED TO BASE HYDRAULIC CALCULATIONS AND SIZE PIPING. IF THE TEST RESULTS ARE OVER ONE YEAR OLD, SPRINKLER CONTRACTOR TO PERFORM A NEW HYDRANT FLOW TEST.
5. CONTRACTOR MUST OBTAIN ALL REQUIRED PERMITS AND APPROVALS FROM THE AHJ PRIOR TO COMMENCING WORK.
6. HYDRAULICALLY CALCULATE THE WET PIPE SPRINKLER SYSTEMS PER NFPA 13 DENSITY AND SPACING LISTED IN THE SPRINKLER DESIGN CRITERIA TABLE BELOW. FIELD VERIFY SYSTEM DESIGN AND LAYOUT PRIOR TO FABRICATION OR INSTALLATION.
7. PROVIDE PIPE HANGERS ON ALL FIRE SPRINKLER SYSTEM PIPING AND EQUIPMENT PER NFPA 13.
8. SEE ARCHITECTURAL DRAWINGS FOR ROOM FINISH SCHEDULE AND ROOM USE. SEE ARCHITECTURAL, ELECTRICAL, MECHANICAL, AND TELECOMMUNICATIONS PLANS FOR THE LOCATION OF ALL CEILING-MOUNTED DEVICES. FIELD VERIFY AND COORDINATE THE LOCATIONS OF ALL SYSTEM COMPONENTS INCLUDING PIPING, ALARMS, DRAINS, TEST POINTS, ETC. WITH ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL EQUIPMENT WITHIN THE BUILDING.
9. PROVIDE AUXILIARY DRAINAGE WITH A DRAIN VALVE AND PLUG FOR ALL TRAPPED SECTION OF PIPE, AS REQUIRED BY NFPA 13.
10. THESE DOCUMENTS DEPICT PERFORMANCE LEVEL ENGINEERING DESIGN CRITERIA TO BE UTILIZED AS GUIDANCE FOR THE PLANNING OF THE FIRE SPRINKLER SYSTEM BY THE CONTRACTOR. PROVIDE COMPLETE DOCUMENTS FOR REVIEW AND APPROVAL FROM THE ENGINEER OF RECORD AND AHJ PRIOR TO INSTALLATION. INCLUDE IN THE SHOP DRAWINGS AND CALCULATIONS ANY ADDITIONAL EQUIPMENT NECESSARY TO PROVIDE A COMPLETE INSTALLATION.
11. PIPE ALL SPRINKLER DRAINS TO SANITARY SEWER.

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AVG	AVERAGE
BFP	DOUBLE CHECK BACKFLOW PREVENTER
CFM	CUBIC FEET PER MINUTE
CO	CONTRACTING OFFICER
COTR	CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE
ELEV	ELEVATION
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FHV	FIRE HOSE VALVE
FP	FIRE PUMP
FPC	FIRE PUMP CONTROLLER
FPDOR	FIRE PROTECTION DESIGNER OF RECORD
FVC	FIRE VALVE CABINET
GALS	GALLONS
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GV	GATE VALVE
JP	JOCKEY PUMP
MIN	MINIMUM
NC	NONCOMBUSTIBLE
NIC	NOT IN CONTRACT
NP	NOT PERMITTED
OS&Y	OUTSIDE SCREW & YOKE
PSIG	POUNDS PER SQUARE INCH GAUGE
SOV	SOLENOID VALVE
SQFT	SQUARE FEET
UH	UNIT HEATER
VLV	VALVE

WATERFLOW TEST DATA

TEST DATE:	DECEMBER 2, 2020
STATIC PRESSURE:	84 PSIG
RESIDUAL PRESSURE:	65 PSIG
DISCHARGE FLOW:	2226 GPM
GAUGE HYDRANT #:	WAFH 1-19
FLOW HYDRANT #:	WAFH 1-18

SPRINKLER DESIGN CRITERIA

GENERAL ROOM/AREA CLASSIFICATION	HAZARD CLASSIFICATION	DENSITY REQUIREMENTS	DURATION OF SUPPLY	MAXIMUM SPRINKLER PROTECTION AREA	K-FACTOR	SPRINKLER TEMPERATURE	HOSE ALLOWANCE
OFFICES, CONFERENCE ROOMS, CLASSROOMS, CORRIDORS, ETC	LIGHT (HC-1)	0.10 GPM/SQFT OVER MOST REMOTE 1500 SQFT	60 MIN.	225 SQFT	5.6	ORDINARY	250 GPM
MECHANICAL, STORAGE, MAINTENANCE AREAS	ORDINARY (HC-2)	0.20 GPM/SQFT OVER MOST REMOTE 2500 SQFT	60 MIN.	130 SQFT	8.0	ORDINARY	250 GPM

COMMONWEALTH OF VIRGINIA
JAMES ALBERT BEALS
Lic. No. 0402 26777
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. BEALS
DRAWN BY: S. FLERI
CHECKED BY: M. CONNOLLY
SUBMITTED BY:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:
SIZE: ANSI D
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

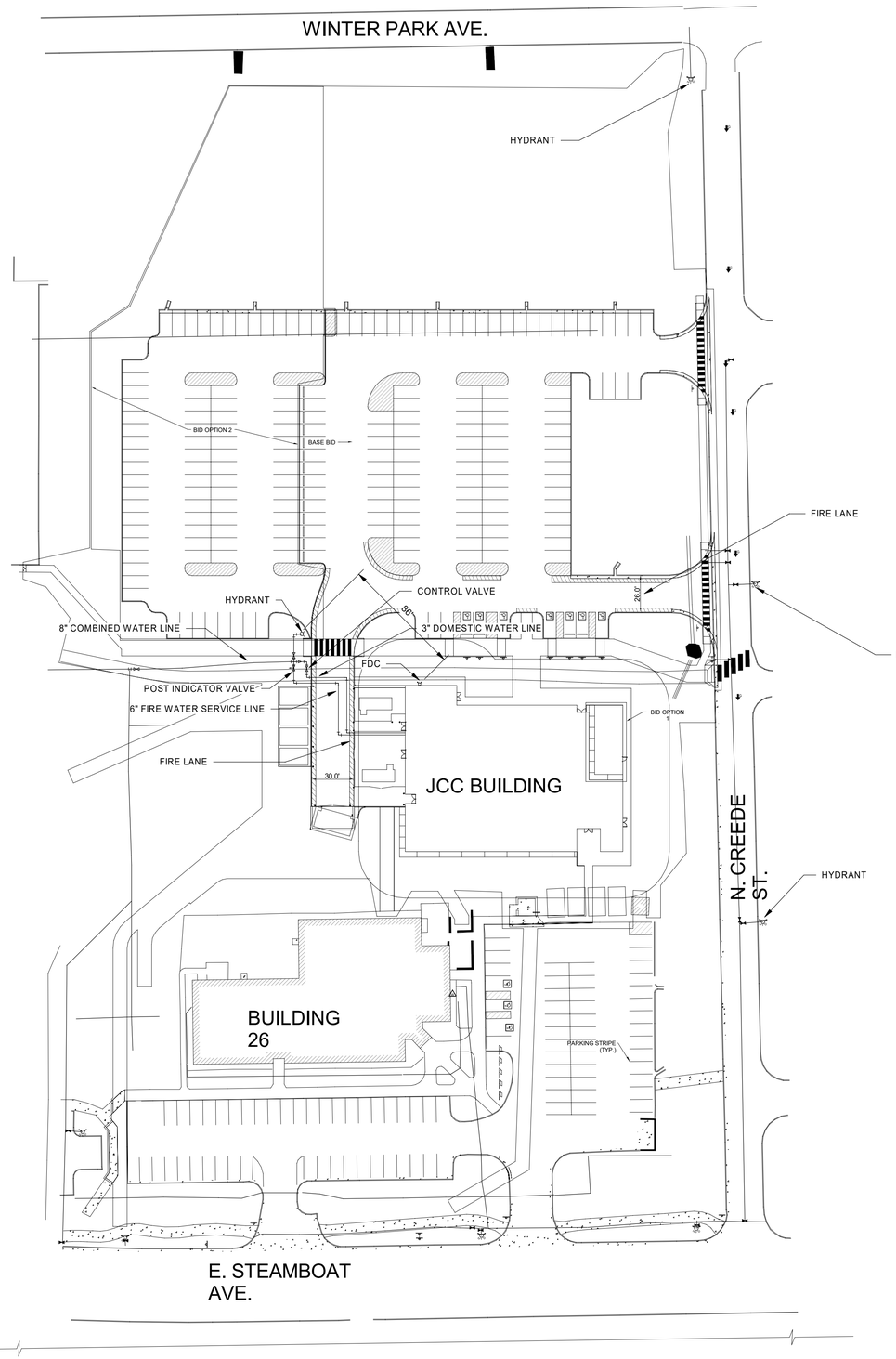
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

FIRE SUPPRESSION - SYMBOLS, LEGENDS, ABBREVIATIONS AND NOTES

SHEET ID

FX001



A1 FIRE SUPPRESSION - SITE PLAN
1" = 50'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE
A		

DESIGNED BY: J. BEALS
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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

FIRE SUPPRESSION - SITE PLAN

COMMONWEALTH OF VIRGINIA
JAMES ALBERT BEALS
Lic. No. 0402 26777
12/14/2022
PROFESSIONAL ENGINEER

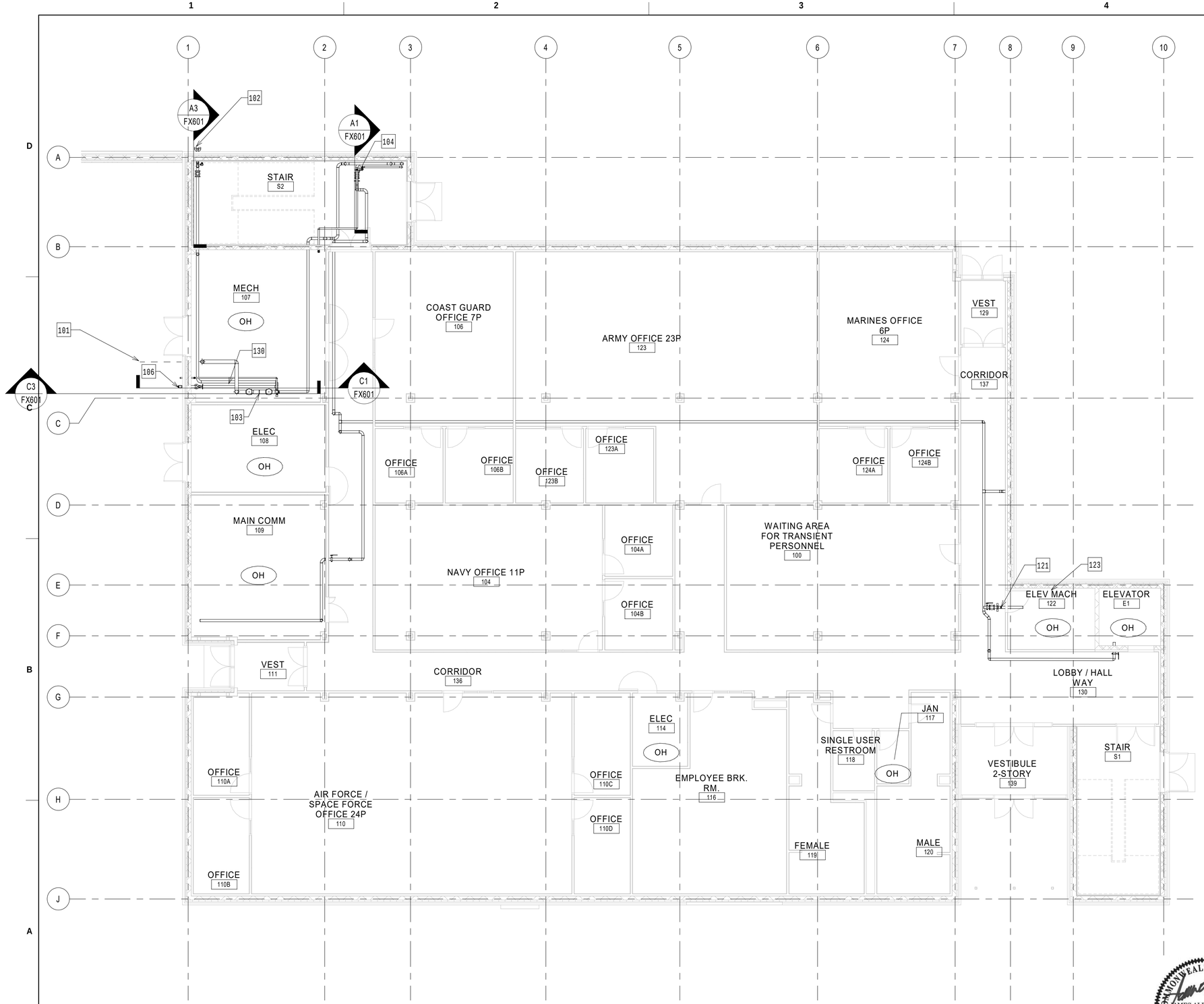
GRAPHIC SCALE(S)

50 25 0 50 100
SCALE: 1"=50'-0"

PLAN NORTH

SHEET ID
FX010

RTA SUBMISSION



A1 FIRE SUPPRESSION - FIRST FLOOR PLAN

1/8" = 1'-0"

GENERAL SHEET NOTES

1. SEE SHEET FX001 FOR GENERAL NOTES.
2. ALL AREAS ARE CLASSIFIED AS LIGHT HAZARD, UNLESS OTHERWISE NOTED.

KEYNOTES

#	
101	6" INCOMING FIRE WATER SERVICE.
102	FIRE DEPARTMENT CONNECTION.
103	DOUBLE CHECK VALVE BACKFLOW PREVENTER.
104	PROVIDE FLOOR CONTROL VALVE ASSEMBLY. ASSEMBLY MUST CONSIST OF CONTROL VALVE WITH TAMPER SWITCH, CHECK VALVE, WATERFLOW SWITCH, INSPECTORS TEST/DRAIN, AND RELIEF VALVE. DRAIN MUST DISCHARGE TO THE SANITARY DRAIN IN MECHANICAL ROOM
106	PROVIDE BACKFLOW PREVENTER TEST HEADER WITH 3 2-1/2" VALVE OUTLETS AND APPROPRIATE SIGNAGE. MOUNT ABOVE TEST HEADER.
121	PROVIDE A TEST/DRAIN ASSEMBLY TO TEST ELEVATOR MACHINE ROOM FLOW SWITCH.
122	WATERFLOW SWITCH SHALL NOT HAVE A RETARD TIMING FUNCTION.
123	PROVIDE SIDEWALL SPRINKLER IN ELEVATOR PIT.
124	PROVIDE MONITOR MODULES FOR ELEVATOR MACHINE ROOM WATER FLOW SWITCH AND TAMPER SWITCH.
130	LOCATION OF SANITARY DRAIN THE SPRINKLER PIPING IS INTENTED TO DISCHARGE INTO.

COMMONWEALTH OF VIRGINIA
JAMES ALBERT BEALS
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12/14/2022

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. BEALS	ISSUE DATE: 14 DECEMBER 2022
DRAWN BY: S. FLERI	SOLICITATION NO.: W9128F22R0017
CHECKED BY: M. CONNOLLY	CONTRACT NO.:
SUBMITTED BY:	FILE NUMBER:
SIZE: ANSI D	FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

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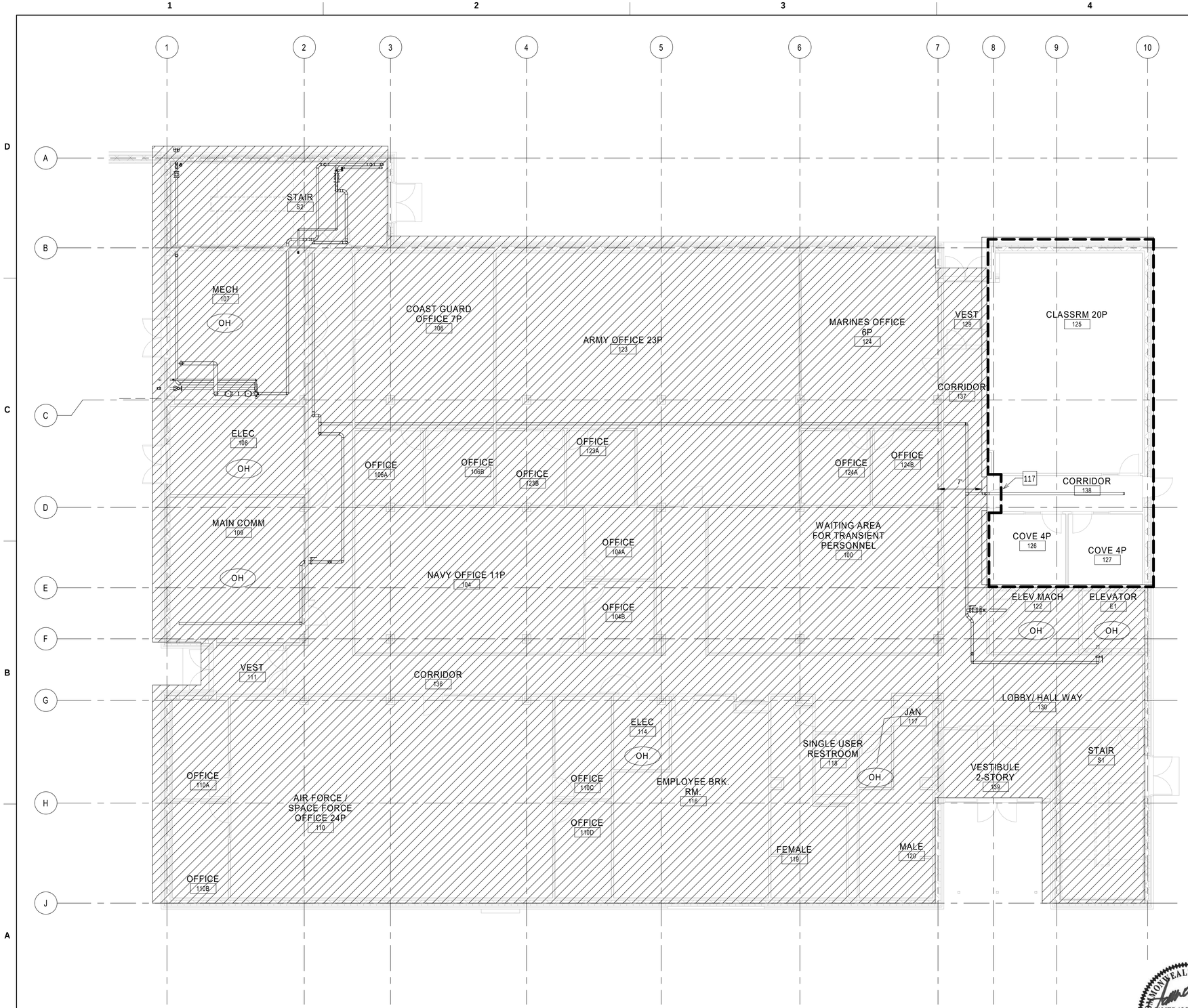
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

FIRE SUPPRESSION - FIRST FLOOR PLAN

SHEET ID

FX110



A1 FIRE SUPPRESSION - FIRST FLOOR PLAN (BID OPTION 1)

1/8" = 1'-0"

GENERAL SHEET NOTES

1. SEE SHEET FX001 FOR GENERAL NOTES.
2. ALL AREAS ARE CLASSIFIED AS LIGHT HAZARD, UNLESS OTHERWISE NOTED.

KEYNOTES

#	
117	ONLY A SINGLE PENETRATION OF SECURE BOUNDARY ALLOWED. SEE DETAIL A1 ON SHEET FX501.

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

COMMONWEALTH OF VIRGINIA
JAMES ALBERT BEALS
Lic. No. 0402 26777
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: J. BEALS
DRAWN BY: S. FLERI
CHECKED BY: M. CONNOLLY
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

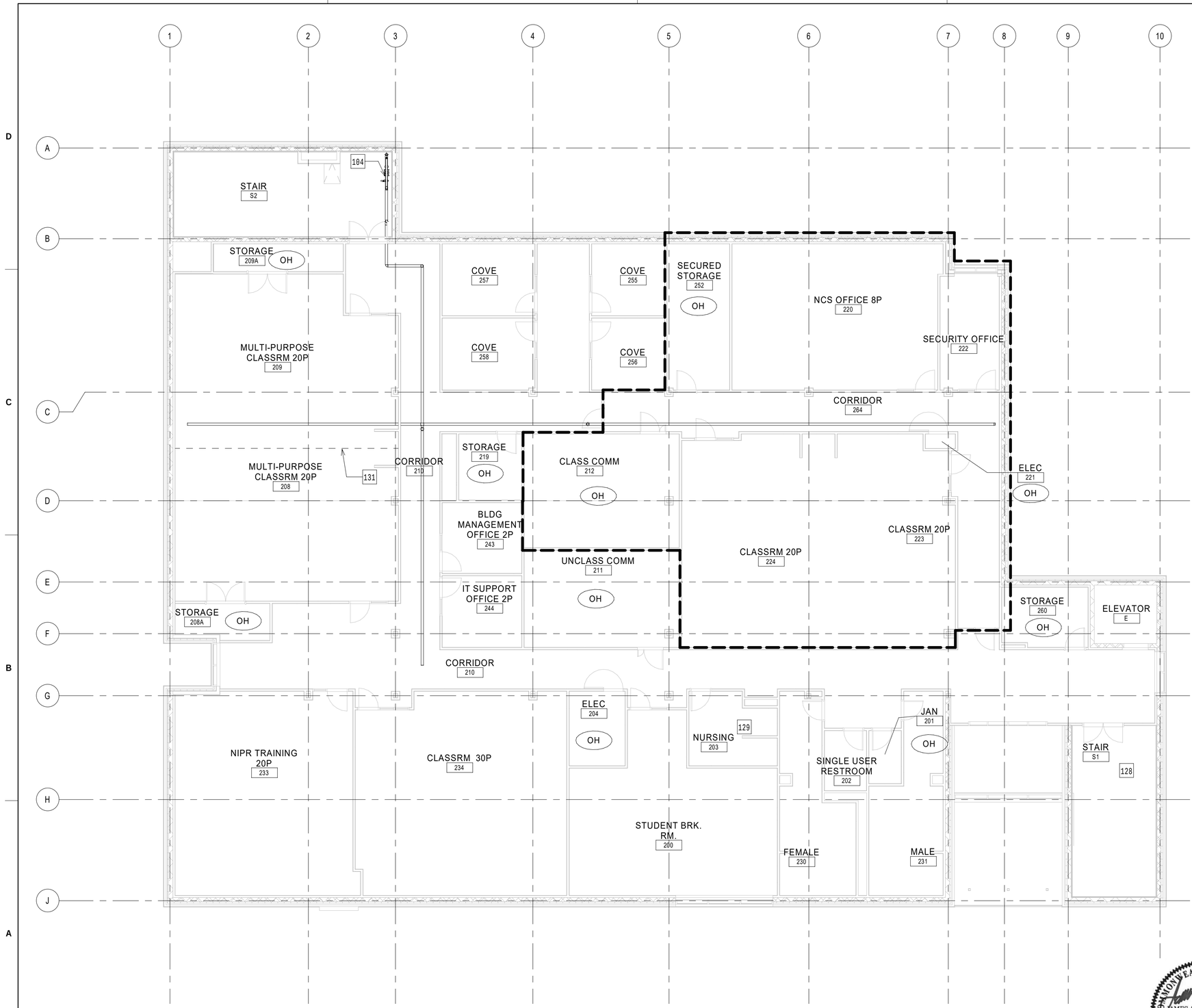
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

FIRE SUPPRESSION - FIRST FLOOR PLAN (BID OPTION 1)

SHEET ID

FX110A



A1 FIRE SUPPRESSION - SECOND FLOOR PLAN

1/8" = 1'-0"

GENERAL SHEET NOTES

1. SEE SHEET FX001 FOR GENERAL NOTES.
2. ALL AREAS ARE CLASSIFIED AS LIGHT HAZARD, UNLESS OTHERWISE NOTED.

KEYNOTES

#	
104	PROVIDE FLOOR CONTROL VALVE ASSEMBLY. ASSEMBLY MUST CONSIST OF CONTROL VALVE WITH TAMPER SWITCH, CHECK VALVE, WATERFLOW SWITCH, INSPECTORS TEST/DRAIN, AND RELIEF VALVE. DRAIN MUST DISCHARGE TO THE SANITARY SEWER.
128	THIS AREA INCLUDES MULTIPLE CEILING LEVELS. THE SYSTEM DESIGN MUST COMPLETELY ILLUSTRATE THE SPRINKLER LOCATION AND SPACING CRITERIA.
129	COORDINATE SPRINKLERS WITHIN NURSING ROOM AROUND PRIVACY CURTAIN OBSTRUCTIONS.
131	LOCATION OF FOLDABLE PARTITION.

COMMONWEALTH OF VIRGINIA
JAMES ALBERT BEALS
Lic. No. 0402 26777
PROFESSIONAL ENGINEER
12/14/2022

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. BEALS
DRAWN BY: S. FLERI
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SUBMITTED BY:
SIZE: ANSI D
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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

AECOM
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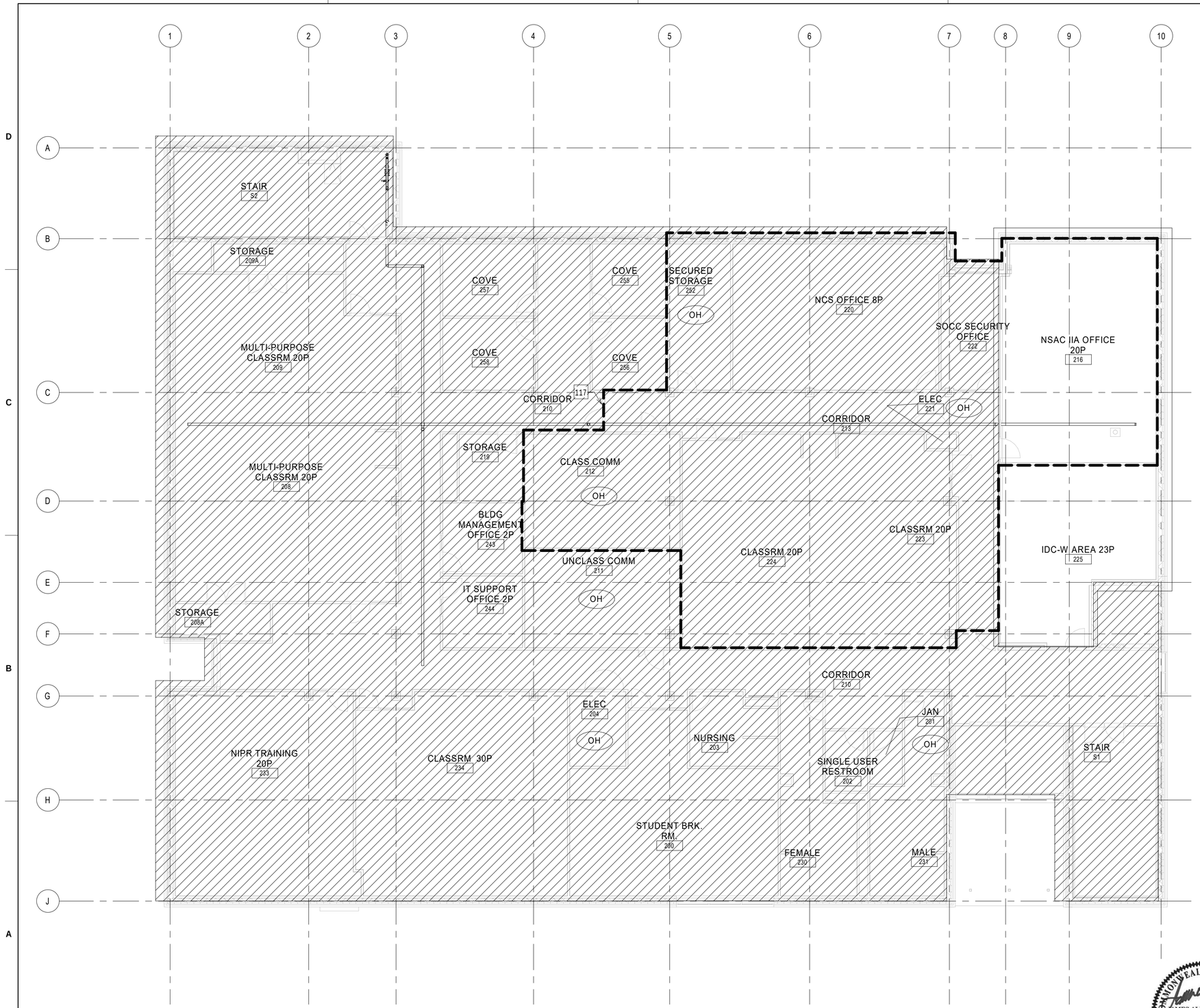
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

FIRE SUPPRESSION - SECOND FLOOR PLAN

SHEET ID

FX120



GENERAL SHEET NOTES

1. SEE SHEET FX001 FOR GENERAL NOTES.
2. ALL AREAS ARE CLASSIFIED AS LIGHT HAZARD, UNLESS OTHERWISE NOTED.

KEYNOTES

#	
117	ONLY A SINGLE PENETRATION OF SECURE BOUNDARY ALLOWED. SEE DETAIL A1 ON SHEET FX501.

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

A1 FIRE SUPPRESSION - SECOND FLOOR PLAN (BID OPTION 1)

1/8" = 1'-0"

COMMONWEALTH OF VIRGINIA
JAMES ALBERT BEALS
Lic. No. 0402 26777
PROFESSIONAL ENGINEER
12/14/2022

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	J. BEALS
DRAWN BY:	S. FLERI
CHECKED BY:	M. CONNOLLY
SUBMITTED BY:	
SIZE: ANSI D	FILE NAME:
ISSUE DATE:	14 DECEMBER 2022
SOLICITATION NO.:	W9126P22R0017
CONTRACT NO.:	
FILE NUMBER:	

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

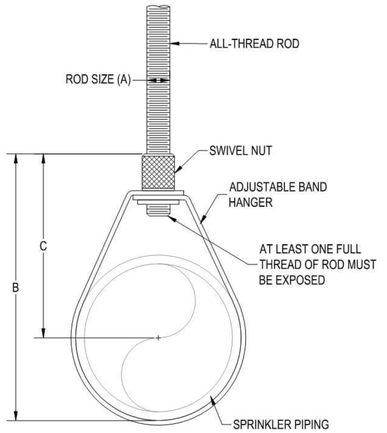
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

FIRE SUPPRESSION - SECOND FLOOR PLAN (BID OPTION 1)

SHEET ID

FX120A

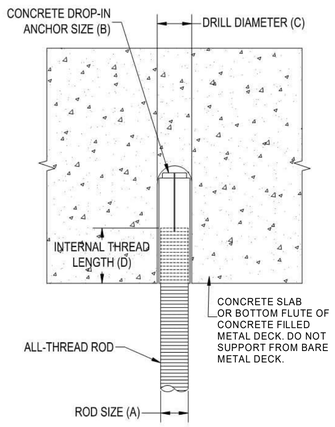


PIPE SIZE	A	B	C
½	⅜	3⅛	2⅝
¾	⅜	3⅛	2½
1	⅜	3⅜	2⅝
1¼	⅜	3¾	2⅞
1½	⅜	3⅞	2⅞
2	⅜	4½	3
2½	⅜	5⅝	4⅛
3	⅜	5⅞	4
4	⅜	7⅜	5
5	½	9⅛	6¼
6	½	10⅛	6¾
8	½	13⅛	8¾

ALL SIZES ARE IN INCHES

C1 ADJUSTABLE BAND HANGER INSTALLATION

NONE

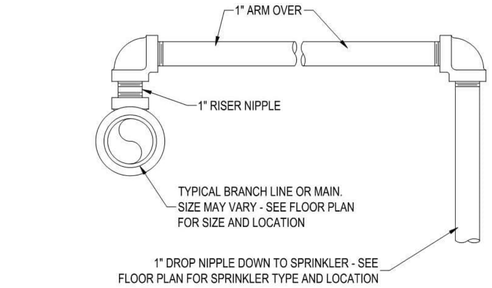


PIPE SIZE	A	B	C	D
½	⅜	⅜ x 1 9/16	½	⅝
¾	⅜	⅜ x 1 9/16	½	⅝
1	⅜	⅜ x 1 9/16	½	⅝
1¼	⅜	⅜ x 1 9/16	½	⅝
1½	⅜	⅜ x 1 9/16	½	⅝
2	⅜	⅜ x 1 9/16	½	⅝
2½	⅜	⅜ x 1 9/16	½	⅝
3	⅜	⅜ x 1 9/16	½	⅝
4	⅜	⅜ x 1 9/16	½	⅝
5	½	½ x 2	⅝	1 1/16
6	½	½ x 2	⅝	1 1/16
8	½	½ x 2	⅝	1 1/16
10	⅝	⅝ x 2 9/16	27/32	⅞
12	⅝	⅝ x 2 9/16	27/32	⅞

ALL SIZES ARE IN INCHES

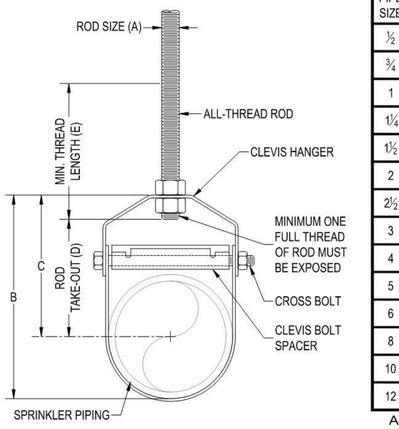
C2 ALL-THREAD ROD CONCRETE ANCHOR INSTALLATION

NONE



C4 INSTALLATION OF SPRINKLER PIPING ARM OVER

NONE

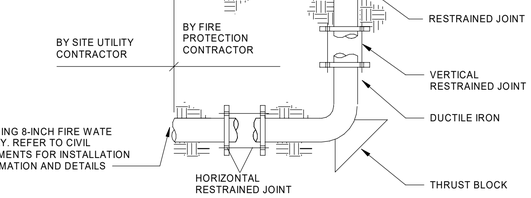


PIPE SIZE	A	B	C	D	E
½	⅜	2⅛	1 1/16	15/16	2½
¾	⅜	2 7/16	1⅞	1⅛	2½
1	⅜	2 13/16	2⅛	1⅜	2½
1¼	⅜	3 7/16	2 9/16	1 13/16	2½
1½	⅜	4	3	2¼	2½
2	⅜	4½	3¼	2½	2½
2½	⅜	5 9/16	4	3 1/16	2½
3	⅜	6¾	4⅞	3 15/16	2½
4	⅜	7 13/16	5½	4⅜	2½
5	½	9 1/16	6⅛	5	2½
6	½	10 7/16	6 15/16	5 1/16	3
8	½	12 3/4	8⅜	7⅛	3½
10	⅝	15¼	9 13/16	8⅜	3½
12	⅝	17⅝	11 3/16	9 1/16	3½

ALL SIZES ARE IN INCHES

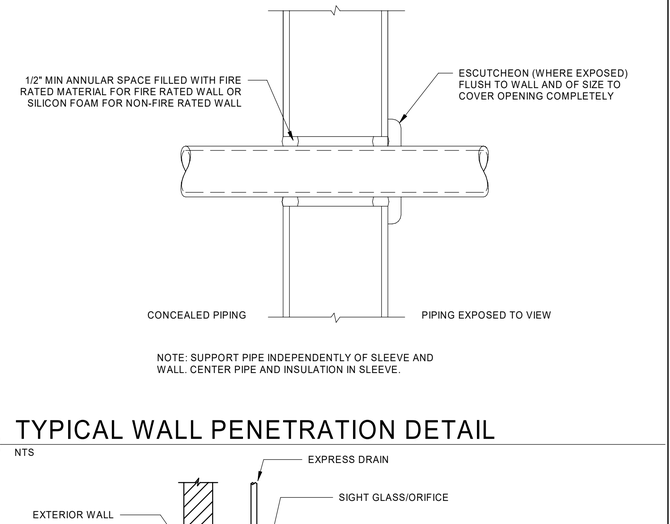
B1 CLEVIS HANGER WITH BOLT SPACER INSTALLATION

NONE



B2 FIRE WATER SERVICE DETAIL

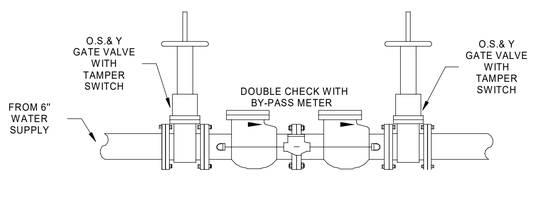
NTS



NOTE: SUPPORT PIPE INDEPENDENTLY OF SLEEVE AND WALL. CENTER PIPE AND INSULATION IN SLEEVE.

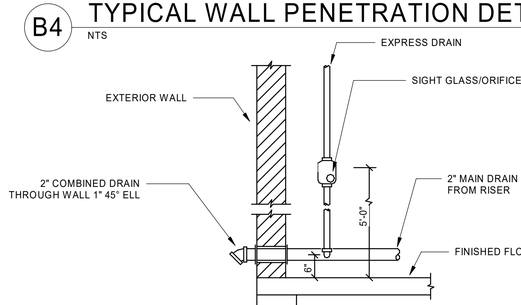
B4 TYPICAL WALL PENETRATION DETAIL

NTS



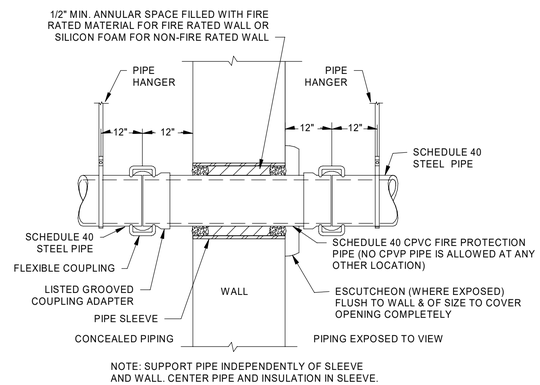
A2 DOUBLE CHECK VALVE BACKFLOW PREVENTER

12" = 1'-0"



A4 INSPECTOR'S TEST CONNECTION WITH MAIN DRAIN

12" = 1'-0"



NOTE: SUPPORT PIPE INDEPENDENTLY OF SLEEVE AND WALL. CENTER PIPE AND INSULATION IN SLEEVE.

A1 TYPICAL SECURED AREA WALL PENETRATION DETAIL

NTS

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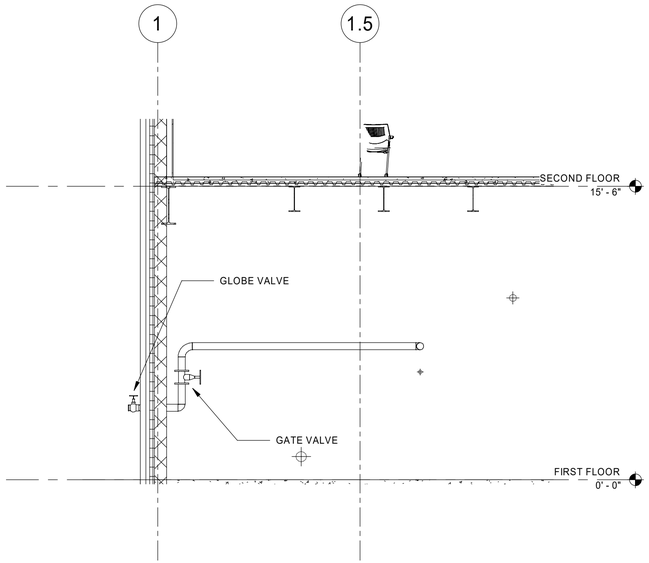
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

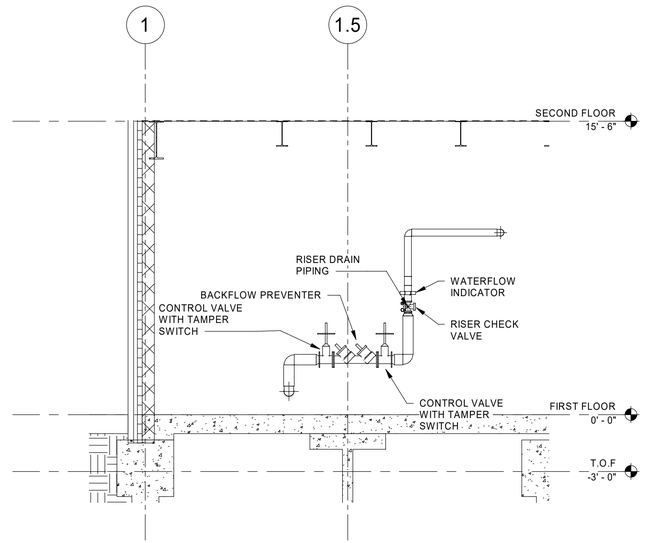
FIRE SUPPRESSION - DETAILS

SHEET ID

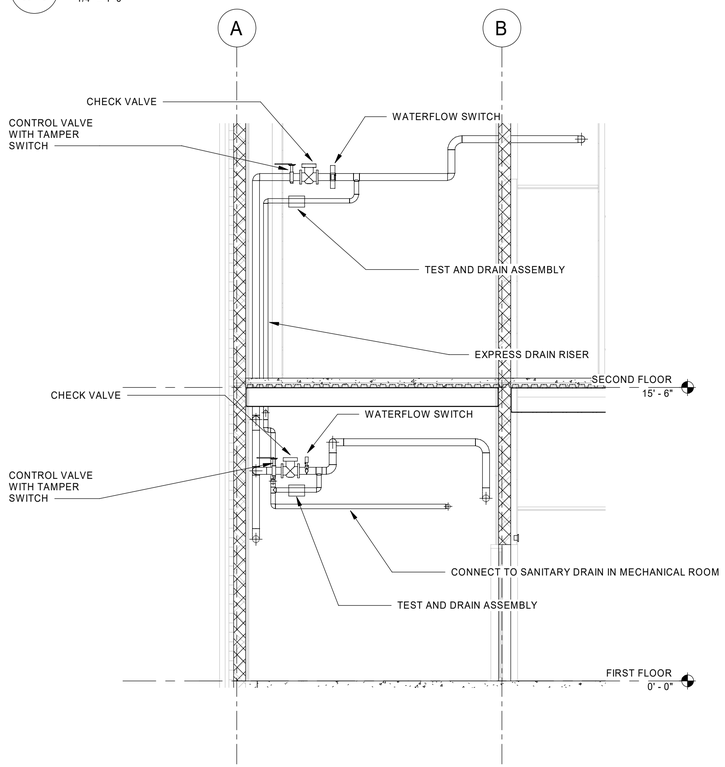
FX501



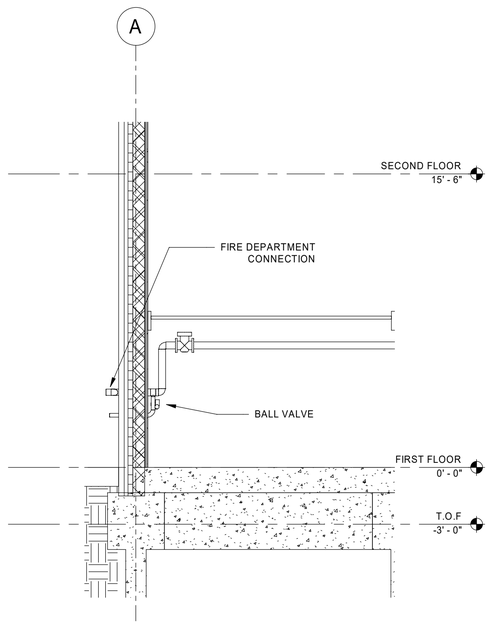
C1 BACKFLOW PREVENTER TEST HEADER
1/4" = 1'-0"



C3 FIRE SUPPRESSION SYSTEM RISER
1/4" = 1'-0"



A1 FIRST AND SECOND FLOOR ZONE CONTROL ASSEMBLIES
1/4" = 1'-0"



A3 FIRE DEPARTMENT CONNECTION
1/4" = 1'-0"

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4 3 2 1 0 4 8
SCALE: 1/4" = 1'-0"

US Army Corps of Engineers ®

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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

FIRE SUPPRESSION - SECTIONS

SHEET ID
FX601

FIRE ALARM / MASS NOTIFICATION

(ALL SYMBOLS AND ABBREVIATIONS SHOWN ARE NOT NECESSARILY USED ON THE DRAWINGS)

GENERAL NOTES

GENERAL NOTES

1. THE FIRE ALARM/MASS NOTIFICATION SYSTEM MUST BE DESIGNED, INSTALLED, AND COMMISSIONED IN ACCORDANCE WITH THE FOLLOWING:
   - INTERNATIONAL BUILDING CODE (IBC), (2018 EDITION)
   - NFPA 72: NATIONAL FIRE ALARM AND SIGNALING CODE (2019 EDITION)
   - UFC 3-600-01:UFC 3-600-01 FIRE PROTECTION ENGINEERING FOR FACILITIES (8 AUGUST 2016, WITH CHANGE 5, 24 SEPTEMBER 2020)
   - UFC 4-021-01:DESIGN AND O&M: MASS NOTIFICATION SYSTEMS (CHANGE 1, JANUARY 2010)
   - FC 3-600-01 MPO FIRE PROTECTION ENGINEERING FOR FACILITIES - MPO (2020)
   - TSFPEWG 3-600-01.01 AIR FORCE FIRE PROTECTION CRITERIA AND TECHNICAL GUIDANCE FOR MISSION CONTINUITY OF ELECTRONIC, INFORMATION TECHNOLOGY, AND TELECOMMUNICATION EQUIPMENT INSTALLATION (25 FEBRUARY 2021, WITH CHANGE 1, 21 APRIL 2021)
2. THESE DOCUMENTS DEPICT A PERFORMANCE LEVEL ENGINEERING DESIGN LAYOUT TO BE UTILIZED AS GUIDANCE FOR THE PLANNING OF THE SYSTEM BY THE CONTRACTOR. PROVIDE COMPLETE DOCUMENTS FOR REVIEW AND APPROVAL FROM THE ENGINEER OF RECORD AND THE AUTHORITY HAVING JURISDICTION PRIOR TO INSTALLATION. INCLUDE IN THE SHOP DRAWINGS AND CALCULATIONS ANY ADDITIONAL EQUIPMENT NECESSARY, INCLUDING INITIATING DEVICES AND NOTIFICATION APPLIANCES, TO PROVIDE A COMPLETE INSTALLATION AND COMPLY WITH LOCAL CODES, AMENDMENTS AND BASE STANDARDS.
3. FOR COMPLETE SYSTEM CONTROL, REFER TO THE MATRIX OF OPERATIONS WITHIN THIS PACKAGE.
4. PROVIDE AN ADDRESSABLE FIRE ALARM/MASS NOTIFICATION SYSTEM CONTROL PANEL. SYSTEM MUST BE NETWORKED INTO THE EXISTING BASEWIDE FIRE ALARM SYSTEM NETWORK.
5. FINAL FIRE ALARM/MASS NOTIFICATION SYSTEM TEST MUST BE WITNESSED BY THE QFPE AND MPO AHJ. FILE A "RECORD OF COMPLETION" PREPARED IN ACCORDANCE WITH NFPA 72, AND THE FIRE ALARM TEST REPORT WITH THE FPDOR AND AHJ.
6. THE FLASH RATE OF VISIBLE NOTIFICATION APPLIANCES MUST NOT EXCEED 2 FLASHES PER SECOND, NOR BE LESS THAN 1 FLASH EVERY SECOND, IN ACCORDANCE WITH NFPA 72. A MAXIMUM PULSE DURATION MUST BE 0.2 SECONDS WITH A MAXIMUM DUTY CYCLE OF 40%, IN ACCORDANCE WITH NFPA 72. VISIBLE NOTIFICATION APPLIANCES MUST BE SPACED IN ACCORDANCE WITH NFPA 72. ALL STROBES MUST BE SYNCHRONIZED.
7. AUDIBLE FIRE ALARM SOUND LEVELS MUST BE AT LEAST 15 dBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, MEASURED 5 FEET ABOVE THE FLOOR IN THE OCCUPIABLE AREA, BUT NOT GREATER THAN 120 dBA AT THE MINIMUM HEARING DISTANCE FROM THE AUDILE APPLIANCE. PROVIDE ADEQUATE NOTIFICATION APPLIANCES THROUGHOUT THE FACILITY TO MEET THE NFPA 72 REQUIREMENTS.
8. SPRINKLER SYSTEM TAMPER AND FLOW SWITCHES MUST BE INSTALLED UNDER SPECIFICATION SECTION 21 13 13. CONNECT DEVICES TO THE FIRE ALARM SIGNALING LINE CIRCUITS.
9. OBTAIN APPROVALS FROM THE FPDOR AND AHJ PRIOR TO COMMENCING WORK.
10. DO NOT LOCATE DETECTORS IN DIRECT AIR OR CLOSER THAN 3 FEET FROM AN AIR SUPPLY OR RETURN DIFFUSER.
11. MOUNT ALL WALL-MOUNTED VISUAL AND VISUAL/AUDIBLE NOTIFICATION APPLIANCES WITH THE ENTIRE STROBE LENS BETWEEN 80" TO 96" ABOVE THE FINISHED FLOOR.
12. FIRE ALARM SIGNALING LINE CIRCUITS (SLC) AND NOTIFICATION APPLIANCE STROBE CIRCUITS (NAC) ARE TO BE CLASS A. NOTIFICATION APPLIANCE SPEAKER CIRCUITS ARE TO BE CLASS A. T-TAPS AND WIRE NUTS ARE NOT PERMITTED.

SYMBOLS - PANEL

SYMBOL	DESCRIPTION
FMCP	FIRE ALARM / MASS NOTIFICATION CONTROL PANEL
ASSD	AIR SAMPLING SMOKE DETECTOR PANEL
RECP	RELEASING CONTROL PANEL
ANN	ANNUNCIATOR PANEL
GAP	GRAPHIC ANNUNCIATOR PANEL
LOC	LOCAL OPERATING CONSOLE
NAC	NOTIFICATION APPLIANCE CONTROL PANEL
ERS	EMERGENCY RESPONSE RADIO REPEATER CONTROL PANEL
SS	SURGE SUPPRESSOR
DACT	DIGITAL ALARM COMMUNICATOR TRANSMITTER
BATT	BATTERY CABINET
AMP	SIGNAL BOOSTER PANEL

SYMBOLS - INITIATING

SYMBOL	DESCRIPTION
P	MANUAL PULL STATION
(?) P	SMOKE DETECTOR UF = UNDERFLOOR
(?) ID S,R	DUCT DETECTOR ID = FAN UNIT DESIGNATION S = SUPPLY R = RETURN
(?) CO	CARBON MONOXIDE DETECTOR
S	LOCAL ALARM SILENCE BUTTON
E	LOCATION OF EMERGENCY POWER OFF (EPO) BUTTON (SEE ELECTRICAL DRAWINGS)

SYMBOLS - NOTIFICATION

SYMBOL	DESCRIPTION
XX	WALL-MOUNTED FIRE ALARM STROBE (XX DENOTES MINIMUM CANDELA RATING)
XX	WALL-MOUNTED FIRE ALARM SPEAKER/STROBE (XX DENOTES MINIMUM CANDELA RATING)
	SPEAKER (WALL-MOUNTED, UNLESS OTHERWISE NOTED) WP = WEATHER PROOF
XX	CEILING MOUNTED-MOUNTED FIRE ALARM SPEAKER/STROBE (XX DENOTES MINIMUM CANDELA RATING)
XX	CEILING MOUNTED-MOUNTED FIRE ALARM STROBE (XX DENOTES MINIMUM CANDELA RATING)
S	CEILING MOUNTED SPEAKER
XX L	WALL MOUNTED-MOUNTED LOCAL FIRE ALARM HORN/STROBE (XX DENOTES MINIMUM CANDELA RATING)

SYMBOLS - MISCELLANEOUS

SYMBOL	DESCRIPTION
MM	MONITOR MODULE
CM MAU,EF	CONTROL MODULE MAU= MAKEUP AIR UNIT, EF=EXHAUST FAN
C TS	TAMPER SWITCH
C WF	WATER FLOW SWITCH
C TS	POST INDICATOR VALVE TAMPER SWITCH
KB	KNOX BOX (WITH TAMPER SWITCH)
VTD	VISUAL TEXTUAL DISPLAY
	SECURE PENETRATION
	ANTENNA

ABBREVIATIONS

ACU	AUTONOMOUS CONTROL UNIT
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AVG	AVERAGE
CA	CLEAN AGENT
CO	CONTRACTING OFFICER
COR	CONTRACTING OFFICER REPRESENTATIVE
COTR	CONTRACTING OFFICERS TECHNICAL REPRESENTATIVE
ELEV	ELEVATION
EOL	END OF LINE RESISTOR
FPC	FIRE PUMP CONTROLLER
FPDOR	FIRE PROTECTION DESIGNER OF RECORD
IDC	INITIATING DEVICE CIRCUIT
MIN	MINIMUM
MPO	MARYLAND PROCUREMENT OFFICE
NAC	NOTIFICATION APPLIANCE CIRCUIT
NC	NONCOMBUSTIBLE
NIC	NOT IN CONTRACT
NP	NOT PERMITTED
QFPE	QUALIFIED FIRE PROTECTION ENGINEER
SLC	SIGNALING LINE CIRCUIT
SQFT	SQUARE FEET
WP	WEATHER PROOF

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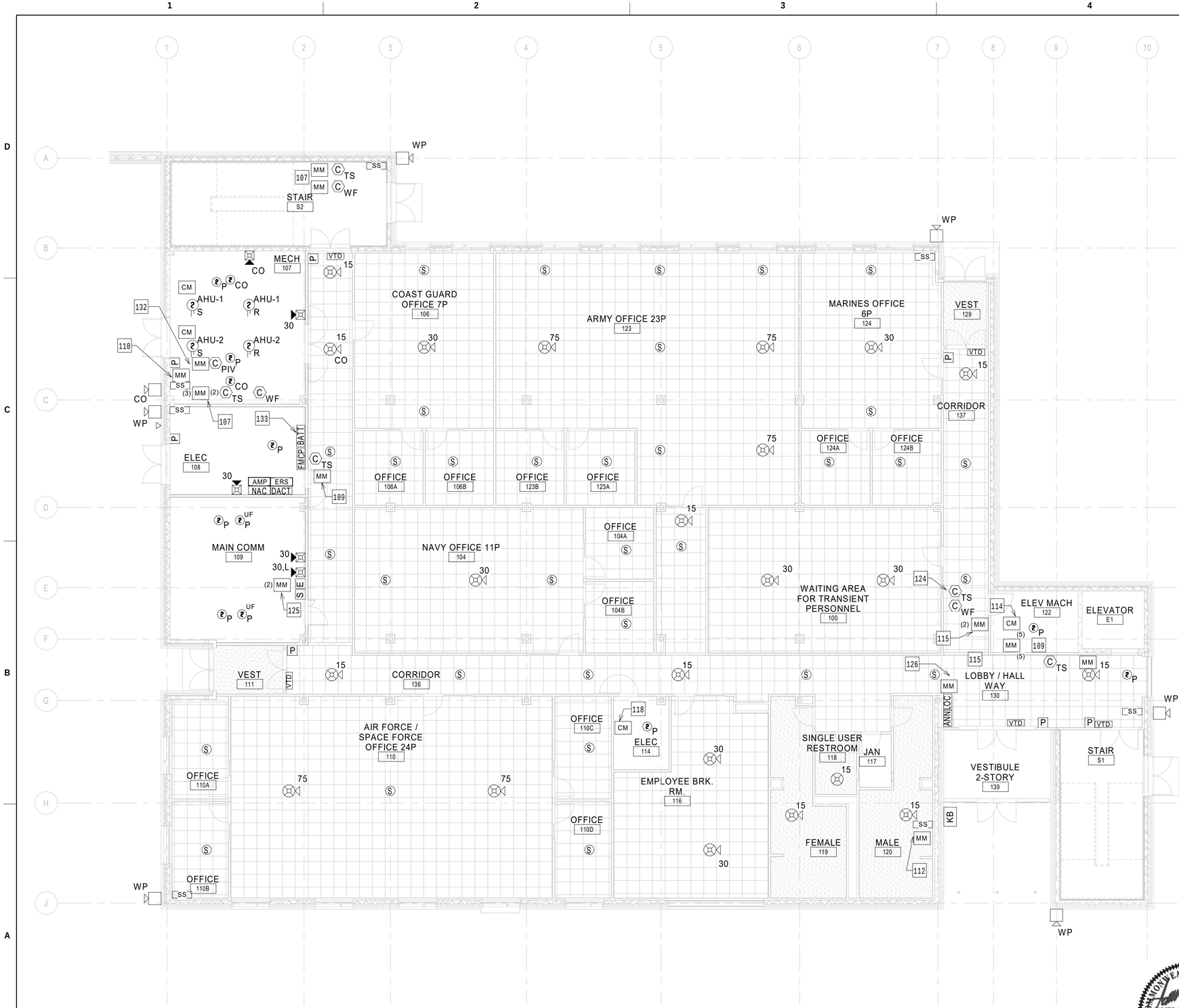
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

FIRE ALARM - SYMBOLS, LEGENDS, ABBREVIATIONS AND NOTES

SHEET ID

FA001



A1 FIRST FLOOR PLAN

1/8" = 1'-0"

GENERAL SHEET NOTES

1. SEE SHEET FA001 FOR GENERAL NOTES.

KEYNOTES

#	
107	PROVIDE MONITOR MODULES FOR WATER FLOW SWITCH AND TAMPER SWITCH.
109	PROVIDE MONITOR MODULES FOR TAMPER SWITCH.
110	MONITOR MODULE FOR POST INDICATOR VALVE, COORDINATE WITH CIVIL.
111	MONITOR MODULE THAT MONITORS HVAC EPO.
112	MONITOR MODULE THAT SUPERVISES KNOX BOX.
114	CONTROL MODULE FOR PRIMARY ELEVATOR RECALL, ALTERNATE ELEVATOR RECALL, FIRE FIGHTER HAT FLASH INDICATOR, FIRE FIGHTER HAT CONSTANT ILLUMINATION AND SHUNT TRIP POWER.
115	MONITOR MODULE THAT MONITORS SHUNT TRIP POWER.
118	CONTROL MODULE FOR EMERGENCY LIGHTING OVERRIDE.
124	PROVIDE MONITOR MODULES FOR ELEVATOR MACHINE ROOM WATER FLOW SWITCH AND TAMPER SWITCH.
125	PROVIDE MONITOR MODULES FOE EMERGENCY POWER OFF BUTTON AND POWER TO THE SHUNT TRIP.
126	PROVIDE MONITOR MODULE FOR HVAC SHUTDOWN SWITCH.
132	PROVIDE MONITOR MODULE FOR POST INDICATOR VALVE TAMPER SWITCH.
133	BATTERY PANEL SHALL BE SIZED TO CONTAIN SUFFICIENT BATTER BACKUP AS REQUIRED FOR VTDS AND NOTIFICATION APPLIANCES.

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GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

US Army Corps of Engineers ®

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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
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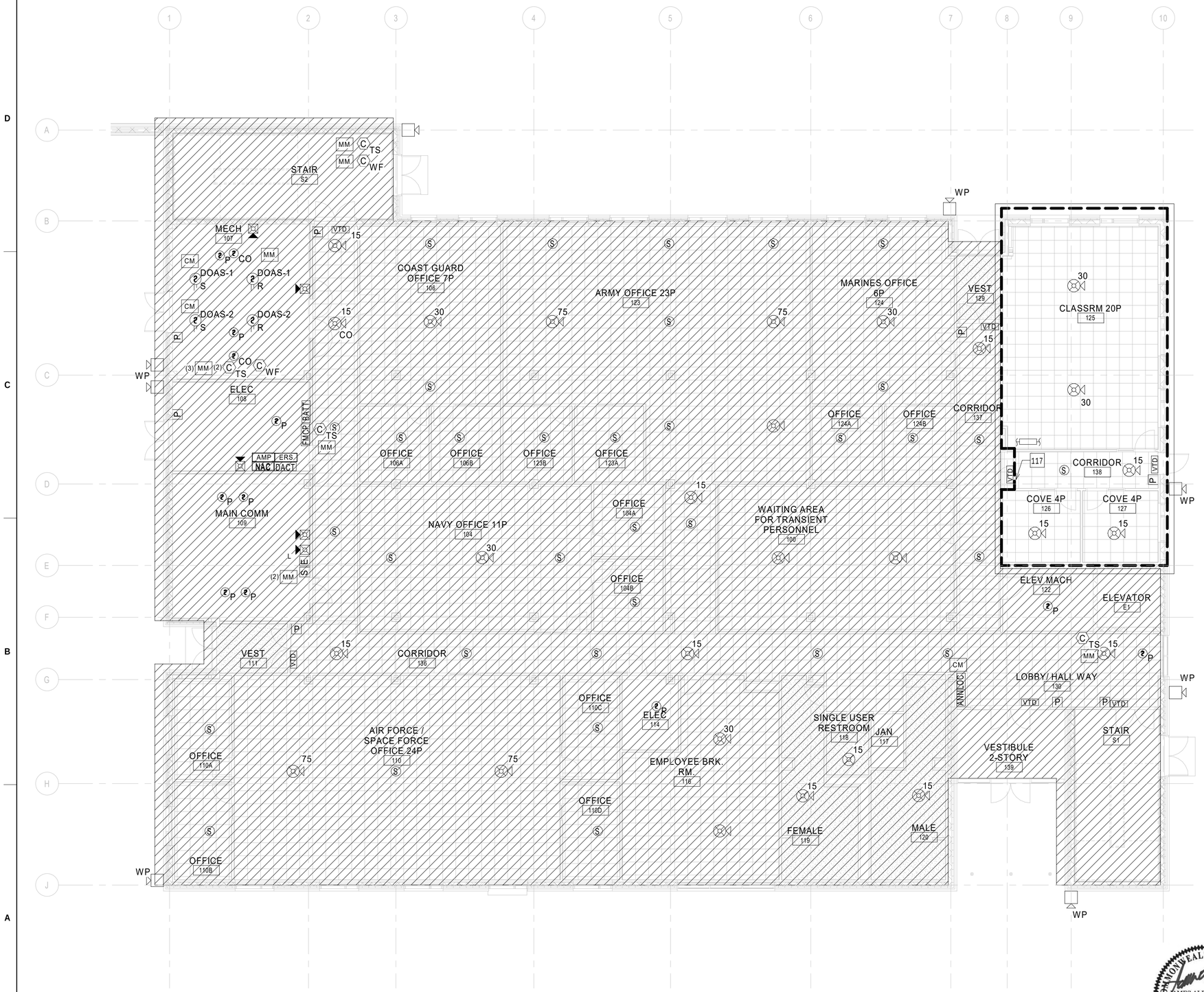
FIRE ALARM - FIRST FLOOR PLAN

SHEET ID

FA110



GENERAL SHEET NOTES

1. SEE SHEET FA001 FOR GENERAL NOTES.

KEYNOTES

117 ONLY A SINGLE PENETRATION OF SECURE BOUNDARY ALLOWED. SEE DETAIL A1 AND B1 ON SHEET FA501.

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

A1 FIRE ALARM - FIRST FLOOR PLAN (BID OPTION 1)

1/8" = 1'-0"

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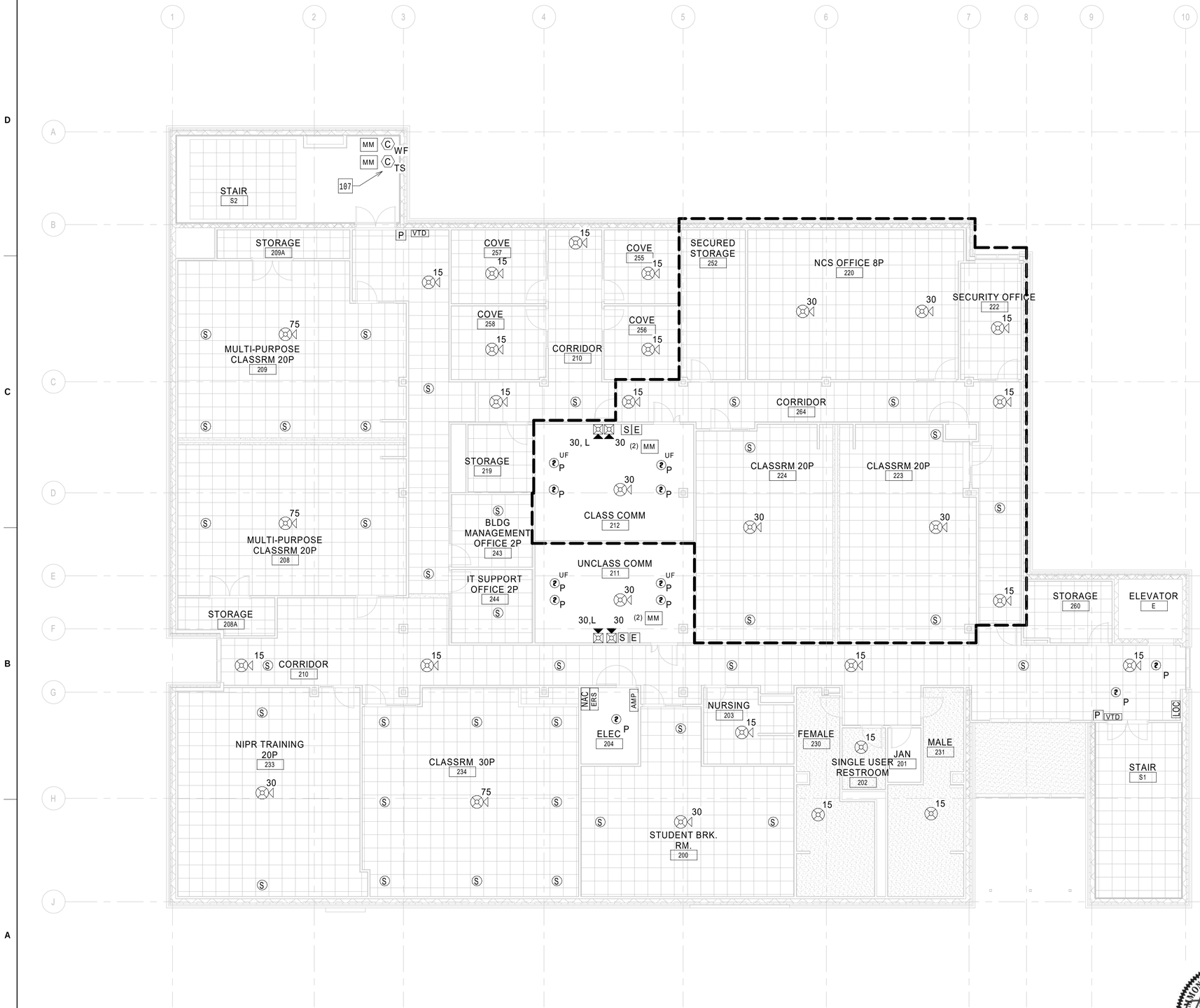
FIRE ALARM - FIRST FLOOR PLAN (BID OPTION 1)

SHEET ID

FA110A



A1 FIRE ALARM - SECOND FLOOR PLAN

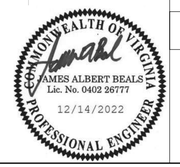
1/8" = 1'-0"

GENERAL SHEET NOTES

1. SEE SHEET FA001 FOR GENERAL NOTES.

KEYNOTES

#	
107	PROVIDE MONITOR MODULES FOR WATER FLOW SWITCH AND TAMPER SWITCH.



GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. BEALS
DRAWN BY: S. FLERI
CHECKED BY: M. CONNOLLY
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

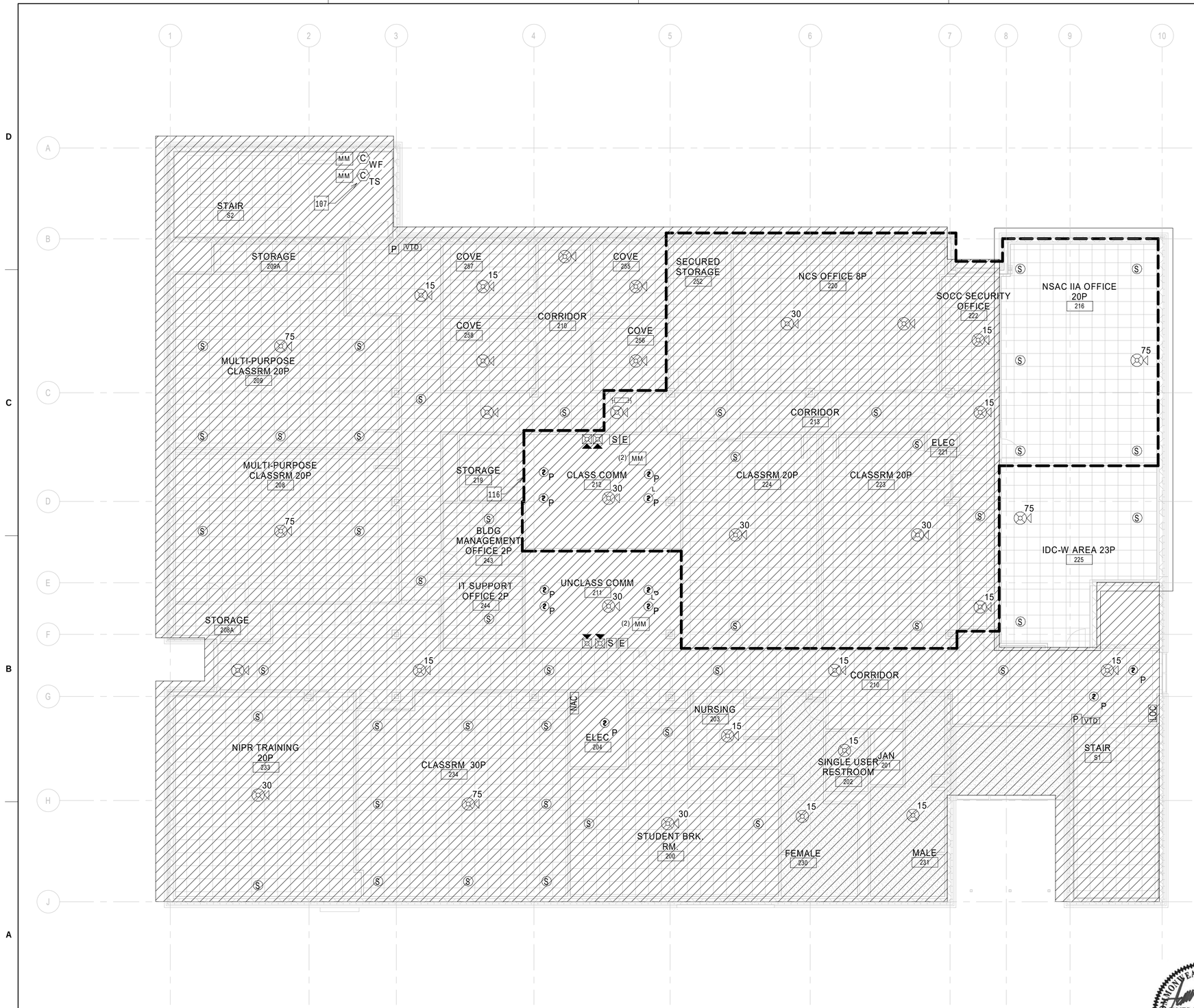
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

FIRE ALARM - SECOND FLOOR PLAN

SHEET ID

FA120



GENERAL SHEET NOTES

1. SEE SHEET FA001 FOR GENERAL NOTES.

KEYNOTES

#	
107	PROVIDE MONITOR MODULES FOR WATER FLOW SWITCH AND TAMPER SWITCH.
116	ONLY A SINGLE PENETRATION OF SECURE BOUNDARY ALLOWED. SEE DETAIL B1 ON SHEET FA501.

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

A1 FIRE ALARM - SECOND FLOOR PLAN (BID OPTION 1)

1/8" = 1'-0"

COMMONWEALTH OF VIRGINIA
JAMES ALBERT BEALS
Lic. No. 0402 26777
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
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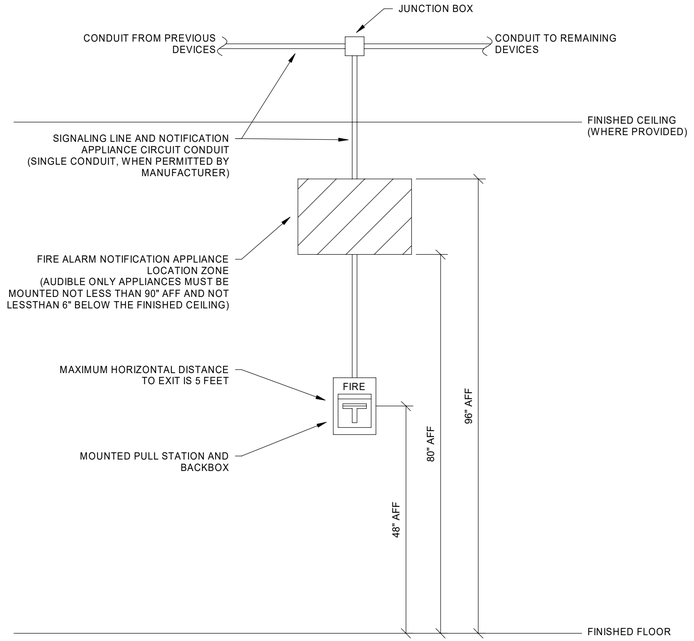
FIRE ALARM - SECOND FLOOR PLAN (BID OPTION 1)

SHEET ID

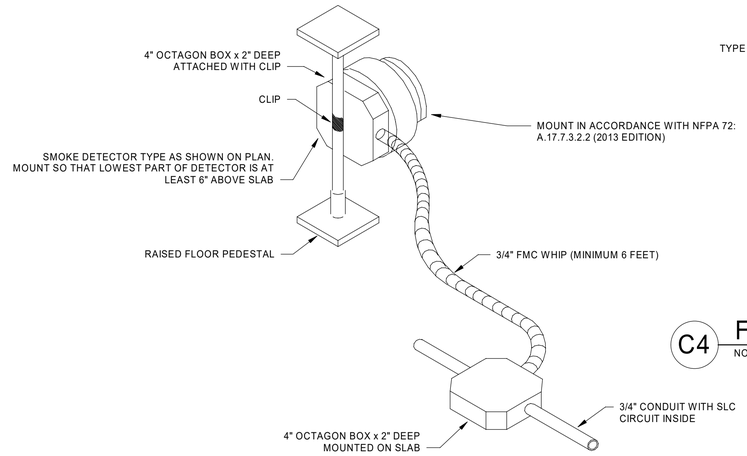
FA120A

RTA SUBMISSION



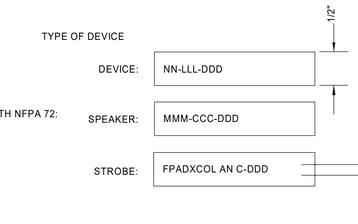
C1 FIRE ALARM MOUNTING DETAIL

NTS



C2 MOUNTING OF UNDERFLOOR DETECTOR

NONE



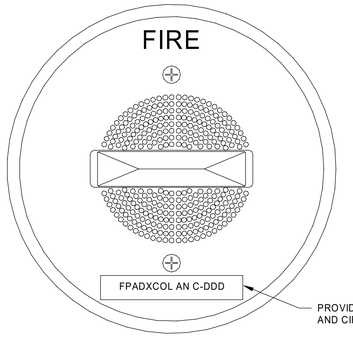
DETAIL NOTES:
PROVIDE WHITE LABEL WITH BLACK LETTERING.

NN	-	NODE NUMBER
LLL	-	LOOP NUMBER
DDD	-	DEVICE NUMBER
MMM	-	MODULE NUMBER
CCC	-	CIRCUIT NUMBER
F	-	FLOOR
X	-	PAD PANEL NUMBER
AN	-	COLUMN GRID LOCATION
C	-	PAD PANEL CIRCUIT NUMBER

NOTE: PROVIDE DEVICE LABELS AS REQUIRED. A LABEL MUST ALSO BE AFFIXED TO ANY FIELD DEVICE WHICH IS MONITORED BY THE FIRE ALARM SYSTEM.

C4 FIRE ALARM DEVICE LABELING

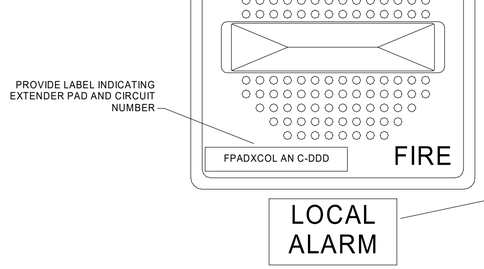
NONE



PROVIDE LABEL INDICATING EXTENDER PAD AND CIRCUIT NUMBER

B1 CEILING-MOUNTED SPEAKER STROBE DETAIL

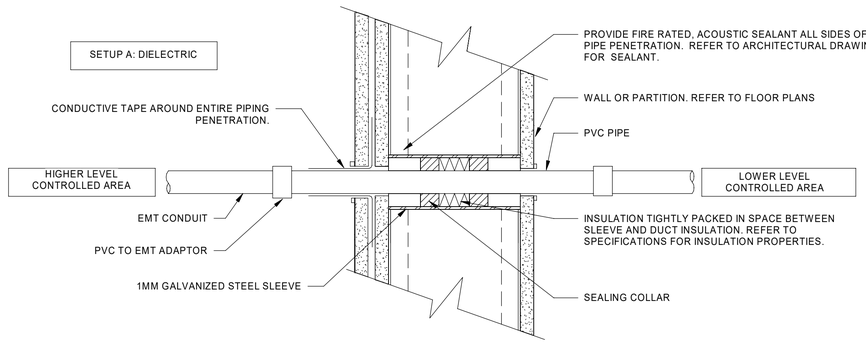
NONE



PROVIDE LEGIBLE SIGNAGE. LETTERING MUST BE AT LEAST 1-INCH TALL, BENEATH LOCAL APPLIANCE, AND ON TWO LINES. SIGNAGE MUST BE PLASTIC SIGN ENGRAVED WITH RED BACKGROUND AND WHITE LETTERING

B2 WALL-MOUNTED LOCAL HORN/STROBE DETAIL

NONE

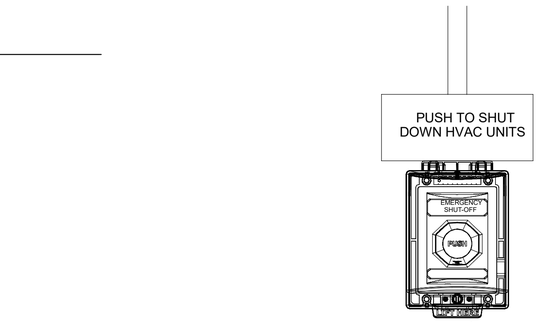


SECURITY INTERFACE	
LOWER	HIGHER
UNC	TI, SCI, MCV
TI	SCI, MCV

NOTE: CONTRACTOR MAY SELECT EITHER SETUP A OR SETUP B. REFER TO SECURITY PLANS FOR LEVEL OF PROTECTION.

A1 SECURE TO UNSECURE BOUNDARY CONDUIT PIPE PENETRATION

NTS



EMERGENCY POWER OFF BUTTON (APPEARANCE MAY DIFFER FROM ILLUSTRATION)

JAMES ALBERT BEALS
Lic. No. 0402 26777
12/14/2022
COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

A5 HVAC EPO SHUT-OFF SWITCH

12" = 1'-0"

US Army Corps of Engineers ®

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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

FIRE ALARM - DETAILS

SHEET ID
FA501

EMPTY SQUARE INDICATES ACTION WILL NOT CAUSE A SPECIFIC RESULT

● INDICATES ACTION WILL CAUSE A SPECIFIC RESULT

| SYSTEM INPUT | | SYSTEM OUTPUTS: CONTROL UNIT ANNUNCIATION | | | | | | | | | NOTIFICATION | | | | | | | | | | | | | | | | | | LIFE SAFETY CONTROL | | | | | | | | | | | | | | | | | |

PLUMBING ABBREVIATIONS

ABBREVIATION	DESCRIPTION
AC	AIR COMPRESSOR
ACFM	ACTUAL CUBIC FEET PER MIN.
AFG	ABOVE FINISH GRADE
AP	ACCESS PANEL
ATP	AUTOMATIC TRAP PRIMER
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CI	CAST IRON
CO	CLEANOUT
CV	CENTRAL VACUUM
CW	COLD WATER
DIAM.	DIAMETER
DISP	DISPLACEMENT
ETP	ELECTRONIC TRAP PRIMER
EWH	ELECTRIC WATER HEATER
EWS	EMERGENCY EYEWASH/SHOWER
EXT	EXPANSION TANK
FCO	FLOOR CLEANOUT
F.F.E.	FINISHED FLOOR ELEVATION
F.G.E.	FINISHED GRADE ELEVATION
FL	FLOOR
FP	FIRE PUMP
FS	FLOOR SINK
GALS	GALLONS
GCO	GRADE CLEANOUT
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GV	GATE VALVE
HB	HOSE BIBB
HP	HORSEPOWER
HTR	HEATER
HW	HOT WATER
HWR	HOT WATER RETURN
HWRP	HOT WATER RETURN PUMP
ID	INDIRECT DRAIN
I.E.	INVERT ELEVATION
IN. HG	INCHES OF MERCURY
m	METERS
mm	MILLIMETERS
MBH	THOUSAND BRITISH THERMAL UNITS
NFWH	NON-FREEZE WALL HYDRANT
NG	NATURAL GAS
(NO)	NORMALY OPEN
OFD	OVERFLOW DRAINS
P	PLUMBING FIXTURE
PD	PUMP DISCHARGE
PSIG	POUNDS PER SQUARE INCH GAUGE
RD	ROOF DRAIN
RL	RAINLEADER
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RPM	REVOLUTIONS PER MINUTE
SS	SANITARY
SD	STORM
SE	SEWAGE EJECTOR PUMP
SOV	SOLENOID VALVE
SP	SUMP PUMP
TK	TANK
TDH	TOTAL DYNAMIC HEAD
TPV	TRAP PRIMER VALVE
UH	UNIT HEATER
US	UTILITY SINK
VLV	VALVE
V	VENT
W	WASTE
WCO	WALL OR PLUGGET CLEANOUT
WHA	WATER HAMMER ARRESTOR

PLUMBING LEGENDS & SYMBOLS

SYMBOL	ABBREVIATION	DESCRIPTION
A	A	COMPRESSED AIR LINE
CRPD	CRPD	CONDENSATE RETURN PUMP DISCHARGE
	CW&V	COMBINATION WASTE & VENT ABOVE FLOOR OR GRADE
	CW&V	COMBINATION WASTE & VENT BELOW FLOOR OR GRADE
F	F	FIRE LINE
G	G	FUEL GAS (LOW PRESSURE)
	CW	DOMESTIC COLD WATER SUPPLY
	HW	DOMESTIC HOT WATER SUPPLY
	HWR	DOMESTIC HOT WATER RETURN LINE
	ID	INDIRECT DRAIN
IW	IW	INDUSTRIAL COLD WATER
MPG	MPG	MEDIUM PRESSURE FUEL GAS
OFD	OFD	OVERFLOW RAIN LEADER ABOVE FLOOR OR GRADE
OFD	OFD	OVERFLOW RAIN LEADER BELOW FLOOR OR GRADE
RL	RL	RAIN LEADER ABOVE FLOOR OR GRADE
RL	RL	RAIN LEADER BELOW FLOOR OR GRADE
SD	SD	STORM DRAIN ABOVE FLOOR OR GRADE
SD	SD	STORM DRAIN BELOW FLOOR OR GRADE
SSD	SSD	SUB-SOIL DRAIN
	SS	SANITARY SEWER/WASTE ABOVE FLOOR OR GRADE
SS	SS	SANITARY SEWER/WASTE BELOW FLOOR OR GRADE
GW	GW	GREASE WASTE BELOW FLOOR OR GRADE
GV	GV	GREASE VENT BELOW AND ABOVE FLOOR
UO	UO	USED OIL ABOVE FLOOR OR GRADE
UO	UO	USED OIL BELOW FLOOR OR GRADE
	V	SANITARY VENT
CV	CV	VACUUM CLEANING ABOVE FLOOR OR GRADE
CV	CV	VACUUM CLEANING BELOW FLOOR
		GAS COCK
	WHA	WATER HAMMER ARRESTOR
		ANCHOR
	RPBP	REDUCED PRESSURE BACKFLOW WITHOUT SHUT-OFF VALVES ASSEMBLY
	RPBP	REDUCED PRESSURE BACKFLOW ASSEMBLY
	BFP	DOUBLE CHECK BACKFLOW PREVENTER
		FLUID FLOW DIRECTION
		PIPE TURNING UP
		PIPE TURNING DOWN
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		CAPPED PIPE/OUTLET
		PLUGGED PIPE/OUTLET
	EWS	EMERGENCY SHOWER/EYE WASH
		RUNNING TRAP
	BV	BALANCING VALVE
	BV	BALL VALVE
	GV	GATE VALVE
	ANV	ANGLE VALVE
	GLV	GLOBE VALVE
	CV	CHECK VALVE
	GPR	GAS PRESSURE REGULATOR
	SOV	OS & Y/SHUT-OFF VALVE
	PRV	PRESSURE REDUCING VALVE
	P/TRV	PRESSURE/TEMPERATURE RELIEF VALVE
	U	UNION
	HB	HOSE BIBB
C	FS	FLOOR SINK (MECHANICAL ROOMS)
C	SD	SHOWER DRAIN (GANG)
C	FD	FLOOR DRAIN (GENERAL AREAS)
	CO	FLOOR CLEANOUT
	WCO	WALL AND ABOVE CEILING CLEANOUT
V	VAC	VACUUM SYSTEM
	BWV	BACKWATER VALVE
	SH	SHOWER HEAD
		DIRECTION OF FLOW
P	PS	GAS SOLENOID VALVE PULL STATION

SYMBOL	ABBREVIATION	DESCRIPTION
PD	PD	PUMP DISCHARGE
TW	TW	TEMPERED WATER
NPW	NPW	NON-POTABLE WATER
CD	CD	CONDENSATE DRAIN PIPE
TP	TP	TRAP PRIMER LINE
OF	OF	OVERFLOW (WATER RECLAMATION DEVICES)
S	S	SANITARY AND VENT RISER
W	W	DOMESTIC WATER RISER
RL	RL	STORM RAINLEADER RISER

NOTE: NOT ALL ABBREVIATION AND SYMBOLS SHOWN HERE ARE UTILIZED.

GENERAL NOTES

1. PLUMBING DRAWINGS ARE IN PART DIAGRAMMATIC AND INTENDED TO SHOW THE SCOPE AND GENERAL ARRANGEMENT OF THE WORK UNDER THIS CONTRACT. FOLLOW THESE DRAWINGS IN LAYING OUT THE EQUIPMENT AND PIPING. DRAWINGS ARE NOT INTENDED TO BE SCALED FOR ROUGHING IN MEASUREMENTS NOR TO SERVE AS SHOP DRAWINGS. WHERE JOB CONDITIONS REQUIRE MINOR CHANGES OR ADJUSTMENTS IN THE INDICATED LOCATIONS OR ARRANGEMENT OF THE WORK, SUCH CHANGES MUST BE MADE WITHOUT CHANGE IN THE CONTRACT AMOUNT.
2. THE CONTRACTOR MUST VISIT THE JOB SITE TO FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE WORK AND TO COORDINATE THE WORK WITH OTHER CONTRACTORS ON THE PROJECT. VERIFY DIMENSIONS PRIOR TO FABRICATION AND INSTALLATION OF DUCTWORK AND EQUIPMENT.
3. THE INTENT OF THESE DRAWINGS IS TO PROVIDE COMPLETE AND PROPERLY FUNCTIONING PLUMBING SYSTEMS. CONTRACTOR MUST PROVIDE LABOR AND MATERIALS. UNLESS OTHERWISE SHOWN ON DRAWINGS OR SPECIFIED HEREIN, PRODUCTS USED IN THE WORK MUST BE PROVIDE IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS. ANY CHANGES OR MODIFICATIONS PROPOSED BY CONTRACTOR WHICH HE BELIEVES IMPROVE THE INSTALLATION MUST BE APPROVED BY THE CONTRACTING OFFICER'S REPRESENTATIVE.
4. EQUIPMENT INDICATED IN THE DRAWINGS, TOGETHER WITH ITS BASE AND/OR SUPPORT, DUCTWORK, WALL, FLOOR AND ROOF OPENINGS AND ELECTRICAL SERVICE ARE BASED ON THE EQUIPMENT SCHEDULE OR SPECIFICATIONS. SHOULD CONTRACTOR SELECT AN EQUIVALENT ALTERNATE, EVEN IF APPROVED BY THE OWNER AS EQUAL, CONTRACTOR MUST COORDINATE AND MAKE THE MODIFICATIONS IN THE WORK WITHOUT CHANGE IN CONTRACT AMOUNT.
5. PLUMBING WORK ON THIS PROJECT MUST BE PROVIDE IN ACCORDANCE WITH THE 2018 INTERNATIONAL PLUMBING CODES AND APPLICABLE LOCAL CODES.
6. COORDINATE PLUMBING WORK WITH SITE CONDITIONS AND THE WORK OF OTHER TRADES. PIPING MUST BE FIELD ROUTED IN ACCORDANCE WITH APPROPRIATE ENGINEERING PRACTICES, INDUSTRY STANDARDS, AND GOVERNING CODES/REGULATIONS. ROUTE OF PIPING, INCLUDING CLEARANCE, IS THE RESPONSIBILITY OF THE CONTRACTOR. UNIONS, BUSHINGS, AND REDUCING INSERTS, NOT SHOWN ON THE DRAWINGS BUT REQUIRED FOR INSTALLATION, MUST BE PROVIDED BY THE CONTRACTOR.
7. VERIFY PIPE SLOPES AND INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF WORK.
8. THE WORK REQUIRED MUST INCLUDE THE FURNISHING OF MATERIALS, CUTTING, PATCHING, ADAPTING AND OTHER INCIDENTAL WORK, TOGETHER WITH SUCH TEMPORARY CONNECTIONS AS MAY BE REQUIRED.
9. HORIZONTAL VENT PIPING MUST RUN ABOVE CEILING AND HORIZONTAL SANITARY PIPING MUST ROUTE BELOW SLAB UNLESS OTHERWISE NOTED. PROVIDE LOW POINT HOSE END PIPE DRAINS TO COMPLETELY DRAIN SYSTEMS.
10. PIPE PENETRATIONS THROUGH RATED SLAB AND WALLS MUST HAVE PIPE SLEEVES WITH FIRE PROOF MATERIAL. CAULK ANNULAR SPACE BETWEEN PIPE AND SLEEVE. PIPES THRU INTERIOR WALLS MUST HAVE ESCUTCHEONS.
11. PROVIDE ACCESS PANELS FOR VALVES, WATER HAMMER ARRESTORS AND OTHER PLUMBING SPECIALTIES LOCATED INSIDE CHASES, BEHIND WALLS OR ABOVE INACCESSIBLE CEILINGS.
12. INDIVIDUAL SHUTOFF VALVES (STOP VALVES) MUST BE PROVIDE AT WATER SUPPLY LINES SERVING THE PLUMBING FIXTURES. WATER RISER DIAGRAMS ARE SHOWING THE LOCATION OF THE STOP VALVE IN THE WATER PIPING.
13. PAINT VENT THROUGH ROOF (VTR) TO MATCH THE ADJACENT ROOF. TO PRESERVE WARRANTY, ROOF WORK MUST BE COMPLETED BY THE ROOFER HOLDING THE WARRANTY ON THE EXISTING ROOF.
14. THE CONTRACTOR MUST TAKE ALL PRECAUTIONARY STEPS TO PROTECT THE SURROUNDING EXISTING FACILITIES. ANY DAMAGE OR LOSS OF PROPERTY OCCASIONED BY OR ARISING FROM ACTS OF THE CONTRACTOR MUST BE THE RESPONSIBILITY OF THE CONTRACTOR.
15. PIPING FOREIGN TO ELECTRICAL EQUIPMENT ROOM, OR SIMILAR ROOM HOUSING ELECTRICAL EQUIPMENT (TELEPHONE/DATA), ELEVATOR MACHINE ROOM) MUST NOT PERMITTED TO BE INSTALLED IN THESE SPACES.
16. PROVIDE FIRE STOPPING AT PENETRATIONS THRU RATED PARTITIONS WITHIN SCOPE OF WORK. THIS INCLUDES PENETRATIONS THROUGH WALLS, PARTITIONS, BARRIERS, CEILINGS, ROOFS OR FLOORS. PROVIDE MANUFACTURER'S STANDARD FIRE STOPPING SEALANT, WITH ACCESSORY MATERIALS, HAVING MINIMUM 1 HOUR FIRE RESISTANCE RATINGS AS ESTABLISHED BY TESTING IDENTICAL ASSEMBLIES PER ASTM E 814 AND BY UNDERWRITERS LABORATORY, INC. UL 1479 OR OTHER TESTING AND INSPECTION AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION,
17. DO NOT ASSUME THAT VALVES PROVIDE POSITIVE SHUT-OFF. CONTRACTOR MUST TEST EACH VALVE REQUIRED FOR SYSTEM ISOLATION IN ADVANCE SO THAT PROPER PLANNING AND WORK SEQUENCING CAN BE PERFORMED. COORDINATE VALVE TESTING WITH CONTRACTING OFFICER. IMMEDIATELY NOTIFY COR OF ALL VALVES THAT FAIL TO PROVIDE POSITIVE SHUT-OFF.
18. INDIVIDUAL SHUTOFF VALVES (STOP VALVES) MUST BE PROVIDED AT WATER SUPPLY LINES SERVING A GROUP OF PLUMBING FIXTURES. DOMESTIC WATER RISER DIAGRAMS ARE SHOWING THE ACTUAL LOCATION OF THE STOP VALVE IN THE WATER PIPING SYSTEM.
19 PROVIDE BRACING FOR EQUIPMENT WEIGHING 31 POUNDS OR MORE PER UFC 4-010-01 DoD MINIMUM ANTITERRORISM STANDARDS FOR BUILDING, PARAGRAPH 3-20 STANDARD 19. MUST BE MOUNTED USING EITHER RIGID OR FLEXIBLE SYSTEMS AS SPECIFIED, AND MUST BE ABLE TO RESIST FORCES OF 0.5 TIMES THE COMPONENT WEIGHT IN ANY HORIZONTAL DIRECTION, AND 1.5 TIMES THE COMPONENT WEIGHT IN THE DOWNWARD DIRECTION.

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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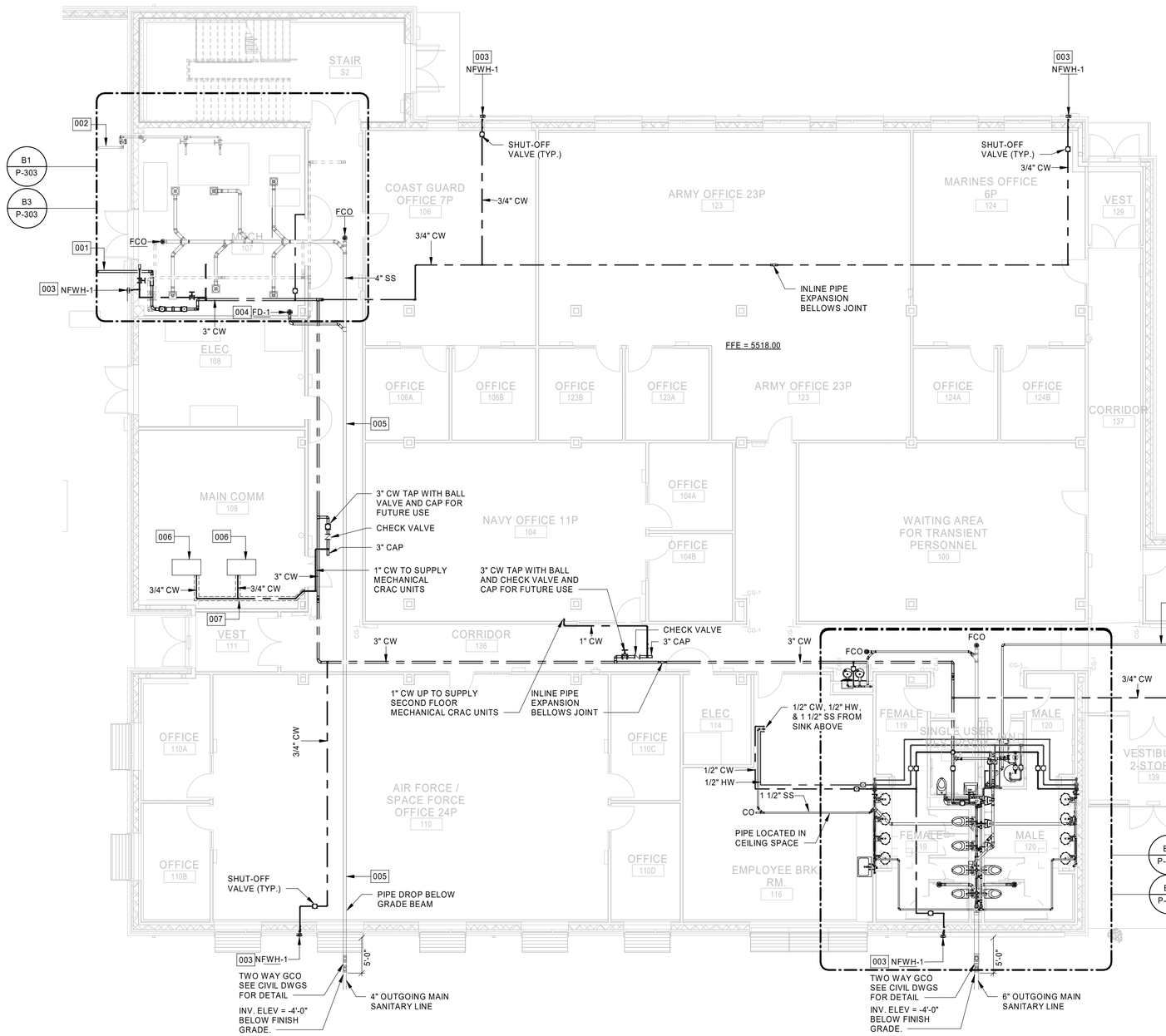
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

PLUMBING - SYMBOLS, LEGENDS, ABBREVIATIONS AND GENERAL NOTES

SHEET ID

P-001



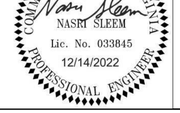
A1 FIRST FLOOR PLAN
1/8" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO SHEET P-001 FOR PLUMBING ABBREVIATIONS, SYMBOLS AND GENERAL NOTES.
2. EACH PLUMBING FIXTURE WITH HOT WATER SUPPLY MUST BE PROVIDED WITH INDIVIDUAL MIXING VALVES.
3. METER MUST BE MS/TP IAW WITH THE AF DATA MANAGEMENT PLAN AND THE WATER AND GAS METERS WILL PROVIDE DATA TO THE ELECTRIC METER WHO WILL THEN TRANSFER DATA TO THE AMRS/EMCS VIA BAC NET. SEE SPECIFICATION SECTION 23.11.20 FOR MORE INFORMATION FROM AF METER DATA MANAGEMENT PLAN 2020.

KEYNOTES

#	
001	3" INCOMING DOMESTIC WATER MAIN. LOCATE WATER PIPE 4'-0" BELOW GRADE (BELOW LOCAL FROST DEPTH). WATER METER MUST BE PULSE TYPE FOR INTERGRATION TO BUCKLEY EMCS/AMRS. SEE CIVIL DRAWINGS FOR CONTINUATION.
002	GAS METER AND 2 1/2" (1,250 CFM @ 2 PSI OR LESS) INCOMING GAS MAIN LINE. GAS METER MUST BE PULSE TYPE FOR INTERGRATION TO BUCKLEY EMCS/AMRS. SEE NOTE 3 ABOVE FOR MORE INFORMATION. SEE CIVIL DRAWINGS FOR PIPE CONTINUATION.
003	NON-FREEZE WALL HYDRANT (NFWH-1) MUST BE INSTALLED 1'-6" ABOVE FINISH GRADE (TYPICAL).
004	2" FD-1 WITH FUNNEL ATTACHMENT TO RECEIVE CONDENSATE FROM MECHANICAL COOLING UNITS.
005	UNDERGROUND UTILILTY PIPES MUST BE HUNG AND SUPPORTED FROM THE FLOOR SLAB WITH VOID FORMS ISOLATION SYSTEM AROUND PIPES TO AVOID EXPENSIVE SOIL MOVEMENT AFFECTING PIPE SLOPE AND PIPE BREAKAGE (TYPICAL). SEE DETAIL C1/P-502 FOR MORE INFORMATION.
006	MECHANICAL CRAC UNITS. SEE MECHANICAL DRAWING FOR MORE INFORMATION.
007	INSTALL DRIP PAN BELOW WATER PIPE WITH MOISTURE ALARM CABLE STRIP.



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8 6 4 2 0 8 16

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

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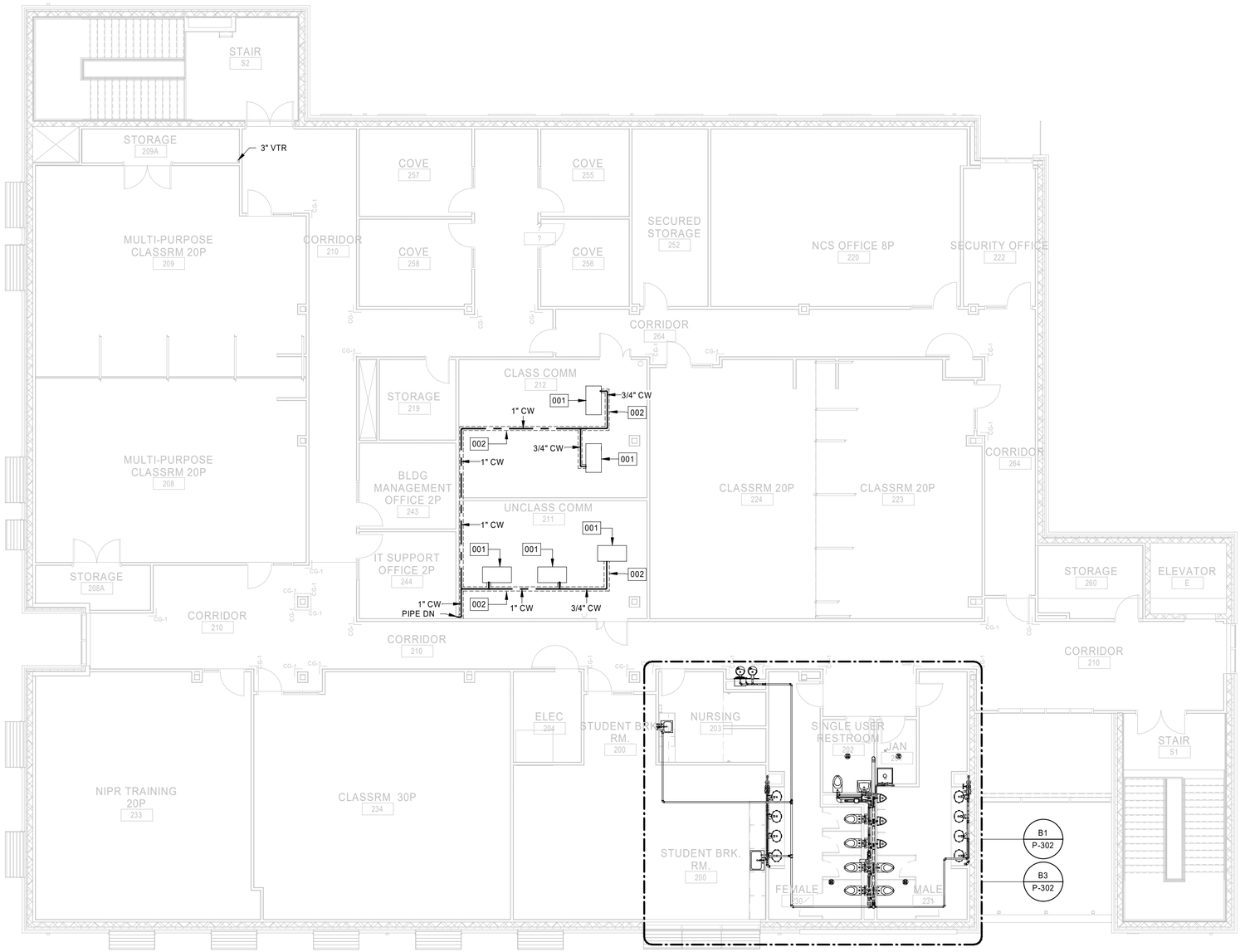
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

PLUMBING - FIRST FLOOR PLAN

SHEET ID
P-110



A1 SECOND FLOOR PLAN

1/8" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO SHEET P-001 FOR PLUMBING ABBREVIATIONS, SYMBOLS AND GENERAL NOTES.
2. EACH PLUMBING FIXTURE WITH HOT WATER SUPPLY MUST BE PROVIDED WITH INDIVIDUAL MIXING VALVES.
3. METER MUST BE MS/TP.IAW WITH THE AF DATA MANAGEMENT PLAN AND THE WATER AND GAS METERS WILL PROVIDE DATA TO THE ELECTRIC METER WHO WILL THEN TRANSFER DATA TO THE AMRS/EMCS VIA BAC NET. SEE SPECIFICATION SECTION 23.11.20 FOR MORE INFORMATION FROM AF METER DATA MANAGEMENT PLAN 2020.

KEYNOTES

#	
001	MECHANICAL CRAC UNITS. SEE MECHANICAL DRAWING FOR MORE INFORMATION.
002	INSTALL DRIP PAN BELOW WATER PIPE WITH MOISTURE ALARM CABLE STRIP.

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PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: B. HAMLIN
DRAWN BY: B. HAMLIN
CHECKED BY: DAVID TRAXLER
SUBMITTED BY: ROBERT HAYASHIDA
SIZE: ANSI D
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

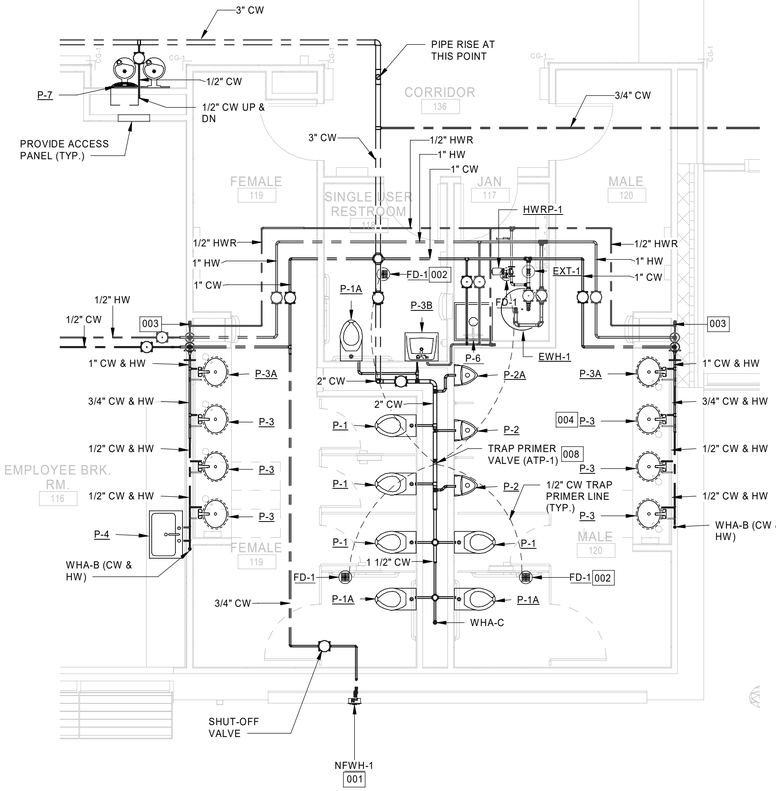
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

PLUMBING - SECOND FLOOR PLAN

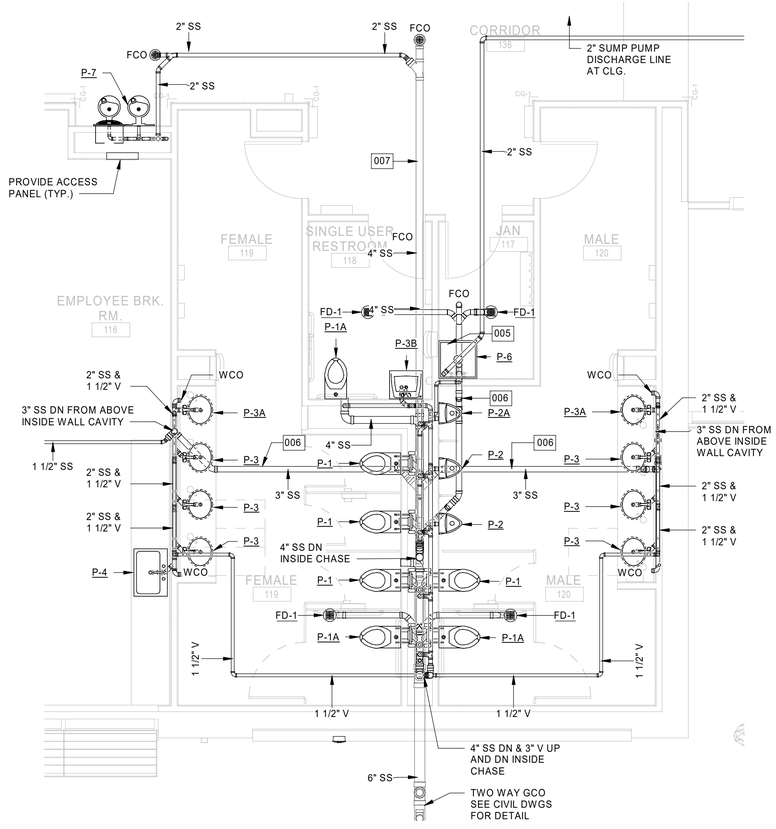
SHEET ID

P-120



FIRST FLOOR PLAN - DOMESTIC WATER ENLARGED TOILET ROOM PLAN

B1 — 1/4" = 1'-0"



FIRST FLOOR PLAN - SANITARY & VENT ENLARGED TOILET ROOM PLAN

B3 — 1/4" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO SHEET P-001 FOR PLUMBING ABBREVIATIONS, SYMBOLS AND GENERAL NOTES.
2. EACH PLUMBING FIXTURE WITH HOT WATER SUPPLY MUST BE PROVIDED WITH INDIVIDUAL MIXING VALVES.
3. METER MUST BE MS/TP.IAW WITH THE AF DATA MANAGEMENT PLAN AND THE WATER AND GAS METERS WILL PROVIDE DATA TO THE ELECTRIC METER WHO WILL THEN TRANSFER DATA TO THE AMRS/EMCS VIA BAC NET. SEE SPECIFICATION SECTION 23.11.20 FOR MORE INFORMATION FROM AF METER DATA MANAGEMENT PLAN 2020.

KEYNOTES

#	
001	NON-FREEZE WALL HYDRANT (NFWH-1) MUST BE INSTALLED 1'-6" ABOVE FINISH GRADE (TYPICAL).
002	FLOOR DRAIN (FD-1) MUST BE WITH TRAP PRIMER SUPPLY LINE (TYPICAL)
003	1/2" HOT WATER BALANCING VALVE (SET @ .35 GPM).
004	PROVIDE EACH SINK WITH AND INDIVIDUAL MIXING VALVE (TYPICAL).
005	2" SUMP PUMP DISCHARGE INTO JANITOR'S CLOSET MOP SINK.
006	3" SS PIPE SHOWN BELOW FLOOR LEVEL.
007	UNDERGROUND UTILILTY PIPES MUST BE HUNG AND SUPPORTED FROM THE FLOOR SLAB WITH VOID FORMS ISOLATION SYSTEM AROUND PIPES TO AVOID EXPENSIVE SOIL MOVEMENT AFFECTING PIPE SLOPE AND PIPE BREAKAGE (TYPICAL). SEE DETAIL C1/P-502 FOR MORE INFORMATION.
008	PROVIDE TRAP PRIMER VALVE ACCESS PANEL (12"X12").

GRAPHIC SCALE(S)

4 3 2 1 0 4 8

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

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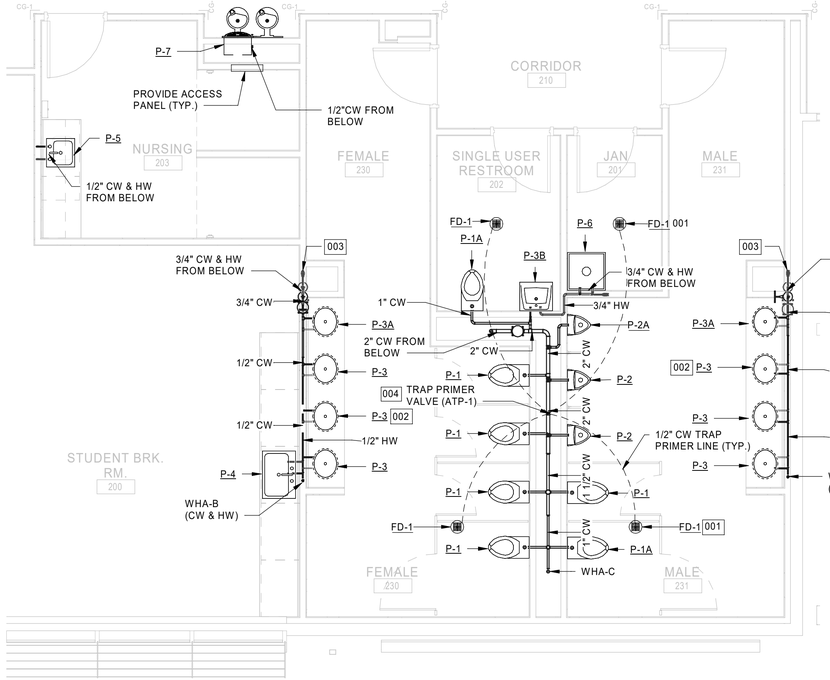
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

PLUMBING - TOILET ROOM ENLARGED PLANS

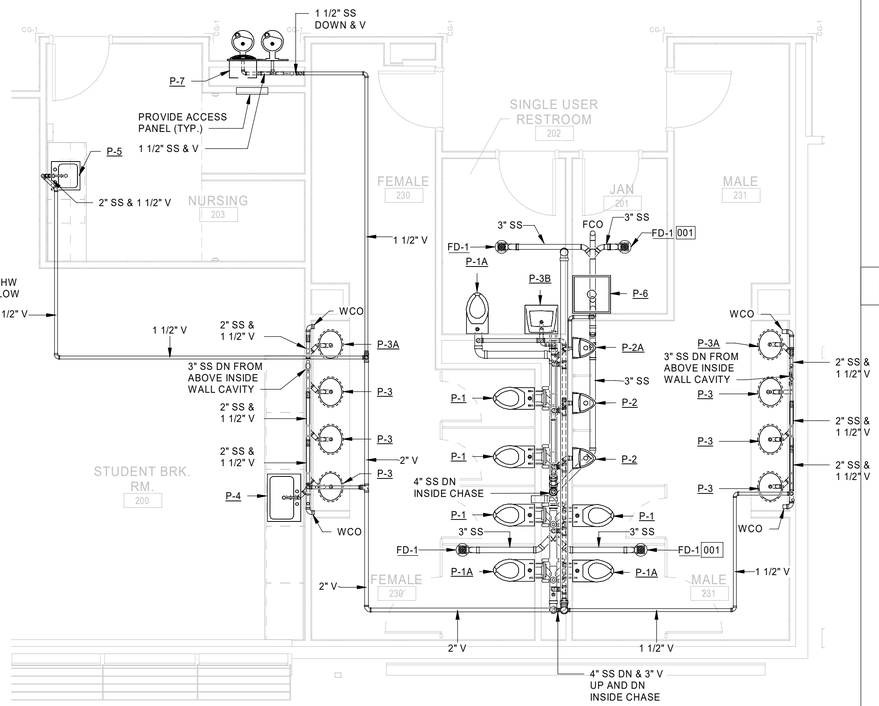
SHEET ID

P-301



B1 SECOND FLOOR PLAN - DOMESTIC WATER ENLARGED TOILET ROOM PLAN

1/4" = 1'-0"



B3 SECOND FLOOR PLAN - SANITARY & VENT ENLARGED TOILET ROOM PLAN

1/4" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO SHEET P-001 FOR PLUMBING ABBREVIATIONS, SYMBOLS AND GENERAL NOTES.
2. EACH PLUMBING FIXTURE WITH HOT WATER SUPPLY MUST BE PROVIDED WITH INDIVIDUAL MIXING VALVES.
3. METER MUST BE MS/TP IAW WITH THE AF DATA MANAGEMENT PLAN AND THE WATER AND GAS METERS WILL PROVIDE DATA TO THE ELECTRIC METER WHO WILL THEN TRANSFER DATA TO THE AMRS/EMCS VIA BAC NET. SEE SPECIFICATION SECTION 23.11.20 FOR MORE INFORMATION FROM AF METER DATA MANAGEMENT PLAN 2020.

KEYNOTES

#	
001	FLOOR DRAIN (FD-1) SHALL BE WITH TRAP PRIMER SUPPLY LINE (TYPICAL)
002	PROVIDE MIXING VALVE TO EACH SINK (TYPICAL).
003	1/2" HOT WATER BALANCING VALVE (SET @ .35 GPM).
004	PROVIDE TRAP PRIMER VALVE ACCESS PANEL (12"X12").

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

GRAPHIC SCALE(S)

4 3 2 1 0 4 8

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

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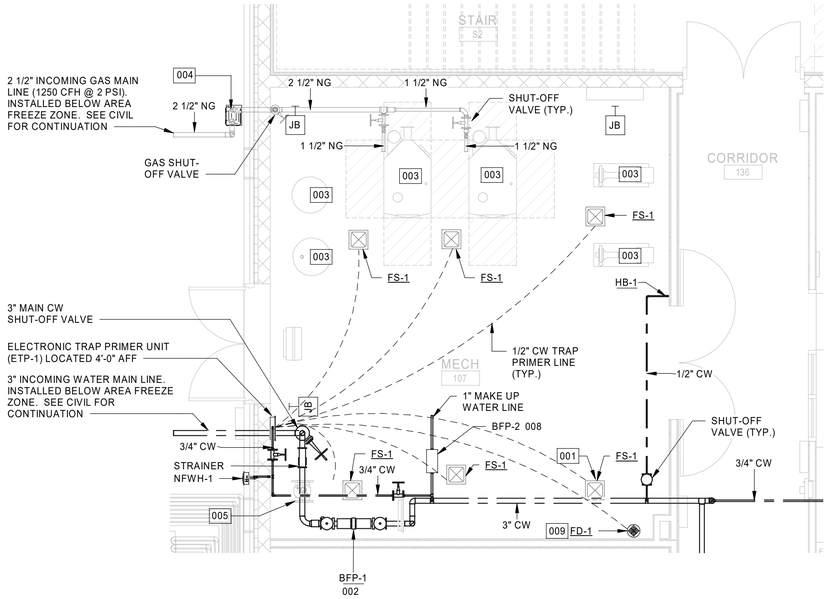
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

PLUMBING - TOILET ROOM ENLARGED PLANS

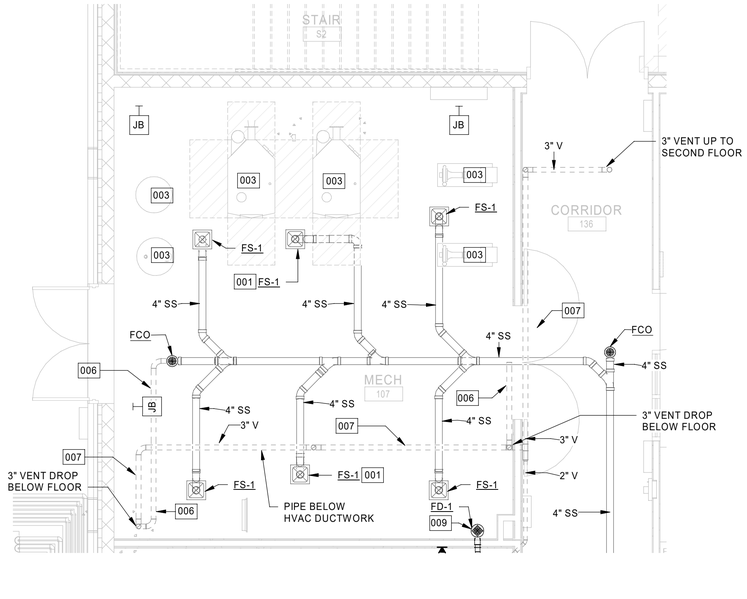
SHEET ID

P-302



FIRST FLOOR PLAN - DOMESTIC WATER & NATURAL GAS ENLARGED MECHANICAL ROOM

B1 1/4" = 1'-0"



FIRST FLOOR PLAN - SANITARY & VENT ENLARGED MECHANICAL ROOM

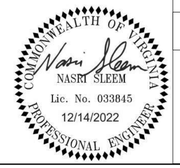
B3 1/4" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO SHEET P-001 FOR PLUMBING ABBREVIATIONS, SYMBOLS AND GENERAL NOTES.
2. EACH PLUMBING FIXTURE WITH HOT WATER SUPPLY MUST BE PROVIDED WITH INDIVIDUAL MIXING VALVES.
3. METER MUST BE MS/TP IAW WITH THE AF DATA MANAGEMENT PLAN AND THE WATER AND GAS METERS WILL PROVIDE DATA TO THE ELECTRIC METER WHO WILL THEN TRANSFER DATA TO THE AMRS/EMCS VIA BAC NET. SEE SPECIFICATION SECTION 23.11.20 FOR MORE INFORMATION FROM AF METER DATA MANAGEMENT PLAN 2020.

KEYNOTES

#	
001	FLOOR SINK (FS-1) SHALL BE WITH TRAP PRIMER SUPPLY LINE (TYPICAL)
002	REDUCED PRESSURE BACKFLOW PREVENTER (BFP-1). SEE DETAIL 1 ON SHEET P-501.
003	MECHANICAL EQUIPMENT LOCATION. SEE MECHANICAL DRAWINGS FOR MORE INFORMATION (TYPICAL).
004	PULSE TYPE ADVANCED GAS METER FOR INTERGRATION TO BUCKLEY EMCS/ AMRS. SEE NOTE 3 ABOVE FOR MORE INFORMATION.
005	PULSE TYPE ADVANCED WATER METER FOR INTERGRATION TO BUCKLEY EMCS/ AMRS. SEE NOTE 3 ABOVE FOR MORE INFORMATION.
006	3" VENT PIPE BELOW FLOOR SLAB CONNECT TO THE TOP OF THE UNDERGROUND SANITARY PIPE.
007	COORDINATE VENT PIPE IN CEILING SPACE WITH HVAC DUCTWORK BEFORE COMMENCEMENT OF WORK.
008	1" BACKFLOW PREVENTER (BFP-2) FOR HVAC MAKE-UP WATER. DRAIN TO NEAREST FLOOR DRAIN.
009	3" FD-1 WITH FUNNEL ATTACHMENT TO RECEIVE CONDENSATE FROM MECHANICAL COOLING UNITS.



GRAPHIC SCALE(S)

4 3 2 1 0 4 8

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

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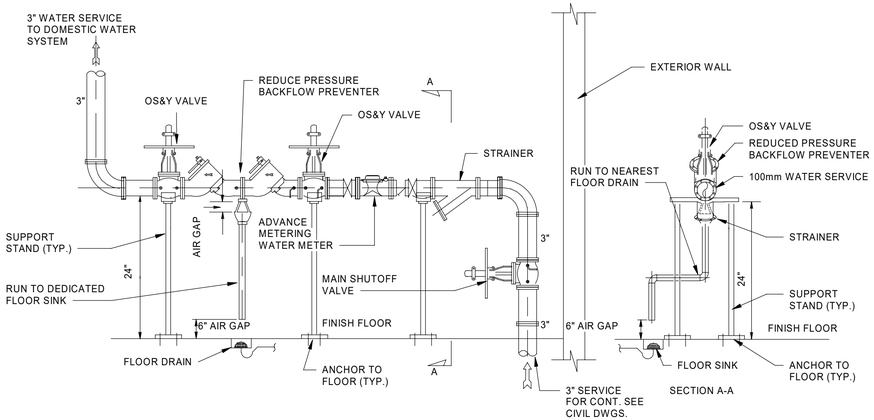
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

PLUMBING - MECHANICAL ROOM ENLARGED PLAN

SHEET ID

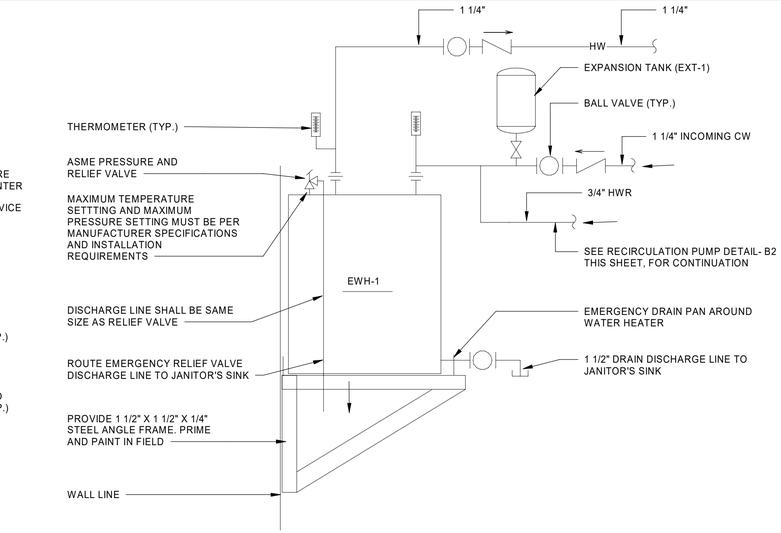
P-303



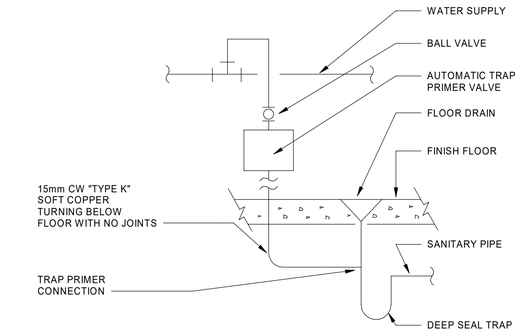
NOTE:
1. BETWEEN POINT OF ENTRY AND DOUBLE CHECK VALVE ASSEMBLY, THE PIPES MUST BE STENCILED "FEED TO BACKFLOW PREVENTER, DO NOT TAP OR CONNECT TO THIS LINE" AT 1.5m INTERVALS AND AT WALL PENTRATIONS. THE LETTERING SHALL BE 5cm, GREEN ON WHITE BACKGROUND.

2. RPZ ASSEMBLY MUST HAVE AT LEAST 18" CLEAR TO THE WALL BEHIND THE ASSEMBLY AND 36" CLEAR IN FRONT OF THE ASSEMBBLY; MAINTAIN INSTALLATION CLEARANES AS REQUIRED BY THE MANUFACTURER.

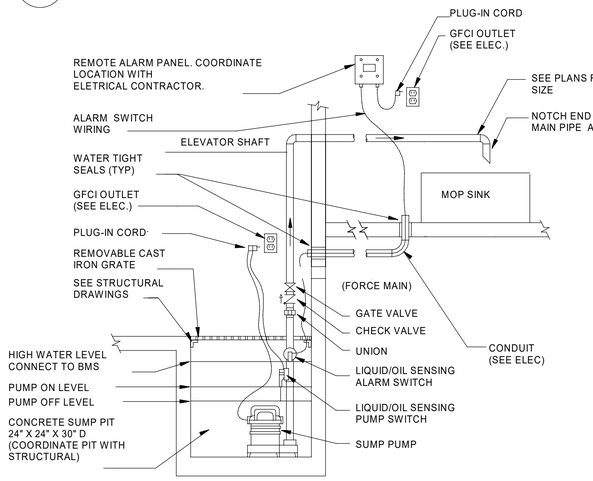
C1 RPZ AND WATER METER DETAIL1
NTS



C3 WALL HUNG HOT WATER HEATER DETAIL
NTS



C4 AUTOMATIC TRAP PRIMER DETAIL
NTS

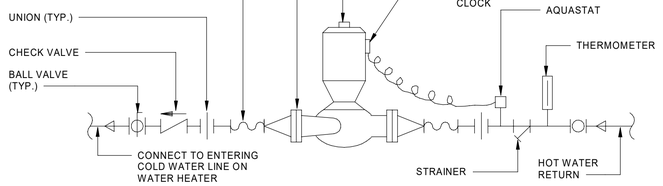


SUMP PUMP

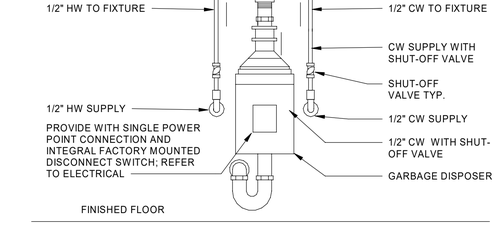
1. PROVIDE SUMP PUMP SYSTEM WITH OIL SMART PUMP SWITCH AND OIL SMART ALARM PANEL WITH EXTRA LONG PIGGYBACK ELECTRICAL POWER CORD.

2. SYSTEM TO INCLUDE SIMPLEX CONTROL PANEL WITH ALARM BEACON LIGHT, ALARM HORN, PUMP RUN LIGHT AND DRY AUXILIARY ALARM CONTACTS.

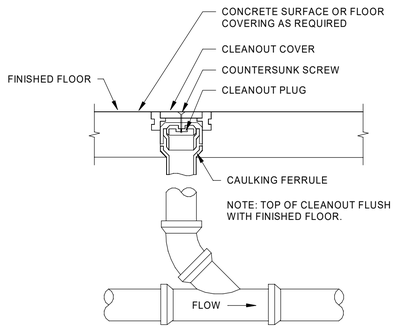
B1 ELEVATOR SUMP PUMP WITH OIL MINDER
NTS



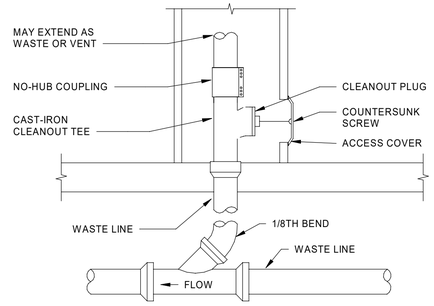
B2 HOT WATER RECIRCULATION PUMP DETAIL
NTS



B4 BREAK ROOM SINK WITH GARBAGE DISPOSER
NTS



A2 FLOOR CLEANOUT DETAIL
N.T.S.



A4 WALL CLEANOUT DETAIL
N.T.S.

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
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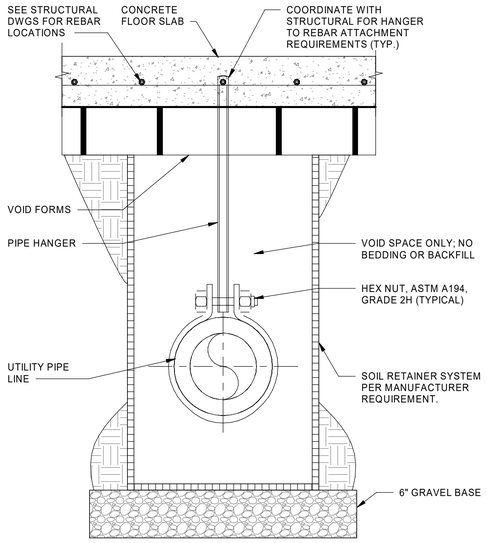
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

PLUMBING - DETAILS

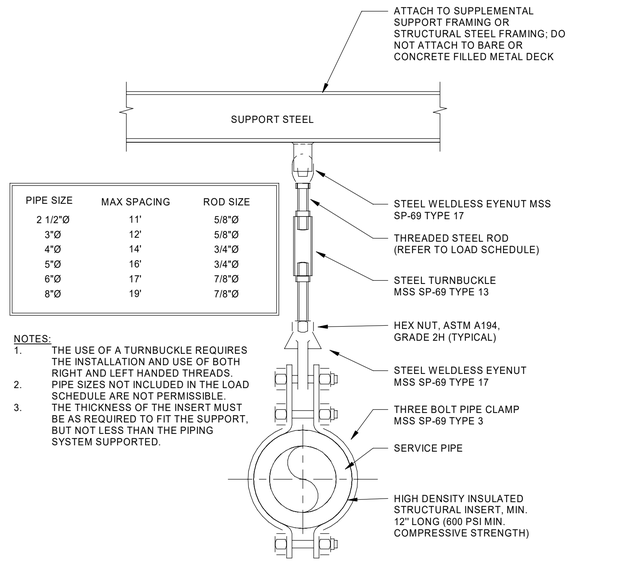
SHEET ID
P-501



NOTE:
1. SOIL RETAINERS THAT PREVENT BACKFILL SOILS FROM IMPEDING INTO THE SPACE CREATED BY THE VOID FORMS.
2. USE END CAPS TO PREVENT THE OBSORPTION OF WATER AND THE FLOW OF CONCRETE INTO OPEN UNPROTECTED AREAS.

C1 UNDER-SLAB UTILITY SECTION VIEW

NOT TO SCALE

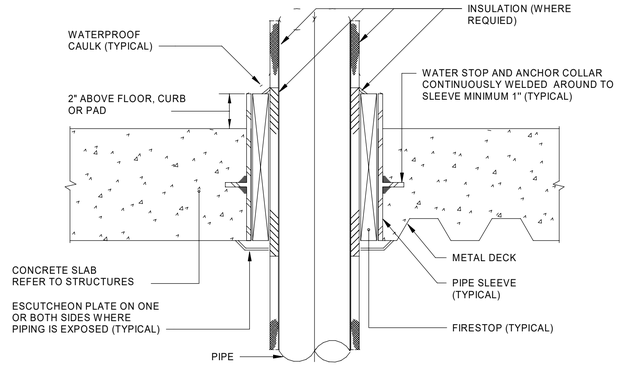


PIPE SIZE	MAX SPACING	ROD SIZE
2 1/2"Ø	11'	5/8"Ø
3"Ø	12'	5/8"Ø
4"Ø	14'	3/4"Ø
5"Ø	16'	3/4"Ø
6"Ø	17'	7/8"Ø
8"Ø	19'	7/8"Ø

NOTES:
1. THE USE OF A TURNBUCKLE REQUIRES THE INSTALLATION AND USE OF BOTH RIGHT AND LEFT HANDED THREADS.
2. PIPE SIZES NOT INCLUDED IN THE LOAD SCHEDULE ARE NOT PERMISSIBLE.
3. THE THICKNESS OF THE INSERT MUST BE AS REQUIRED TO FIT THE SUPPORT, BUT NOT LESS THAN THE PIPING SYSTEM SUPPORTED.

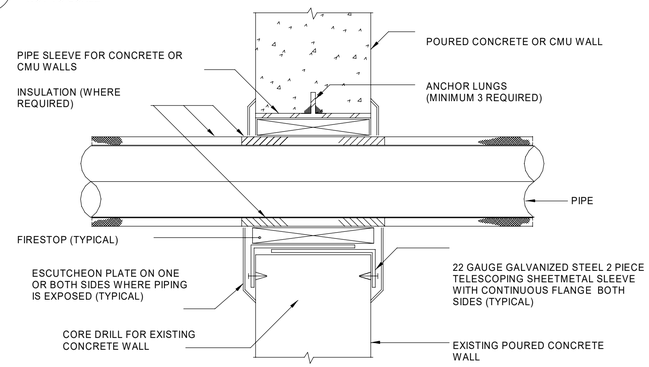
C2 PIPE CLAMP

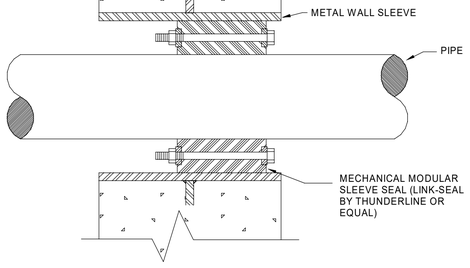
NOT TO SCALE



C4 PIPE SLEEVE THRU SLAB WITH FIRESTOP

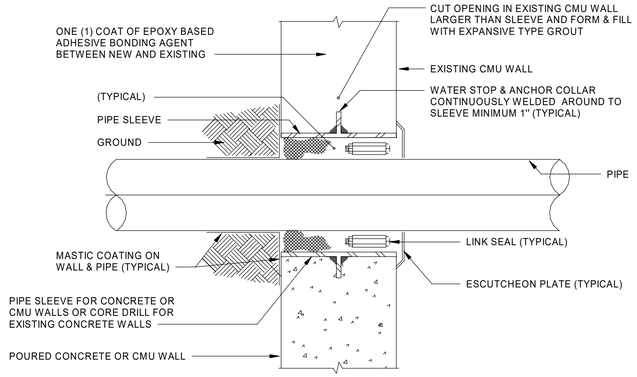
NOT TO SCALE





A1 WATERTIGHT WALL SLEEVE

NOT TO SCALE

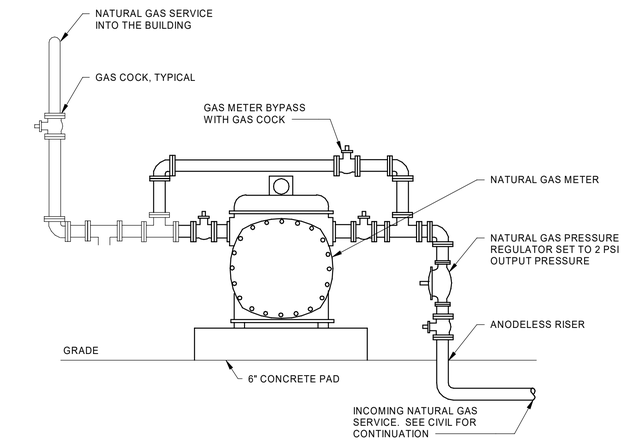


A2 PIPE SLEEVE WITH LINK SEAL

NOT TO SCALE

A4 PIPE SLEEVE WITH FIRESTOP

NOT TO SCALE



A5 GAS METER DETAIL

NOT TO SCALE

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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

PLUMBING - DETAILS

SHEET ID

P-502

PLUMBING FIXTURE SCHEDULE

Type Mark	FIXTURE	MOUNTING	MINIMUM CONNECTION SIZE					DESCRIPTION
			SS	V	CW	HW	TW	
			0"	0"	0"	0"	0"	
ATP-1	AUTOMATIC TRAP PRIMER	PIPE SUPPORTED	0"	0"	1/2"	0"	0"	PRESSURE DROP ACTIVATED, LEAD FREE, ASSE STANDARD 1018
ETP-1	ELECTRONIC TRAP PRIMER	WALL MOUNTED	0"	0"	1/2"	0"	0"	NEMA 1 COVER PLATE, 120V/60 Hz, WITH ADJUSTABLE TIMER AND VACUUM BREAKER. SEE PLANS FOR NUMBER OF OUTLETS.
FCO	FLOOR CLEANOUT	FLOOR MOUNTED	0"	0"	0"	0"	0"	SEE PLANS FOR SIZE
FD-1	FLOOR DRAIN	FLOOR MOUNTED	0"	0"	0"	0"	0"	SEE PLANS FOR SIZE
FS-1	FLOOR SINK	FLOOR MOUNTED	0"	0"	0"	0"	0"	SEE PLANS FOR SIZE
HB-1	HOSE BIBB	WALL MOUNTED	0"	0"	1/2"	0"	0"	T-HANDLE
NFWH-1	NON-FREEZE WALL HYDRANT	WALL MOUNTED	0"	0"	3/4"	0"	0"	NICKEL BRONZE RECESS BOX WITH HINGE COVER AND OPERATED KEY,
P-1	WATER CLOSET	WALL MOUNTED	4"	2"	1"	0"	0"	ELONGATED TOILET, VITREOUS CHINA, 1.28 GPF, HARDWIRED SENSORED FLUSHOMETER.
P-1A	WATER CLOSET - ADA	WALL MOUNTED	4"	2"	1"	0"	0"	ELONGATED TOILET, VITREOUS CHINA, 1.28 GPF, HARDWIRED SENSORED FLUSHOMETER.
P-2	URINAL	WALL MOUNTED	2"	1 1/2"	3/4"	0"	0"	ELONGATED 14" RIM, VITREOUS CHINA, 0.125 GPF, HARDWIRED SENSORED FLUSHOMETER.
P-2A	URINAL - ADA	WALL MOUNTED	2"	1 1/2"	3/4"	0"	0"	ELONGATED 14" RIM, VITREOUS CHINA, 0.125 GPF, HARDWIRED SENSORED FLUSHOMETER.
P-3	LAVATORY SINK	UNDERCOUNTER MOUNTED	1 1/2"	1 1/2"	1/2"	1/2"	0"	OVAL SHAPE VITREOUS CHINA, FRONT OVERFLOW, 0.35 GPM HARDWIRED SENSOR FAUCET.
P-3A	LAVATORY SINK - ADA	UNDERCOUNTER MOUNTED	1 1/2"	1 1/2"	1/2"	1/2"	0"	OVAL SHAPE VITREOUS CHINA, FRONT OVERFLOW, 0.35 GPM HARDWIRED SENSOR FAUCET.
P-3B	LAVATORY SINK - ADA	WALL MOUNTED	1 1/2"	1 1/2"	1/2"	1/2"	0"	OVAL SHAPE VITREOUS CHINA, FRONT OVERFLOW, 0.35 GPM HARDWIRED SENSOR FAUCET.
P-4	BREAK ROOM SINK - ADA	DROP-IN	1 1/2"	1 1/2"	1/2"	1/2"	0"	SINGLE BOWL, 20 GAUGE STAINLESS STEEL. 1.5 GPM MANUAL FAUCET. PROVIDE 1/2 HP GARBAGE DISPOSAL.
P-6	MOP SINK	FLOOR MOUNTED	3"	1 1/2"	3/4"	3/4"	0"	SQUARE 24"X24"X12" TERRAZZO BASIN, STANDARD DRAIN BODY.
P-7	ELECTRIC WATER COOLER	WALL MOUNTED	1 1/2"	1 1/2"	1/2"	0"	0"	BI-LEVEL ADA UNIT WITH BOTTLE FILLER.

WATER HAMMER ARRESTER SCHEDULE

MARK	FIXTURE UNITS	PIPE SIZE	HEIGHT	DIAMETER	NOTES
WHA-A	1-11	3/4"	2.62"	3.25"	1, 2, 3, 4
WHA-B	12-32	1"	2.97"	3.25"	1, 2, 3, 4
WHA-C	33-60	1"	3.59"	3.25"	1, 2, 3, 4

NOTES:
1. ALL ARRESTORS SHALL BE INSTALLED PER PDI (PLUMBING AND DRAINAGE INSTITUTE) STANDARD PDI-WH201 (2006) FOR SIZING AND PLACEMENT.
2. PROVIDE PISTON OPERATED, COPPER BODY, LEAD FREE WATER HAMMER ARRESTOR.
3. WATER HAMMER ARRESTOR SIZING MUST BE BASED ON SPECIFIC MANUFACTURER'S FIXTURE UNIT CAPACITY TABLE.
4. WATER HAMMER ARRESTORS MUST BE CERTIFIED BY THE PLUMBING AND DRAINAGE INSTITUTE.

ELECTRIC WATER HEATER SCHEDULE

TYPE MARK	TYPE	LOCATION	STORAGE TANK SIZE (gal)	COLD WATER CONNECTION SIZE	HOT WATER CONNECTION SIZE	RECOVERY GPH @ 100°F RISE	ELECTRICAL DATA			kW	NOTES
							V	PH	Hz		
EWH-1	ELECTRIC WATER HEATER	WALL HUNG TANK	50	1 1/4"	1 1/4"	48	480	3	60	12	1, 2, 3, 4, 5

NOTES:
1. ROUTE T&P VALVE DISCHARGE TO MOP SINK, INSULATE ALL HOT WATER PIPING AND LABEL PER SPECIFICATIONS.
2. PROVIDE AND INSTALL THERMAL EXPANSION TANK.
3. SET STORAGE TEMPERATURE TO 140 DEGREES ON WATER HEATER AND SET TO 110 DEGREES AT THE FIXTURES.
4. PROVIDE ASME RATED ELECTRIC WATER HEATER.
5. PROVIDE SINGLE POWER POINT CONNECTION WITH LOCAL DISCONNECT SWITCH.

HOT WATER CIRCULATING PUMP SCHEDULE

TYPE MARK	LOCATION	SYSTEM	TYPE COMMENT	GPM	PUMP HEAD (FT H2O)	RPM	ELECTRICAL DATA				NOTES
							HP	V	PH	Hz	
HWRP-1	JANITOR'S CLOSET	DOMESTIC HOT WATER RETURN	INLINE PUMP	6	10 1/40	3250	0.000	115	1	60	1, 2

NOTES:
1. PROVIDE LEAD FREE STAINLESS STEEL BODY WITH STAINLESS STEEL IMPELLER.
2. PROVIDE IMMERSION AQUASTAT WITH PROGRAMMABLE TIMER.

SUMP PUMP SCHEDULE

TYPE MARK	TYPE	LOCATION	GPM	PUMP HEAD (FT H2O)	RPM	ELECTRICAL DATA				NOTES
						HP	V	PH	Hz	
SP-1	OIL MINDER SUMP PUMP	ELEVATOR PIT	50	25	3600	0.500	120	1	60	1, 2, 3

NOTES:
1. PROVIDE SINGLE ELEVATOR SUMP PUMP AND CONTROL SYSTEM WITH OIL DETECTION; PUMP SYSTEM MUST BE CAPABLE OF PUMPING DISCHARGE WATER WITHOUT THE POTENTIAL OF DISCHARGING AN OIL-WATER MIXTURE. LOCATE CONTROLPANEL INSIDE ELEVATOR MACHINE ROOM. PROVIDE DRY CONTACT CONNECTION FOR REMOTE MONITORING OF HIGH LEVEL ALARM TO BAS.
2. PROVIDE TURNKEY SUMP PUMP SYSTEM PER MANUFACTURER'S REQUIREMENTS AND SPECIFICATIONS.
3. NEMA 4X WEATHER TIGHT CORROSIVE RESISTANT POLYCARBONATED ENCLOSURE.

PLUMBING EXPANSION TANK SCHEDULE

TYPE MARK	LOCATION	SYSTEM	TYPE	TANK VOLUME (gal)	ACCEPTANCE VOLUME (gal)	DIAMETER	HEIGHT	PRESSURE (psi)		NOTES
								PRE-CHARGE	MAX OPERATING	
EXT-1	JANITOR'S CLOSET	DOMESTIC HOT WATER RETURN	INLINE TYPE, RUBBER PARABOLIC DIAPHRAGM	4.40	3.75	11"	14"	12	30	

BACKFLOW PREVENTER SCHEDULE

TYPE MARK	FLOW	CW CONNECTION	LOCATION	DESCRIPTION	NOTES
BFP-1	101 GPM	3"	MECHANICAL ROOM 107 (MAIN WATER LINE)	REDUCED PRESSURE TYPE, LEAD FREE, REPLACABLE SEAT, STAINLESS STEEL INTERNAL PARTS	1, 2
BFP-2	22 GPM	1"	MECHANICAL ROOM 107 (HVAC MAKE-UP WATER)	REDUCED PRESSURE TYPE, LEAD FREE, REPLACABLE SEAT, STAINLESS STEEL INTERNAL PARTS	1, 2

NOTES:
1. PROVIDE LEAD FREE ASSE 1013 REDUCED PRESSURE ZONE BACKFLOW PREVENTER WITH INLET STRAINER.
2. ROUTE RELIEF DRAIN THROUGH AIR GAP TO FLOOR DRAIN.

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: B. HAMLIN
DRAWN BY: B. HAMLIN
CHECKED BY: DAVID TRAXLER
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

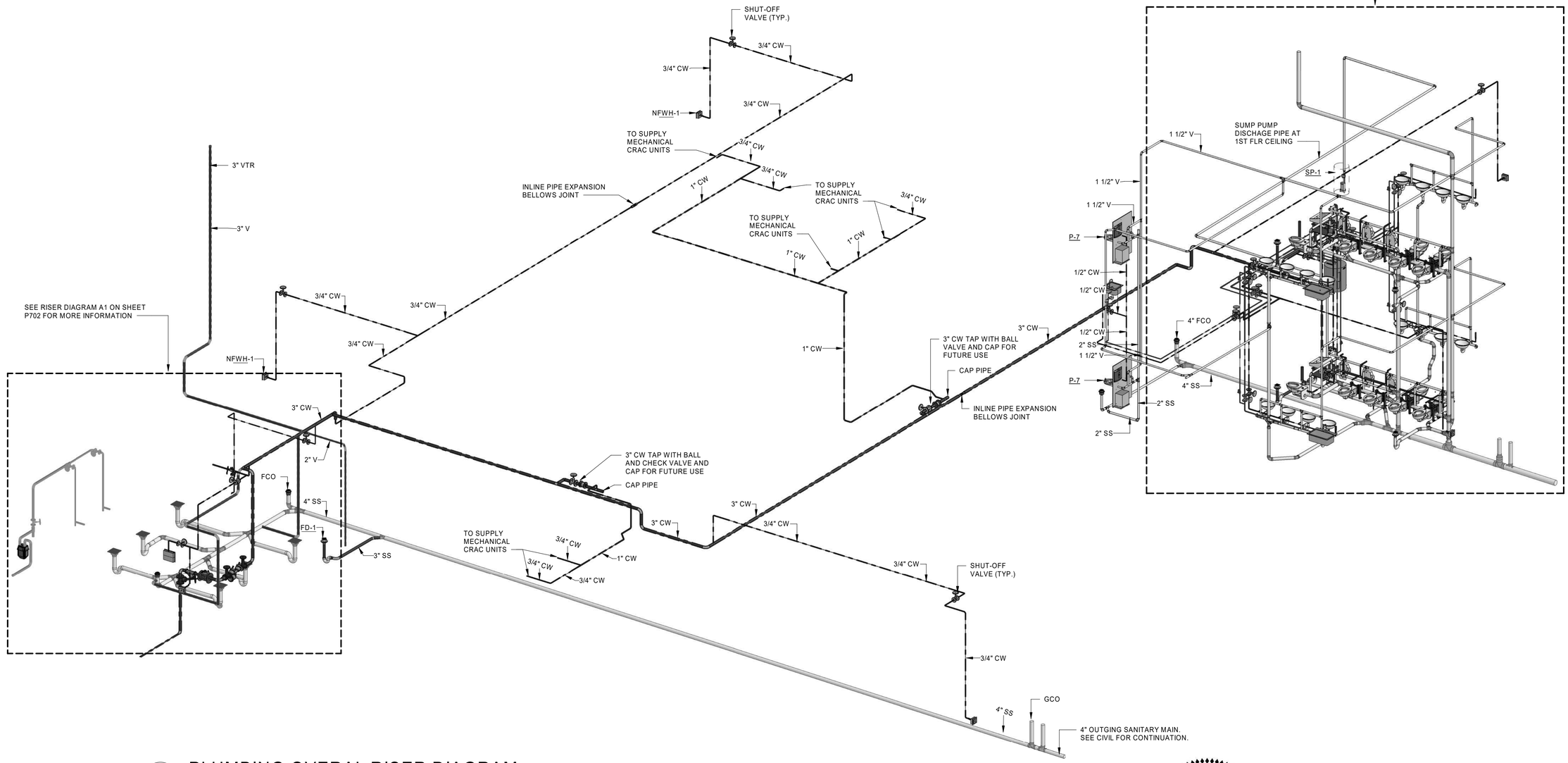
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

PLUMBING - SCHEDULES

SHEET ID
P-601

GENERAL SHEET NOTES

1. REFER TO SHEET P-001 FOR PLUMBING ABBREVIATIONS, SYMBOLS AND GENERAL NOTES.
2. EACH PLUMBING FIXTURE WITH HOT WATER SUPPLY MUST BE PROVIDED WITH INDIVIDUAL MIXING VALVES.
3. METER MUST BE MS/TP IAW WITH THE AF DATA MANAGEMENT PLAN AND THE WATER AND GAS METERS WILL PROVIDE DATA TO THE ELECTRIC METER WHO WILL THEN TRANSFER DATA TO THE AMRS/EMCS VIA BAC NET. SEE SPECIFICATION SECTION 23.11.20 FOR MORE INFORMATION FROM AF METER DATA MANAGEMENT PLAN 2020.



A1 PLUMBING OVERAL RISER DIAGRAM

US Army Corps of Engineers ®

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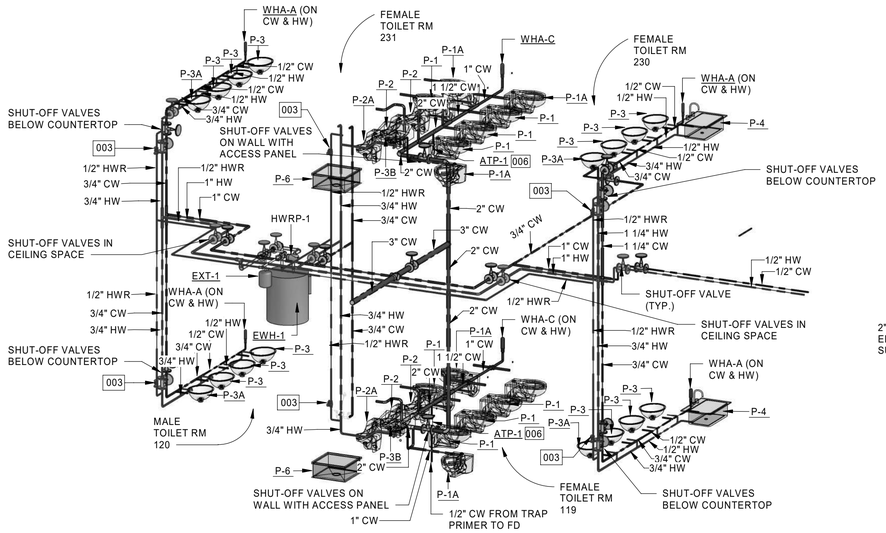
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SPB, CO

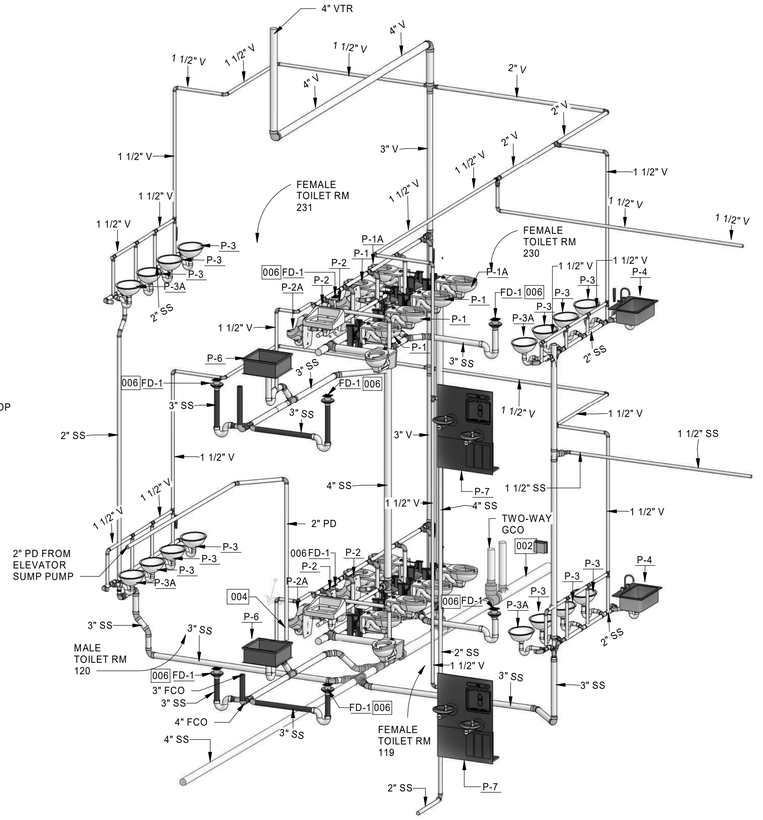
PLUMBING - OVERAL RISER DIAGRAM

SHEET ID

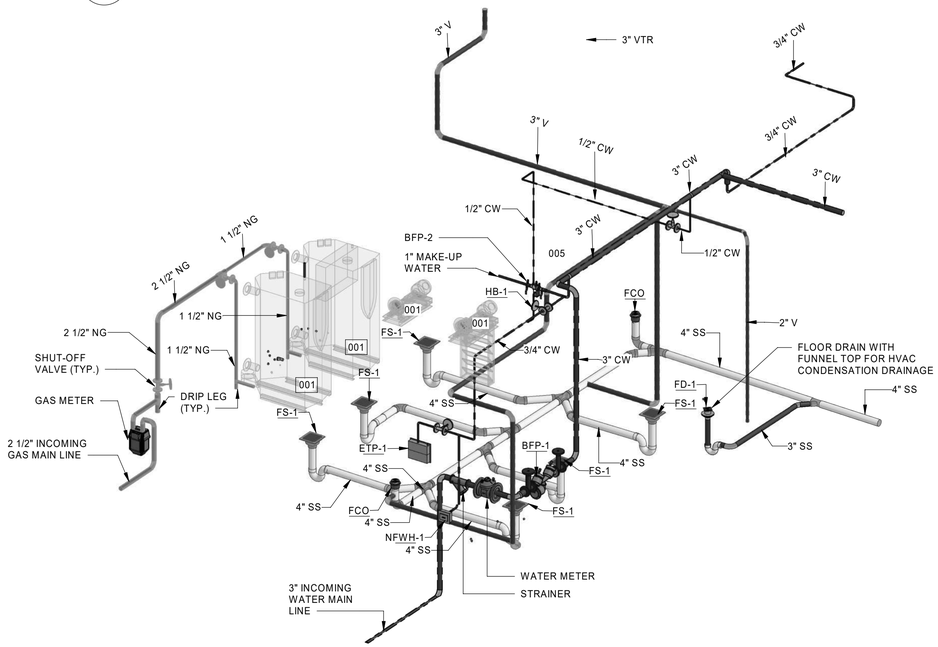
P-701



B1 DOMESTIC WATER RISER DIAGRAMS (TOILET ROOMS)



B3 SANITARY AND VENT RISER DIAGRAMS (TOILET ROOMS)



A1 MECHANICAL ROOM 107 RISER DIAGRAMS

GENERAL SHEET NOTES

1. REFER TO SHEET P-001 FOR PLUMBING ABBREVIATIONS, SYMBOLS AND GENERAL NOTES.
2. EACH PLUMBING FIXTURE WITH HOT WATER SUPPLY MUST BE PROVIDED WITH INDIVIDUAL MIXING VALVES.
3. METER MUST BE MS/TP IAW WITH THE AF DATA MANAGEMENT PLAN AND THE WATER AND GAS METERS WILL PROVIDE DATA TO THE ELECTRIC METER WHO WILL THEN TRANSFER DATA TO THE AMRS/EMCS VIA BAC NET. SEE SPECIFICATION SECTION 23.11.20 FOR MORE INFORMATION FROM AF METER DATA MANAGEMENT PLAN 2020.

KEYNOTES

#	
001	MECHANICAL EQUIPMENT LOCATION. SEE MECHANICAL DRAWINGS FOR MORE INFORMATION (TYPICAL).
002	6" OUTGOING SANITARY SEWAGE LINE. SEE CIVIL FOR CONTINUATION.
003	HOT WATER BALANCING VALVE (.35 GPM).
004	2" ELEVATOR SUMP PUMP DISCHARGE DRAIN INDIRECTLY DRAINING INTO MOP SINK.
005	1" BACKFLOW PREVENTER (BFP-2) FOR HVAC MAKE-UP WATER. DRAIN TO NEAREST FLOOR DRAIN.
006	1/2" CW TRAP PRIMER LINE ROUTED TO EACH FLOOR DRAIN (FD-1).

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PLUMBING - RISER DIAGRAMS

SHEET ID
P-702

ABBREVIATIONS

AC	AIR CONDITIONER
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AFS	AIR FLOW SWITCH
AHU	AIR HANDLING UNIT
ATM	ATMOSPHERE
AP	ACCESS PANEL
AS	AIR SEPARATOR
AVG	AVERAGE
B	BOILER
BHP	BREAK HORSEPOWER
BLDG	BUILDING
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE (BOTTOM OF INSULATION)
BT	BUFFER TANK
BTM	BOTTOM
BTU	BRITISH THERMAL UNIT
C	CONDENSATE
CC	COOLING COIL
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CL	CENTERLINE
CO	CLEAN OUT
COR	CONTRACTING OFFICER'S REPRESENTATIVE
CP	CONTROL PANEL
CRACU	COMPUTER ROOM AIR CONDITIONING UNIT
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
D	DRAIN
dB	DECIBEL
DB	DRY BULB TEMPERATURE
DEGF	DEGREES FAHRENHEIT
DHC	DUCT HEATING COIL
DN	DOWN
DP	DEW POINT
DWG	DRAWING
EA	EXHAUST AIR
EAT	ENTER AIR TEMPERATURE
EF	EXHAUST FAN
EG	EXHAUST GRILLE
EH	ELECTRIC HEATER
EL	ELEVATION
ET	EXPANSION TANK
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTER WATER TEMPERATURE
FD	FIRE DAMPER OR FLOOR DRAIN
FT WC	FEET WATER COLUMN
FL	FLOOR
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FSD	COMBINATION FIRE/SMOKE DAMPER
FT WC	FEET OF WATER COLUMN
FWE	FURNISHED WITH EQUIPMENT
GF	GLYCOL FEEDER
GPM	GALLONS PER MINUTE
GR/LB	GRAINS PER POUND
H	HUMIDIFIER
HHWS/R	HEATING HOT WATER SUPPLY/RETURN
HHWP	HEATING HOT WATER PUMP
HOA	HAND-OFF AUTOMATIC
HP	HORSEPOWER
HS	HAND SWITCH
HWCP	HOT WATER CIRCULATING PUMP
HX	HEAT EXCHANGER
HZ	HERTZ
IN	INCH
IN WC	INCHES WATER COLUMN
KW	KILOWATTS
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LD	LINEAR DIFFUSER
LS	LIMIT SWITCH
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MAN	MANUAL
MBH	THOUSAND BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPACITY
MERV	MINIMUM EFFICIENCY REPORTING VALUES
MIN	MINIMUM
MMF	MULTIMEDIA FILTER
MOCP	MAXIMUM OVERCURRENT PROTECTION
MOD	MOTOR OPERATED DAMPER
MVD	MANUAL VOLUME DAMPER
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN, NUMBER
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAI	OUTSIDE AIR INTAKE
P	PUMP
PD	PRESSURE DIFFERENTIAL TRANSMITTER
PG	PROPYLENE GLYCOL
PH	PHASE
PI	PRESSURE INDICATION
PS	PRESSURE SENSOR
PSI	POUND PER SQUARE INCH
QTY	QUANTITY
RA	RETURN AIR
RG	RETURN GRILLE
RHC	RE-HEAT COIL
RL	REFRIGERANT LIQUID
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
RTU	ROOFTOP AIR CONDITIONING UNIT
S/D	SPLIT DAMPER
SA	SUPPLY AIR
SD	SUPPLY DIFFUSER
S_D	SMOKE DETECTOR
SF	SUPPLY FAN
SG	SUPPLY GRILLE
SP	SETPOINT, STATIC PRESSURE
SW	SWITCH
T	ROOM THERMOSTAT
TI	TEMPERATURE INDICATION
TOD	TOP OF DUCT
TOP	TOP OF PIPE
TOS	TOP OF STEEL
TS	TEMPERATURE SENSOR
TYP	TYPICAL
UG	UNDERGROUND
UH	UNIT HEATER
UMS	UNINTERRUPTIBLE MECHANICAL SYSTEM
V	VALVE, OR VOLT
VAV	VARIABLE AIR VOLUME BOX
W	HUMIDITY RATIO (GRAINS/LB)
WB	WEB BULB TEMPERATURE
WPD	WATER PRESSURE DROP

DUCTWORK LEGEND

- SQUARE ELBOW WITH TURNING VANES
- VOLUME DAMPER
- BEVELED TAP
- DN / UP — OGEE UP OR DOWN
- DUCTWORK FLEXIBLE CONNECTION
- FD — FIRE DAMPER
- F/SD — COMBINATION FIRE/SMOKE DAMPER
- 24x24 — RECTANGULAR DUCT SIZE (1ST NUMBER INDICATES SIDE SHOWN, 2ND NUMBER IS SIDE NOT SHOWN. DIMENSIONS ARE INSIDE CLEAR.)
- 24x24ø — OVAL DUCT SIZE (1ST NUMBER INDICATES SIDE SHOWN, 2ND NUMBER IS SIDE NOT SHOWN. DIMENSIONS ARE INSIDE CLEAR.)
- 12ø — ROUND DUCT SIZE (DUCT DIAMETER. DIMENSIONS ARE INSIDE CLEAR.)
- RADIUS ELBOW
- BOTTOM SUPPLY OUTLET, SIZE & CAPACITY AS INDICATED
- BOTTOM RETURN OR EXHAUST, SIZE & CAPACITY AS INDICATED
- SIDEWALL SUPPLY/RETURN
- DUCT STATIC PRESSURE SENSOR
- ELBOW TURN UP (SUPPLY DUCT SHOWN)
- ELBOW TURN DOWN (SUPPLY DUCT SHOWN)
- DUCT TRANSITION
- RETURN DUCT
- EXHAUST DUCT
- SUPPLY DUCT
- MARK / XX-1 / CFM / FT³/MIN — AIR DEVICE DESIGNATION
- AIR FLOW SUPPLY
- AIR FLOW RETURN OR EXHAUST
- FLEX DUCT
- TS — THERMOSTAT
- HS — HUMIDISTAT
- CO2 — CARBON DIOXIDE SENSOR
- S — DUCT SMOKE DETECTOR
- CO — CARBON MONOXIDE SENSOR

PIPING LEGEND

- RISER DOWN (ELBOW)
- RISER UP (ELBOW)
- RISE OR DROP
- TEE DOWN
- TEE UP
- TOP CONNECTION
- BOTTOM CONNECTION
- SIDE CONNECTION
- PIPE ANCHOR
- PIPE EXPANSION JOINT
- BALANCING VALVE
- PLUG COCK/GAS STOP
- CHECK VALVE
- GLOBE VALVE
- SOLENOID VALVE
- BALL VALVE
- BALL VALVE WITH SAFETY VENT
- BUTTERFLY VALVE
- ANGLE VALVE
- TRIPLE DUTY VALVE (TDV)
- TRIPLE DUTY VALVE (ANGLE)
- CONTROL VALVE, PNEUMATIC
- CONTROL VALVE, PNEUMATIC, 3 WAY
- CONTROL VALVE, ELECTRIC
- CONTROL VALVE, ELECTRIC, 3 WAY
- BACKFLOW PREVENTION DEVICE
- ASME RELIEF VALVE
- TEMP AND PRESS RELIEF
- REDUCER, ECCENTRIC
- REDUCER, CONCENTRIC
- CAP OR BLIND FLANGE
- STRAINER, "Y" TYPE
- STRAINER, "BASKET" TYPE
- SUCTION DIFFUSER
- FLOW IN DIRECTION OF ARROW
- VACUUM BREAKER
- AIR VENT, AUTOMATIC
- AIR VENT, MANUAL
- DIELECTRIC FITTING
- FLEXIBLE PIPE CONNECTION
- EXPANSION JOINT
- —G— NATURAL GAS, LOW PRESS
- —CHWS— CHILLED WATER SUPPLY
- —CHWR— CHILLED WATER RETURN
- — C — CONDENSATE DRAIN
- — D — DRAIN
- —HHWS— HEATING HOT WATER SUPPLY
- —HHWR— HEATING HOT WATER RETURN
- —RS— REFRIGERANT SUCTION
- — RL — REFRIGERANT LIQUID
- ISOLATION VALVE

GENERAL NOTES

1. MECHANICAL DRAWINGS ARE IN PART DIAGRAMMATIC AND INTENDED TO SHOW THE SCOPE AND GENERAL ARRANGEMENT OF THE WORK UNDER THIS CONTRACT. FOLLOW THESE DRAWINGS FOR SIZES OF THE EQUIPMENT AND DUCTWORK. DRAWINGS ARE NOT INTENDED TO BE SCALED FOR ROUGHING IN MEASUREMENTS NOR TO SERVE AS SHOP DRAWINGS. WHERE JOB CONDITIONS REQUIRE CHANGES OR ADJUSTMENTS IN THE INDICATED LOCATIONS OR ARRANGEMENT OF THE WORK, SUCH CHANGES MUST BE MADE WITHOUT CHANGE IN THE CONTRACT AMOUNT.
2. VISIT THE JOB SITE AND BECOME FAMILIAR WITH CONDITIONS AFFECTING THE WORK AND COORDINATE THE WORK WITH OTHER CONTRACTORS ON THE PROJECT. VERIFY DIMENSIONS PRIOR TO FABRICATION AND INSTALLATION OF DUCTWORK AND EQUIPMENT.
3. EQUIPMENT INDICATED IN THE DRAWINGS, TOGETHER WITH ITS BASE AND/OR SUPPORT, DUCTWORK, WALL, FLOOR AND ROOF OPENINGS AND ELECTRICAL SERVICE ARE BASED ON THE EQUIPMENT SCHEDULE OR SPECIFICATIONS. SHOULD CONTRACTOR SELECT AN EQUIVALENT ALTERNATE, EVEN IF APPROVED BY THE OWNER AS EQUAL, COORDINATE AND MAKE THE MODIFICATIONS IN THE WORK WITHOUT CHANGE IN CONTRACT AMOUNT.
4. UNLESS OTHERWISE SHOWN ON DRAWINGS OR SPECIFIED HEREIN, PRODUCTS USED IN THE WORK MUST BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS. ANY CHANGES OR MODIFICATIONS PROPOSED BY CONTRACTOR WHICH HE BELIEVES IMPROVE THE INSTALLATION MUST BE APPROVED BY THE CONTRACTING OFFICER'S REPRESENTATIVE.
5. FOR EXACT LOCATION OF CEILING MOUNTED DEVICES SUCH AS DIFFUSERS, REGISTERS, GRILLES, ETC. SEE ARCHITECTURAL DRAWINGS.
6. ACCESS DOORS MUST BE PROVIDED AT FIRE DAMPERS, DUCT HEATING COILS, AND OTHER DEVICES AND/OR EQUIPMENT DESCRIBED IN THE SPECIFICATIONS. ACCESS DOOR MUST BE PROVIDED WHETHER OR NOT INDICATED ON THE DRAWING.
7. FOR EXACT LOCATION OF FLOOR AND ROOF OPENINGS, SEE STRUCTURAL DRAWINGS.
8. FIRE DAMPERS MUST BE CURTAIN TYPE, TYPE "B" UNLESS NOTED ON DRAWINGS.
9. DUCT SIZES SHOWN INDICATE INSIDE CLEAR DIMENSIONS.
10. COORDINATE DUCTWORK AND PIPING LOCATIONS WITH OTHER TRADES.
11. PROVIDE FIRE STOPPING AT PENETRATIONS THRU RATED PARTITIONS. THIS INCLUDES PENETRATIONS THROUGH WALLS, PARTITIONS, BARRIERS, CEILINGS, ROOFS OR FLOORS. PROVIDE MANUFACTURER'S STANDARD FIRE STOPPING SEALANT, WITH ACCESSORY MATERIALS, HAVING MINIMUM 1 HOUR FIRE RESISTANCE RATINGS AS ESTABLISHED BY TESTING IDENTICAL ASSEMBLIES PER ASTM E 814 AND BY UNDERWRITERS LABORATORY, INC. UL 1479 OR OTHER TESTING AND INSPECTION AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
12. LOCATE ALL PIPING IN OR AT CEILING UNLESS OTHERWISE INDICATED. BRANCH RUNOUTS TO TERMINAL REHEAT COILS SHALL BE MINIMUM 3/4 INCH UNLESS NOTED OTHERWISE.
13. PROVIDE PIPING ISOLATION VALVES IN ACCESSIBLE LOCATIONS, AS CLOSE TO MAIN RISERS AND BRANCH TAKE-OFFS AS POSSIBLE.
14. PROVIDE VOLUME DAMPERS IN BRANCH RUNOUTS TO EACH TERMINAL REHEAT UNIT. LOCATE VOLUME DAMPER AS CLOSE TO MAIN AS POSSIBLE.
15. FOR ALL DUCT AND PIPE PENETRATIONS THROUGH INTERIOR NON-RATED FULL HEIGHT PARTITIONS (PARTITIONS EXTENDING TO STRUCTURE), EXTEND INSULATION THROUGH PENETRATION. MAINTAIN COMPLETE VAPOR SEAL.
16. FLOW DIAGRAMS ARE INTENDED TO SHOW OVERALL RELATIONSHIP OF SYSTEM COMPONENTS AND MAY NOT INCLUDE ALL REQUIRED DAMPERS, VALVES AND ACCESSORIES. FLOW DIAGRAMS SHALL BE USED IN CONJUNCTION WITH DETAILS AND PLANS TO PROVIDE COMPLETE SYSTEMS.
17. PIPING, DUCTWORK AND EQUIPMENT FOREIGN TO ELECTRICAL EQUIPMENT ROOM, OR SIMILAR ROOM HOUSING ELECTRICAL EQUIPMENT(TELEPHONE/DATA, ELEVATOR MACHINE ROOM), NOT PERMITTED IN THESE SPACES.
18. PROVIDE BRACING FOR EQUIPMENT WEIGHING 31 POUNDS OR MORE PER UFC 4-010-01 DoD MINIMUM ANTITERRORISM STANDARDS FOR BUILDINGS, PARAGRAPH 3-20 STANDARD 19. EQUIPMENT MUST BE MOUNTED USING EITHER RIGID OR FLEXIBLE SYSTEMS AS SPECIFIED, AND MUST BE ABLE TO RESIST FORCES OF 0.5 TIMES THE COMPONENT WEIGHT IN ANY HORIZONTAL DIRECTION, AND 1.5 TIMES THE COMPONENT WEIGHT IN THE DOWNWARD DIRECTION.

NOTE: NOT ALL ABBREVIATION AND SYMBOLS SHOWN HERE ARE UTILIZED

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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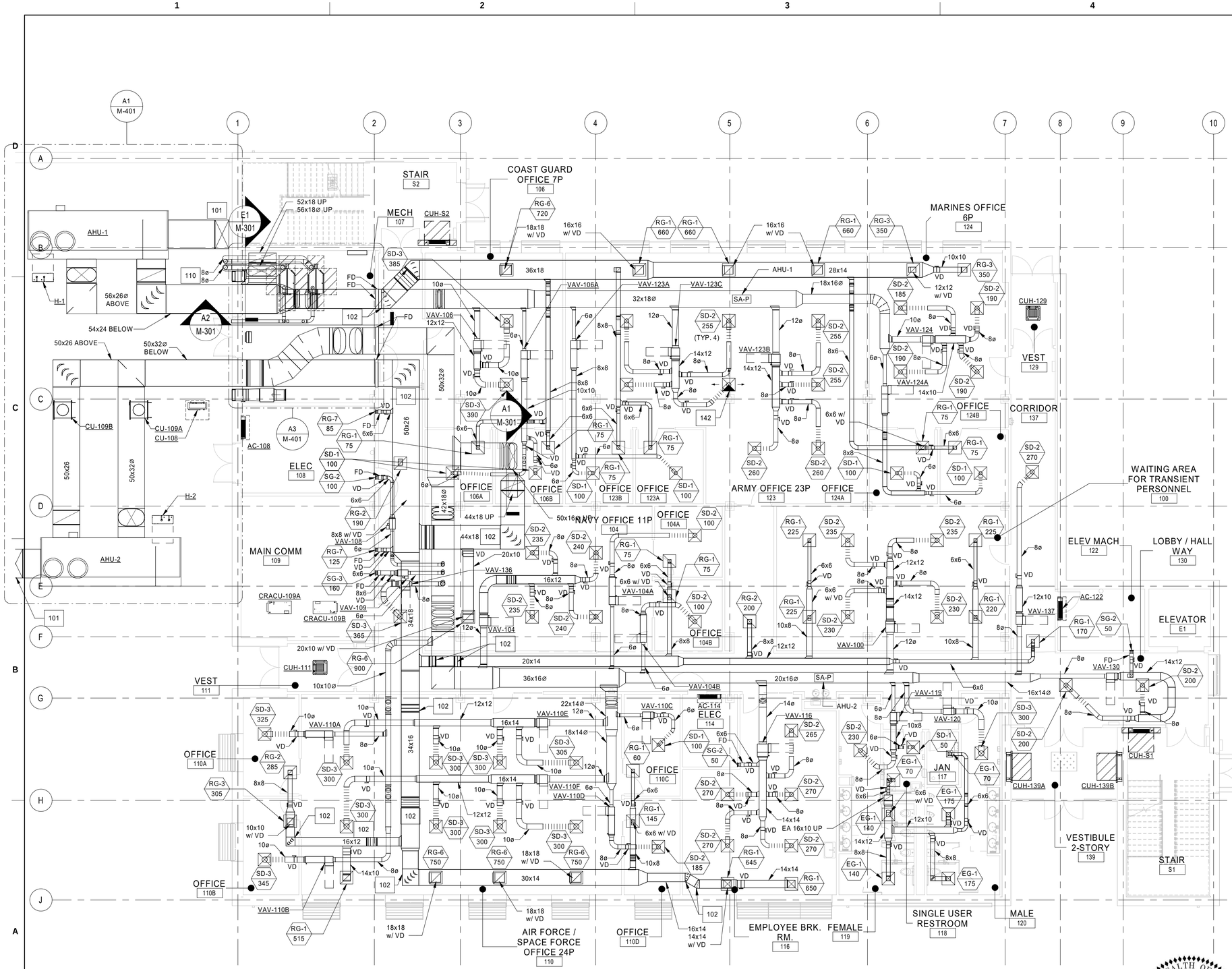
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - SYMBOLS, LEGENDS, ABBREVIATIONS, AND NOTES

SHEET ID

M-001



GENERAL SHEET NOTES

1. REFER TO SHEET M-001 FOR LEGEND AND GENERAL NOTES.
2. LOCATE ALL PIPING IN OR AT CEILING UNLESS OTHERWISE INDICATED. BRANCH RUNOUTS TO TERMINAL REHEAT COILS MUST BE MINIMUM 3/4" UNLESS NOTED OTHERWISE.
3. PROVIDE PIPING ISOLATION VALVES IN ACCESSIBLE LOCATIONS, AS CLOSE TO MAIN RISERS AND BRANCH TAKE-OFFS AS POSSIBLE.
4. MAXIMUM FLEX DUCT LENGTH MUST NOT EXCEED 5 FEET. TOTAL BENDS OF FLEX DUCT ROUTING MUST NOT EXCEED 45 DEGREES.

KEYNOTES

#	
101	OUTDOOR AIR OPENING MUST BE MINIMUM 10' ABOVE GRADE.
102	PROVIDE 20X20 DUCT ACCESS DOOR AT ELBOW OPENING TO ALLOW FOR INSPECTION AND CLEANING OF TURNING VANES.
110	TERMINATE CONDENSING BOILER EXHAUST FLUES ABOVE ROOF LINE, B-VENT TYPE RAIN CAPS.
142	PROVIDE 3-WAY DIFFUSER.

LEGEND

GRAPHIC SCALE(S)

8' 0 8' 16'

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

PLAN NORTH

A1 MECHANICAL - FIRST FLOOR PLAN - DUCTWORK
1/8" = 1'-0"

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
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PROFESSIONAL ENGINEER

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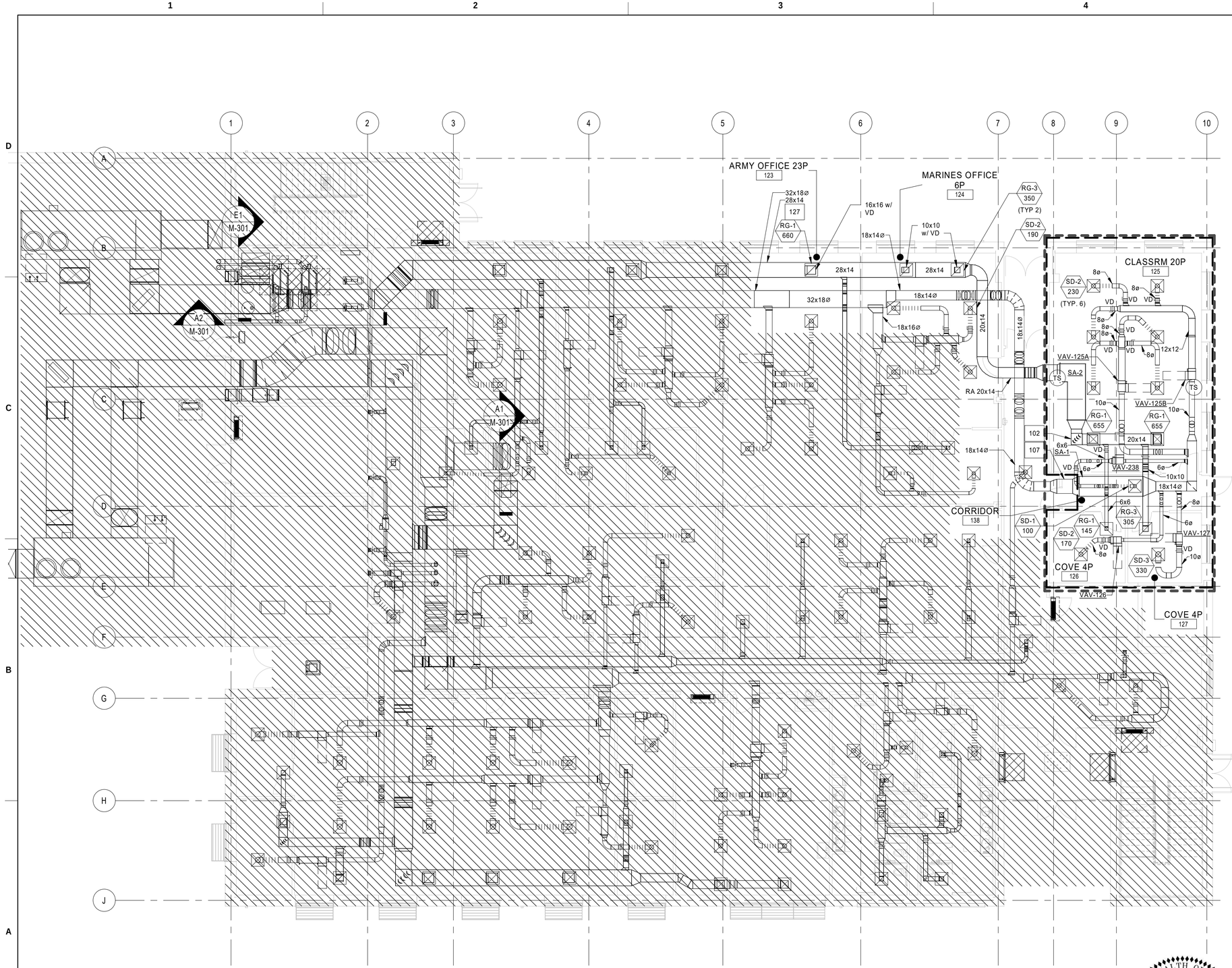
MECHANICAL - FIRST FLOOR PLAN - DUCTWORK

SHEET ID
M-110



A1 MECHANICAL - FIRST FLOOR - DUCTWORK (BID OPTION 1)

1/8" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO SHEET M-001 FOR LEGEND AND GENERAL NOTES.
2. LOCATE ALL PIPING IN OR AT CEILING UNLESS OTHERWISE INDICATED. BRANCH RUNOUTS TO TERMINAL REHEAT COILS MUST BE MINIMUM 3/4" UNLESS NOTED OTHERWISE.
3. PROVIDE PIPING ISOLATION VALVES IN ACCESSIBLE LOCATIONS, AS CLOSE TO MAIN RISERS AND BRANCH TAKE-OFFS AS POSSIBLE.
4. MAXIMUM FLEX DUCT LENGTH MUST NOT EXCEED 5 FEET. TOTAL BENDS OF FLEX DUCT ROUTING MUST NOT EXCEED 45 DEGREES.
5. REFER TO SHEET M-110 & M-120 FOR BASE BID.

KEYNOTES

#	
102	PROVIDE 20X20 DUCT ACCESS DOOR AT ELBOW OPENING TO ALLOW FOR INSPECTION AND CLEANING OF TURNING VANES.
107	PROVIDE MANBARS, ACCESS DOOR, AND ACOUSTIC CAULK SEALANT FOR DUCT PENETRATIONS INTO SECURE AREA PERIMETER.
127	CONTINUE 28X14 RETURN DUCTWORK AND 32X18 OVAL SUPPLY DUCTWORK FOR BID OPTION AND PROVIDE 18X16 OVAL SUPPLY TAP CONNECTION AND 10X10 RETURN TAP CONNECTION IN BASE BID.

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8' 0 8' 16'

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

PLAN NORTH

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: A. HONDA
DRAWN BY: A. HONDA
CHECKED BY: N. SLEEM
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

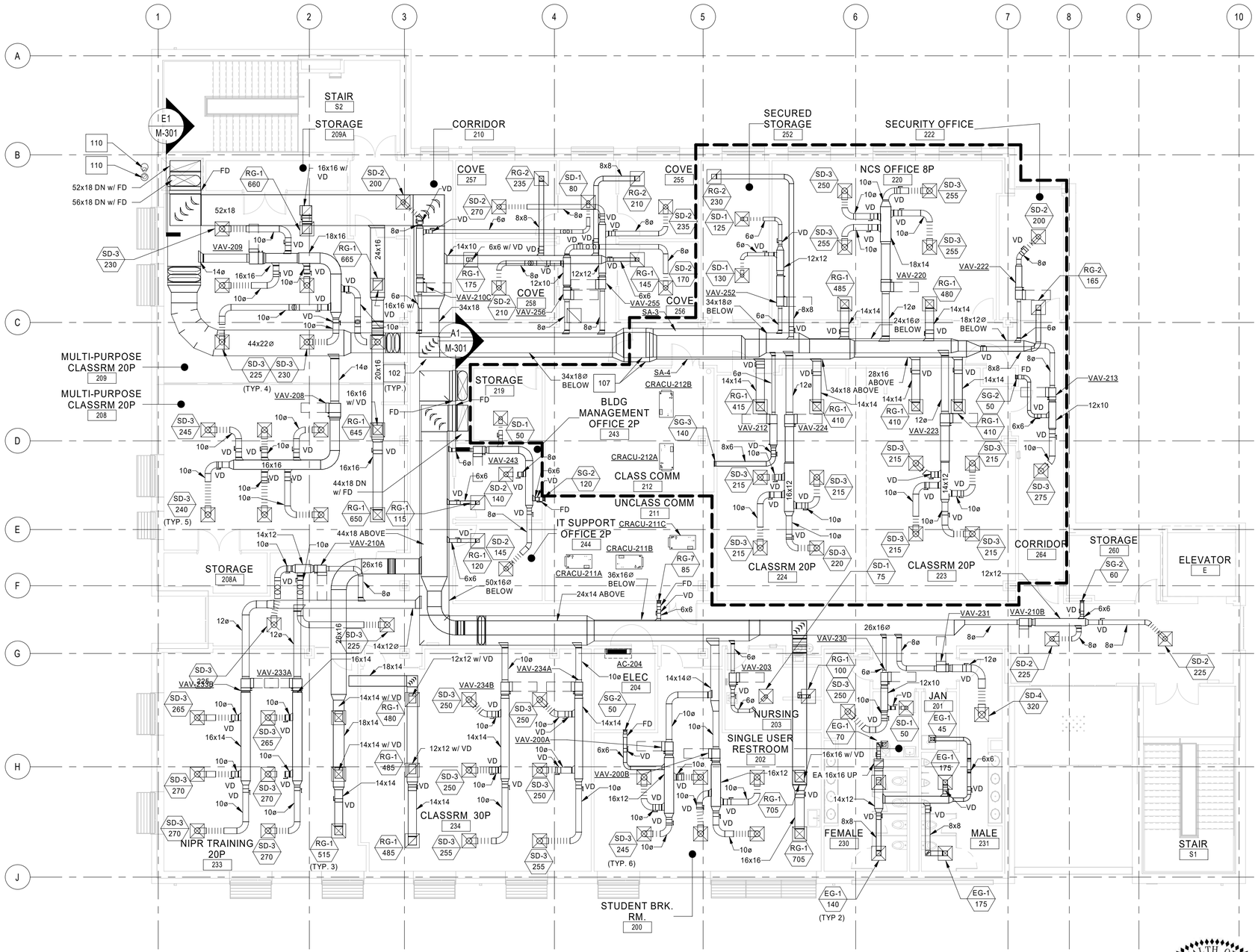
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - FIRST FLOOR - DUCTWORK (BID OPTION 1)

SHEET ID

M-110A



A1 MECHANICAL - SECOND FLOOR PLAN - DUCTWORK

1/8" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO SHEET M-001 FOR LEGEND AND GENERAL NOTES.
2. LOCATE ALL PIPING IN OR AT CEILING UNLESS OTHERWISE INDICATED. BRANCH RUNOUTS TO TERMINAL REHEAT COILS MUST BE MINIMUM 3/4" UNLESS NOTED OTHERWISE.
3. PROVIDE PIPING ISOLATION VALVES IN ACCESSIBLE LOCATIONS, AS CLOSE TO MAIN RISERS AND BRANCH TAKE-OFFS AS POSSIBLE.
4. MAXIMUM FLEX DUCT LENGTH MUST NOT EXCEED 5 FEET. TOTAL BENDS OF FLEX DUCT ROUTING MUST NOT EXCEED 45 DEGREES.

KEYNOTES

#	
102	PROVIDE 20X20 DUCT ACCESS DOOR AT ELBOW OPENING TO ALLOW FOR INSPECTION AND CLEANING OF TURNING VANES.
107	PROVIDE MANBARS, ACCESS DOOR, AND ACOUSTIC CAULK SEALANT FOR DUCT PENETRATIONS INTO SECURE AREA PERIMETER.
110	TERMINATE CONDENSING BOILER EXHAUST FLUES ABOVE ROOF LINE, B-VENT TYPE RAIN CAPS.

LEGEND

SECURE AREA

GRAPHIC SCALE(S)

8' 0 8' 16'

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

PLAN NORTH

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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

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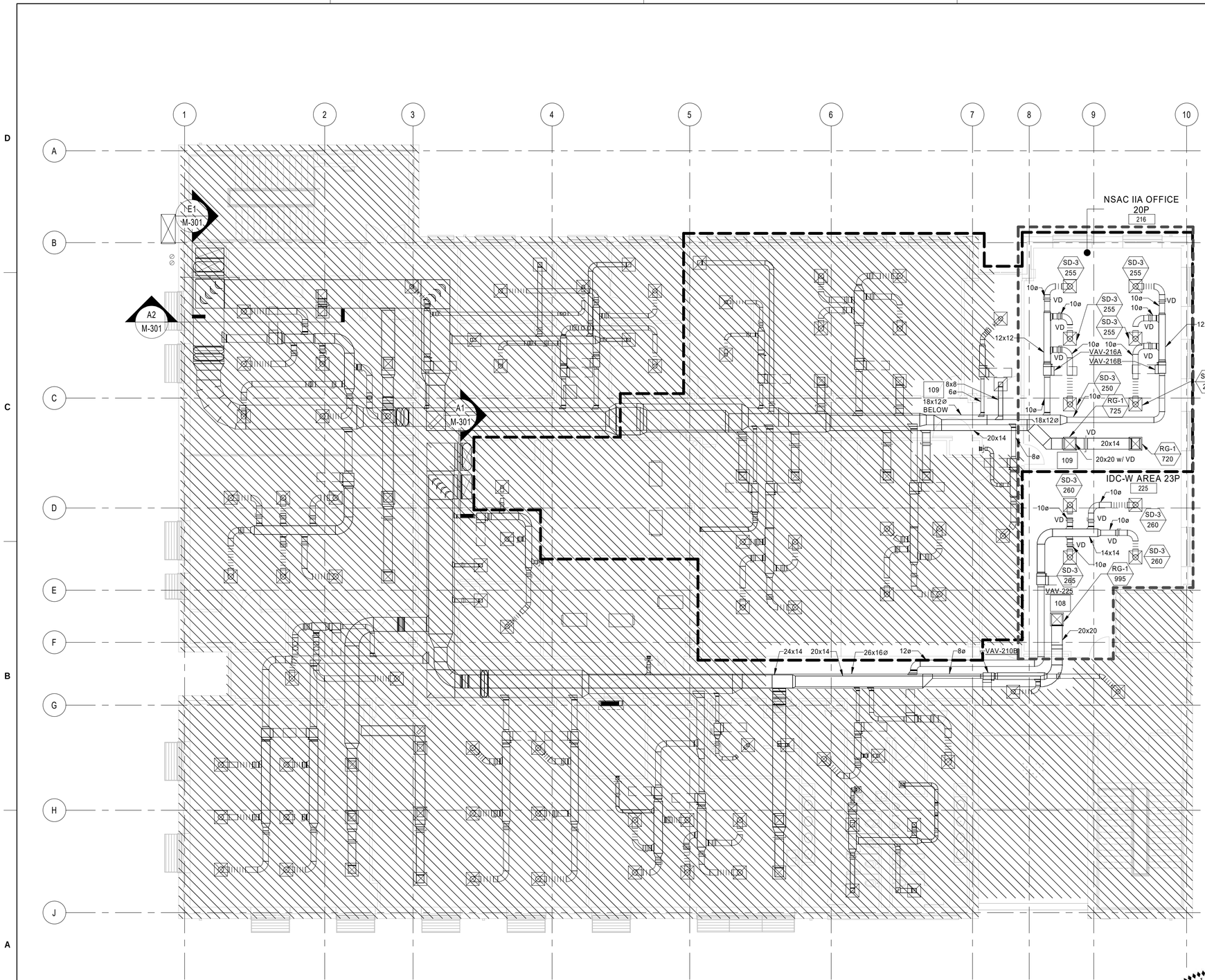
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - SECOND FLOOR PLAN - DUCTWORK

SHEET ID
M-120



GENERAL SHEET NOTES

1. REFER TO SHEET M-001 FOR LEGEND AND GENERAL NOTES.
2. LOCATE ALL PIPING IN OR AT CEILING UNLESS OTHERWISE INDICATED. BRANCH RUNOUTS TO TERMINAL REHEAT COILS MUST BE MINIMUM 3/4" UNLESS NOTED OTHERWISE.
3. PROVIDE PIPING ISOLATION VALVES IN ACCESSIBLE LOCATIONS, AS CLOSE TO MAIN RISERS AND BRANCH TAKE-OFFS AS POSSIBLE.
4. MAXIMUM FLEX DUCT LENGTH MUST NOT EXCEED 5 FEET. TOTAL BENDS OF FLEX DUCT ROUTING MUST NOT EXCEED 45 DEGREES.
5. REFER TO SHEET M-110 & M-120 FOR BASE BID.

KEYNOTES

#	
108	CONTINUE 26X16 OVAL SUPPLY DUCTWORK AND 20X14 RETURN DUCTWORK AND PROVIDE TAP FOR VAV-225.
109	CONTINUE SUPPLY 18X12 OVAL SUPPLY DUCTWORK AND 20X14 RETURN DUCTWORK AND PROVIDE TAP CONNECTION TO VAV-220 IN BASE BID.

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8' 0 8' 16'

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

PLAN NORTH

A1 MECHANICAL - SECOND FLOOR - DUCTWORK (BID OPTION 1)

1/8" = 1'-0"

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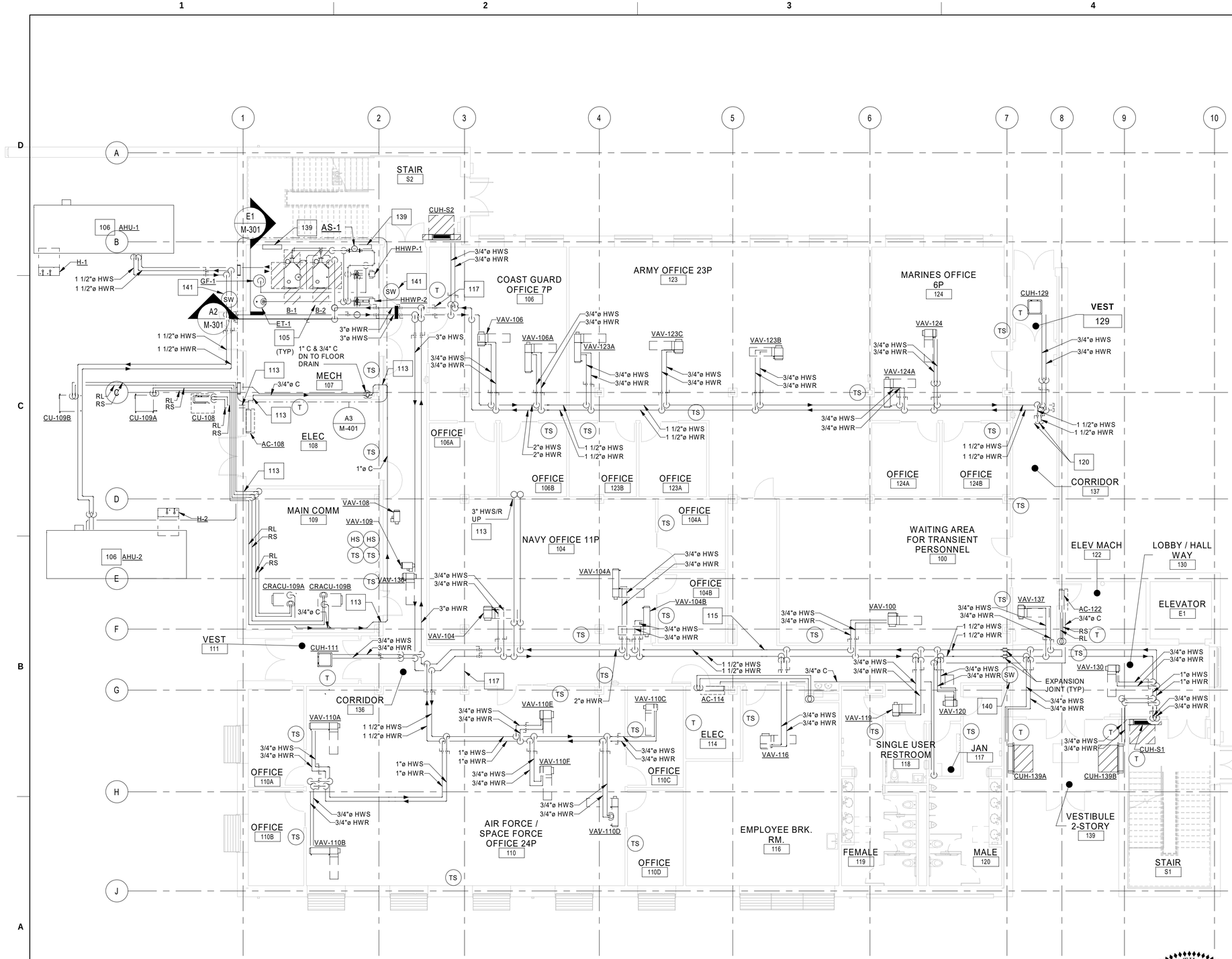
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SPB, CO

MECHANICAL - SECOND FLOOR - DUCTWORK (BID OPTION 1)

SHEET ID

M-120A



A1 MECHANICAL - FIRST FLOOR PLAN - PIPING

1/8" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO SHEET M-001 FOR LEGEND AND GENERAL NOTES.
2. LOCATE ALL PIPING IN OR AT CEILING UNLESS OTHERWISE INDICATED. BRANCH RUNOUTS TO TERMINAL REHEAT COILS MUST BE MINIMUM 3/4" UNLESS NOTED OTHERWISE.
3. PROVIDE PIPING ISOLATION VALVES IN ACCESSIBLE LOCATIONS, AS CLOSE TO MAIN RISERS AND BRANCH TAKE-OFFS AS POSSIBLE.

KEYNOTES

#	
105	DASHED LINES DENOTE EQUIPMENT CLEARANCE AREAS, TYPICAL.
106	PROVIDE PAD THAT EXTENDS 6" BEYOND EQUIPMENT CASING FOOTPRINT ON ALL SIDES.
113	PROVIDE FIRE STOP AT PIPING PENETRATIONS.
115	PROVIDE FACTORY FABRICATED THERMAL EXPANSION ASSEMBLY, SCHEDULE 40 CARBON STEEL PIPING AND 300 SERIES STAINLESS STEEL BRAIDED FLEXIBLE CONNECTORS WITH FLANGED CONNECTIONS. ASSEMBLY MUST BE CONFIGURED FOR MINIMUM +/-1.5 INCHES MOVEMENT. PROVIDE PIPE GUIDES UPSTREAM AND DOWNSTREAM AT 4, 10 AND 14
117	PROVIDE ISOLATION AND FLOW CONTROL CIRCUIT SETTER VALVES.
120	PROVIDE CAPPED PIPING FOR FUTURE TIE-IN.
139	PROVIDE BAS NETWORK PANEL AND CONTROL PANEL FOR HHWS.
140	PROVIDE EMERGENCY VENTILATION SHUTOFF SWITCH WITH HINGED COVER, TAG, AND WARNING SIGN.
141	PROVIDE BOILER EMERGENCY SHUTDOWN SWITCH.

LEGEND

GRAPHIC SCALE(S)

8' 0 8' 16'

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

PLAN NORTH

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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SUBMITTED BY:
SIZE: D
FILE NAME: ANSI D

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

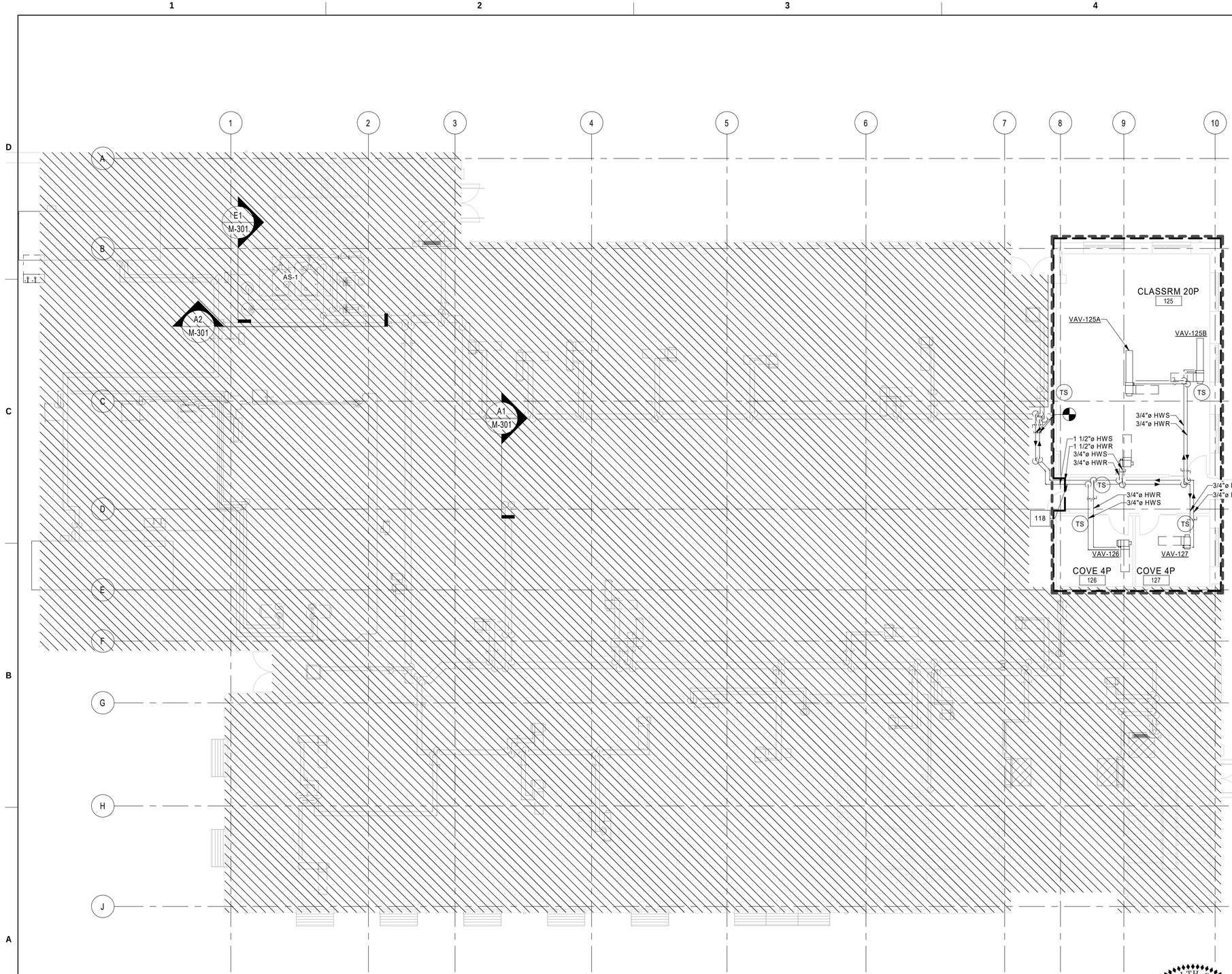
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - FIRST FLOOR PLAN - PIPING

SHEET ID

MP110



GENERAL SHEET NOTES

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2. LOCATED ALL PIPING IN OR AT CEILING UNLESS OTHERWISE INDICATED. BRANCH RUNOUTS TO TERMINAL REHEAT COILS MUST BE MINIMUM 3/4" UNLESS NOTED OTHERWISE.
3. PROVIDE PIPING ISOLATION VALVES IN ACCESSIBLE LOCATIONS, AS CLOSE TO MAIN RISERS AND BRANCH TAKE-OFFS AS POSSIBLE.

KEYNOTES

#	
118	PROVIDE ACOUSTIC SEALANT AT PIPE PENETRATION ON BOTH SIDES OF THE SECURE WALL/PARTITION ASSEMBLY.

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8' 0 8' 16'

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

PLAN NORTH

A1 MECHANICAL - FIRST FLOOR - PIPING (BID OPTION 1)
1/8" = 1'-0"

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: A. HONDA	ISSUE DATE: 14 DECEMBER 2022
DRAWN BY: A. HONDA	SOLICITATION NO.: W9126P22R0017
CHECKED BY: N. SLEEM	CONTRACT NO.:
SUBMITTED BY:	FILE NUMBER:
SIZE: ANSI D	FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

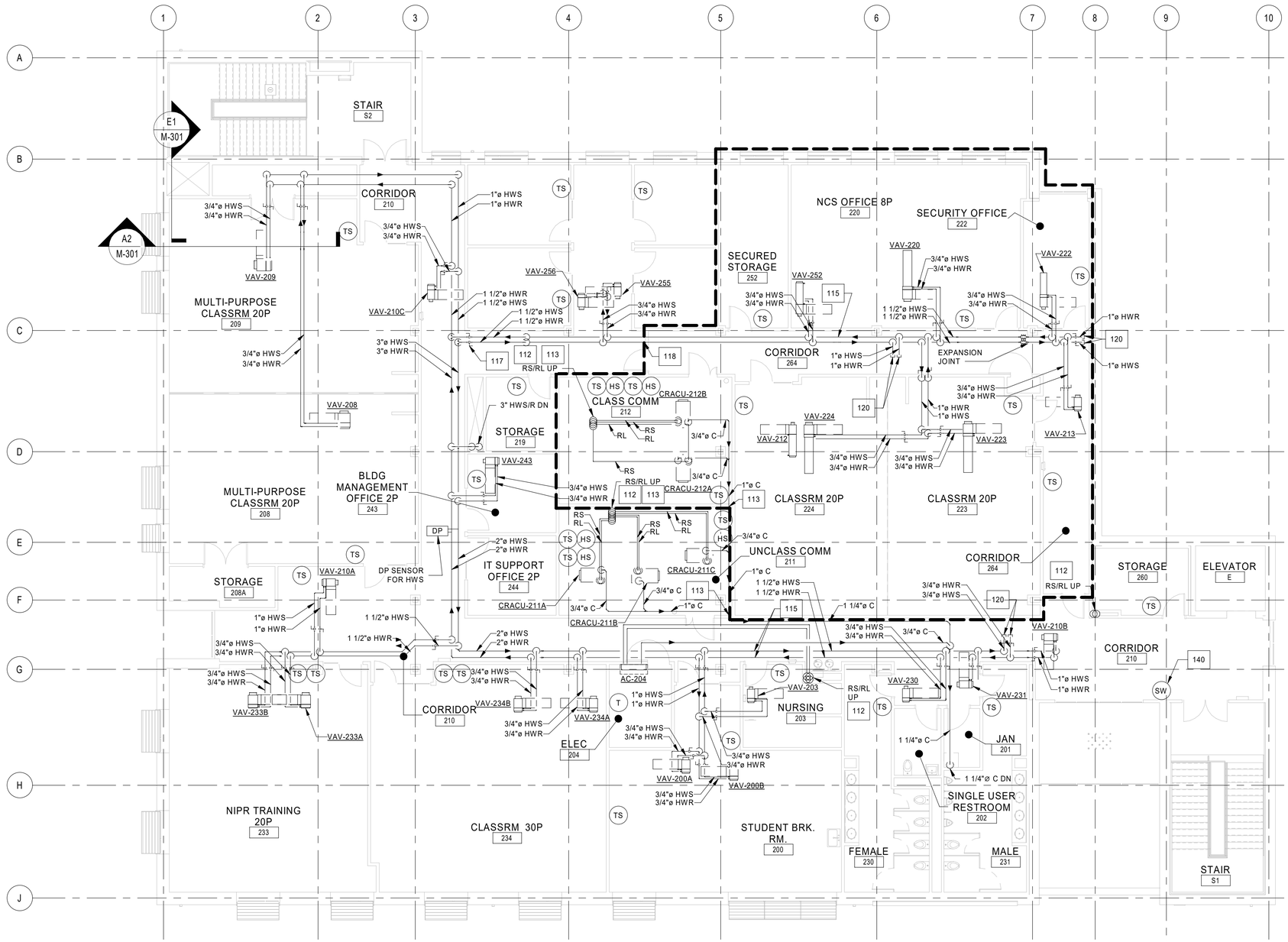
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SPB, CO

MECHANICAL - FIRST FLOOR - PIPING (BID OPTION 1)

SHEET ID

MP110A



GENERAL SHEET NOTES

1. REFER TO SHEET M-001 FOR LEGEND AND GENERAL NOTES.
2. LOCATED ALL PIPING IN OR AT CEILING UNLESS OTHERWISE INDICATED. BRANCH RUNOUTS TO TERMINAL REHEAT COILS MUST BE MINIMUM 3/4" UNLESS NOTED OTHERWISE.
3. PROVIDE PIPING ISOLATION VALVES IN ACCESSIBLE LOCATIONS, AS CLOSE TO MAIN RISERS AND BRANCH TAKE-OFFS AS POSSIBLE.

KEYNOTES

#	
112	SIZE REFRIGERANT PIPING PER MANUFACTURER'S SPECIFIED
113	PROVIDE FIRE STOP AT PIPING PENETRATIONS.
115	PROVIDE FACTORY FABRICATED THERMAL EXPANSION ASSEMBLY, SCHEDULE 40 CARBON STEEL PIPING AND 300 SERIES STAINLESS STEEL BRAIDED FLEXIBLE CONNECTORS WITH FLANGED CONNECTIONS. ASSEMBLY MUST BE CONFIGURED FOR MINIMUM +/-1.5 INCHES MOVEMENT. PROVIDE PIPE GUIDES UPSTREAM AND DOWNSTREAM AT 4, 10 AND 14
117	PROVIDE ISOLATION AND FLOW CONTROL CIRCUIT SETTER VALVES.
118	PROVIDE ACOUSTIC SEALANT AT PIPE PENETRATION ON BOTH SIDES OF THE SECURE WALL/PARTITION ASSEMBLY.
120	PROVIDE CAPPED PIPING FOR FUTURE TIE-IN.
140	PROVIDE EMERGENCY VENTILATION SHUTOFF SWITCH WITH HINGED COVER, TAG, AND WARNING SIGN.

LEGEND

SECURE AREA

GRAPHIC SCALE(S)

8' 0 8' 16'

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

PLAN NORTH

A1 MECHANICAL - SECOND FLOOR PLAN - PIPING
1/8" = 1'-0"

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
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12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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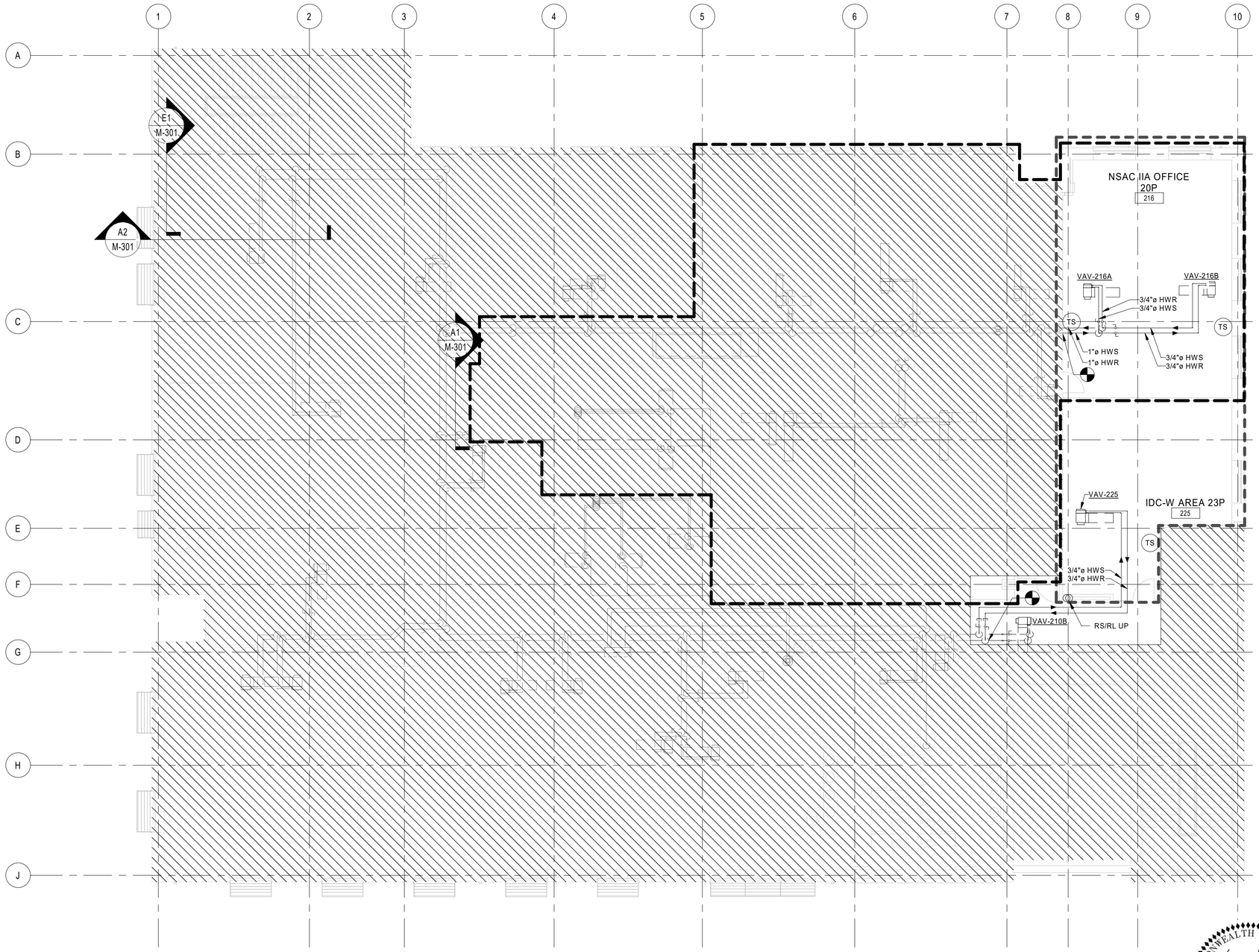
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - SECOND FLOOR PLAN - PIPING

SHEET ID
MP120



A1 MECHANICAL - SECOND FLOOR - PIPING (BID OPTION 1)
1/8" = 1'-0"

GENERAL SHEET NOTES

KEYNOTES

#	

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8' 0 8' 16'

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

PLAN NORTH

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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DESIGNED BY: A. HONDA	ISSUE DATE: 14 DECEMBER 2022
DRAWN BY: A. HONDA	SOLICITATION NO.: W9128F22R0017
CHECKED BY: N. SLEEM	CONTRACT NO.:
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SIZE: ANSI D'	FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

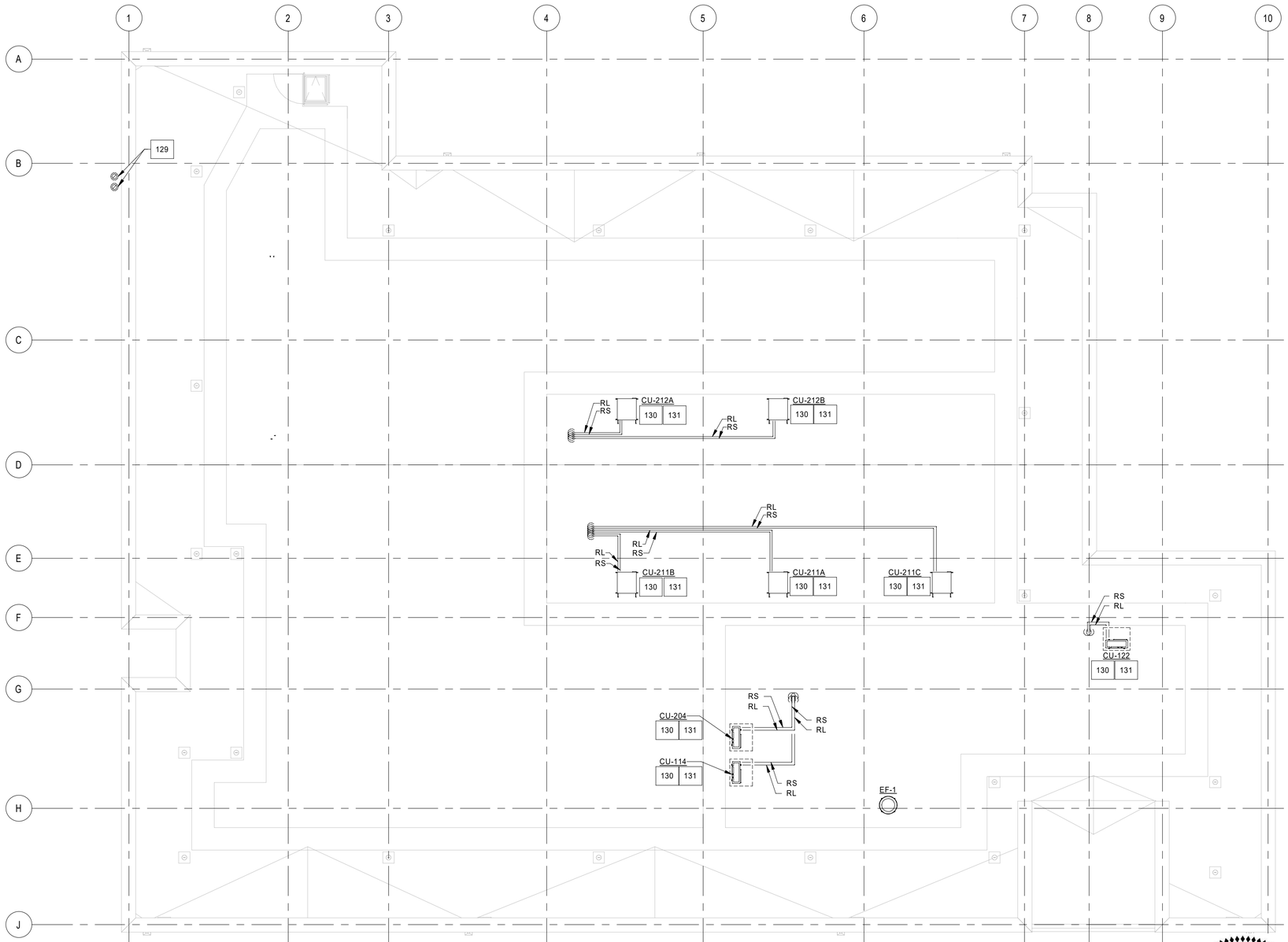
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - SECOND FLOOR - PIPING
(BID OPTION 1)

SHEET ID

MP120A



A1 MECHANICAL - ROOF PLAN - PIPING
1/8" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO SHEET M-001 FOR LEGEND AND GENERAL NOTES.
2. LOCATED ALL PIPING IN OR AT CEILING UNLESS OTHERWISE INDICATED. BRANCH RUNOUTS TO TERMINAL REHEAT COILS MUST BE MINIMUM 3/4" UNLESS NOTED OTHERWISE.
3. PROVIDE PIPING ISOLATION VALVES IN ACCESSIBLE LOCATIONS, AS CLOSE TO MAIN RISERS AND BRANCH TAKE-OFFS AS POSSIBLE.

KEYNOTES

129 BOILER EXHAUST FLUE, TERMINATE A MINIMUM 84" ABOVE ANY STANDING SURFACE WITHIN 10'-0" OF EXHAUST FLUE. SUBMIT DESIGNED AND CERTIFIED BOILER FLUE SIZING BY EXHAUST SYSTEM MANUFACTURER'S QUALIFIED PROFESSIONAL. PRESSURE DAMPERS, ACCESSORIES AND ANY NECESSARY APPURTENANCES MUST BE PROVIDED FOR A COMPLETE SYSTEM.

130 PROVIDE SPLASH BLOCK BESIDE EACH UNIT.

131 PROVIDE ROOF EQUIPMENT RAILS UNDER EACH UNIT.

LEGEND

GRAPHIC SCALE(S)

8' 0 8' 16'
SCALE: 1/8" = 1' - 0"

PLAN NORTH

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
12/14/2022
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US Army Corps of Engineers ®

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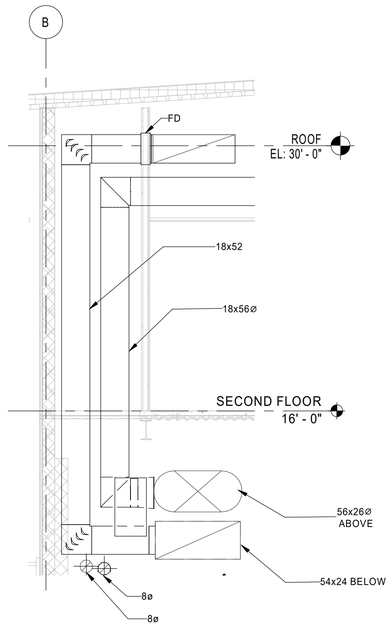
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

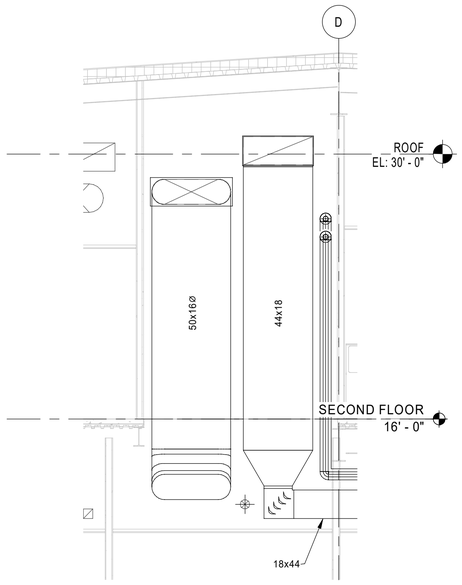
MECHANICAL - ROOF PLAN - PIPING

SHEET ID
MP130

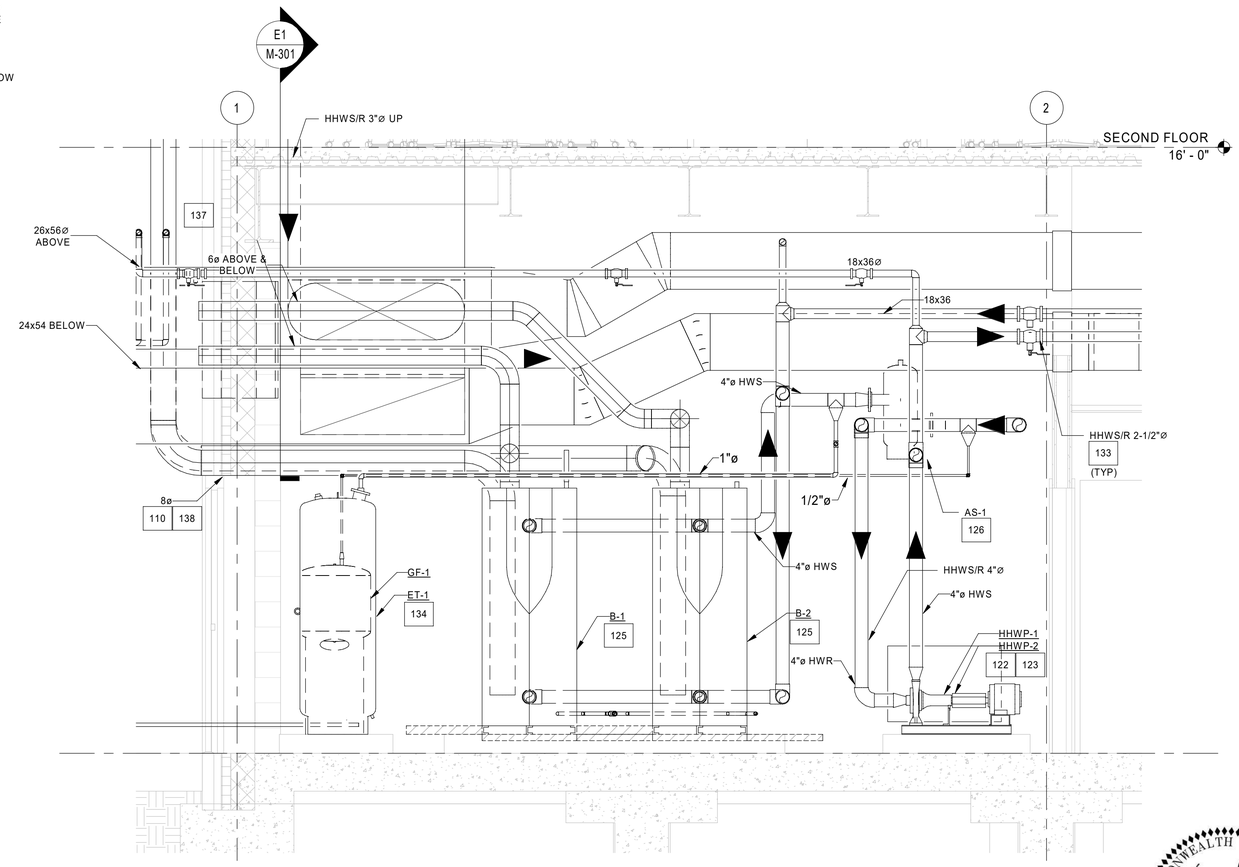
RTA SUBMISSION



E1 MECHANICAL 107 - SHAFT
1/4" = 1'-0"



A1 106B OFFICE - SHAFT
1/4" = 1'-0"



A2 107 MECHANICAL ROOM
1/2" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO SHEET G-003 FOR DRAWING INDEX.
2. REFER TO M-001 FOR ABBREVIATIONS, LEGEND, AND GENERAL NOTES.
3. CONNECTED PIPING SYSTEMS MUST NOT IMPART ANY WEIGHT TO EQUIPMENT ITSELF, AND VICE VERSA.
4. MAINTAIN EQUIPMENT ACCESS CLEARANCES FOR ELECTRICAL, MAINTENANCE, REPAIRS, MOTOR REPLACEMENT, ETC. ON SIDES.

KEYNOTES

#	
110	TERMINATE CONDENSING BOILER EXHAUST FLUES ABOVE ROOF LINE, B-VENT TYPE RAIN CAPS.
122	BASE MOUNTED END SUCTION PUMP MUST BE MOUNTED ON AN MANUFACTURER'S INERTIA BASE; PUMP MUST BE CRITICALLY DAMPENED FOR VIBRATION. SUBMIT DESIGNED AND CERTIFIED INERTIA BASE WITH HOUSED SPRING VIBRATION ISOLATORS BY QUALIFIED PROFESSIONAL.
123	VFDS MUST BE WALL MOUNTED, LOCATED SO THAT THERE IS NOT MORE THAN 50'-0" TOTAL POWER FEEDER LENGTH BETWEEN PUMP AND VFD, INCLUDING VERTICAL RUNS.
125	HIGH EFFICIENCY NATURAL GAS BOILER MUST BE PROVIDED WITH FLEX CONNECTIONS, LINE SIZED LEAK TIGHT ISOLATION BUTTERFLY VALVES AT CONNECTIONS AND ISOLATION CONTROL VALVE. PROVIDE TRANSITIONS AS NECESSARY TO BOILER CONNECTIONS.
126	INLINE TANGENTIAL AIR SEPARATOR MUST BE SUSPENDED FROM SUPPLEMENTAL SUPPORT FRAMING OR STRUCTURAL STEEL FRAMING, WITH FLEX AND LINE SIZED LEAK TIGHT ISOLATION BUTTERFLY VALVES AT CONNECTIONS. PROVIDE AUTOMATIC AIR VENT WITH LINE SIZE ISOLATION BALL VALVE ON TOP CONNECTION AND HOSE-END DRAIN BALL VALVE WITH THREADED CAP ATTACHED BY CHAIN AT BOTTOM CONNECTION. REFER TO PLUMBING DRAWINGS FOR 1" MAKEUP WATER SUPPLY.
133	HEATING HOT WATER SUPPLY AND RETURN PIPING MUST BE ROUTED ON PIPE SUPPORTS AS LOW TO THE ROOF AS POSSIBLE. PROVIDE HIGHER ROOF SUPPORTS FOR BRANCH PIPING THAT TAPS OFF THE TOP OF THE MAIN PIPE.
134	VERTICAL BASE MOUNTED DIAPHRAGM EXPANSION TANK MUST BE BASE MOUNTED ON INTEGRAL FACTORY SUPPORTS, WITH FLEX AND LINE SIZED LEAK TIGHT ISOLATION BALL VALVES AT CONNECTIONS. PROVIDE AUTOMATIC AIR VENT WITH LINE SIZE ISOLATION BALL VALVE ON TOP CONNECTION, ISOLATION BALL VALVE AT SYSTEM MAKEUP CONNECTIONS AND HOSE-END DRAIN BALL VALVE WITH THREADED CAP ATTACHED BY CHAIN AT BOTTOM CONNECTION. INSULATE TANK ASSEMBLY AS SCHEDULED.
137	SCHEDULE 40 PVC COMBUSTION AIR MAKEUP DUCT TO EACH INDIVIDUAL BOILER AND DOMESTIC WATER HEATER MUST BE SLOPED 1/4" PER FOOT BACK TO OUTSIDE. EACH DUCT MUST BE INSTALLED A MINIMUM OF 10' ABOVE GRADE AND EXTEND 2" BEYOND BUILDING WALL SURFACE, WITH ½"STAINLESS STEEL MESH. STOP EACH DUCT INLET 4" BEHIND ARCHITECTURAL SCREEN PANEL; PANEL MUST BE PERFORATED SIZED SO THAT PRESSURE DROP IS NEGLIGIBLE; COORDINATE WITH ARCHITECTURE.
138	HORIZONTAL SECTION OF BOILER EXHAUST FLUE DUCT MUST BE SLOPED 1/4" PER FOOT BACK TO BOILER CONNECTION.

US Army Corps of Engineers ®

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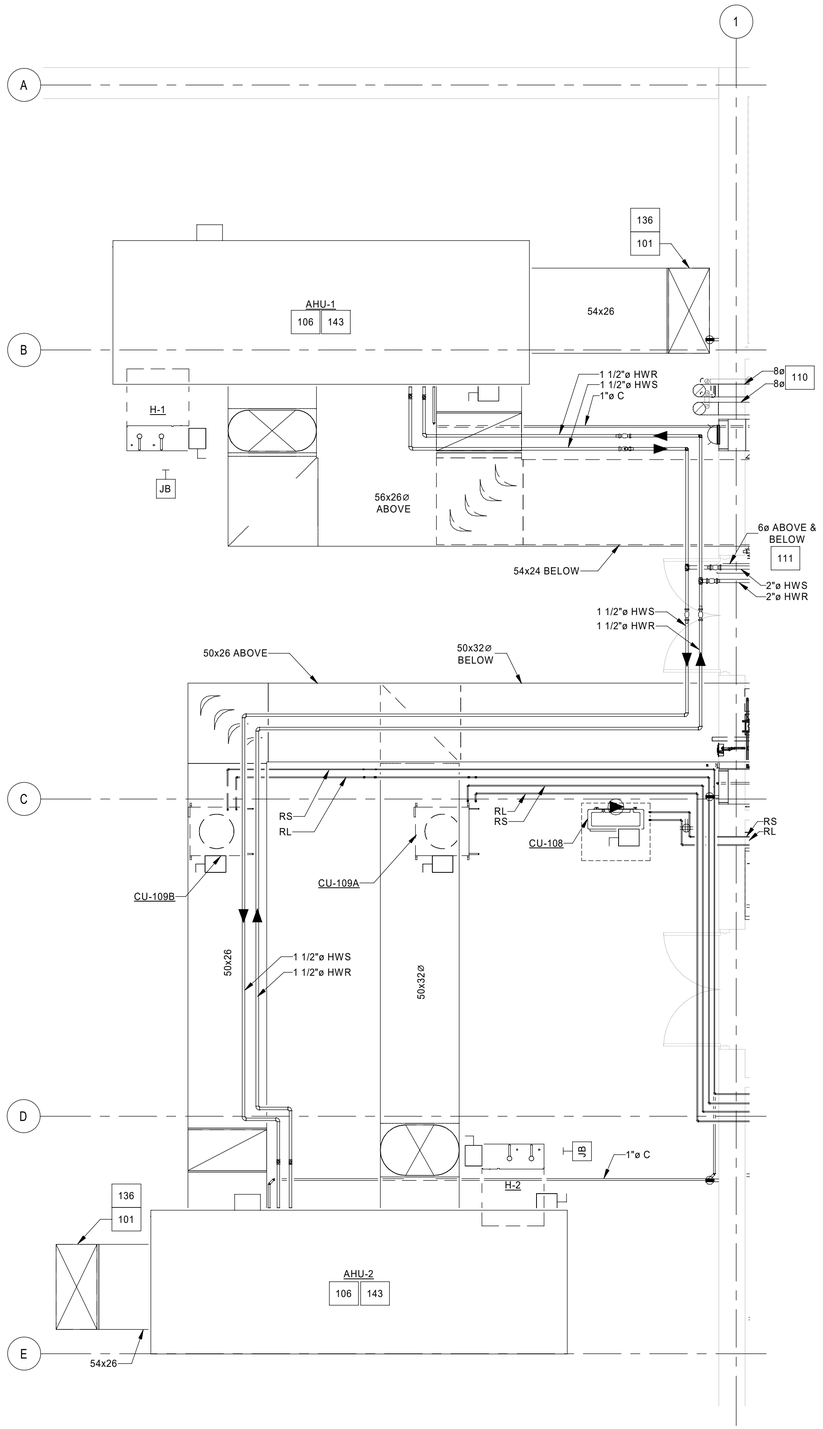
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

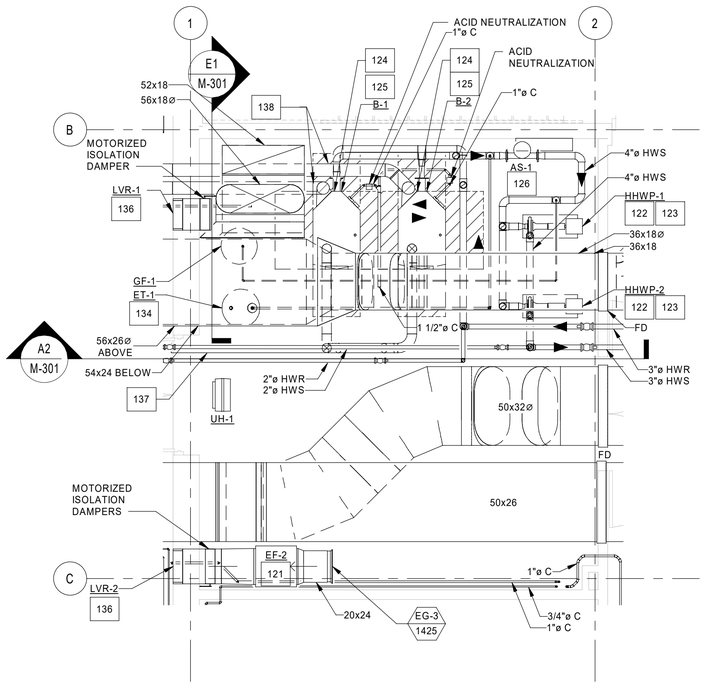
MECHANICAL - BUILDING SECTION

SHEET ID
M-301



A1 MECHANICAL - MECHANICAL YARD - ENGLARGED PLAN

1/4" = 1'-0"



A3 MECHANICAL - 107 MECHANICAL ROOM - ENLARGED PLAN

1/4" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO SHEET G-003 FOR DRAWING INDEX.
2. REFER TO M-001 FOR ABBREVIATIONS, LEGEND, AND GENERAL NOTES.
3. CONNECTED PIPING SYSTEMS MUST NOT IMPART ANY WEIGHT TO EQUIPMENT ITSELF, AND VICE VERSA.
4. MAINTAIN EQUIPMENT ACCESS CLEARANCES FOR ELECTRICAL, MAINTENANCE, REPAIRS, MOTOR REPLACEMENT, ETC. ON SIDES.

KEYNOTES

#	
101	OUTDOOR AIR OPENING MUST BE MINIMUM 10' ABOVE GRADE.
106	PROVIDE PAD THAT EXTENDS 6" BEYOND EQUIPMENT CASING FOOTPRINT ON ALL SIDES.
110	TERMINATE CONDENSING BOILER EXHAUST FLUES ABOVE ROOF LINE, B-VENT TYPE RAIN CAPS.
111	PROVIDE COMBUSTION AIR INTAKES FOR B-1 AND B-2 A MINIMUM OF 10' ABOVE GRADE.
121	INLINE CENTRIFUGAL FAN MUST BE SUSPENDED FROM SUPPLEMENTAL SUPPORT FRAMING OR STRUCTURAL STEEL FRAMING WITH MANUFACTURER'S HOUSED SPRING ISOLATORS, OSHA MOTOR GUARD, AND ANY NECESSARY ACCESSORIES AND APPURTENANCES. PROVIDE FLEX INLET AND OUTLET CONNECTIONS TO DUCTWORK.
122	BASE MOUNTED END SUCTION PUMP MUST BE MOUNTED ON AN MANUFACTURER'S INERTIA BASE; PUMP MUST BE CRITICALLY DAMPENED FOR VIBRATION. SUBMIT DESIGNED AND CERTIFIED INERTIA BASE WITH HOUSED SPRING VIBRATION ISOLATORS BY QUALIFIED PROFESSIONAL.
123	VFDS MUST BE WALL MOUNTED, LOCATED SO THAT THERE IS NOT MORE THAN 50'-0" TOTAL POWER FEEDER LENGTH BETWEEN PUMP AND VFD, INCLUDING VERTICAL RUNS.
124	BOILER CONDENSATE NEUTRALIZING KIT MUST BE LOCATED SO THAT DRAIN PIPE FROM BOILER IS ABLE TO GRAVITY DRAIN TO UNIT. ROUTE DRAIN PIPE FROM NEUTRALIZING KIT TO NEAREST FLOOR DRAIN SLOPED AT 1/8" PER FOOT (1%) IN A MANNER THAT DOES NOT CREATE A TRIPPING HAZARD.
125	HIGH EFFICIENCY NATURAL GAS BOILER MUST BE PROVIDED WITH FLEX CONNECTIONS, LINE SIZED LEAK TIGHT ISOLATION BUTTERFLY VALVES AT CONNECTIONS AND ISOLATION CONTROL VALVE. PROVIDE TRANSITIONS AS NECESSARY TO BOILER CONNECTIONS.
126	INLINE TANGENTIAL AIR SEPARATOR MUST BE SUSPENDED FROM SUPPLEMENTAL SUPPORT FRAMING OR STRUCTURAL STEEL FRAMING, WITH FLEX AND LINE SIZED LEAK TIGHT ISOLATION BUTTERFLY VALVES AT CONNECTIONS. PROVIDE AUTOMATIC AIR VENT WITH LINE SIZE ISOLATION BALL VALVE ON TOP CONNECTION AND HOSE-END DRAIN BALL VALVE WITH THREADED CAP ATTACHED BY CHAIN AT BOTTOM CONNECTION. REFER TO PLUMBING DRAWINGS FOR 1" MAKEUP WATER SUPPLY.
134	VERTICAL BASE MOUNTED DIAPHRAGM EXPANSION TANK MUST BE BASE MOUNTED ON INTEGRAL FACTORY SUPPORTS, WITH FLEX AND LINE SIZED LEAK TIGHT ISOLATION BALL VALVES AT CONNECTIONS. PROVIDE AUTOMATIC AIR VENT WITH LINE SIZE ISOLATION BALL VALVE ON TOP CONNECTION, ISOLATION BALL VALVE AT SYSTEM MAKEUP CONNECTIONS AND HOSE-END DRAIN BALL VALVE WITH THREADED CAP ATTACHED BY CHAIN AT BOTTOM CONNECTION. INSULATE TANK ASSEMBLY AS SCHEDULED.
136	OUTSIDE AIR INTAKE AND EXHAUST AIR LOUVERS MUST BE PROVIDED WITH INTEGRAL ISOLATION DAMPER WITH MOTORIZED ACTUATOR. BOTTOM OF LOUVER MUST BE A MINIMUM OF 10'-0" ABOVE GRADE.
137	SCHEDULE 40 PVC COMBUSTION AIR MAKEUP DUCT TO EACH INDIVIDUAL BOILER AND DOMESTIC WATER HEATER MUST BE SLOPED 1/4" PER FOOT BACK TO OUTSIDE. EACH DUCT MUST BE INSTALLED A MINIMUM OF 10' ABOVE GRADE AND EXTEND 2" BEYOND BUILDING WALL SURFACE, WITH ½"STAINLESS STEEL MESH. STOP EACH DUCT INLET 4" BEHIND ARCHITECTURAL SCREEN PANEL; PANEL MUST BE PERFORATED SIZED SO THAT PRESSURE DROP IS NEGLIGIBLE; COORDINATE WITH ARCHITECTURE.
138	HORIZONTAL SECTION OF BOILER EXHAUST FLUE DUCT MUST BE SLOPED 1/4" PER FOOT BACK TO BOILER CONNECTION.
143	PROVIDE AIR HANDLING UNIT WITH SEPARATE INTEGRAL MINIMUM AND MAXIMUM OUTSIDE AIR DAMPERS.

COMMONWEALTH OF VIRGINIA
NASIR SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: A. HONDA
DRAWN BY: A. HONDA
CHECKED BY: N. SLEEM
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

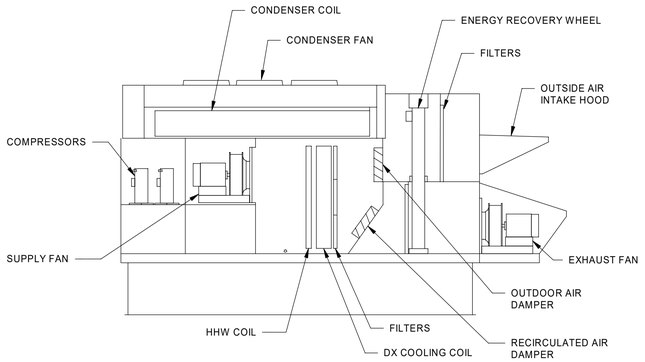
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

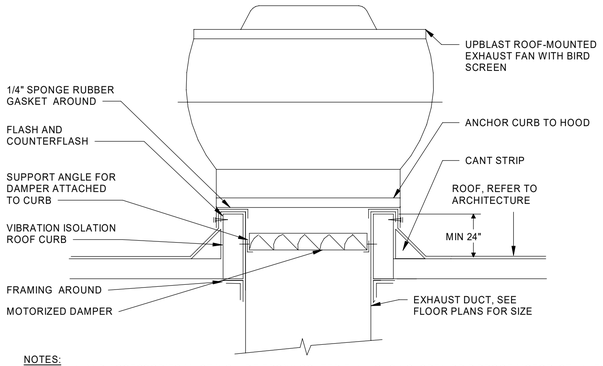
MECHANICAL - ENLARGED PLANS

SHEET ID
M-401

RTA SUBMISSION

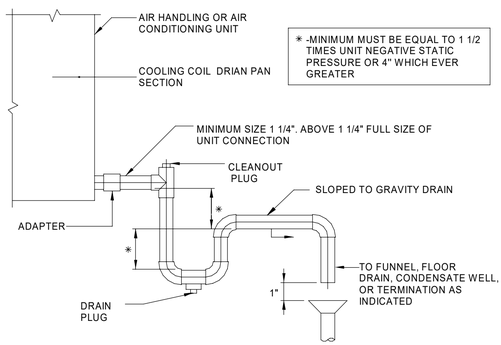


C1 TYPICAL AHU ELEVATION
NOT TO SCALE

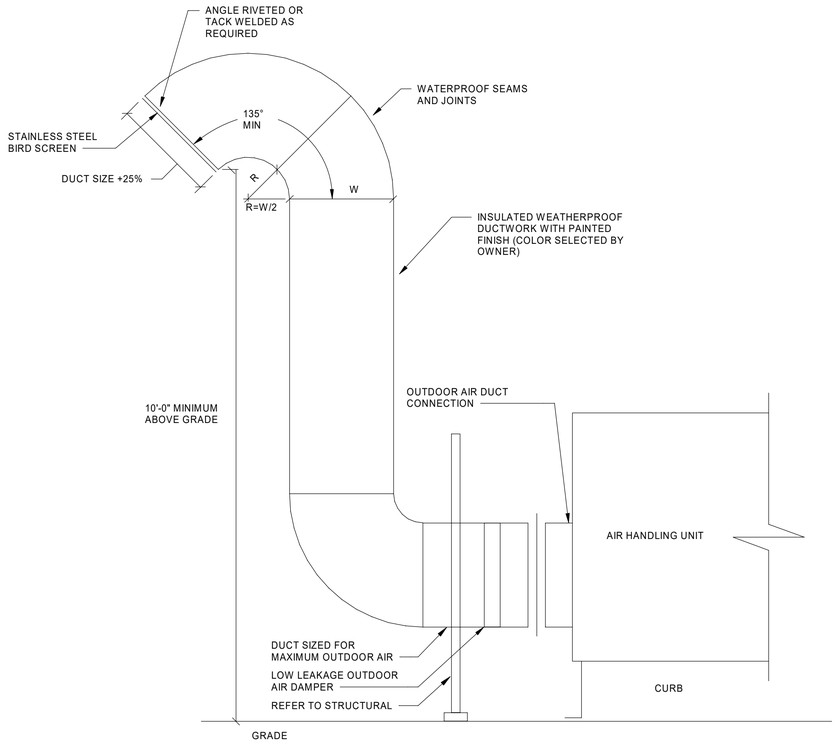


NOTES:
1. FAN AND ACCESSORIES MUST INCLUDE EPOXY COATED FAN HOUSING, OPEN DRIP PROOF MOTOR, STAINLESS STEEL FAN SHAFT, STEEL HARDWARE, NEMA 4X DISCONNECT AND EPOXY COATED CURB.
2. COORDINATE FAN INSTALLATION WITH ROOFING WORK TO MAINTAIN ROOFING ASSEMBLY REQUIREMENTS AND WARRANTIES.

B1 ROOF MOUNTED UPBLAST FAN DETAIL
NOT TO SCALE

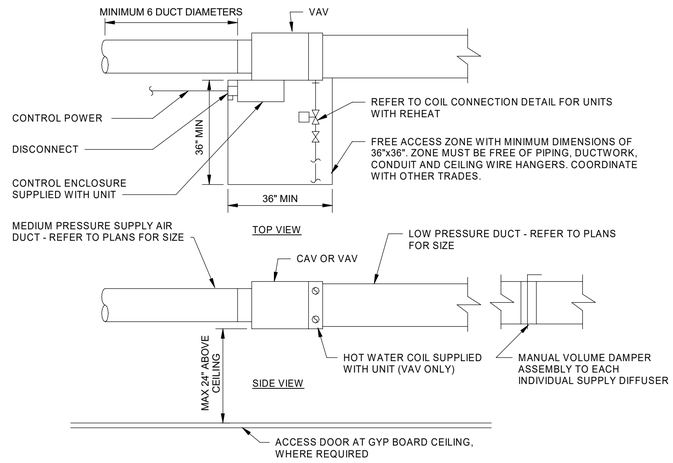


A1 CONDENSATE DRAIN TRAP
NOT TO SCALE

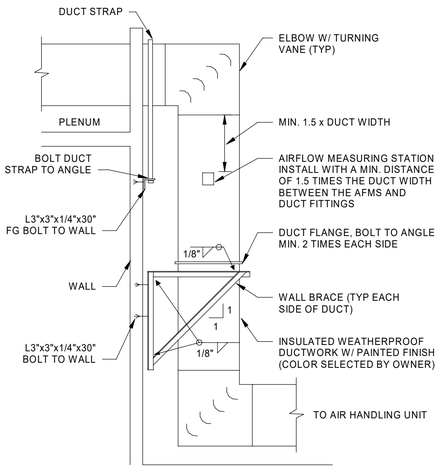


NOTES:
1. REFER TO STRUCTURAL FOR OUTDOOR AIR INTAKE GOOSENECK DUCTWORK SUPPORTS.

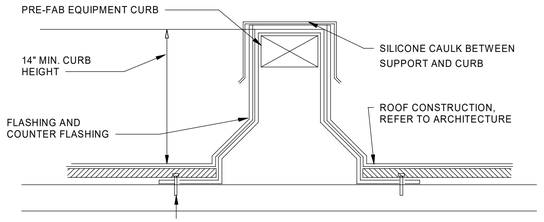
B3 INTAKE GOOSENECK DETAIL
NOT TO SCALE



A3 TYPICAL TERMINAL UNIT (VAV AND CAV) CONNECTION
NOT TO SCALE



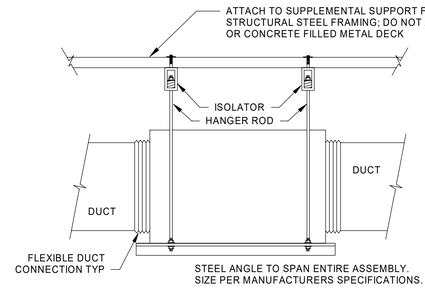
C5 DUCT WALL SUPPORT DETAIL
NOT TO SCALE



FASTEN EQUIPMENT CURB TO ROOF WITH 3/8" DIAMETER STAINLESS STEEL RODS EMBEDDED 3 1/2" INTO CONCRETE TOPPING WITH EPOXY (@6" O/C).

NOTES:
1. COORDINATE EQUIPMENT SUPPORT WITH ROOFING WORK TO MAINTAIN ROOFING ASSEMBLY REQUIREMENTS AND WARRANTIES.

B5 TYPICAL ROOF EQUIPMENT SUPPORT
NOT TO SCALE



A5 HVAC UNIT SUPPORT DETAIL
NOT TO SCALE

COMMONWEALTH OF VIRGINIA
NASIR SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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DRAWN BY: A. HONDA
CHECKED BY: N. SLEEM
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
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FILE NUMBER:

USARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

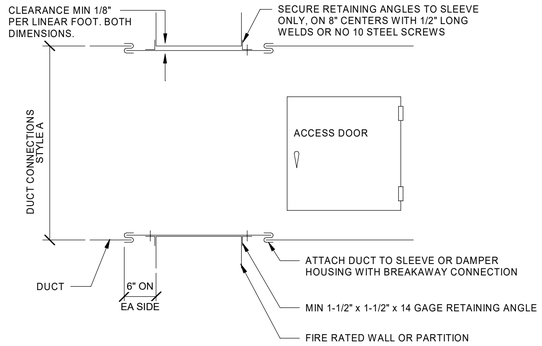
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - DETAILS

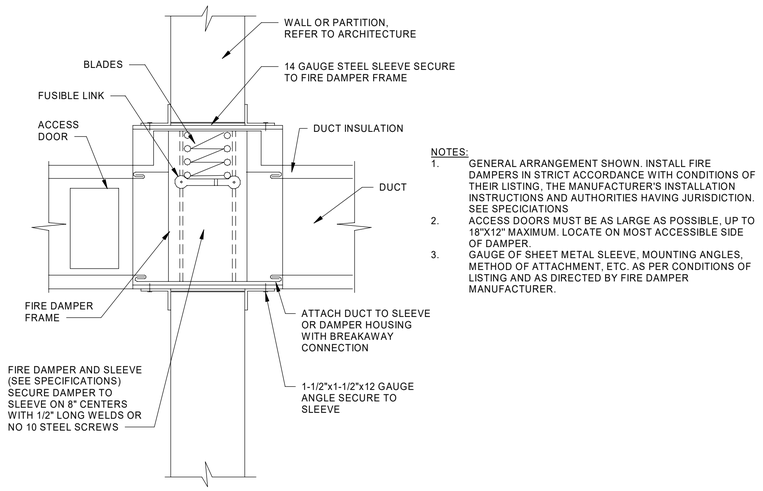
SHEET ID
M-501

RTA SUBMISSION



D1 FIRE RATED WALL PENETRATION

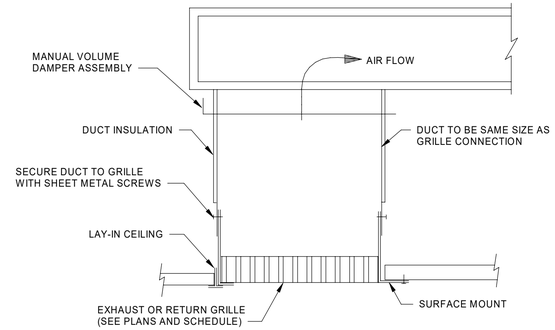
NOT TO SCALE



NOTES:
1. GENERAL ARRANGEMENT SHOWN. INSTALL FIRE DAMPERS IN STRICT ACCORDANCE WITH CONDITIONS OF THEIR LISTING, THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND AUTHORITIES HAVING JURISDICTION. SEE SPECICIATIONS
2. ACCESS DOORS MUST BE AS LARGE AS POSSIBLE, UP TO 18"X12" MAXIMUM. LOCATE ON MOST ACCESSIBLE SIDE OF DAMPER.
3. GAUGE OF SHEET METAL SLEEVE, MOUNTING ANGLES, METHOD OF ATTACHMENT, ETC. AS PER CONDITIONS OF LISTING AND AS DIRECTED BY FIRE DAMPER MANUFACTURER.

D3 VERTICAL FIRE DAMPER DETAIL

NOT TO SCALE



D5 TYPICAL RETURN OR EXHAUST GRILLE DETAIL

NOT TO SCALE

B1 HORIZONTAL FIRE DAMPER DETAIL

NOT TO SCALE

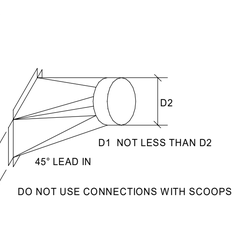
B3 TYPICAL SUPPLY DIFFUSER INSTALLATION DETAIL

NOT TO SCALE

NOTES:
1. DUCT, FITTINGS, MATERIAL AND SUPPORT MUST BE AS SPECIFIED AND IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE."
2. MAXIMUM BEND ANGLE FOR FLEXIBLE DUCT MUST BE 45 DEGREES OR LESS FOR EACH CHANGE IN DIRECTION; PROVIDE METAL DUCT ELBOW FOR ANY BENDS GREATER THAN 45 DEGREES.

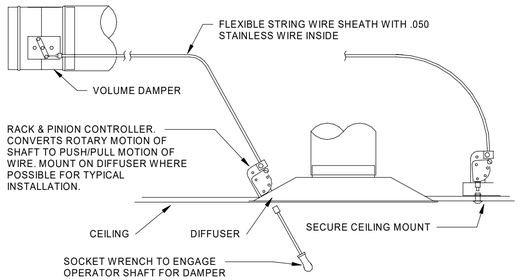
A5 TYPICAL DUCTWORK

NOT TO SCALE



A1 BRANCH DUCT CONNECTIONS

NOT TO SCALE



NOTE :
PROVIDE CABLE CONTROL WHEN VOLUME DAMPER IS NOT ACCESSIBLE THROUGH EITHER A T-BAR CEILING OR AN ACCESS PANEL.

A3 REMOTE CABLE DAMPER DETAIL

NOT TO SCALE

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

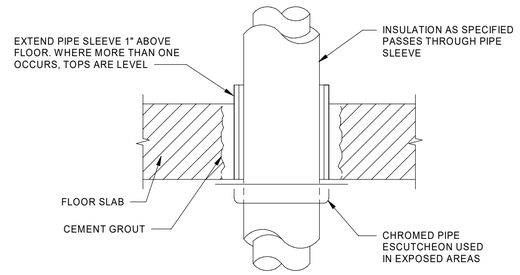
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - DETAILS

SHEET ID
M-502

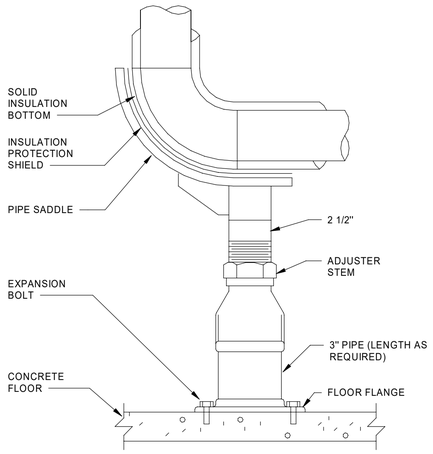
RTA SUBMISSION



NOTES
1. REFER TO AND COMPLY WITH FIRESTOPPING SPECIFICATIONS.

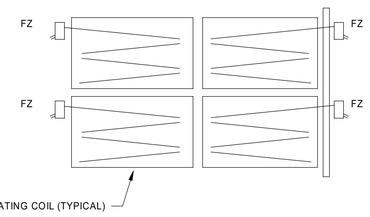
D1 PIPE FLOOR SLAB PENETRATION

12" = 1'-0"



B1 BASE ELBOW SUPPORT WITH ADJUSTER

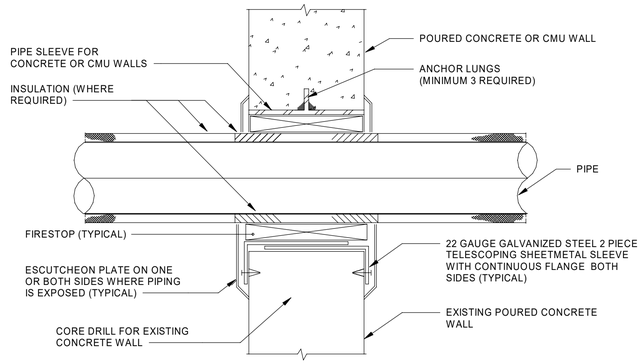
NOT TO SCALE



REFER TO SPEC. FOR LENGTH OF FREEZESTAT.

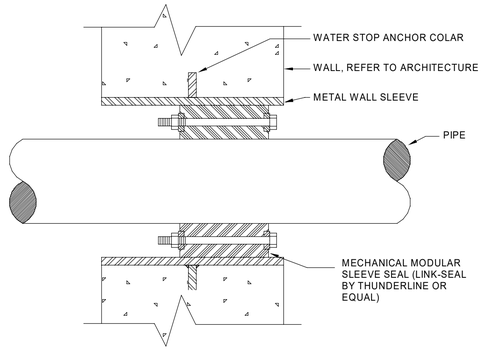
A1 FREEZESTAT INSTALLATION

NOT TO SCALE



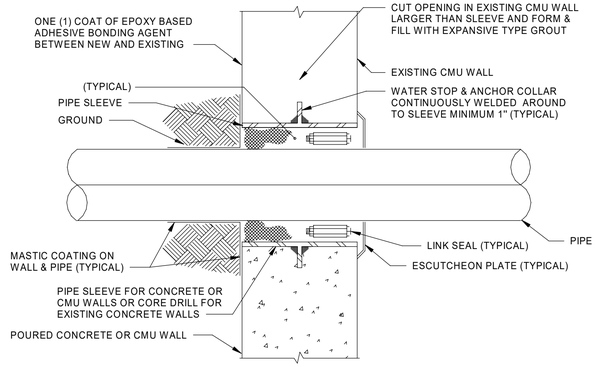
D3 PIPE SLEEVE WITH FIRESTOP

NOT TO SCALE



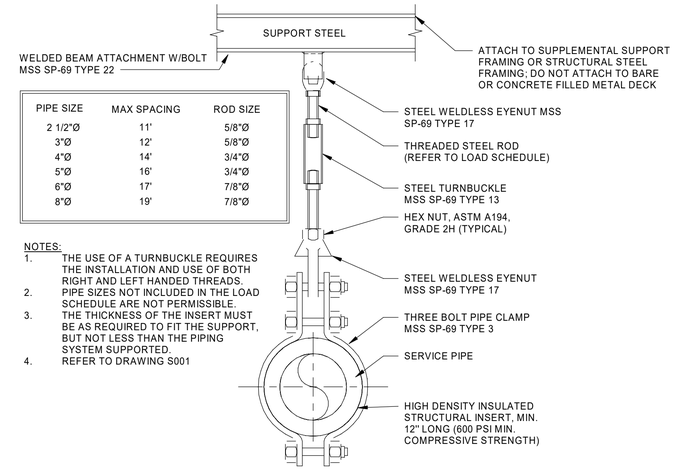
B3 WATERTIGHT WALL SLEEVE

NOT TO SCALE



A3 PIPE SLEEVE WITH LINK SEAL

NOT TO SCALE

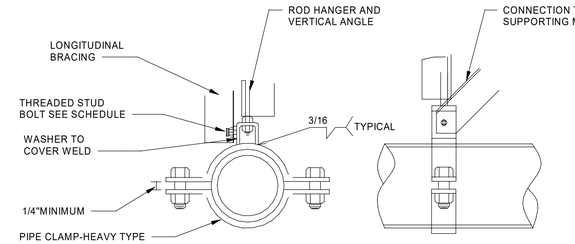


PIPE SIZE	MAX SPACING	ROD SIZE
2 1/2"Ø	11'	5/8"Ø
3"Ø	12'	5/8"Ø
4"Ø	14'	3/4"Ø
5"Ø	16'	3/4"Ø
6"Ø	17'	7/8"Ø
8"Ø	19'	7/8"Ø

NOTES:
1. THE USE OF A TURNBUCKLE REQUIRES THE INSTALLATION AND USE OF BOTH RIGHT AND LEFT HANDED THREADS.
2. PIPE SIZES NOT INCLUDED IN THE LOAD SCHEDULE ARE NOT PERMISSIBLE.
3. THE THICKNESS OF THE INSERT MUST BE AS REQUIRED TO FIT THE SUPPORT, BUT NOT LESS THAN THE PIPING SYSTEM SUPPORTED.
4. REFER TO DRAWING S001

D5 PIPE CLAMP

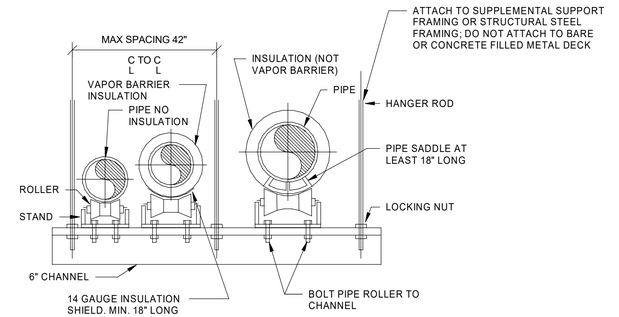
NOT TO SCALE



NOTES:
1. IF PIPE REQUIRES INSULATION, PROVIDE INSULATION AROUND ANCHOR ALSO.
2. WELD OR BOLT SUPPORTS TO OVERHEAD BEAMS USING 1/2" BOLTS AND/OR 3/16" WELDS.
3. BOLTS 1/2".

B5 PIPE ANCHOR WITH CLAMP

NOT TO SCALE



A5 TRAPEZE HANGER DETAIL

NOT TO SCALE

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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CHECKED BY: N. SLEEM	CONTRACT NO.:
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SIZE: ANSI D	FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

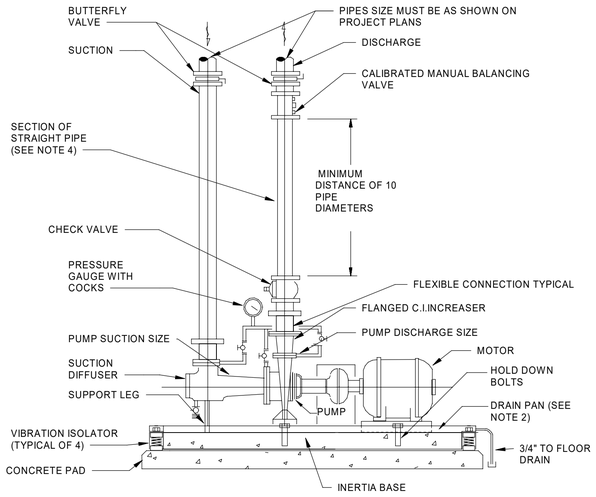
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SPB, CO

MECHANICAL - DETAILS

SHEET ID

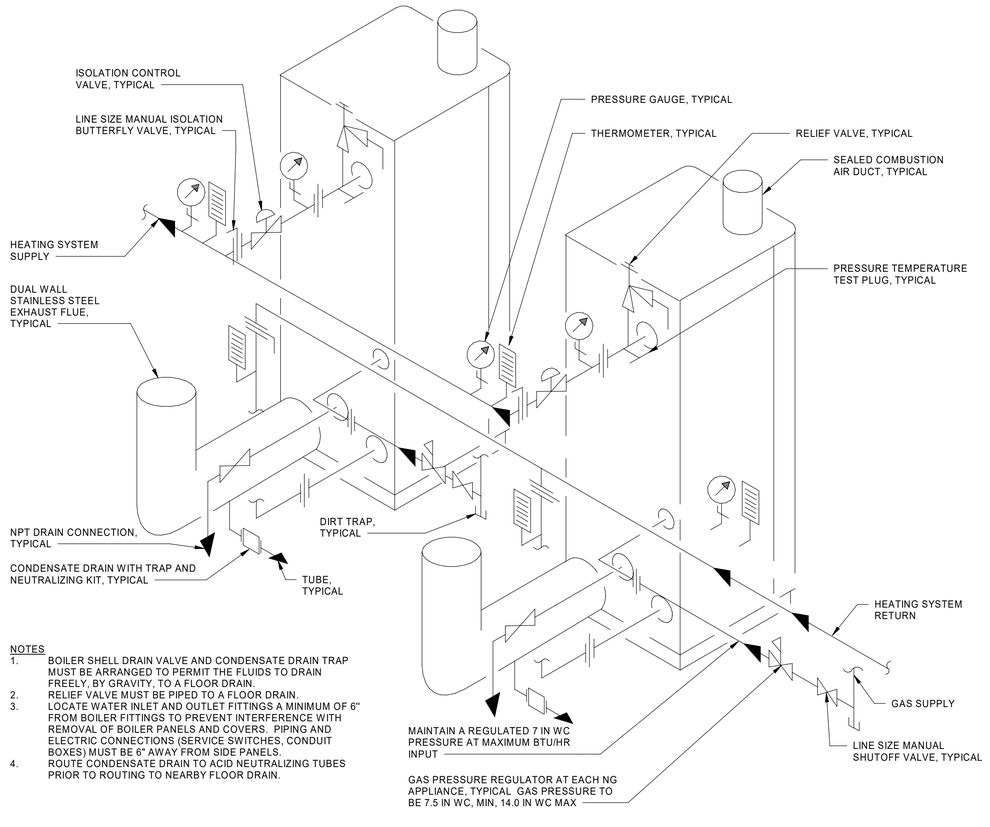
M-503

RTA SUBMISSION



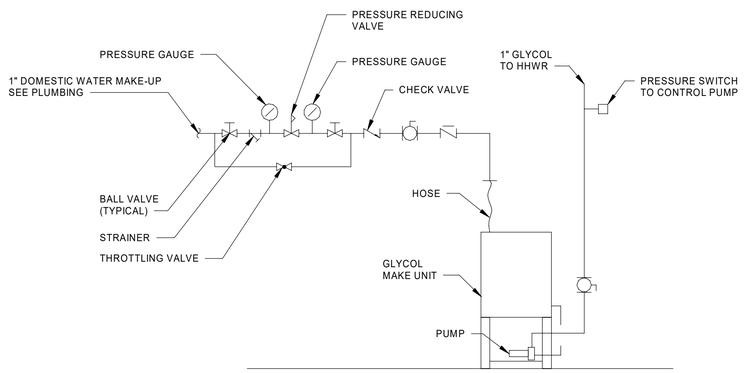
NOTES:
1. SUPPORT PIPING, PIPE TRAINS AND ACCESSORIES FROM FLOOR OR BUILDING STRUCTURE;
2. PRESSURE GAUGE WITH SNUBBER. PIPING TO GAUGE MUST BE 1/4" 304SS PIPING AND FITTINGS. PROVIDE 316SS BALL VALVES FOR SHUTOFF. INSULATION OF THIS PIPING IS NOT REQUIRED.
3. WHERE PUMP SERVES CHILLED APPLICATIONS (IE. CHILLED WATER) PROVIDE 16 GAUGE, WELDED, 304 SS DRAIN PAN WITH 1-1/2" LIP UNDER ENTIRE PUMP AND 3/4"COPPER PIPE TO DRAIN. BOLTS FOR ANCHORING PUMP MUST BE 304SS AND MUST BE SEALED WITH RUBBER WASHERS.
4. A MINIMUM OF 10 PIPE DIAMETERS OF STRAIGHT PIPE WITH NO OTHER APPURTENANCES TO DISTURB THE WATER FLOW IS REQUIRED BETWEEN THE CHECK VALVE AND THE MANUAL BALANCING VALVE ON THE DISCHARGE SIDE OF THE PUMP.

B1 END SUCTION PUMP DETAIL
NOT TO SCALE

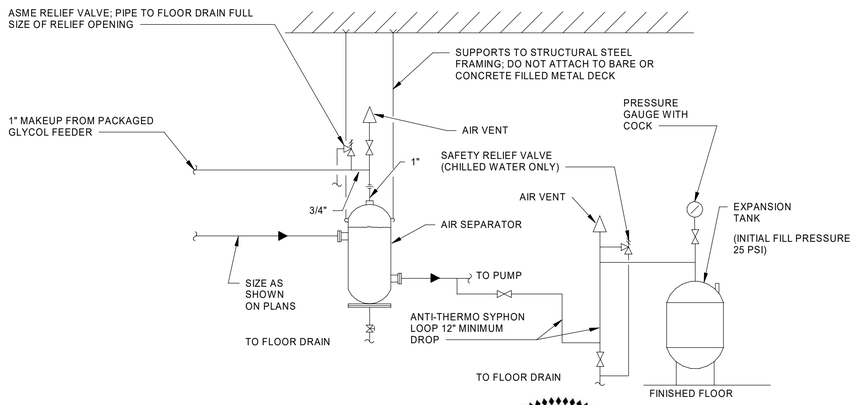


NOTES
1. BOILER SHELL DRAIN VALVE AND CONDENSATE DRAIN TRAP MUST BE ARRANGED TO PERMIT THE FLUIDS TO DRAIN FREELY, BY GRAVITY, TO A FLOOR DRAIN.
2. RELIEF VALVE MUST BE PIPED TO A FLOOR DRAIN.
3. LOCATE WATER INLET AND OUTLET FITTINGS A MINIMUM OF 6" FROM BOILER FITTINGS TO PREVENT INTERFERENCE WITH REMOVAL OF BOILER PANELS AND COVERS. PIPING AND ELECTRIC CONNECTIONS (SERVICE SWITCHES, CONDUIT BOXES) MUST BE 6" AWAY FROM SIDE PANELS.
4. ROUTE CONDENSATE DRAIN TO ACID NEUTRALIZING TUBES PRIOR TO ROUTING TO NEARBY FLOOR DRAIN.

B3 GAS FIRED BOILER MULTIPLE UNIT INSTALLATION DETAIL
NOT TO SCALE



A1 GLYCOL FEEDER DETAIL
NOT TO SCALE



A3 EXPANSION TANK PIPING
NOT TO SCALE

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: A. HONDA
DRAWN BY: A. HONDA
CHECKED BY: N. SLEEM
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

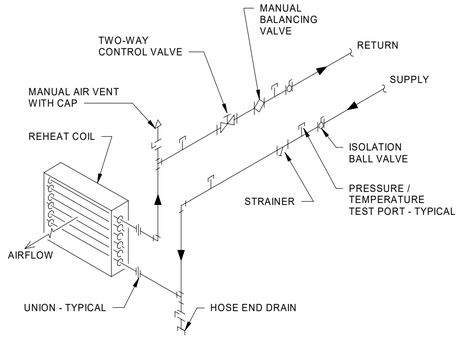
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - DETAILS

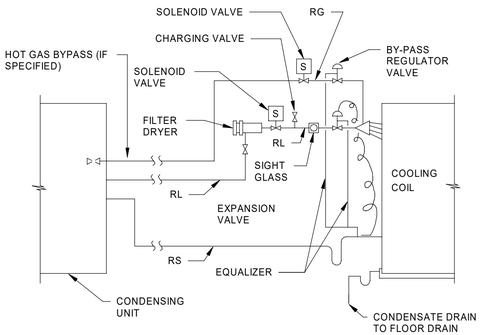
SHEET ID
M-504

RTA SUBMISSION



C2 VAV REHEAT COIL PIPING DETAIL

NOT TO SCALE



B2 REFRIGERANT PIPING DETAIL

NOT TO SCALE

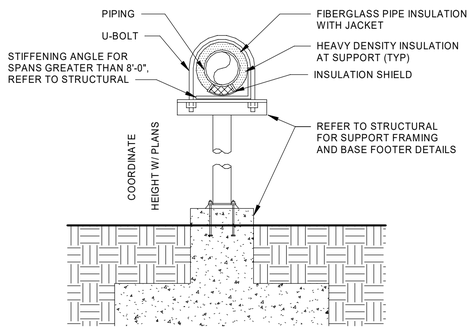
STEEL ANGLE TO SPAN ENTIRE ASSEMBLY
SIZE PER MANUFACTURER'S SPECIFICATIONS

NOTE:

PROVIDE BRACING FOR EQUIPMENT WEIGHING 31 POUNDS OR MORE PER UFC 4-010-01 DoD MINIMUM ANTITERRORISM STANDARDS FOR BUILDINGS, PARAGRAPH 3-20 STANDARD 19. EQUIPMENT MUST BE MOUNTED USING EITHER RIGID OR FLEXIBLE SYSTEMS AS SPECIFIED, AND MUST BE ABLE TO RESIST FORCES OF 0.5 TIMES THE COMPONENT WEIGHT IN ANY HORIZONTAL DIRECTION, AND 1.5 TIMES THE COMPONENT WEIGHT IN THE DOWNWARD DIRECTION.

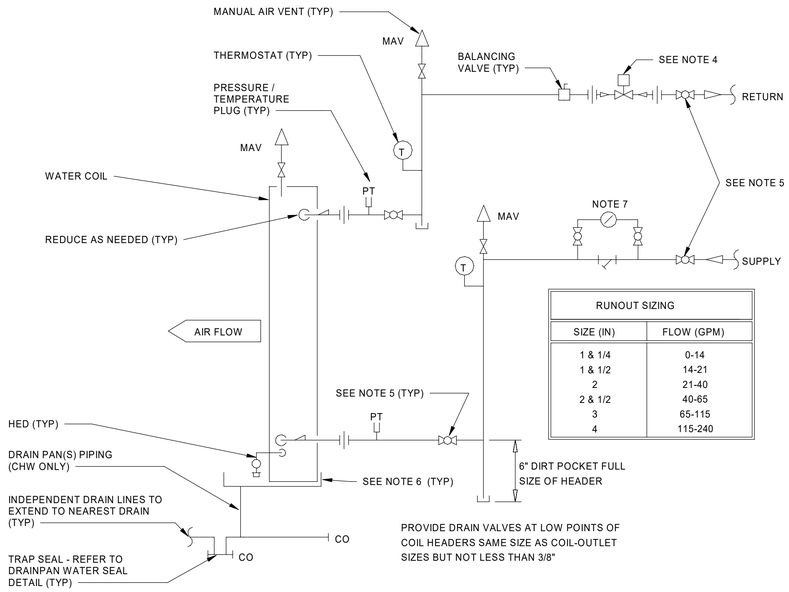
A1 HVAC UNIT ATFP/SEISMIC SUPPORT AND BRACING DETAIL

NOT TO SCALE



A2 PIPE SUPPORT DETAIL

NOT TO SCALE



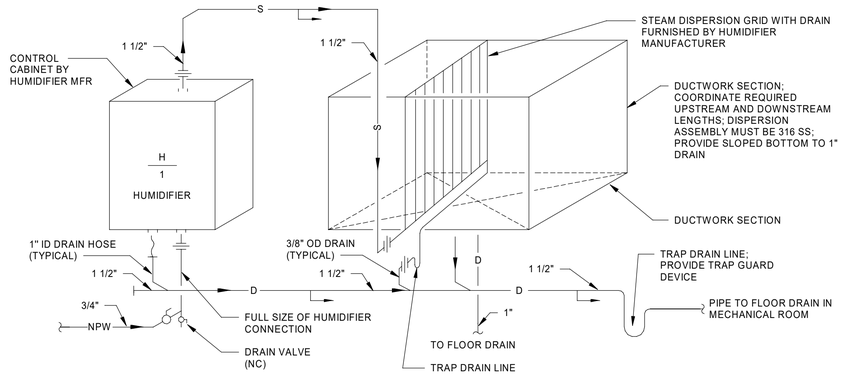
RUNOUT SIZING	
SIZE (IN)	FLOW (GPM)
1 & 1/4	0-14
1 & 1/2	14-21
2	21-40
2 & 1/2	40-65
3	65-115
4	115-240

NOTES:

1. PROVIDE SIMILAR PIPING FOR 3 OR MORE COILS HIGH.
2. LOCATE PIPE UNIONS (OR FLANGED BODY) AND ARRANGE PIPING TO FACILITATE COIL REMOVAL. PROVIDE REDUCERS AS REQUIRED FOR CONNECTION TO COIL PIPE SIZE.
3. PROVIDE SIMILAR PIPING ARRANGEMENTS ON EACH SIDE FOR TWO-SECTION-WIDE COIL ASSEMBLY.
4. TWO-WAY CONTROL VALVE SHOWN. SEE AUTOMATIC-TEMPERATURE-CONTROL DIAGRAM AND SPECIFICATIONS FOR ACTUAL JOB REQUIREMENTS. FOR 3-WAY VALVE PROVIDE VALVE BY-PASS WITH THERMOMETER AND ISOLATION VALVE WITH MEMORY STOP.
5. FOR SUPPLY AND RETURN PIPES 2" AND SMALLER, PROVIDE BALL VALVES WITH UNIONS FOR ISOLATION. FOR SUPPLY AND RETURN PIPES LARGER THAN 2" PROVIDE BUTTERFLY VALVES WITH FLANGES FOR ISOLATION.
6. REFER TO SPECIFICATIONS FOR DRAIN PAN REQUIREMENTS.
7. PROVIDE PRESSURE GAUGE ACROSS SUPPLY, RETURN AND STRAINER.

C5 OUTDOOR AHUs - HHW COIL PIPING DETAIL

NOT TO SCALE



A5 HUMIDIFIER PIPING ARRANGEMENT - ELECTRIC

NOT TO SCALE

US Army Corps of Engineers ®

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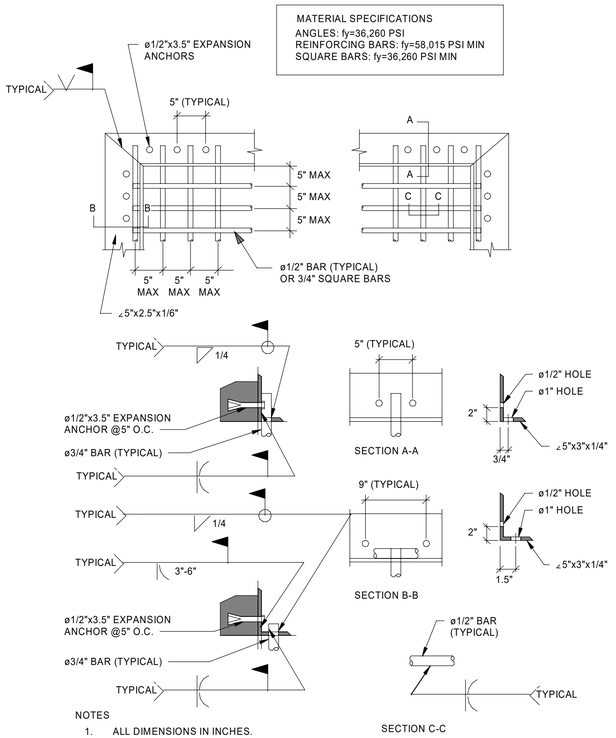
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - DETAILS

SHEET ID

M-505



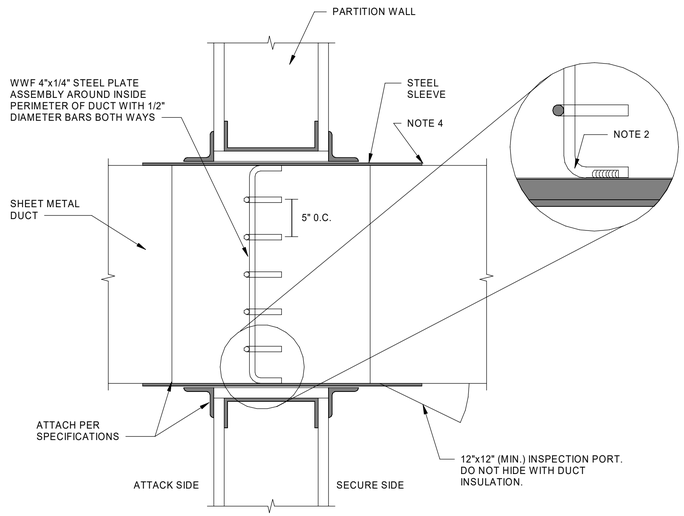
NOTES
1. ALL DIMENSIONS IN INCHES.

ANCHORING SPECIFICATIONS:
CONCRETE: M10X90 DROP-IN EXPANSION ANCHORS @5" O.C. (MAX) ANCHOR/BOLT HEADS SHOULD BE WELDED TO THE FRAME AFTER INSTALLATION

STEEL: M10X1.5X25 SOCKET HEAD CAP SCREWS @5" O.C. ANCHOR/BOLT HEADS SHOULD BE WELDED TO THE FRAME AFTER INSTALLATION

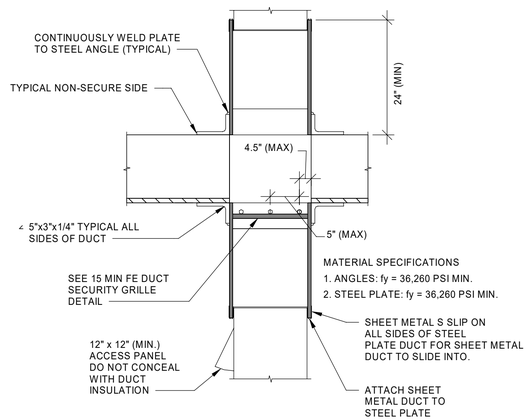
MASONRY: M10X150 HILTI C-20 OR EQUIVALENT @10" O.C. ANCHOR/BOLT HEADS SHOULD BE WELDED TO THE FRAME AFTER INSTALLATION

A1 DUCT SECURITY GRILLE DETAIL
NOT TO SCALE



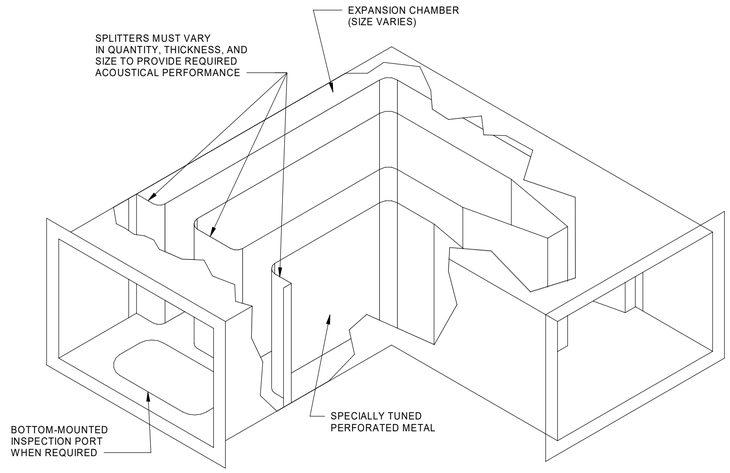
NOTES:
1. ALL DIMENSIONS IN INCHES.
2. BENT AT EDGES AND TACK WELD TO DUCT.
3. MAINTAIN NET FREE AREA OF DUCT.
4. SHEET METAL S SLIP ON ALL SIDES OF STEEL LATE DUCT FOR SHEET METAL DUCT TO SLIDE INTO. ATTACH SHEET METAL DUCT TO STEEL PLATE.

C2 CONTROLLED BOUNDARY - DUCT THROUGH WALL
NOT TO SCALE



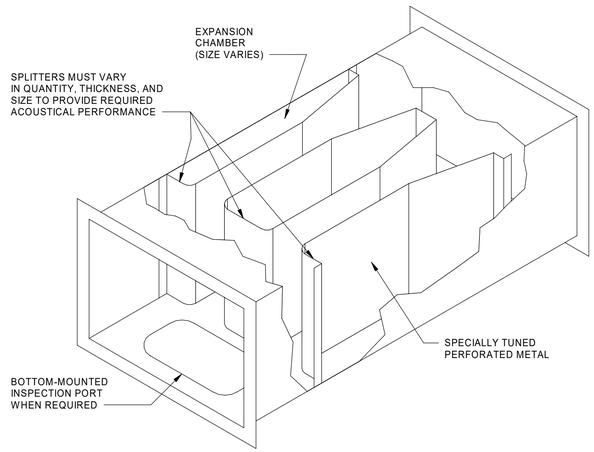
NOTES:
1. ALL DIMENSIONS IN INCHES.
2. THIS DUCT PENETRATION PROVIDED ABOVE CEILINGS AT DUCT TRANSITIONS THROUGH 15-MINUTE RATED ROOF DECK.

A2 CONTROLLED BOUNDARY - DUCT THROUGH ROOF
NOT TO SCALE



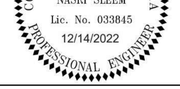
NOTES
1. PROVIDE FACTORY FABRICATED ELBOW DUCT SILENCERS.
2. PROVIDE MODEL WITH ACOUSTIC FILL MATERIAL WHERE NEEDED TO MEET ACOUSTIC ATTENUATION RATING.
3. PROVIDE FILM LINING WHEN ELBOW DUCT SILENCER IS LOCATED NEAR MOISTURE SOURCE, SUCH AS AIR HANDLER DISCHARGE OR HUMIDIFIER.

C4 DUCT ACOUSTIC ELBOW SILENCER DETAIL
NOT TO SCALE



NOTES
1. PROVIDE FIRE RESISTANCE AS APPROPRIATE WHEN PENETRATING CONTROLLED BOUNDARY WALLS.
2. PROVIDE FACTORY FABRICATED STRAIGHT DUCT SILENCERS.
3. PROVIDE MODEL WITH ACOUSTIC FILL MATERIAL WHERE NEEDED TO MEET ACOUSTIC ATTENUATION RATING.
4. PROVIDE FILM LINING WHEN ELBOW DUCT SILENCER IS LOCATED NEAR MOISTURE SOURCE, SUCH AS AIR HANDLER DISCHARGE OR HUMIDIFIER.

A4 DUCT ACOUSTIC STRAIGHT SILENCER DETAIL
NOT TO SCALE



US Army Corps of Engineers ®

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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - DETAILS

SHEET ID
M-506

RTA SUBMISSION

CONDENSING BOILER SCHEDULE

TAG	LOCATION	SERVICE	FLUID	MIN FLOW (GPM)	DESIGN FLOW (GPM)	MAX FLOW (GPM)	EWT (°F)	LWT (°F)	CONNECTIONS				NATURAL GAS (NG)			TURN DOWN	EFFICIENCY (%)	ELECTRICAL DATA					NOTES
									COMBUSTION (IN)	VENT (IN)	WATER (IN)	GAS (IN)	INPUT (MBH)	MIN (MBH)	MAX (MBH)			V	PH	Hz	MCA	MOCP	
B-1	107 MECH	HEATING HOT WATER	35% PG	18	115	350	120.0	140.0	6"	8"	3"	1 1/2"	1,250	48.1	1200.0	20:1	96.2	120	1	60	9	15	1,2,3,4,5
B-2	107 MECH	HEATING HOT WATER	35% PG	18	115	350	120.0	140.0	6"	8"	3"	1 1/2"	1,250	48.1	1200.0	20:1	96.2	120	1	60	9	15	1,2,3,4,5

NOTES:
1. EACH BOILER SIZED FOR 100% TO PROVIDE SYSTEM CAPACITY REDUNDANCY.
2. PROVIDE DEDICATED GAS REGULATOR AND MANUFACTURER'S CONDENSATE NEUTRALIZATION KIT.
3. PROVIDE MANUFACTURER'S POWER/CONTROL PANEL WITH SINGLE POWER POINT CONNECTION THRU-THE-DOOR DISCONNECT FACTORY MOUNTED ON BOILER WITH OPERATOR INTERFACE AND DISPLAY.
4. PROVIDE EQUIPMENT WITH ALL REQUIRED AND APPLICABLE DERATES NEEDED TO OPERATE AT A PROJECT SITE ELEVATION OF 5,663 FT.
5. PROVIDE MANUAL ISOLATION BUTTERFLY VALVES ON INLET AND OUTLET WATER CONNECTIONS; COORDINATE WITH BOILER CONNECTION TYPE. PROVIDE MOTORIZED ISOLATION CONTROL VALVE ON BOILER HHW OUTLET CONNECTION. REFER TO DETAIL.
6. CONDENSING BOILERS MUST BE ULTRA LOW NOX TYPE.

PUMP SCHEDULE

TAG	LOCATION	SERVICE	TYPE	FLUID	GPM	PUMP HEAD (FT WC)	EFFICIENCY (%)	ELECTRICAL DATA						NOTES
								RPM	BHP	HP	V	PH	Hz	
HHWP-1	107 MECH	HEATING HOT WATER	BASE MOUNTED END SUCTION	35% PG	115	75	62.4	1,800	3.48	5	480	3	60	1,2,3,4,5
HHWP-2	107 MECH	HEATING HOT WATER	BASE MOUNTED END SUCTION	35% PG	115	75	62.4	1,800	3.48	5	480	3	60	1,2,3,4,5

NOTES:
1. EACH PUMP SIZED TO MATCH FLOW OF ASSOCIATED BOILER.
2. PROVIDE PREMIUM EFFICIENCY MOTORS WITH THERMAL OVERLAD PROTECTION.
3. PROVIDE VFD WITH INVERTER DUTY RATED MOTOR. VSDs AND MOTOR STARTERS MUST BE PROVIDED BY ELECTRICAL. PROVIDE VSDs IN LINE-OF-SIGHT TO CONNECTED PUMP.
4. MOTOR MUST BE NON-OVERLOADING THROUGHOUT ENTIRE PUMP CURVE.
5. PROVIDE SHAFT GROUNDING RINGS.

HOT WATER EXPANSION TANK SCHEDULE

TAG	LOCATION	SERVICE	TYPE	FLUID	ACCEPTANCE VOLUME (GAL)	TANK VOLUME (GAL)	MAX OPERATING PRESSURE (PSIG)	DIAMETER (IN)	HEIGHT (IN)	WEIGHT (LB)	NOTES
ET-1	107 MECH	HEATING HOT WATER	PRE-CHARGED BLADDER	35% PG	132	132	125	24"	78"	1,417	1,2,3,4

NOTES:
1. PROVIDE VERTICAL EXPANSION TANK WITH HEAVY DUTY BUTYL/EPDM DIAPHRAGM/PRECHARGED BLADDER, STEEL CONSTRUCTION MEETING ASME STANDARDS, ASME RATED.
2. PROVIDE LINE SIZE ISOLATION BALL VALVES ON CONNECTIONS.
3. PROVIDE AUTOMATIC AIR VENT.
4. PROVIDE SYSTEM PRESSURE RELIEF VALVE FOR INSTALLATION IN SYSTEM PIPING.

HOT WATER AIR SEPARATOR SCHEDULE

TAG	LOCATION	SERVING	TYPE	DESIGN FLOW (GPM)	MAX FLOW (GPM)	PRESSURE DROP (FT WC)	CONNECTION SIZE (IN)	WEIGHT (LB)	NOTES
AS-1	107 MECH	HEATING HOT WATER	FLANGED	150	300	0.9	4"	263	1,2,3,4,5

NOTES:
1. PROVIDE CENTRIFUGAL AIR SEPARATOR WITH ASME RATED CONSTRUCTION AND CONNECTIONS TO MATCH PIPING SYSTEM.
2. PROVIDE ISOLATION BUTTERFLY VALVES ON INLET AND OUTLET.
3. PROVIDE AUTOMATIC AIR VENT PROVIDE BLOW DOWN VALVE ON BOTTOM WITH CAP SECURED WITH CHAIN.
4. MAINTAIN MANUFACTURER'S CLEARANCED FOR MAINTENANCE ACCESS.
5. PROVIDE WITHOUT STRAINER.

GLYCOL FEEDER SCHEDULE

TAG	LOCATION	FLOW (GPM)	PRESSURE (PSI)	VOLUME (GAL)	DIAMETER (IN)	HEIGHT (IN)	ELECTRICAL DATA			NOTES
							V	PH	HZ	
GF-1	107 MECH	1.5	100	50	23	50	120	1	60	1,2,3,4,5

NOTES:
1. PROVIDE VERTICAL PACKAGED GLYCOL FEEDER WITH INTEGRAL HEAVY DUTY POLYETHYLENE SELF SUPPORTING TANK.
2. PROVIDE INTEGRAL DIAPHRAGM TYPE PUMPS WITH N+1 REDUNDANCY.
3. PROVIDE LINE SIZE ISOLATION BALL VALVES ON CONNECTIONS.
4. PROVIDE INTEGRAL AUTOMATIC AIR VENT.
5. PROVIDE SYSTEM PRESSURE RELIEF VALVE FOR INSTALLATION IN SYSTEM PIPING.
6. PROVIDE PACKAGED GLYCOL FEEDER AND CONTROL SYSTEM WITH OIL DETECTION; GLYCOL FEEDER SYSTEM MUST BE CAPABLE OF PUMPING DISCHARGE WATER WITHOUT THE POTENTIAL OF DISCHARGING AN GLYCOL-WATER MIXTURE. LOCATE CONTROL PANEL INSIDE MECHANICAL ROOM. PROVIDE DRY CONTACT CONNECTION FOR REMOTE MONITORING OF HIGH LEVEL ALARM TO BAS.

DESIGN CONDITIONS

ASHRAE WMO#	724695 - BUCKLEY AFB, COLORADO
LOCATION	BUCKLEY AFB, COLORADO
ELEVATION	5,663 FEET ABOVE MSL
SUMMER PREVAILING WIND DIRECTION	180°
WINTER PREVAILING WIND DIRECTION	110°
OUTDOOR DESIGN CONDITIONS - COMFORT COOLING	
SUMMER	90.6°F DB / 58.4°F WB (1% DATA)
SUMMER DEHUMIDIFICATION	58.4°F DP (1% DATA)
AIR COOLED CHILLERS / CONDENSING...	95.6°F DB (5°F ADDED TO SUMMER DESIGN)
WINTER	7.2°F DB (99% DATA)
HEATING DEGREE DAYS [HDD 65]	5,798 DAYS
COOLING DEGREE DAYS [CDD65]	687 DAYS
INDOOR DESIGN SET POINTS - GENERAL OCCUPIED AREAS	
COOLING	73°F
HEATING	70°F
DEHUMIDIFICATION	50% RH
INDOOR DESIGN SET POINTS - STORAGE AREAS	
COOLING	73°F
HEATING	70°F
DEHUMIDIFICATION	50% RH
INDOOR DESIGN SET POINTS - VENTILATED ELECTRICAL, TELECOM AND EQUIPMENT...	
COOLING	75°F
HEATING	75°F
DEHUMIDIFICATION	50% RH
INDOOR DESIGN SET POINTS - VENTILATED MECHANICAL ROOMS	
COOLING	10°F ABOVE AMBIENT, 85°F SUMMER...
HEATING	68°F

NOTES:
1. OUTDOOR DESIGN CONDITIONS ESTABLISHED PER UFC-3-410-01, ITEM 3-4.2, OUTDOOR DESIGN CONDITION GUIDELINES.
2. INDOOR DESIGN CONDITIONS ESTABLISHED PER BUCKLEY SPACE FORCE GUIDANCE.

COMMONWEALTH OF VIRGINIA
NASIR SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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MECHANICAL - SCHEDULES

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M-601

AIR HANDLING UNIT SCHEDULE

TAG	LOCATION	SERVICE	SUPPLY FAN										EXHAUST/RETURN FAN										DX COOLING COIL						HOT GAS REHEAT			HOT WATER HEATING COIL (NOTE 14)								
							MOTOR DATA									MOTOR DATA							EAT (°F)		LAT (°F)															
			SA (CFM)	WINTER SA (CFM)	OA (CFM)	ESP (IN WC)	QTY.	RPM	HP (EACH)	V	P	Hz	MAX EA (CFM)	ESP (IN WC)	FAN TYPE	QTY.	RPM	HP (EACH)	V	P	Hz	DB	WB	DB	WB	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	APD	ROWS	TOTAL CAPACITY (MBH)	EAT (°F)	LAT (°F)	EAT (°F)	LAT (°F)	TOTAL CAPACITY (MBH)	FLUID TYPE	FLOW (GPM)	EWT (°F)	LWT (°F)	WPD (FT)
AHU-1	ON GRADE	BUILDING NORTH	14,945	8,880	4,005	3.50	2	1,800	25.0	480	3	60	14,945	1.65	PLENUM	2	1,800	3	480	3	60	70.9	60.1	52.0	51.5	415.7	312.3	0.46	4	32.9	52.0	54.0	32.2	54.0	160.5	35% PG	16	140	120	6.6
AHU-2	ON GRADE	BUILDING SOUTH	14,975	7,850	3,890	2.75	2	1,800	20.0	480	3	60	14,975	2.25	PLENUM	2	1,800	3	480	3	60	71.0	61.1	52.0	51.5	416.4	313.3	0.49	4	33	52.0	54.0	37.2	54.0	138.3	35% PG	16	140	120	6.6

AIR HANDLING UNIT SCHEDULE (CONTINUED)

TAG	SUMMER ENERGY RECOVERY WHEEL													WINTER ENERGY RECOVERY WHEEL												FILTERS		ELECTRICAL DATA						
	OA			RA			SA			EA			TOTAL CAPACITY (MBH)	OA			RA			SA			EA			TOTAL CAPACITY (MBH)	PRE (MERV)	FINAL (MERV)	V	PH	Hz	MCA	MOCP	EER	NOTES
	CFM	DB (°F)	WB (°F)	CFM	DB (°F)	WB (°F)	CFM	DB (°F)	WB (°F)	CFM	DB (°F)	WB (°F)		CFM	DB (°F)	WB (°F)	CFM	DB (°F)	WB (°F)	CFM	DB (°F)	WB (°F)	CFM	DB (°F)	WB (°F)										
AHU-1	4,081	91.1	58.6	2,912	73	60	4,097	80.74	59.02	2,896	87.23	59.70	18.1	4,081	0.4	-0.5	2,912	70	51.35	4,097	38.05	31.18	2,896	14.23	13.62	380.7	8	13	480	3	60	135	150	10.5	1-14
AHU-2	4,081	91.1	58.6	2,912	73	60	4,097	80.74	59.02	2,896	87.23	59.70	18.1	4,081	0.4	-0.5	2,912	70	51.35	4,097	38.05	31.18	2,896	14.23	13.62	380.7	8	13	480	3	60	124	150	11.0	1-14

NOTES:
1. PROVIDE BUILT UP, VARIABLE VOLUME OUTDOOR AIR HANDLING UNIT, WITH DX COOLING, HOT GAS REHEAT, HOT WATER HEATING, ENERGY RECOVERY, MIXING BOX, AND ECONOMIZER CONTROL.
2. PROVIDE SINGLE POINT POWER CONNECTION WITH FACTORY MOUNTED AND WIRED NON-FUSED DISCONNECT SWITCH NEMA 4x RATED SUITABLE FOR OUTSIDE USE.
3. PROVIDE MANUFACTURER'S FACTORY APPLIED COATING SUITABLE FOR AN ABRASIVE WIND BORNE SANDY ENVIRONMENT ON EQUIPMENT CASING AND COILS.
4. PROVIDE LOW LEAKAGE DAMPERS IN AIR MIXING SECTIONS, EACH WITH A DEDICATED/INDEPENDENT MOTORIZED DAMPER ACTUATOR(S).
5. COORDINATE DUCT ROUTING AND CONNECTIONS WITH FIELD CONNECTIONS.
6. PROVIDE EQUIPMENT WITH ALL REQUIRED AND APPLICABLE DERATES NEEDED TO OPERATE AT A PROJECT SITE ELEVATION OF 5,663 FT.
7. PROVIDE WITH FIELD INSTALLED MOISTURE ELIMINATORS.
8. PROVIDE ACCESSORIES AND APPURTENANCES FOR INSTALLING OUTDOOR AIR HANDLING UNIT.
9. OUTDOOR AIR DAMPERS MUST BE LOW LEAKAGE DAMPERS WITH A 3 CFM/SF LEAKAGE RATE OR LESS.
10. PROVIDE AIR FLOW MEASURING STATION AT OUTDOOR AIR.
11. PROVIDE 35% PROPYLENE GLYCOL FOR FREEZE PROTECTION AND IN ACCORDANCE WITH EXISTING BUILDINGS AT BUCKLEY AFB.
12. PROVIDE SHAFT GROUNDING RINGS ON FAN MOTORS.
13. PROVIDE INTEGRAL CONDENSATE PUMP.
14. PROVIDE AHU WITH FACTORY-INSTALLED AND TESTED VARIABLE FREQUENCY DRIVE(S) (VFD) TO PROVIDE MOTOR SPEED MODULATION.

HUMIDIFIER SCHEDULE

TAG	LOCATION	SERVICE	TYPE	WATER TYPE	STEAM GENERATOR CAPACITY			ELECTRICAL DATA							STEAM GENERATOR DIMENSIONS				STEAM DISTRIBUTION WAND			NOTES
					WATER SUPPLY (GPM)	STEAM (LBS/HR)	MOUNTING	CONTROL STAGES	KW	V	Ph	Hz	AMPS	MCA	MOCP	WIDTH (IN)	DEPTH (IN)	HEIGHT (IN)	OPERATING WEIGHT (LBS)	WIDTH (IN)	DEPTH (IN)	HEIGHT (IN)	
H-1	ON GRADE	AHU-1	ELECTRIC STEAM GENERATOR	POTABLE	0.5	189	ON GRADE	SCR MODULATING	63	480	3	60	100	102	200	32.8	62.8	62	736.72	53	31	5	1-8
H-2	ON GRADE	AHU-2	ELECTRIC STEAM GENERATOR	POTABLE	0.5	189	ON GRADE	SCR MODULATING	63	480	3	60	100	102	200	32.8	62.8	62	736.72	53	31	5	1-8

NOTES:
1. HUMIDIFIER DISPERSION TUBE, HEADER ENCLOSURE AND STEAM GENERATOR CONSTRUCTION MUST BE TYPE 316 STAINLESS STEEL, AND MUST ACCEPT POTABLE WATER.
2. PROVIDE SINGLE POINT POWER CONNECTION WITH FACTORY MOUNTED AND WIRED NON-FUSED DISCONNECT SWITCH NEMA 4x RATED SUITABLE FOR OUTSIDE USE.
3. PROVIDE SEPARATE CONDENSATE DRAIN RESERVOIR/DRAIN COOLER AND PUMP.
4. PROVIDE STEAM GENERATOR INSULATED PAD MOUNTED OUTDOOR HOUSING; HOUSING CONSTRUCTION MUST BE OF SAME CONSTRUCTION AS AIR HANDLER CASINGS.
5. PROVIDE 1,260 WATT ENCLOSURE FREEZE PROTECTION HEATER; PROVIDE 120V / 1 PH / 10.5 AMP TO HEATER FROM POWER FEED TO STEAM GENERATOR WITH DISCONNECT SWITCH.
6. PROVIDE MANUFACTURER'S ACCESSORIES AND HARDWARE REQUIRED TO MOUNT STEAM GENERATOR IN OUTDOOR HOUSING ENCLOSURE.
7. PROVIDE MANUFACTURER'S ACCESSORIES AND HARDWARE REQUIRED TO MOUNT STAINLESS STEEL STEAM DISPERSION TUBE IN DUCTWORK SECTION.
8. AIR HANDLER CASING MUST HAVE REQUIRED LENGTH AFTER DISPERSION TUBE REQUIRED FOR FULL STEAM VAPOR ABSORPTION

DUCT SILENCER SCHEDULE

TAG	SERVING	TYPE	DIMENSIONS			CFM	VELOCITY (FPM)	MAX PRESSURE DROP (IN WG)	NET INSERTION LOSS RATINGS OCTAVE BAND NUMBER AND CENTER FREQ.								NOTES
			WIDTH	HEIGHT	LENGTH				1 63 Hz	2 125 Hz	3 250 Hz	4 500 Hz	5 1000 Hz	6 2000 Hz	7 4000 Hz	8 8000 Hz	
SA-1	FIRST FLOOR BID OPTION SECURED AREA	RECTANGULAR DISSIPATIVE	3' - 2"	1' - 10"	10' - 0"	1,980	+341	0.22	13	25	42	48	55	49	32		1-12
SA-2	FIRST FLOOR BID OPTION SECURED AREA	RECTANGULAR ELBOW DISSIPATIVE	2' - 10"	1' - 6"	10' - 0"	1,810	-426	0.27	14	30	53	55	55	55	53	29	1-12
SA-3	SECOND FLOOR SECURED AREA	RECTANGULAR DISSIPATIVE	4' - 0"	1' - 8"	15' - 0"	5,180	+777	0.30	15	24	39	55	55	55	55	32	1-12
SA-4	SECOND FLOOR SECURED AREA	RECTANGULAR DISSIPATIVE	3' - 4"	1' - 8"	12' - 0"	3,925	-707	0.42	14	23	38	55	51	53	45	26	1-12

NOTES:
1. PROVIDE EQUIPMENT WITH ALL REQUIRED AND APPLICABLE DERATES NEEDED TO OPERATE AT A PROJECT SITE ELEVATION OF 5,663 FT.
2. SOUND ATTENUATOR INTERNAL BAFFLING CONSTRUCTION MUST BE STAINLESS STEEL WITH BAGGED FILL, HOSPITAL GRADE.
3. VELOCITY SHOWN IS FORWARD FLOW (+) OR REVERSE FLOW (-) AS DEFINED PER ASTM E477-13.
4. PRESSURE DROP AND DYNAMIC INSERTION LOSS PLUS SYSTEM EFFECT FOR NEARBY/CONNECTED DUCT ELEMENTS PER ASTM E477-13 A NVLAP-ACCREDITED ACOUSTICAL LABORATORY.
5. MAXIMUM PRESSURE DROP WITH SYSTEM EFFECTS = SILENCER PRESSURE DROP PER ASTM E477-13 + SYSTEM EFFECTS FOR NEARBY DUCT ELEMENTS.
6. PROVIDE SOUND ATTENUATORS DESIGNED AND FACTORY CERTIFIED BY QUALIFIED ACOUSTICS PROFESSIONAL FOR SCHEDULED PRESSURE DROP AND STC VALUES.
7. CALCULATIONS MUST DEMONSTRATE WALL/PARTITION ASSEMBLY RATING IS MAINTAINED.
8. SILENCERS MUST BE CONSTRUCTED IN ACCORDANCE WITH SMACNA STANDARDS FOR ASSOCIATED AIR FLOW, VELOCITY AND PRESSURE CLASS.
9. LENGTH SHOWN FOR ELBOW SILENCERS IS CENTERLINE LENGTH.
10. FIBERGLASS CLOTH MEDIA PROTECTION. MEDIA MUST BE VIBRO-ACOUSTICS® MOLDBLOCK MEDIA™ CONTAINING 100% NATURAL COTTON FIBERS TREATED WITH AN EPA REGISTERED, NON-TOXIC BORATE SOLUTION, "FLASH DRIED" TO PROVIDE RESISTANCE TO MOLD, MILDEW AND FUNGI. MEDIA SHALL COMPLY WITH UL181 AND NFPA 90A. MANUFACTURER'S MEDIA MUST BE PACKED WITH A MINIMUM OF 15% COMPRESSION DURING SILENCER ASSEMBLY. MEDIA MUST NOT CAUSE OR ACCELERATE CORROSION OF ALUMINUM OR STEEL. GLASS FIBER AND ROCKWOOL ARE NOT ACCEPTABLE ALTERNATES..
11. PROVIDE FOR APPROVAL PROFESSIONAL ENGINEER STAMPED ACOUSTICAL CALCULATIONS FOR ALL SYSTEMS WITH SILENCERS TO DEMONSTRATE THAT THE RESULTANT DUCTBORNE FAN SOUND LEVELS, INCLUDING AIRBORNE AND BREAKOUT NOISE, MEET THE REQUIRED CRITERIA.
12. PROVIDE, FOR APPROVAL, PROFESSIONAL ENGINEER STAMPED PRESSURE DROP CALCULATIONS FOR ALL SYSTEMS WITH SILENCERS TO DEMONSTRATE THAT THE RESULTANT INSTALLED PRESSURE DROP WITH SYSTEM EFFECTS DOES NOT EXCEED SCHEDULED VALUES.

CABINET UNIT HEATER SCHEDULE

TAG	LOCATION	SERVICE	TYPE	FLUID	CAPACITY (MBH)	CFM	EAT (°F)	LAT (°F)	HOT WATER DATA				ELECTRICAL DATA						NOTES
									EWT (°F)	LWT (°F)	GPM	WPD (FT WC)	HP	V	PH	Hz	MCA	MOCP	
CUH-111	111 VESTIBULE	HEATING HOT WATER	CASSETTE FCU	35% PG	12.2	320	67.2	101.3	140.0	120.0	1.3	13.5	0.03	208	1	60	1 A	1 A	1,2,3
CUH-129	129 VESTIBULE	HEATING HOT WATER	CASSETTE FCU	35% PG	12.2	320	67.2	101.3	140.0	120.0	1.3	13.5	0.03	208	1	60	1 A	1 A	1,2,3
CUH-139A	139 VESTIBULE	HEATING HOT WATER	VERTICAL RECESSED	35% PG	17.7	556	68.7	104.8	140.0	120.0	1.9	5.41	0.08	208	1	60	2 A	15 A	1,2,3
CUH-139B	139 VESTIBULE	HEATING HOT WATER	VERTICAL RECESSED	35% PG	17.7	556	68.7	104.8	140.0	120.0	1.9	5.41	0.08	208	1	60	2 A	15 A	1,2,3
CUH-S1	S1 STAIRWELL	HEATING HOT WATER	VERTICAL FLOOR MOUNTED	35% PG	14.6	485	60.0	95.0	140.0	120.0	1.1	1.92	0.04	208	1	60	2 A	15 A	1,2,3
CUH-S2	S2 STAIRWELL	HEATING HOT WATER	VERTICAL FLOOR MOUNTED	35% PG	16.6	530	60.0	95.2	140.0	120.0	1.2	0.84	0.06	208	1	60	2 A	15 A	1,2,3

NOTES:
1. PROVIDE WITH MANUFACTURER'S INTEGRAL UNIT MOUNTED NON-FUSED DISCONNECT SWITCH, MOUNTING BRACKETS AND HARDWARE AND EPOXY COATING.
2. PROVIDE TAMPERPROOF HARDWARE. PROVIDE ACCESSORIES AND APPURTENANCES FOR CABINET UNIT HEATERS INSTALLATION.
3. PROVIDE MANUFACTURER'S CONTROLS, INCLUDING NECESSARY CONTROLLER, SPACE THERMOSTAT WITH SET POINT ADJUSTMENT, INTERLOCKS AND SAFETIES.
4. PROVIDE EQUIPMENT WITH ALL REQUIRED AND APPLICABLE DERATES NEEDED TO OPERATE AT A PROJECT SITE ELEVATION OF 5,663 FT.

FAN SCHEDULE

TAG	LOCATION	SERVICE	TYPE	AIRFLOW (CFM)	ESP (IN WC)	MOTOR DATA					DRIVE TYPE	VSD	NOTES
						RPM	HP	V	PH	HZ			
EF-1	ROOF	117, 201 JAN; 118, 202 SINGLE USE RESTRM; 119, 230 FEMALE; 120, 231 MALE	CENTRIFUGAL UPBLAST	1,500	1.00	1660	0.42	208	1	60	DIRECT DRIVE	No	1,2,3

NOTES:
1. PROVIDE EQUIPMENT WITH ALL REQUIRED AND APPLICABLE DERATES NEEDED TO OPERATE AT A PROJECT SITE ELEVATION OF 5,663 FT.
2. PROVIDE WITH FACTORY MOUNTED AND WIRED NON-FUSED DISCONNECT.
3. PROVIDE PREMIUM EFFICIENCY MOTOR, WITH THERMAL OVERLOAD PROTECTION.

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: A. HONDA
DRAWN BY: A. HONDA
CHECKED BY: N. SLEEM
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SPB, CO

MECHANICAL - SCHEDULES

SHEET ID
M-602

RTA SUBMISSION

COMPUTER ROOM AIR-CONDITIONING UNIT

TAG	LOCATION	TYPE	COMPRESSOR TYPE	COMPRESSOR QTY	SUPPLY FAN SA (CFM)	MAX MOTOR (RPM)	EAT (°F) DB	EAT (°F) WB	LAT (°F) DB	LAT (°F) WB	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	REFRIGERANT	ROWS	MAX FACE VELOCITY (FPM)	ELECTRICAL DATA V	PH	Hz	MCA	MOCP	NOTES
CRACU-109A	109 MAIN COMM	IN ROW	DIGITAL SCROLL	1	2,900	1,800	90.0	64.4	56.2	51.9	120	107.8	R-410A	5	500	480	3	60	39.1	82.1	1-11
CRACU-109B	109 MAIN COMM	IN ROW	DIGITAL SCROLL	1	2,900	1,800	90.0	64.4	56.2	51.9	120	107.8	R-410A	5	500	480	3	60	39.1	82.1	1-11
CRACU-211A	211 UNCLASS COMM	IN ROW	DIGITAL SCROLL	1	2,900	1,800	90.0	64.4	56.2	51.9	120	107.8	R-410A	5	500	480	3	60	39.1	82.1	1-11
CRACU-211B	211 UNCLASS COMM	IN ROW	DIGITAL SCROLL	1	2,900	1,800	90.0	64.4	56.2	51.9	120	107.8	R-410A	5	500	480	3	60	40.3	82.1	1-11
CRACU-211C	211 UNCLASS COMM	IN ROW	DIGITAL SCROLL	1	2,900	1,800	90.0	64.4	56.2	51.9	120	107.8	R-410A	5	500	480	3	60	40.3	82.1	1-11
CRACU-212A	212 CLASS COMM	IN ROW	DIGITAL SCROLL	1	2,900	1,800	90.0	64.4	56.2	51.9	120	107.8	R-410A	5	500	480	3	60	40.3	82.1	1-11
CRACU-212B	212 CLASS COMM	IN ROW	DIGITAL SCROLL	1	2,900	1,800	90.0	64.4	56.2	51.9	120	107.8	R-410A	5	500	480	3	60	40.3	82.1	1-11

NOTES:
1. PROVIDE FACTORY MOUNTED, WIRED AND CONFIGURED WATER LEVEL SENSOR/SWITCH IN THE CONDENSATE DRAIN PAN INTERLOCKED TO STOP UNIT OPERATION AT DRAIN PAN HIGH WATER LEVEL.
2. PROVIDE SECONDARY DRAIN PAN WITH DEDICATED SECONDARY CONDENSATE DRAIN UNDERNEATH COMPUTER ROOM UNIT.
3. WHERE CONDENSATE CANNOT BE GRAVITY DRAINED, PROVIDE MANUFACTURER'S INTEGRAL FACTORY MOUNTED, WIRED AND CONFIGURED CONDENSATE PUMP.
4. PROVIDE MANUFACTURER'S DISPOSABLE 2" PLEATED FILTER MEDIA AT INDOOR UNIT, MINIMUM MERV 8.
5. PROVIDE SINGLE POINT POWER CONNECTION TO EACH INDOOR UNIT AND EACH OUTDOOR UNIT WITH FACTORY MOUNTED AND WIRED NON-FUSED DISCONNECT SWITCH NEMA 3 RATED.
6. PROVIDE DEDICATED EQUIPMENT CONTROLLER, SOURCE CODE PROGRAMMING, GRAPHICS AND INTEGRATION AS NECESSARY FOR EACH COMPUTER ROOM UNIT.
7. PROVIDE BACNET INTERFACE AND COMMUNICATION PROTOCOL TO BAS, COORDINATE INPUT/OUTPUT SIGNALS BETWEEN EQUIPMENT, FIELD CONTROL DEVICES AND BAS (i.e. 4-20 mA VS. 0-10 VDC).
8. PROVIDE ACCESSORIES AND APPURTENANCES FOR INSTALLING SPLIT SYSTEM COMPUTER ROOM UNIT.
9. PROVIDE EQUIPMENT WITH ALL REQUIRED AND APPLICABLE DERATES NEEDED TO OPERATE AT A PROJECT SITE ELEVATION OF 5,663 FT.
10. PROVIDE SELF-CONTAINED STEAM GENERATING ELECTRODE TYPE HUMIDIFIER CAPABLE OF UTILIZING POTABLE WATER CONNECTION WITH FULL PROBES CONNECTED TO ELECTRIC POWER VIA ELECTRODE SCREW CONNECTORS. HUMIDIFIER ASSEMBLY MUST INCLUDE INTEGRAL FILL CUP, FILL AND DRAIN VALVES, AND ASSOCIATED PIPING. DESIGN STEAM GENERATOR TO COLLECT AND SKIM THE MINERAL DEPOSITS IN THE WATER TO DRAIN CONNECTION AND PROVIDE CLEAN PARTICLE FREE STEAM TO THE AIR STREAM. HUMIDIFIER SECTION MUST INCLUDE LIQUID-LEVEL CONTROL, EMERGENCY OVERFLOW AND AUTOMATIC WATER SUPPLY SYSTEM FACTORY PRE-PIPED FOR FINAL CONNECTION. PROVIDE STAINLESS STEEL EVAPORATOR PAN WITH WATER HIGH LEVEL AND LOW LEVEL ALARMS. PROVIDE STAINLESS STEEL TYPE 316 DISPERSION TUBE ASSEMBLY. PROVIDE WATER CHEMISTRY REQUIREMENTS WITH HUMIDIFIER SUBMITTAL DATA. ARRANGE SYSTEM TO BE CLEANABLE AND SERVICEABLE.
11. REFRIGERANT PROVIDED MUST BE A REFRIGERANT THAT IS IN ACCORDANCE WITH EPA'S SIGNIFICANT NEW ALTERNATIVE POLICY (SNAP) LISTING.

DUCTLESS SPLIT SYSTEM - INDOOR UNIT SCHEDULE

TAG	LOCATION	SERVICE	TYPE	SUPPLY FAN AIRFLOW (CFM)	SUPPLY FAN MAX MOTOR RPM	SUPPLY FAN MOTOR (W)	DX COOLING COIL EAT DB/WB	DX COOLING COIL LAT DB/WB	DX COOLING COIL CAPACITY (MBH)	DX COOLING COIL REFRIGERANT	DX COOLING COIL MAX FACE VELOCITY (FPM)	INDOOR ELECTRICAL DATA V	PH	Hz	MCA	NOTES
AC-108	108 ELEC	COOLING	HIGHWALL SPLIT SYSTEM	700	1725	56	90/73	54/53.5	24	R-410A	500	208	1	60	1.0	1-9
AC-114	114 ELEC	COOLING	HIGHWALL SPLIT SYSTEM	380	1725	30	90/73	54/53.5	12	R-410A	500	208	1	60	1.0	1-9
AC-122	122 ELEV MACH	COOLING	HIGHWALL SPLIT SYSTEM	830	1725	56	90/73	54/53.5	36	R-410A	500	208	1	60	1.0	1-9
AC-204	204 ELEC	COOLING	HIGHWALL SPLIT SYSTEM	380	1725	30	90/73	54/53.5	12	R-410A	500	208	1	60	1.0	1-9

NOTES:
1. PROVIDE SPLIT SYSTEM AIR CONDITIONING UNIT, WITH VARIABLE CAPACITY DX COOLING CONTROL.
2. PROVIDE SINGLE POINT POWER CONNECTION WITH FACTORY MOUNTED AND WIRED NON-FUSED DISCONNECT SWITCH; INDOOR UNIT MUST BE POWERED FROM ASSOCIATED OUTDOOR CONDENSING UNIT.
3. PROVIDE FACTORY MOUNTED, WIRED AND CONFIGURED WATER LEVEL SENSOR/SWITCH IN THE CONDENSATE DRAIN PAN INTERLOCKED TO STOP UNIT OPERATION AT DRAIN PAN HIGH WATER LEVEL.
4. WHERE CONDENSATE CANNOT BE GRAVITY DRAINED, PROVIDE MANUFACTURER'S INTEGRAL FACTORY MOUNTED, WIRED AND CONFIGURED CONDENSATE PUMP.
5. PROVIDE MANUFACTURER'S DISPOSABLE 2" PLEATED FILTER MEDIA AT INDOOR UNIT, MINIMUM MERV 8.
6. INDOOR UNIT MUST BE POWERED FROM OUTDOOR CONDENSING UNIT; PROVIDE INTEGRAL FACTORY MOUNTED AND WIRED NON-FUSED DISCONNECT SWITCH.
7. PROVIDE ACCESSORIES AND APPURTENANCES FOR INSTALLING SPLIT SYSTEM AIR CONDITIONING UNIT.
8. PROVIDE EQUIPMENT WITH ALL REQUIRED AND APPLICABLE DERATES NEEDED TO OPERATE AT A PROJECT SITE ELEVATION OF 5,663 FT.
9. REFRIGERANT PROVIDED MUST BE A REFRIGERANT THAT IS IN ACCORDANCE WITH EPA'S SIGNIFICANT NEW ALTERNATIVE POLICY (SNAP) LISTING.

CONDENSING UNIT SCHEDULE

TAG	LOCATION	SERVICE	COMPRESSOR TYPE	COMPRESSOR QTY	TOTAL COOLING CAPACITY (MBH)	CONDENSER FAN NO. FANS	CONDENSER FAN CFM (EACH)	AMBIENT TEMP (°F)	REFRIGERANT	ELECTRICAL DATA V	PH	Hz	MCA	MOCP	SCOP	NOTES
CU-108	ON GRADE	AC-108	INVERTER TWIN ROTARY	1	24	1	1,940	95.0	R-410A	208	1	60	19.0	26.0	4.45	1-6
CU-109A	ON GRADE	CRACU-109A	-	-	120	1	10,605	105.0	R-410A	480	3	60	3.5	6.3	2.53	1-7
CU-109B	ON GRADE	CRACU-109B	-	-	120	1	10,605	105.0	R-410A	480	3	60	3.5	6.3	2.53	1-7
CU-114	ROOF	AC-114	INVERTER TWIN ROTARY	1	12	1	1,590	95.0	R-410A	208	1	60	11.0	28.0	4.45	1-6
CU-122	ROOF	AC-122	INVERTER TWIN ROTARY	1	34	1	1,940	95.0	R-410A	208	1	60	24.0	40.0	4.45	1-6
CU-204	ROOF	AC-204	INVERTER TWIN ROTARY	1	12	1	1,590	95.0	R-410A	208	1	60	11.0	28.0	4.45	1-6
CU-211A	ROOF	CRACU-211A	-	-	120	1	10,605	105.0	R-410A	480	3	60	3.5	6.3	2.53	1-7
CU-211B	ROOF	CRACU-211B	-	-	120	1	10,605	105.0	R-410A	480	3	60	3.5	6.3	2.53	1-7
CU-211C	ROOF	CRACU-211C	-	-	120	1	10,605	105.0	R-410A	480	3	60	3.5	6.3	2.53	1-7
CU-212A	ROOF	CRACU-212A	-	-	120	1	10,605	105.0	R-410A	480	3	60	3.5	6.3	2.53	1-7
CU-212B	ROOF	CRACU-212B	-	-	120	1	10,605	105.0	R-410A	480	3	60	3.5	6.3	2.53	1-7

NOTES:
1. PROVIDE VIBRATION ISOLATION AND SUPPORT.
2. PROVIDE SINGLE POINT POWER CONNECTION WITH FACTORY MOUNTED AND WIRED FUSED DISCONNECT SWITCH NEMA 3 RATED.
3. PROVIDE MANUFACTURER'S POWER/CONTROL PANEL WITH SINGLE POWER POINT CONNECTION.
4. COORDINATE INTERFACE BETWEEN INDOOR AND OUTDOOR UNITS.
5. PROVIDE ACCESSORIES AND APPURTENANCES FOR INSTALLING SPLIT SYSTEM COMPUTER ROOM UNIT.
6. PROVIDE EQUIPMENT WITH ALL REQUIRED AND APPLICABLE DERATES NEEDED TO OPERATE AT A PROJECT SITE ELEVATION OF 5,663 FT.
7. COMPRESSOR LOCATED IN INDOOR UNIT.

UNIT HEATER SCHEDULE (UH)

TAG	LOCATION	SERVING	TYPE	CAPACITY (MBH)	CFM	THROW (FT)	EAT (°F)	LAT (°F)	HOT WATER DATA GPM	EWT (°F)	LWT (°F)	WPD (FT)	ELECTRICAL DATA HP	V	PH	Hz	NOTES
UH-1	107 MECH	HEATING	HORIZONTAL PROPELLER FAN	21.8	900	30	68.0	86	4.4	140.0	120.0	0.17	0.05	120	1	60	1, 2

NOTES:
1. PROVIDE WITH MANUFACTURER'S INTEGRAL UNIT MOUNTED NON-FUSED DISCONNECT SWITCH, MOUNTING BRACKETS AND HARDWARE AND EPOXY COATING.
2. PROVIDE ACCESSORIES AND APPURTENANCES FOR UNIT HEATERS INSTALLATION.

DUCTWORK CONSTRUCTION AND LEAKAGE TESTING SCHEDULE

SYSTEM 2.5	DUCT PRESSURE CLASS INCHES OF WATER COLUMN SUPPLY DUCT	RETURN DUCT	EXHAUST DUCT	OUTSIDE AIR DUCT	DUCTWORK ROUND / OVAL DUCT SEAL CLASS	ROUND / OVAL DUCT LEAK CLASS	RECTANGUL... DUCT SEAL CLASS	RECTANGUL... DUCT LEAK CLASS	DUCT TEST PRESSURE: IN WC	NOTES
VAV AIR HANDLING UNITS (AHU) WITH ENERGY RECOVERY WHEEL (DUCTWORK...	4	-	-	-	A	3	A	4	4	1
	-	4	-	-	-	-	A	4	4	1
PRESSURE INDEPENDENT VARIABLE AIR VOLUME (VAV) TERMINAL BOXES (DUCTWORK DOWNSTREAM...	1	-	-	-	A	8	A	16	1	1
EXHAUST DUCT	-	-	1.5	-	-	-	A	16	1	1

NOTES:
1. TEST IN ACCORDANCE WITH UFGS 23 05 93.00 22, TESTING, ADJUSTING AND BALANCING FOR HVAC AND THE PROCEDURES IN SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL.

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: A. HONDA
DRAWN BY: A. HONDA
CHECKED BY: N. SLEEM
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - SCHEDULES

SHEET ID
M-603

RTA SUBMISSION

VAV SCHEDULE

TAG	SERVICE	INLET SIZE (IN)	AIRFLOW (CFM)			SP THRU BOX (IN WC)	MAX NC	SOUND ATTENUATOR	SOUND ATTENUATOR LENGTH (FT)	HEATING COIL DATA									NOTES
			MAX COOLING	MIN COOLING	HEATING					CAP MBH	EAT (°F)	MIN LAT (°F)	APD (IN WC)	GPM	EWT (°F)	LWT (°F)	WPD (FT)	ROWS	
VAV-100	100 WAITING AREA FOR TRANSIENT PERSONNEL	12	930	280	665	0.50	24	No		11.7	55	95	0.29	1.6	140	120	0.77	2	1,2,3,4
VAV-104	104 MARINES OFFICE	12	950	285	430	0.50	23	No		8.1	55	95	0.30	0.6	140	120	0.84	2	1,2,3,4
VAV-104A	104A OFFICE	6	100	70	70	0.50	20	Yes	3	1.0	55	95	0.02	0.5	140	128	0.57	2	1,2,3,4
VAV-104B	104B OFFICE	6	100	70	70	0.50	22	Yes	3	1.0	55	95	0.02	0.5	140	128	0.57	2	1,2,3,4
VAV-106	106 COAST GUARD OFFICE	10	775	215	375	0.50	24	No		6.4	55	95	0.68	1.7	140	124	0.76	2	1,2,3,4
VAV-106A	106A & 106B OFFICE	6	200	70	120	0.50	20	Yes	3	1.3	55	95	0.05	0.5	140	125	1.3	2	1,2,3,4
VAV-108	108 ELEC	6	100	100	-	0.50	13	Yes		-	-	-	-	-	-	-	-	-	1,2,3,4
VAV-109	109 MAIN COMM	6	160	100	-	0.50	19	Yes		-	-	-	-	-	-	-	-	-	1,2,3,4
VAV-110A	110A AIR FORCE	8	325	100	200	0.50	24	Yes	3	5.1	55	95	0.18	0.9	140	123	1.47	2	1,2,3,4
VAV-110B	110B AIR FORCE	8	345	105	200	0.50	24	Yes	3	5.5	55	95	0.20	0.9	140	123	0.57	2	1,2,3,4
VAV-110C	110C MARINE	6	100	70	95	0.50	13	Yes	3	1.1	55	95	0.02	0.5	140	126	0.57	2	1,2,3,4
VAV-110D	110D MARINE	6	185	70	90	0.50	19	Yes	3	3.4	55	95	0.04	0.5	140	127	0.56	2	1,2,3,4
VAV-110E	110 AIRFORCE/MARINES	12	1200	360	445	0.50	24	No		12.5	55	95	0.43	1.0	140	120	0.84	2	1,2,3,4
VAV-110F	110 AIRFORCE/MARINES	12	1205	365	450	0.50	24	No		12.5	55	95	0.44	1.0	140	120	0.84	2	1,2,3,4
VAV-116	116 EMPLOYEE BREAKROOM	14	1345	405	660	0.50	24	No		16.4	55	95	0.52	1.4	140	120	1.00	2	1,2,3,4
VAV-119	118 SINGLE USE RESTROOM, 119 WOMENS	6	280	85	250	0.50	24	No		4.6	55	95	0.19	0.6	140	120	0.57	2	1,2,3,4
VAV-120	117 JAN, 120 MENS	8	350	100	310	0.50	22	No		4.5	55	95	0.20	0.8	140	120	0.57	2	1,2,3,4
VAV-123A	123A & 123B OFFICE	6	200	100	120	0.50	22	Yes	3	1.3	55	95	0.05	0.5	140	125	0.56	2	1,2,3,4
VAV-123B	123 ARMY OFFICE	12	1025	305	450	0.50	23	No		9.2	55	95	0.34	2.1	140	124	0.84	2	1,2,3,4
VAV-123C	123 ARMY OFFICE	12	1030	310	450	0.50	23	No		9.2	55	95	0.34	2.1	140	124	0.84	2	1,2,3,4
VAV-124	124 NAVY OFFICE	10	755	230	230	0.50	22	No		8.0	55	95	0.44	1.6	140	129	1.28	2	1,2,3,4
VAV-124A	124A & 124B OFFICE	6	200	70	120	0.50	22	Yes	3	1.3	55	95	0.05	0.5	140	125	0.57	2	1,2,3,4
VAV-125A	125 CLASSROOM	10	690	210	275	0.50	23	Yes	5	10.0	55	95	0.38	2.0	140	130	1.39	2	1,2,3,4
VAV-125B	125 CLASSROOM	10	690	210	275	0.50	23	Yes	5	10.0	55	95	0.38	2.0	140	130	1.39	2	1,2,3,4
VAV-126	126 COVE	6	170	70	100	0.50	19	Yes	5	1.2	55	95	0.04	0.5	140	126	0.57	2	1,2,3,4
VAV-127	127 COVE	8	330	100	100	0.50	22	Yes	5	3.5	55	95	0.09	0.5	140	122	0.57	2	1,2,3,4
VAV-130	130 LOBBY/HALLWAY, 122 ELEV MACH	8	450	150	250	0.50	20	No		7.2	55	95	0.42	0.9	140	120	0.97	2	1,2,3,4
VAV-136	136 CORRIDOR	8	365	110	305	0.50	23	No		7.1	55	95	0.29	0.6	140	122	0.57	2	1,2,3,4
VAV-137	137 CORRIDOR	8	270	100	165	0.50	23	No		6.3	55	95	0.18	0.7	140	128	0.94	2	1,2,3,4
VAV-138	138 CORRIDOR	6	100	70	70	0.50	13	Yes	5	2.2	55	95	0.02	0.5	140	120	0.76	2	1,2,3,4
VAV-200A	200 STUDENT BREAK ROOM	10	735	220	355	0.50	25	No		8.8	55	95	0.42	0.8	140	120	0.77	2	1,2,3,4
VAV-200B	200 STUDENT BREAK ROOM	10	735	220	350	0.50	25	No		8.8	55	95	0.42	0.8	140	128	0.77	2	1,2,3,4
VAV-203	203 NURSING	6	100	70	75	0.50	13	No		1.4	55	95	0.02	0.5	140	120	0.56	1	1,2,3,4
VAV-208	208 MULTI-PURPOSE CLASSRM	14	1445	435	640	0.50	19	No		13.5	55	95	0.34	1.3	140	120	0.74	2	1,2,3,4
VAV-209	209 MULTI-PURPOSE CLASSRM	14	1360	410	580	0.50	19	No		12.2	55	95	0.53	1.5	140	120	0.74	2	1,2,3,4
VAV-210A	210 CORRIDOR	8	450	135	200	0.50	23	No		7.5	55	95	0.42	0.7	140	120	0.87	2	1,2,3,4
VAV-210B	210 CORRIDOR	8	450	135	205	0.50	23	No		8	55	95	0.42	0.7	140	126	1.66	2	1,2,3,4
VAV-210C	210 CORRIDOR	6	280	85	280	0.50	24	No	5	6.4	55	95	0.19	1.5	140	125	0.93	2	1,2,3,4
VAV-212	212 CLASS COMM	6	140	70	120	0.50	20	Yes	5	2.3	55	95	0.03	0.5	140	127	1.04	1	1,2,3,4
VAV-216A	216 NSAC IIA OFFICE	10	760	230	230	0.50	24	Yes	5	8.2	55	95	0.44	1.6	140	129	1.58	2	1,2,3,4
VAV-216B	216 NSAC IIA OFFICE	10	760	230	230	0.50	24	Yes	5	8.2	55	95	0.45	1.6	140	129	1.58	2	1,2,3,4
VAV-220	220 NCS OFFICE	12	1015	305	310	0.50	23	Yes	5	11.9	55	95	0.45	1.4	140	123	1.64	2	1,2,3,4
VAV-222	222 SOCC SECURITY OFFICE	6	200	70	115	0.50	20	Yes	5	4.3	55	95	0.33	0.5	140	125	0.86	2	1,2,3,4
VAV-223	223 CLASSRM	12	860	260	520	0.50	23	Yes	5	7.6	55	95	0.05	1.8	140	127	0.84	2	1,2,3,4
VAV-224	224 CLASSRM	12	865	260	520	0.50	23	Yes	5	7.7	55	95	0.54	1.8	140	127	0.84	2	1,2,3,4
VAV-225	225 IDC-W AREA	12	1045	315	625	0.50	23	Yes	5	12.5	55	95	0.55	1.4	140	120	0.84	2	1,2,3,4
VAV-230	202 SINGLE USE RESTROOM, 230 WOMENS	6	300	90	300	0.50	22	No		3.9	55	95	0.35	0.7	140	120	0.57	2	1,2,3,4
VAV-231	201 JAN, 231 MENS	8	350	100	320	0.50	22	No		4.1	55	95	0.16	0.7	140	120	0.57	2	1,2,3,4
VAV-233A	233 NIPR TRAINING	12	805	245	440	0.50	22	No		11.3	55	95	0.20	1.6	140	127	0.84	2	1,2,3,4
VAV-233B	233 NIPR TRAINING	12	805	245	440	0.50	22	No		11.3	55	95	0.49	1.6	140	127	0.84	2	1,2,3,4
VAV-234A	234 CLASSRM	10	755	230	610	0.50	24	No		12.0	55	95	0.44	2.2	140	127	0.77	2	1,2,3,4
VAV-234B	234 CLASSRM	10	755	230	610	0.50	24	No		12.0	55	95	0.44	2.2	140	124	0.77	2	1,2,3,4
VAV-243	243 BLDG MANAGEMENT OFFICE, 244 IT SUPPORT	6	285	90	150	0.50	24	No		4.8	55	95	0.12	0.5	140	127	0.57	2	1,2,3,4
VAV-252	252 SECURED STORAGE	6	255	80	90	0.50	24	No	5	3.1	55	95	0.10	0.5	140	127	0.93	2	1,2,3,4
VAV-255	255 COVE, 257 COVE	8	550	165	185	0.50	24	No		6.1	55	95	0.27	1	140	126	0.93	2	1,2,3,4
VAV-256	256 COVE, 258 COVE	8	380	115	195	0.50	24	No		2.6	55	95	0.20	0.6	140	124	0.93	2	1,2,3,4
VAV-264	264 CORRIDOR	8	275	85	125	0.50	22	Yes	5	4.8	55	95	0.18	0.5	140	120	0.90	2	1,2,3,4

NOTES:
1. PROVIDE VAV TERMINAL SELECTIONS WITH REQUIRED ALTITUDE AND 35% PROPYLENE GLYCOL CORRECTIONS.
2. PROVIDE LINE SIZE FULL PORT ISOLATION BALL VALVES AND STAINLESS STEEL BRAIDED FLEX CONNECTION ON SUPPLY AND RETURN PIPE AT VAV TERMINAL UNITS.
3. PROVIDE ACCESSORIES AND APPURTENANCES FOR INSTALLING VAV TERMINAL UNITS.
4. PROVIDE VAV TERMINAL SELECTIONS WITH MINIMUM 80°F LEAVING AIR TEMPERATURE AND MAXIMUM 100°F LEAVING AIR TEMPERATURE.

AIR DEVICE SCHEDULE

TAG	SERVICE	CFM RANGE		MAX PD (IN WC)	NECK SIZE (INCHES)	MODULE SIZE (INCHES)	MAX NC	PATTERN	INTEGRAL DAMPER	NOTES
		MIN	MAX							
CEILING DIFFUSERS										
EG-1	EXHAUST	0 CFM	175 CFM	0.17	6x6	24x24	20	PERFORATED WITH BACKPAN	N/A	1, 2, 3, 4, 7, 8
EG-2	EXHAUST	0 CFM	500 CFM	0.09	12x12	24x24	20	PERFORATED WITH BACKPAN	N/A	1, 2, 3, 4, 7, 8
RG-1	RETURN	0 CFM	175 CFM	0.17	6x6	24x24	20	PERFORATED WITH BACKPAN	N/A	1, 2, 3, 4, 7, 8
RG-2	RETURN	0 CFM	290 CFM	0.17	8x8	24x24	20	PERFORATED WITH BACKPAN	N/A	1, 2, 3, 4, 7, 8
RG-3	RETURN	0 CFM	400 CFM	0.13	10x10	24x24	20	PERFORATED WITH BACKPAN	N/A	1, 2, 3, 4, 7, 8
RG-4	RETURN	0 CFM	500 CFM	0.09	12x12	24x24	20	PERFORATED WITH BACKPAN	N/A	1, 2, 3, 4, 7, 8
RG-5	RETURN	0 CFM	700 CFM	0.09	15x15	24x24	20	PERFORATED WITH BACKPAN	N/A	1, 2, 3, 4, 7, 8
RG-6	RETURN	0 CFM	900 CFM	0.06	18x18	24x24	20	PERFORATED WITH BACKPAN	N/A	1, 2, 3, 4, 7, 8
SD-1	SUPPLY	0 CFM	160 CFM	0.06	6ø	24x24	20	4-WAY ADJUSTABLE CORE	N/A	1, 2, 3, 4, 6, 7, 8
SD-2	SUPPLY	0 CFM	280 CFM	0.06	8ø	24x24	20	4-WAY ADJUSTABLE CORE	N/A	1, 2, 3, 4, 6, 7, 8
SD-3	SUPPLY	0 CFM	390 CFM	0.05	10ø	24x24	20	4-WAY ADJUSTABLE CORE	N/A	1, 2, 3, 4, 6, 7, 8
SD-4	SUPPLY	0 CFM	480 CFM	0.05	12ø	24x24	20	4-WAY ADJUSTABLE CORE	N/A	1, 2, 3, 4, 6, 7, 8
SD-5	SUPPLY	0 CFM	650 CFM	0.04	14ø	24x24	20	4-WAY ADJUSTABLE CORE	N/A	1, 2, 3, 4, 6, 7, 8
GRILLES AND REGISTERS										
EG-3	EXHAUST	0 CFM	1,550 CFM	0.05	24x20	N/A	20	45° DEFLECTION		1, 2, 4, 5, 7, 8
RG-7	RETURN	0 CFM	135 CFM	0.07	6x6	N/A	20	35° DEFLECTION	N/A	1, 2, 4, 5, 7, 8
RG-8	RETURN	0 CFM	180 CFM	0.07	8x6	N/A	20	35° DEFLECTION	N/A	1, 2, 4, 5, 7, 8
RG-9	RETURN	0 CFM	210 CFM	0.07	10x6	N/A	20	35° DEFLECTION	N/A	1, 2, 4, 5, 7, 8
RG-10	RETURN	0 CFM	230 CFM	0.07	8x8	N/A	20	35° DEFLECTION	N/A	1, 2, 4, 5, 7, 8
SG-1	SUPPLY	0 CFM	50 CFM	0.09	6x4	N/A	25	22.5° DEFLECTION	OBD	1, 2, 4, 5, 7, 8
SG-2	SUPPLY	0 CFM	115 CFM	0.07	6x6	N/A	20	22.5° DEFLECTION	OBD	1, 2, 4, 5, 7, 8
SG-3	SUPPLY	0 CFM	160 CFM	0.07	8x6	N/A	20	22.5° DEFLECTION	OBD	1, 2, 4, 5, 7, 8
SG-4	SUPPLY	0 CFM	205 CFM	0.07	10x6	N/A	20	22.5° DEFLECTION	OBD	1, 2, 4, 5, 7, 8
SG-5	SUPPLY	0 CFM	220 CFM	0.07	8x8	N/A	20	22.5° DEFLECTION	OBD	1, 2, 4, 5, 7, 8

NOTES:
1. COORDINATE FRAME STYLE AND TYPE WITH CEILING/MOUNTING TYPE.
2. PROVIDE MANUFACTURER'S MOUNTING HARDWARE, FRAME, ACCESSORIES AND APPURTENANCES FOR COMPLETE AIR TERMINAL INSTALL.
3. FLEXIBLE/HARD DUCT SERVING AIR DEVICE MUST BE SAME SIZE AS DEVICE NECK.
4. NECK SIZE/DUCT TAKE-OFF CONNECTION MUST BE THE SAME.
5. SURFACE MOUNTED GRILLES MUST HAVE CONCEALED FASTENERS.
6. MAXIMUM FLEX DUCT LENGTH MUST BE 5 FT.
7. PROVIDE SEPARATE MANUAL VOLUME DAMPERS AT LOW PRESSURE DUCTWORK; AIR TERMINALS WITH INTEGRAL VOLUME DAMPERS MUST NOT BE USED.
8. PROVIDE REMOTE DAMPER CONTROLLER FOR DAMPER LOCATIONS ABOVE INACCESSIBLE CEILINGS OR FLOORS WITH ACCESSORIES FOR PROPER OPERATION.

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: A. HONDA
DRAWN BY: A. HONDA
CHECKED BY: N. SLEEM
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - SCHEDULES

SHEET ID
M-604

ASHRAE 62.1 VENTILATION, AIR BALANCE & PRESSURIZATION SCHEDULE

ROOM	NAME	Rp (CFM/PERSON)	ASHRAE OCCUPANT DENSITY (# PERSON / 1000 SF) NOTE 6	POPULATION Pz OVERRIDE (PEOPLE)	Ra (CFM/SF)	Az (SF)	MIN OA = (Ra x Az) (CFM)	Vbz = (Ra x Az) + (Rp x Pz) (CFM)	COOLING								HEATING									NOTES
									COOL Ez	Voz = Vbz/Ez (CFM)	ASHRAE 62.1 EA (CFM)	COOLING DESIGN MAX SA (CFM)	TRANSFER AIR (CFM)	TRANSFER AIR PATH	DESIGN RA/EA (CFM)	COOLING PRESSURIZATION (CFM)	HEAT Ez	Voz = Vbz/Ez (CFM)	ASHRAE 62.1 EA (CFM)	HEATING DESIGN MAX SA (CFM)	% OA	TRANSFER AIR (CFM)	TRANSFER AIR PATH	DESIGN RA/EA (CFM)	HEATING PRESSURIZATION (CFM)	
106	COAST GUARD OFFICE	5	5	7	0.06	587	35	70	1.0	70	0	775	0	-	720	+55	0.8	88	0	375	23%	0	-	320	+55	
106A	OFFICE	5	5	2	0.06	122	7	17	1.0	17	0	100	0	-	75	+25	0.8	22	0	60	36%	0	-	35	+25	
106B	OFFICE	5	5	2	0.06	123	7	17	1.0	17	0	100	0	-	75	+25	0.8	22	0	60	36%	0	-	35	+25	
123	NIPR TRAINING 25P	7.5	65	25	0.06	1,584	95	283	1.0	283	0	2,055	0	-	1,980	+75	0.8	353	0	900	39%	0	-	825	+75	
123A	OFFICE	5	5	2	0.06	123	7	17	1.0	17	0	100	0	-	75	+25	0.8	22	0	60	36%	0	-	35	+25	
123B	OFFICE	5	5	2	0.06	122	7	17	1.0	17	0	100	0	-	75	+25	0.8	22	0	60	36%	0	-	35	+25	
124	NAVY OFFICE	5	5	6	0.06	586	35	65	1.0	65	0	755	0	-	700	+55	0.8	81	0	210	39%	0	-	155	+55	
124A	OFFICE	5	5	2	0.06	124	7	17	1.0	17	0	100	0	-	75	+25	0.8	22	0	60	36%	0	-	35	+25	
124B	OFFICE	5	5	2	0.06	124	7	17	1.0	17	0	100	0	-	75	+25	0.8	22	0	60	36%	0	-	35	+25	
125	CLASSROOM 20P	7.5	65	20	0.06	811	49	199	1.0	199	0	1,380	0	-	1,310	+70	0.8	248	0	550	45%	0	-	480	+70	
126	COVE	5	5	5	0.06	131	8	33	1.0	33	0	170	0	-	145	+25	0.8	41	0	100	41%	0	-	75	+25	
127	COVE	5	5	5	0.06	127	8	33	1.0	33	0	330	0	-	305	+25	0.8	41	0	100	41%	0	-	75	+25	
138	CORRIDOR	0	0	0	0.06	105	6	6	1.0	6	0	100	0	-	50	+50	0.8	8	0	60	13%	0	-	10	+50	
208	MULTI-PURPOSE CLASSROOM	7.5	65	25	0.06	803	48	236	1.0	236	0	1,445	0	-	1,385	+60	0.8	295	0	640	46%	0	-	580	+60	
209	MULTI-PURPOSE CLASSROOM	7.5	65	20	0.06	872	52	202	1.0	202	0	1,360	0	-	1,325	+35	0.8	253	0	580	44%	0	-	520	+60	
210	CORRIDOR	0	0	3	0.06	2,123	127	127	1.0	127	0	280	0	-	210	+70	0.8	159	0	280	57%	0	-	210	+70	
212	CLASS COMM	5	5	0	0.06	417	25	25	1.0	25	0	140	0	-	110	+30	0.8	31	0	120	26%	0	-	90	+30	
216	NSAC IIA OFFICE	5	5	20	0.06	801	48	148	1.0	148	0	1,520	0	-	1,445	+75	0.8	185	0	425	44%	0	-	350	+75	
219	STORAGE	5	0	0	0.06	99	6	6	1.0	6	0	50	0	-	35	+15	0.8	7	0	50	15%	0	-	35	+15	
220	NCS OFFICE	5	5	12	0.06	719	43	103	1.0	103	0	1,015	0	-	965	+50	0.8	129	0	310	42%	0	-	260	+50	
221	ELECTRICAL	5	0	0	0.06	10	1	1	1.0	1	0	50	0	-	35	+15	0.8	1	0	50	2%	0	-	35	+15	
222	SOCC SECURITY OFFICE	5	5	2	0.06	160	10	20	1.0	20	0	200	0	-	165	+35	0.8	25	0	115	21%	0	-	80	+35	
223	CLASSROOM	7.5	65	20	0.06	676	41	191	1.0	191	0	860	0	-	820	+40	0.8	238	0	520	46%	0	-	480	+40	
224	CLASSROOM	7.5	65	20	0.06	694	42	192	1.0	192	0	865	0	-	825	+40	0.8	240	0	520	46%	0	-	480	+40	
252	SECURED STORAGE	5	5	4	0.06	217	13	33	1.0	33	0	255	0	-	230	+25	0.8	41	0	90	46%	0	-	65	+25	
255	COVE	5	5	5	0.06	124	7	32	1.0	32	0	235	0	-	210	+25	0.8	41	0	90	45%	0	-	65	+25	
256	COVE	5	5	5	0.06	124	7	32	1.0	32	0	170	0	-	145	+25	0.8	41	0	95	43%	0	-	60	+35	
257	COVE	5	5	5	0.06	158	9	34	1.0	34	0	270	0	-	235	+35	0.8	43	0	95	45%	0	-	60	+35	
258	COVE	5	5	5	0.06	157	9	34	1.0	34	0	210	0	-	175	+35	0.8	43	0	100	43%	0	-	65	+35	
264	CORRIDOR	0	0	0	0.06	681	41	41	1.0	41	0	275	0	-	235	+40	0.8	51	0	125	41%	0	-	85	+40	

				SA PER BLOCK LOAD SUMMER =	14,945	AHU-1	Voz =	2,250					PRESSURIZATION AIR =	+1155		Voz =	2,813							PRESSURIZATION AIR =	+1190	
				RA DUCT (SA - PRESSUIZATION AIR) =	13,790		Vou =	2,250								Vou =	2,250									
				RA MIXING BOX (SA - OA ADJ) =	10,940		Evz =	1.00								Evz =	0.80									
				EA (RA DUCT - RA MIXING BOX) =	2,850		Vot =	2,250								Vot =	2,813									
				PRESSURIZATION CHECK (SA - RA FOR AHU TAB) =	1,155		OA ADJ =	3,410	USE HEATING OA ADJ							OA ADJ =	4,005									

SA PER BLOCK LOAD WINTER =	7,850
RA DUCT (SA - PRESSUIZATION AIR) =	6,660
RA MIXING BOX (SA - OA ADJ) =	3,845
EA (RA DUCT - RA MIXING BOX) =	2,815
PRESSURIZATION CHECK (SA - RA FOR AHU TAB) =	1,190

NOTES:

1. Vbz = (Rp × Pz) + (Ra × Az) = BREATHING ZONE AIR FLOW RATE CFM, ASHRAE 62.1 OUTDOOR AIR FLOW EQUATION 6.2.2.1.
   Rp = PEOPLE OUTDOOR AIR RATE PER TABLE 6.2.2.1, CFM/PERSON.
   Pz = ZONE POPULATION, PEOPLE; ALLOWANCE PER SF USED ONLY WHEN ACTUAL PROGRAM INPUT NOT AVAILABLE.
   Ra = AREA OUTDOOR AIR RATE PER TABLE 6.2.2.1, CFM/SQUARE FOOT.
   Az = ZONE FLOOR AREA, SQUARE FEET (SF).
   Voz = Vbz / Ez = CORRECTED ZONE OUTDOOR AIR FLOW RATE CFM, ASHRAE 62.1 EQUATION 6.2.2.3.
   Ez = ZONE AIR DISTRIBUTION EFFECTIVENESS (COOLING: 1.0 / HEATING: 0.8), TABLE 6.2.2.2.
   ASHRAE 62.1 HEATING CALCULATION COMPLETED TO CONFIRM LARGER OA REQUIREMENT.
   Zpz = Voz / Vpz = PRIMARY OUTDOOR AIR FRACTION, ASHRAE 62.1 EQUATION 6.2.5.1.
   Vpz = ZONE PRIMARY AIRFLOW TO THE VENTILATION ZONE, INCLUDING OUTDOOR AIR AND RECIRCULATED AIR.
2. Evz = ZONE VENTILATION EFFICIENCY; CAN BE OBTAINED FROM ASHRAE 62.1, CALCULATION USING TABLE 6-3. ALTERNATIVE: USE SUMMER 1.0 AND WINTER 0.80 WORST CASE FOR VAV SYSTEM WITH CEILING DIFFUSERS AND GRILLES.
3. Vot = Vou/ Evz = REQUIRED ZONE OUTDOOR AIR FLOW RATE CFM, ASHRAE 62.1 EQUATION 6.2.5.4.
   Vou = Vbz UNCORRECTED OUTDOOR AIR FLOW RATE CFM, ASHRAE 62.1 EQUATION 6.2.5.3.
4. OA ADJ = ASHRAE 62.1 DESIGN AHU OA FLOW RATES ARE ADJUSTED/OVERRIDDEN TO PROVIDE REQUIRED PRESSURIZATION.
   FINAL OUTDOOR AIR FLOW RATE ADJUSTED TO ROUND UP, OR FOR PRESSURIZATION IF THAT VALUE IS GREATER.
5. EXHAUST AIR FLOW RATES PER ASHRAE 62.1 TABLE 6.5.
   a. PUBLIC TOILET, HEAVY USE, 70 CFM PER WATER CLOSET OR URINAL.
   b. JANITOR'S CLOSET, 70 CFM.
   6. WHEN OCCUPANCY Pz IS KNOWN, GENERALIZED DENSITY VALUE MUST NOT BE UTILIZED.

COMMONWEALTH OF VIRGINIA
NASIR SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: A. HONDA
DRAWN BY: A. HONDA
CHECKED BY: N. SLEEM
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - PRESSURIZATION SCHEDULE

SHEET ID
M-605

RTA SUBMISSION

ASHRAE 62.1 VENTILATION, AIR BALANCE & PRESSURIZATION SCHEDULE

ROOM	NAME	Rp (CFM/PERSON)	ASHRAE OCCUPANT DENSITY (# PERSON / 1000 SF) NOTE 6	POPULATION Pz OVERRIDE (PEOPLE)	Ra (CFM/SF)	Az (SF)	MIN OA = (Ra x Az) (CFM)	Vbz = (Ra x Az) + (Rp x Pz) (CFM)	COOLING								HEATING									NOTES
									COOL Ez	Voz = Vbz/Ez (CFM)	ASHRAE 62.1 EA (CFM)	COOLING DESIGN MAX SA (CFM)	TRANSFER AIR (CFM)	TRANSFER AIR PATH	DESIGN RA/EA (CFM)	COOLING PRESSURIZATION (CFM)	HEAT Ez	Voz = Vbz/Ez (CFM)	ASHRAE 62.1 EA (CFM)	HEATING DESIGN MAX SA (CFM)	% OA	TRANSFER AIR (CFM)	TRANSFER AIR PATH	DESIGN RA/EA (CFM)	HEATING PRESSURIZATION (CFM)	
AHU-2																										
104	MARINES OFFICE 11P	5	5	11	0.06	799	48	103	1.0	103	0	950	0	-	900	+50	0.8	129	0	430	30%	0	-	380	+50	
104A	OFFICE	5	5	2	0.06	118	7	17	1.0	17	0	100	0	-	75	+25	0.8	21	0	70	31%	0	-	45	+25	
104B	OFFICE	5	5	2	0.06	118	7	17	1.0	17	0	100	0	-	75	+25	0.8	21	0	70	31%	0	-	45	+25	
100	WAITING AREA FOR TRANSIENT PERSONNEL	5	5	22	0.06	816	49	159	1.0	159	0	930	0	-	895	+35	0.8	199	0	665	30%	0	-	630	+35	
108	RESTROOM	5	5	0	0.06	287	17	17	1.0	17	0	100	0	-	85	+15	0.8	22	0	100	22%	0	-	85	+15	
109	MAIN COMM	5	5	0	0.06	473	28	28	1.0	28	0	160	0	-	125	+35	0.8	35	0	145	24%	0	-	110	+35	
110	AIRFORCE / SPACE FORCE OFFICE	5	5	24	0.06	1,571	94	214	1.0	214	0	2,405	0	-	2,320	+85	0.8	268	0	895	30%	0	-	810	+85	
110A	AIRFORCE	5	5	2	0.06	132	8	18	1.0	18	0	325	0	-	285	+40	0.8	22	0	200	11%	0	-	160	+40	
110B	AIRFORCE	5	5	2	0.06	132	8	18	1.0	18	0	345	0	-	305	+40	0.8	22	0	200	11%	0	-	160	+40	
110C	MARINE	5	5	2	0.06	140	8	18	1.0	18	0	100	0	-	60	+40	0.8	23	0	95	24%	0	-	55	+40	
110D	MARINE	5	5	2	0.06	132	8	18	1.0	18	0	185	0	-	145	+40	0.8	22	0	90	25%	0	-	50	+40	
114	ELECTRICAL	5	0	0	0.06	96	6	6	1.0	6	0	50	0	-	25	+25	0.8	7	0	50	14%	0	-	25	+25	
116	EMPLOYEE BREAK ROOM	5	25	24	0.12	637	76	196	1.0	196	0	1,345	0	-	1,295	+50	0.8	246	0	660	37%	0	-	610	+50	
117	JANITOR	0	0	0	0	41	0	0	1.0	0	45	0	+25	FROM 136 CORRIDOR	45	-20	0.8	0	45	0	0%	+25	FROM 136 CORRIDOR	45	-20	
118	SINGLE USE RESTROOM	0	0	0	0	60	0	0	1.0	0	70	50	+10	FROM 136 CORRIDOR	70	-10	0.8	0	70	50	0%	+10	FROM 136 CORRIDOR	70	-10	
119	WOMENS	0	0	0	0	276	0	0	1.0	0	280	230	+20	FROM 136 CORRIDOR	280	-30	0.8	0	280	200	0%	+50	FROM 136 CORRIDOR	280	-30	
120	MENS	0	0	0	0	280	0	0	1.0	0	350	300	+20	FROM 136 CORRIDOR	350	-30	0.8	0	350	260	0%	+60	FROM 136 CORRIDOR	350	-30	
122	ELEVATOR MACHINE ROOM	0	0	0	0	131	0	0	1.0	0	0	50	0	-	0	+50	0.8	0	0	50	0%	0	-	0	+50	
130	LOBBY/HALLWAY	0	0	3	0.06	350	21	21	1.0	21	0	400	0	-	215	+185	0.8	26	0	200	13%	0	FROM 136 CORRIDOR	15	+185	
136	CORRIDOR	0	0	3	0.06	1,262	76	76	1.0	76	0	365	-75	TO 117 JANITOR, 118 SINGLE USE RESTROOM, 119 WOMENS, 120 MENS	190	+100	0.8	95	0	305	31%	-145	TO 117 JANITOR, 118 SINGLE USE RESTROOM, 119 WOMENS, 120 MENS, 130 LOBBY/HALLWAY	60	+100	
137	CORRIDOR	0	0	0	0.06	331	20	20	1.0	20	0	270	0	-	185	+85	0.8	25	0	165	15%	0	-	80	+85	
200	STUDENT BREAK ROOM	5	25	24	0.12	711	85	205	1.0	205	0	1,470	0	-	1,410	+60	0.8	257		705	36%	0	-	645	+60	
201	JANITOR	0	0	0	0	42	0	0	1.0	0	45	0	+25	FROM 210 CORRIDOR	45	-20	0.8	0	45	0	0%	+25	FROM 210 CORRIDOR	45	-20	
202	SINGLE USE RESTROOM	0	0	0	0	61	0	0	1.0	0	70	50	+10	FROM 210 CORRIDOR	70	-10	0.8	0	70	50	0%	+10	FROM 210 CORRIDOR	70	-10	
203	NURSING	5	5	0	0.06	142	9	9	1.0	9	0	75	0	-	100	-25	0.8	11	0	75	14%	0	-	100	-25	
204	ELECTRICAL	5	0	0	0.06	98	6	6	1.0	6	0	50	0	-	25	+25	0.8	7	0	50	15%	0	-	25	+25	
210	CORRIDOR	0	0	3	0.06	1,838	110	110	1.0	110	0	900	-55	TO 201 JANITOR, 202 SINGLE USE RESTROOM, 230 FEMALE, 231 MALE	745	+100	0.8	138	0	405	34%	-55	TO 201 JANITOR, 202 SINGLE USE RESTROOM, 230 FEMALE, 231 MALE	250	+100	
211	UNCLASS COMM	5	5	0	0.06	356	21	21	1.0	21	0	120	0	-	85	+35	0.8	27	0	110	24%	0	-	75	+35	
225	IDC-W AREA	5	65	23	0.06	566	34	149	1.0	149	0	1,045	0	-	995	+50	0.8	186	0	625	30%	0	--	600	+25	
230	FEMALE	0	0	0	0	275	0	0	1.0	0	280	250	+10	FROM 210 CORRIDOR	280	-20	0.8	0	280	250	0%	+10	FROM 210 CORRIDOR	280	-20	
231	MALE	0	0	0	0	273	0	0	1.0	0	350	320	+10	FROM 210 CORRIDOR	350	-20	0.8	0	350	320	0%	+10	FROM 210 CORRIDOR	350	-20	
233	NIPR TRAINING	7.5	65	21	0.06	858	51	209	1.0	209	0	1,605	0	-	1,545	+60	0.8	261	0	875	30%	0	-	815	+60	
234	CLASSROOM	7.5	65	31	0.06	969	58	291	1.0	291	0	1,510	0	-	1,450	+60	0.8	363	0	1,215	30%	0	-	1,155	+60	
243	BUILDING MANAGEMENT	5	5	2	0.06	133	8	18	1.0	18	0	140	0	-	115	+25	0.8	22	0	75	30%	0	-	50	+25	
244	IT SUPPORT	5	5	2	0.06	135	8	18	1.0	18	0	145	0	-	120	+25	0.8	23	0	75	30%	0	-	50	+25	
260	STORAGE	5	0	0	0.06	123	7	7	1.0	7	0	65	0	-	40	+25	0.8	9	0	65	14%	0	-	40	+25	

SA PER BLOCK LOAD SUMMER =	14,975	AHU-2	Voz =	12,327		PRESSURIZATION AIR =	+1205	Voz = 14,588
RA DUCT (SA - PRESSUIZATION AIR) =	13,770		Vou =	2,165				Vou = 2,165
RA MIXING BOX (SA - OA ADJ) =	11,085		Evz =	1.00				Evz = 0.80
EA (RA DUCT - RA MIXING BOX) =	2,685		Vot =	2,165				Vot = 2,706
PRESSURIZATION CHECK (SA - RA FOR AHU TAB) =	1,205		OA ADJ =	3,370	USE HEATING OA ADJ			OA ADJ = 3,890

PRESSURIZATION AIR = +1180

SA PER BLOCK LOAD WINTER =	8,880
RA DUCT (SA - PRESSUIZATION AIR) =	7,700
RA MIXING BOX (SA - OA ADJ) =	4,990
EA (RA DUCT - RA MIXING BOX) =	2,710
PRESSURIZATION CHECK (SA - RA FOR AHU TAB) =	1,180

NOTES:

1. Vbz = (Rp × Pz) + (Ra × Az) = BREATHING ZONE AIR FLOW RATE CFM, ASHRAE 62.1 OUTDOOR AIR FLOW EQUATION 6.2.2.1.
   Rp = PEOPLE OUTDOOR AIR RATE PER TABLE 6.2.2.1, CFM/PERSON.
   Pz = ZONE POPULATION, PEOPLE; ALLOWANCE PER SF USED ONLY WHEN ACTUAL PROGRAM INPUT NOT AVAILABLE.
   Ra = AREA OUTDOOR AIR RATE PER TABLE 6.2.2.1, CFM/SQUARE FOOT.
   Az = ZONE FLOOR AREA, SQUARE FEET (SF).
   Voz = Vbz / Ez = CORRECTED ZONE OUTDOOR AIR FLOW RATE CFM, ASHRAE 62.1 EQUATION 6.2.2.3.
   Ez = ZONE AIR DISTRIBUTION EFFECTIVENESS (COOLING: 1.0 / HEATING: 0.8), TABLE 6.2.2.2.
   ASHRAE 62.1 HEATING CALCULATION COMPLETED TO CONFIRM LARGER OA REQUIREMENT.
   Zpz = Voz / Vpz = PRIMARY OUTDOOR AIR FRACTION, ASHRAE 62.1 EQUATION 6.2.5.1.
   Vpz = ZONE PRIMARY AIRFLOW TO THE VENTILATION ZONE, INCLUDING OUTDOOR AIR AND RECIRCULATED AIR.
2. Evz = ZONE VENTILATION EFFICIENCY; CAN BE OBTAINED FROM ASHRAE 62.1, CALCULATION USING TABLE 6-3. ALTERNATIVE: USE SUMMER 1.0 AND WINTER 0.80 WORST CASE FOR VAV SYSTEM WITH CEILING DIFFUSERS AND GRILLES.
3. Vot = Vou/ Evz = REQUIRED ZONE OUTDOOR AIR FLOW RATE CFM, ASHRAE 62.1 EQUATION 6.2.5.4.
   Vou = Vbz UNCORRECTED OUTDOOR AIR FLOW RATE CFM, ASHRAE 62.1 EQUATION 6.2.5.3.
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   6. WHEN OCCUPANCY Pz IS KNOWN, GENERALIZED DENSITY VALUE MUST NOT BE UTILIZED.

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

DATE | DESCRIPTION | MARK

DESIGNED BY: A. HONDA
DRAWN BY: A. HONDA
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SUBMITTED BY:
SIZE: ANSI 'D'
ISSUE DATE: 14 DECEMBER 2022
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Omaha District
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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - PRESSURIZATION SCHEDULE

SHEET ID
M-606

RTA SUBMISSION

CONTROLS LEGEND

W-X-Y-Z ##
DEVICE SYMBOL, GENERIC
USED TO REPRESENT SENSORS, INSTRUMENTS
SAFETIES, AND OTHER CONTROL DEVICES
W-X-Y-Z (SEE ABBREVIATIONS AND ACRONYMS)
GENERIC USAGE TO SHOW LOCATION OF DEVICE,
PROCESS OR DEVICE BEING MEASURED OR
CONTROLLED, MODIFIERS AND OTHER APPLICATION
INFORMATION

W-X-Y-Z ##
W-X-Y-Z
DEVICE SYMBOL, GENERIC
MULTIPLE OUTPUT DEVICE WHERE AT LEAST 1 OUTPUT
IS ALWAYS SAFETY INTERLOCK

DDC ##
DIR
REV
DEVICE SYMBOL, CONTROLLER
DDC : DIRECT DIGITAL CONTROL
: DEVICE NUMBER
DIR : DIRECT CONTROL ACTION, OR
REV : REVERSE CONTROL ACTION
W-X-Y-Z : (SEE ABBREVIATIONS AND ACRONYMS)
GENERIC USAGE TO SHOW LOCATION OF DEVICE,
PROCESS OR DEVICE BEING MEASURED OR
CONTROLLED, SIGNAL TYPE, MODIFIERS AND
OTHER APPLICATION INFORMATION

ACTUATOR, ELECTRIC

AFMA
AIR FLOW MEASUREMENT ARRAY,
WITH FLOW TRANSMITTER
SEE "DEVICE SYMBOL, GENERIC"

BOILER

CHILLER

C
COIL, COOLING

DX
COIL, COOLING, DIRECT-EXPANSION

EH
COIL, ELECTRIC HEATING

H
COIL, HEATING

PC
COIL, PRECOOL

PH
COIL, PREHEAT

CONTACT, PRESSURE, HIGH LIMIT (HL)
SHOWN IN ACTIVATED POSITION
CLOSED WHEN PRESSURE IS ABOVE SETPOINT
OPEN WHEN PRESSURE IS BELOW SETPOINT

CONTACT, PRESSURE, HIGH LIMIT (HL)
SHOWN IN INACTIVATED POSITION
OPEN WHEN PRESSURE IS BELOW SETPOINT
CLOSE WHEN PRESSURE IS ABOVE SETPOINT

CONTACT, PRESSURE, LOW LIMIT (LL)
SHOWN IN ACTIVATED POSITION
CLOSE WHEN PRESSURE IS BELOW SETPOINT
OPEN WHEN PRESSURE IS ABOVE SETPOINT

CONTACT, PRESSURE, LOW LIMIT (LL)
SHOWN IN INACTIVATED POSITION
OPEN WHEN PRESSURE IS ABOVE SETPOINT
CLOSED WHEN PRESSURE IS BELOW SETPOINT

CONTACT, TEMPERATURE, HIGH LIMIT (HL)
SHOWN IN ACTIVATED POSITION
CLOSE WHEN TEMPERATURE IS ABOVE SETPOINT
OPEN WHEN TEMPERATURE IS BELOW SETPOINT

CONTACT, TEMPERATURE, HIGH LIMIT (HL)
SHOWN IN INACTIVATED POSITION
OPEN WHEN TEMPERATURE IS BELOW SETPOINT
CLOSE WHEN TEMPERATURE IS ABOVE SETPOINT

CONTACT, TEMPERATURE, LOW LIMIT (LL)
SHOWN IN ACTIVATED POSITION
CLOSE WHEN TEMPERATURE IS BELOW SETPOINT
OPEN WHEN TEMPERATURE IS ABOVE SETPOINT

CONTACT, TEMPERATURE, LOW LIMIT (LL)
SHOWN IN INACTIVATED POSITION
OPEN WHEN TEMPERATURE IS ABOVE SETPOINT
CLOSE WHEN TEMPERATURE IS BELOW SETPOINT

CONTROL SIGNAL LINE, LOW VOLTAGE

CURRENT TRANSFORMER/SWITCH

DAMPER, BALANCING

D-# #
DAMPER, PARALLEL BLADE
NORMALLY OPEN OR CLOSED AS SHOWN
= DAMPER NUMBER AS SHOWN
IN DAMPER SCHEDULE

D-# #
DAMPER, OPPOSED BLADE
NORMALLY OPEN OR CLOSED AS SHOWN
= DAMPER NUMBER AS SHOWN
IN DAMPER SCHEDULE

MAIN AIR
MAIN AIR

MOTOR #
MOTOR

MS-#
MOTOR STARTER

Rxx
RELAY COIL
XX = SEQUENTIAL RELAY
(SOLENOID) NUMBER

Rxx-YY
REAL COIL CONTACT
NORMALLY OPEN
XX = RELAY COIL NUMBER
YY = CONTACT NUMBER

Rxx-YY
REAL COIL CONTACT
NORMALLY OPEN
XX = RELAY COIL NUMBER
YY = CONTACT NUMBER

FAN

FILTER

LDP ##
LOCAL DISPLAY PANEL
= SEQUENTIAL NUMBER
(WHEN MORE THAN 1 LDP)

P
PRESSURE GAGE

FLOW METER

P
PRESSURE WITCH, DIFFERENTIAL, WITH GAGE
H = HIGH PRESSURE TAP
L = LOW PRESSURE TAP
SEE "DEVICE SYMBOL, GENERIC"

PUMP

RADIATOR

RST-BUT
RESET BUTTON FOR SAFETY RESET

SMOKE DETECTOR, DUCT-MOUNTED
SEE "DEVICE SYMBOL, GENERIC"

SWITCH, MANUAL

T
TEMPERATURE GAGE

TEMPERATURE SENSOR, AVERAGE
or TEMPERATURE LOW LIMIT / FREEZESTAT
SEE "DEVICE SYMBOL, GENERIC"

TEMPERATURE SENSOR, POINT
SEE "DEVICE SYMBOL, GENERIC"

STAT
THERMOSTAT WITH SPECIFIED I/O FUNCTIONS

THERMOWELL IN PIPE

VALVE, BALANCING

V-##
NC
VALVE, NORMALLY CLOSED
WITH SPRING RETURN FAILSAFE
= VALVE NUMBER A SHOWN
IN VALVE SCHEDULE

V-##
NO
VALVE, NORMALLY OPEN
WITH SPRING RETURN FAILSAFE
= VALVE NUMBER A SHOWN
IN VALVE SCHEDULE

V-##
COM
NO
VALVE, 3-WAY DIVERTING WITH
SPRING RETURN FAILSAFE
NO = NORMALLY OPEN
NC = NORMALLY CLOSED
COM = COMMON PORT
# # = VALVE NUMBER AS SHOWN
IN VALVE SCHEDULE

V-##
NO
COM
VALVE, 3-WAY MIXING WITH
SPRING RETURN FAILSAFE
NO = NORMALLY OPEN
NC = NORMALLY CLOSED
COM = COMMON PORT
# # = VALVE NUMBER AS SHOWN
IN VALVE SCHEDULE

VFD
XX-C
XX-SS
XX-S
VARIABLE FREQUENCY DRIVE
XX = PROCESS/DEVICE BEING CONTROLLED

SS = START/STOP COMMAND
S = STATUS FEEDBACK (ON/OFF)
C = 4 - 20 mA, VDC

CONTROLS ABBREVIATIONS

ADJ	ADJUSTABLE
AFMA	AIR FLOW MEASUREMENT ARRAY
AFS	AIR FLOW SWITCH
AI	ANALOG INPUT
ALM	ALARM
AO	ANALOG OUTPUT
B	BOILER
BAS	BUILDING AUTOMATION SYSTEM
BI	BINARY INPUT
BO	BINARY OUTPUT
BYP	BYPASS
C	COMMAND (MODULATING CONTROL SIGNAL), CONFIGURABLE
CH	CHILLER
CLG	COOLING
CO2	CARBON DIOXIDE
CR	CONDENSER/CONDENSATE WATER RETURN
CRIT	CRITICAL
CS	CONDENSER/CONDENSATE WATER SUPPLY
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CHW	CHILLED WATER
CHWP	CHILLED WATER PUMP
COMM	COMMUNICATION
D	DAMPER
DA	DISCHARGE AIR
DDC	DIRECT DIGITAL CONTROL(LER)
DIFF	DIFFERENCE
EA	EXHAUST AIR
ECM	ELECTRONICALLY COMMUTATED MOTOR
ECON	ECONOMIZER
EF	EXHAUST FAN
EMCS	ENERGY MONITORING AND CONTROL SYSTEM
ENA	ENABLE
ENT	ENTERING
ERW	ENERGY RECOVERY WHEEL
F	FLOW
FAP	FIRE ALARM PANEL
FLT	FILTER
FM	FLOW METER
FS	FLOW SWITCH
FZ	FREEZE STAT
GM	GAS METER
H	HIGH, HARDWIRE
HL	HIGH LIMIT
HTG	HEATING
HUM	HUMIDIFIER
HW	HOT WATER
HHWR	HEATING HOT WATER RETURN
HHWS	HEATING HOT WATER SUPPLY
HOA	HAND-OFF-AUTO
L	LOW
LDP	LOCAL DISPLAY PANEL
LEV	LEAVING
LL	LOW LIMIT
M	MOTOR or MAIN
M&C	MONITORING & CONTROL (SOFTWARE)
MA	MIXED AIR
MS	MOTOR STARTER
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NVI	NETWORK VARIABLE INPUT
NVO	NETWORK VARIABLE OUTPUT
OA	OUTSIDE AIR
OAFT	OUTSIDE AIR FILTER
OC	OPERATOR CONFIGURABLE
OCC	OCCUPIED
ODT	ON DELAY TIMER
OWS	OPERATOR WORKSTATION
P	PRESSURE
PH	PREHEAT
PMP	PUMP
RA	RETURN AIR
RF	RETURN FAN
RH	RELATIVE HUMIDITY
RLA	RELIEF AIR
RM	ROOM
RTN	RETURN
S	STATUS
SA	SUPPLY AIR
SF	SUPPLY FAN
SMK	SMOKE
SP	SETPOINT
SS	START/STOP COMMAND
STAT	THERMOSTAT
SW	SWITCH
SYS	SYSTEM
T	TEMPERATURE
TS	TEMPERATURE SENSOR
VAV	VARIABLE AIR VOLUME
VO	VIEW AND OVERRIDE
VFD	VARIABLE FREQUENCY DRIVE
WM	WATER METER
ZN	ZONE

COMMONWEALTH OF VIRGINIA
NASIM SLEEM
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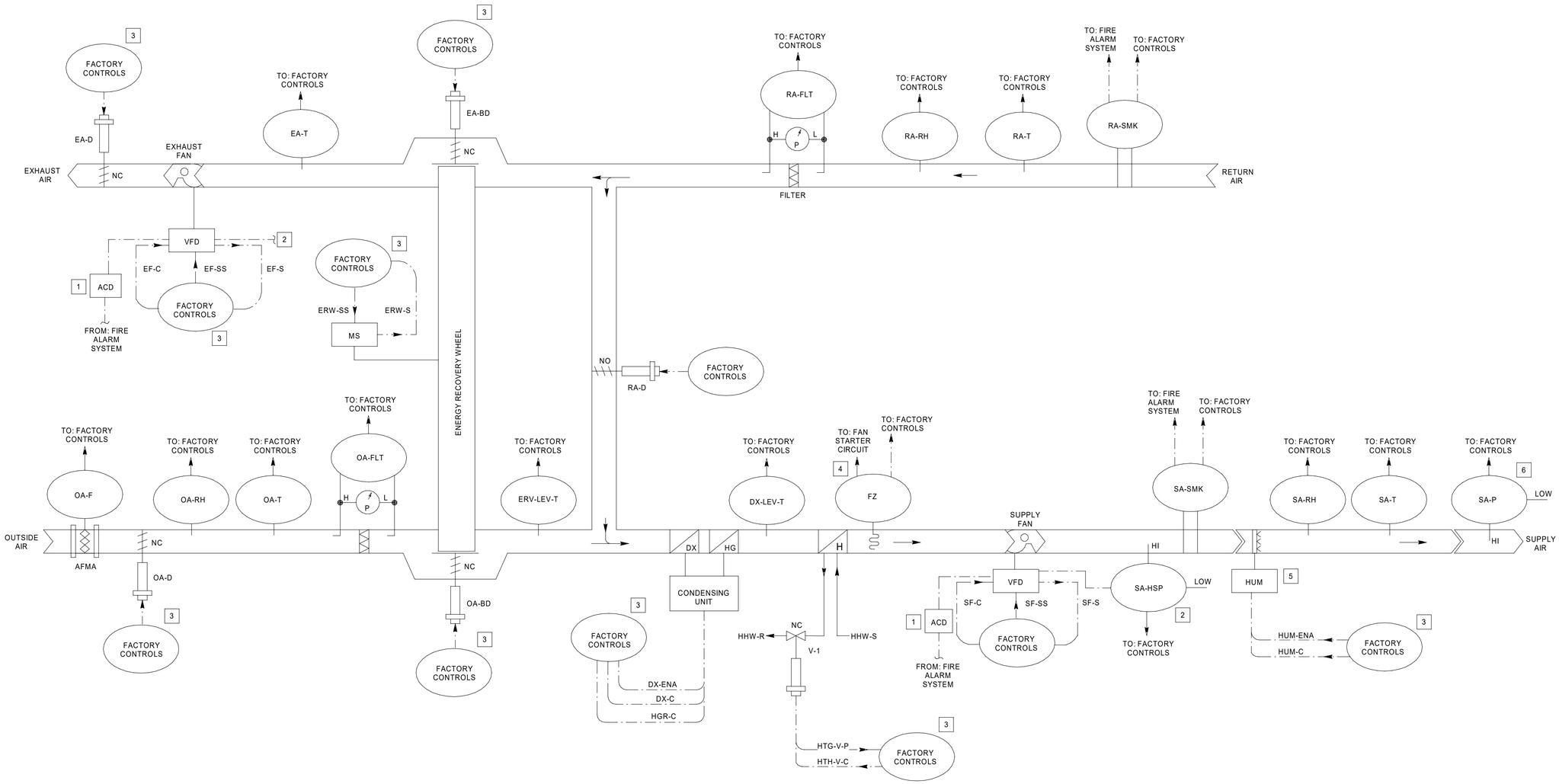
MECHANICAL - CONTROL LEGEND AND ABBREVIATIONS

SHEET ID
M-800

RTA SUBMISSION



B1 AIR HANDLING UNIT (AHU-1 AND 2, TYPICAL) - CONTROL DIAGRAM

NTS

GENERAL SHEET NOTES

1. REFER TO SHEET M-001 AND M-800 FOR SYMBOLS AND ABBREVIATIONS.

KEYNOTES

1. HARDWIRE INTERLOCK FAN WITH FIRE ALARM SYSTEM THROUGH CONTROL MODULE (ACD) TO STOP UNIT WHEN ANY DUCT DETECTOR ASSOCIATED WITH FAN SENSES PARTICLES OF COMBUSTION. THIS INTERLOCK MUST BE HARD WIRED AND NOT PERFORMED THROUGH BAS. ACD AND DUCT SMOKE DETECTOR FURNISHED AND INSTALLED UNDER DIVISION 28.
2. HARDWIRE INTERLOCK FAN WITH HIGH DUCT PRESSURE SWITCH TO STOP FAN WHEN SWITCH IS ACTIVATED.
3. AHU MUST BE PROVIDED WITH UNIT MANUFACTURER'S PACKAGED CONTROLS INCLUDING BACNET COMPATIBLE CONTROLLER/FACTORY CONTROLLER WITH BACNET NETWORK INTERFACE, SENSORS AND OTHER CONTROL DEVICES FOR REMOTE CONTROL AND MONITORING. CONNECT TO BAS NETWORK AND INCORPORATE CONTROL AND MONITORING POINTS LISTED IN POINTS SCHEDULE INTO BAS.
4. PROVIDE COVERAGE OF 12 INCHES OF ACTIVE ELEMENT PER SQUARE FOOT OF COIL. HARD WIRE INTERLOCK FREEZESTAT WITH FAN TO STOP FAN WHEN FREEZESTAT IS ACTIVATED.
5. HUMIDIFIER MUST BE PROVIDED WITH AIR FLOW SWITCH IN DOWNSTREAM, WHICH WILL DISABLE HUMIDIFIER VIA HARDWIRE INTERLOCK IF THERE IS NO AIR FLOW.
6. SEE M-110 FOR LOCATIONS OF PRESSURE SENSORS.

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: R. JEON
DRAWN BY: R. JEON
CHECKED BY: N. SLEEM
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9126P22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

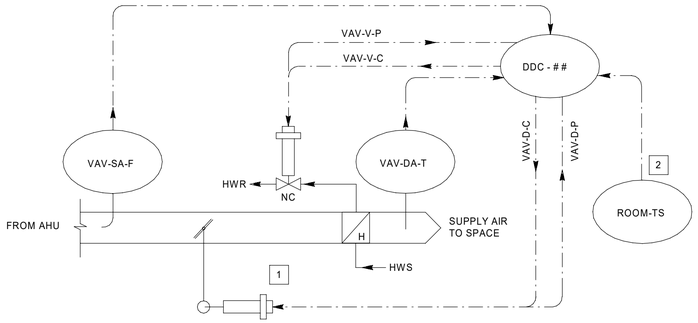
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

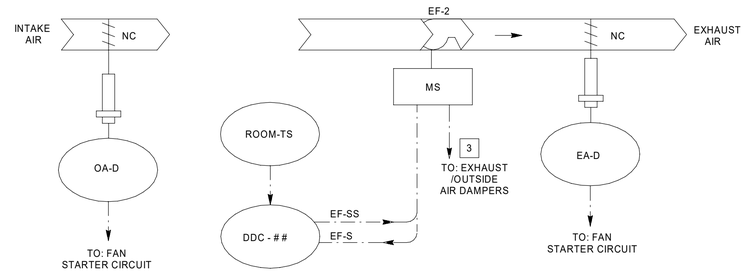
MECHANICAL - CONTROL DIAGRAMS

SHEET ID
M-801

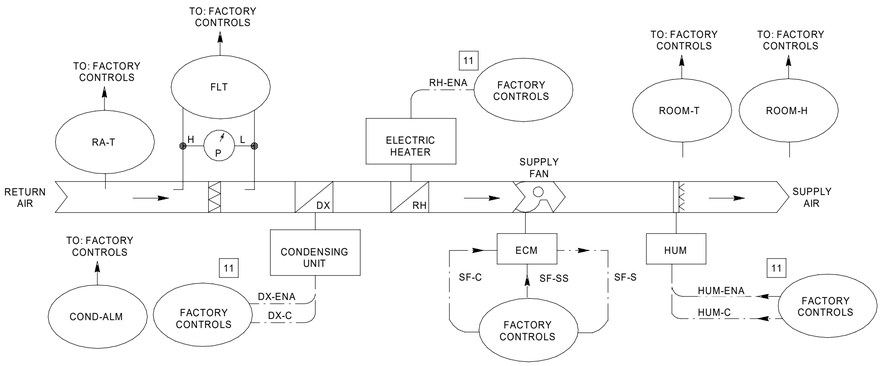
RTA SUBMISSION



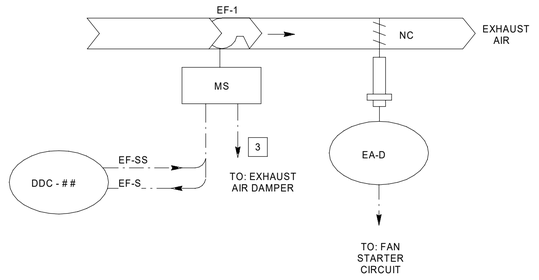
D1 VAV BOX (TYPICAL) - CONTROL DIAGRAM
NOT TO SCALE



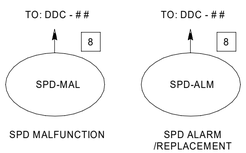
D3 EXHAUST FAN (EF-2) - CONTROL DIAGRAM
NOT TO SCALE



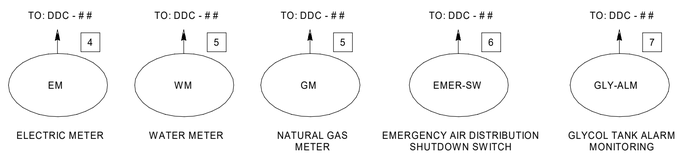
C1 COMPUTER ROOM AIR-CONDITIONING UNIT (CRACU-####, TYPICAL)
NTS



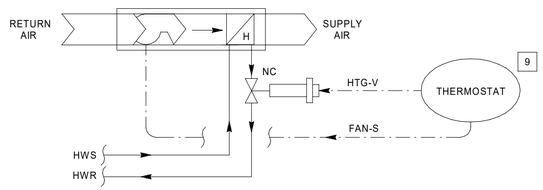
C3 EXHAUST FAN (EF-1) - CONTROL DIAGRAM
NOT TO SCALE



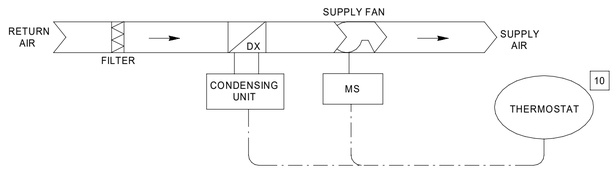
B1 SURGE PROTECTION DEVICE MONITORING (TYPICAL)
NOT TO SCALE



B3 MISCELLANEOUS POINTS
NOT TO SCALE



A1 CABINET UNIT HEATER (TYPICAL) - CONTROL DIAGRAM
NTS



A3 SPLIT SYSTEM AC UNIT (TYPICAL) - CONTROL DIAGRAM
NOT TO SCALE

GENERAL SHEET NOTES

1. REFER TO SHEET M-001 AND M-800 FOR SYMBOLS AND ABBREVIATIONS.

KEYNOTES

1. TYPICAL SINGLE DUCT VAV BOXES. SEE MECHANICAL EQUIPMENT SCHEDULE AND FLOOR PLANS.
2. TYPICAL SPACE TEMPERATURE SENSOR FOR VAV BOX. SEE FLOOR PLANS FOR LOCATIONS OF SENSORS.
3. PROVIDE INTERLOCK WIRING BETWEEN FAN AND ASSOCIATED ISOLATION DAMPER. WHEN FAN IS COMMANDED TO START IN EITHER HAND OR AUTO MODE, DAMPER MUST OPEN. ONCE DAMPER IS PROVEN OPEN BY ASSOCIATED END SWITCH, FAN MUST START. FAN MUST STOP WHEN DAMPER CLOSES.
4. CONNECT EACH ELECTRIC METER DIRECTLY TO BAS NETWORK USING BACNET MS/TP. COORDINATE NUMBER AND LOCATION OF METERS, MAIN AND SUB, WITH ELECTRICAL. SEE POINTS SCHEDULE FOR A LIST OF POINTS THAT MUST BE MAPPED OVER AND INCORPORATED INTO BAS. COORDINATE WITH DIVISION 26 AND PROVIDE ADDITIONAL MONITORING POINTS AS REQUIRED.
5. CONNECT WATER AND NATURAL GAS METER PULSE OUTPUTS TO BAS FOR METERING.
6. TYPICAL EMERGENCY AIR DISTRIBUTION SHUT DOWN SWITCH. WHEN SWITCH IS ACTIVATED, A SIGNAL MUST BE SENT TO BAS, WHICH WILL SHUT DOWN ALL AIR HANDLING UNITS AND EXHAUST FANS. ONCE EMERGENCY CONDITION IS CLEARED AND SWITCH IS RESET, ALL EQUIPMENT MUST RETURN TO NORMAL OPERATION.
7. CONNECT ALARM CONTACT AT GLYCOL TANK CONTROL PANEL TO BAS FOR ALARM/TROUBLE MONITORING.
8. COORDINATE WITH DIVISION 26 AND CONNECT SURGE PROTECTION DEVICE MALFUNCTION AND REPLACEMENT POINTS TO BAS FOR MONITORING AND ALARM.
9. CABINET UNIT HEATERS WILL BE CONTROLLED BY WALL MOUNTED THERMOSTAT PROVIDED WITH UNIT, NOT BY BAS.
10. SPLIT SYSTEM AC UNITS MUST BE CONTROLLED BY PACKAGED CONTROLS INCLUDING WALL MOUNTED THERMOSTAT, NOT BY BAS.
11. CRAC UNITS MUST BE PROVIDED WITH UNIT MANUFACTURER'S PACKAGED CONTROLS INCLUDING BACNET COMPATIBLE CONTROLLER/FACTORY CONTROLLER WITH BACNET NETWORK INTERFACE, SENSORS AND OTHER CONTROL DEVICES FOR REMOTE CONTROL AND MONITORING. CONNECT TO BAS NETWORK AND INCORPORATE CONTROL AND MONITORING POINTS LISTED IN POINTS SCHEDULE INTO BAS.

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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SOLICITATION NO.: W912BF22R0017
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FILE NUMBER:

DESIGNED BY: R. JEON
DRAWN BY: R. JEON
CHECKED BY: N. SLEEM
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

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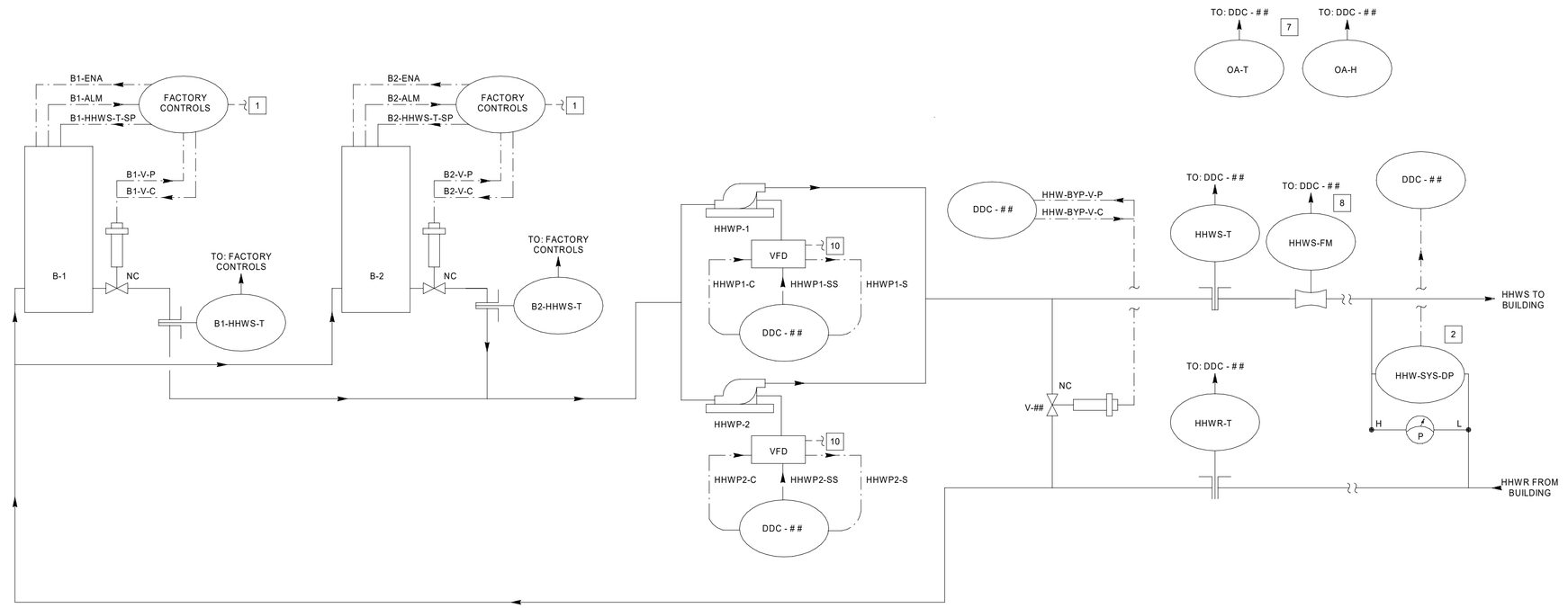
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - CONTROL DIAGRAMS

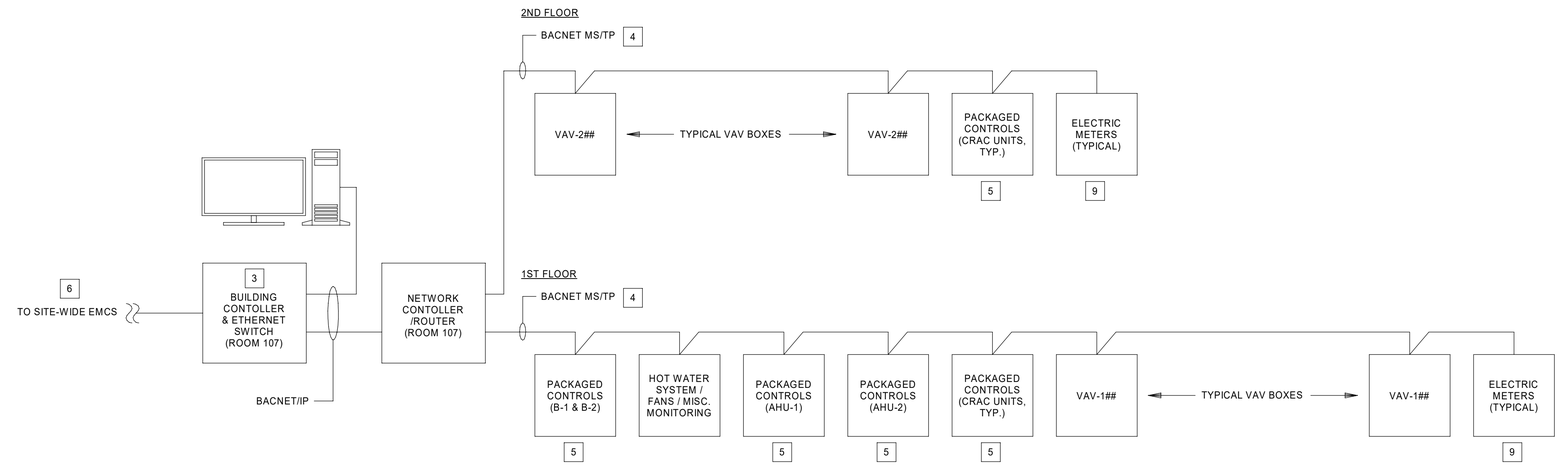
SHEET ID
M-802

RTA SUBMISSION



C1 HEATING HOT WATER SYSTEM - CONTROL DIAGRAM

NOT TO SCALE



A1 BAS NETWORK RISER DIAGRAM

NOT TO SCALE

GENERAL SHEET NOTES

1. REFER TO SHEET M-001 AND M-800 FOR SYMBOLS AND ABBREVIATIONS.

KEYNOTES

1. BOILERS MUST BE PROVIDED WITH UNIT MANUFACTURER'S PACKAGED CONTROLS INCLUDING BACNET NETWORK INTERFACE, SENSORS AND OTHER CONTROL DEVICES FOR REMOTE CONTROL AND MONITORING. CONNECT TO BAS NETWORK AND INCORPORATE CONTROL AND MONITORING POINTS LISTED IN POINTS SCHEDULE INTO BAS.
2. SEE MP-120 FOR LOCATION OF HOT WATER LOOP DIFFERENTIAL PRESSURE SENSOR.
3. PROVIDE BUILDING CONTROLLER AND EHTERNET NETWORK SWITCH FOR LOCAL BAS NETWORK. BUILDING CONTROLLER MUST BE ACT AS BUILDING POINT OF CONNECTION (BPOC). COORDIANTE SITE SPECIFIC REQUIREMENTS, CONFIGURATION AND NETWORK CHARACTERISTIC FOR ETHERNET SWITCH AND OTHER NETWORK COMPONENTS WITH GOVERNMENT.
4. FIELD VERIFY BAS NETWORK SEGMENT, NETWORK NODS AND DISTANCE, AND PROVIDE NECESSARY NETWORK COMPONENTS TO CONNECT ALL DDC CONTROLLERS. IF BAS NETWORK SEGMENT EXCEEDS MAXIMUM DISTANCE PERMITTED OR MAXIMUM NUMBER OF NETWORK NODES, PROVIDE ADDITIONAL BACNET NETWORK CONTROLLER/ROUTER, DIRECTLY CONNECTED TO BAS NETWORK, TO EXTEND BAS NETWORK SEGMENT. USING BACNET MS/TP NETWORK REPEATER TO EXTEND BAS NETWORK SEGMENT IS NOT ACCEPTABLE AND PROHIBITED. PROVIDE ADDITIONAL NETWORK DEVICES AND COMPONENTS AS NECESSARY.
5. EQUIPMENT PROVIDED WITH MANUFACTURERS PACKAGED CONTROLS INCLUDING BACNET NETWORK INTERFACE/GATEWAY OR BACNET COMPLAINT CONTROLLER MUST BE DIRECTLY CONNECTED TO BAS NETWORK USING BACNET. SEE POINT SCHEDULES FOR A LIST OF CONTROL AND MONITORING POINTS THAT MUST BE MAPPED OVER AND INCORPORATED INTO BAS.
6. NETWORK CONNECTION TO BASE-WIDE EMCS NETWORK BY GOVERNMENT.
7. PROVIDE OUTDOOR AIR TEMPERATURE AND HUMIDITY SENSORS ON NORTH EXTERIOR WALL OF MECH ROOM 107. FIELD VERIFY EXACT LOCATION AND PROVIDE NECESSARY MOUNTING, SUN SHIELD AND WEATHER PROTECTION.
8. PROVIDE INSERTION TYPE, ELECTROMAGNECTIC FLOW METER.
9. EACH ELECTRIC METER PROVIDED WITH BACNET MS/TP NETWORK INTERFACE/GATEWAY MUST BE DIRECTLY CONNECTED TO BAS NETWORK USING BACNET. SEE POINT SCHEDULES FOR A LIST OF MONITORING POINTS THAT MUST BE MAPPED OVER AND INCORPORATED INTO BAS.
10. EACH VFD MUST BE PROVIDED BACNET NETWORK INTERFACE FOR REMOTE CONTROL AND MONITORING. CONNECT TO BAS NETWORK USING BACNET MS/TP AND INCORPORATE CONTROL AND MONITORING POINTS LISTED IN POINTS SCHEDULE INTO BAS.

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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - CONTROL DIAGRAMS

SHEET ID
M-803

RTA SUBMISSION

AIR HANDLING UNIT (AHU-1 AND AHU-2, TYPICAL) - POINTS SCHEDULE

FUNCTION	POINT NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	TREND REQ'D	ALARMING: ALARM CONDITION (SEE NOTES)	ALARMING: ALARM PRIORITY	ALARMING: M&C ROUTING	PRIMARY POINT INFORMATION: OBJECT TYPE AND INSTANCE NUMBER (AND PROPERTY ID)	PRIMARY POINT INFORMATION: SNVT NAME	PRIMARY POINT INFORMATION: SNVT TYPE	PRIMARY POINT INFORMATION: NIAGARA ID	NETWORK DATA EXCHANGE: DATA FROM	NETWORK DATA EXCHANGE: DATA TO	OVERRIDES: OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE	OVERRIDES: SNVT NAME	OVERRIDES: SNVT TYPE	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: NOTIFICATION CLASS OBJECT INSTANCE NUMBER	ALARM INFORMATION: EVENT ENROLLMENT OBJECT INSTANCE NUMBER	CONFIGURATION INFORMATION
PROOF & SAFETIES	SF-S	SUPPLY FAN STATUS	< >	~	ON/OFF	NET-IN	N/A	~	V	~	FAN PROOF ALARM	CRIT	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	EF-S	EXHAUST FAN STATUS	< >	~	ON/OFF	NET-IN	N/A	~	V	~	FAN PROOF ALARM	CRIT	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	ERW-S	ENERGY RECOVERY WHEEL STATUS	< >	~	ON/OFF	NET-IN	N/A	~	V	~	FAN PROOF ALARM	CRIT	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	EA-D-P	EXHAUST AIR DAMPER POSITION	< >	~	0-100%	NET-IN	N/A	~	V	~	ALARM	CRIT	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	RA-D-P	RETURN AIR DAMPER POSITION	< >	~	0-100%	NET-IN	N/A	~	V	~	ALARM	CRIT	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	OA-D-P	OUTSIDE AIR DAMPER POSITION	< >	~	0-100%	NET-IN	N/A	~	V	~	ALARM	CRIT	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	OA-BD-P	OUTSIDE AIR BYPASS DAMPER POSITION	< >	~	0-100%	NET-IN	N/A	~	V	~	ALARM	CRIT	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	EA-BD-P	EXHAUST AIR BYPASS DAMPER POSITION	< >	~	0-100%	NET-IN	N/A	~	V	~	ALARM	CRIT	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HTG-V-P	HEATING VALVE POSITION	< >	~	0-100%	NET-IN	N/A	~	V	~	ALARM	CRIT	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	SA-HSP	SUPPLY AIR HIGH STATIC PRESSURE SWITCH	< >	2.5 IN-WC	< IN-WC>	NET-IN	N/A	~	V	~	HIGH PRESSURE ALARM	CRIT	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	FZ	FREEZESTAT	< >	37 DEG F	< DEG F>	NET-IN	N/A	~	V	~	FREEZESTAT ALARM	CRIT	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
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	SYS-OCC	SYSTEM OCCUPANCY (ACTUAL)	~	~	OCCUPIED/UNOCCUPIED	NET-OUT	N/A	~	V	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
START/STOP	SF-SS	SUPPLY FAN START/STOP	< >	~	ON/OFF	NET-OUT	Y	OC	VO	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	EF-SS	EXHAUST FAN START/STOP	< >	~	ON/OFF	NET-OUT	Y	OC	VO	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
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EXHAUST FAN SPEED CONTROL	EF-C	EXHAUST FAN COMMAND	< >	~	~	NET-OUT	N/A	OC	VO	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
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OUTDOOR/RETURN/EXHAUST & ECONOMIZER MODE CONTROL	SYS-OCC	SYSTEM OCCUPANCY (ACTUAL)	~	~	OCCUPIED/UNOCCUPIED	NET-IN	N/A	~	V	~	ALARM	CRIT	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
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	EA-D-C	EXHASUT AIR DAMPER COMMAND	< >	~	0-100%	NET-OUT	N/A	OC	VO	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	RA-D-C	RETURN AIR DAMPER COMMAND	< >	~	0-100%	NET-OUT	N/A	OC	VO	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	OA-D-C	OUTDOOR AIR DAMPER COMMAND	< >	~	0-100%	NET-OUT	N/A	OC	VO	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	OA/RA/EA DAMPER COMMAND SETTING	PROPORTIONAL CONSTANT	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		INTEGRAL CONSTANT	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		BIAS	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		MAXIMUM OUPUT	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		MINIMUM OUTPUT	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	OA-BD-C	OUTDOOR AIR BYPASS DAMPER COMMAND	< >	~	0-100%	NET-OUT	N/A	OC	VO	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	EA-BD-C	EXHAUST AIR BYPASS DAMPER COMMAND	< >	~	0-100%	NET-OUT	N/A	OC	VO	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
SUPPLY AIR TEMPERATURE CONTROL	SA-T	SUPPLY AIR TEMPERATURE	< >	~	< DEG F>	NET-IN	N/A	C	V	~	ALARM	CRIT	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	SA-T-SP	SUPPLY AIR TEMPERATURE SETPOINT	< >	< 53 F>	~	NET-IN	N/A	OC	VO	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HTG-V-C	HEATING VALVE COMMAND	< >	~	0-100%	NET-OUT	N/A	OC	VO	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HEATING COIL VALVE CONTROL SETTING	PROPORTIONAL CONSTATN	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		INTEGRAL CONSTANT	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		BIAS	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		MAXIMUM OUPUT	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		MINIMUM OUTPUT	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	DX-ENA	DX COOLING ENABLE	< >	~	ON/OFF	NET-OUT	N/A	OC	VO	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	DX-C	DX COOLING COMMAND	< >	~	0-100%	NET-OUT	N/A	OC	VO	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	DX COOLING CONTROL SETTING	PROPORTIONAL CONSTANT	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		INTEGRAL CONSTANT	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		BIAS	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		MAXIMUM OUPUT	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		MINIMUM OUTPUT	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
SUPPLY AIR HUMIDITY CONTROL	RA-RH	RETURN AIR HUMIDITY	< >	~	< %>	NET-IN	N/A	C	V	~	ALARM	CRIT	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	RA-RH-SP	RETURN AIR HUMIDITY SETPOINT	< >	<40 %>	~	NET-IN	N/A	OC	VO	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HUM-ENA	HUMIDIFIER ENABLE	< >	~	ON/OFF	NET-OUT	N/A	OC	VO	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HUM-C	HUMIDIFIER COMMAND	< >	~	0-100%	NET-OUT	N/A	OC	VO	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HUMIDIFIER CONTROL	PROPORTIONAL CONSTATN	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		INTEGRAL CONSTANT	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		BIAS	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		MAXIMUM OUPUT	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		MINIMUM OUTPUT	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
DEHUMIDIFICATION CONTROL	SA-RH	SUPPLY AIR RELATIVE HUMIDITY	< >	~	< %>	NET-IN	N/A	OC	VO	Y	ALARM	CRIT	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	RA-RH	RETURN AIR RELATIVE HUMIDITY	< >	~	< %>	NET-IN	N/A	C	~	Y	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	RA-RH-SP	RETURN AIR RELATIVE HUMIDITY SETPOINT	< >	<60 %>	~	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	DEHUM-ENABLE	DEHUMIDIFICATION MODE ENABLE/DISABLE	< >	~	ON/OFF	NET-OUT	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HGR-C	HOT GAS REHEAT COMMAND	< >	~	0-100%	NET-OUT	N/A	OC	VO	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HGR CONTROL	PROPORTIONAL CONSTATN	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		INTEGRAL CONSTANT	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		BIAS	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		MAXIMUM OUPUT	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		MINIMUM OUTPUT	< >	~	< >	NET-IN	N/A	C	~	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
OTHER POINTS	RA-T	RETURN AIR TEMPERATURE	< >	~	< DEG F>	NET-IN	N/A	~	V	Y	ALARM	INFO	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	EA-T	EXHAUST AIR TEMPERATURE	< >	~	< DEG F>	NET-IN	N/A	~	V	Y	ALARM	INFO	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	ERW-LEV-T	ERW LEAVING AIR TEMPERATURE	< >	~	< DEG F>	NET-IN	N/A	~	V	Y	ALARM	INFO	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	DX-LEV-T	DX LEAVING AIR TEMPERATURE	< >	~	< DEG F>	NET-IN	N/A	~	V	Y	ALARM	INFO	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	OA-T	OUTDOOR AIR TEMPERATURE	< >	~	< DEG F>	NET-IN	N/A	~	V	Y	ALARM	INFO	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	OA-RH	OUTDOOR AIR RELATIVE HUMIDITY	< >	~	< %>	NET-IN	N/A	~	V	Y	ALARM	CRIT	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	OA-FLT	OUTDOOR AIR FILTER PRESSURE	< >	~	ALARM/NORMAL	NET-IN	N/A	~	V	Y	ALARM	INFO	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	RA-FLT	RETURN AIR FILTER PRESSURE	< >	~	ALARM/NORMAL	NET-IN	N/A	~	V	Y	ALARM	INFO	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >

LEGEND

"< >" INDICATE ENTRY MADE BY BUILDING CONTRACTOR
" ~ " INDICATE NO ENTRY REQUIRED.
"N/A" INDICATES NO VALID ENTRY AVAILABLE.

NOTES

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COMMONWEALTH OF VIRGINIA
NASIR SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: R. JEON
DRAWN BY: R. JEON
CHECKED BY: N. SLEEM
SUBMITTED BY:
SIZE: ANSI 'D'
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SPB, CO

MECHANICAL - POINT SCHEDULES

SHEET ID
M-804

1 2 3 4 5

VAV BOX (TYPICAL) - POINTS SCHEDULE

FUNCTION	POINT NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	TREND REQ'D	ALARMING: ALARM CONDITION (SEE NOTES)	ALARMING: ALARM PRIORITY	ALARMING: M&C ROUTING	PRIMARY POINT INFORMATION: OBJECT TYPE AND INSTANCE NUMBER (AND PROPERTY ID)	PRIMARY POINT INFORMATION: SNVT NAME	PRIMARY POINT INFORMATION: SNVT TYPE	PRIMARY POINT INFORMATION: NIAGARA ID	NETWORK DATA EXCHANGE: DATA FROM	NETWORK DATA EXCHANGE: DATA TO	OVERRIDES: OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE	OVERRIDES: SNVT NAME	OVERRIDES: SNVT TYPE	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: NOTIFICATION CLASS OBJECT INSTANCE NUMBER	ALARM INFORMATION: EVENT ENROLLMENT OBJECT INSTANCE NUMBER	CONFIGURATION INFORMATION
PROOF & SAFETIES	VAV-D-P	VAV BOX DAMPER POSITION	<__>	~	0-100%	AI	N/A	~	V	~	ALARM	CRIT	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	VAV-C-P	VAV REHEAT CONTROL VALVE POSITION	<__>	~	0-100%	AI	N/A	~	V	~	ALARM	CRIT	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
SCHEDULING	SYS-OCC-SCHED	SYSTEM OCCUPANCY SCHEDULE	~	~	OCCUPIED/UNOCCUPIED	NET-IN	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	SYS-OCC-C	SYSTEM OCCUPANCY COMMAND	~	~	OCCUPIED/UNOCCUPIED	NET-IN	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	SYS-OCC	SYSTEM OCCUPANCY (ACTUAL)	~	~	OCCUPIED/UNOCCUPIED	NET-OUT	N/A	~	V	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	UNIT-S	UNIT MODE STATUS	~	~	HEATING/COOLING/OFF	NET-OUT	N/A	~	V	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
ROOM TEMPERATURE CONTROL	ROOM-TS	ROOM TEMPERATURE SENSOR	~	~	<__DEG F>	AI	N/A	C	V	~	ROOM TEMP ALARM	CRIT	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	ROOM-T-SP	ROOM TEMPERATURE SETPOINT	<__>	68-76 DEG F	~	NET-IN	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	ROOM-T-SP-DB	OCCUPIED ROOM TEMP. SETPOINT DEADBAND	~	+/- 2 DEG F	~	NET-IN	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	ROOM-T-SP-UNOCC	UNOCC. ROOM TEMPERATURE SETPOINT	~	62-82 DEG F	~	NET-IN	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	VAV-SA-F	VAV SUPPLY AIR FLOW	~	~	<CFM>	AO	N/A	OC	VO	~	LO/HI AIR FLOW ALARM	CRIT	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	VAV-SA-F-SP	VAV SUPPLY AIR FLOW SETPOINT	~	CFM	~	NET-IN	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	VAV-D-C	VAV DAMPER COMMAND	~	~	0-100%	AO	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	VAV BOX DAMPER CONTROL SETTING	PROPORTIONAL CONSTATN	<__>	~	<__>	NET-IN	N/A	C	~	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
		INTEGRAL CONSTANT	<__>	~	<__>	NET-IN	N/A	C	~	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
		BIAS	<__>	~	<__>	NET-IN	N/A	C	~	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
		MAXIMUM OUPUT	<__>	~	<__>	NET-IN	N/A	C	~	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
		MINIMUM OUTPUT	<__>	~	<__>	NET-IN	N/A	C	~	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	VAV-V-C	VAV BOX REHEAT VALVE COMMAND	<__>	~	0-100%	AO	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	REHEAT COIL VALVE CONTROL SETTING	PROPORTIONAL CONSTATN	<__>	~	<__>	NET-IN	N/A	C	~	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
		INTEGRAL CONSTANT	<__>	~	<__>	NET-IN	N/A	C	~	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
		BIAS	<__>	~	<__>	NET-IN	N/A	C	~	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
		MAXIMUM OUPUT	<__>	~	<__>	NET-IN	N/A	C	~	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
		MINIMUM OUTPUT	<__>	~	<__>	NET-IN	N/A	C	~	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
OTHER POINTS	VAV-DA-T	COOLING DISCHAREGE AIR TEMPERATURE	<__>	~	<__DEG F>	AI	N/A	~	V	~	VAV DA TEMP ALARM	INFO	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>

LEGEND

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COMPUTER ROOM AIR-CONDITIONING UNITS (CRACU-####, TYPICAL) - POINTS SCHEDULE

FUNCTION	POINT NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	TREND REQ'D	ALARMING: ALARM CONDITION (SEE NOTES)	ALARMING: ALARM PRIORITY	ALARMING: M&C ROUTING	PRIMARY POINT INFORMATION: OBJECT TYPE AND INSTANCE NUMBER (AND PROPERTY ID)	PRIMARY POINT INFORMATION: SNVT NAME	PRIMARY POINT INFORMATION: SNVT TYPE	PRIMARY POINT INFORMATION: NIAGARA ID	NETWORK DATA EXCHANGE: DATA FROM	NETWORK DATA EXCHANGE: DATA TO	OVERRIDES: OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE	OVERRIDES: SNVT NAME	OVERRIDES: SNVT TYPE	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: NOTIFICATION CLASS OBJECT INSTANCE NUMBER	ALARM INFORMATION: EVENT ENROLLMENT OBJECT INSTANCE NUMBER	CONFIGURATION INFORMATION
PROOF & SAFETIES	SF-S	SUPPLY FAN STATUS	<__>	~	ON/OFF	NET-IN	N/A	~	V	~	FAN PROOF ALARM	CRIT	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	COND-ALM	CONDENDATE OVERFLOW CUTOFF ALARM	<__>	~	ALARM/NORMAL	NET-IN	N/A	~	V	Y	ALARM	CRIT	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
SCHEDULING	SYS-OCC-SCHED	SYSTEM OCCUPANCY SCHEDULE	~	~	OCCUPIED/UNOCCUPIED	NET-IN	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	SYS-OCC-C	SYSTEM OCCUPANCY COMMAND	~	~	OCCUPIED/UNOCCUPIED	NET-IN	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	SYS-OCC	SYSTEM OCCUPANCY (ACTUAL)	~	~	OCCUPIED/UNOCCUPIED	NET-OUT	N/A	~	V	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
START/STOP	SF-SS	SUPPLY FAN START/STOP	<__>	~	ON/OFF	NET-OUT	Y	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
SUPPLY FAN SPEED CONTROL	SF-C	SUPPLY FAN COMMAND	<__>	~	0-100%	NET-OUT	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
SPACE TEMPERATURE CONTROL	ROOM-T	SPACE TEMPERATURE	<__>	~	<__DEG F>	NET-IN	N/A	C	V	~	ALARM	CRIT	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	ROOM-T-SP	SPACE TEMPERATURE SETPOINT	<__>	<__75 F>	~	NET-IN	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	DX-ENA	DX COOLING ENABLE	<__>	~	ON/OFF	NET-OUT	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	DX-C	DX COOLING COMMAND	<__>	~	0-100%	NET-OUT	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	DX COOLING CONTROL SETTING	PROPORTIONAL CONSTANT	<__>	~	<__>	NET-IN	N/A	C	~	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
		INTEGRAL CONSTANT	<__>	~	<__>	NET-IN	N/A	C	~	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
		BIAS	<__>	~	<__>	NET-IN	N/A	C	~	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
		MAXIMUM OUPUT	<__>	~	<__>	NET-IN	N/A	C	~	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
		MINIMUM OUTPUT	<__>	~	<__>	NET-IN	N/A	C	~	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
SPACE HUMIDITY CONTROL	ROOM-H	SPACE HUMIDITY	<__>	~	<__%>	NET-IN	N/A	C	V	Y	ALARM	CRIT	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	ROOM-H-SP	SPACE HUMIDITY SETPOINT	<__>	<45 %>	~	NET-IN	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	HUM-ENA	HUMIDIFIER ENABLE	<__>	~	ON/OFF	NET-OUT	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	HUM-C	HUMIDIFIER COMMAND	<__>	~	0-100%	NET-OUT	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	HUMIDIFIER CONTROL	PROPORTIONAL CONSTATN	<__>	~	<__>	NET-IN	N/A	C	~	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
		INTEGRAL CONSTANT	<__>	~	<__>	NET-IN	N/A	C	~	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
		BIAS	<__>	~	<__>	NET-IN	N/A	C	~	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
		MAXIMUM OUPUT	<__>	~	<__>	NET-IN	N/A	C	~	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
		MINIMUM OUTPUT	<__>	~	<__>	NET-IN	N/A	C	~	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
DEHUMIDIFICATION CONTROL	ROOM-H	SPACE HUMIDITY	<__>	~	<__%>	NET-IN	N/A	C	V	Y	ALARM	CRIT	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	ROOM-H-SP	SPACE HUMIDITY SETPOINT	<__>	<55 %>	<__%>	NET-IN	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	DEHUM-ENABLE	DEHUMIDIFICATION MODE ENABLE/DISABLE	<__>	~	ON/OFF	NET-OUT	N/A	C	~	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	RH-ENA	ELECTRIC REHEAT ENABLE	<__>	~	ENABLE/DISABLE	NET-OUT	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
OTHER POINTS	RA-T	RETURN AIR TEMPERATURE	<__>	~	<__DEG F>	NET-IN	N/A	~	V	Y	ALARM	INFO	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	FLT	FILTER PRESSURE	<__>	~	ALARM/NORMAL	NET-IN	N/A	~	V	Y	ALARM	INFO	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>

LEGEND

OTHER POINTS

"<__>" INDICATE ENTRY MADE BY BUILDING CONTRACTOR
" ~ " INDICATE NO ENTRY REQUIRED.
"N/A" INDICATES NO VALID ENTRY AVAILABLE.

NOTES

LISTED RANGES ARE INITIAL SETTINGS ONLY AND SHALL BE USER ADJUSTABLE. ACTUAL LIMITS AND SETTINGS MAY DIFFER DEPENDING ON ACTUAL OPERATING CONDITIONS.

EXHASUT FAN (EF-1) - POINTS SCHEDULE

FUNCTION	POINT NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	TREND REQ'D	ALARMING: ALARM CONDITION (SEE NOTES)	ALARMING: ALARM PRIORITY	ALARMING: M&C ROUTING	PRIMARY POINT INFORMATION: OBJECT TYPE AND INSTANCE NUMBER (AND PROPERTY ID)	PRIMARY POINT INFORMATION: SNVT NAME	PRIMARY POINT INFORMATION: SNVT TYPE	PRIMARY POINT INFORMATION: NIAGARA ID	NETWORK DATA EXCHANGE: DATA FROM	NETWORK DATA EXCHANGE: DATA TO	OVERRIDES: OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE	OVERRIDES: SNVT NAME	OVERRIDES: SNVT TYPE	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: NOTIFICATION CLASS OBJECT INSTANCE NUMBER	ALARM INFORMATION: EVENT ENROLLMENT OBJECT INSTANCE NUMBER	CONFIGURATION INFORMATION
PROOF & SAFETIES	EF-S	EXHAUST FAN STATUS	<__>	~	ON/OFF	BI	N/A	~	V	~	FAN PROOF ALARM	CRIT	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
START/STOP	SYS-OCC-SCHED	SYSTEM OCCUPANCY SCHEDULE	~	~	OCCUPIED/UNOCCUPIED	NET-IN	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	SYS-OCC-C	SYSTEM OCCUPANCY COMMAND	~	~	OCCUPIED/UNOCCUPIED	NET-IN	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>
	EF-SS	EXHAUST FAN START/STOP	~	~	ON/OFF	BO	N/A	OC	VO	~	~	~	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>

LEGEND

"<__>" INDICATE ENTRY MADE BY BUILDING CONTRACTOR
" ~ " INDICATE NO ENTRY REQUIRED.
"N/A" INDICATES NO VALID ENTRY AVAILABLE.

NOTES

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COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: R. JEON
DRAWN BY: R. JEON
CHECKED BY: N. SLEEM
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - POINT SCHEDULES

SHEET ID
M-805

EXHASUT FAN (EF-2) - POINTS SCHEDULE

FUNCTION	POINT NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	TREND REQ'D	ALARMING: ALARM CONDITION (SEE NOTES)	ALARMING: ALARM PRIORITY	ALARMING: M&C ROUTING	PRIMARY POINT INFORMATION: OBJECT TYPE AND INSTANCE NUMBER (AND PROPERTY ID)	PRIMARY POINT INFORMATION: SNVT NAME	PRIMARY POINT INFORMATION: SNVT TYPE	PRIMARY POINT INFORMATION: NIAGARA ID	NETWORK DATA EXCHANGE: DATA FROM	NETWORK DATA EXCHANGE: DATA TO	OVERRIDES: OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE	OVERRIDES: SNVT NAME	OVERRIDES: SNVT TYPE	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: NOTIFICATION CLASS OBJECT INSTANCE NUMBER	ALARM INFORMATION: EVENT ENROLLMENT OBJECT INSTANCE NUMBER	CONFIGURATION INFORMATION
PROOF & SAFETIES	EF-S	EXHAUST FAN STATUS	<___>	~	ON/OFF	BI	N/A	~	V	~	FAN PROOF ALARM	CRIT	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	<__>	< >	< >	< >	< >	< >
START/STOP	EF-SS	EXHAUST FAN START/STOP	~	~	ON/OFF	BO	N/A	OC	VO	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
ROOM TEMPERATURE CONTROL	ROOM-TS	ROOM TEMPERATURE SENSOR	~	~	< DEG F>	AI	N/A	C	V	~	ROOM TEMP ALARM	CRIT	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	ROOM-T-SP	ROOM TEMPERATURE SETPOINT	<___>	85 DEG F	~	NET-IN	N/A	OC	VO	~	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >

LEGEND

"<__>" INDICATE ENTRY MADE BY BUILDING CONTRACTOR
" ~ " INDICATE NO ENTRY REQUIRED.
"N/A" INDICATES NO VALID ENTRY AVAILABLE.

NOTES

LISTED RANGES ARE INITIAL SETTINGS ONLY AND SHALL BE USER ADJUSTABLE. ACTUAL LIMITS AND SETTINGS MAY DIFFER DEPENDING ON ACTUAL OPERATING CONDITIONS.

HOT WATER SYSTEM - POINTS SCHEDULE

FUNCTION	POINT NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	TREND REQ'D	ALARMING: ALARM CONDITION (SEE NOTES)	ALARMING: ALARM PRIORITY	ALARMING: M&C ROUTING	PRIMARY POINT INFORMATION: OBJECT TYPE AND INSTANCE NUMBER (AND PROPERTY ID)	PRIMARY POINT INFORMATION: SNVT NAME	PRIMARY POINT INFORMATION: SNVT TYPE	PRIMARY POINT INFORMATION: NIAGARA ID	NETWORK DATA EXCHANGE: DATA FROM	NETWORK DATA EXCHANGE: DATA TO	OVERRIDES: OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE	OVERRIDES: SNVT NAME	OVERRIDES: SNVT TYPE	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: NOTIFICATION CLASS OBJECT INSTANCE NUMBER	ALARM INFORMATION: EVENT ENROLLMENT OBJECT INSTANCE NUMBER	CONFIGURATION INFORMATION
PROOF AND SAFTIES	HHWP1-S	HOT WATER PUMP 1 STATUS	<___>	~	ON/OFF	BI	N/A	~	V	~	ALARM	CRIT	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HHWP2-S	HOT WATER PUMP 2 STATUS	<___>	~	ON/OFF	BI	N/A	~	V	~	ALARM	CRIT	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	B1-ALM	BOILER 1 ALARM/TROUBLE	<___>	~	ALARM/NORMAL	NET-IN	N/A	~	V	~	ALARM	CRIT	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	B2-ALM	BOILER 2 ALARM/TROUBLE	<___>	~	ALARM/NORMAL	NET-IN	N/A	~	V	~	ALARM	CRIT	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
START/STOP	SYS-ENA	SYSTEM ENABLE	<___>	~	ENABLE/DISABLE	NET-IN	N/A	OC	VO	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	B1-ENA	BOILER 1 ENABLE/DISABLE	<___>	~	ON/OFF	BI	Y	~	VO	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	B2-ENA	BOILER 2 ENABLE/DISABLE	<___>	~	ON/OFF	BI	Y	~	VO	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HHWP1-SS	HOT WATER WATER PUMP 1 START/STOP	<___>	~	ON/OFF	BI	Y	~	VO	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HHWP2-SS	HOT WATER WATER PUMP 2 START/STOP	<___>	~	ON/OFF	BI	Y	~	VO	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
HOT WATER PUMP SPEED CONTROL	HHW-SYS-DP-SP	HHWS DIFF. PRESSURE SETPOINT	<___>	<15 PSI>	~	NET-IN	N/A	OC	VO	Y	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HHW-SYS-DP	HHWS DIFF. PRESSURE	<___>	PSI	~	AI	N/A	OC	VO	Y	ALARM	CRIT	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HHWP1-C	HOT WATER WATER PUMP 1 COMMAND	<___>	~	0-100%	AO	N/A	~	VO	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HOT WATER PUMP 1 PID LOOP SETTING	PROPORTIONAL CONSTATN	<___>	~	<___>	~	N/A	C	~	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		INTEGRAL CONSTANT	<___>	~	<___>	~	N/A	C	~	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		BIAS	<___>	~	<___>	~	N/A	C	~	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		MAXIMUM OUPUT	<___>	~	<___>	~	N/A	C	~	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		MINIMUM OUTPUT	<___>	~	<___>	~	N/A	C	~	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HHWP2-C	HOT WATER WATER PUMP 2 COMMAND	<___>	~	0-100%	AO	N/A	~	VO	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HOT WATER PUMP 2 PID LOOP SETTING	PROPORTIONAL CONSTATN	<___>	~	<___>	~	N/A	C	~	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		INTEGRAL CONSTANT	<___>	~	<___>	~	N/A	C	~	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		BIAS	<___>	~	<___>	~	N/A	C	~	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		MAXIMUM OUPUT	<___>	~	<___>	~	N/A	C	~	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		MINIMUM OUTPUT	<___>	~	<___>	~	N/A	C	~	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
HEATING HOT WATER BYPASS VALVE CONTROL	HHW-BYP-V-C	HOT WATER BYPASS VALVE COMMAND	<___>	~	0-100%	AO	N/A	~	V	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HHW-BYP-V-P	HOT WATER BYPASS VALVE POSITION	<___>	~	0-100%	AI	N/A	~	V	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HHWS-FM	HOT WATER SUPPLY FLOW METER	<___>	~	GPM	AI	N/A	~	V	~	ALARM	CRIT	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HEATING HOT WATER BYPASS VALVE LOOP SETTING	PROPORTIONAL CONSTANT	~	<___>	<___>	~	N/A	C	~	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		INTEGRAL CONSTATN	~	<___>	<___>	~	N/A	C	~	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		BIAS	~	<___>	<___>	~	N/A	C	~	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		MAXIMUM OUTPUT	~	<___>	<___>	~	N/A	C	~	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
		MINIMUM OUTPUT	~	<___>	<___>	~	N/A	C	~	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
BOILER NETWORK POINTS (TYPICAL FOR 2)	B#-S	BOILER STATUS	~	~	ON/OFF	NET-IN	N/A	~	V	~	ALARM	CRIT	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	B#-ALM	BOILER ALARM	~	~	ALARM/NORMAL	NET-OUT	N/A	~	V	~	ALARM	CRIT	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	B#-MODE	BOILER OPERATING MODE	~	~	ON/OFF	NET-OUT	N/A	OC	V	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	B#-RNR	BOILER RUNNING STATE	~	~	ON/OFF	NET-PUT	N/A	~	V	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	B#-HWS-T-SP	BOILER HOT WATER SUPPLY TEMP. SETPOINT	~	DEG F	~	NET-IN	N/A	OC	VO	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	B#-HWS-T	BOILER HOT WATER SUPPLY TEMPERATURE	~	~	DEG F	NET-IN	N/A	~	V	~	ALARM	INFO	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	B1-V-C	BOILER 1 ISOLATION VALVE COMMAND	~	~	0-100%	NET-OUT	N/A	~	VO	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	B1-V-P	BOILER 1 ISOLATION VALVE POSITION	~	~	0-100%	NET-IN	N/A	~	V	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	B2-V-C	BOILER 2 ISOLATION VALVE2 COMMAND	~	~	0-100%	NET-OUT	N/A	~	VO	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	B2-V-P	BOILER 2 ISOLATION VALVE POSITION	~	~	0-100%	NET-IN	N/A	~	V	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
HHWP VFD NETWORK POINTS (TYPICAL FOR 2)	HHWP#-ALM	HHWP VFD ALARM/TROUBLE	~	~	ALARM/NORMAL	NET-IN	N/A	~	V	~	ALARM	CRIT	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HHWP#-FRQ	HHWP VFD FREQUENCY OUTPUT	~	HZ	<__HZ>	NET-IN	N/A	~	V	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HHWP#-PWR	HHWP VFD POWER	~	KW	~	NET-IN	N/A	~	V	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HHWP#-ENGY	HHWP VFD ENERGY USAGE	~	KWH	~	NET-IN	N/A	~	V	~	~	~	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
OTHER POINTS	HHWS-T	HOT WATER SUPPLY TEMPERATURE	<___>	~	DEG F	AI	N/A	~	V	~	ALARM	INFO	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	HHWR-R	HOT WATER RETURN TEMPERATURE	<___>	~	DEG F	AI	N/A	~	V	~	ALARM	INFO	< >	<__>	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >

LEGEND

"<__>" INDICATE ENTRY MADE BY BUILDING CONTRACTOR
" ~ " INDICATE NO ENTRY REQUIRED.
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NOTES

LISTED RANGES ARE INITIAL SETTINGS ONLY AND SHALL BE USER ADJUSTABLE. ACTUAL LIMITS AND SETTINGS MAY DIFFER DEPENDING ON ACTUAL OPERATING CONDITIONS.

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: R. JEON
DRAWN BY: R. JEON
CHECKED BY: N. SLEEM
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

USACE OMAHA DISTRICT
USACE
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - POINT SCHEDULES

SHEET ID
M-806

MISCELLANEOUS POINTS - POINTS SCHEDULE

FUNCTION	POINT NAME	DESCRIPTION	DDC HARDWARE ID	SETTING (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	HOA REQ'D	CONFIG. TYPE	M&C VIEW AND OVRD	TREND REQ'D	ALARMING: ALARM CONDITION (SEE NOTES)	ALARMING: ALARM PRIORITY	ALARMING: M&C ROUTING	PRIMARY POINT INFORMATION: OBJECT TYPE AND INSTANCE NUMBER (AND PROPERTY ID)	PRIMARY POINT INFORMATION: SNVT NAME	PRIMARY POINT INFORMATION: SNVT TYPE	PRIMARY POINT INFORMATION: NIAGARA ID	NETWORK DATA EXCHANGE: DATA FROM	NETWORK DATA EXCHANGE: DATA TO	OVERRIDES: OBJECT TYPE & INSTANCE NUMBER OR COMMANDABLE	OVERRIDES: SNVT NAME	OVERRIDES: SNVT TYPE	TREND OBJECT LOCATION (L OR R), TYPE AND INSTANCE NUMBER (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: ALARM TYPE (PROVIDE DDC ID FOR REMOTE IN NOTES)	ALARM INFORMATION: NOTIFICATION CLASS OBJECT INSTANCE NUMBER	ALARM INFORMATION: EVENT ENROLLMENT OBJECT INSTANCE NUMBER	CONFIGURATION INFORMATION
OTHER POINTS	EM	ELECTRIC METER - TOTAL KW	< >	~	< KW>	NET-IN	N/A	~	V	Y	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	EM	ELECTRIC METER - PEAK DEMAND KW	< >	~	< KW>	NET-IN	N/A	~	V	Y	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	EM	ELECTRIC METER - VLN A/B/C PHASE (TYP.)	< >	~	< V>	NET-IN	N/A	~	V	Y	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	EM	ELECTRIC METER - AMPS A/B/C PHASE (TYP.)	< >	~	< A>	NET-IN	N/A	~	V	Y	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	EM	ELECTRIC METER - KW A/B/C PHASE (TYP.)	< >	~	< KW>	NET-IN	N/A	~	V	Y	~	~	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
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	EMER-SW	EMERGENCY AIR DISTRIBUTION SHUTDOWN SWITCH	< >	~	ALARM/NORMAL	BI	N/A	~	VO	Y	EMER. AIR. DIST. ALARM	CRIT	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	GLY-ALM	GLYCOL ALARM	< >	~	ALARM/NORMAL	BI	N/A	~	VO	Y	GLYCOL ALARM	CRIT	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	SPD-MAL	SURGE PROTECTION DEVICE MALFUNCTION	< >	~	ALARM/NORMAL	BI	N/A	~	VO	Y	SPD MALF. ALARM	CRIT	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >
	SPD-ALM	SURGE PROTECTION DEVICE ALARM/REPLACEMENT	< >	~	ALARM/NORMAL	BI	N/A	~	VO	Y	SPD ALARM/REPLACE	CRIT	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >	< >

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NOTES

LISTED RANGES ARE INITIAL SETTINGS ONLY AND SHALL BE USER ADJUSTABLE. ACTUAL LIMITS AND SETTINGS MAY DIFFER DEPENDING ON ACTUAL OPERATING CONDITIONS.

AIR HANDLING UNIT (AHU-1 AND AHU-2, TYPICAL):

THE AIR HANDLING UNIT MUST BE CONTROLLED BY A PACKAGED CONTROLS WITH BACNET INTERFACE/GATEWAY OR A BACNET-COMPATIBLE UNIT CONTROLLER PROVIDED BY THE UNIT MANUFACTURER. THE UNIT MUST BE DIRECTLY CONNECTED TO THE BAS NETWORK USING BACNET MS/TP AND COMMUNICATE WITH THE BAS. THE CONTROLS CONTRACTOR MUST COORDINATE WITH UNIT PROVIDER AND PROVIDE NECESSARY CONTROL POINT MAPPING AND SOFTWARE MODIFICATION TO THE BAS FOR REMOTE CONTROL AND MONITORING OF THE UNIT. REFER TO POINT SCHEDULE FOR A LIST OF CONTROL AND MONITORING POINTS THAT MUST BE INCORPORATED INTO THE BAS. PROVIDE NECESSARY GRAPHICAL DISPLAYS SHOWING THE OPERATING STATUS, PARAMETERS AND SET POINTS.

SUPPLY/EXHAUST FAN OFF-AUTO OPERATION: OFF-AUTO SETTINGS MUST BE PROVIDED AS PART OF THE VARIABLE FREQUENCY DRIVE THROUGH THE DRIVE'S KEYPAD. IN THE OFF MODE, THE FAN MUST BE STOPPED. IN THE AUTO MODE, THE BAS WILL START/STOP THE UNIT THROUGH THE UNIT CONTROLLER AS DESCRIBED BELOW. UPON ACTIVATION, SAFETIES MUST BE HARD WIRED TO THE VFD TO STOP THE UNIT SUPPLY AND EXHAUST FANS IN THE AUTO MODE.

SUPPLY/EXHAUST FAN LOCAL-REMOTE SPEED CONTROL: LOCAL-REMOTE SETTINGS MUST BE PROVIDED AS PART OF THE VARIABLE FREQUENCY DRIVE (VFD) THROUGH THE DRIVE'S KEYPAD. IN THE LOCAL MODE, THE FAN SPEED MUST BE CONTROLLED THROUGH A MANUAL SPEED CONTROL LOCATED AT THE RESPECTIVE DRIVE CONTROL PANEL. IN THE REMOTE MODE, THE FAN SPEED MUST BE CONTROLLED BY THE BAS THROUGH THE UNIT CONTROLLER.

AUTOMATIC MODE START/STOP CONTROL: THE BAS MUST START AND STOP THE AIR HANDLING UNIT. TO START THE UNIT, THE BAS MUST SEND A START SIGNAL TO THE UNIT CONTROLLER, WHICH WILL START THE SUPPLY FAN. IF THE FAN DOES NOT START AFTER A 60 SECOND (ADJUSTABLE) TIME DELAY, A UNIT FAILURE ALARM MUST BE ISSUED AND THE START COMMAND MUST BE CANCELED. TO STOP THE UNIT, THE BAS MUST SEND A STOP COMMAND TO THE UNIT CONTROLLER, WHICH WILL DE-ENERGIZE THE SUPPLY FAN. THE UNIT MUST BE PLACED ON A TIME SCHEDULE:

OPTIMAL START: THE BAS MUST START THE UNIT ACCORDING TO AN OPTIMAL START ROUTINE. COOL DOWN MODE MUST BE USED IF THE SPACE TEMPERATURE, AS SENSED BY ANY ONE OF THE ASSOCIATED VAV BOX ROOM TEMPERATURE SENSORS, IS ABOVE THE OCCUPIED SET POINT. WARM UP MODE MUST BE USED IF THE SPACE TEMPERATURE, AS SENSED BY ANY ONE OF THE ASSOCIATED VAV BOX ROOM TEMPERATURE SENSORS, IS BELOW THE OCCUPIED SET POINT. AT THE SCHEDULED OCCUPANCY TIME, THE UNIT MUST START IF NOT ALREADY STARTED BY THE OPTIMAL START ROUTINE, AND THE UNIT MUST BE SWITCHED TO THE OCCUPIED MODE.

SCHEDULED STOP: THE BAS MUST STOP THE UNIT WHEN THE OCCUPANCY SCHEDULE INDICATES THAT THE OCCUPIED PERIOD HAS ENDED.

UNOCCUPIED START/STOP: IN THE UNOCCUPIED MODE, THE BAS MUST START THE UNIT AND THE UNIT CONTROLLER WILL OPERATE THE SYSTEM IN THE UNOCCUPIED COOLING MODE IF THE AVERAGE SPACE TEMPERATURE, AS SENSED BY THE ASSOCIATED VAV BOX SPACE TEMPERATURE SENSORS, RISES ABOVE 80°F (ADJUSTABLE). THE UNIT MUST OPERATE UNTIL THE AVERAGE SPACE TEMPERATURES HAVE DROPPED BELOW 77°F (ADJUSTABLE). THE BAS MUST START THE UNIT AND THE UNIT CONTROLLER MUST OPERATE THE UNIT IN THE UNOCCUPIED HEATING MODE IF THE AVERAGE SPACE TEMPERATURE DROPS BELOW 55°F (ADJUSTABLE). THE UNIT MUST OPERATE UNTIL THE SPACE TEMPERATURE IS AT LEAST 58°F (ADJUSTABLE).

SUPPLY FAN AUTOMATIC SPEED CONTROL: WHEN THE SUPPLY FAN VFD IS STARTED, THE UNIT CONTROLLER MUST CONTROL THE SPEED OF THE VFD TO MAINTAIN THE SUPPLY DUCT STATIC PRESSURE AS SENSED BY STATIC PRESSURE SENSOR AT THE SUPPLY DUCT STATIC PRESSURE SET POINT. WHEN THE SUPPLY DUCT STATIC PRESSURE IS BELOW THE SET POINT, THE SPEED MUST INCREASE AND WHEN THE SUPPLY DUCT STATIC PRESSURE IS ABOVE THE SET POINT, THE SPEED MUST DECREASE. WHEN THE VFD IS STOPPED, THE UNIT CONTROLLER MUST RETURN THE VFD TO A SPEED OF ZERO.

SUPPLY DUCT STATIC PRESSURE SET POINT: THE SET POINT MUST BE RESET BASED ON THE VAV BOX REQUIRING THE MOST STATIC PRESSURE. THE UNIT CONTROLLER MUST MONITOR THE POSITIONS OF THE DAMPERS IN THE VAV BOXES AND SEND A RESET SIGNAL TO THE UNIT CONTROLLER. THE SUPPLY AIR STATIC PRESSURE SET POINT MUST BE LOWERED UNTIL ONE OF THE VAV BOX DAMPERS HAS MODULATED COMPLETELY OPEN. THIS SET POINT MUST BE INCREASED SHOULD MORE THAN ONE VAV BOX DAMPER COMPLETELY OPEN. THE STATIC PRESSURE SET POINT MUST NOT BE ALLOWED TO RISE ABOVE 1.5 INCHES W.C. OR FALL BELOW 0.25 INCHES W.C.

COOLING CONTROL: WHEN THE SUPPLY AIR TEMPERATURE RISES ABOVE THE SET POINT, INITIALLY SET AT 54°F (ADJUSTABLE), THE UNIT CONTROLLER MUST OPERATE THE DX COOLING COIL TO MAINTAIN THE SUPPLY AIR TEMPERATURE AT THE SUPPLY AIR TEMPERATURE COOLING SET POINT. WHEN THE SUPPLY FAN IS OFF, THE DX COOLING COIL MUST BE DISABLED. COOLING CONTROL MUST BE ACTIVATED IN COORDINATION WITH HEATING CONTROL SO BOTH COOLING AND HEATING CONTROL DO NOT OPERATE SIMULTANEOUSLY.

HEATING CONTROL: WHEN THE SUPPLY AIR TEMPERATURE DROPS BELOW THE SET POINT, INITIALLY SET AT 52°F (ADJUSTABLE), THE UNIT CONTROLLER MUST MODULATE THE HEATING CONTROL VALVE TO MAINTAIN THE SUPPLY AIR TEMPERATURE AT THE SUPPLY AIR TEMPERATURE HEATING SET POINT. WHEN THE SUPPLY FAN IS OFF, THE HEATING CONTROL VALVE MUST BE CLOSED. HEATING CONTROL MUST BE ACTIVATED IN COORDINATION WITH COOLING CONTROL SO BOTH COOLING AND HEATING CONTROL DO NOT OPERATE SIMULTANEOUSLY.

AIR HANDLING UNIT (AHU-1 AND AHU-2, TYPICAL): CONTINUED

ECONOMIZER/OUTDOOR AIR CONTROL: WHEN THE SUPPLY FAN IS STARTED IN THE OCCUPIED MODE, THE UNIT CONTROLLER MUST MODULATE OUTDOOR AIR DAMPER, RETURN AIR DAMPER AND EXHAUST AIR DAMPER TO MAINTAIN THE MINIMUM OUTDOOR AIR FLOW, AS SENSED BY AIR FLOW MEASURING STATION. WHEN THE UNIT IS OFF, OUTDOOR AIR DAMPER AND EXHAUST AIR DAMPER MUST BE CLOSED AND RETURN AIR DAMPER MUST OPEN.

MECHANICAL COOLING: THE UNIT CONTROLLER MUST MONITOR OUTDOOR AIR TEMPERATURE. WHEN THE OUTDOOR AIR TEMPERATURE IS ABOVE THE ECONOMIZER ENABLE SET POINT, INITIALLY SET AT 70°F (ADJUSTABLE), IN THE OCCUPIED MODE, THE UNIT CONTROLLER MUST MODULATE OUTDOOR AIR DAMPER, RETURN AIR DAMPER AND EXHAUST AIR DAMPER TO MAINTAIN THE MINIMUM OUTDOOR AIR FLOW AT SET POINT. THE OUTDOOR AIR DAMPER WILL NOT OPEN BEYOND THE MINIMUM SETTING DURING THE MECHANICAL COOLING MODE.

ECONOMIZER COOLING: WHEN THE OUTDOOR AIR TEMPERATURE IS BELOW THE ECONOMIZER ENABLE SET POINT, INITIALLY SET AT 70°F (ADJUSTABLE), IN THE OCCUPIED MODE, THE UNIT CONTROLLER MUST MODULATE OUTDOOR AIR DAMPER, RETURN AIR DAMPER AND EXHAUST AIR DAMPER BEYOND THE SCHEDULED MINIMUM OUTDOOR AIR FLOW TO MAINTAIN THE SUPPLY AIR TEMPERATURE AT SET POINT. AS THE SUPPLY AIR TEMPERATURE RISES ABOVE THE SET POINT, THE OUTDOOR AIR DAMPER MUST MODULATE FROM MINIMUM OUTDOOR AIR FLOW TO FULLY OPEN POSITION. AS THE SUPPLY AIR TEMPERATURE DROPS BELOW THE SET POINT, THE OUTDOOR AIR DAMPER MUST MODULATE FROM FULLY OPEN POSITION TO MINIMUM OUTDOOR AIR FLOW.

ENERGY RECOVERY WHEEL BYPASS DAMPERS: DURING THE MECHANICAL COOLING MODE, THE ENERGY RECOVERY WHEEL BYPASS DAMPERS FOR BOTH OUTDOOR AND EXHAUST AIRSTREAMS MUST REMAIN CLOSED. DURING THE ECONOMIZER MODE, THE DAMPERS MUST BE FULLY OPEN.

DURING UNOCCUPIED AND WARM UP/COOL DOWN MODES OF UNIT OPERATION, THE OUTDOOR AIR DAMPER AND EXHAUST AIR DAMPER MUST BE CLOSED, AND RETURN AIR DAMPER MUST BE OPEN.

EXHAUST FAN SPEED CONTROL: WHEN THE EXHAUST FAN VFD IS STARTED IN THE OCCUPIED MODE, THE UNIT CONTROLLER MUST CONTROL THE SPEED OF THE VFD TO MAINTAIN THE EXHAUST FAN SPEED EQUAL TO THE SUPPLY FAN SPEED PLUS/MINUS AN ADJUSTABLE OFFSET TO MAINTAIN THE POSITIVE BUILDING PRESSURE. THIS FAN SPEED OFFSET BETWEEN SUPPLY AND EXHAUST FAN MUST BE DETERMINED IN CONSULTING WITH AIR BALANCING CONTRACTOR DURING THE COMMISSIONING. DURING THE UNOCCUPIED AND WARM UP/COOL DOWN MODES OF UNIT OPERATION, THE EXHAUST FAN MUST REMAIN OFF.

DEHUMIDIFICATION CONTROL: WHEN THE RETURN AIR HUMIDITY RISES ABOVE THE RETURN AIR DEHUMIDIFICATION SET POINT, THE UNIT CONTROLLER MUST OVERRIDE THE TEMPERATURE CONTROL. THE UNIT CONTROLLER MUST RESET THE DISCHARGE AIR TEMPERATURE SETPOINT AND OPERATE THE DX COOLING COIL AS REQUIRED TO MAINTAIN THE RETURN DUCT RELATIVE HUMIDITY AT OR BELOW THE RETURN AIR DEHUMIDIFICATION SET POINT, INITIALLY SET AT 60% RH (ADJUSTABLE). DURING THE DEHUMIDIFICATION MODE, THE UNIT CONTROLLER MUST MODULATE THE HOT GAS REHEAT TO MAINTAIN THE SUPPLY AIR TEMPERATURE AT SET POINT, TO AVOID OVER COOLING. WHEN THE RETURN AIR HUMIDITY FALLS BELOW THE DEHUMIDIFICATION SET POINT, CONTROL OF COOLING MUST RETURN TO NORMAL OPERATION.

HUMIDIFIER CONTROL: THE HUMIDIFIER OUTPUT MUST BE ADJUSTABLE FROM 0 TO 100 PERCENT. THE UNIT CONTROLLER MUST ENABLE AND MODULATE THE HUMIDIFIER OUTPUT AS REQUIRED TO MAINTAIN THE SPACE HUMIDITY, AS SENSED BY THE RETURN AIR HUMIDITY SENSOR AT OR ABOVE THE SET POINT, INITIALLY SET AT 40 % RH (ADJUSTABLE). WHEN THE FAN IS OFF, THE HUMIDIFIER MUST BE DISABLED.

DUCT HIGH STATIC PRESSURE ALARM: WHEN A HIGH DUCT PRESSURE IS SENSED BY THE DUCT STATIC PRESSURE SWITCH, THE UNIT SUPPLY AND EXHAUST FANS MUST BE STOPPED AND AN ALARM SIGNAL MUST BE SENT TO THE UNIT CONTROLLER AND THE BAS. THE DUCT PRESSURE SWITCH MUST BE SET AT 1.5" (MANUALLY ADJUSTABLE) AND MUST BE MANUALLY RESET AT THE SWITCH.

FIRE ALARM SHUTDOWN: WHEN PARTICLES OF COMBUSTION ARE SENSED BY THE SUPPLY AIR DUCT SMOKE DETECTOR OR THE RETURN AIR DUCT SMOKE DETECTOR, A DUCT SMOKE ALARM SIGNAL MUST BE SENT TO THE FIRE ALARM SYSTEM. UPON RECEIVING AN ALARM SIGNAL FROM DUCT SMOKE DETECTOR, THE FIRE ALARM SYSTEM MUST ACTIVATE A CONTROL MODULE (CM) TO STOP THE FAN. WHEN THE FIRE ALARM CONDITION HAS BEEN CLEARED, AND THE FIRE ALARM SYSTEM HAS BEEN RESET, THE UNIT MUST BE RETURNED TO NORMAL OPERATION.

DIRTY FILTER ALARM: DIFFERENTIAL PRESSURE SWITCH MUST MONITOR THE PRESSURE DROP AT THE FILTERS. WHEN THE PRESSURE EXCEEDS AN ADJUSTABLE LIMIT, AN ALARM SIGNAL WILL BE SENT TO THE UNIT CONTROLLER AND THE BAS.

FAN STATUS: THE FAN VFD STATUS CONTACT MUST BE USED TO MONITOR THE STATUS OF THE UNIT SUPPLY AND RELIEF FANS. IF THE STATUS INDICATED DOES NOT MATCH THE COMMANDED OUTPUT FOR THE FAN AN ALARM MUST BE GENERATED AT THE UNIT CONTROLLER AND THE BAS.

ADDITIONAL MONITORING: IN ADDITION TO THE POINTS MENTIONED IN THESE SEQUENCES, PROVIDE THE ADDITIONAL MONITORING POINTS LISTED IN THE POINT SCHEDULES.

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	R. JEON
DRAWN BY:	R. JEON
CHECKED BY:	N. SLEEM
SUBMITTED BY:	
SIZE: ANSI D	FILE NAME:
ISSUE DATE:	14 DECEMBER 2022
SOLICITATION NO.:	W912BF22R0017
CONTRACT NO.:	
FILE NUMBER:	

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - SEQUENCE OF OPERATION

SHEET ID

M-807

VAV BOX WITH HOT WATER REHEAT (TYPICAL):

VAV BOX DAMPER CONTROL: THE VAV BOX CONTROLLER MUST MODULATE THE VAV BOX DAMPER TO MAINTAIN THE AMOUNT OF AIR SUPPLIED TO THE SPACE AT THE SPACE AIRFLOW SET POINT. THE SPACE AIRFLOW SET POINT MUST BE RESET BY THE SPACE TEMPERATURE BETWEEN THE BOX MINIMUM AIRFLOW AND BOX MAXIMUM AIRFLOW. AS THE SPACE TEMPERATURE INCREASES ABOVE THE SPACE TEMPERATURE SET POINT, THE VAV BOX MUST INCREASE AIRFLOW SET POINT. AS THE SPACE TEMPERATURE DECREASES BELOW THE SPACE TEMPERATURE SET POINT, THE VAV BOX MUST DECREASE AIRFLOW SET POINT. SEE VAV TERMINAL SCHEDULE ON THE MECHANICAL SHEETS FOR VAV BOX MINIMUM AND MAXIMUM AIR FLOW SET POINTS.

VAV BOX HOT WATER RE-HEAT COIL CONTROL: UPON A FURTHER DROP IN SPACE TEMPERATURE, AS SENSED BY THE LOCAL SPACE TEMPERATURE SENSOR, AFTER THE VAV BOX IS DELIVERING THE MINIMUM AIR FLOW, THE VAV BOX ASC MUST MODULATE OPEN THE VAV BOX HOT WATER VALVE. UPON AN INCREASE IN TEMPERATURE, THE REVERSE MUST OCCUR. WHEN THE AIR HANDLING UNIT IS OFF, THE HOT WATER VALVE MUST CLOSE.

VAV BOX SET POINT CONTROL: THE BAS MUST AUTOMATICALLY SWITCH THE VAV BOX TEMPERATURE SET POINT ACCORDING TO THE FOLLOWING (ALL SET POINT MUST BE ADJUSTABLE):

OCCUPIED HEATING SET POINT - 70°F.
OCCUPIED COOLING SET POINT - 73°F.
UNOCCUPIED HEATING SET POINT - 55°F.
UNOCCUPIED COOLING SET POINT - 80°F.

UNOCCUPIED MODE OVERRIDE: DURING THE UNOCCUPIED MODE, IT MUST BE POSSIBLE TO RETURN THE VAV BOX AND THE ASSOCIATED AIR HANDLING UNIT TO THE OCCUPIED MODE BY ACTIVATING A SWITCH ON THE SPACE TEMPERATURE SENSOR. ONCE THE AFTER-HOUR OVERRIDE SWITCH IS ACTIVATED, THE SYSTEM MUST RUN FOR A PREDETERMINED TIME PERIOD (ADJUSTABLE) AND AUTOMATICALLY RETURN TO THE UNOCCUPIED MODE.

ADDITIONAL MONITORING: IN ADDITION TO THE POINTS MENTIONED IN THESE SEQUENCES PROVIDE THE ADDITIONAL MONITORING POINTS LISTED IN THE POINT SCHEDULES.

COMPUTER ROOM AIR-CONDITIONING UNIT (CRACU-####, TYPICAL):

THE AIR HANDLING UNIT MUST BE CONTROLLED BY A PACKAGED CONTROLS WITH BACNET INTERFACE/GATEWAY OR A BACNET-COMPATIBLE UNIT CONTROLLER PROVIDED BY THE UNIT MANUFACTURER. THE UNIT MUST BE DIRECTLY CONNECTED TO THE BAS NETWORK USING BACNET MS/TP AND COMMUNICATE WITH THE BAS. THE CONTROLS CONTRACTOR MUST COORDINATE WITH UNIT PROVIDER AND PROVIDE NECESSARY CONTROL POINT MAPPING AND SOFTWARE MODIFICATION TO THE BAS FOR REMOTE CONTROL AND MONITORING OF THE UNIT. REFER TO POINT SCHEDULE FOR A LIST OF CONTROL AND MONITORING POINTS THAT MUST BE INCORPORATED INTO THE BAS. PROVIDE NECESSARY GRAPHICAL DISPLAYS SHOWING THE OPERATING STATUS, PARAMETERS AND SET POINTS.

SUPPLY FAN HAND-OFF-AUTO OPERATION: HAND-OFF-AUTO SETTINGS MUST BE PROVIDED AS PART OF THE UNIT CONTROLLER. IN THE OFF MODE, THE FAN MUST BE STOPPED. IN THE HAND MODE, THE FAN MUST RUN CONTINUOUSLY. IN THE AUTO MODE, THE BAS WILL START/STOP THE UNIT THROUGH THE UNIT CONTROLLER AS DESCRIBED BELOW. UPON ACTIVATION, SAFETIES MUST BE HARD WIRED TO THE VFD TO STOP THE UNIT SUPPLY FAN IN THE HAND AND AUTO MODES.

SUPPLY FAN LOCAL-REMOTE SPEED CONTROL: LOCAL-REMOTE SETTINGS MUST BE PROVIDED AS PART OF THE UNIT CONTROLLER. IN THE LOCAL MODE, THE FAN SPEED MUST BE CONTROLLED THROUGH A MANUAL SPEED CONTROL FUNCTION OF THE UNIT CONTROLLER. IN THE REMOTE MODE, THE FAN SPEED MUST BE CONTROLLED BY THE BAS THROUGH THE UNIT CONTROLLER.

AUTOMATIC MODE START/STOP CONTROL: THE BAS MUST START AND STOP THE UNIT. TO START THE UNIT, THE BAS MUST SEND A START SIGNAL TO THE UNIT CONTROLLER, WHICH WILL START THE SUPPLY FAN. IF THE FAN DOES NOT START AFTER A 60 SECOND (ADJUSTABLE) TIME DELAY, A UNIT FAILURE ALARM MUST BE ISSUED AND THE START COMMAND MUST BE CANCELED. TO STOP THE UNIT, THE BAS MUST SEND A STOP COMMAND TO THE UNIT CONTROLLER, WHICH WILL DE-ENERGIZE THE SUPPLY FAN. THE UNIT MUST RUN CONTINUOUSLY, 24 HOURS A DAY, YEAR AROUND.

COOLING CONTROL: WHEN THE SPACE TEMPERATURE RISES ABOVE THE SET POINT, INITIALLY SET AT 75°F (ADJUSTABLE), THE UNIT CONTROLLER MUST OPERATE THE DX COOLING COIL AND/OR MODULATE THE FAN SPEED TO MAINTAIN THE SPACE TEMPERATURE AT THE SPACE TEMPERATURE COOLING SET POINT. WHEN THE SUPPLY FAN IS OFF, THE DX COOLING COIL MUST BE DISABLED.

DEHUMIDIFICATION CONTROL: WHEN THE SPACE HUMIDITY RISES ABOVE THE DEHUMIDIFICATION SET POINT, THE UNIT CONTROLLER MUST OVERRIDE THE TEMPERATURE CONTROL. THE UNIT CONTROLLER MUST OPERATE THE DX COOLING COIL AS REQUIRED TO MAINTAIN THE SPACE HUMIDITY AT OR BELOW THE DEHUMIDIFICATION SET POINT, INITIALLY SET AT 55% RH (ADJUSTABLE). DURING THE DEHUMIDIFICATION MODE, THE UNIT CONTROLLER MUST CYCLE ON AND OFF THE ELECTRIC HEATER TO MAINTAIN THE SPACE TEMPERATURE AT SET POINT, TO AVOID OVER COOLING. WHEN THE SPACE HUMIDITY FALLS BELOW THE DEHUMIDIFICATION SET POINT, CONTROL OF COOLING MUST RETURN TO NORMAL OPERATION.

HUMIDIFIER CONTROL: THE HUMIDIFIER OUTPUT MUST BE ADJUSTABLE FROM 0 TO 100 PERCENT. THE UNIT CONTROLLER MUST ENABLE AND MODULATE THE HUMIDIFIER OUTPUT AS REQUIRED TO MAINTAIN THE SPACE HUMIDITY AT OR ABOVE THE SET POINT, INITIALLY SET AT 45 % RH (ADJUSTABLE). WHEN THE FAN IS OFF, THE HUMIDIFIER MUST BE DISABLED.

DIRTY FILTER ALARM: DIFFERENTIAL PRESSURE SWITCH MUST MONITOR THE PRESSURE DROP AT THE FILTERS. WHEN THE PRESSURE EXCEEDS AN ADJUSTABLE LIMIT, AN ALARM SIGNAL WILL BE SENT TO THE UNIT CONTROLLER AND THE BAS.

FAN STATUS: THE FAN VFD STATUS CONTACT MUST BE USED TO MONITOR THE STATUS OF THE UNIT SUPPLY AND RELIEF FANS. IF THE STATUS INDICATED DOES NOT MATCH THE COMMANDED OUTPUT FOR THE FAN AN ALARM MUST BE GENERATED AT THE UNIT CONTROLLER AND THE BAS.

ADDITIONAL MONITORING: IN ADDITION TO THE POINTS MENTIONED IN THESE SEQUENCES, PROVIDE THE ADDITIONAL MONITORING POINTS LISTED IN THE POINT SCHEDULES.

EXHAUST FAN (EF-1):

EXHAUST FAN HAND-OFF-AUTO OPERATION: PROVIDE A HAND-OFF-AUTO OPERATION SWITCH AT THE FAN DISCONNECT. IN THE OFF MODE, THE ISOLATION DAMPER MUST BE CLOSED AND THE EXHAUST FAN MUST BE STOPPED. IN THE HAND MODE, THE ISOLATION DAMPER MUST BE OPENED AND THE DAMPER POSITION END SWITCH MUST START THE EXHAUST FAN. IN THE AUTO MODE, THE EXHAUST FAN AND ISOLATION DAMPER MUST BE CONTROLLED BY THE BAS AS DESCRIBED BELOW.

AUTOMATIC MODE START/STOP CONTROL: THE BAS MUST START AND STOP THE FAN BASED ON A TIME SCHEDULE. TO START THE FAN, THE BAS MUST SEND A START SIGNAL TO THE FAN DISCONNECT. THIS MUST ENABLE THE HARD WIRE INTERLOCK THAT OPENS THE ISOLATION DAMPER. IF THE FAN DOES NOT START AFTER A 60 SECOND (ADJUSTABLE) TIME DELAY, A FAN FAILURE ALARM MUST BE ISSUED AND THE START COMMAND MUST BE CANCELED. TO STOP A FAN, THE BAS MUST SEND A STOP COMMAND TO THE FAN DISCONNECT WHICH WILL DE-ENERGIZES THE FAN AND CLOSE THE ISOLATION DAMPER.

FAN STATUS: A CURRENT RELAY MUST BE USED TO MONITOR THE STATUS OF THE FAN. IF THE STATUS INDICATED DOES NOT MATCH THE COMMANDED OUTPUT FOR THE FAN AN ALARM MUST BE GENERATED AT THE BAS AND FAN START COMMAND MUST BE CANCELED.

EXHAUST FAN (EF-2):

EXHAUST FAN HAND-OFF-AUTO OPERATION: A HAND-OFF-AUTO SWITCH MUST BE PROVIDED AS PART OF THE MOTOR STARTER FOR THE EXHAUST FAN. IN THE OFF MODE, THE ISOLATION DAMPER MUST BE CLOSED AND THE EXHAUST FAN MUST BE STOPPED. IN THE HAND MODE, THE ISOLATION DAMPER MUST BE OPENED AND THE EXHAUST FAN MUST START. IN THE AUTO MODE, THE EXHAUST FAN AND ISOLATION DAMPER MUST BE CONTROLLED BY THE BAS AS DESCRIBED BELOW.

AUTOMATIC MODE START/STOP CONTROL: THE BAS MUST START AND STOP THE FAN BASED ON THE SPACE TEMPERATURE. WHEN THE SPACE TEMPERATURE RISES ABOVE THE SET POINT, INITIALLY SET AT 85°F (ADJUSTABLE), THE BAS MUST START THE FAN. TO START THE FAN, THE BAS MUST SEND A START SIGNAL TO THE FAN MOTOR STARTER. THIS MUST ENABLE THE HARD WIRE INTERLOCK THAT OPENS THE OUTDOOR AIR INTAKE AND ISOLATION DAMPERS. TO STOP A FAN, THE BAS MUST SEND A STOP COMMAND TO THE FAN MOTOR STARTER WHICH WILL DE-ENERGIZES THE FAN AND CLOSE THE OUTDOOR AIR INTAKE AND ISOLATION DAMPERS.

FAN STATUS: A CURRENT SWITCH MUST BE USED TO MONITOR THE STATUS OF THE FAN. IF THE STATUS INDICATED DOES NOT MATCH THE COMMANDED OUTPUT FOR THE FAN AN ALARM MUST BE GENERATED AND SENT TO THE BAS AND THE FAN START COMMAND MUST BE CANCELED.

SPLIT SYSTEM AC UNIT (TYPICAL):

EACH SPLIT SYSTEM AC UNIT MUST BE CONTROLLED BY WALL-MOUNTED THERMOSTAT PROVIDED BY THE UNIT MANUFACTURER, NOT THROUGH THE BAS. THE BAS MUST MONITOR THE SPACE TEMPERATURE IN ROOM 1090. WHEN THE SPACE TEMPERATURE RISES ABOVE THE SET POINT, INITIALLY SET AT 80°F, THE BAS MUST GENERATE THE HIGH TEMPERATURE ALARM TO THE BAS.

HOT WATER CABINET HEATERS (TYPICAL):

HOT WATER CABINET HEATER: WHEN THE TEMPERATURE DROPS BELOW THE SET POINT, INITIALLY SET AT 55°F (ADJUSTABLE), THE TWO POSITION HOT WATER VALVE SHALL OPEN AND THE FAN SHALL OPERATE. WHEN THE TEMPERATURE RISES ABOVE THE SET POINT, THE HOT WATER VALVE SHALL CLOSE AND THE FAN SHALL STOP. THE HOT WATER VALVE SHALL FAIL OPEN. THE HOT WATER CABINET HEATER SHALL BE CONTROLLED BY A WALL MOUNTED THERMOSTAT, NOT THROUGH THE BAS.

EMERGENCY AIR DISTRIBUTION SHUT DOWN SWITCH (TYPICAL):

EMERGENCY AIR DISTRIBUTION SHUT DOWN SWITCH: PROVIDE EMERGENCY AIR DISTRIBUTION SHUT DOWN SWITCHES WHERE INDICATED. WHEN THE SWITCH IS ACTIVATED, THE BAS MUST SEND A SIGNAL TO SHUT DOWN THE AIR HANDLING UNITS (AHU-1 AND AHU-2) AND EXHAUST FANS (EF-1 AMD EF-2). WHEN THE EMERGENCY CONDITION HAS BEEN CLEARED AND THE MANUAL SWITCH HAS BEEN RESET, THE MECHANICAL EQUIPMENT MUST RETURN TO NORMAL OPERATION.

HEATING HOT WATER SYSTEM:

HEATING HOT WATER SYSTEM CONSISTS OF TWO BOILERS (B-1 AND B-2) AND TWO HEATING HOT WATER PUMPS (HHWP-1 AND HHWP-2). ONE BOILER MUST BE DESIGNATED AS "LEAD" BOILER AND THE OTHER BOILER MUST BE DESIGNATED AS "LAG" BOILER, AND ONE PUMP MUST BE DESIGNATED AS "LEAD" HOT WATER PUMP AND THE OTHER PUMP MUST BE DESIGNATED AS "LAG" HOT WATER PUMP. PROVIDE AN AUTOMATIC PROGRAM, THAT IS GOVERNMENT RE-PROGRAMMABLE, TO ALTERNATE THE "LEAD" AND "LAG" BOILERS AND PUMPS WEEKLY TO MAINTAIN EVEN USE. IT MUST BE POSSIBLE FOR THE GOVERNMENT'S MAINTENANCE PERSONNEL TO SELECT THE "LEAD" AND "LAG" UNITS THROUGH THE BAS. WHEN SWITCHING THE "LEAD" AND "LAG" UNITS WHILE THE "LEAD" UNIT IS IN OPERATION, THE "LAG" UNIT MUST BE ENABLED BEFORE THE "LEAD" UNIT IS DISABLED.

BOILER OPERATION (B-1 AND B-2):

LEAD BOILER LOADING:

WHENEVER THERE IS A CALL FOR HEATING IN THE BUILDING, THE HOT WATER SYSTEM MUST BE ENABLED BY THE BAS. WHEN THE "LEAD" BOILER IS ENABLED BY THE BAS, THE MANUFACTURER'S PACKAGED CONTROLS ASSOCIATED WITH THE BOILER MUST OPEN THE ISOLATION VALVE. AFTER A DELAY OF TWO MINUTES (ADJUSTABLE), THE "LEAD" HOT WATER PUMP MUST START. ONCE THE PUMP IS STARTED, THE BAS MUST INCREASE THE SPEED OF PUMP VFD TO MEET THE REQUIRED HOT WATER FLOW FOR "LAG" BOILER AS INDICATED IN THE MECHANICAL EQUIPMENT SCHEDULE. THIS PUMP SPEED MUST BE DETERMINED IN CONSULTING WITH THE BALANCING CONTRACTOR DURING THE TAB PROCESS.

WHEN THE "LEAD" HOT WATER PUMP HAS BEEN PROVEN TO BE RUNNING THROUGH THE OUTPUT FROM THE PUMP VFD AND IS RUNNING AT THE REQUIRED SPEED, THE "LEAD" BOILER'S SELF CONTAINED PACKAGED CONTROLS MUST OPERATE THE BOILER AS REQUIRED TO MAINTAIN THE BOILER WATER SUPPLY TEMPERATURE AT SET POINT.

LAG BOILER LOADING:

THE "LAG" BOILER MUST BE ENABLED IF THE HOT WATER SUPPLY TEMPERATURE DROPS BELOW THE HOT WATER SUPPLY TEMPERATURE SET POINT MINUS 3°F (ADJUSTABLE) FOR MORE THAN 10 MINUTES (ADJUSTABLE), THE "LAG" BOILER MUST BE STARTED.

WHEN THE "LAG" BOILER IS ENABLED BY THE BAS, THE MANUFACTURER'S PACKAGED CONTROLS ASSOCIATED WITH THE BOILER WILL OPEN THE ISOLATION VALVE. AFTER A DELAY OF TWO MINUTES (ADJUSTABLE), THE "LAG" HOT WATER PUMP MUST START AND INCREASE THE SPEED OF PUMP VFD TO MEET THE REQUIRED HOT WATER FLOW FOR "LAG" BOILER AS INDICATED IN THE MECHANICAL EQUIPMENT SCHEDULE. THIS PUMP SPEED MUST BE DETERMINED IN CONSULTING WITH THE BALANCING CONTRACTOR DURING THE TAB PROCESS.

WHEN THE "LAG" HOT WATER PUMP HAS BEEN PROVEN TO BE RUNNING AT THE REQUIRED SPEED, THE "LAG" BOILER'S SELF CONTAINED PACKAGED CONTROLS MUST OPERATE THE BOILER AS REQUIRED TO MAINTAIN THE BOILER WATER SUPPLY TEMPERATURE AT SET POINT.

LAG BOILER UNLOADING:

IF THE HOT WATER SUPPLY TEMPERATURE RISES ABOVE THE HOT WATER SUPPLY TEMPERATURE SET POINT PLUS 3°F (ADJUSTABLE) FOR MORE THAN 10 MINUTES (ADJUSTABLE), THE "LAG" BOILER MUST BE DISABLED. AFTER A DELAY OF TWO MINUTES (ADJUSTABLE), THE BAS MUST STOP THE "LAG" HOT WATER PUMP, DISABLE THE "LAG" BOILER AND THE MANUFACTURER'S PACKAGED CONTROLS WILL CLOSE THE ISOLATION VALVE.

LEAD BOILER UNLOADING:

IF THERE IS NO DEMAND FOR HEATING WITHIN THE BUILDING OR THE "LEAD" BOILER IS MANUALLY DISABLED BY THE OPERATOR, THE "LEAD" BOILER MUST BE DISABLED.

THE BAS MUST STOP THE "LEAD" HOT WATER PUMP. AFTER A DELAY OF TWO MINUTES (ADJUSTABLE), THE BAS MUST DISABLE THE "LEAD" BOILER AND THE MANUFACTURER'S PACKAGED CONTROLS WILL CLOSE THE ISOLATION VALVE.

BOILER CYCLE: PROVIDE A TIME DELAY WHICH PREVENTS THE BAS FROM ATTEMPTING TO ENABLE OR DISABLE ANOTHER BOILER FOR AN ADJUSTABLE TIME PERIOD AFTER A BOILER IS ENABLED OR DISABLED. THE TIME DELAY MUST NOT PREVENT THE UNIT CONTROLLER FROM IMMEDIATELY STARTING EQUIPMENT IN RESPONSE TO AN EQUIPMENT FAILURE. THE TIME DELAY MUST BE INITIALLY SET AT 15 MINUTES (ADJUSTABLE), TO PREVENT RAPID CYCLING OF THE UNITS. ADJUST THE TIMING TO PROVIDE A STABLE YET RESPONSIVE FULLY OPERATIONAL SYSTEM. IN ADDITION, ADJUST THE TIMING OF EQUIPMENT STARTUP WITH THE OPENING AND CLOSING OF FLOW CONTROL VALVES AS REQUIRED TO ENSURE THAT THE STAGING OF EQUIPMENT DOES NOT CAUSE OPERATING EQUIPMENT TO FAIL.

BOILER AND HOT WATER PUMP ROTATION: WHEN SWITCHING THE "LEAD" AND "LAG" UNITS, THE UNIT IN THE NEXT SEQUENCE MUST BE ENABLED OR STARTED BEFORE THE PREVIOUSLY ENABLED OR STARTED UNIT IS DISABLED OR STOPPED. DURING THE ROTATION, THE "LEAD" UNIT MUST BECOME THE "LAG" UNIT AND THE "LAG" UNIT MUST BECOME THE "LEAD" UNIT.

BOILER FAILURE: IF AN ENABLED BOILER SHOULD FAIL, AN ALARM MUST BE GENERATED. ASSUMING THE "LAG" BOILER IS IDLE AND AVAILABLE FOR OPERATION, THE BAS MUST AUTOMATICALLY ENABLE THAT BOILER TO REPLACE THE FAILED BOILER. AFTER THE NEWLY STARTED BOILER IS IN OPERATION, THE FAILED BOILER MUST BE DISABLED.

A BOILER THAT FAILS DURING OPERATION MUST AUTOMATICALLY BE ASSIGNED A DESIGNATION OF "FAILED" BY THE BAS. A BOILER MUST BE CONSIDERED "FAILED" IF: THE BAS RECEIVES A FAULT ALARM/TROUBLE SIGNAL FROM THE MANUFACTURER'S PACKAGED CONTROLS ASSOCIATED WITH THE BOILER OR THE POSITION OF ISOLATION VALVE IS NOT PROVEN.

THE BAS MUST DISABLE THE "FAILED" BOILER. ANY BOILER THAT IS TAKEN OUT OF OPERATION FOR MAINTENANCE MUST BE ASSIGNED A "FAILED" DESIGNATION BY THE OPERATOR. THE BAS MUST NOT ATTEMPT TO START A BOILER WITH AN ASSIGNED DESIGNATION OF "FAILED."

BOILER WATER SUPPLY TEMPERATURE CONTROL: EACH BOILER MUST BE CONTROLLED BY ITS PACKAGED CONTROLS TO MAINTAIN THE BOILER WATER SUPPLY TEMPERATURE AT 140°F. THE SET POINT MUST BE ADJUSTABLE THROUGH THE BAS.

HEATING HOT WATER PUMP CONTROL (HHWP-1 & HHWP-2):

HOT WATER PUMP HAND-OFF-AUTO OPERATION: HAND-OFF-AUTO SETTINGS MUST BE PROVIDED AS PART OF THE VARIABLE FREQUENCY DRIVE THROUGH THE DRIVE'S KEYPAD. IN THE OFF MODE, THE PUMP MUST BE STOPPED. IN THE HAND MODE, THE PUMP MUST RUN CONTINUOUSLY. IN THE AUTO MODE, THE PUMP MUST BE STARTED AND STOPPED BY THE BAS.

HOT WATER PUMP LOCAL-REMOTE SPEED CONTROL: LOCAL-REMOTE SETTINGS MUST BE PROVIDED AS PART OF EACH VARIABLE FREQUENCY DRIVE THROUGH THE DRIVE'S KEYPAD. IN THE LOCAL MODE, THE PUMP'S SPEED MUST BE CONTROLLED THROUGH A MANUAL SPEED CONTROL LOCATED AT THE RESPECTIVE DRIVE CONTROL PANEL. IN THE REMOTE MODE, THE PUMP'S SPEED MUST BE CONTROLLED BY THE BAS.

HOT WATER PUMP START/STOP CONTROL: HOT WATER PUMPS (HWP-1 AND HWP-2) MUST BE STARTED AND STOPPED ACCORDING TO THE "BOILER OPERATION" SEQUENCES ABOVE WHEN THE HOT WATER SYSTEM IS ENABLED OR DISABLED. ACTIVATE A CRITICAL ALARM AND DISABLE THE HOT WATER SYSTEM IF THE BAS DETERMINES THAT THE "LAG" HOT WATER PUMP IS REQUIRED TO OPERATE AND NO PUMP IS AVAILABLE FOR OPERATION.

HOT WATER PUMP SPEED CONTROL: THE BAS MUST MONITOR THE DIFFERENTIAL PRESSURE BETWEEN THE HOT WATER SUPPLY AND RETURN PIPING WITHIN THE BUILDING. THE BAS MUST CONTROL THE SPEED OF THE "LEAD" HOT WATER PUMP VFD TO MAINTAIN THE DIFFERENTIAL PRESSURE AT SET POINT. IF THE DIFFERENTIAL PRESSURE DROPS BELOW THE DIFFERENTIAL PRESSURE SET POINT, WHICH MUST BE INITIALLY SET AT 15 PSI (ADJUSTABLE), THE VFD SPEED MUST BE INCREASED. THE SPEED MUST BE DECREASED AS THE DIFFERENTIAL PRESSURE INCREASES. THE BAS MUST LIMIT THE MINIMUM SPEED OF PUMP VFD AND PUMP SPEED MUST NOT RUN BELOW THE MINIMUM SPEED SETTING DURING THE NORMAL OPERATION. THIS MINIMUM SPEED MUST BE DETERMINED IN CONSULTING WITH CHILLER SUPPLIER AND BALANCING CONTRACTOR DURING THE COMMISSIONING. WHEN BOTH PUMPS ARE IN OPERATION, THE BAS MUST CONTROL TO THE SAME SPEED.

HOT WATER PUMP FAILURE: IF THE "LEAD" HOT WATER PUMP FAILS, AN ALARM MUST BE GENERATED AND THE "LAG" HOT WATER PUMP MUST BE AUTOMATICALLY STARTED BY THE BAS AND THEN THE FAILED PUMP MUST BE STOPPED. PUMP THAT FAILS DURING OPERATION MUST AUTOMATICALLY BE ASSIGNED A "FAILED" PUMP AND THE BAS MUST NOT ATTEMPT TO START "FAILED" PUMP. ACTIVATE A CRITICAL ALARM AND DISABLE THE HOT WATER SYSTEM IF THE BAS DETERMINES THAT THE "LAG" HOT WATER PUMP IS REQUIRED TO OPERATE AND NO PUMP IS AVAILABLE FOR OPERATION.

HOT WATER BYPASS VALVE CONTROL: IF THE HOT WATER FLOW IN MAIN HOT WATER SUPPLY DROPS BELOW THE SET POINT, WHICH MUST BE INITIALLY SET AT 40 GPM (ADJUSTABLE), WHILE THE HOT WATER PUMP IS RUNNING AT THE MINIMUM SPEED, THE BAS MUST MODULATE THE HOT WATER BYPASS VALVE TOWARDS OPEN POSITION TO MAINTAIN THE FLOW AT OR ABOVE THE SET POINT. IF THE HOT WATER FLOW RISES ABOVE THE SET POINT, THE BAS MUST MODULATE THE HOT WATER BYPASS VALVE TOWARDS CLOSED POSITION TO MAINTAIN THE FLOW AT THE SET POINT.

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: R. JEON
DRAWN BY: R. JEON
CHECKED BY: N. SLEEM
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - SEQUENCE OF OPERATION

SHEET ID
M-808

CONTROL VALVE SCHEDULE

EQUIPMENT SERVED	FUNCTION	TYPE	PIPE SIZE (IN)	VALVE SIZE (IN)	FLOW RATE (GPM)	PD (FT.HD)	MIN. VALVE CV
AHU-1	HW HEATING COIL	2-WAY / MODULATING	2-1/2	2	23.0	5	10.3
AHU-2	HW HEATING COIL	2-WAY / MODULATING	2-1/2	2	23.0	5	10.3
B-1	BOILER ISOLATION	2-WAY / 2-POSITION	4	4	115.0	5	51.4
B-2	BOILER ISOLATION	2-WAY / 2-POSITION	4	4	115.0	5	51.4
VAV-100	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	1.6	5	0.7
VAV-104	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.6	5	0.3
VAV-104A	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.5	5	0.2
VAV-104B	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.5	5	0.2
VAV-106	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	1.7	5	0.8
VAV-106A	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.5	5	0.2
VAV-108	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2			
VAV-109	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2			
VAV-110A	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.9	5	0.4
VAV-110B	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.9	5	0.4
VAV-110C	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.5	5	0.2
VAV-110D	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.5	5	0.2
VAV-110E	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.9	5	0.4
VAV-110F	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	1.0	5	0.4
VAV-116	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	1.4	5	0.6
VAV-119	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.6	5	0.3
VAV-120	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.8	5	0.4
VAV-123A	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.5	5	0.2
VAV-123B	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	2.1	5	0.9
VAV-123C	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	2.1	5	0.9
VAV-124	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	1.6	5	0.7
VAV-124A	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.5	5	0.2
VAV-125A	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	2.0	5	0.9
VAV-125B	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	2.0	5	0.9
VAV-126	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.5	5	0.2
VAV-127	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.5	5	0.2
VAV-130	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.9	5	0.4
VAV-136	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.6	5	0.3
VAV-137	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.7	5	0.3
VAV-138	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.5	5	0.2

EQUIPMENT SERVED	FUNCTION	TYPE	PIPE SIZE (IN)	VALVE SIZE (IN)	FLOW RATE (GPM)	PD (FT.HD)	MIN. VALVE CV
VAV-200A	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.8	5	0.4
VAV-200B	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.5	5	0.2
VAV-203	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	1.3	5	0.6
VAV-208	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	1.5	5	0.7
VAV-209	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.7	5	0.3
VAV-210A	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.7	5	0.3
VAV-210B	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	1.5	5	0.7
VAV-210C	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.5	5	0.2
VAV-212	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	1.6	5	0.7
VAV-216A	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	1.6	5	0.7
VAV-216B	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	1.6	5	0.7
VAV-220	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	1.4	5	0.6
VAV-222	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.5	5	0.2
VAV-223	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	1.8	5	0.8
VAV-224	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	1.8	5	0.8
VAV-225	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	1.4	5	0.6
VAV-230	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.7	5	0.3
VAV-231	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.7	5	0.3
VAV-233A	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	1.6	5	0.7
VAV-233B	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	1.6	5	0.7
VAV-234A	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	2.2	5	1.0
VAV-234B	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	2.2	5	1.0
VAV-243	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.5	5	0.2
VAV-252	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.5	5	0.2
VAV-255	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	1.0	5	0.4
VAV-256	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.6	5	0.3
VAV-264	VAV REHEAT COIL	2-WAY / MODULATING	3/4	1/2	0.5	5	0.2
C-111	CUH HW COIL	2-WAY / 2-POSITION	3/4	1/2	1.3	5	0.6
C-129	CUH HW COIL	2-WAY / 2-POSITION	3/4	1/2	1.3	5	0.6
C-139A	CUH HW COIL	2-WAY / 2-POSITION	3/4	1/2	1.9	5	0.8
C-139B	CUH HW COIL	2-WAY / 2-POSITION	3/4	1/2	1.9	5	0.8
C-S1	CUH HW COIL	2-WAY / 2-POSITION	3/4	1/2	1.1	5	0.5
C-S2	CUH HW COIL	2-WAY / 2-POSITION	3/4	1/2	1.2	5	0.5

THERMOSTAT SCHEDULE / OCCUPANCY SCHEDULE

EQUIPMENT	SPACE SERVED	STAT LOCATION	ROOM-T	ROOM-T-SP ADJUST	UNOCC. OVERRIDE PUSHBUTTON	UNOCC. OVERRIDE TIME	LOCAL / PACKAGED T-STAT	OCC. SENSOR	OCCUPIED	UNOCCUPIED	WARM-UP/COOL-DOWN TIME (BAS & LOCAL DEFAULT)		OCCUPIED TIME (BAS & LOCAL DEFAULT)		UNOCCUPIED TIME (BAS & LOCAL DEFAULT)	
											MON-FRI	WEEKEND/ HOLIDAY	MON-FRI	WEEKEND/ HOLIDAY	MON-FRI	WEEKEND/ HOLIDAY
AHU-1	1ST FLOOR VAV BOXES	--	--	--	--	--	--	--	X	X	0600-0700	--	0700-1700	--	1700-0600	0000-2400
AHU-2	2ND FLOOR VAV BOXES	--	--	--	--	--	--	--	X	X	0600-0700	--	0700-1700	--	1700-0600	0000-2400
VAV-1## (TYPICAL)	CLASSROOMS/ADMIN SPACES	SEE FLOOR PLANS	X	X	X	1 HR	--	--	X	X	0600-0700	--	0700-1700	--	1700-0600	0000-2400
VAV-2## (TYPICAL)	CLASSROOMS/ADMIN SPACES	SEE FLOOR PLANS	X	X	X	1 HR	--	--	X	X	0600-0700	--	0700-1700	--	1700-0600	0000-2400
CRACU-#### (TYPICAL)	COMM ROOMS	SEE FLOOR PLANS	--	--	--	--	X	--	X	--	--	--	0000-2400	0000-2400	--	--
EF-2	MECH ROOM (107)	MECH ROOM (107)	X	X	--	--	--	--	X	--	--	--	0000-2400	0000-2400	--	--
AC-### (TYPICAL)	ELEC. / ELEV. MACHINE	ELEC. / ELEV. MACHINE	X	X	--	--	X	--	X	--	--	--	0000-2400	0000-2400	--	--
C-### (TYPICAL)	VESTIBULES / STAIRWELLS	VESTIBULES / STAIRWELLS	X	X	--	--	X	--	X	--	--	--	0000-2400	0000-2400	--	--

NOTES
1. LISTED SCHEDULES ARE INITIAL SETTINGS ONLY AND MUST BE USER ADJUSTABLE. ACTUAL SETTINGS MAY DIFFER DEPENDING ON ACTUAL OPERATING SCHEDULES AND CONDITIONS.

CONTROL DAMPER SCHEDULE

EQUIPMENT SERVED	FUNCTION	TYPE	DUCT SIZE (IN)	FAIL POSITION
AHU-1	OUTDOOR AIR	OPPOSED BLADE / MODULATING	50 X 26	CLOSE
AHU-1	RETURN AIR	OPPOSED BLADE / MODULATING	54 X 24	OPEN
AHU-1	EXHAUST AIR	OPPOSED BLADE / MODULATING	50 X 26	CLOSE
AHU-2	OUTDOOR AIR	OPPOSED BLADE / MODULATING	50 X 26	CLOSE
AHU-2	RETURN AIR	OPPOSED BLADE / MODULATING	50 X 26	OPEN
AHU-2	EXHAUST AIR	OPPOSED BLADE / MODULATING	50 X 26	CLOSE
EF-1	EXHAUST AIR	PARALLEL BLADE / 2-POSITION	14 X 10	CLOSE
EF-2	EXHAUST AIR	PARALLEL BLADE / 2-POSITION	16 X 16	CLOSE

NOTES
1. LISTED DIMMENSIONS ARE INITIAL ONLY AND MUST BE VERIFIED WITH UNIT MANUFACTURER/SUPPLIER.

COMMONWEALTH OF VIRGINIA
NASRI SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: R. JEON
DRAWN BY: R. JEON
CHECKED BY: N. SLEEM
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

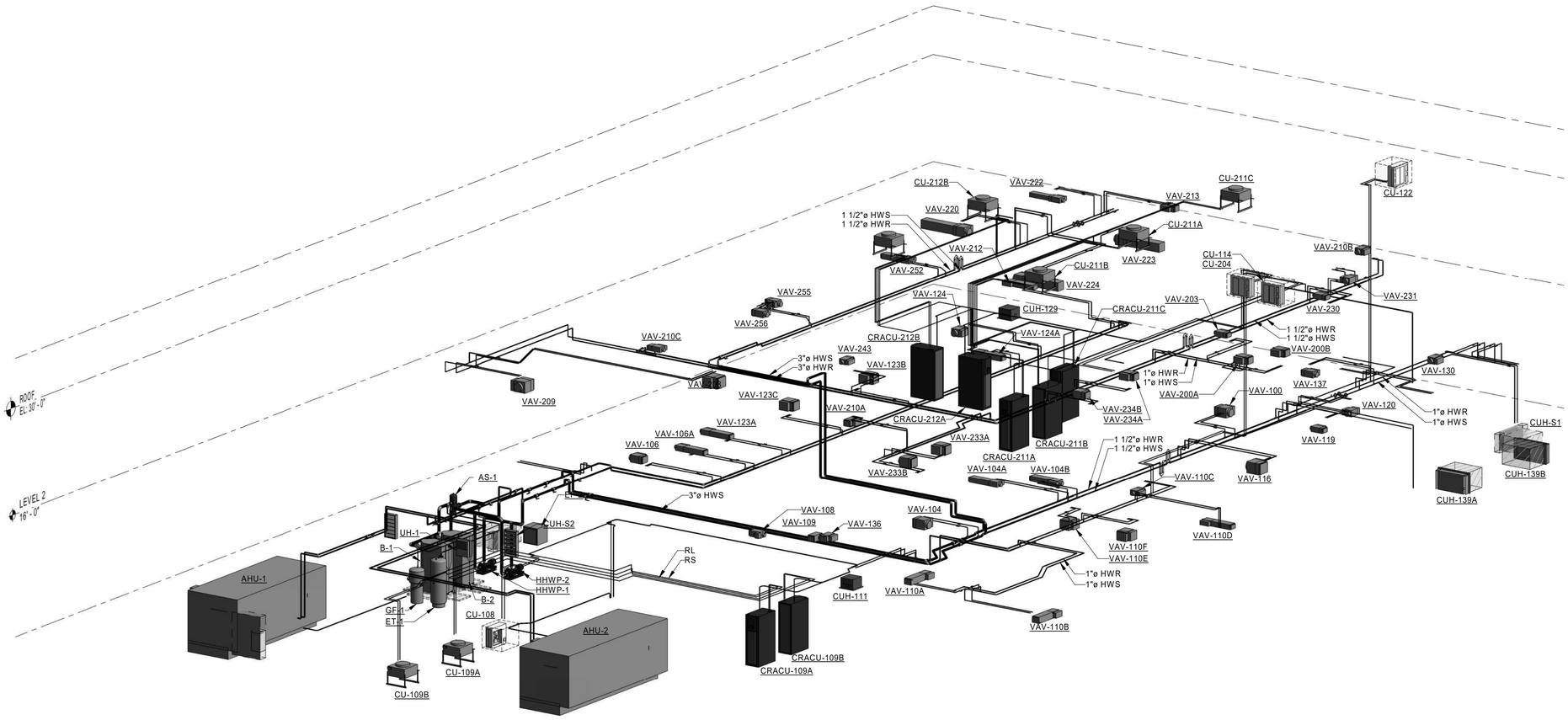
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - CONTROL SCHEDULES

SHEET ID
M-809



A1 HEATING HOT WATER FLOW DIAGRAM

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9126P22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: A. HONDA
DRAWN BY: A. HONDA
CHECKED BY: N. SLEEM
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FILE NAME:

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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

MECHANICAL - HEATING HOT WATER FLOW DIAGRAM

SHEET ID
M-901

COMMONWEALTH OF VIRGINIA
NASIR SLEEM
Lic. No. 033845
12/14/2022
PROFESSIONAL ENGINEER

SINGLE LINE DIAGRAM LEGEND

1600 AF / 800 AS / 600 AT — LSIG	LOW VOLTAGE DRAWOUT POWER AIR CIRCUIT BREAKER.
250 AF / 225 AT — LSIG	MOLDED CASE CIRCUIT BREAKER.
Δ T-PD2A 30KVA 480 V- 208/120 V $Y_{\oplus}$	TRANSFORMER.
200A P1-1	PANELBOARD WITH A VOLTAGE OF 208V OR HIGHER.
30A/3P — N.C.	NON-FUSED DISCONNECT / SAFETY SWITCH.
30A/3P — N.C. / F-30A	FUSED DISCONNECT / SAFETY SWITCH.
F-200 A	FUSE
FVNR	MOTOR STARTER, FULL-VOLTAGE NON REVERSING.
E VFD	VARIABLE FREQUENCY DRIVE
SPD	SURGE PROTECTIVE DEVICE.
50 EF-01	MOTOR; EQUIPMENT IDENTIFICATION AND HORSEPOWER AS INDICATED.
M	MULTIFUNCTION METER
EMM	ELECTRONIC METERING MODULE: MICROPROCESSOR BASED FOR METERING, ANALYZING, WAVEFORM CAPTURE AND CAPABLE OF PROVIDING MONITORED DATA PARAMETERS
130Y	FEEDER / BRANCH CIRCUIT IDENTIFIER

ELECTRICAL ABBREVIATIONS

Δ	DELTA
1/C	SINGLE CONDUCTOR CABLE
3/C	THREE CONDUCTOR CABLE
A, AMP	AMMETER, AMPERE
AC	ALTERNATING CURRENT
ACT	ABOVE COUNTER TOP
AF	AMP FRAME, CIRCUIT BREAKER FRAME AND TRIP DEVICE SENSOR SIZE (AMPS)
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ASYM	ASYMMETRICAL
AT	AMP TRIP, TRIP DEVICE RATING PLUG SIZE (AMPS)
AVG	AVERAGE
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUTOMATION SYSTEM
BATT	BATTERY, BATTERIES
BC	BARE COPPER
BKR	BREAKER
BLDG	BUILDING
°C	CELSIUS
C	CONDUIT, COIL
CKT	CIRCUIT
CND	CONDUIT
CONT	CONTINUOUS, CONTINUED
CRAC	COMPUTER ROOM AIR CONDITIONING UNIT
CRI	COLOR RENDERING INDEX
CU	COPPER, COEFFICIENT OF UTILIZATION
DB	DUCT BANK
DIA	DIAMETER
DISC	DISCONNECT
DIST, DISTRIB	DISTRIBUTION
DIV	DIVISION
DS, DSW	DISCONNECT SWITCH
(E), EX	EXISTING
EGC	EQUIPMENT GROUNDING CONDUCTOR
EL. ELEV	ELEVATION
ELEC	ELECTRICAL/ELECTRIC
EM, EMER	EMERGENCY
EMER	EMERGENCY
EMS	ENERGY MANAGEMENT SYSTEM
EQPT	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EXST	EXISTING, EXHAUST
F	FAHRENHEIT
FACP	FIRE ALARM CONTROL PANEL
FDR	FEEDER
FREQ	FREQUENCY
FT	FOOT
FU	FUSE
FVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING
G, GND	GROUND
GEC	GROUNDING ELECTRODE CONDUCTOR
GEN	GENERATOR
GFCI	GROUND FAULT EQUIPMENT PROTECTIVE DEVICE
GFEPD	GROUND FAULT EQUIPMENT PROTECTIVE DEVICE
GFP	GROUND FAULT PROTECTION
GFR	GROUND FAULT RELAY
HH	HANDHOLE
HP	HORSEPOWER
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HZ	HERTZ
IESNA, IES	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA
IMC	INTERMEDIATE METAL CONDUIT
J, JB	JUNCTION BOX
K	KEY INTERLOCK
KA	KILO-AMPERES
KCM, KCMIL	1000 CIRCULAR MILS
KV	KILO-VOLTS
KVA	KILO-VOLT AMPERES
KW	KILOWATT
LA	LIGHTNING ARRESTER
LAN	LOCAL AREA NETWORK
LED('S)	LIGHT EMITTING DIODE(S)
LSGM	LONG-TIME/SHORT-TIME TRIP
LSI	LONG-TIME/SHORT-TIME/INSTANTANEOUS TRIP
LSIG	LONG-TIME/SHORT-TIME/INSTANTANEOUS/GROUND FAULT TRIP
LSIGM	LONG-TIME/SHORT-TIME/INSTANTANEOUS/GROUND FAULT TRIP AND METERING
LSIM	LONG-TIME/SHORT-TIME/INSTANTANEOUS TRIP AND METERING
LTG	LIGHTING
LTS	LIGHTS
LV	LOW VOLTAGE
LVR	LOW VOLTAGE RELAY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCCB	MOLDED CASE CIRCUIT BREAKER
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MOUNTING HEIGHT, MAN HOLE
MI	MINERAL INSULATED
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MT	MOUNT
MTD	MOUNTED
MTG	MOUNTING
MV	MEDIUM VOLTAGE
(N)	NEW
N, NEUT	NEUTRAL
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
N/A	NOT APPLICABLE
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO.	NUMBER
NOS	NUMBERS
NTS	NOT TO SCALE
O.L.	OVERLOAD
P	POLE, POWER
PBRD	PANELBOARD
PCC	POINT OF COMMON COUPLING
PDP	POWER DISTRIBUTION PANEL
PDU	POWER DISTRIBUTION UNIT
PF	POWER FACTOR
PH	PHASE
PNL	PANEL
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
QTY	QUANITY
%R	PERCENT RESISTANCE
R	RESISTANCE, RATE, RISE
R/I	RECTIFIER/INVERTER
RCPT	RECEPTACLE
RECP(S)	RECEPTACLE(S)
RGS	RIGID GALVANIZED STEEL
RM	ROOM
S.C.	SHORT CIRCUIT
SCHED	SCHEDULE
SE	SERVICE ENTRANCE
SEC	SECONDS
SECT	SECTION
SP	SPARE
SQ	SQUARE
ST	SHUNT TRIP
SW	SWITCH
SWBD	SWITCHBOARD
T, TX	TRANSFORMER
TBD	TO BE DETERMINED
TDR	TIME DELAY RELAY
TEL	TELEPHONE
TYP, (TYP)	TYPICAL
UG, UGND	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS' LABORATORIES
UNO, UON	UNLESS NOTED OTHERWISE, UNLESS OTHERISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLT, VOLTS, VOLTMETER
VA	VOLT-AMPERE
VAC	VOLTS ALTERNATING CURRENT
VAR	VOLT AMPERE REACTIVE
VDC	VOLTS DIRECT CURRENT
VFD	VARIABLE FREQUENCY DRIVE
VM	VOLT METER
VSD	VARIABLE SPEED DRIVE
W	WATT(S), WIRE, WIDTH
WP	WEATHERPROOF
%X	PERCENT REACTANCE
X	REACTANCE
XFMR	TRANSFORMER
Y	WYE-CONNECTED
%Z	PERCENT IMPEDANCE
Z	IMPEDANCE

GENERAL ELECTRICAL NOTES

1. WHERE "SPLIT CIRCUIT" IS INDICATED, EXTEND SPLIT CIRCUIT HOME RUNS TO A COMMON JUNCTION BOX ABOVE THE PANEL INDICATED. TIE HOME RUNS TOGETHER USING SPLICE KIT AND EXTEND A SINGLE SET OF CONDUCTORS TO CIRCUIT BREAKER NUMBER INDICATED. WIRING USED IN SPLIT CIRCUITS SHALL BE THE SAME SIZE.
2. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATICAL IN NATURE AND INDICATE THE GENERAL LOCATION OF OUTLETS, EQUIPMENT, AND THE CIRCUIT ARRANGEMENT OF THE REQUIRED WIRING. ALTHOUGH THE DRAWINGS DO NOT NECESSARILY INDICATE THE ACTUAL ROUTES OF SURFACE MOUNTED CONDUITS, WHERE INDICATED, THEY SHALL BE FOLLOWED AS CLOSELY AS PROPER COORDINATION WITH THE WORK OF OTHER TRADES AND SPACE WILL PERMIT. WHERE CONDUIT RUNS ARE NOT SHOWN ON THE DRAWINGS, SUCH AS FOR MECHANICAL EQUIPMENT, COORDINATE CONDUIT RUNS WITH THE WORK OF OTHER TRADES AND STRUCTURE. SIMPLIFY INSTALLATION WHEREVER POSSIBLE, BUT SUBJECT TO APPROVAL BY THE COR FOR VISUAL AND STRUCTURAL REASONS. IT IS NOT WITHIN THE SCOPE OF THE DRAWINGS TO SHOW ALL NECESSARY OFFSETS, BENDS, PULL BOXES, AND OBSTRUCTIONS. THE DRAWINGS ARE NOT INTENDED TO BE SCALED, REFER TO THE ARCHITECTURAL DRAWINGS FOR DIMENSIONS.
3. NOT ALL SYMBOLS SHOWN IN LEGENDS ARE USED - SEE DRAWINGS FOR APPLICABLE DEVICES.
4. MOUNTING HEIGHTS INDICATED AS '+##' ARE MEASURED FROM FINISHED FLOOR UNLESS OTHERWISE NOTED.
5. PROVIDE LABELS DENOTING EQUIPMENT SERVED AND CORRESPONDING CIRCUIT NUMBER ON DEDICATED RECEPTACLES.
6. SEAL PENETRATIONS OF FIRE- AND/OR SMOKE-RATED CONSTRUCTION WITH U.L. APPROVED STOPPING MATERIAL TO RESTORE THE ORIGINAL RATING OF THE PENETRATED CONSTRUCTION.
7. SEAL PENETRATIONS OF NON-RATED PARTITIONS WITH APPROVED MATERIAL TO PREVENT AIRFLOW AND DEBRIS.
8. MOUNTING HEIGHTS SHOWN ON ELECTRICAL, COMMUNICATIONS, AND SYSTEMS DRAWINGS ARE FOR BIDDING PURPOSES ONLY. REFER TO INTERIOR ELEVATION DRAWINGS FOR MOUNTING HEIGHTS OF DEVICES AND EQUIPMENT. WHERE DISCREPANCIES OCCUR, INTERIOR ELEVATIONS TAKE PRECEDENCE.
9. SUPPORT BOXES AND CONDUIT ABOVE CEILING INDEPENDENTLY. DO NOT SUPPORT FROM SUSPENDED CEILING SYSTEM.
10. WHERE CONCEALED BY INACCESSIBLE FINISHES, PROVIDE ACCESS DOORS FOR JUNCTION & PULL BOXES, CONTROL DEVICES & EQUIPMENT, DISCONNECT SWITCHES, AND OTHER ITEMS REQUIRING SERVICE, MAINTENANCE, OPERATION, OR ADJUSTMENT. SIZE AND LOCATE ACCESS DOORS FOR EASE OF PERFORMANCE OF THE FUNCTION INTENDED. DOORS SHALL NOT BE SMALLER THAN 18" x 18". COORDINATE LOCATION OF ACCESS DOORS WITH AFFECTED TRADES. SUBMIT PANEL LOCATIONS FOR APPROVAL BY THE ARCHITECT PRIOR TO INSTALLATION.
11. INSTALL ADJACENT DEVICES UNDER A COMMON FACEPLATE, WITH NO MORE THAN FOUR DEVICES IN A SINGLE FACEPLATE. WHERE MORE THAN FOUR ADJACENT DEVICES ARE PRESENT, EVENLY DIVIDE DEVICES INTO SEPARATE GROUPS OF NO LESS THAN TWO DEVICES PER GROUP. PROVIDE BARRIERS WITHIN BOXES TO SEPARATE DEVICES WHERE DIFFERENT CIRCUITS AND DIFFERENT VOLTAGES ARE PRESENT.
12. PROVIDE LUGS AS NECESSARY FOR TERMINATING OVERSIZED CONDUCTORS OR OTHERWISE MAKE PROVISIONS FOR TERMINATING OVERSIZED CONDUCTORS IN DEVICES WHOSE LUGS DO NOT ACCEPT THE OVERSIZED CONDUCTOR SIZE.
13. SHARED NEUTRAL CONDUCTORS ARE PROHIBITED.
14. SUPPORTING EQUIPMENT, CONDUIT, CABLE TRAYS, OR LIGHT FIXTURES FROM THE SLAB OR ROOF DECK IS PROHIBITED.
15. REFER TO CONDUIT PENTRATION DETAIL ON E-502, FOR REQUIRMENTS OF CONDUIT PENETRATION INTO SECURED AREA.
16. ALL OUTAGES MUST BE SCHEDULED WITH A MINIMUM OF 21 CALENDAR DAYS IN ADVANCE. NOTIFY THE BASE PERSONNEL (CONTRACTING OFFICER). MAKE AN APPLICATION FOR OUTAGES TO GOVERNMENT HIGH VOLTAGE FACILITY DEPARTMENT WITH THE PROVIDED REQUEST FORMS AND SUBMIT FOR APPROVAL FOR THE OUTAGES. NO OUTAGES WILL TAKE PLACE WITHOUT WRITTEN AUTHORIZATION TO THE GOVERNMENT PERSONNEL BY THE CONTRACTOR. OUTAGES CAN BE CANCELED BY THE GOVERNMENT UP UNTIL THE SCHEDULED TIME OF THE OUTAGE. OUTAGES SHALL BE COORDINATED WITH THE GOVERNMENT PERSONNEL (CONTRACTING OFFICER) TO MINIMIZE TOTAL OUTAGES TO THE FACILITY.
17. ALL DEVICES INSTALLED ON STC 45 OR 50 WALLS MUST BE SURFACE MOUNTED UTILIZING WIREMOLD 2400 SERIES OR APPROVED EQUAL.
18. ADJUST WIRE SIZES TO COMPENSATE FOR VOLTAGE DROP. THE LENGTH OF A SINGLE PHASE 20A CIRCUIT (ONE-WAY) SHALL NOT EXCEED THE FOLLOWING VALUES (BASED ON 16A LOAD):

CONDUCTOR SIZE (AWG)	MAXIMUM 120V CIRCUIT LENGTH
#12	60'-0"
#10	90'-0"
#8	140'-0"
#6	225'-0"

COMMONWEALTH OF VIRGINIA
12/14/2022
YOSEPH Z. SOLOMON
Lic. No. 0402047869
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:
DESIGNED BY: Y. SOLOMON
DRAWN BY: D. PAXTON
CHECKED BY: Y. SOLOMON
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - GENERAL NOTES, ABBREVIATIONS, AND LEGENDS

SHEET ID
E-001

RECEPTACLE LEGEND

	DUPLEX RECPTACLE. UNLESS INDICATED OTHERWISE, RECEPTACLES ARE FLUSH MOUNTED, 20A,125V, 1PH, 2P, 3W, NEMA 5-20R.
	DUPLEX RECPTACLE. RECEPTACLES ARE FLUSH MOUNTED, 20A,125V, 1PH, 2P, 3W, NEMA 5-20R. "+" INDICATES THAT RECEPTACLE IS MOUNTED 6" ABOVE COUNTERTOP UNLESS OTHERWISE NOTED.
	DUPLEX GFCI RECPTACLE. UNLESS INDICATED OTHERWISE, RECEPTACLES ARE FLUSH MOUNTED, 20A,125V, 1PH, 2P, 3W, NEMA 5-20R .
	SPLIT YOKE DUPLEX RECPTACLE WITH TOP BEING CONTROLLED. UNLESS INDICATED OTHERWISE, RECEPTACLES ARE FLUSH MOUNTED, 20A,125V, 1PH, 2P, 3W, NEMA 5-20R. UTILIZE VACANCY / OCCUPANCY SENSOR SERVING THE ROOM UNLESS OTHERWISE NOTED. PROVIDE PLUG LOAD CONTROLLER FOR EACH ROOM SERVED.
	TWO DUPLEX (QUAD) RECEPTACLES. UNLESS INDICATED OTHERWISE, RECEPTACES ARE FLUSH MOUNTED, 20A, 125V, 1PH, 2P, 3W, NEMA 5-20R.
	SWITCHED TWO DUPLEX (QUAD) RECEPTACLES. QUAD RECEPTACLES HAVE CONTROLLED AND NON-CONTROLLED OUTLETS FED FROM THE SAME CIRCUIT, BUT A SPLIT YOKE IS NOT REQUIRED. UNLESS INDICATED OTHERWISE, RECEPTACES ARE FLUSH MOUNTED, 20A, 125V, 1PH, 2P, 3W, NEMA 5-20R. UTILIZE VACANCY / OCCUPANCY SENSOR SERVING THE ROOM UNLESS OTHERWISE NOTED. PROVIDE PLUG LOAD CONTROLLER FOR EACH ROOM SERVED.
	SIMPLEX RECEPTACLE. UNLESS INDICATED OTHERWISE, RECEPTACLES ARE FLUSH MOUNTED, 20A,125V,1PH, 2P, 3W, NEMA 5-20R.
A5	SPECIAL PURPOSE RECEPTACLE, UNLESS INDICATED OTHERWISE, RECEPTACLES ARE FLUSH MOUNTED. RECEPTACLE NEMA TYPES INDICATED ON THE SPECIAL RECEPTACLE SCHEDULE.
	CEILING MOUNTED DUPLEX RCPT. UNLESS INDICATED OTHERWISE, 20A,125V, 1PH, 2P, 3W, NEMA 5-20R
A5	CEILING MOUNTED SPECIAL PURPOSE RECEPTACLE. TYPES ARE AS NOTED IN THE SPECIAL RECEPTACLE SCHEDULE.
	CORD REEL
	RECEPTACLE TYPE AS INDICATED WHERE INDICATED, DENOTES SURFACE MOUNTED DEVICE
	DUPLEX RECPTACLE FOR TV SCREEN, RECEPTACLES ARE FLUSH MOUNTED, 20A,125V, 1PH, 2P, 3W, NEMA 5-20R. MOUNT RECEPTACLE CENTER TO TV
	TWO DUPLEX (QUAD) RECEPTACLE FLUSH FLOOR TYPE FLOOR BOX. COMBINATION POWER AND TELECOM FLOOR BOX.
A5	FLUSH FLOOR TYPE FLOOR BOX. RECEPTACLE NEMA TYPES INDICATED ON THE SPECIAL RECEPTACLE SCHEDULE.
	FLUSH FLOOR TYPE POKE-THRU WITH DUPLEX RECEPTACLE.
A5	FLUSH FLOOR TYPE POKE-THRU WITH SPECIAL RECEPTACLE. RECEPTACLE NEMA TYPES INDICATED ON THE SPECIAL RECEPTACLE SCHEDULE.
F	IN WALL FURNITURE CONNECTION. REFER TO SYSTEM FURNITURE WIRING DETAIL ON E-502.

RECEPTACLE ANCILLARIES

13	ONE OR TWO NUMERIC DIGIT BRANCH CIRCUIT NUMBER (13 IN THIS EXAMPLE)
+48"	DENOTES THE MOUNTING HEIGHT IN INCHES ABOVE THE FINISHED FLOOR.
A	ARC FAULT CIRCUIT INTERRUPTER
EWC	ELECTRIC WATER COOLER
REF	REFRIGERATOR
IG	ISOLATED GROUNDING TYPE RECEPTACLE
L	PAD LOCKABLE COVER
PR	PROJECTOR RECEPTACLE TO BE LOCATED WITHIN PROJECTOR OR CEILING MOUNT
SPD	SURGE PROTECTIVE DEVICE TYPE RECEPTACLE
TR	TAMPER RESISTANT TYPE RECEPTACLE
TV	TELEVISION RECEPTACLE TYPE RECEPTACLE; COORDINATE MOUNTING HEIGHT AND EXACT LOCATION WITH OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION
U	USB CHARGING
WP	WEATHER-RESISTANT, WEATHERPROOF WITH HINGED COVER
WP-WIN	WEATHER-RESISTANT TYPE, WEATHERPROOF WITH WHILE-IN-USE COVER
XP	EXPLOSION PROOF TYPE, RATED FOR AREA CLASSIFICATION IN WHICH IT IS INSTALLED.

1 — NUMERAL = CIRCUIT NUMBER
+36" — +(INCHES) = HEIGHT IN INCHES ABOVE FINISHED FLOOR
WP T GFI — CAPITAL LETTER(S) = SPECIAL DESIGNATOR SUBSCRIPT DEFINED ABOVE

POWER DISTRIBUTION / EQUIPMENT LEGEND

	FLOOR OR SURFACE MOUNTED 208V PANELBOARD
	RECESSED 208V PANELBOARD
T75	GENERAL PURPOSE, DRY TYPE TRANSFORMER.
ATS	AUTOMATIC TRANSFER SWITCH. SEE SINGLE LINE FOR SIZE.
SPD	SURGE PROTECTIVE DEVICE
50 EF-01	MOTOR FURNISHED WITHOUT LOCAL SAFETY SWITCH AND/OR STARTER; MOTOR HORSEPOWER AS SHOWN
	HARDWIRED MECHANICAL EQUIPMENT CONNECTION, COORDINATE EXACT LOCATION WITH EQUIPMENT SERVED.
	FUSED SAFETY SWITCH, SEE MECHANICAL CONNECTION SCHEDULE FOR ADDITIONAL REQUIREMENTS.
	NON-FUSED SAFETY SWITCH, SEE MECHANICAL CONNECTION SCHEDULE FOR ADDITIONAL REQUIREMENTS.
	COMBINATION LOCAL CONTROLLER, FUSED SAFETY SWITCH, SEE MECHANICAL CONNECTION SCHEDULE FOR CONTROLLER TYPE AND ADDITIONAL REQUIREMENTS.
VFD	MOTOR CONTROL CENTER MOTOR STARTER OR LOCAL CONTROLLER. IN THIS EXAMPLE, "VFD" DENOTES VARIABLE FREQUENCY DRIVE. UNLESS INDICATED OTHERWISE, LOCAL CONTROLLER ENCLOSURES ARE RATED NEMA 1.
JB	JUNCTION BOX WITH COVER PLATE
JB	WALL MOUNTED JUNCTION BOX WITH COVER PLATE
	WALL MOUNTED TWO-COMPARTMENT SURFACE MOUNTED RACEWAY WITH DUPLEX 120V, 20A, 3-WIRE, NEMA 5-20R RECEPTACLES AT 18" ON CENTER. MOUNT 6" ABOVE COUNTER TOP, UNLESS INDICATED OTHERWISE.
E	ELECTRICAL MANHOLE

DEVICE DESIGNATION

C	MOUNTING ABOVE CEILING.

GROUNDING AND LIGHTNING PROTECTION LEGEND

–G–G–G–G–	GROUNDING CONDUCTOR.
	COPPER-CLAD GROUND ROD.
	GROUND ROD IN TEST WELL.
	GROUND CONNECTION TO BUILDING STEEL OR EQUIPMENT / VESSEL.
	GROUND BAR.
–LPS––LPS–	MAIN LIGHTNING PROTECTION CONDUCTOR
	LIGHTNING PROTECTION AIR TERMINAL.
	LIGHTNING PROTECTION AIR TERMINAL DOWN CONDUCTOR.

LUMINAIRE LEGEND

	1'X4' RECESSED LUMINAIRE
	1'X4' RECESSED CENTER BASKET LUMINAIRE
	1'X4' SURFACE LUMINAIRE
	1'X4' SURFACE CENTER BASKET LUMINAIRE
	1'X4' RECESSED LUMINAIRE CONNECTED TO EMERGENCY SOURCE
	2'X2' RECESSED LUMINAIRE
	2'X2' RECESSED CENTER BASKET LUMINAIRE
	2'X2' SURFACE LUMINAIRE
	2'X2' SURFACE CENTER BASKET LUMINAIRE
	2'X2' RECESSED LUMINAIRE CONNECTED TO EMERGENCY SOURCE
	2'X4' RECESSED LUMINAIRE
	2'X4' RECESSED CENTER BASKET LUMINAIRE
	2'X4' SURFACE LUMINAIRE
	2'X4' SURFACE CENTER BASKET LUMINAIRE
	2'X4' RECESSED LUMINAIRE CONNECTED TO EMERGENCY SOURCE
	1'X4' PENDANT LUMINAIRE
	1'X4' PENDANT LUMINAIRE CONNECTED TO EMERGENCY SOURCE
	1'X8' LINEAR PENDANT LUMINAIRE
	1'X8' LINEAR PENDANT LUMINAIRE CONNECTED TO EMERGENCY SOURCE
	ROUND PENDANT LUMINAIRE. SEE LUMINAIRE ANCILLARIES BELOW FOR ADDITIONAL REQUIREMENTS.
	DOWNLIGHT LUMINAIRE
	DOWNLIGHT LUMINAIRE CONNECTED TO EMERGENCY SOURCE
	DOWNLIGHT WALL WASHER LUMINAIRE (CHEVRON(S) POINT TO WASHED WALL(S))
	PENDANT OR CEILING MOUNTED ILLUMINATED EGRESS EXIT SIGN. WHERE USED, DIRECTIONAL ARROWS AS INDICATED. MOUNT 8'-0" ABOVE FINISHED FLOOR, UNLESS INDICATED OTHERWISE.
	WALL MOUNTED ILLUMINATED EGRESS EXIT SIGN. WHERE USED, DIRECTIONAL ARROWS AS INDICATED. MOUNTED 8'-0" AFF UNLESS INDICATED OTHERWISE .
	DENOTES POLE MOUNTED SINGLE ARM LUMINAIRE. POLE HEIGHT AS INDICATED ON LIGHT FIXTURE SCHEDULE .

3 — NUMERAL = CIRCUIT NUMBER
AE — a — LOWERCASE ALPHANUMERIC CHARACTER = LIGHTING SWITCH OR CONTROL ZONE
ALPHANUMERIC TAG = THE FIRST LETTER INDICATES THE LUMINAIRE TAG, COORDINATE WITH LIGHTING FIXTURE SCHEDULE. THE SECOND LETTER "E", WHEN USED, INDICATES THE FIXTURE IS DESIGNATED AS AN EMERGENCY LIGHT FIXTURE.

SWITCHING DEVICE LEGEND

$	RECESSED WALL MOUNTED MANUAL LIGHTING CONTROL DEVICE/STATION. REFER TO LIGHTING CONTROL ROOM SCHEDULE ON EL702 FOR FEATURES OF THE MANUAL CONTROL STATION. INSTALL ADJACENT DEVICES UNDER COMMON FACEPLATE, FOUR DEVICES MAXIMUM PER FACEPLATE. EVENLY DIVIDE DEVICES INTO SEPARATE GROUPS WHERE ADJACENT DEVICES EXCEEDS FOUR.
$	SURFACE WALL MOUNTED SWITCH. INSTALL ADJACENT DEVICES UNDER COMMON FACEPLATE. FOUR DEVICES MAXIMUM PER FACEPLATE. EVENLY DIVIDE DEVICES INTO SEPARATE GROUPS WHERE ADJACENT DEVICES EXCEEDS FOUR.
	CEILING MOUNTED DUAL-TECHNOLOGY OCCUPANCY SENSOR "OS", OR VACANCY SENSOR "VS"
$3a	LIGHTING CONTROL DEVICE IDENTIFICATION (TYPICAL FOR ALL LIGHTING CONTROL DEVICE SYMBOLS WHERE USED) LOWERCASE LETTER(S) = CONTROL ZONE CAPITAL LETTER(S) AND/OR NUMERAL = SPECIAL DESIGNATOR SUBSCRIPT DEFINED ABOVE

SWITCHING DEVICE SUBSCRIPT DESIGNATION

K	KEYED SWITCH
3	THREE WAY.
4	FOUR WAY.
3K	THREE WAY KEYED SWITCH.
4K	FOUR WAY KEYED SWITCH.
D	WALL DIMMER.
MD	MULT-LOCATION DIMMER, NUMERALS AS INDICATED FOR SINGLE LOCATION DIMMER.
DP	DOUBLE POLE.
XP	EXPLOSION PROOF
F	WIRELESS CEILING FAN CONTROL STATION
OS	OCCUPANCY SENSOR [WITH MANUAL OVERRIDE].
V	VACANCY SENSOR/SWITCH
VD	VACANCY SENSOR/DIMMER
O	OCCUPANCY SENSOR/SWITCH
OD	OCCUPANCY SENSOR/DIMMER
MC	3 POSITION, MOMENTARY CONTACT WITH CENTER OFF.
WP	WEATHERPROOF.
M	SURFACE MOUNTED MOTOR RATED WITH OVERLOAD ELEMENTS, CONTINOUS CURRENT RATING AND QUANTITY OF POLES AS REQUIRED FOR EQUIPMENT SERVED.
T	ADJUSTABLE TIMER SWITCH
PL	ILLUMINATED SWITCH (WHEN OFF)

COMMONWEALTH OF VIRGINIA
12/14/2022
YOSEPH Z. SOLOMON
Lic. No. 0402047869
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	Y. SOLOMON
DRAWN BY:	D. PAXTON
CHECKED BY:	Y. SOLOMON
SUBMITTED BY:	K. K
SIZE:	ANSI D'
ISSUE DATE:	14 DECEMBER 2022
SOLICITATION NO.:	W912BF22R0017
CONTRACT NO.:	
FILE NUMBER:	
FILE NAME:	

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

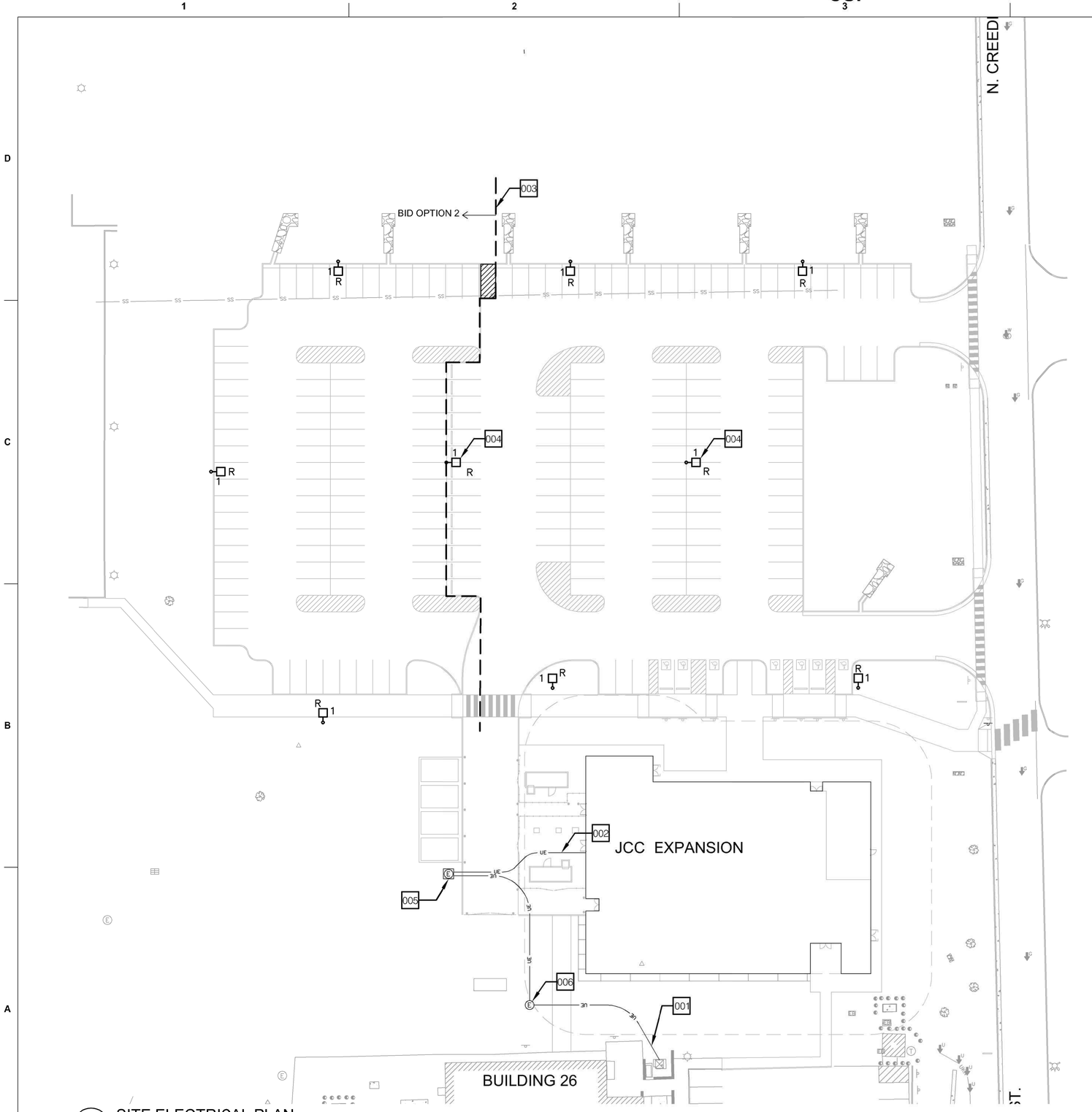
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

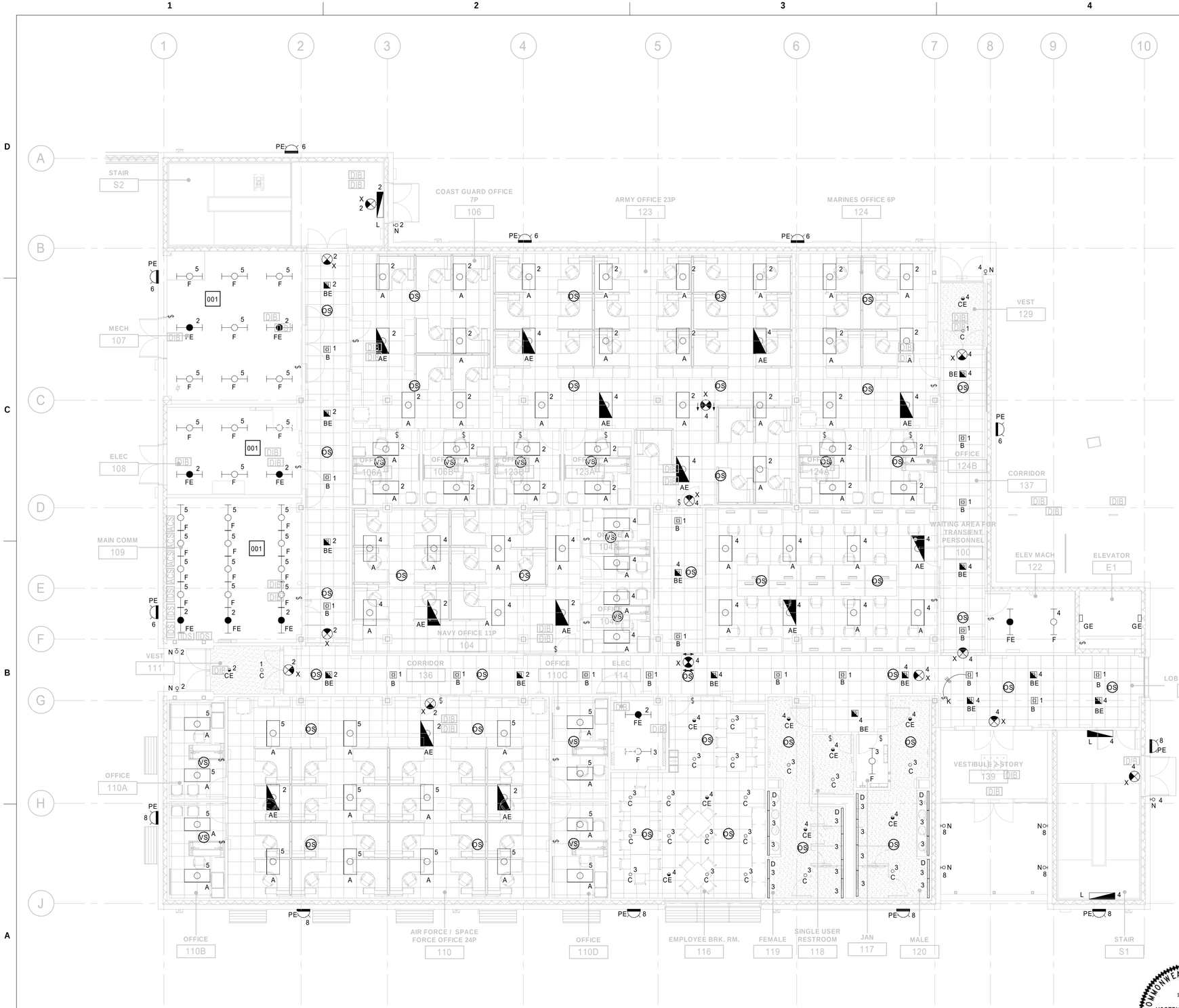
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - LEGENDS

SHEET ID
E-002

RTA SUBMISSION


N. CREED
BID OPTION 2
003
004
004
002
JCC EXPANSION
005
006
001
BUILDING 26
1
R
1
R
1
R



GENERAL SHEET NOTES

1. NORMAL LIGHT FIXTURES ARE FED FROM PANEL P1-H2, UNLESS OTHERWISE NOTED.
2. EMERGENCY LIGHT FIXTURES ARE FED FROM PANEL P1-HE, UNLESS OTHERWISE NOTED.
3. REFER TO E-001 AND E-002 FOR GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
4. REFER TO EL701 FOR LIGHT FIXTURE SCHEDULE.
5. REFER TO EL702 FOR LIGHTING CONTROL ROOM SCHEDULE.
6. REFER TO EL703 FOR LIGHTING CONTROL SEQUENCE OF OPERATION.
7. REFER TO E-701 TO E-705 FOR PANEL SCHEDULES.

KEYNOTES

#	
001.	NORMAL LIGHT FIXTURES IN ROOM ARE FED FROM PANEL P1-H1.

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

A1 FIRST FLOOR - LIGHTING

1/8" = 1'-0"

COMMONWEALTH OF VIRGINIA
12/14/2022
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JACOBS
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ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - FIRST FLOOR - LIGHTING

SHEET ID

EL110

RTA SUBMISSION

A1 FIRST FLOOR - LIGHTING (BID OPTION 1)
1/8" = 1'-0"

GENERAL SHEET NOTES

1. NORMAL LIGHT FIXTURES ARE FED FROM PANEL P1-H2, UNLESS OTHERWISE NOTED.
2. EMERGENCY LIGHT FIXTURES ARE FED FROM PANEL P1-HE, UNLESS OTHERWISE NOTED.
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6. REFER TO EL703 FOR LIGHTING CONTROL SEQUENCE OF OPERATION.
7. REFER TO E-701 TO E-705 FOR PANEL SCHEDULES.

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16
SCALE: 1/8" = 1'-0"

PLAN NORTH

COMMONWEALTH OF VIRGINIA
12/14/2022
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FILE NAME:

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Omaha, NE

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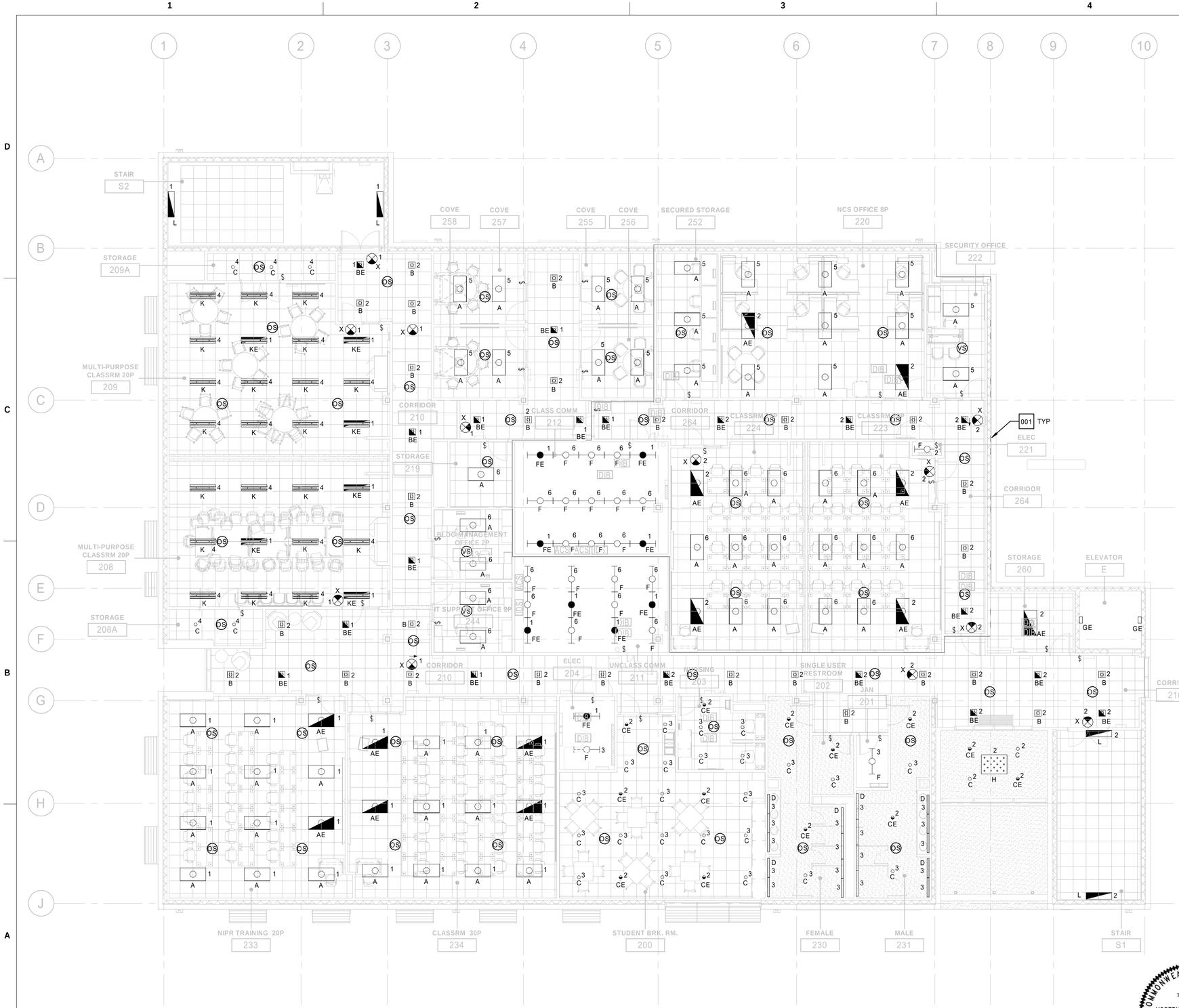
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - FIRST FLOOR - LIGHTING (BID OPTION 1)

SHEET ID
EL110A



A1 SECOND FLOOR - LIGHTING

1/8" = 1'-0"

GENERAL SHEET NOTES

1. NORMAL LIGHT FIXTURES ARE FED FROM PANEL P2-H1, UNLESS OTHERWISE NOTED.
2. EMERGENCY LIGHT FIXTURES ARE FED FROM PANEL P2-HE, UNLESS OTHERWISE NOTED.
3. REFER TO E-001 AND E-002 FOR GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
4. REFER TO EL701 FOR LIGHT FIXTURE SCHEDULE.
5. REFER TO EL702 FOR LIGHTING CONTROL ROOM SCHEDULE.
6. REFER TO EL703 FOR LIGHTING CONTROL SEQUENCE OF OPERATION.
7. REFER TO E-701 TO E-705 FOR PANEL SCHEDULES.

KEYNOTES

#	
001.	SEE SECURE BOUNDARY PENETRATION DETAIL A1, SHEET E502.

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

12/14/2022
COMMONWEALTH OF VIRGINIA
YOSEPH Z. SOLOMON
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PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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SUBMITTED BY: KTA
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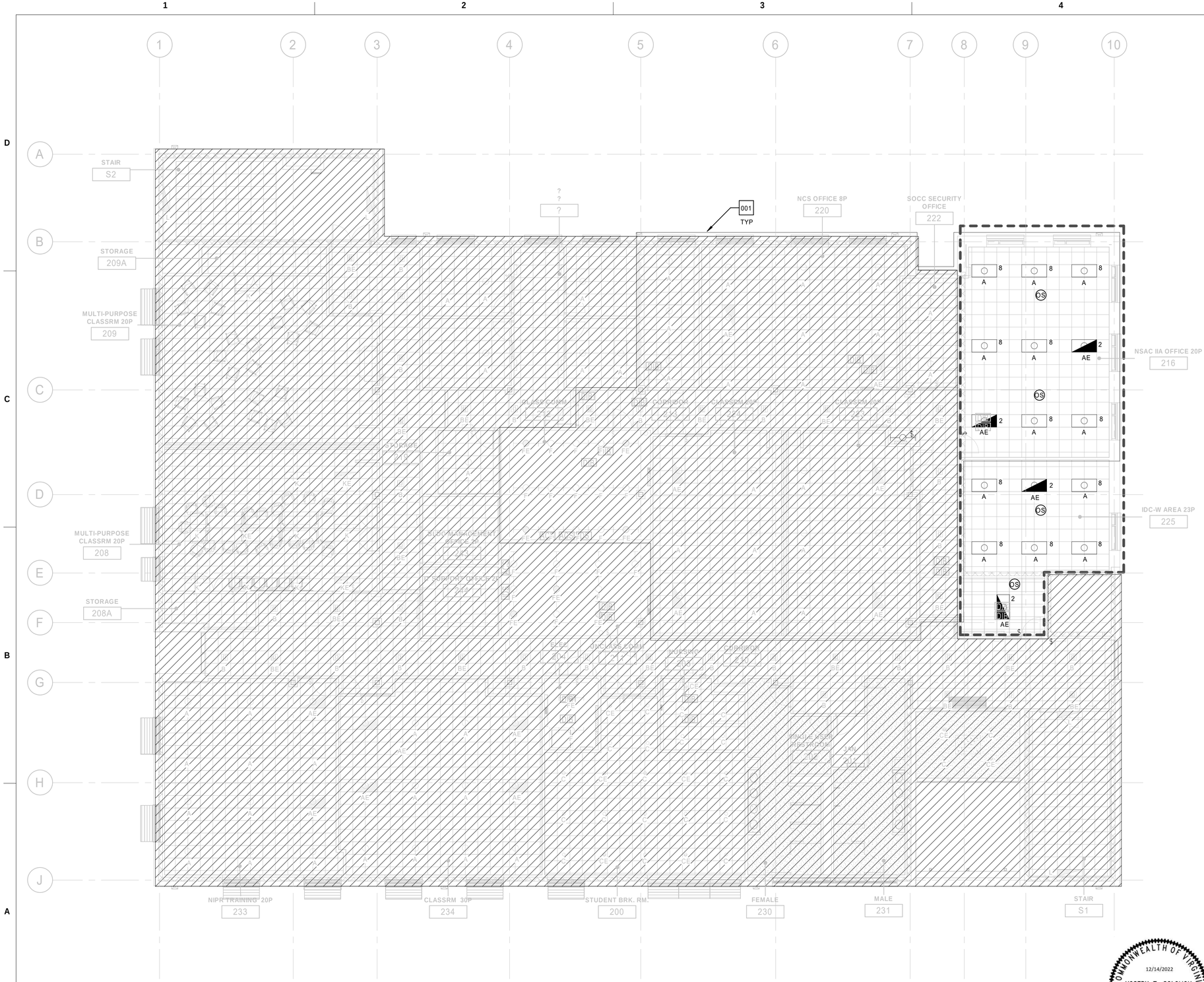
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - SECOND FLOOR - LIGHTING

SHEET ID

EL120



GENERAL SHEET NOTES

1. NORMAL LIGHT FIXTURES ARE FED FROM PANEL P2-H1, UNLESS OTHERWISE NOTED.
2. EMERGENCY LIGHT FIXTURES ARE FED FROM PANEL P2-HE, UNLESS OTHERWISE NOTED.
3. REFER TO E-001 AND E-002 FOR GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
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5. REFER TO EL702 FOR LIGHTING CONTROL ROOM SCHEDULE.
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7. REFER TO E-701 TO E-705 FOR PANEL SCHEDULES.

KEYNOTES

#	
001.	SEE SECURE BOUNDARY PENETRATION DETAIL A1, SHEET E502.

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

A1 SECOND FLOOR - LIGHTING (BID OPTION 1)
1/8" = 1'-0"

COMMONWEALTH OF VIRGINIA
12/14/2022
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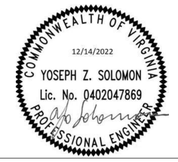
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - SECOND FLOOR - LIGHTING (BID OPTION 1)

SHEET ID
EL120A

LUMINAIRE SCHEDULE

TAG	DESCRIPTION	BASIS OF DESIGN			LAMP TYPE	WATTS	LUMENS	LAMP COLOR TEMPERATURE	LUMINAIRE MOUNTING METHOD	NOTES
		MANUFACTURER	MODEL	ADDITIONAL APPROVED MANUFACTURERS						
A	RECESSED 2X4 FIXTURE WITH PREFROATED CENTER BACKET	FOCAL POINT	FLUL24	COLUMBIA LCAT	LED	48 W	4500 lm	3500 K	RECESSED	
B	RECESSED 1X1 FIXTURE WITH CENTER BASKET	FOCAL POINT	FEQ211	AXIS LIGHTING DIA	LED	21 W	1500 lm	3500 K	RECESSED	
C	6" DOWNLIGHT WITH TWO STAGE REFLECTOR SYSTEM	PORTFOLIO	LD6	GOTHAM EVO	LED	10 W	1000 lm	3500 K	RECESSED	
D	LINEAR RECESSED LED	LITE CONTROL	MOD6LRD	FOCAL POINT SEEM 6	LED	11 W	1100 lm	3500 K	RECESSED	
F	4' X 3" INDUSTRIAL PENDANT	METALUX	4SNLED	LITHONIA ZL1N	LED	25 W	3185 lm	3500 K	PENDANT 8'-0" AFF	
G	SURFACE MOUNTED 1'X4' EMERGENCY EGRESS FIXTURE	LITHONIA	FEML48	COLUMBIA LXEM	LED	22 W	3000 lm	3500 K	SURFACE 6'-0" AFF	
H	ORNAMENTAL PENDANT(3-14", 3-18", 4-24", 4-30" & 4-36" LENGTHS TOTAL 18)	OCL	GLOWSTICK CLUSTER GS1	SPI LIGHTING	LED	11 W	825 lm	3500 K	PENDANT	PENDANT LENGHTS:(3-14", 3-18", 4-24", 4-30" & 4-36")
K	4' X 6" LINEAR DIRECT / INDIRECT PENDANT	FOCAL POINT	FNRS	LITE CONTROL SAE101	LED	32 W	3500 lm	3500 K	PENDANT 8'-0" AFF	
L	WALL BRACKET & SURFACE MOUNTED VERTICAL OR HORIZONTAL LED	LITHONIA	WL4	COLUMBIA ESL	LED	39 W	4000 lm	3500 K	WALL 8'-0" AFF	INTEGRAL OCCUPANCY SENSOR
N	8" DIA. EXTERIOR WALL SCONCE UP AND DOWN	LUMINIS	SY802 L2L20R40BKT	COOPER LTG EONW2	LED	31 W	4315 lm	4000 K	WALL 10'-0" AFF	INTEGRAL PHOTOCELL
P	EXTERIOR WALL PACK	STONCO	LYTEPRO LPW3250NWG34EBPUNVBK	HUBBELL RWL2	LED	45 W	5064 lm	4000 K	WALL 14'-0"AFF	INTEGRAL PHOTOCELL
R	EXTERIOR PARKING LOT POLE LIGHT 1 HEAD	HUBBELL OUTDOOR	RAR1 80L403K75QWUNVASQBLT	AEL ATB MICRO	LED	37 W	4976 lm	3500 K	POLE	POLE 30'-ASQ-MAF-BLT
X	EXIT LIGHT WITH DIE-CAST ALUMINUM HOUSING	LITHONIA	SIGNATURE LE	SURE LITE TPX	LED	2 W	270 lm	0 K	SURFACE	SURFACE MOUNTED AT CEILING



US Army Corps of Engineers ®

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KK	
SIZE: ANSI D'	FILE NAME:

DESIGNED BY:	DRAWN BY:	CHECKED BY:
Y. SOLOMON	D. PAXTON	Y. SOLOMON

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - LIGHTING FIXTURE SCHEDULE

SHEET ID

EL701

LIGHTING CONTROL - ROOM SCHEDULE

Level	ROOM NAME	ROOM NUMBER	ROOM TYPE	MANUAL CONTROL STATION TYPE	AUTOMATIC CONTROL TYPE	DIMMING SCHEME	OCCUPANCY CONTROL SCHEME	NOTES
FIRST FLOOR								
FIRST FLOOR	WAITING AREA FOR TRANSIENT PERSONNEL	100	OPEN OFFICE	ON/OFF/DIMMER/PRESET	OCCUPANCY SENSOR	STANDARD	SHARED	
FIRST FLOOR	NAVY OFFICE 11P	104	OPEN OFFICE	ON/OFF/DIMMER/PRESET	OCCUPANCY SENSOR	STANDARD	SHARED	
FIRST FLOOR	OFFICE	104A	PRIVATE OFFICE	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	PRIVATE	
FIRST FLOOR	OFFICE	104B	PRIVATE OFFICE	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	PRIVATE	
FIRST FLOOR	COAST GUARD OFFICE 7P	106	OPEN OFFICE	ON/OFF/DIMMER/PRESET	OCCUPANCY SENSOR	STANDARD	SHARED	
FIRST FLOOR	OFFICE	106A	PRIVATE OFFICE	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	PRIVATE	
FIRST FLOOR	OFFICE	106B	PRIVATE OFFICE	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	PRIVATE	
FIRST FLOOR	MECH	107	MECHANICAL ROOM	ON/OFF	_	-	-	
FIRST FLOOR	ELEC	108	ELECTRICAL ROOM	ON/OFF	_	-	-	
FIRST FLOOR	MAIN COMM	109	COMM ROOM	ON/OFF	_	-	-	
FIRST FLOOR	AIR FORCE / SPACE FORCE OFFICE 24P	110	OPEN OFFICE	ON/OFF/DIMMER/PRESET	OCCUPANCY SENSOR	STANDARD	SHARED	
FIRST FLOOR	OFFICE	110A	PRIVATE OFFICE	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	PRIVATE	
FIRST FLOOR	OFFICE	110B	PRIVATE OFFICE	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	PRIVATE	
FIRST FLOOR	OFFICE	110C	PRIVATE OFFICE	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	PRIVATE	
FIRST FLOOR	OFFICE	110D	PRIVATE OFFICE	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	PRIVATE	
FIRST FLOOR	VEST	111	VESTIBULE	_	OCCUPANCY SENSOR	CIRCULATION	PUBLIC	
FIRST FLOOR	ELEC	114	ELECTRICAL ROOM	ON/OFF	_	-	-	
FIRST FLOOR	EMPLOYEE BRK. RM.	116	BREAK ROOM	ON/OFF/DIMMER/PRESET	OCCUPANCY SENSOR	STANDARD	SHARED	
FIRST FLOOR	JAN	117	STORAGE ROOM	ON/OFF	_	-	PRIVATE	
FIRST FLOOR	SINGLE USER RESTROOM	118	RESTROOM	ON/OFF	VACANCY SENSOR	-	PRIVATE	
FIRST FLOOR	FEMALE	119	RESTROOM	ON/OFF	VACANCY SENSOR	-	PRIVATE	
FIRST FLOOR	MALE	120	RESTROOM	ON/OFF	VACANCY SENSOR	-	PRIVATE	
FIRST FLOOR	ELEV MACH	122	ELEVATOR MACHINE RM	ON/OFF	_	-	-	
FIRST FLOOR	ARMY OFFICE 23P	123	OPEN OFFICE	ON/OFF/DIMMER/PRESET	OCCUPANCY SENSOR	STANDARD	SHARED	
FIRST FLOOR	OFFICE	123A	PRIVATE OFFICE	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	PRIVATE	
FIRST FLOOR	OFFICE	123B	PRIVATE OFFICE	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	PRIVATE	
FIRST FLOOR	MARINES OFFICE 6P	124	OPEN OFFICE	ON/OFF/DIMMER/PRESET	OCCUPANCY SENSOR	STANDARD	SHARED	
FIRST FLOOR	OFFICE	124A	PRIVATE OFFICE	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	PRIVATE	
FIRST FLOOR	OFFICE	124B	PRIVATE OFFICE	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	PRIVATE	
FIRST FLOOR	CLASSR RM 20P	125	CLASSROOMS	ON/OFF/MULTI -SCENE/ DIMMER	VACANCY SENSOR	CONFERENCE ROOM	SHARED	
FIRST FLOOR	COVE 4P	126	HUDDLE ROOM	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	SHARED	
FIRST FLOOR	COVE 4P	127	HUDDLE ROOM	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	SHARED	
FIRST FLOOR	VEST	129	VESTIBULE	_	OCCUPANCY SENSOR	CIRCULATION	PUBLIC	
FIRST FLOOR	LOBBY / HALL WAY	130	CORRIDOR	_	OCCUPANCY SENSOR	CIRCULATION	PUBLIC	
FIRST FLOOR	CORRIDOR-1	136-1	CORRIDOR	_	OCCUPANCY SENSOR	CIRCULATION	PUBLIC	
FIRST FLOOR	CORRIDOR-2	136-2	OPEN OFFICE	ON/OFF/DIMMER/PRESET	OCCUPANCY SENSOR	STANDARD	SHARED	
FIRST FLOOR	CORRIDOR	137	CORRIDOR	_	OCCUPANCY SENSOR	CIRCULATION	PUBLIC	
FIRST FLOOR	CORRIDOR	138	CORRIDOR	_	OCCUPANCY SENSOR	CIRCULATION	PUBLIC	
FIRST FLOOR	VESTIBULE 2-STORY	139	VESTIBULE	_	OCCUPANCY SENSOR	CIRCULATION	PUBLIC	
FIRST FLOOR	ELEVATOR	E1	ELEVATOR MACHINE RM	ON/OFF	_	-	-	
FIRST FLOOR	STAIR	S1	STAIRS	_	OCCUPANCY SENSOR	-	PUBLIC	
FIRST FLOOR	STAIR	S2	STAIRS	_	OCCUPANCY SENSOR	-	PUBLIC	
SECOND FLOOR								
SECOND FLOOR	STUDENT BRK. RM.	200	BREAK ROOM	ON/OFF/DIMMER/PRESET	OCCUPANCY SENSOR	STANDARD	SHARED	
SECOND FLOOR	JAN	201	JANITOR CLOSET	ON/OFF	_	-	-	
SECOND FLOOR	SINGLE USER RESTROOM	202	RESTROOM	ON/OFF	VACANCY SENSOR	-	PRIVATE	
SECOND FLOOR	NURSING	203	HUDDLE ROOM	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	SHARED	
SECOND FLOOR	ELEC	204	ELECTRICAL ROOM	ON/OFF	_	-	-	
SECOND FLOOR	MULTI-PURPOSE CLASSRM 20P	208	CLASSROOMS	ON/OFF/MULTI -SCENE/ DIMMER	VACANCY SENSOR	CONFERENCE ROOM	SHARED	
SECOND FLOOR	STORAGE	208A	STORAGE ROOM	ON/OFF	_	-	PRIVATE	
SECOND FLOOR	MULTI-PURPOSE CLASSRM 20P	209	CLASSROOMS	ON/OFF/MULTI -SCENE/ DIMMER	VACANCY SENSOR	CONFERENCE ROOM	SHARED	
SECOND FLOOR	STORAGE	209A	STORAGE ROOM	ON/OFF	_	-	PRIVATE	
SECOND FLOOR	CORRIDOR	210	CORRIDOR	_	OCCUPANCY SENSOR	CIRCULATION	PUBLIC	
SECOND FLOOR	UNCLASS COMM	211	COMM ROOM	ON/OFF	__	-	-	
SECOND FLOOR	CLASS COMM	212	COMM ROOM	ON/OFF	__	-	-	
SECOND FLOOR	NIAC IIA OFFICE 20P	216	OPEN OFFICE	ON/OFF/DIMMER/PRESET	OCCUPANCY SENSOR	STANDARD	SHARED	
SECOND FLOOR	STORAGE	219	STORAGE ROOM	ON/OFF	_	-	PRIVATE	
SECOND FLOOR	NCS OFFICE 8P	220	PRIVATE OFFICE	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	PRIVATE	
SECOND FLOOR	ELEC	221	ELECTRICAL ROOM	ON/OFF	_	-	-	
SECOND FLOOR	SOCC SECURITY OFFICE	222	PRIVATE OFFICE	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	PRIVATE	
SECOND FLOOR	CLASSRM 20P	223	CLASSROOMS	ON/OFF/MULTI -SCENE/ DIMMER	VACANCY SENSOR	CONFERENCE ROOM	SHARED	
SECOND FLOOR	CLASSRM 20P	224	CLASSROOMS	ON/OFF/MULTI -SCENE/ DIMMER	VACANCY SENSOR	CONFERENCE ROOM	SHARED	
SECOND FLOOR	IDC-W AREA 23P	225	OPEN OFFICE	ON/OFF/DIMMER/PRESET	OCCUPANCY SENSOR	STANDARD	SHARED	
SECOND FLOOR	FEMALE	230	RESTROOM	ON/OFF	VACANCY SENSOR	-	PRIVATE	
SECOND FLOOR	MALE	231	RESTROOM	ON/OFF	VACANCY SENSOR	-	PRIVATE	
SECOND FLOOR	NIPR TRAINING 20P	233	CLASSROOMS	ON/OFF/MULTI -SCENE/ DIMMER	VACANCY SENSOR	CONFERENCE ROOM	SHARED	
SECOND FLOOR	CLASSRM 30P	234	CLASSROOMS	ON/OFF/MULTI -SCENE/ DIMMER	VACANCY SENSOR	CONFERENCE ROOM	SHARED	
SECOND FLOOR	BLDG MANAGEMENT OFFICE 2P	243	PRIVATE OFFICE	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	PRIVATE	
SECOND FLOOR	IT SUPPORT OFFICE 2P	244	PRIVATE OFFICE	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	PRIVATE	
SECOND FLOOR	SECURED STORAGE	252	STORAGE ROOM	ON/OFF	_	-	PRIVATE	
SECOND FLOOR	COVE	255	HUDDLE ROOM	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	SHARED	
SECOND FLOOR	COVE	256	HUDDLE ROOM	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	SHARED	
SECOND FLOOR	COVE	257	HUDDLE ROOM	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	SHARED	
SECOND FLOOR	COVE	258	HUDDLE ROOM	ON/OFF/DIMMER/PRESET	VACANCY SENSOR	STANDARD	SHARED	
SECOND FLOOR	STORAGE	260	STORAGE ROOM	ON/OFF	_	-	PRIVATE	
SECOND FLOOR	CORRIDOR	264	CORRIDOR	_	OCCUPANCY SENSOR	CIRCULATION	PUBLIC	

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: Y. SOLOMON
DRAWN BY: D. PAXTON
CHECKED BY: Y. SOLOMON
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
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ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - LIGHTING CONTROL ROOM SCHEDULE

SHEET ID

EL702

COMMONWEALTH OF VIRGINIA
12/14/2022
YOSEPH Z. SOLOMON
Lic. No. 0402047869
PROFESSIONAL ENGINEER

RTA SUBMISSION

INTERIOR - LIGHTING CONTROL SEQUENCE OF OPERATIONS

OCCUPANCY CONTROL SCHEME	OCCUPANCY STATE	SEQUENCE OF OPERATION DURING WORK HOURS (0600-1800 MON-FRI)	SEQUENCE OF OPERATION DURING NON-WORK HOURS (1800-0600 MON-FRI, ALL DAY SAT-SUN, HOLIDAYS)
		LIGHTING	LIGHTING
PUBLIC	OCCUPIED	CONTROLLED ZONES AT SELECTED OR ADJUSTED VALUE. WHEN NO MOTION IS SENSED AFTER 20 MINUTES, LIGHTS AUTOMATICALLY SET TO "UNOCCUPIED" STATE.	CONTROLLED ZONES AT SELECTED OR ADJUSTED VALUE. WHEN NO MOTION IS SENSED AFTER 1 MINUTE, LIGHTS AUTOMATICALLY SET TO "UNOCCUPIED" STATE.
	UNOCCUPIED	CONTROLLED ZONES DIM TO 50% RATED LAMP OUTPUT. UPON SENSING MOTION, LIGHTS AUTOMATICALLY RETURN TO "OCCUPIED" STATE WITHIN 1 SECOND.	LIGHTING CONNECTED TO NORMAL POWER IN CONTROLLED ZONES IS "OFF." EMERGENCY LIGHTING REMAINS ON AT 100% RATED LAMP OUTPUT. UPON SENSING MOTION, LIGHTS AUTOMATICALLY RETURN TO "OCCUPIED" STATE WITHIN 1 SECOND.
SHARED	OCCUPIED	CONTROLLED ZONES AT SELECTED OR ADJUSTED VALUE. WHEN NO MOTION IS SENSED AFTER 20 MINUTES, LIGHTS AUTOMATICALLY SET TO "UNOCCUPIED" STATE.	CONTROLLED ZONES AT SELECTED OR ADJUSTED VALUE. WHEN NO MOTION IS SENSED AFTER 10 MINUTES, LIGHTS AUTOMATICALLY SET TO "UNOCCUPIED" STATE.
	UNOCCUPIED	CONTROLLED ZONES DIMMED TO 50% OUTPUT. UPON SENSING MOTION, LIGHTS AUTOMATICALLY RETURN TO "OCCUPIED" STATE WITHIN 3 SECONDS. IF "OFF" SCENE WAS SELECTED, MANUAL INPUT IS REQUIRED TO TURN LIGHTS ON.	LIGHTING CONNECTED TO NORMAL POWER IN CONTROLLED ZONES IS "OFF." EMERGENCY LIGHTING REMAINS ON AT 100% OUTPUT. MANUAL INPUT IS REQUIRED TO TURN LIGHTS ON.
PRIVATE	OCCUPIED	CONTROLLED ZONES AT SELECTED OR ADJUSTED VALUE. WHEN NO MOTION IS SENSED AFTER 20 MINUTES, LIGHTS AUTOMATICALLY SET TO "UNOCCUPIED" STATE.	CONTROLLED ZONES AT SELECTED OR ADJUSTED VALUE. WHEN NO MOTION IS SENSED AFTER 10 MINUTES, LIGHTS AUTOMATICALLY SET TO "UNOCCUPIED" STATE.
	UNOCCUPIED	CONTROLLED ZONES ARE "OFF." MANUAL INPUT IS REQUIRED TO TURN LIGHTS ON.	CONTROLLED ZONES ARE "OFF." MANUAL INPUT IS REQUIRED TO TURN LIGHTS ON.

LIGHTING CONTROL SEQUENCE OF OPERATION SCHEDULE NOTES:

1. SENSORS ALONG CONTROLLED AREA BOUNDARIES IN OPEN AREAS SHALL AFFECT LIGHTS IN ADJACENT CONTROL AREAS WITHIN A 20' RADIUS OF THE SENSOR.
2. SELECTING ANY SCENE EXCEPT "OFF" AT WALL STATION SHALL OVERRIDE OCCUPANCY STATE IN THE ASSOCIATED CONTROLLED AREA TO "OCCUPIED."
3. SWITCHED RECEPTACLES MUST BE CONTROLLED BY THE OCCUPANCY OR VACANCY SENSOR IN THE RESPECTIVE SPACE.

EXTERIOR LIGHTS - SEQUENCE OF OPERATIONS

1.	CONTROL EXTERIOR LIGHTS BASED ON CENTRALLY LOCATED PHOTOCELL.
2.	AUTOMATICALLY TURN ON LIGHTS AT DUSK.
3.	DIM LIGHTING LEVELS TO 70% FROM MIDNIGHT TO 6AM.
4.	AUTOMATICALLY TURN OFF WHEN SUFFICIENT DAY LIGHT IS AVAILABLE.

INTERIOR LIGHTING - DIMMING SCHEDULE

DIMMING SCHEME	SCENE NUMBER	SCENE NAME	ZONES
CONFERENCE ROOM	1	FULL	CON1 @ 100%
	2	VTC	CON1 @ 90%
	3	MEETING	CON1 @ 60%
	4	PRESENTATION	CON1 @ 60%
	OFF	OFF	ALL OFF
STANDARD	1	ON*	CONTROLLED ZONES @100%
	2	OFF	CONTROLLED ZONES OFF
		*WHEN RAISE OR LOWER BUTTON IS ADJUSTED, THE CONTROLLED ZONES RESPOND TO THE RESPECTIVE RAISE OR LOWER COMMAND (DOES NOT APPLY TO SWITCH MODULES).	
CIRCULATION	-	-	CONTROLLED ZONE TURNS TO OCCUPIED AND UNOCCUPIED BASED ON ASTRONOMIC TIME CLOCK SET FOR WORKING HOURS.

DIMMING SCHEDULE NOTES:

1. LIGHTING FIXTURES DESIGNATED AS EMERGENCY FIXTURES SHALL DIM OR OTHERWISE OPERATE IN CONJUNCTION WITH NORMAL LIGHTING FIXTURES IN THE SAME ZONE WHEN UNDER NORMAL POWER. UPON LOSS OF NORMAL POWER, THE DESIGNATED EMERGENCY FIXTURES SHALL IMMEDIATELY BE SET TO 100% RATED LAMP OUTPUT REGARDLESS OF SELECTED SCENE. IF FIXTURES ARE IN THE "OFF" SCENE, THEY SHALL AUTOMATICALLY AND IMMEDIATELY TURN ON TO 100% RATED LAMP OUTPUT. WHEN IN "EMERGENCY MODE," VACANCY SENSOR AND DAYLIGHT SENSOR OVERRIDES SHALL BE DISREGARDED AND THE EMERGENCY FIXTURES SHALL OPERATE AT 100% RATED LIGHT OUTPUT.
2. EMERGENCY LIGHTING IN PUBLIC AND SHARED SPACES SHALL REMAIN "ON" AND BE USED AS NIGHT-LIGHTS DURING NON-WORK HOURS. DURING NON-WORK HOURS, NIGHT LIGHTS SHALL OPERATE AT 100% RATED LAMP OUTPUT.
3. EMERGENCY AND NORMAL LIGHT FIXTURES MUST BE OVERRIDEN TO 100% RATED LIGHT OUTPUT, WHEN ACTIVITAED FROM FIRE ALARM SYSTEM. REFER TO FIRE ALARM DRAWINGS FOR LOCATION OF EMERGENCY LIGHTS OVERRIDE MODULE.
4. LIGHTING WITHIN DAYLIT ZONES SHALL BE CONTROLLED AS DEFINED BY ASHRAE/IES 90.1 2013. DAYLIGHT SENSOR WILL ADJUST LIGHT LEVELS TO MAINTAIN 30fc IN OFFICE SPACES, MEASURED AT 30" AFF. FIXTURES LOCATED WITHIN THE DAYLIT ZONE WILL RESPOND TO INPUTS IN CONJUNCTION WITH OTHER LIGHTS IN THE OVERALL ZONE BUT WILL NOT EXCEED THE MAXIMUM LIGHT OUTPUT NECESSARY TO MEET THE MINIMUM FOOTCANDLE REQUIREMENTS. PRIMARY DAYLIT ZONES SHALL DIM TO "OFF" IF MINIMUM OF 30fc IS ACHIEVED BY DAYLIGHT ALONE. PRIMARY AND SECONDARY DAYLIGHT ZONES SHALL BE INDEPENDENTLY CONTROLLED.
5. DO NOT CONNECT EXIT SIGNS TO LIGHTING CONTROL SYSTEM.
6. WORK HOURS ARE DEFINED AS 0600-1800 MONDAY THROUGH FRIDAY EXCLUDING HOLIDAYS.
7. SELECTION OF A SCENE TEMPORARILY OVERRIDES OCCUPANCY/VACANCY SENSOR CONTROL. UPON MANUAL SELECTION OF ANY SCENE, CONTROLLED ZONES WILL BE SET TO THAT SCENE REGARDLESS OF WHETHER SENSORS ASSOCIATED WITH THE ZONES DETECT MOTION.
8. DIMMING ZONES ARE CONTROLLED ONLY BY THE CONTROL STATION WITHIN THE CONTROLLED AREA BOUNDARY.

COMMONWEALTH OF VIRGINIA
12/14/2022
YOSEPH Z. SOLOMON
Lic. No. 0402047869
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	Y. SOLOMON
DRAWN BY:	D. PAXTON
CHECKED BY:	Y. SOLOMON
SUBMITTED BY:	
SIZE: ANSI D'	FILE NAME:
ISSUE DATE:	14 DECEMBER 2022
SOLICITATION NO.:	W9128F22R0017
CONTRACT NO.:	
FILE NUMBER:	

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - LIGHTING CONTROL SEQUENCE OF OPERATIONS

SHEET ID

EL703

GENERAL SHEET NOTES

1. REFER TO EM701 FOR MECHANICAL CONNECTION SCHEDULE, FOR POWER REQUIRMENTS OF MECHANCIAL EQUIPMENT.
2. REFER TO E-001 AND E-002 FOR GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
3. REFER TO E-700 SERIES DRAWINGS FOR PANEL SCHEDULES.

KEYNOTES

#	
001.	JUNCTION BOX FOR TRAP PRIMER PANEL.
002.	POWER CONNECTION FOR GARBAGE DISPOSAL.
003.	POWER FOR VAV CONTROLLERS. MAXIMUM OF FOUR VAV BOXES TO BE FED FROM A SINGLE 120V CIRCUIT.
004.	JUNCTION BOX FOR BAS CONTROL PANEL.
005.	JUNCTION BOX FOR H-1 HEATER.
006.	JUNCTION BOX FOR H-2 HEATER.
007.	POWER TO INTERIOR AC UNIT ARE PROVIDED FROM CORRESPONDING EXTERIOR UNIT.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: Y. SOLOMON
DRAWN BY: D. PAXTON
CHECKED BY: Y. SOLOMON
SUBMITTED BY: K. K.
SIZE: ANSI D
ISSUE DATE: 14 DECEMBER 2022
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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
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ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - FIRST FLOOR - MECH EQUIPMENT

A1 FIRST FLOOR - MECHANICAL EQUIPMENT - OVERALL

1/8" = 1'-0"

12/14/2022
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Lic. No. 0402047869
PROFESSIONAL ENGINEER
COMMONWEALTH OF VIRGINIA

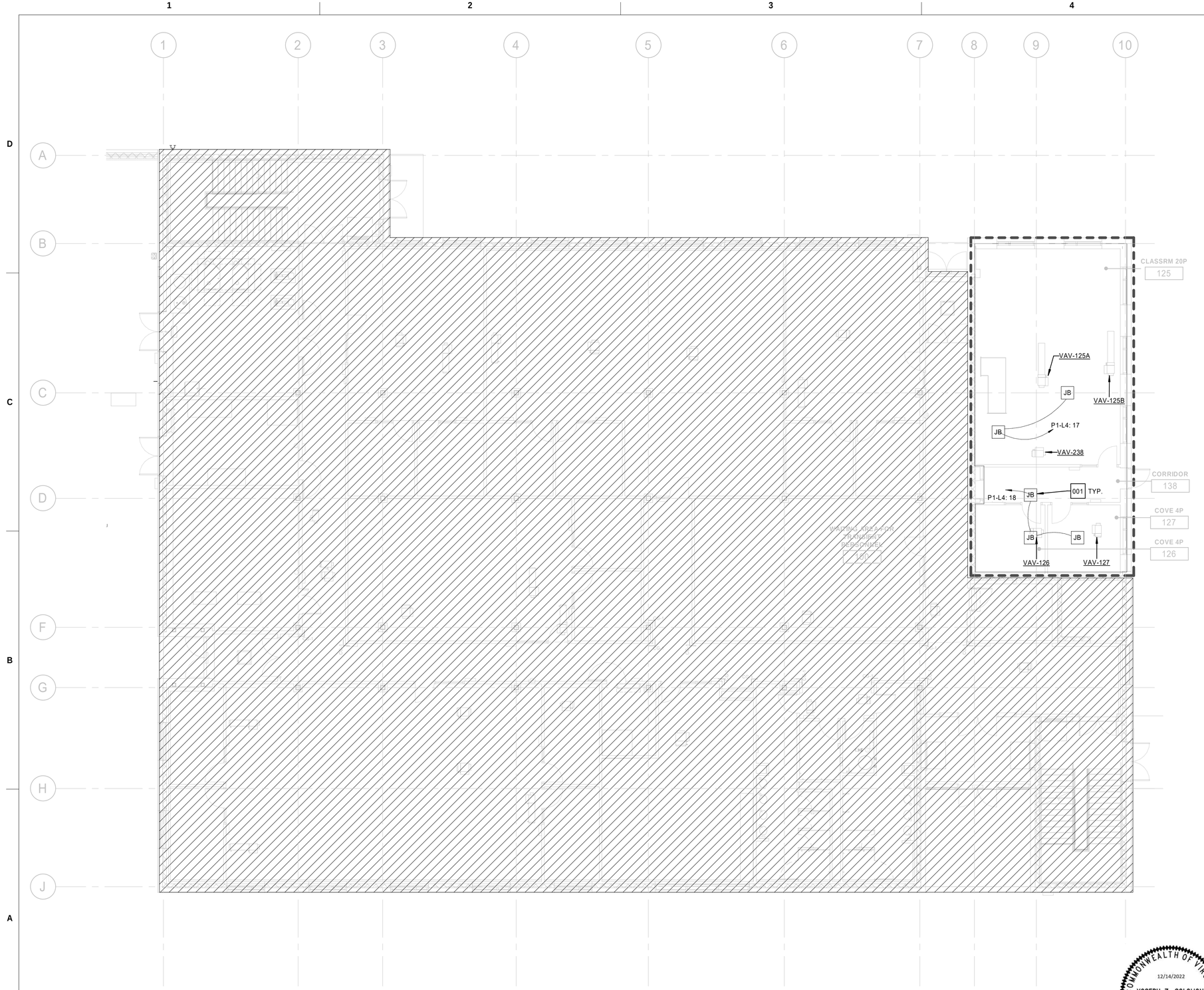
GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

SHEET ID
EM110



GENERAL SHEET NOTES

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KEYNOTES

001. POWER FOR VAV CONTROLLERS. MAXIMUM OF FOUR VAV BOXES TO BE FED FROM A SINGLE 120V CIRCUIT.

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

12/14/2022
YOSEPH Z. SOLOMON
Lic. No. 0402047869
PROFESSIONAL ENGINEER
COMMONWEALTH OF VIRGINIA

A1 FIRST FLOOR - MECHANICAL EQUIPMENT - OVERALL
1/8" = 1'-0"

US Army Corps of Engineers ®

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US ARMY CORPS OF ENGINEERS
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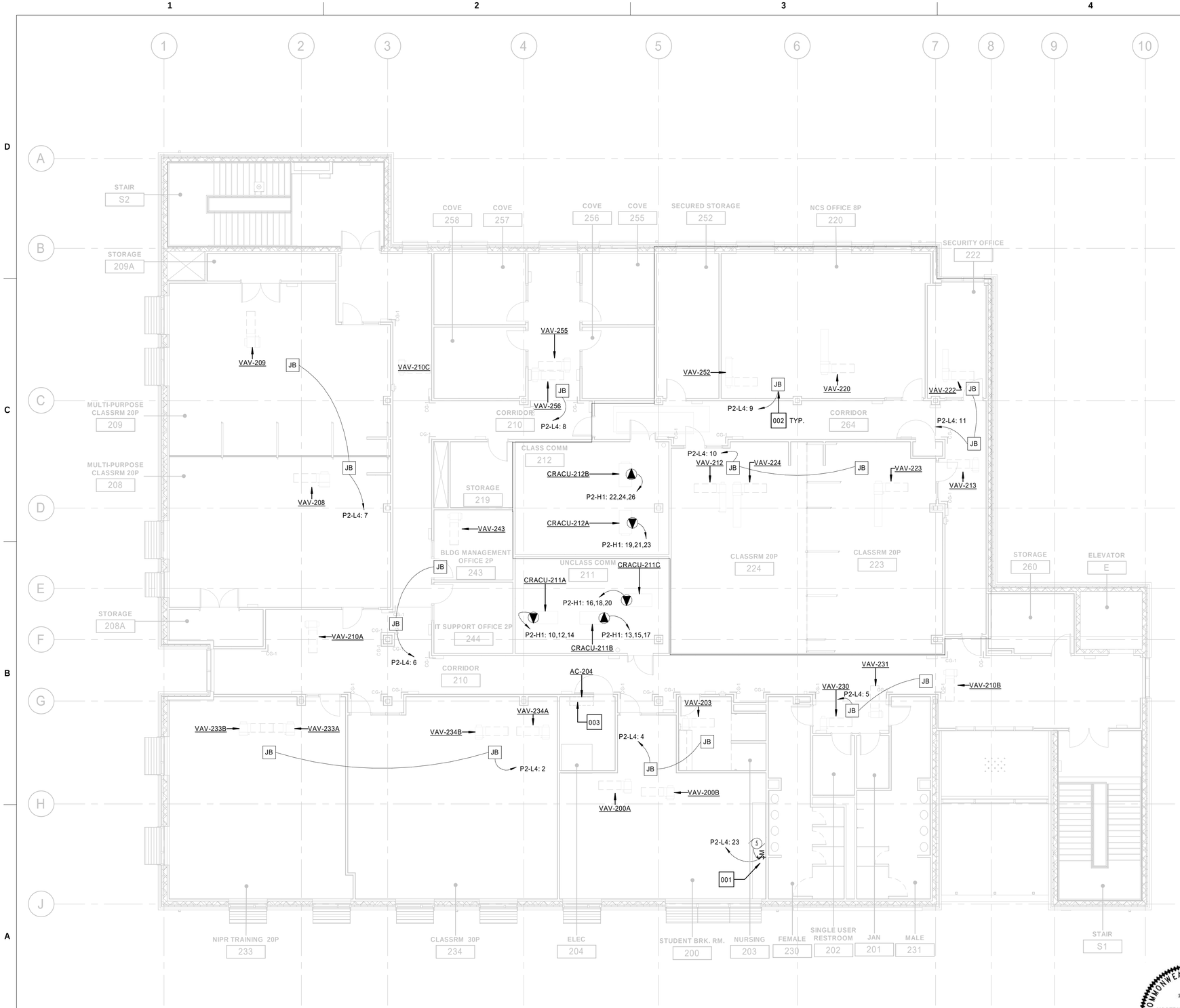
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - FIRST FLOOR - MECH EQUIPMENT (BID OPTION 1)

SHEET ID
EM110A

RTA SUBMISSION



A1 SECOND FLOOR - MECHANICAL EQUIPMENT - OVERALL

1/8" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO EM701 FOR MECHANICAL CONNECTION SCHEDULE, FOR POWER REQUIRMENTS OF MECHANCIAL EQUIPMENT.
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3. REFER TO E-700 SERIES DRAWINGS FOR PANEL SCHEDULES.

KEYNOTES

001. POWER CONNECTION FOR GARBAGE DISPOSAL.

002. POWER FOR VAV CONTROLLERS. MAXIMUM OF FOUR VAV BOXES TO BE FED FROM A SINGLE 120V CIRCUIT.

003. POWER TO INTERIOR AC UNIT ARE PROVIDED FROM CORRESPONDING EXTERIOR UNIT.

LEGEND

SECURE AREA

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

COMMONWEALTH OF VIRGINIA
12/14/2022
YOSEPH Z. SOLOMON
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DESIGNED BY: Y. SOLOMON
DRAWN BY: D. PAXTON
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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

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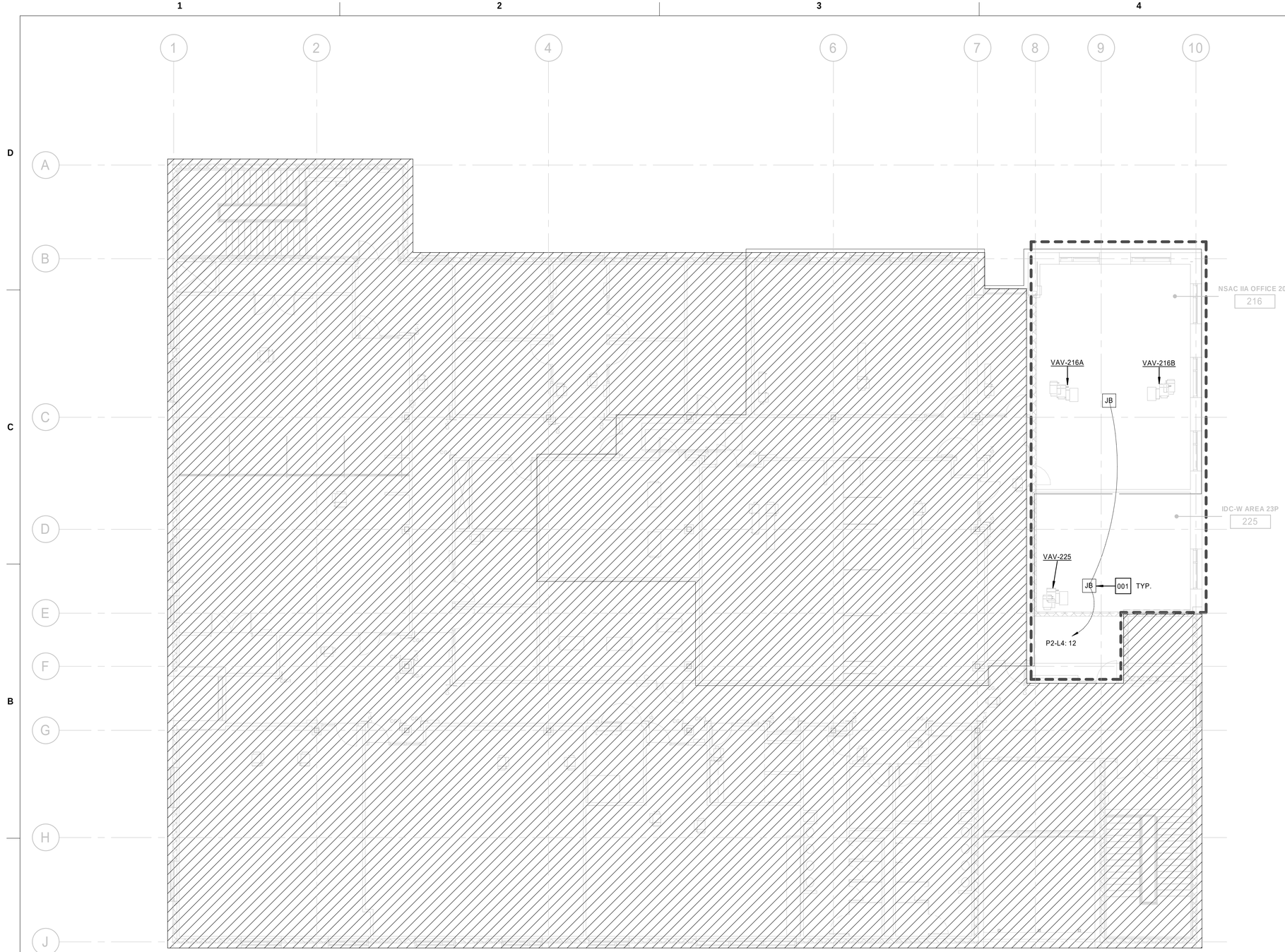
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - SECOND FLOOR - MECH EQUIPMENT

SHEET ID

EM120



1 SECOND FLOOR - MECHANICAL EQUIPMENT - OVERALL
1/8" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO EM701 FOR MECHANICAL CONNECTION SCHEDULE, FOR POWER REQUIRMENTS OF MECHANCIAL EQUIPMENT.
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KEYNOTES

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001.	POWER FOR VAV CONTROLLERS. MAXIMUM OF FOUR VAV BOXES TO BE FED FROM A SINGLE 120V CIRCUIT.

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16
SCALE: 1/8" = 1'-0"

PLAN NORTH

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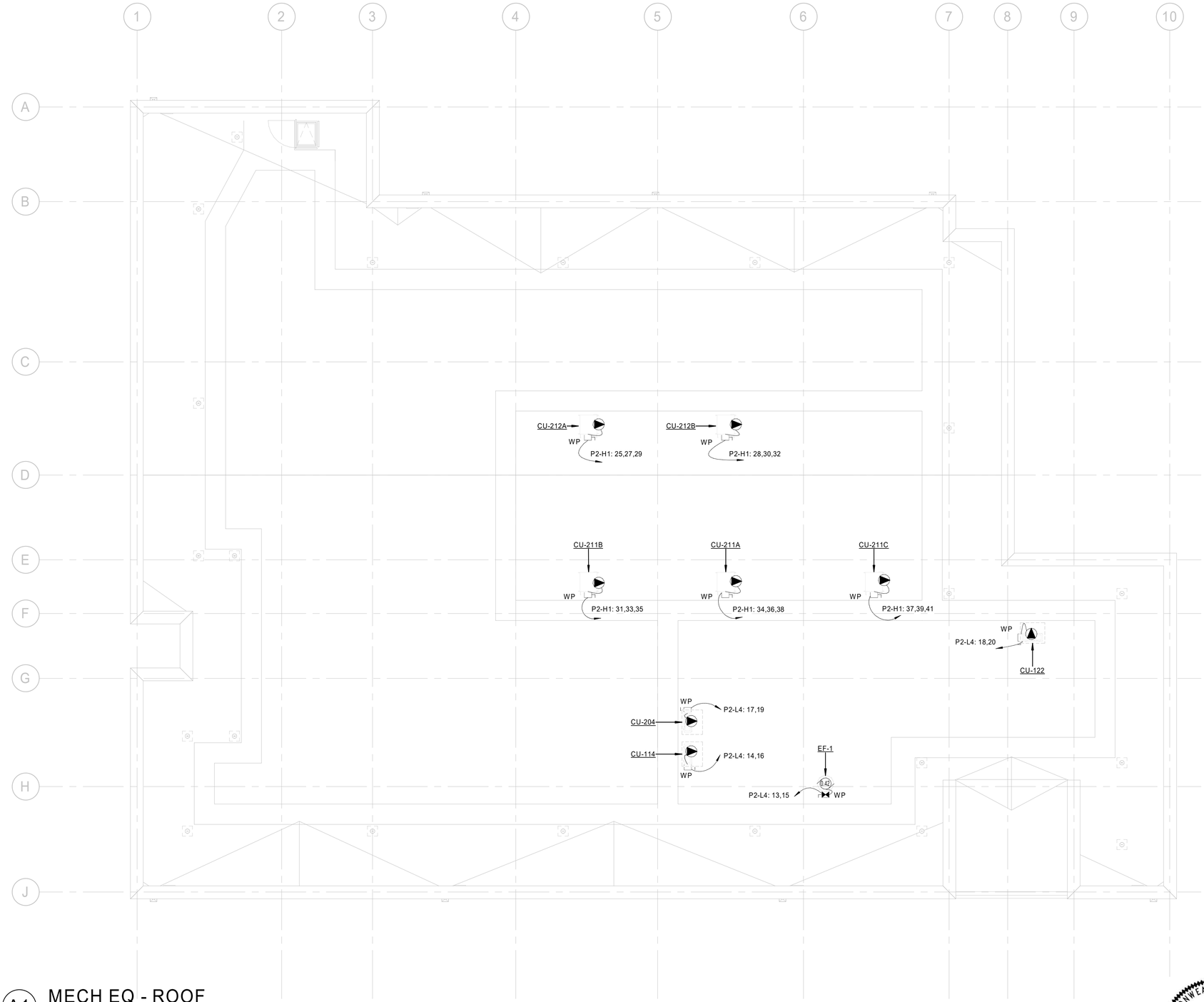
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - SECOND FLOOR -MECH EQUIPMENT (BID OPTION 1)

SHEET ID

EM120A



A1 MECH EQ - ROOF
1/8" = 1'-0"

GENERAL SHEET NOTES

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12/14/2022
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GRAPHIC SCALE(S)

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FILE NAME:	

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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - ROOF - MECH EQUIPMENT

SHEET ID
EM130

RTA SUBMISSION

AIR HANDLING UNIT - CONNECTION SCHEDULE

TAG	LOCATION	SERVICE	VOLTAGE	PHASE	Hz	MCA	MOCP	DISCONNECT/STARTER TYPE	WIRE SIZE
AHU-1	ON GRADE	BUILDING NORTH	480 V	3	60 Hz	135 A	150 A	DISCONNECT/STARTER INTEGRAL TO UNIT	SEE SINGLE-LINE DIAGRAM
AHU-2	ON GRADE	BUILDING SOUTH	480 V	3	60 Hz	124 A	150 A	DISCONNECT/STARTER INTEGRAL TO UNIT	SEE SINGLE-LINE DIAGRAM

CONDENSING BOILER - CONNECTION SCHEDULE

TAG	LOCATION	SERVICE	V	PH	Hz	DISCONNECT	WIRE SIZE
B-1	107 MECH	HEATING HOT WATER	120	1	60	FIELD MOUNTED DISCONNECT	2-#12+12G IN 3/4" C
B-2	107 MECH	HEATING HOT WATER	120	1	60	FIELD MOUNTED DISCONNECT	2-#12+12G IN 3/4" C

HUMIDIFIER - CONNECTION SCHEDULE

TAG	SERVICE	LOCATION	V	Ph	Hz	KW	DISCONNECT	WIRE SIZE
H-1	AHU-1	ON GRADE	480	3	60	63	DISCONNECT INTEGRAL TO UNIT	3 - #1+#1G IN 1 1/2" C
H-2	AHU-2	ON GRADE	480	3	60	63	DISCONNECT INTEGRAL TO UNIT	3 - #1+#1G IN 1 1/2" C

PUMP - CONNECTION SCHEDULE

TYPE	MARK	TAG	LOCATION	SERVICE	HP	V	PH	Hz	DISCONNECT/STARTER	WIRE SIZE
HHWP	1	HHWP-1	107 MECH	HEATING HOT WATER	5	480	3	60	VFD WITH INTEGRAL DISCONNECT	3-#12+12G IN 3/4" C
HHWP	2	HHWP-2	107 MECH	HEATING HOT WATER	5	480	3	60	VFD WITH INTEGRAL DISCONNECT	3-#12+12G IN 3/4" C

COMPUTER ROOM AIR-CONDITIONING UNIT

TAG	LOCATION	V	PH	Hz	MCA	MOCP	STARTER/DISCONNECT	WIRE SIZE
CRACU-109A	109 MAIN COMM	480	3	60	39.1	82.1	DISCONNECT/STARTER INTEGRAL TO UNIT	3 - #1+#1G IN 1 1/2" C
CRACU-109B	109 MAIN COMM	480	3	60	39.1	82.1	DISCONNECT/STARTER INTEGRAL TO UNIT	3 - #1+#1G IN 1 1/2" C
CRACU-211A	211 UNCLASS COMM	480	3	60	39.1	82.1	DISCONNECT/STARTER INTEGRAL TO UNIT	3 - #1+#1G IN 1 1/2" C
CRACU-211B	211 UNCLASS COMM	480	3	60	40.3	82.1	DISCONNECT/STARTER INTEGRAL TO UNIT	3 - #1+#1G IN 1 1/2" C
CRACU-211C	211 UNCLASS COMM	480	3	60	40.3	82.1	DISCONNECT/STARTER INTEGRAL TO UNIT	3 - #1+#1G IN 1 1/2" C
CRACU-212A	212 CLASS COMM	480	3	60	40.3	82.1	DISCONNECT/STARTER INTEGRAL TO UNIT	3 - #1+#1G IN 1 1/2" C
CRACU-212B	212 CLASS COMM	480	3	60	40.3	82.1	DISCONNECT/STARTER INTEGRAL TO UNIT	3 - #1+#1G IN 1 1/2" C

DUCTLESS SPLIT SYSTEM - INDOOR UNIT - CONNECTION SCHEDULE

TAG	LOCATION	V	PH	Hz	MCA	MOCP	DISCONNECT	WIRE SIZE
AC-108	108 ELEC	208	1	60	1.0	15	DISCONNECT/STARTER INTEGRAL TO UNIT	2-#12+12G IN 3/4" C
AC-114	114 ELEC	208	1	60	1.0	15	DISCONNECT/STARTER INTEGRAL TO UNIT	2-#12+12G IN 3/4" C
AC-122	122 ELEV MACH	208	1	60	1.0	15	DISCONNECT/STARTER INTEGRAL TO UNIT	2-#12+12G IN 3/4" C
AC-204	204 ELEC	208	1	60	1.0	15	DISCONNECT/STARTER INTEGRAL TO UNIT	2-#12+12G IN 3/4" C

NOTE: PROVIDE INTERLOCK WIRING BETWEEN OUTDOOR UNIT AND INDOOR UNIT, IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.

CONDENSING UNIT - CONNECTION SCHEDULE

TAG	LOCATION	ASSOCIATED INDOOR UNIT	V	PH	Hz	MCA	MOCP	DISCONNECT	WIRE SIZE
CU-108	ON GRADE	AC-108	208	1	60	19.0	26.0	FIELD MOUNTED DISCONNECT	2-#10+10G IN 3/4" C
CU-109A	ON GRADE	CRACU-109A	480	3	60	3.5	6.3	FIELD MOUNTED DISCONNECT	3-#12+12G IN 3/4" C
CU-109B	ON GRADE	CRACU-109B	480	3	60	3.5	6.3	FIELD MOUNTED DISCONNECT	3-#12+12G IN 3/4" C
CU-114	ROOF	AC-114	208	1	60	11.0	28.0	FIELD MOUNTED DISCONNECT	2-#10+10G IN 3/4" C
CU-122	ROOF	AC-122	208	1	60	24.0	40.0	FIELD MOUNTED DISCONNECT	2-#10+10G IN 3/4" C
CU-204	ROOF	AC-204	208	1	60	11.0	28.0	FIELD MOUNTED DISCONNECT	2-#10+10G IN 3/4" C
CU-211A	ROOF	CRACU-211A	480	3	60	3.5	6.3	FIELD MOUNTED DISCONNECT	3-#12+12G IN 3/4" C
CU-211B	ROOF	CRACU-211B	480	3	60	3.5	6.3	FIELD MOUNTED DISCONNECT	3-#12+12G IN 3/4" C
CU-211C	ROOF	CRACU-211C	480	3	60	3.5	6.3	FIELD MOUNTED DISCONNECT	3-#12+12G IN 3/4" C
CU-212A	ROOF	CRACU-212A	480	3	60	3.5	6.3	FIELD MOUNTED DISCONNECT	3-#12+12G IN 3/4" C
CU-212B	ROOF	CRACU-212B	480	3	60	3.5	6.3	FIELD MOUNTED DISCONNECT	3-#12+12G IN 3/4" C

GLYCOL FEEDER - CONNECTION SCHEDULE

TAG	LOCATION	V	PH	KW	DISCONNECT	WIRE SIZE
GF-1	107 MECH	120	1	.3	INTEGRAL TO UNIT	2-#12+#12G IN 3/4" C

UNIT HEATER - CONNECTION SCHEDULE

TAG	LOCATION	V	PH	KW	DISCONNECT	WIRE SIZE
UH-1	107 MECH	120	1	.150	INTEGRAL TO UNIT	2-#12+#12G IN 3/4" C

CABINET UNIT HEATER - CONNECTION SCHEDULE

TAG	V	PH	Hz	MCA	MOCP	DISCONNECT	WIRE SIZE
CUH-111	208	1	60	1 A	1 A	DISCONNECT/STARTER INTEGRAL TO UNIT	2-#12+12G IN 3/4" C
CUH-129	208	1	60	1 A	1 A	DISCONNECT/STARTER INTEGRAL TO UNIT	2-#12+12G IN 3/4" C
CUH-139A	208	1	60	2 A	15 A	DISCONNECT/STARTER INTEGRAL TO UNIT	2-#12+12G IN 3/4" C
CUH-139B	208	1	60	2 A	15 A	DISCONNECT/STARTER INTEGRAL TO UNIT	2-#12+12G IN 3/4" C
CUH-S1	208	1	60	2 A	15 A	DISCONNECT/STARTER INTEGRAL TO UNIT	2-#12+12G IN 3/4" C
CUH-S2	208	1	60	2 A	15 A	DISCONNECT/STARTER INTEGRAL TO UNIT	2-#12+12G IN 3/4" C

PLUMBING EQUIPMENT CONNECTION SCHEDULE

TAG	DESCRIPTION	V	PH	HZ	KW	DISCONNECT	WIRE SIZE
EWH-1	ELECTRIC WATER HEATER	480	3	60	12	FIELD MOUNTED DISCONNECT	2-#12+#12G IN 3/4" C
HWRP-1	DOMESTIC HOT WATER RECIRC PUMP	120	1	60	.5	FIELD MOUNTED STARTER/DISCONNECT	2-#12+#12G IN 3/4" C
SP-1	OIL MINDER SUMP PUMP	120	1	60	0.5	FIELD MOUNTED STARTER/DISCONNECT	2-#12+#12G IN 3/4" C

FAN - CONNECTION SCHEDULE

TAG	LOCATION	SERVICE	HP	V	PH	HZ	DRIVE TYPE	DISCONNECT	WIRE SIZE
EF-1	ROOF	117, 201 JAN; 118, 202 SINGLE USE RESTRM; 119, 230 FEMALE; 120, 231 MALE	0.42	208	1	60	DIRECT DRIVE	FIELD MOUNTED DISCONNECT	2-#12+12G IN 3/4" C

GENERAL SHEET NOTES

1. DISCONNECTS/STARTERS THAT ARE NOT INDICATED AS BEING INTEGRAL TO UNIT, MUST BE INSTALLED IN THE FIELD.

COMMONWEALTH OF VIRGINIA
12/14/2022
YOSEPH Z. SOLOMON
Lic. No. 0402047869
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

DATE | DESCRIPTION | MARK

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: Y. SOLOMON
DRAWN BY: D. PAXTON
CHECKED BY: Y. SOLOMON
SUBMITTED BY:
REVIEWED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

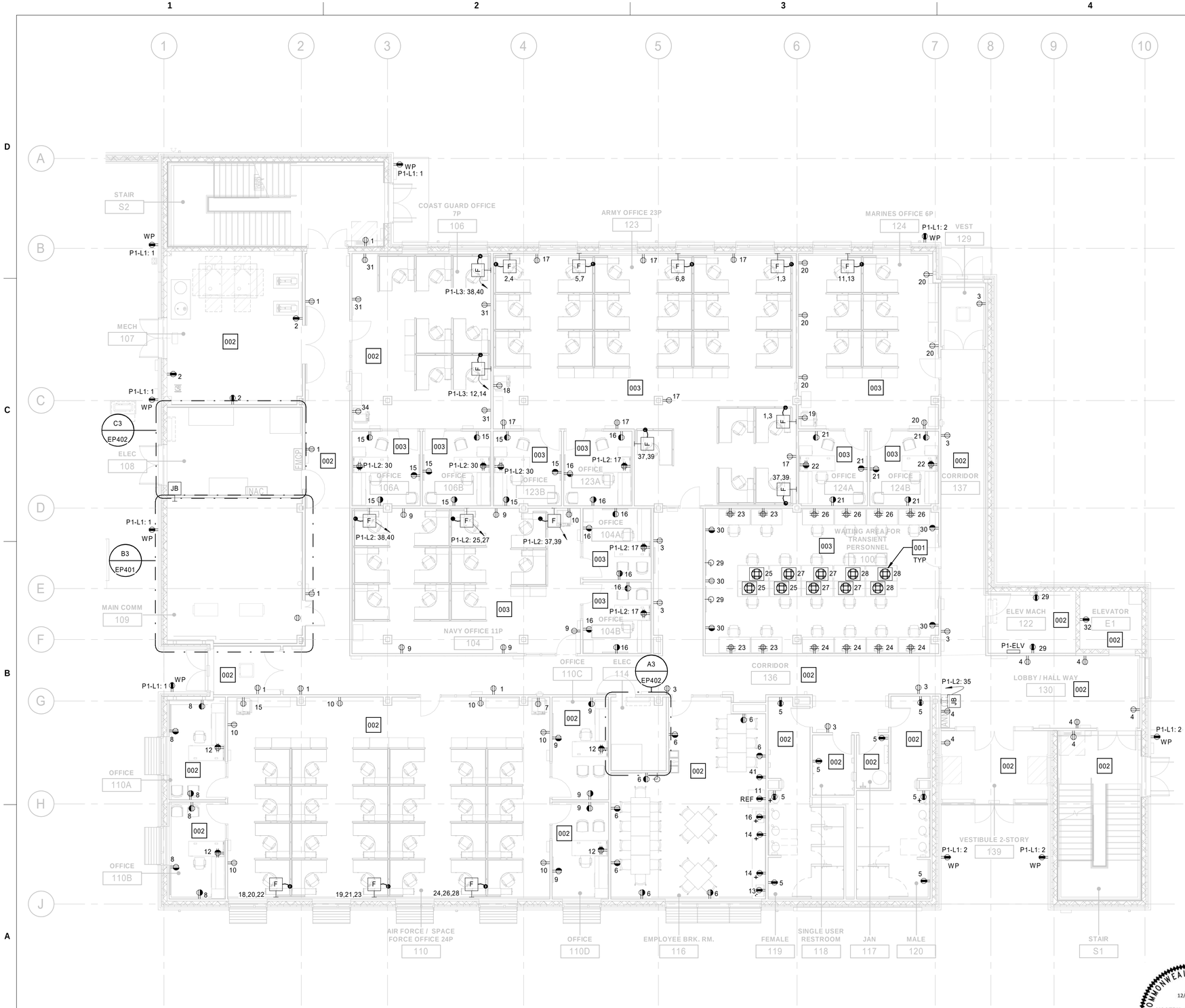
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - MECHANICAL CONNECTION SCHEDULE

SHEET ID
EM701

RTA SUBMISSION



A1 FIRST FLOOR - POWER
1/8" = 1'-0"

GENERAL SHEET NOTES

1. CIRCUIT ALL DEVICES TO PANELS P1-L2 OR P1-L3, UNLESS OTHERWISE NOTED.
2. REFER TO E-001 AND E-002 FOR GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
3. REFER TO E-700 SERIES DRAWINGS FOR PANEL SCHEDULES.

KEYNOTES

#	
001.	RUN POWER TO SERVE FLOOR RECEPTACLES IN FLOOR CONCRETE SLAB. COORDINATE WITH STRUCTURAL DRAWING S-001 FOR REQUIRMENTS OF EMBEDED ITEMS IN CONCRETE SLABS.
002.	CIRCUIT DEVICES IN THIS ROOM FROM PANEL P1-L2, UNLESS OTHERWISE NOTED.
003.	CIRCUIT DEVICES IN THIS ROOM FROM PANEL P1-L3, UNLESS OTHERWISE NOTED.

COMMONWEALTH OF VIRGINIA
12/14/2022
YOSEPH Z. SOLOMON
Lic. No. 0402047869
PROFESSIONAL ENGINEER

GRAPHIC SCALE(S)

8 6 4 2 0 8 16
SCALE: 1/8" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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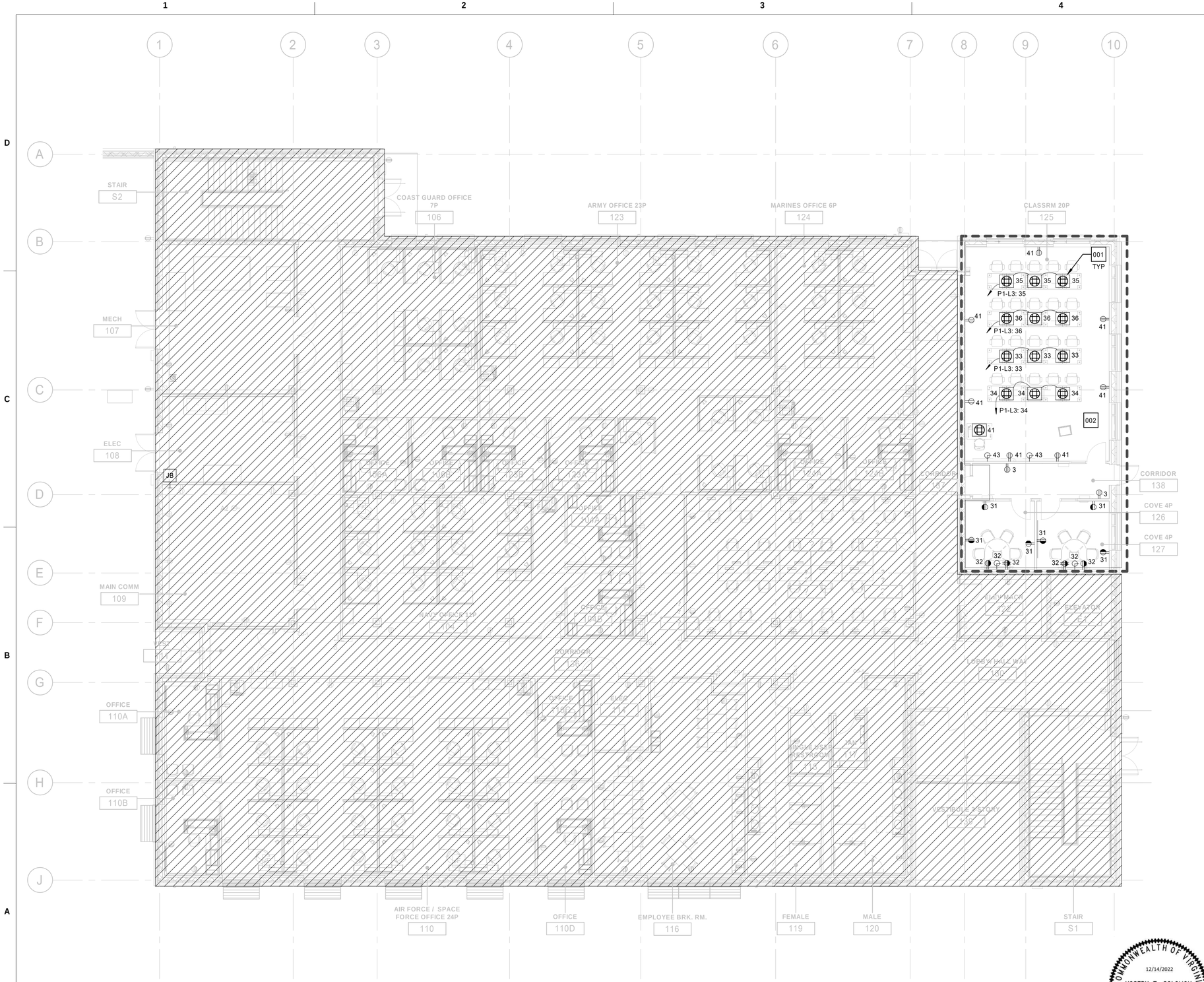
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - FIRST FLOOR - POWER

SHEET ID
EP110



A1 FIRST FLOOR - POWER (BID OPTION 1)

1/8" = 1'-0"

GENERAL SHEET NOTES

1. CIRCUIT ALL DEVICES TO PANELS P1-L2, UNLESS OTHERWISE NOTED.
2. REFER TO E-001 AND E-002 FOR GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
3. REFER TO E-700 SERIES DRAWINGS FOR PANEL SCHEDULES.

KEYNOTES

001. RUN POWER TO SERVE FLOOR RECEPTACLES IN FLOOR CONCRETE SLAB. COORDINATE WITH STRUCTURAL DRAWING S-001 FOR REQUIRMENTS OF EMBEDED ITEMS IN CONCRETE SLABS.

002. CIRCUIT DEVICES IN THIS ROOM FROM PANEL P1-L3, UNLESS OTHERWISE NOTED.

LEGEND

AREA OF BID OPTION 1

SECURE AREA

AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

COMMONWEALTH OF VIRGINIA
12/14/2022
YOSEPH Z. SOLOMON
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US Army Corps of Engineers ®

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FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
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ARLINGTON, VA 22201

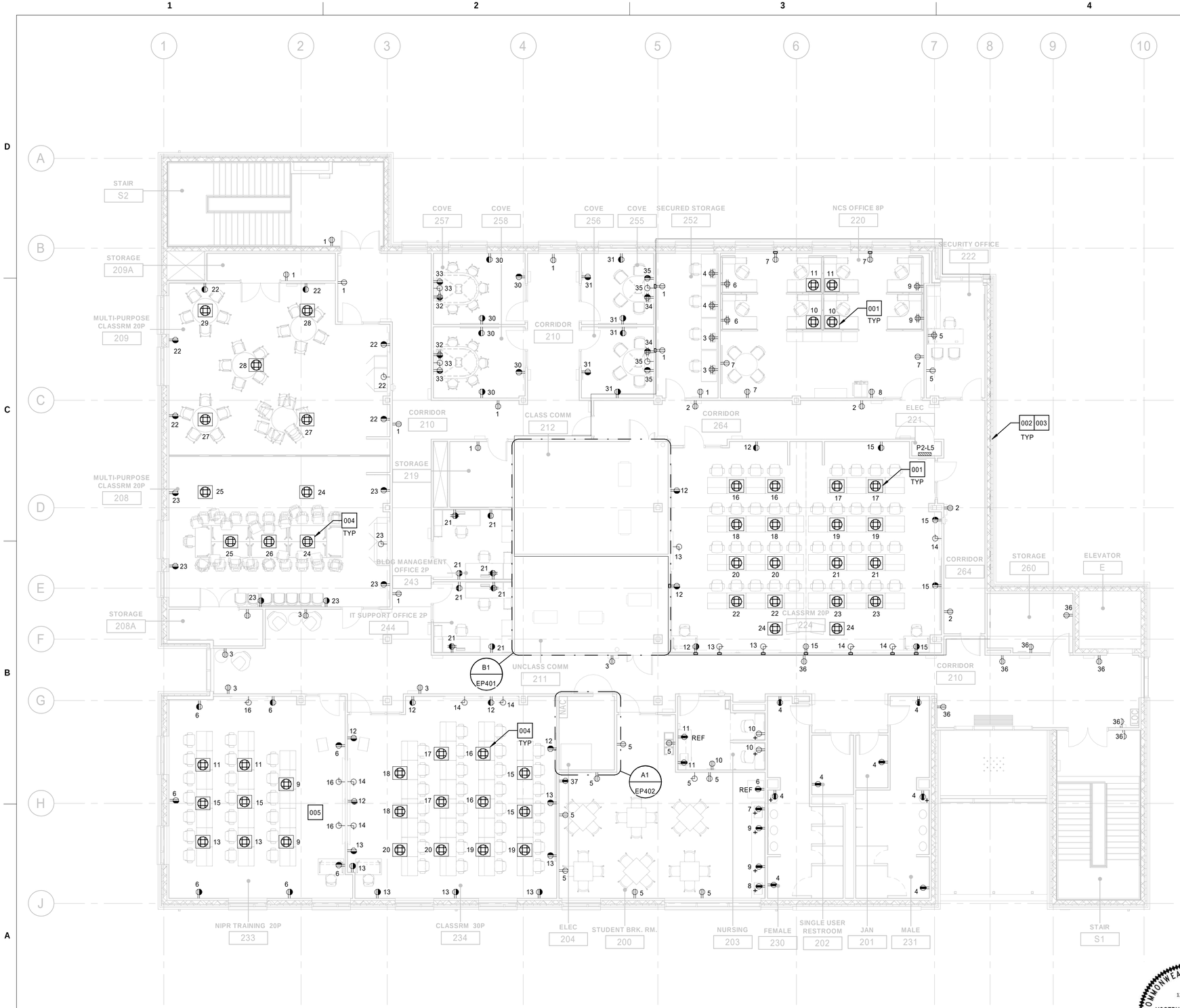
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - FIRST FLOOR - POWER (BID OPTION 1)

SHEET ID

EP110A

RTA SUBMISSION



A1 SECOND FLOOR - POWER
1/8" = 1'-0"

GENERAL SHEET NOTES

1. CIRCUIT ALL DEVICES TO PANELS P2-L2, UNLESS OTHERWISE NOTED.
2. REFER TO E-001 AND E-002 FOR GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
3. REFER TO E-700 SERIES DRAWINGS FOR PANEL SCHEDULES.

KEYNOTES

#	
001.	IN SECURED AREA, RUN CONDUITS TO SERVE FLOOR RECEPTACLES IN FLOOR CONCRETE SLAB. COORDINATE WITH STRUCTURAL DRAWING S-001 FOR REQUIRMENTS OF EMBEDED ITEMS IN CONCRETE SLABS.
002.	CIRCUIT DEVICES IN THIS AREA FROM PANEL P2-L5, UNLESS OTHERWISE NOTED.
003.	SEE SECURE BOUNDARY PENETRATION DETAIL C1, SHEET E502.
004.	IN NON-SECURED AREA, RUN CONDUITS TO SERVE FLOOR RECEPTACLES ABOVE CEILING OF FIRST FLOOR. COORDINATE WITH STRUCTURAL DRAWING S-001 FOR REQUIRMENTS OF EMBEDED ITEMS IN CONCRETE SLABS.
005.	CIRCUIT DEVICES IN THIS ROOM FROM PANEL P2-L3, UNLESS OTHERWISE NOTED.

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

COMMONWEALTH OF VIRGINIA
12/14/2022
YOSEPH Z. SOLOMON
Lic. No. 0402047869
PROFESSIONAL ENGINEER

GRAPHIC SCALE(S)

8 6 4 2 0 8 16
SCALE: 1/8" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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Omaha, NE

JACOBS
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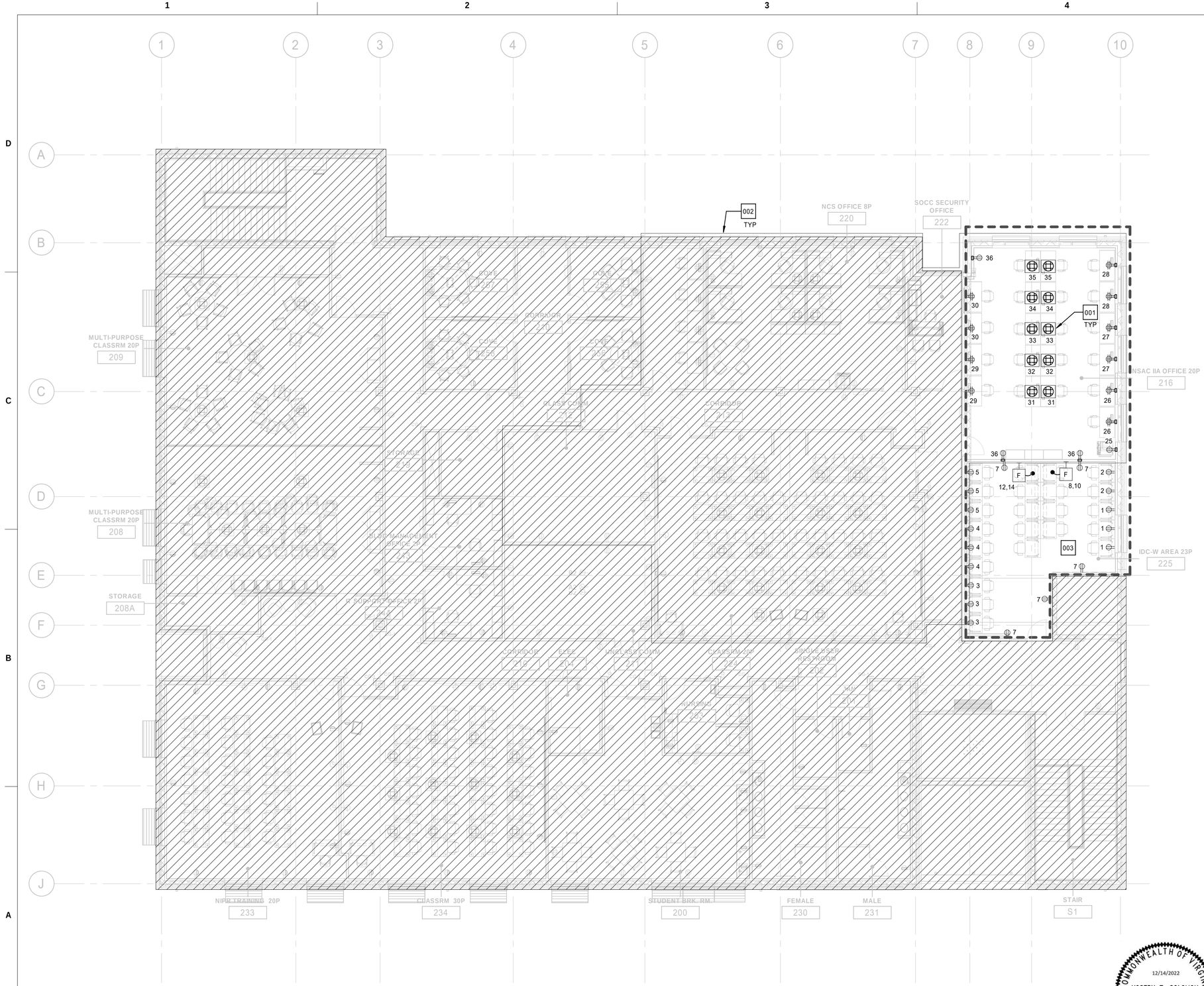
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - SECOND FLOOR - POWER

SHEET ID
EP120



A1 SECOND FLOOR - POWER (BID OPTION 1)

1/8" = 1'-0"

GENERAL SHEET NOTES

1. CIRCUIT ALL DEVICES TO PANELS P2-L3, UNLESS OTHERWISE NOTED.
2. REFER TO E-001 AND E-002 FOR GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
3. REFER TO E-700 SERIES DRAWINGS FOR PANEL SCHEDULES.

KEYNOTES

#	
001.	IN SECURED AREA, RUN CONDUITS TO SERVE FLOOR RECEPTACLES IN FLOOR CONCRETE SLAB. COORDINATE WITH STRUCTURAL DRAWING S-001 FOR REQUIRMENTS OF EMBEDED ITEMS IN CONCRETE SLABS.
002.	CIRCUIT DEVICES IN THIS AREA FROM PANEL P2-L5, UNLESS OTHERWISE NOTED.
003.	CIRCUIT DEVICES IN THIS ROOM FROM PANEL P2-L3, UNLESS OTHERWISE NOTED.

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

COMMONWEALTH OF VIRGINIA
12/14/2022
YOSEPH Z. SOLOMON
Lic. No. 0402047869
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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DESIGNED BY: Y. SOLOMON
DRAWN BY: D. PAXTON
CHECKED BY: Y. SOLOMON
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

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Omaha District
Omaha, NE

JACOBS
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ARLINGTON, VA 22201

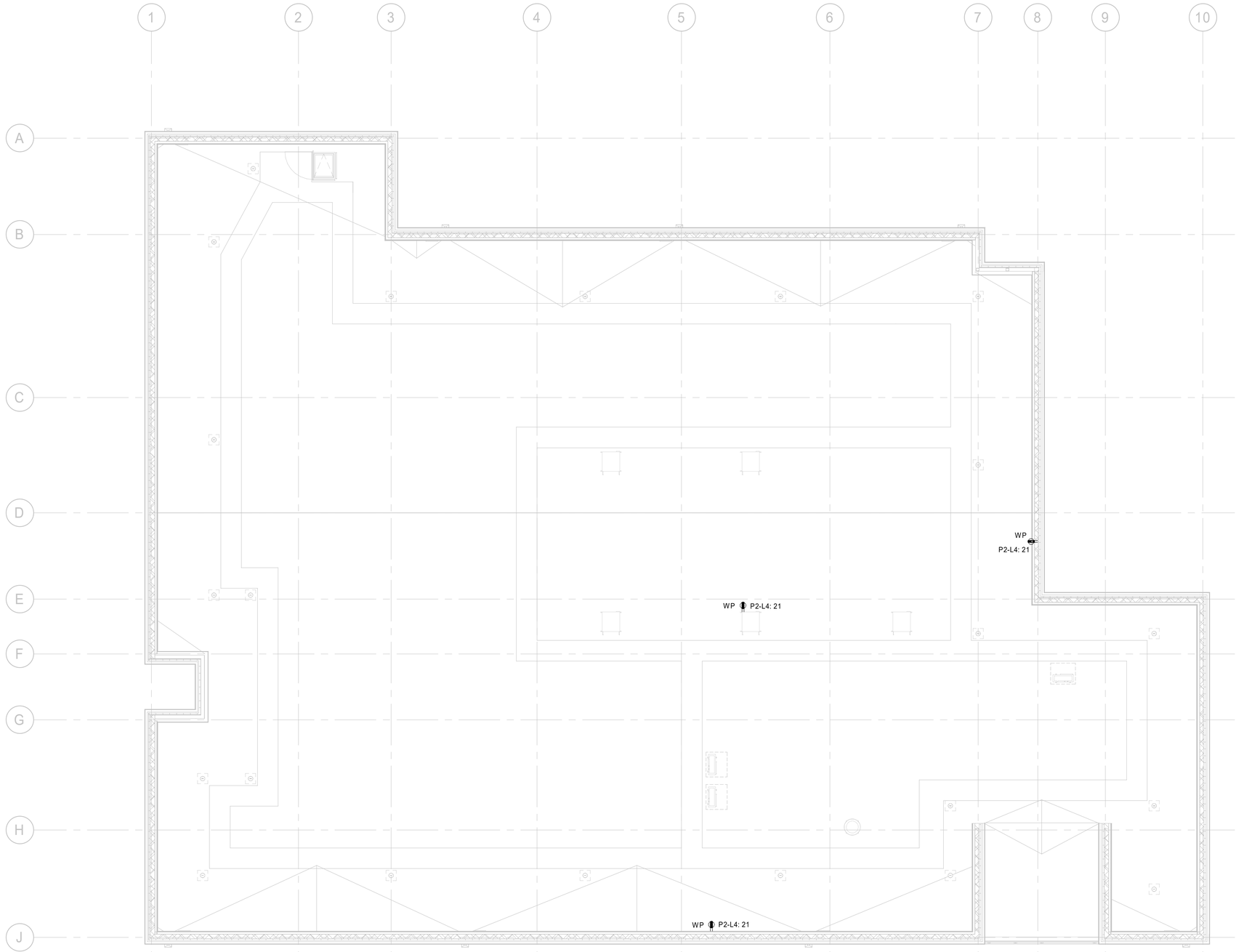
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - SECOND FLOOR - POWER (BID OPTION 1)

SHEET ID

EP120A

RTA SUBMISSION



A1 ROOF - POWER
1/8" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO E-001 AND E-002 FOR GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.

12/14/2022
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PROFESSIONAL ENGINEER

GRAPHIC SCALE(S)

8 6 4 2 0 8 16
SCALE: 1/8" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

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DRAWN BY: D. PAXTON	SOLICITATION NO.: W9128F22R0017
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SUBMITTED BY: JACOBS	FILE NUMBER:
SIZE: ANSI D	FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

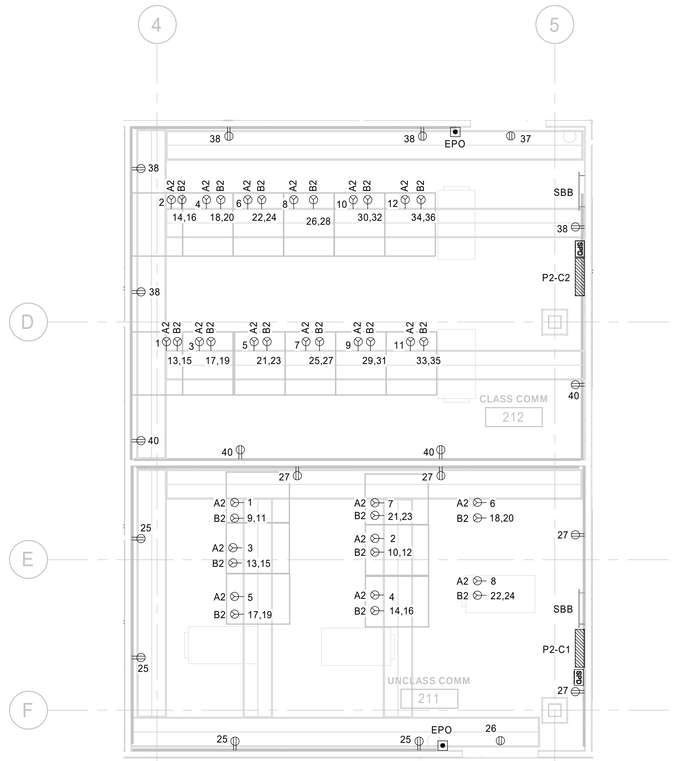
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - ROOF - POWER

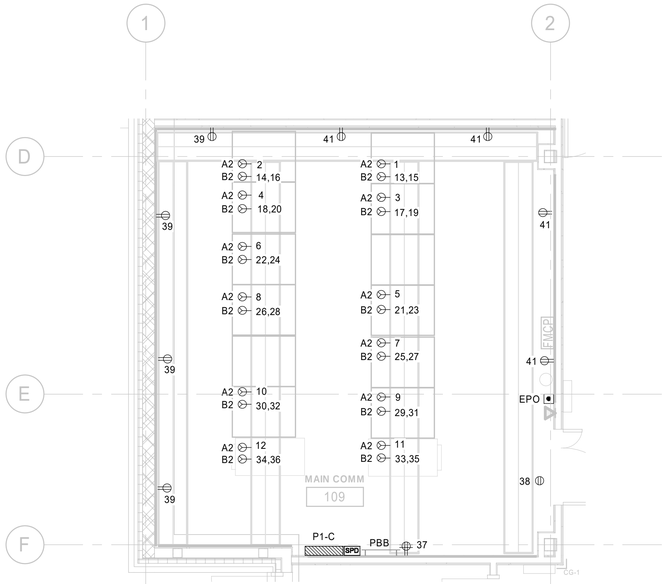
SHEET ID
EP130

RTA SUBMISSION



B1 TELECOM ROOMS 211 AND 212 - POWER PLAN

1/4" = 1'-0"



B3 MAIN TELECOM ROOM 109 - POWER PLAN

1/4" = 1'-0"

SPECIAL RECEPTACLE SCHEDULE

NEMA DESIGNATOR	NEMA DEVICE CONFIGURATION	VOLTAGE	NUMBER OF POLES	RATED AMPERE	CONDUCTOR SIZE
A2	L5-20R	120 V	1	20 A	12 AWG
B2	L6-20R	208 V	2	20 A	12 AWG

NOTES:
THE SPECIAL RECEPTACLES ARE CABLE TRAY MOUNTED IN TELECOM ROOM.

GENERAL SHEET NOTES

1. REFER TO E-001 AND E-002 FOR GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
2. REFER TO E-700 SERIES DRAWINGS FOR PANEL SCHEDULES.
3. REFER TO E-601 FOR SINGLE LINE DIAGRAM.

COMMONWEALTH OF VIRGINIA
12/14/2022
YOSEPH Z. SOLOMON
Lic. No. 0402047869
PROFESSIONAL ENGINEER

GRAPHIC SCALE(S)

4 3 2 1 0 4 8

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

PLAN NORTH

US Army Corps of Engineers ®

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CONTRACT NO.:
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DRAWN BY: D. PAXTON
CHECKED BY: Y. SOLOMON
SUBMITTED BY:
REVISED BY:
SIZE: ANSI 'D'
FILE NAME:

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Omaha District
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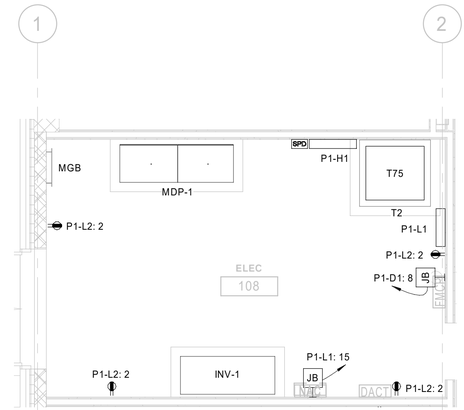
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

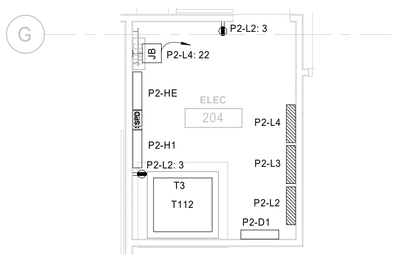
ELECTRICAL - ENLARGED PLANS

SHEET ID

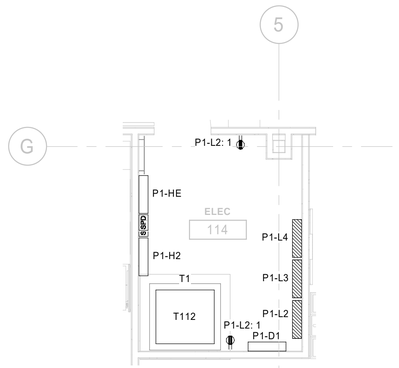
EP401



C3 MAIN ELECTRICAL ROOM 108
1/4" = 1'-0"



A1 ELECTRICAL ROOM 204
1/4" = 1'-0"



A3 ELECTRICAL ROOM 114
1/4" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO E-001 AND E-002 FOR GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
2. REFER TO E-700 SERIES DRAWINGS FOR PANEL SCHEDULES.
3. REFER TO E-601 FOR SINGLE LINE DIAGRAM.

12/14/2022
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PROFESSIONAL ENGINEER
COMMONWEALTH OF VIRGINIA

GRAPHIC SCALE(S)

4 3 2 1 0 4 8
SCALE: 1/4" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

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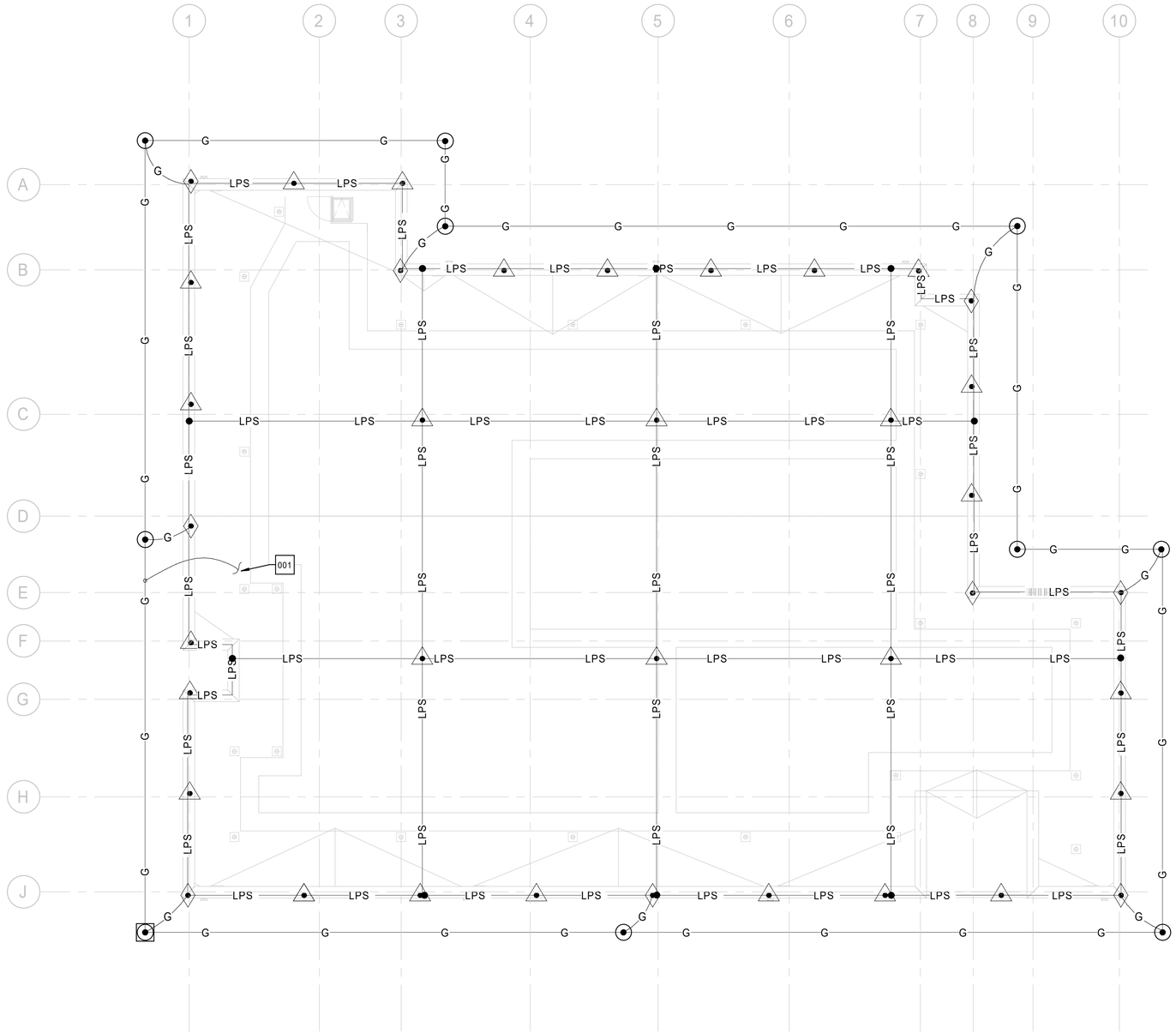
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - ENLARGED PLANS

SHEET ID
EP402

RTA SUBMISSION



A1 ELECTRICAL - ROOF PLAN -LIGHTNING PROTECTION AND GROUNDING PLAN
3/32" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO EG601 FOR GROUNDING RISER DIAGRAM.
2. REFER TO E-001 AND E-002 FOR GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
3. REFER TO E-501 FOR LIGHTNING PROTECTION AND GROUNDING DETAILS.
4. REFER TO SPECIFICATIO 26 41 00 FOR ADDITIONAL REQUIRMENTS.

KEYNOTES

001. CONNECT TO GROUND BUS IN MAIN ELECTRICAL ROOM 108.

COMMONWEALTH OF VIRGINIA
12/14/2022
YOSEPH Z. SOLOMON
Lic. No. 0402047869
PROFESSIONAL ENGINEER

GRAPHIC SCALE(S)

16' 8' 0' 8' 16' 24'

PLAN NORTH

US Army Corps of Engineers ®

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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

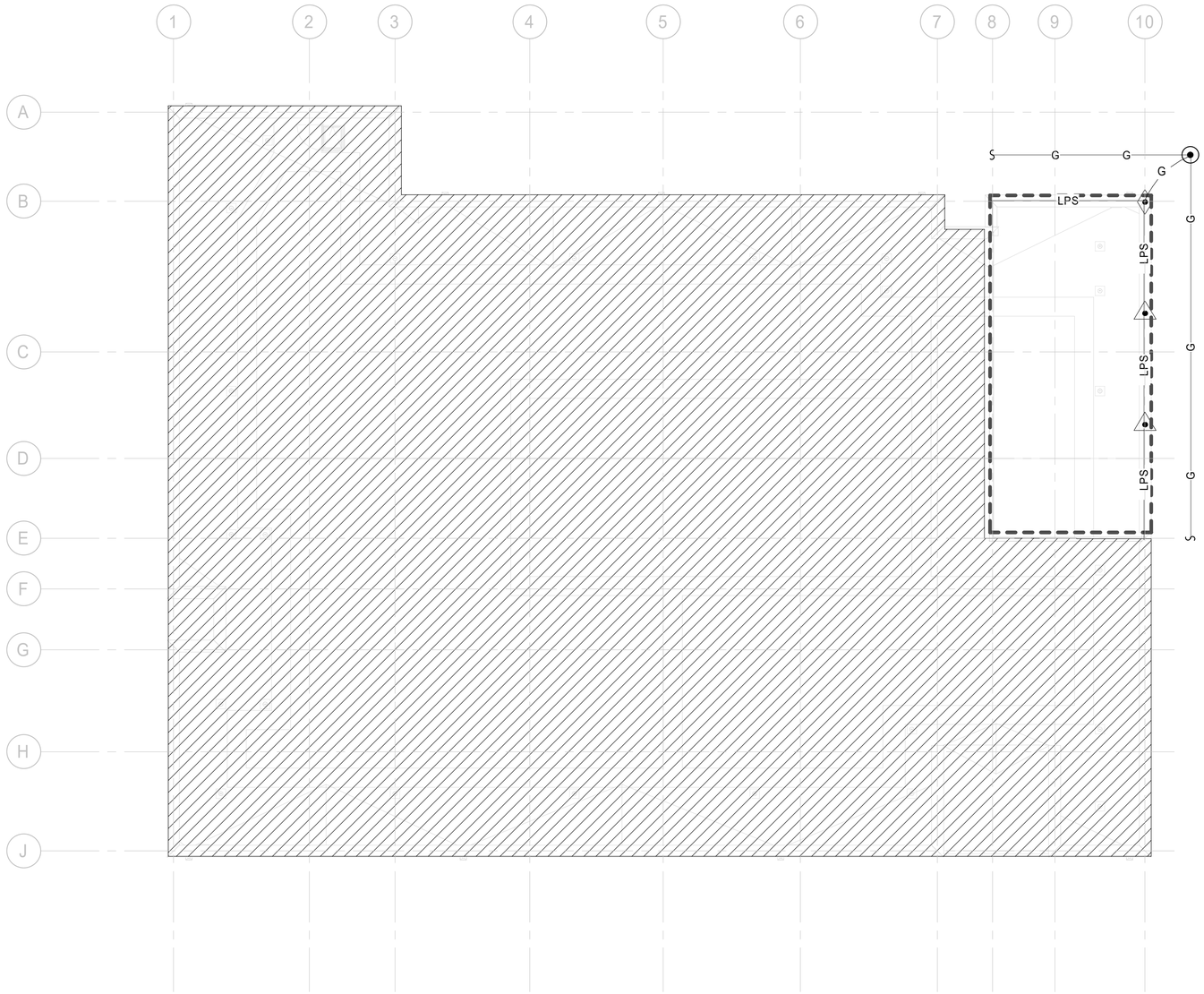
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - ROOF PLAN -LIGHTNING PROTECTION AND GROUNDING PLAN

SHEET ID
EG130

RTA SUBMISSION



ELECTRICAL - ROOF PLAN -LIGHTNING PROTECTION AND GROUNDING PLAN (BID OPTION 1)

A1

3/32" = 1'-0"

GENERAL SHEET NOTES

1. REFER TO EG601 FOR GROUNDING RISER DIAGRAM.
2. REFER TO E-001 AND E-002 FOR GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.
3. REFER TO E-501 FOR LIGHTNING PROTECTION AND GROUNDING DETAILS.
4. REFER TO SPECIFICATIO 26 41 00 FOR ADDITIONAL REQUIRMENTS.

LEGEND

AREA OF BID OPTION 1

SECURE AREA

AREA OF BASE BID

GRAPHIC SCALE(S)

16' 8' 0' 8' 16' 24'

PLAN NORTH

COMMONWEALTH OF VIRGINIA
12/14/2022
YOSEPH Z. SOLOMON
Lic. No. 0402047869
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: Y. SOLOMON
DRAWN BY: D. PAXTON
CHECKED BY: Y. SOLOMON
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

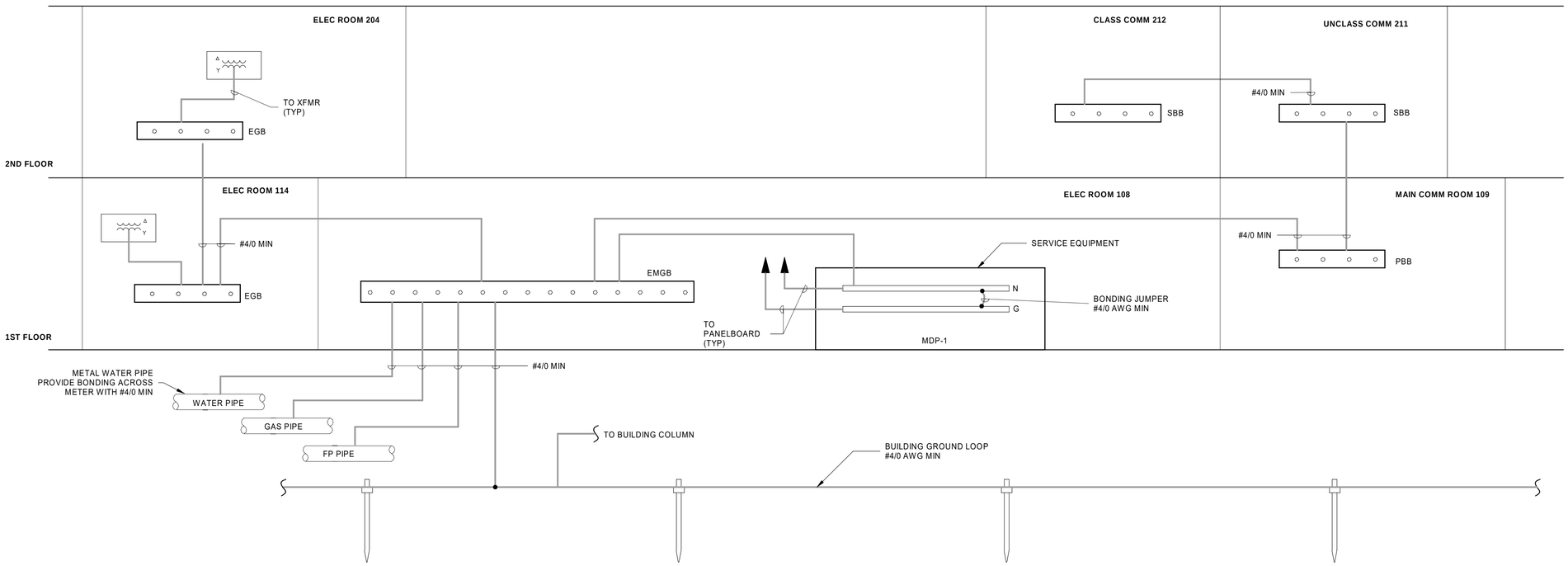
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - ROOF PLAN - LIGHTING PROTECTION AND GROUNDING PLAN (BID OPTION 1)

SHEET ID

EG130A

RTA SUBMISSION



A1 GROUNDING RISER DIAGRAM

NOT TO SCALE

COMMONWEALTH OF VIRGINIA
12/14/2022
YOSEPH Z. SOLOMON
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Omaha District
Omaha, NE

JACOBS
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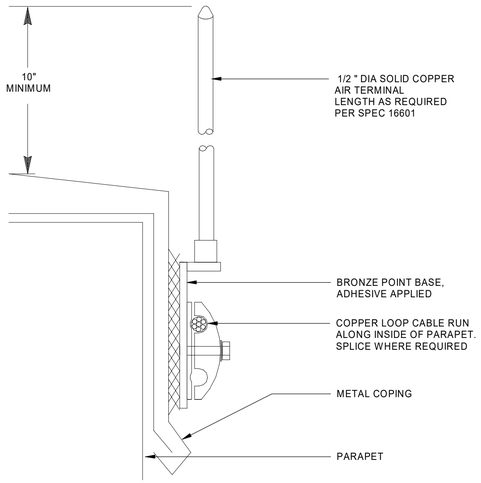
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - GROUNDING RISER DIAGRAM

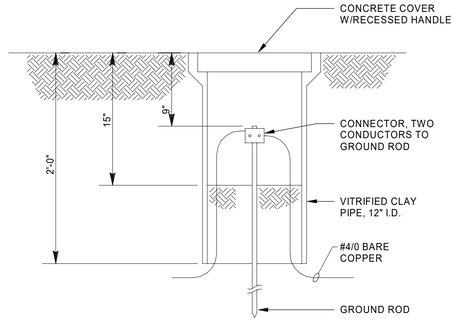
SHEET ID

EG601

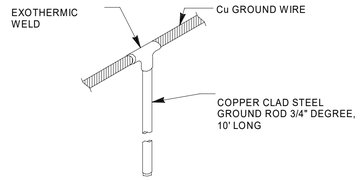


AIR TERMINAL AT PARAPET WITH COPING

C1 AIR TERMINAL AT PARAPET WITH COPING
NOT TO SCALE

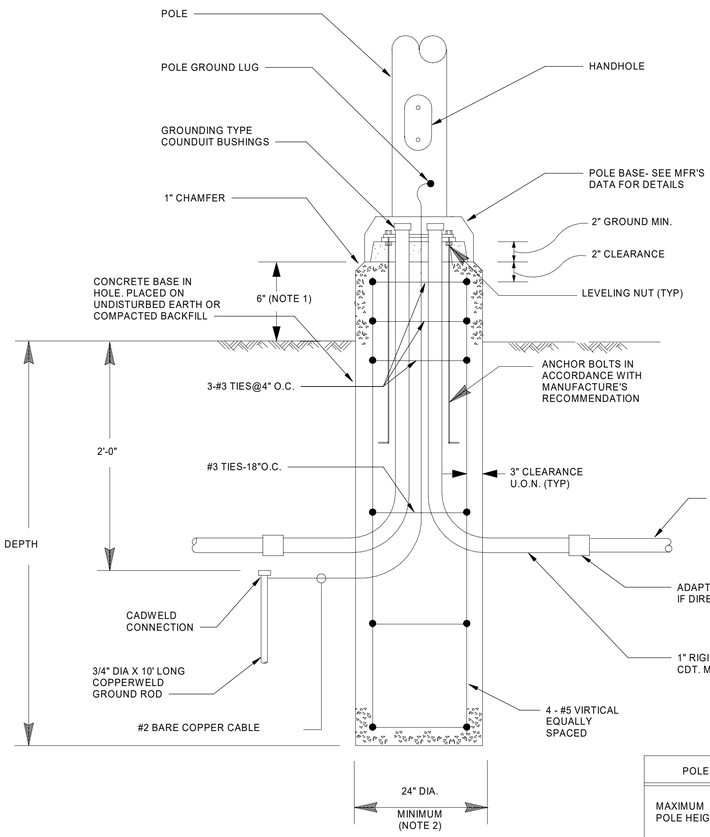


C2 GROUND TEST WELL
NOT TO SCALE



GROUND ROD

D4 GROUND ROD
NOT TO SCALE

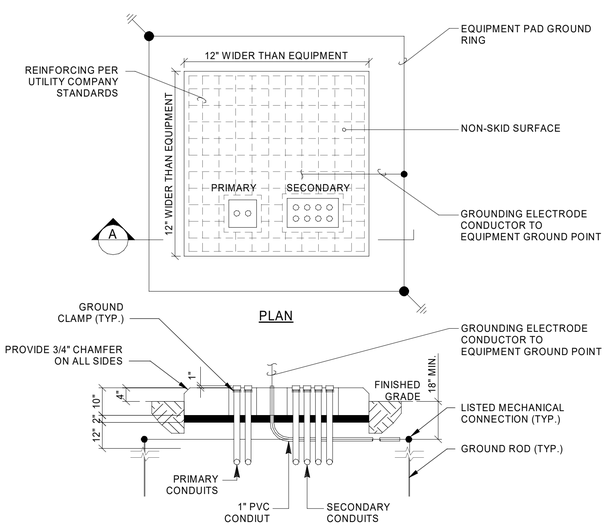


NOTES:

1. PROVIDE BASE 3'-4" ABOVE GRADE ELEVATION IF LOCATED IN PAVED PARKING AREAS OR OTHER AREAS SUBJECT TO VEHICULAR DAMAGE.
2. BOND GROUND ROD CABLE, CONDUIT BUSHING, AND BRANCH CIRCUIT GROUND CONDUCTOR TO POLE GROUND LUG.
3. COORDINATE WITH POLE MANUFACTURER'S RECOMMENDATIONS

POLE BASE CHART	
MAXIMUM POLE HEIGHT	DEPTH BELOW GRADE
UP TO 20 FEET	4'-0"
25 FEET	5'-0"
30 FEET	6'-0"
35 FEET	7'-0"

A3 POLE BASE DETAIL
NOT TO SCALE

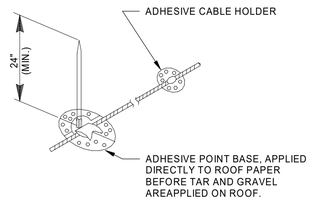


SECTION 'A'

DETAIL NOTE:

1. COORDINATE CONDUIT SIZES AND QUANTITIES WITH SINGLE LINE DIAGRAM.

A1 TRANSFORMER PAD GROUNDING
NOT TO SCALE



FLAT ROOF AIR TERMINAL

A2 FLAT ROOF AIR TERMINAL
NOT TO SCALE

US Army Corps of Engineers ®

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CHECKED BY: Y. SOLOMON	CONTRACT NO.:
SUBMITTED BY: R.K.	FILE NUMBER:
SIZE: ANSI D'	FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

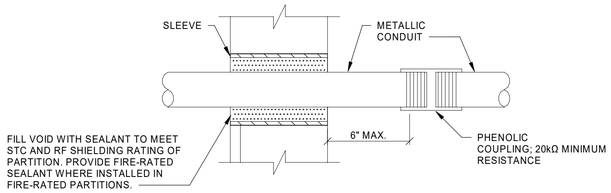
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - DETAILS

SHEET ID

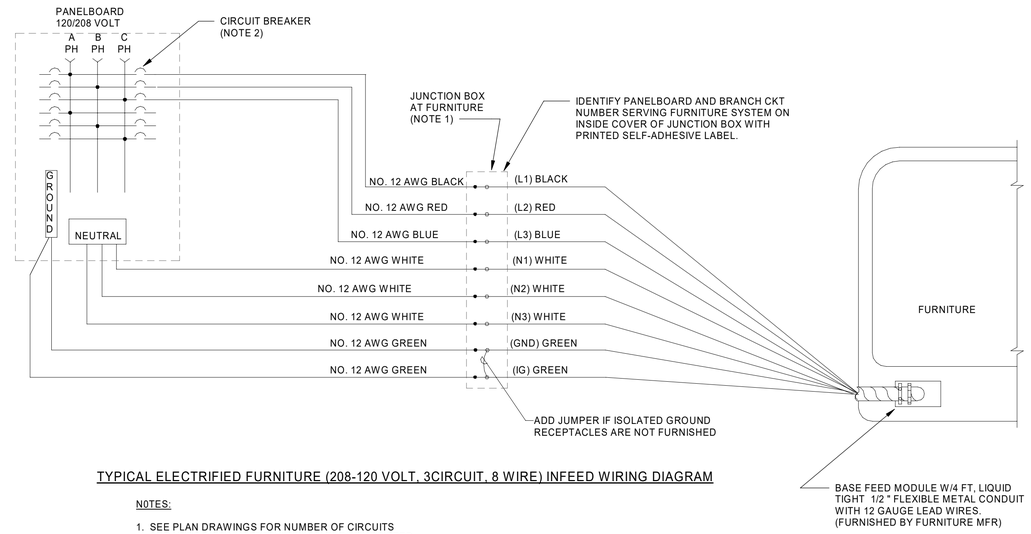
E-501

RTA SUBMISSION



C1 SECURED AREA CONDUIT PENETRATION DETAIL

NOT TO SCALE



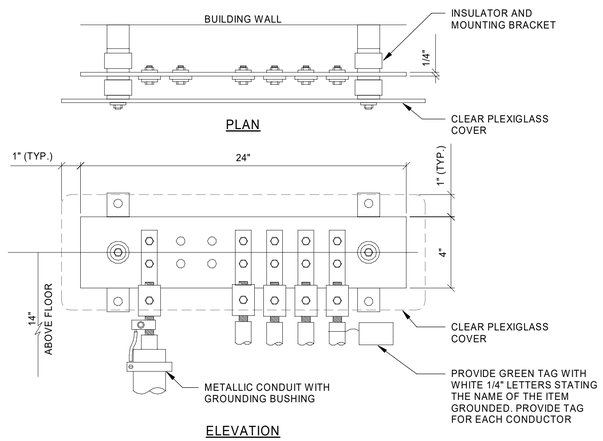
TYPICAL ELECTRIFIED FURNITURE (208-120 VOLT, 3CIRCUIT, 8 WIRE) INFEED WIRING DIAGRAM

NOTES:

1. SEE PLAN DRAWINGS FOR NUMBER OF CIRCUITS AND WIRE SIZES NEEDED AT EACH FURNITURE FEED. TERMINATE ANY UNUSED WIRES WITH WIRE NUTS.
2. PROVIDE MULTI-POLE CIRCUIT BREAKERS FOR EACH MULTI-WIRE BRANCH CIRCUIT SHARING A COMMON NEUTRAL.

C3 TYPICAL ELECTRIFIED FURNITURE (208-120 VOLT, 3 CIRCUIT, 8 WIRE) INFEED WIRING DIAGRAM

NOT TO SCALE

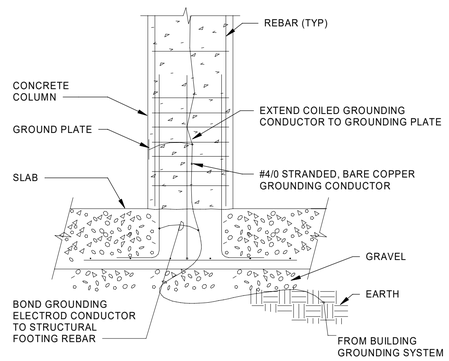


DETAIL NOTES:

1. PROVIDE BICSI HOLE PATTERNS FOR TELEPHONE SYSTEM GROUND BARS.
2. ENGRAVE PLEXIGLASS COVER WITH GROUND BAR TYPE: "GROUND", "COMMUNICATIONS GROUND" AS APPROPRIATE.
3. PROVIDE PLEXIGLASS COVER WITH ROUNDED AND SMOOTHED EDGES.

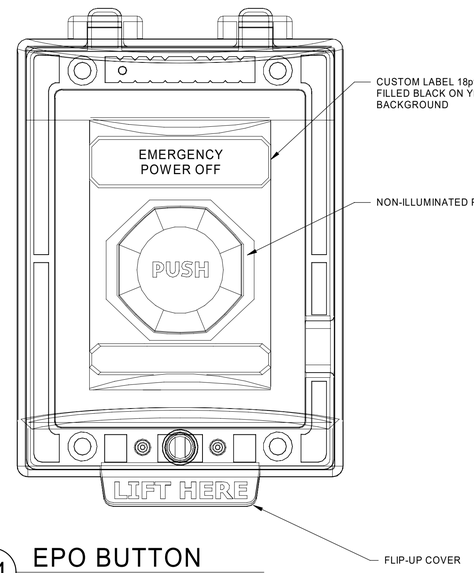
A1 GROUND BAR

NOT TO SCALE



A2 CONCRETE COLUMN GROUNDING DETAIL

NOT TO SCALE



A4 EPO BUTTON

NOT TO SCALE

COMMONWEALTH OF VIRGINIA
12/14/2022
YOSEPH Z. SOLOMON
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PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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CHECKED BY: Y. SOLOMON
SUBMITTED BY:
REV.
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

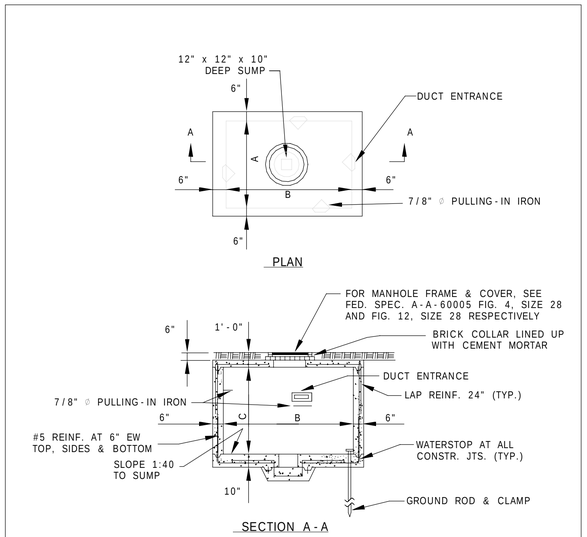
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - DETAILS

SHEET ID

E-502



NOTES:

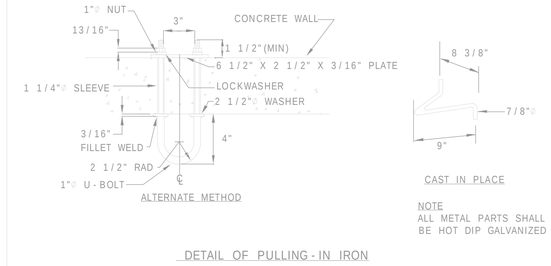
1. FOR DETAILS OF CABLE RACKS, DUCT ENTRANCE AND PULLING-IN IRONS, SEE PLATE UG-7.
2. MINIMUM CONCRETE COMPRESSIVE STRENGTH SHALL BE 3000 PSI.

MANHOLE DIMENSIONS			
TYPE	A	B	C (AT HIGH PT.)
1	6'-0"	6'-0"	6'-6"
2	6'-0"	8'-0"	6'-6"

STANDARD ELECTRICAL MANHOLE (NONTRAFFIC)
TYPES 1 & 2

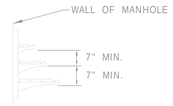
SKETCH DATE JUNE 2002 | STYLE UG-1

B1 MANHOLE DETAIL
NOT TO SCALE

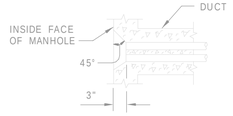


NOTE
ALL METAL PARTS SHALL BE HOT DIP GALVANIZED

DETAIL OF PULLING-IN IRON



TYPICAL CABLE RACK

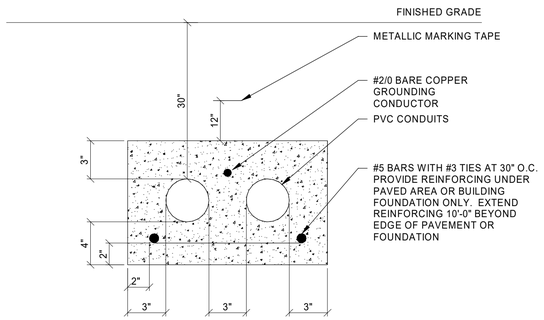


TYPICAL DUCT ENTRANCE

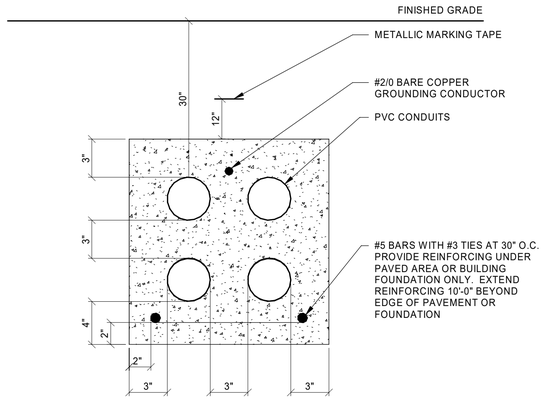
DETAILS
(PULLING-IN IRONS, CABLE RACK AND DUCT ENTRANCE)

SKETCH DATE JUNE 2002 | STYLE UG-7

B3 PULLING-IN IRONS, CABLE RACK AND DUCT ENTRANCE DETAILS
NOT TO SCALE



A1 2-WAY CONCRETE ENCASED DUCT BANK
NOT TO SCALE



A4 4-WAY CONCRETE ENCASED DUCT BANK
NOT TO SCALE

COMMONWEALTH OF VIRGINIA
12/14/2022
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PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

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Omaha District
Omaha, NE

JACOBS
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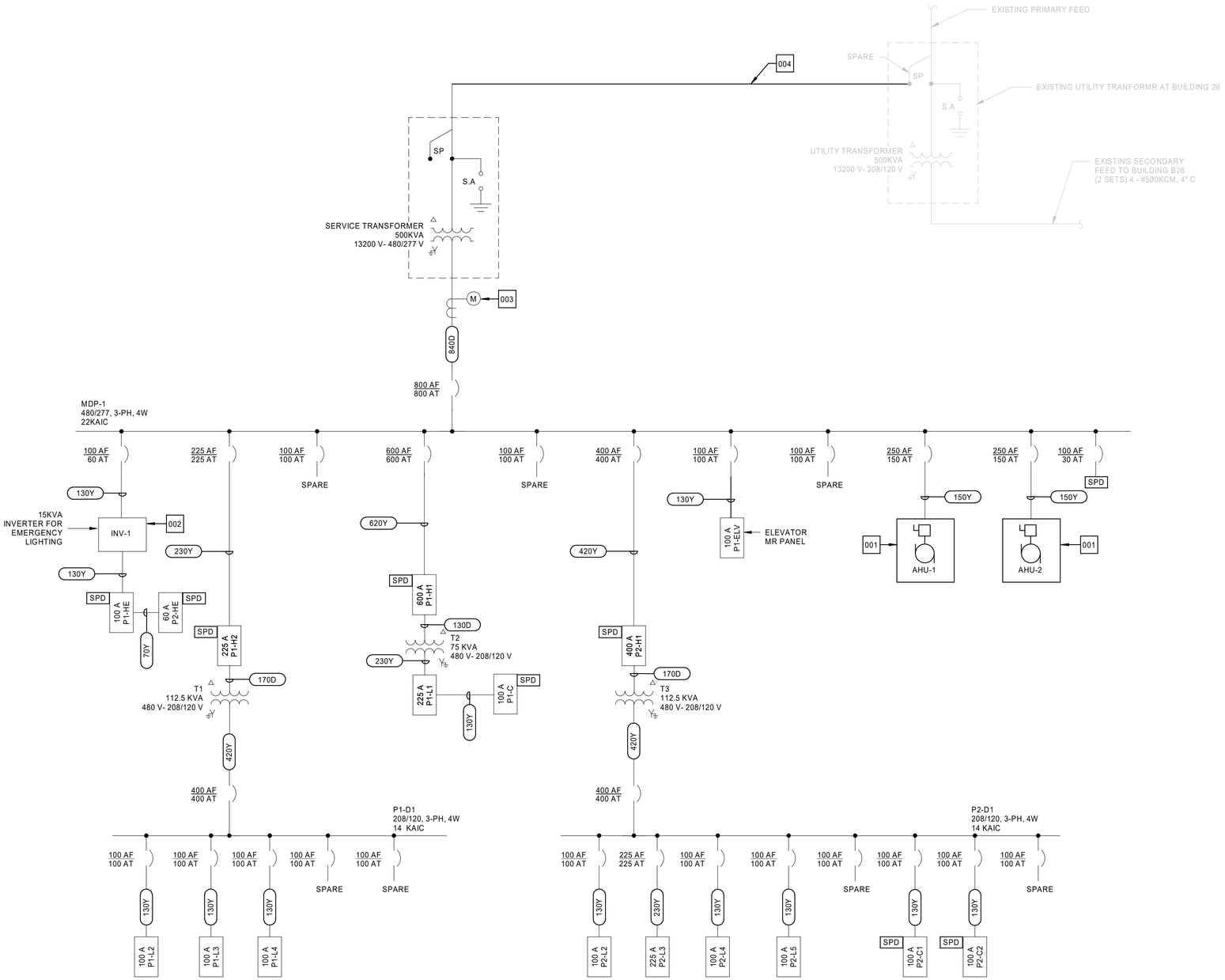
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - DETAILS

SHEET ID
E-503

RTA SUBMISSION



A1 ELECTRICAL - SINGLE-LINE DIAGRAM

NOT TO SCALE

GENERAL SHEET NOTES

1. REFER TO E-001 AND E-002 FOR GENERAL NOTES, ABBREVIATIONS, AND LEGENDS.

KEYNOTES

001. PACKAGED HVAC UNIT WITH SINGLE POINT POWER CONNECTION, AND FACTORY INSTALLED INTEGRAL DISCONNECT.

002. INVERTER TO BE EQUIPED WITH MAINTENANCE BYPASS.

003. PROVIDE ADVANCED POWER METER. POWER METER MODEL NUMBER: SCHNEIDER PM5560. CONNECT POWER METER TO BUILDING AUTOMATION SYSTEM (BAS). REFER TO BAS CONTROL DRAWINGS FOR CONNECTION REQUIRMENTS AND MONITORING POINTS LIST.

004. (3)#1, 15KV AND #1 600V IN 4" PVC CONDUIT. MEDIUM VOLTAGE CABLES MUST OMPLY WITH NEMA WC 74, TYPE MV, COPPER, EPR INSULATION, AND COPPER TAPE SHIELDED.

PANELBOARD SUMMARY

PANEL NAME	MCB/MLO	BUS RATING	MCB SIZE	SHORT CIRCUIT	FEEDER SIZE ID	MAIN METER
MDP-1	MCB	600 A	600 A	22KA	840D	Yes
P1-C	MCB	100 A	100 A	14KA	130Y	Yes
P1-D1	MCB	400 A	400 A	14KA	420Y	Yes
P1-ELV	MCB	100 A	100 A	14KA	130Y	Yes
P1-H1	MCB	600 A	600 A	22KA	620Y	Yes
P1-H2	MCB	250 A	225 A	22KA	230Y	Yes
P1-HE	MCB	100 A	100 A	14KA	130Y	Yes
P1-L1	MCB	250 A	225 A	14KA	230Y	Yes
P1-L2	MCB	100 A	100 A	14KA	130Y	Yes
P1-L3	MCB	100 A	100 A	14KA	130Y	Yes
P1-L4	MCB	100 A	100 A	14KA	130Y	Yes
P2-C1	MCB	100 A	100 A	14KA	130Y	Yes
P2-C2	MCB	100 A	100 A	14KA	130Y	Yes
P2-D1	MCB	400 A	400 A	14KA	420Y	Yes
P2-H1	MCB	400 A	400 A	22KA	420Y	Yes
P2-HE	MCB	100 A	60 A	14KA	70Y	Yes
P2-L2	MCB	100 A	100 A	14KA	130Y	Yes
P2-L3	MCB	100 A	225 A	14KA	230Y	Yes
P2-L4	MCB	100 A	100 A	14KA	130Y	Yes
P2-L5	MCB	100 A	100 A	14KA	130Y	Yes

NOTES:
1. PANELS INDICATED AS "YES" FOR MAIN METER, PROVIDE POWER METER TO MEASURE TOTAL POWER CONSUMPTION OF PANEL. CONNECT METER TO THE BUILDING AUTOMATION SYTEM.

FEEDER SCHEDULE

FEEDER TAG	SETS	WIRE AND CONDUIT
130D	1	3 - #1 + #6G IN 1 1/2"C
170D	1	3 - #2/0 + #6G IN 2"C
840D	2	3 - #600 KCMIL + #1/0G IN 3"C
20Y	1	3 - #12 + #12N + #12G IN 3/4"C
30Y	1	3 - #10 + #10N + #10G IN 3/4"C
40Y	1	3 - #8 + #8N + #10G IN 3/4"C
50Y	1	3 - #6 + #6N + #10G IN 1"C
70Y	1	3 - #4 + #4N + #8G IN 1 1/4"C
90Y	1	3 - #2 + #2N + #8G IN 1 1/4"C
130Y	1	3 - #1 + #1N + #6G IN 1 1/2"C
150Y	1	3 - #1/0 + #1/0N + #6G IN 2"C
170Y	1	3 - #2/0 + #2/0N + #6G IN 2"C
200Y	1	3 - #3/0 + #3/0N + #6G IN 2"C
230Y	1	3 - #4/0 + #4/0N + #4G IN 2 1/2"C
250Y	1	3 - #250 KCMIL + #250 KCMIL N + #4G IN 2 1/2"C
280Y	1	3 - #300 KCMIL + #300 KCMIL N + #4G IN 2 1/2"C
310Y	1	3 - #350 KCMIL + #350 KCMIL N + #1G IN 3"C
330Y	1	3 - #400 KCMIL + #400 KCMIL N + #1G IN 3"C
380Y	1	3 - #500 KCMIL + #500 KCMIL N + #1G IN 3"C
420Y	1	3 - #600 KCMIL + #600 KCMIL N + #1G IN 4"C
460Y	2	3 - #4/0 + #4/0N + #2G IN 2 1/2"C
510Y	2	3 - #250 KCMIL + #250 KCMIL N + #2G IN 2 1/2"C
620Y	2	3 - #350 KCMIL + #350 KCMIL N + #1G IN 3"C
760Y	2	3 - #500 KCMIL + #500 KCMIL N + #1/0G IN 4"C
840Y	2	3 - #600 KCMIL + #600 KCMIL N + #1/0G IN 4"C
1000Y	3	3 - #400 KCMIL + #400 KCMIL N + #2/0G IN 3"C
1200Y	3	3 - #600 KCMIL + #600 KCMIL N + #3/0G IN 4"C
1600Y	4	3 - #600 KCMIL + #600 KCMIL N + #4/0G IN 4"C
2100Y	5	3 - #600 KCMIL + #600 KCMIL N + #250 KCMIL G IN 4"C
2500Y	6	3 - #600 KCMIL + #600 KCMIL N + #250 KCMIL G IN 4"C

COMMONWEALTH OF VIRGINIA
12/14/2022
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Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - SINGLE-LINE DIAGRAM

SHEET ID

E-601

Switchboard: MDP-1

Location: Elec 108
Supply From: Service Transformer
Mounting: Floor
Enclosure: TYPE 1

Volts: 480/277V
Phases: 3
Wires: 4

A.I.C. Rating: 22KAIC
Mains Type: MCB
Mains Rating: 800 A
MCB Rating: 800 A

Notes:
SERVICE RATED

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	P1-HE	3	100 A	60 A	12.064 kVA	
2	P1-H1	3	400 A	400 A	247.577 kVA	
3	P1-H2	3	225 A	225 A	105.09 kVA	
4	P1-ELV	3	100 A	100 A	33.216 kVA	
5	P2-H1	3	400 A	400 A	286.257 kVA	
6	AHU-2	3	250 A	150 A	83 kVA	
7	AHU-1	3	250 A	150 A	83 kVA	
8	SPARE	3	100 A	100 A	0 kVA	
9	SPARE	3	100 A	100 A	0 kVA	
10	SPARE	3	100 A	100 A	0 kVA	
11	SPACE	3	--	--	--	
12	SPACE	3	--	--	--	
13	SPD	3	100 A	30 A	0 kVA	
14						
15						
16						
17						
18						
19						
20						
				Total Conn. Load:	850.204 kVA	
				Total Amps:	1023 A	

Legend:

Panel Totals	
Total Conn. Load:	850.204 kVA
Total Est. Demand:	778.366 kVA
Total Conn. Current:	1023 A
Total Est. Demand Current:	936 A
Diversity Factor:	65%
Estimated Actual Demand...	609 A
Estimated Actual Load kVA:	505.938 kVA

Notes:

PANELBOARD: P1-H1

LOCATION: ELEC 108
SUPPY FROM: MDP-1
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 480/277V,3P,4W,60Hz
BUS AMPS: 600 A
MCB SIZE: 600 A

NOTES	DESCRIPTIONS	TRIP AMPS	POLES	CKT NO.	A	B	C	A	B	C	CKT NO.	POLES	TRIP AMPS	DESCRIPTIONS	NOTES
	PARKING LOT LIGHTS	20 A	1	1	0.3			2.104			2				
	SPARE	20 A	1	3		0			2.104		4	3	20 A	HVAC HHWP-1 MECH 107	
	LTG MECH 107	20 A	1	5			1.196			2.104	6				
	HVAC MECH 107 HHWP-2	20 A	3	7	2.104			12.499			8				
				9		2.104			14.32		10	3	125 A	T2 and P1-L1 ELEC 108	
				11			2.104			12.428	12				
	EQN COMM 109 CRACU-109A	80 A	3	13	8.924			8.924			14				
				15		8.924			8.924		16	3	80 A	EQN COMM109 CRACU-109B	
				17			8.924			8.924	18				
	HVAC CU-109A EXTERIOR	20 A	3	19	0.969			0.969			20				
				21		0.969			0.969		22	3	20 A	HVAC CU-109B EXTERIOR	
				23			0.969			0.969	24				
	HVAC H-1 EXTERIOR	125 A	3	25	22.476			22.476			26				
				27		22.476			22.476		28	3	125 A	HVAC H-2 EXTERIOR	
				29			22.476			22.476	30				
	SPARE	20 A	1	31	0			0			32	1	20 A	SPARE	
	SPARE	20 A	1	33		0			0		34	1	20 A	SPARE	
	SPARE	20 A	1	35			0			0	36	1	20 A	SPARE	
	SPACE	--	1	37	--			0			38				
	SPACE	--	1	39		--			0		40	3	30 A	SPD	
	SPACE	--	1	41			--			0	42				
	TOTAL CONNECTED LOAD / PHASE:				**81.743 kVA**		**83.265 kVA**		**82.569 kVA**						

TOTAL LOAD SUMMARY			
LOAD (kVA)		CURRENT (AMPS)	
CONNECTED LOAD:	247.577 kVA	CONNECTED CURRENT:	297.8 A
ESTIMATED DEMAND LOAD:	238.057 kVA	ESTIMATED DEMAND CURRENT:	286.3 A
ESTIMATED DEMAND FACTOR:	96.15%		
SPARE CAPACITY:			
ESTIMATED LOAD WITH SPARE:	238.057 kVA	ESTIMATED CURRENT WITH SPARE:	286 A

PANELBOARD NOTES:

PANELBOARD: P1-H2

LOCATION: ELEC 114
SUPPY FROM: MDP-1
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 480/277V,3P,4W,60Hz
BUS AMPS: 250 A
MCB SIZE: 225 A

NOTES	DESCRIPTIONS	TRIP AMPS	POLES	CKT NO.	A	B	C	A	B	C	CKT NO.	POLES	TRIP AMPS	DESCRIPTIONS	NOTES
	LTG LOBBY / HALL WAY 130	20 A	1	1	2			3.2			2	1	20 A	LTG COAST GUARD OFFICE 7P 106	
	LTG EMPLOYEE BREAK ROOM 116	20 A	1	3		2.84			1.652		4	1	20 A	LTG MARINES OFFICE 11P 104	
	LTG OFFICE 110A	20 A	1	5			1.7				6				
	LTG CLASS ROOM 20P 125	20 A	1	7	1			27.797			8				
				9		4			28.344		10	3	175 A	T1 and P1-D1 ELEC 114	
	HVAC JAN 117 EWH-1	20 A	3	11			4			24.556	12				
				13	4			0			14	1	20 A	SPARE	
	SPARE	20 A	1	15		0			0		16	1	20 A	SPARE	
	SPARE	20 A	1	17			0			0	18	1	20 A	SPARE	
	SPARE	20 A	1	19	0			0			20	1	20 A	SPARE	
	SPACE	--	1	21		--			--		22	1	--	SPACE	
	SPACE	--	1	23			--			--	24	1	--	SPACE	
	SPACE	--	1	25	--			--			26	1	--	SPACE	
	SPACE	--	1	27		--			--		28	1	--	SPACE	
	SPACE	--	1	29			--			--	30	1	--	SPACE	
	SPACE	--	1	31	--			--			32	1	--	SPACE	
	SPACE	--	1	33		--			--		34	1	--	SPACE	
	SPACE	--	1	35			--			--	36	1	--	SPACE	
	SPACE	--	1	37	--			0			38				
	SPACE	--	1	39		--			0		40	3	30 A	SPD	
	SPACE	--	1	41			--			0	42				
	TOTAL CONNECTED LOAD / PHASE:				**37.997 kVA**		**36.836 kVA**		**30.256 kVA**						

TOTAL LOAD SUMMARY			
LOAD (kVA)		CURRENT (AMPS)	
CONNECTED LOAD:	105.090 kVA	CONNECTED CURRENT:	126.4 A
ESTIMATED DEMAND LOAD:	89.655 kVA	ESTIMATED DEMAND CURRENT:	107.8 A
ESTIMATED DEMAND FACTOR:	85.31%		
SPARE CAPACITY:			
ESTIMATED LOAD WITH SPARE:	89.655 kVA	ESTIMATED CURRENT WITH SPARE:	108 A

PANELBOARD NOTES:

PANELBOARD: P1-HE

LOCATION: ELEC 114
SUPPY FROM: MDP-1
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 480/277V,3P,4W,60Hz
BUS AMPS: 100 A
MCB SIZE: 100 A

NOTES	DESCRIPTIONS	TRIP AMPS	POLES	CKT NO.	A	B	C	A	B	C	CKT NO.	POLES	TRIP AMPS	DESCRIPTIONS	NOTES
				1	6.328			1.795			2	1	20 A	LTG CORRIDOR 136	
	P2-HE ELEC 204	60 A	3	3		0			3.233		4	1	20 A	LTG CORRIDOR 137	
				5			0			0.363	6	1	20 A	LTG EXTERIOR BUILDING	
	SPARE	20 A	1	7	0			0.344			8	1	20 A	LTG EXTERIOR BUILDING	
	SPARE	20 A	1	9		0			0		10	1	20 A	SPARE	
	SPACE	--	1	11			--			--	12	1	--	SPACE	
	SPACE	--	1	13	--			--			14	1	--	SPACE	
	SPACE	--	1	15		--			--		16	1	--	SPACE	
	SPACE	--	1	17			--			--	18	1	--	SPACE	
	SPACE	--	1	19	--			0			20				
	SPACE	--	1	21		--			0		22	3	30 A	SPD	
	SPACE	--	1	23			--			0	24				
	TOTAL CONNECTED LOAD / PHASE:				**8.467 kVA**		**3.233 kVA**		**0.363 kVA**						

TOTAL LOAD SUMMARY			
LOAD (kVA)		CURRENT (AMPS)	
CONNECTED LOAD:	12.064 kVA	CONNECTED CURRENT:	14.5 A
ESTIMATED DEMAND LOAD:	12.064 kVA	ESTIMATED DEMAND CURRENT:	14.5 A
ESTIMATED DEMAND FACTOR:	100.00%		
SPARE CAPACITY:			
ESTIMATED LOAD WITH SPARE:	12.064 kVA	ESTIMATED CURRENT WITH SPARE:	15 A

PANELBOARD NOTES:

COMMONWEALTH OF VIRGINIA
12/14/2022
YOSEPH Z. SOLOMON
Lic. No. 0402047869
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: Y. SOLOMON
DRAWN BY: D. PAXTON
CHECKED BY: Y. SOLOMON
SUBMITTED BY: K. K
SIZE: ANSI D
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912PF22R0017
CONTRACT NO.:
FILE NUMBER:
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - PANEL SCHEDULES

SHEET ID

E-701

RTA SUBMISSION

PANELBOARD: P1-ELV

LOCATION: ELEV MACH 122
SUPPY FROM: MDP-1
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 480/277V,3P,4W,60Hz
BUS AMPS: 100 A
MCB SIZE: 100 A

NOTES	DESCRIPTIONS	TRIP AMPS	POLES	CKT NO.	A	B	C	A	B	C	CKT NO.	POLES	TRIP AMPS	DESCRIPTIONS	NOTES
	HVAC ELEV MACH 122 ELEVATOR 1	80 A	3	1	11.072			0			2	1	20 A	SPARE	
				3		11.072			0		4	1	20 A	SPARE	
				5			11.072			0	6	1	20 A	SPARE	
	SPARE	20 A	1	7	0			0			8	1	20 A	SPARE	
	SPACE	--	1	9		--			--		10	1	--	SPACE	
	SPACE	--	1	11			--			--	12	1	--	SPACE	
	SPACE	--	1	13	--			--			14	1	--	SPACE	
	SPACE	--	1	15		--			--		16	1	--	SPACE	
	SPACE	--	1	17			--			--	18	1	--	SPACE	
	SPACE	--	1	19	--			--			20	1	--	SPACE	
	SPACE	--	1	21		--			--		22	1	--	SPACE	
	SPACE	--	1	23			--			--	24	1	--	SPACE	
	TOTAL CONNECTED LOAD / PHASE:				11.072 kVA		11.072 kVA		11.072 kVA						

TOTAL LOAD SUMMARY

LOAD (kVA)		CURRENT (AMPS)	
CONNECTED LOAD:	33.216 kVA	CONNECTED CURRENT:	40.0 A
ESTIMATED DEMAND LOAD:	33.216 kVA	ESTIMATED DEMAND CURRENT:	40.0 A
ESTIMATED DEMAND FACTOR:	100.00%		
SPARE CAPACITY:			
ESTIMATED LOAD WITH SPARE:	33.216 kVA	ESTIMATED CURRENT WITH SPARE:	40 A

PANELBOARD NOTES:

PANELBOARD: P2-H1

LOCATION: ELEC 204
SUPPY FROM: MDP-1
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 480/277V,3P,4W,60Hz
BUS AMPS: 400 A
MCB SIZE: 400 A

NOTES	DESCRIPTIONS	TRIP AMPS	POLES	CKT NO.	A	B	C	A	B	C	CKT NO.	POLES	TRIP AMPS	DESCRIPTIONS	NOTES
	LTG NIPR TRAINING 20P 233	20 A	1	1	1.8			3.15			2	1	20 A	LTG WAITING AREA FOR TRANSIENT PERSONNE...	
	LTG STUDENT BREAK ROOM 200	20 A	1	3		3.34			2.6		4	1	20 A	LTG MULTI-PURPOSE CLASSRM 20P 209	
	LTG NCS OFFICE 8P 220	20 A	1	5			2			2.888	6	1	20 A	LTG STORAGE 219	
	T3 P2-D1 ELEC 204	175 A	3	7	41.371			1.2			8	1	20 A	LTG IDC-W AREA 23P 225	
				9		39.97			8.924		10				
				11			39.543			8.924	12	3	80 A	EQN UNCLASS COMM 211 CRACU-211A	
	EQN UNCLASS COMM 211 CRACU-211B	80 A	3	13	8.924			8.924			14				
				15		8.924			8.924		16				
				17			8.924			8.924	18	3	80 A	EQN UNCLASS COMM 211 CRACU-211C	
	EQN CLASS COMM 212 CRACU-212A	80 A	3	19	8.924			8.924			20				
				21		8.924			8.924		22				
				23			8.924			8.924	24	3	20 A	EQN CLASS COMM 212 CRACU-212B	
	HVAC CU-212A ROOF MOUNTED	20 A	3	25	0.969			8.924			26				
				27		0.969			0.969		28				
				29			0.969			0.969	30	3	20 A	HVAC CU-212B ROOF MOUNTED	
	HVAC CU-211B ROOF MOUNTED	20 A	3	31	0.969			0.969			32				
				33		0.969			0.969		34				
				35			0.969			0.969	36	3	20 A	HVAC CU-211A ROOF MOUNTED	
	HVAC CU-211C ROOF MOUNTED	20 A	3	37	0.969			0.969			38				
				39		0.969			0		40	1	20 A	SPARE	
				41			0.969			0	42	1	20 A	SPARE	
	SPARE	20 A	1	43	0			0			44	1	20 A	SPARE	
	SPARE	20 A	1	45		0			0		46	1	20 A	SPARE	
	SPARE	20 A	1	47			0			0	48	1	20 A	SPARE	
	SPACE	--	1	49	--			0			50				
	SPACE	--	1	51		--			0		52	3	30 A	SPD	
	SPACE	--	1	53			--			0	54				
	TOTAL CONNECTED LOAD / PHASE:				96.986 kVA		95.375 kVA		93.896 kVA						

TOTAL LOAD SUMMARY

LOAD (kVA)		CURRENT (AMPS)	
CONNECTED LOAD:	286.257 kVA	CONNECTED CURRENT:	344.3 A
ESTIMATED DEMAND LOAD:	249.375 kVA	ESTIMATED DEMAND CURRENT:	300.0 A
ESTIMATED DEMAND FACTOR:	87.12%		
SPARE CAPACITY:			
ESTIMATED LOAD WITH SPARE:	249.375 kVA	ESTIMATED CURRENT WITH SPARE:	300 A

PANELBOARD NOTES:

PANELBOARD: P2-HE

LOCATION: ELEC 204
SUPPY FROM: P1-HE
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 480/277V,3P,4W,60Hz
BUS AMPS: 100 A
MCB SIZE: 60 A

NOTES	DESCRIPTIONS	TRIP AMPS	POLES	CKT NO.	A	B	C	A	B	C	CKT NO.	POLES	TRIP AMPS	DESCRIPTIONS	NOTES
	LTG WAITING AREA TRANSIENT PERSONNEL 22P...	20 A	1	1	2.898			3.43			2	1	20 A	LTG WAITING AREA TRANSIENT PERSONNEL 22P...	
	SPARE	20 A	1	3		0			0		4	1	20 A	SPARE	
	SPARE	20 A	1	5			0			0	6	1	20 A	SPARE	
	SPACE	--	1	7	--			--			8	1	--	SPACE	
	SPACE	--	1	9		--			--		10	1	--	SPACE	
	SPACE	--	1	11			--			--	12	1	--	SPACE	
	SPACE	--	1	13	--			--			14	1	--	SPACE	
	SPACE	--	1	15		--			--		16	1	--	SPACE	
	SPACE	--	1	17			--			--	18	1	--	SPACE	
	SPACE	--	1	19	--			0			20				
	SPACE	--	1	21		--			0		22	3	30 A	SPD	
	SPACE	--	1	23			--			0	24				
	TOTAL CONNECTED LOAD / PHASE:				6.328 kVA		0 kVA		0 kVA						

TOTAL LOAD SUMMARY

LOAD (kVA)		CURRENT (AMPS)	
CONNECTED LOAD:	6.328 kVA	CONNECTED CURRENT:	7.6 A
ESTIMATED DEMAND LOAD:	6.328 kVA	ESTIMATED DEMAND CURRENT:	7.6 A
ESTIMATED DEMAND FACTOR:	100.00%		
SPARE CAPACITY:	15%		
ESTIMATED LOAD WITH SPARE:	7.277 kVA	ESTIMATED CURRENT WITH SPARE:	9 A

PANELBOARD NOTES:

PANELBOARD: P1-D1

LOCATION: ELEC 114
SUPPY FROM: P1-H2
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 208/120V,3P,4W,60Hz
BUS AMPS: 400 A
MCB SIZE: 400 A

NOTES	DESCRIPTIONS	TRIP AMPS	POLES	CKT NO.	A	B	C	A	B	C	CKT NO.	POLES	TRIP AMPS	DESCRIPTIONS	NOTES
				1	11.645			12.92			2				
	P1-L2 ELEC 114	100 A	3	3		11.965			13.57		4	3	100 A	P1-L3 ELEC 114	
				5			11.12			12.81	6				
	P1-L4 ELEC 114	100 A	3	7	3.202			0.03			8	1	20 A	EQN ELEC 108 FIRE ALARM CONTROL PANEL...	
				9		2.809			0		10	1	20 A	SPARE	
				11			0.626			0	12	1	20 A	SPARE	
	SPARE	20 A	1	13	0			0			14	1	20 A	SPARE	
	SPARE	20 A	1	15		0			0		16	1	20 A	SPARE	
	SPARE	20 A	1	17			0			0	18	1	20 A	SPARE	
	SPACE	--	1	19	--			--			20	1	--	SPACE	
	SPACE	--	1	21		--			--		22	1	--	SPACE	
	SPACE	--	1	23			--			--	24	1	--	SPACE	
	SPACE	--	1	25	--			--			26	1	--	SPACE	
	SPACE	--	1	27		--			--		28	1	--	SPACE	
	SPACE	--	1	29			--			--	30	1	--	SPACE	
	SPACE	--	1	31	--			--			32	1	--	SPACE	
	SPACE	--	1	33		--			--		34	1	--	SPACE	
	SPACE	--	1	35			--			--	36	1	--	SPACE	
	SPACE	--	1	37	--			--			38	1	--	SPACE	
	SPACE	--	1	39		--			--		40	1	--	SPACE	
	SPACE	--	1	41			--			--	42	1	--	SPACE	
	TOTAL CONNECTED LOAD / PHASE:				27.797 kVA		28.344 kVA		24.556 kVA						

TOTAL LOAD SUMMARY

LOAD (kVA)		CURRENT (AMPS)	
CONNECTED LOAD:	80.697 kVA	CONNECTED CURRENT:	224.0 A
ESTIMATED DEMAND LOAD:	65.262 kVA	ESTIMATED DEMAND CURRENT:	181.1 A
ESTIMATED DEMAND FACTOR:	80.87%		
SPARE CAPACITY:			
ESTIMATED LOAD WITH SPARE:	65.262 kVA	ESTIMATED CURRENT WITH SPARE:	181 A

PANELBOARD NOTES: 1. PROVIDE LOCK-ON BREAKER.

COMMONWEALTH OF VIRGINIA
12/14/2022
YOSEPH Z. SOLOMON
Lic. No. 0402047869
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BP22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: Y. SOLOMON
DRAWN BY: D. PAXTON
CHECKED BY: Y. SOLOMON
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SPB, CO

ELECTRICAL - PANEL SCHEDULES

SHEET ID
E-702

RTA SUBMISSION

PANELBOARD: P1-L1

LOCATION: ELEC 108
SUPPY FROM: P1-H1
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 208/120V,3P,4W,60Hz
BUS AMPS: 250 A
MCB SIZE: 225 A

NOTES	DESCRIPTIONS	TRIP AMPS	POLES	CKT NO.	A	B	C	A	B	C	CKT NO.	POLES	TRIP AMPS	DESCRIPTIONS	NOTES
	REC EXTERIOR GFI WP	20 A	1	1	0.9			0.72			2	1	20 A	REC EXTERIOR GFI WP	
	HVAC MECH 107 B-1	20 A	1	3		1.2			1.2		4	1	20 A	HVAC MECH 107 B-2	
	HVAC MECH 107	20 A	2	5			0.1			0.208	6	2	15 A	EQN STAIR S2 CUH-S2	
				7	0.1			0.208			8				
	EQN VEST 111 CUH-111	15 A	2	9		0.104			1.976		10	2	30 A	HVAC EXTERIOR CU-108	
				11			0.104			1.976	12				
	HVAC MECH 107 UH-1	20 A	1	13	1.501			0.03			14	1	20 A	EQN MECH 107 TRAP PRIMER PANEL	
	EQN ELEC 108 FIRE ALARM NAC PANEL (NOTE 1)	20 A	1	15		0.3			0.1		16	1	20 A	EQN H-1 HEATER EXTERIOR	
	EQN BAS CONTROL PANEL MECH 107	20 A	1	17			0.5			0.1	18	1	20 A	EQN H-2 HEATER EXTERIOR	
	EQN BAS CONTROL PANEL MECH 107	20 A	1	19	0.5			0			20	1	20 A	SPARE	
	SPARE	20 A	1	21		0			0		22	1	20 A	SPARE	
	SPARE	20 A	1	23			0			0	24	1	20 A	SPARE	
	SPARE	20 A	1	25	0			0			26	1	20 A	SPARE	
	SPARE	20 A	1	27		0			--		28	1	--	SPACE	
	SPARE	20 A	1	29			0			--	30	1	--	SPACE	
	SPACE	--	1	31	--			--			32	1	--	SPACE	
	SPACE	--	1	33		--			--		34	1	--	SPACE	
	SPACE	--	1	35			--			--	36	1	--	SPACE	
	SPACE	--	1	37	--			8.54			38				
	SPACE	--	1	39		--			9.44		40	3	100 A	P1-C MAIN COMM 109	
	SPACE	--	1	41			--			9.44	42				
	TOTAL CONNECTED LOAD / PHASE:				12.499 kVA		14.32 kVA		12.428 kVA						

TOTAL LOAD SUMMARY

LOAD (kVA)		CURRENT (AMPS)	
CONNECTED LOAD:	39.247 kVA	CONNECTED CURRENT:	108.9 A
ESTIMATED DEMAND LOAD:	29.727 kVA	ESTIMATED DEMAND CURRENT:	82.5 A
ESTIMATED DEMAND FACTOR:	75.74%		
SPARE CAPACITY:			
ESTIMATED LOAD WITH SPARE:	29.727 kVA	ESTIMATED CURRENT WITH SPARE:	83 A

PANELBOARD NOTES: 1. PROVIDE LOCK-ON BREAKER.

PANELBOARD: P1-L2

LOCATION: ELEC 114
SUPPY FROM: P1-D1
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 208/120V,3P,4W,60Hz
BUS AMPS: 100 A
MCB SIZE: 100 A

NOTES	DESCRIPTIONS	TRIP AMPS	POLES	CKT NO.	A	B	C	A	B	C	CKT NO.	POLES	TRIP AMPS	DESCRIPTIONS	NOTES
	REC CORRIDOR 136	20 A	1	1	1.62			1.26			2	1	20 A	REC MECH 107	
	REC CORRIDOR 136	20 A	1	3		1.8			1.26		4	1	20 A	REC LOBBY / HALL WAY 130	
	REC FEMALE 119	20 A	1	5			1.44			1.44	6	1	20 A	REC EMPLOYEE BRK. RM. 116	
	REC AIR FORCE/SPACE FORCE OFFICE 110...	20 A	1	7	0.5			1.08			8	1	20 A	REC OFFICE 110A	
	REC OFFICE 110C	20 A	1	9		0.9			1.08		10	1	20 A	REC AIR FORCE / SPACE FORCE OFFICE 24P 110	
	REC EMPLOYEE BRK. RM. 116 REF.	20 A	1	11			0.725			1.44	12	1	20 A	REC OFFICE 110A	
	REC EMPLOYEE BRK. RM. 116 MICROWAVE	20 A	1	13	1.2			0.36			14	1	20 A	REC EMPLOYEE BRK. RM. 116	
	REC AIR FORCE/SPACE FORCE OFFICE 110...	20 A	1	15		0.5			1.2		16	1	20 A	REC EMPLOYEE BRK. RM. 116 MICROWAVE	
	REC OFFICE 104B	20 A	1	17			1.08			0.933	18				
	EQN AIR FORCE / SPACE FORCE OFFICE 24P 110 FURNITURE SYSTEMS	20 A	3	19	0.933			0.933			20	3	20 A	EQN AIR FORCE / SPACE FORCE OFFICE 24P 110 FURNITURE SYSTEMS	
				21		0.933			0.933		22				
	EQN MARINES OFFICE 104 FURNITURE SYSTEMS	20 A	2	23			0.933			0.933	24	3	20 A	EQN AIR FORCE / SPACE FORCE OFFICE 24P 110 FURNITURE SYSTEMS	
				25	1.05			0.933			26				
				27		1.05			0.933		28				
	REC ELEV MACH 122	20 A	1	29			0.36			1.08	30	1	20 A	REC OFFICE 106A	
	REC COAST GUARD OFFICE 7P 106	20 A	1	31	0.72			0.18			32	1	20 A	REC ELEVATOR E1	
	SPARE	20 A	1	33		0			0.5		34	1	20 A	REC COAST GUARD OFFICE 7P 106 COPIER	
	EQN LOBBY/HALL WAY 130 FIRE ALARM...	20 A	1	35			0.03			0	36	1	20 A	SPARE	
	EQN MARINES OFFICE 11P 104 FURNITURE SYSTEMS	20 A	2	37	0.35			0.525			38	2	20 A	EQN MARINES OFFICE 11P 104 FURNITUTRE SYSTEMS	
				39		0.35			0.525		40				
	REC EMPLOYEE BRK. RM. 116	20 A	1	41			0.725			0	42	1	20 A	SPARE	
	SPARE	20 A	1	43	0			0			44	1	20 A	SPARE	
	SPARE	20 A	1	45		0			0		46	1	20 A	SPARE	
	SPARE	20 A	1	47			0			0	48	1	20 A	SPARE	
	SPACE	--	1	49	--			--			50	1	--	SPACE	
	SPACE	--	1	51		--			--		52	1	--	SPACE	
	SPACE	--	1	53			--			--	54	1	--	SPACE	
	TOTAL CONNECTED LOAD / PHASE:				11.645 kVA		11.965 kVA		11.12 kVA						

TOTAL LOAD SUMMARY

LOAD (kVA)		CURRENT (AMPS)	
CONNECTED LOAD:	34.730 kVA	CONNECTED CURRENT:	96.4 A
ESTIMATED DEMAND LOAD:	28.505 kVA	ESTIMATED DEMAND CURRENT:	79.1 A
ESTIMATED DEMAND FACTOR:	82.08%		
SPARE CAPACITY:	15%		
ESTIMATED LOAD WITH SPARE:	32.781 kVA	ESTIMATED CURRENT WITH SPARE:	91 A

PANELBOARD NOTES:

PANELBOARD: P1-L3

LOCATION: ELEC 114
SUPPY FROM: P1-D1
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 208/120V,3P,4W,60Hz
BUS AMPS: 250 A
MCB SIZE: 225 A

NOTES	DESCRIPTIONS	TRIP AMPS	POLES	CKT NO.	A	B	C	A	B	C	CKT NO.	POLES	TRIP AMPS	DESCRIPTIONS	NOTES
	EQN ARMY OFFICE 23P 123 FURNITURE SYSTEMS	20 A	2	1	0.875			0.525			2	2	20 A	EQN ARMY OFFICE 23P 123 FURNITURE SYSTEMS	
				3		0.875			0.525		4				
	EQN ARMY OFFICE 23P 123 FURNITURE SYSTEMS	20 A	2	5			1.05			1.05	6	2	20 A	EQN ARMY OFFICE 23P 123 FURNITUTE SYSTEMS	
				7	1.05			1.05			8				
	REC MARINES OFFICE 11P 104	20 A	1	9		0.9			0.5		10	1	20 A	REC MARINES OFFICE 11P 104 COPIER	
	EQN NAVY OFFICE 6P 124	20 A	2	11			1.05			0.7	12	2	20 A	EQN COAST GUARD OFFICE 106 FURNITURE SYSTEMS	
				13	1.05			0.7			14				
	REC OFFICE 106A	20 A	1	15		1.62			1.62		16	1	20 A	REC OFFICE 104B	
	REC ARMY OFFICE 23P 123	20 A	1	17			1.26			0.5	18	1	20 A	REC ARMY OFFICE 23P 123 COPIER	
	REC NAVY OFFICE 6P 124 COPIER	20 A	1	19	0.5			1.08			20	1	20 A	REC NAVY OFFICE 6P 124	
	REC OFFICE 124A	20 A	1	21		1.08			0.72		22	1	20 A	REC OFFICE 124A	
	REC WAITING AREA FOR TRANSIENT PERSONNE...	20 A	1	23			1.08			1.08	24	1	20 A	REC WAITING AREA FOR TRANSIENT PERSONNE...	
	EQN WAITING AREA FOR TRANSIENT PERSONNE...	20 A	1	25	1.08			1.08			26	1	20 A	REC WAITING AREA FOR TRANSIENT PERSONNE...	
	EQN WAITING AREA FOR TRANSIENT PERSONNE...	20 A	1	27		1.44			1.08		28	1	20 A	EQN WAITING AREA FOR TRANSIENT PERSONNE...	
	REC WAITING ARE AFOR TRANSIENT PERSONNE...	20 A	1	29			0.36			0.9	30	1	20 A	REC WAITING AREA FOR TRANSIENT PERSONNE...	
	REC COVE 4P 126	20 A	1	31	1.08			1.44			32	1	20 A	REC COVE 4P 126	
	EQN CLASSROOM 125	20 A	1	33		1.08			1.08		34	1	20 A	EQN CLASSROOM 20P 125	
	EQN CLASSROOM 125	20 A	1	35			1.08			1.08	36	1	20 A	EQN CLASSROOM 20P 125	
	EQN ARMY OFFICE 23P 123 FURNITURE SYSTEMS	20 A	2	37	0.525			0.525			38	2	20 A	EQN COAST GUARD OFFICE 7P 106 FURNITURE SYSTEMS	
				39		0.525			0.525		40				
	REC CLASSROOM 20P 125	20 A	1	41			1.62			0	42	1	20 A	SPARE	
	REC CLASSROOM 20P 125	20 A	1	43	0.36			0			44	1	20 A	SPARE	
	SPARE	20 A	1	45		0			0		46	1	20 A	SPARE	
	SPARE	20 A	1	47			0			0	48	1	20 A	SPARE	
	SPACE	--	1	49	--			--			50	1	--	SPACE	
	SPACE	--	1	51		--			--		52	1	--	SPACE	
	SPACE	--	1	53			--			--	54	1	--	SPACE	
	TOTAL CONNECTED LOAD / PHASE:				12.92 kVA		13.57 kVA		12.81 kVA						

TOTAL LOAD SUMMARY

LOAD (kVA)		CURRENT (AMPS)	
CONNECTED LOAD:	39.300 kVA	CONNECTED CURRENT:	109.1 A
ESTIMATED DEMAND LOAD:	35.090 kVA	ESTIMATED DEMAND CURRENT:	97.4 A
ESTIMATED DEMAND FACTOR:	89.29%		
SPARE CAPACITY:	15%		
ESTIMATED LOAD WITH SPARE:	40.354 kVA	ESTIMATED CURRENT WITH SPARE:	112 A

PANELBOARD NOTES:

PANELBOARD: P1-L4

LOCATION: ELEC 114
SUPPY FROM: P1-D1
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 208/120V,3P,4W,60Hz
BUS AMPS: 100 A
MCB SIZE: 100 A

NOTES	DESCRIPTIONS	TRIP AMPS	POLES	CKT NO.	A	B	C	A	B	C	CKT NO.	POLES	TRIP AMPS	DESCRIPTIONS	NOTES
	EQN VEST 129 CUH-129	15 A	2	1	0.104			0.208			2	2	15 A	EQN STAIR S1 CUH-S1	
				3		0.104			0.208		4				
	EQN VESTIBULE 2-STORY 139 CUH-139A	15 A	2	5			0.208			0.208	6	2	15 A	EQN VESTIBULE 2-STORY 139 CUH-139B	
				7	0.208			0.208			8				
	EQN OFFICE 110 VAV-(110A,110B,110E,110-F)	20 A	1	9		0.06			0.06		10	1	20 A	EQN BRK. RM. 116 VAV-(110C,110D,116)	
	EQN OFFICE 104 VAV -(104A,104B,104,136)	20 A	1	11			0.06			0.03	12	1	20 A	EQN CORRIDOR 136 VAV-108, VAV-109	
	EQN CORR. 136 VAV-100,VAV-119,VAV-120	20 A	1	13	0.06			0.06			14	1	20 A	EQN CORRIDOR 137 VAV-130, VAV-137	
	EQN OFFICE 106 VAV - (106,106A,123A,123C)	20 A	1	15		0.06			0.06		16	1	20 A	EQN ARMY OFFICE 123 VAV-123B, VAV-124	
	EQN VAV-125A, VAV-125B, VAV-245	20 A	1	17			0.06			0.06	18	1	20 A	EQN VAV-240, VAV-246, VAV-247	
	HVAC JAN 117 HWRP-1	20 A	1	19	1.177			1.177			20	1	20 A	HVAC ELEVATOR E1 SP-1	
	HVAC ELEV MACH 122 ELEVATOR LIGHTING	20 A	1	21		1.5			0.757		22	1	20 A	HVAC EMPLOYEE BRK. RM. 116 GARBAGE...	
	SPARE	20 A	1	23			0			0	24	1	20 A	SPARE	
	SPARE	20 A	1	25	0			0			26	1	20 A	SPARE	
	SPARE	20 A	1	27		0			0		28	1	20 A	SPARE	
	SPARE	20 A	1	29			0			0	30	1	20 A	SPARE	
	SPACE	--	1	31	--			--			32	1	--	SPACE	
	SPACE	--	1	33		--			--		34	1	--	SPACE	
	SPACE	--	1	35			--			--	36	1	--	SPACE	
	SPACE	--	1	37	--			--			38	1	--	SPACE	
	SPACE	--	1	39		--			--		40	1	--	SPACE	
	SPACE	--	1	41			--			--	42	1	--	SPACE	
	TOTAL CONNECTED LOAD / PHASE:				3.202 kVA		2.809 kVA		0.626 kVA						

TOTAL LOAD SUMMARY

LOAD (kVA)		CURRENT (AMPS)	
CONNECTED LOAD:	6.637 kVA	CONNECTED CURRENT:	18.4 A
ESTIMATED DEMAND LOAD:	6.637 kVA	ESTIMATED DEMAND CURRENT:	18.4 A
ESTIMATED DEMAND FACTOR:	100.00%		
SPARE CAPACITY:	15%		
ESTIMATED LOAD WITH SPARE:	7.633 kVA	ESTIMATED CURRENT WITH SPARE:	21 A

PANELBOARD NOTES:

COMMONWEALTH OF VIRGINIA
12/14/2022
YOSEPH Z. SOLOMON
Lic. No. 0402047869
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

DATE	DESCRIPTION	MARK

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:
DESIGNED BY: Y. SOLOMON
DRAWN BY: D. PAXTON
CHECKED BY: Y. SOLOMON
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - PANEL SCHEDULES

SHEET ID
E-703

RTA SUBMISSION

PANELBOARD: P1-C

LOCATION: MAIN COMM 109
SUPPY FROM: P1-L1
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 208/120V,3P,4W,60Hz
BUS AMPS: 100 A
MCB SIZE: 100 A

NOTES	DESCRIPTIONS	TRIP AMPS	POLES	CKT NO.	A	B	C	A	B	C	CKT NO.	POLES	TRIP AMPS	DESCRIPTIONS	NOTES
	REC MAIN COMM 109	20 A	1	1	0.5			0.5			2	1	20 A	REC MAIN COMM 109	
	REC MAIN COMM 109	20 A	1	3		0.5			0.5		4	1	20 A	REC MAIN COMM 109	
	REC MAIN COMM 109	20 A	1	5			0.5			0.5	6	1	20 A	REC MAIN COMM 109	
	REC MAIN COMM 109	20 A	1	7	0.5			0.5			8	1	20 A	REC MAIN COMM 109	
	REC MAIN COMM 109	20 A	1	9		0.5			0.5		10	1	20 A	REC MAIN COMM 109	
	REC MAIN COMM 109	20 A	1	11			0.5			0.5	12	1	20 A	REC MAIN COMM 109	
	REC MAIN COMM 109	20 A	2	13	0.75			0.75			14	2	20 A	REC MAIN COMM 109	
				15		0.75			0.75		16				
	REC MAIN COMM 109	20 A	2	17			0.75			0.75	18	2	20 A	REC MAIN COMM 109	
				19	0.75			0.75			20				
	REC MAIN COMM 109	20 A	2	21		0.75			0.75		22	2	20 A	REC MAIN COMM 109	
				23			0.75			0.75	24				
	REC MAIN COMM 109	20 A	2	25	0.75			0.75			26	2	20 A	REC MAIN COMM 109	
				27		0.75			0.75		28				
	REC MAIN COMM 109	20 A	2	29			0.75			0.75	30	2	20 A	REC MAIN COMM 109	
				31	0.75			0.75			32				
	REC MAIN COMM 109	20 A	2	33		0.75			0.75		34	2	20 A	REC MAIN COMM 109	
				35			0.75			0.75	36				
	REC MAIN COMM 109	20 A	1	37	0.36			0.18			38	1	20 A	REC MAIN COMM 109	
	REC MAIN COMM 109	20 A	1	39		1.44			0		40	1	20 A	SPARE	
	REC MAIN COMM 109	20 A	1	41			1.44			0	42	1	20 A	SPARE	
	SPARE	20 A	1	43	0			0			44	1	20 A	SPARE	
	SPARE	20 A	1	45		0			0		46	1	20 A	SPARE	
	SPARE	20 A	1	47			0			0	48	1	20 A	SPARE	
	SPARE	20 A	1	49	0			0			50				
	SPACE	--	1	51		--			0		52	3	30 A	SPD	
	SPACE	--	1	53			--			0	54				
	TOTAL CONNECTED LOAD / PHASE:				8.54 kVA		9.44 kVA		9.44 kVA						

TOTAL LOAD SUMMARY

LOAD (kVA)		CURRENT (AMPS)	
CONNECTED LOAD:	27.420 kVA	CONNECTED CURRENT:	76.1 A
ESTIMATED DEMAND LOAD:	18.710 kVA	ESTIMATED DEMAND CURRENT:	51.9 A
ESTIMATED DEMAND FACTOR:	68.23%		
SPARE CAPACITY:			
ESTIMATED LOAD WITH SPARE:	18.71 kVA	ESTIMATED CURRENT WITH SPARE:	52 A

PANELBOARD NOTES:

PANELBOARD: P2-D1

LOCATION: ELEC 204
SUPPY FROM: P2-H1
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 208/120V,3P,4W,60Hz
BUS AMPS: 400 A
MCB SIZE: 400 A

NOTES	DESCRIPTIONS	TRIP AMPS	POLES	CKT NO.	A	B	C	A	B	C	CKT NO.	POLES	TRIP AMPS	DESCRIPTIONS	NOTES
				1	9.96			5.9			2				
	P2-L2 ELEC 204	100 A	3	3		10.62			6.22		4	3	100 A	P2-C1 UNCLASS COMM 211	
				5			10.625			5.5	6				
	P2-C2 CLASS COMM 212	100 A	3	7	9.08			3.92			8				
				9		8.72			3.76		10	3	100 A	P2-L3 ELEC 204	
				11			8			3.22	12				
				13	7.16			5.351			14				
	P2-L5 ELEC 221	100 A	3	15		8.1			2.55		16	3	100 A	P2-L4 ELEC 204	
				17			7.56			4.638	18				
	SPARE	20 A	1	19	0			0			20	1	20 A	SPARE	
	SPARE	20 A	1	21		0			0		22	1	20 A	SPARE	
	SPARE	20 A	1	23			0			0	24	1	20 A	SPARE	
	SPACE	--	1	25	--			--			26	1	--	SPACE	
	SPACE	--	1	27		--			--		28	1	--	SPACE	
	SPACE	--	1	29			--			--	30	1	--	SPACE	
	SPACE	--	1	31	--			--			32	1	--	SPACE	
	SPACE	--	1	33		--			--		34	1	--	SPACE	
	SPACE	--	1	35			--			--	36	1	--	SPACE	
	SPACE	--	1	37	--			--			38	1	--	SPACE	
	SPACE	--	1	39		--			--		40	1	--	SPACE	
	SPACE	--	1	41			--			--	42	1	--	SPACE	
	TOTAL CONNECTED LOAD / PHASE:				41.371 kVA		39.97 kVA		39.543 kVA						

TOTAL LOAD SUMMARY

LOAD (kVA)		CURRENT (AMPS)	
CONNECTED LOAD:	120.884 kVA	CONNECTED CURRENT:	335.5 A
ESTIMATED DEMAND LOAD:	84.002 kVA	ESTIMATED DEMAND CURRENT:	233.2 A
ESTIMATED DEMAND FACTOR:	69.49%		
SPARE CAPACITY:	15%		
ESTIMATED LOAD WITH SPARE:	96.602 kVA	ESTIMATED CURRENT WITH SPARE:	268 A

PANELBOARD NOTES:

PANELBOARD: P2-L2

LOCATION: ELEC 204
SUPPY FROM: P2-D1
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 208/120V,3P,4W,60Hz
BUS AMPS: 100 A
MCB SIZE: 100 A

NOTES	DESCRIPTIONS	TRIP AMPS	POLES	CKT NO.	A	B	C	A	B	C	CKT NO.	POLES	TRIP AMPS	DESCRIPTIONS	NOTES
	REC CORRIDOR 210, STORAGE 209A, STORAGE...	20 A	1	1	1.44			--			2	1	--	SPACE	
	REC CORRIDOR 210	20 A	1	3		1.26			1.44		4	1	20 A	REC FEMALE 230	
	REC STUDENT BRK. RM. 200	20 A	1	5			1.62			0.725	6	1	20 A	REC STUDENT BRK. RM. 200 REF.	
	REC STUDENT BRK. RM. 200 MICROWAVE	20 A	1	7	1.2			1.2			8	1	20 A	REC STUDENT BRK. RM. 200 MICROWAVE	
	REC STUDENT BRK. RM. 200	20 A	1	9		0.36			0.54		10	1	20 A	REC NURSING 203	
	REC NURSING 203 REFRIG & MICROWAVE	20 A	1	11			0.36			0.9	12	1	20 A	REC CLASSRM 30P 234	
	REC CLASSRM 30P 234	20 A	1	13	1.26			0.72			14	1	20 A	REC CLASSRM 30P 234 MONITORS	
	EQN CLASSRM 30P 234	20 A	1	15		0.72			0.72		16	1	20 A	EQN CLASSRM 30P 234	
	EQN CLASSRM 30P 234	20 A	1	17			0.72			0.72	18	1	20 A	EQN CLASSRM 30P 234	
	EQN CLASSRM 30P 234	20 A	1	19	0.72			0.72			20	1	20 A	EQN CLASSRM 30P 234	
	REC IT SUPPORT OFFICE 2P 244	20 A	1	21		1.44			1.26		22	1	20 A	REC MULTI-PURPOSE CLASSRM 20P 209	
	REC MULTI-PURPOSE CLASSRM 20P 208	20 A	1	23			1.26			0.72	24	1	20 A	EQN MULTI-PURPOSE CLASSRM 20P 208	
	EQN MULTI-PURPOSE CLASSRM 20P 208	20 A	1	25	0.72			0.36			26	1	20 A	EQN MULTI-PURPOSE CLASSRM 20P 208	
	EQN MULTI-PURPOSE CLASSRM 20P 209	20 A	1	27		0.72			0.72		28	1	20 A	EQN MULTI-PURPOSE CLASSRM 20P 209	
	EQN MULTI-PURPOSE CLASSRM 20P 209	20 A	1	29			0.36			1.08	30	1	20 A	REC COVE 258	
	REC COVE 255	20 A	1	31	1.08			0.36			32	1	20 A	REC COVE 257	
	REC COVE 257	20 A	1	33		0.72			0.72		34	1	20 A	REC COVE 256	
	REC COVE 256	20 A	1	35			0.72			1.44	36	1	20 A	REC CORRIDOR 210	
	REC STUDENT BRK. RM. 200	20 A	1	37	0.18						38				
	SPARE	20 A	1	39		0			0		40	1	20 A	SPARE	
	SPARE	20 A	1	41			0			0	42	1	20 A	SPARE	
	SPARE	20 A	1	43	0			0			44	1	20 A	SPARE	
	SPARE	20 A	1	45		0			--		46	1	--	SPACE	
	SPACE	--	1	47			--			--	48	1	--	SPACE	
	SPACE	--	1	49	--			--			50	1	--	SPACE	
	SPACE	--	1	51		--			--		52	1	--	SPACE	
	SPACE	--	1	53			--			--	54	1	--	SPACE	
	TOTAL CONNECTED LOAD / PHASE:				9.96 kVA		10.62 kVA		10.625 kVA						

TOTAL LOAD SUMMARY

LOAD (kVA)		CURRENT (AMPS)	
CONNECTED LOAD:	31.205 kVA	CONNECTED CURRENT:	86.6 A
ESTIMATED DEMAND LOAD:	24.563 kVA	ESTIMATED DEMAND CURRENT:	68.2 A
ESTIMATED DEMAND FACTOR:	78.71%		
SPARE CAPACITY:	15%		
ESTIMATED LOAD WITH SPARE:	28.247 kVA	ESTIMATED CURRENT WITH SPARE:	78 A

PANELBOARD NOTES:

PANELBOARD: P2-L3

LOCATION: ELEC 204
SUPPY FROM: P2-D1
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 208/120V,3P,4W,60Hz
BUS AMPS: 100 A
MCB SIZE: 100 A

NOTES	DESCRIPTIONS	TRIP AMPS	POLES	CKT NO.	A	B	C	A	B	C	CKT NO.	POLES	TRIP AMPS	DESCRIPTIONS	NOTES
	REC IDC-W AREA 23P 225	20 A	1	1	0.54			0.36			2	1	20 A	REC IDC-W AREA 23P 225	
	REC IDC-W AREA 23P 225	20 A	1	3		0.54			0.54		4	1	20 A	REC IDC-W AREA 23P 225	
	REC IDC-W AREA 23P 225	20 A	1	5			0.54			1.26	6	1	20 A	REC NIPR TRAINING 20P 233	
	REC IDC-W AREA 23P 225	20 A	1	7	0.9			0.7			8	2	20 A	EQN IDC-W AREA 23P 225 FURNITURE SYSTEMS	
	EQN NIPR TRAINING 20P 233	20 A	1	9		0.72			0.7		10				
	EQN NIPR TRAINING 20P 233	20 A	1	11			0.72			0.7	12	2	20 A	EQN IDC-W AREA 23P 225 FURNITURE SYSTEMS	
	EQN NIPR TRAINING 20P 233	20 A	1	13	0.72			0.7			14				
	EQN NIPR TRAINING 20P 233	20 A	1	15		0.72			0.54		16	1	20 A	REC NIPR TRAINING 20P 233 MONITORS	
	SPARE	20 A	1	17			0			0	18	1	20 A	SPARE	
	SPARE	20 A	1	19	0			0			20	1	20 A	SPARE	
	SPARE	20 A	1	21		0			0		22	1	20 A	SPARE	
	SPACE	--	1	23			--			--	24	1	--	SPACE	
	SPACE	--	1	25	--			--			26	1	--	SPACE	
	SPACE	--	1	27		--			--		28	1	--	SPACE	
	SPACE	--	1	29			--			--	30	1	--	SPACE	
	SPACE	--	1	31	--			--			32	1	--	SPACE	
	SPACE	--	1	33		--			--		34	1	--	SPACE	
	SPACE	--	1	35			--			--	36	1	--	SPACE	
	SPACE	--	1	37	--			--			38	1	--	SPACE	
	SPACE	--	1	39		--			--		40	1	--	SPACE	
	SPACE	--	1	41			--			--	42	1	--	SPACE	
	TOTAL CONNECTED LOAD / PHASE:				3.92 kVA		3.76 kVA		3.22 kVA						

TOTAL LOAD SUMMARY

LOAD (kVA)		CURRENT (AMPS)	
CONNECTED LOAD:	10.900 kVA	CONNECTED CURRENT:	30.3 A
ESTIMATED DEMAND LOAD:	10.900 kVA	ESTIMATED DEMAND CURRENT:	30.3 A
ESTIMATED DEMAND FACTOR:	100.00%		
SPARE CAPACITY:	15%		
ESTIMATED LOAD WITH SPARE:	12.535 kVA	ESTIMATED CURRENT WITH SPARE:	35 A

PANELBOARD NOTES:

12/14/2022
COMMONWEALTH OF VIRGINIA
YOSEPH Z. SOLOMON
Lic. No. 0402047869
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: Y. SOLOMON
DRAWN BY: D. PAXTON
CHECKED BY: Y. SOLOMON
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - PANEL SCHEDULES

SHEET ID
E-704

RTA SUBMISSION

PANELBOARD: P2-L4

LOCATION: ELEC 204
SUPPY FROM: P2-D1
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 208/120V,3P,4W,60Hz
BUS AMPS: 100 A
MCB SIZE: 100 A

NOTES	DESCRIPTIONS	TRIP AMPS	POLES	CKT NO.	A	B	C	A	B	C	CKT NO.	POLES	TRIP AMPS	DESCRIPTIONS	NOTES
	SPACE	--	1	1	--			0.06			2	1	20 A	EQN TRAINING 233 VAV-(233A,233B,234A,234B)	
	SPACE	--	1	3		--			0.06		4	1	20 A	EQN BRK. RM. 200 VAV - (200A, 200B,203)	
	EQN CORRIDOR 210 VAV - (210B,230,231)	20 A	1	5			0.06			0.06	6	1	20 A	EQN CORIDOR 210 VAV - (210A, 243)	
	EQN CLASSRM 208 VAV - (208, 209)	20 A	1	7	0.06			0.03			8	1	20 A	EQN CORRIDOR 210 VAV - (255,256)	
	EQN OFFICE 220 VAV - (220, 252)	20 A	1	9		0.03			0.06		10	1	20 A	EQN CLASSRM 224 VAV - (212,223,224)	
	EQN CORRIDOR 264 VAV - (213, 222)	20 A	1	11			0.06			0.06	12	1	20 A	EQN RM 216 & RM 225 VAV - 216A, 216B, 251)	
	HVAC EF-1 ROOF MOUNTED	20 A	2	13	0.416			1.144			14	2	30 A	HVAC CU-114 ROOF MOUNTED	
				15		0.416			1.144		16				
	HVAC CU-204 ROOF MOUNTED	30 A	2	17			1.144			2.496	18	2	40 A	HVAC CU-122 ROOF MOUNTED	
				19	1.144			2.496			20				
	REC GFI WP ROOF MOUNTED	20 A	1	21		0.54			0.3		22	1	20 A	EQN ELEC 204 FIRE ALARM NAC PANEL (NOTE 1)	
	HVAC STUDENT BRK. RM. 200 GARBAGE...	20 A	1	23			0.757			0	24	1	20 A	SPARE	
	SPARE	20 A	1	25	0			0			26	1	20 A	SPARE	
	SPARE	20 A	1	27		0			0		28	1	20 A	SPARE	
	SPARE	20 A	1	29			0			--	30	1	--	SPACE	
	SPACE	--	1	31	--			--			32	1	--	SPACE	
	SPACE	--	1	33		--			--		34	1	--	SPACE	
	SPACE	--	1	35			--			--	36	1	--	SPACE	
	SPACE	--	1	37	--			--			38	1	--	SPACE	
	SPACE	--	1	39		--			--		40	1	--	SPACE	
	SPACE	--	1	41			--			--	42	1	--	SPACE	
	TOTAL CONNECTED LOAD / PHASE:				5.351 kVA		2.55 kVA		4.638 kVA						

TOTAL LOAD SUMMARY

LOAD (kVA)		CURRENT (AMPS)	
CONNECTED LOAD:	12.539 kVA	CONNECTED CURRENT:	34.8 A
ESTIMATED DEMAND LOAD:	12.539 kVA	ESTIMATED DEMAND CURRENT:	34.8 A
ESTIMATED DEMAND FACTOR:	100.00%		
SPARE CAPACITY:	15%		
ESTIMATED LOAD WITH SPARE:	14.42 kVA	ESTIMATED CURRENT WITH SPARE:	40 A

PANELBOARD NOTES: 1. PROVIDE LOCK-ON BREAKER.

PANELBOARD: P2-L5

LOCATION: ELEC 221
SUPPY FROM: P2-D1
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 208/120V,3P,4W,60Hz
BUS AMPS: 100 A
MCB SIZE: 100 A

NOTES	DESCRIPTIONS	TRIP AMPS	POLES	CKT NO.	A	B	C	A	B	C	CKT NO.	POLES	TRIP AMPS	DESCRIPTIONS	NOTES
	REC SECURED STORAGE 252	20 A	1	1	0.54			0.72			2	1	20 A	REC CORRIDOR 264	
	REC SECURED STORAGE 252	20 A	1	3		0.72			0.72		4	1	20 A	REC SECURED STORAGE 252	
	REC SOCC SECURITY OFFICE 222	20 A	1	5			0.54			0.72	6	1	20 A	REC NCS OFFICE 8P 220	
	REC NCS OFFICE 8P 220	20 A	1	7	0.9			0.5			8	1	20 A	REC NCS OFFICE 8P 220 COPIER	
	REC NCS OFFICE 8P 220	20 A	1	9		0.72			0.72		10	1	20 A	EQN NCS OFFICE 8P 220	
	EQN NCS OFFICE 8P 220	20 A	1	11			0.72			0.72	12	1	20 A	REC CLASSRM 20P 224	
	REC CLASSRM 20P 223 MONITORS	20 A	1	13	0.54			0.54			14	1	20 A	REC CLASSRM 20P 223 MONITORS	
	REC CLASSRM 20P 223	20 A	1	15		0.9			0.72		16	1	20 A	EQN CLASSRM 20P 224	
	EQN CLASSRM 20P 223	20 A	1	17			0.72			0.72	18	1	20 A	EQN CLASSRM 20P 224	
	EQN CLASSRM 20P 223	20 A	1	19	0.72			0.72			20	1	20 A	EQN CLASSRM 20P 224	
	EQN CLASSRM 20P 223	20 A	1	21		0.72			0.72		22	1	20 A	EQN CLASSRM 20P 224	
	EQN CLASSRM 20P 223	20 A	1	23			0.72			0.72	24	1	20 A	EQN CLASSRM 20P 223	
	REC NSAC IIA OFFICE 20P 216 COPIER	20 A	1	25	0.18			0.36			26	1	20 A	REC NSAC IIA OFFICE 20P 216	
	REC NSAC IIA OFFICE 20P 216	20 A	1	27		0.36			0.36		28	1	20 A	REC NSAC IIA OFFICE 20P 216	
	REC NSAC IIA OFFICE 20P 216	20 A	1	29			0.36			0.36	30	1	20 A	REC NSAC IIA OFFICE 20P 216	
	EQN NSAC IIA OFFICE 20P 216	20 A	1	31	0.72			0.72			32	1	20 A	EQN NSAC IIA OFFICE 20P 216	
	EQN NSAC IIA OFFICE 20P 216	20 A	1	33		0.72			0.72		34	1	20 A	EQN NSAC IIA OFFICE 20P 216	
	EQN NSAC IIA OFFICE 20P 216	20 A	1	35			0.72			0.54	36	1	20 A	REC NSAC IIA OFFICE 20P 216	
	SPARE	20 A	1	37	0			0			38	1	20 A	SPARE	
	SPARE	20 A	1	39		0			0		40	1	20 A	SPARE	
	SPARE	20 A	1	41			0			0	42	1	20 A	SPARE	
	SPARE	20 A	1	43	0			0			44	1	20 A	SPARE	
	SPACE	--	1	45		--			--		46	1	--	SPACE	
	SPACE	--	1	47			--			--	48	1	--	SPACE	
	SPACE	--	1	49	--			--			50	1	--	SPACE	
	SPACE	--	1	51		--			--		52	1	--	SPACE	
	SPACE	--	1	53			--			--	54	1	--	SPACE	
	TOTAL CONNECTED LOAD / PHASE:				7.16 kVA		8.1 kVA		7.56 kVA						

TOTAL LOAD SUMMARY

LOAD (kVA)		CURRENT (AMPS)	
CONNECTED LOAD:	22.820 kVA	CONNECTED CURRENT:	63.3 A
ESTIMATED DEMAND LOAD:	22.170 kVA	ESTIMATED DEMAND CURRENT:	61.5 A
ESTIMATED DEMAND FACTOR:	97.15%		
SPARE CAPACITY:	15%		
ESTIMATED LOAD WITH SPARE:	25.496 kVA	ESTIMATED CURRENT WITH SPARE:	71 A

PANELBOARD NOTES:

PANELBOARD: P2-C1

LOCATION: UNCLASS COMM 211
SUPPY FROM: P2-D1
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 208/120V,3P,4W,60Hz
BUS AMPS: 100 A
MCB SIZE: 100 A

NOTES	DESCRIPTIONS	TRIP AMPS	POLES	CKT NO.	A	B	C	A	B	C	CKT NO.	POLES	TRIP AMPS	DESCRIPTIONS	NOTES
	REC UNCLASS COMM 211	20 A	1	1	0.5			0.5			2	1	20 A	REC UNCLASS COMM 211	
	REC UNCLASS COMM 211	20 A	1	3		0.5			0.5		4	1	20 A	REC UNCLASS COMM 211	
	REC UNCLASS COMM 211	20 A	1	5			0.5			0.5	6	1	20 A	REC UNCLASS COMM 211	
	REC UNCLASS COMM 211	20 A	1	7	0.5			0.5			8	1	20 A	REC UNCLASS COMM 211	
	REC UNCLASS COMM 211	20 A	2	9		0.75			0.75		10	2	20 A	REC UNCLASS COMM 211	
				11			0.75			0.75	12				
	REC UNCLASS COMM 211	20 A	2	13	0.75			0.75			14	2	20 A	REC UNCLASS COMM 211	
				15		0.75			0.75		16				
	REC UNCLASS COMM 211	20 A	2	17			0.75			0.75	18	2	20 A	REC UNCLASS COMM 211	
				19	0.75			0.75			20				
	REC UNCLASS COMM 211	20 A	2	21		0.75			0.75		22	2	20 A	REC UNCLASS COMM 211	
				23			0.75			0.75	24				
	REC UNCLASS COMM 211	20 A	1	25	0.72			0.18			26	1	20 A	REC UNCLASS COMM 211	
	REC UNCLASS COMM 211	20 A	1	27		0.72			--		28	1	--	SPACE	
	SPARE	20 A	1	29			0			0	30	1	20 A	SPARE	
	SPARE	20 A	1	31	0			0			32	1	20 A	SPARE	
	SPARE	20 A	1	33		0			0		34	1	20 A	SPARE	
	SPACE	--	1	35			--			--	36	1	--	SPACE	
	SPD	30 A	3	37	0			--			38	1	--	SPACE	
				39		0			--		40	1	--	SPACE	
				41			0			--	42	1	--	SPACE	
	TOTAL CONNECTED LOAD / PHASE:				5.9 kVA		6.22 kVA		5.5 kVA						

TOTAL LOAD SUMMARY

LOAD (kVA)		CURRENT (AMPS)	
CONNECTED LOAD:	17.620 kVA	CONNECTED CURRENT:	48.9 A
ESTIMATED DEMAND LOAD:	13.810 kVA	ESTIMATED DEMAND CURRENT:	38.3 A
ESTIMATED DEMAND FACTOR:	78.38%		
SPARE CAPACITY:			
ESTIMATED LOAD WITH SPARE:	13.81 kVA	ESTIMATED CURRENT WITH SPARE:	38 A

PANELBOARD NOTES:

PANELBOARD: P2-C2

LOCATION: CLASS COMM 212
SUPPY FROM: P2-D1
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 208/120V,3P,4W,60Hz
BUS AMPS: 100 A
MCB SIZE: 100 A

NOTES	DESCRIPTIONS	TRIP AMPS	POLES	CKT NO.	A	B	C	A	B	C	CKT NO.	POLES	TRIP AMPS	DESCRIPTIONS	NOTES
	REC CLASS COMM 212	20 A	1	1	0.5			0.5			2	1	20 A	REC CLASS COMM 212	
	REC CLASS COMM 212	20 A	1	3		0.5			0.5		4	1	20 A	REC CLASS COMM 212	
	REC CLASS COMM 212	20 A	1	5			0.5			0.5	6	1	20 A	REC CLASS COMM 212	
	REC CLASS COMM 212	20 A	1	7	0.5			0.5			8	1	20 A	REC CLASS COMM 212	
	REC CLASS COMM 212	20 A	1	9		0.5			0.5		10	1	20 A	REC CLASS COMM 212	
	REC CLASS COMM 212	20 A	1	11			0.5			0.5	12	1	20 A	REC CLASS COMM 212	
	REC CLASS COMM 212	20 A	2	13	0.75			0.75			14	2	20 A	REC CLASS COMM 212	
				15		0.75			0.75		16				
	REC CLASS COMM 212	20 A	2	17			0.75			0.75	18	2	20 A	REC CLASS COMM 212	
				19	0.75			0.75			20				
	REC CLASS COMM 212	20 A	2	21		0.75			0.75		22	2	20 A	REC CLASS COMM 212	
				23			0.75			0.75	24				
	REC CLASS COMM 212	20 A	2	25	0.75			0.75			26	2	20 A	REC CLASS COMM 212	
				27		0.75			0.75		28				
	REC CLASS COMM 212	20 A	2	29			0.75			0.75	30	2	20 A	REC CLASS COMM 212	
				31	0.75			0.75			32				
	REC CLASS COMM 212	20 A	2	33		0.75			0.75		34	2	20 A	REC CLASS COMM 212	
				35			0.75			0.75	36				
	REC CLASS COMM 212	20 A	1	37	0.18			0.9			38	1	20 A	REC CLASS COMM 212	
	SPARE	20 A	1	39		0			0.72		40	1	20 A	REC CLASS COMM 212	
	SPARE	20 A	1	41			0			0	42	1	20 A	SPARE	
	SPARE	20 A	1	43	0			0			44	1	20 A	SPARE	
	SPARE	20 A	1	45		0			0		46	1	20 A	SPARE	
	SPARE	20 A	1	47			0			0	48	1	20 A	SPARE	
	SPD	30 A	3	49	0			--			50	1	--	SPACE	
				51		0			--		52	1	--	SPACE	
				53			0			--	54	1	--	SPACE	
	TOTAL CONNECTED LOAD / PHASE:				9.08 kVA		8.72 kVA		8 kVA						

TOTAL LOAD SUMMARY

LOAD (kVA)		CURRENT (AMPS)	
CONNECTED LOAD:	25.800 kVA	CONNECTED CURRENT:	71.6 A
ESTIMATED DEMAND LOAD:	17.900 kVA	ESTIMATED DEMAND CURRENT:	49.7 A
ESTIMATED DEMAND FACTOR:	69.38%		
SPARE CAPACITY:			
ESTIMATED LOAD WITH SPARE:	17.9 kVA	ESTIMATED CURRENT WITH SPARE:	50 A

PANELBOARD NOTES:

COMMONWEALTH OF VIRGINIA
12/14/2022
YOSEPH Z. SOLOMON
Lic. No. 0402047869
PROFESSIONAL ENGINEER

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:

DESIGNED BY: Y. SOLOMON
DRAWN BY: D. PAXTON
CHECKED BY: Y. SOLOMON
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

ELECTRICAL - PANEL SCHEDULES

SHEET ID
E-705

RTA SUBMISSION

TELECOMMUNICATIONS SYMBOLS

TELEPHONE AND DATA COMMUNICATIONS

- PLYWOOD BACKBOARD
- EQUIPMENT CABINET
- TELEPHONE WALL OUTLET. WP = WEATHER PROOF, FACP= RESERVED FOR FIRE ALARM CONTROL PANEL
- WAP — DATA WALL OUTLET. WAP = WIRELESS ACCESS POINT, AV = AUDIO VISUAL, S = SIPR, N = NIPR
- M — COMBINATION TELEPHONE AND DATA WALL OUTLET. M= MODULAR OR SYSTEM FURNITURE OUTLET, S = SIPR, N = NIPR
- TELEPHONE OUTLET IN COMMON FLOOR BOX WITH ELECTRICAL OUTLET
- DATA OUTLET IN COMMON FLOOR BOX WITH ELECTRICAL OUTLET, S = SIPR, N = NIPR, AV = AUDIO/VISUAL
- COMBINATION TELEPHONE AND DATA OUTLET IN COMMON FLOOR BOX WITH ELECTRICAL OUTLET
- UNDERFLOOR WALL PENETRATION. REFER TO ARCHITECTURAL FOR PARTITION TYPES.
- WAP — CEILING MOUNTED WIRELESS ACCESS POINT
- T — WALL MOUNTED JUNCTION BOX WITH FLEXIBLE WHIP TO FURNITURE BASE POWER FEED, MOUNT AT 18-INCHES ABOVE FINISHED FLOOR. S = SIPR, N = NIPR
- T — FLOOR BOX FEED WITH FLEXIBLE WHIP TO FURNITURE BASE POWER FEED
- TP — POWER POLE FEED WITH FLEXIBLE WHIP TO FURNITURE BASE POWER FEED
- PRIMARY BONDING BUSBAR (PBB); SECONDARY BONDING BUSBAR (SBB)
- BUILDING ENTRANCE TERMINAL
- 110 — 110 BLOCKS
- CP — CONSOLIDATION POINT
- BASKET CABLE TRAY
- LADDER RACK

MISCELLANEOUS SYSTEMS

- MIC — MICROPHONE OUTLET CEILING
- MIC — MICROPHONE OUTLET FLOOR
- MIC — MICROPHONE OUTLET WALL
- PA — PUBLIC ADDRESS PUSHBUTTON
- V — VOLUME CONTROL AND CHANNEL SELECTOR
- CEILING MOUNTED SPEAKER, S=SOUND MASKING
- WALL MOUNTED SPEAKER
- SINGLE FACE CLOCK, A = ANALOG, D = DIGITAL
- PROGRAM BELL
- PROGRAM BUZZER
- BUZZER SWITCH
- TV — TELEVISION OUTLET
- 2WIC — 2-WAY INTERCOM
- CH — CHIME
- AV 1 — A/V INPUT PLATE
- AV 2 — A/V INPUT PLATE

ACCESS CONTROL & INTRUSION DETECTION

- CCTV CAMERA, FIXED. W = WALL, C = CEILING, R = ROOF/PARAPET, P = POLE
- CCTV CAMERA, PAN-TILT-ZOOM. W = WALL, C = CEILING, R = ROOF/PARAPET, P = POLE
- CARD READER
- CARD READER WITH KEYPAD
- KEYPAD
- ML — ELECTROMAGNETIC LOCKING DEVICE
- EL — ELECTRIFIED LOCK SET
- DS — DOOR STRIKE
- BREAK GLASS SENSOR
- 360° PASSIVE INFRARED/MICROWAVE SENSOR, AC = ABOVE CEILING
- PASSIVE INFRARED/MICROWAVE SENSOR
- BALANCED MAGNETIC SWITCH
- REQUEST TO EXIT PUSH BUTTON
- REQUEST TO EXIT PASSIVE INFRARED SENSOR
- SEISMIC SENSOR
- AUDIO SENSOR DEVICE
- P — DURESS PANIC SWITCH
- INTERCOM: M = MASTER STATION, R = REMOTE STATION
- VIDEO INTERCOM (MASTER)
- VIDEO INTERCOM (REMOTE)
- CCTV MONITOR
- SIREN
- AREA NOTIFICATION EQUIPMENT
- CELLULAR TRANSMITTER
- POWER SUPPLY
- SP — SECURITY PANEL
- CBE — CELL BOOSTER ENCLOSURE
- ENC — SECURITY ENCLOSURE
- BWS — BADGING WORKSTATION
- AWS — ALARM MONITORING WORKSTATION
- ACS — ACCESS CONTROL SYSTEM PANEL
- IDS — INTRUSION DETECTION SYSTEM PANEL

SITE

- (N) CMH XXX — NEW MAINTENANCE HOLE (MH NUMBER IDENTIFIED)
- (E) CMH XXX — EXISTING MAINTENANCE HOLE
- (N) CHH XXX — NEW COMMUNICATIONS HANDHOLE
- (E) CHH XXX — EXISTING COMMUNICATIONS HANDHOLE
- UT — COMMUNICATIONS DUCTBANK

TELECOMMUNICATIONS ABBREVIATIONS

ACS	ACCESS CONTROL SYSTEM
ACEG	ALTERNATING CURRENT EQUIPMENT GROUND
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ANN	ANNUNCIATOR
ARCH	ARCHITECTURAL
AV	AUDIOVISUAL
AWG	AMERICAN WIRE GAGE
BAS	BUILDING AUTOMATION SYSTEM
BATT	BATTERY
BB	BACKBONE
BFPP	BACKBONE FIBER PATCH PANEL
BBV	BACKBONE VOICE
BEPB	BUILDING ENTRANCE PROTECTION BLOCKS
BLDG	BUILDING
BMS	BALANCED MAGNETIC SWITCH
BVPP	BACKBONE VOICE PATCH PANEL
C	CONDUIT
CAB	CABINET
CAT	CATEGORY
CCTV	CLOSED CIRCUIT TELEVISION
CLG	CEILING
CMH	COMMUNICATIONS MANHOLE
COB	CENTER OF BOX
COMM	COMMUNICATIONS
CONST	CONSTRUCTION
CONT	CONTINUATION
DIA	DIAMETER
DIST	DISTRIBUTION
DWG	DRAWING
EF	ENTRANCE FACILITY
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
EQPT	EQUIPMENT
EX	EXISTING
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FIXT	FIXTURE
FLR	FLOOR
FO	FIBER OPTIC
FOC	FIBER OPTIC CABLE
GFGI	GOVERNMENT FURNISHED GOVERNMENT INSTALLED
HCPP	HORIZONTAL COPPER PATCH PANEL
HFPP	HORIZONTAL FIBER PATCH PANEL
HOV	HORIZONTAL VOICE
HVPP	HORIZONTAL VOICE PATCH PANEL
IDS	INTRUSION DETECTION SYSTEM
JB	JUNCTION BOX
MFR	MANUFACTURER
MH	MOUNTING HEIGHT
MMF	MULTIMODE FIBER
MTD	MOUNTED
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OH	OVERHEAD
OSP	OUTSIDE PLANT
PA	PUBLIC ADDRESS
PBB	PRIMARY BONDING BUSBAR
PB	PULL BOX
PBX	PRIVATE BRANCH EXCHANGE
PC	PERSONAL COMPUTER
PLAS	PLASTIC
PP	PATCH PANEL
PR	PAIR
PWR	POWER
QTY	QUANTITY
RAF	RAISED ACCESS FLOOR
RBB	RACK BONDING BUSBAR
RBC	RACK BONDING CONDUCTOR
RECP	RECEPTACLE
REQD	REQUIRED
RGS	RIGID GALVANIZED STEEL
RM	ROOM
RSC	RIGID STEEL CONDUIT
SBB	SECONDARY BONDING BUSBAR
SCRT	SECURITY
SECT	SECTION
SPEC	SPECIFICATION
SM	SINGLEMODE
SMF	SINGLEMODE FIBER
SP	SERVICE PROVIDER
STR	STRAND
SURF	SURFACE
SW	SWITCH
SYM	SYMMETRICAL
SYS	SYSTEMS
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TBC	TELECOMMUNICATIONS BONDING CONDUCTOR
TEBC	TELECOMMUNICATIONS EQUIPMENT BONDING CONDUCTOR
TEL	TELEPHONE
TELECOM	TELECOMMUNICATIONS
TER	TELECOMMUNICATIONS EQUIPMENT ROOM
TR	TELECOMMUNICATIONS ROOM
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
WP	WEATHERPROOF
XFR	TRANSFER
XP	EXPLOSION PROOF

TELECOMMUNICATIONS GENERAL NOTES

1. ALL SYMBOLS, ABBREVIATIONS AND GENERAL NOTES SHOWN ARE NOT NECESSARILY USED ON THIS PROJECT.
2. SEE ONE-LINE DIAGRAM FOR CABLE SIZES, CONDUIT SIZES, AND DEVICES NOT SHOWN ON PLANS.
3. MOUNTING HEIGHTS FOR CEILING MOUNTED DEVICES ARE TO THE BOTTOM OF THE DEVICE, UNLESS OTHERWISE NOTED.
4. MOUNTING HEIGHTS ABOVE FINISHED FLOOR, TO CENTERLINE OF DEVICE, ARE AS FOLLOWS, UNLESS OTHERWISE NOTED:

DATA OUTLETS	18-INCHES
TELEPHONE OUTLETS	48-INCHES
COUNTER TOP OUTLETS (CT)	8 INCHES ABOVE COUNTER
WIRELESS ACCESS POINT	12-INCHES ABOVE FINISHED CEILING
HORN SPEAKERS	AS INDICATED
TELEVISION OUTLET (COAX)	AS INDICATED
CARD READER BACK BOX	48-INCHES
SPEAKER VOLUME CONTROL	48-INCHES
CCTV CAMERAS	AS INDICATED

5. THIS PROJECT PROVIDES PATHWAYS ONLY. WORKSTATION LOCATIONS ARE FOR ROUGH-INS, BACKBOXES, AND JACKS. NO CABLE IS PROVIDED UNLESS OTHERWISE NOTED.
6. ALL FLOOR BOX LOCATIONS MUST BE CAREFULLY COORDINATED WITH STRUCTRUAL AND FOLLOW GENERAL NOTES UNDER STRUCTURAL S-001. SUBMIT ROUTING PLANS TO STRUCTURAL PRIOR TO THE CONCRETE POUR AND PROVIDING PATHWAYS FOR ALL FLOOR BOX LOCATIONS ON THE FIRST AND SECOND FLOOR. ELECTRICAL WILL REQUIRE CONDUITS IN THESE LOCATIONS. COORDINATE WITH ELECTRICAL TO PREVENT OVERLAP AND CLEARANCE ISSUES THAT VIOLATE S-001 STRUCTURAL REQUIREMENTS.
7. THE GENERAL AND SUPPLEMENTARY CONDITIONS AND OTHER REQUIREMENTS OF DIVISION 1. THE ELECTRICAL, AUDIO VISUAL, AND SECURITY PLANS AND SPECIFICATIONS, MAY APPLY TO THE WORK SPECIFIED.
8. COMMUNICATIONS CABLING INTEGRATOR HEREAFTER REFERRED TO AS "CONTRACTOR" MUST PROVIDE TELECOM PASSIVE EQUIPMENT, CABLING, PATHWAYS AND ASSOCIATED MATERIALS, COMPONENTS, TOOLS, AND LABOR TO COMPLETE TELECOMMUNICATIONS STRUCTURED CABLING SYSTEM AND PATHWAYS.
9. CONTRACTOR MUST CAREFULLY EXAMINE THE SITE TO DETERMINE THE EXTENT OF WORK AND CONDITION UNDER WHICH IT WILL BE DONE. REVIEW AND VERIFY CONTRACT DOCUMENTS IN RELATION TO FIELD CONDITIONS TO VERIFY ACCURACY. THE OWNER, OR THEIR DESIGNATED REPRESENTATIVE, SHOULD BE CONSULTED AS NEEDED FOR CLARIFICATION OR DIRECTION REGARDING ANY PROJECT RELATED QUESTIONS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING CLARIFICATIONS FROM THE OWNER, OR THEIR DESIGNATED REPRESENTATIVE, PRIOR TO PROCEEDING WITH THE WORK OR RELATED WORK IN QUESTION.
10. DISCREPANCIES BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS MUST BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE GOVERNMENT, OR DESIGNATED REPRESENTATIVE, FOR CLARIFICATION.
11. REFER TO TECHNOLOGY CONTRACT DOCUMENTS, T, TY, TA DRAWINGS AND DIVISION 27/28 SPECIFICATIONS WHEN BIDDING AND INSTALLING THIS PROJECT.
12. CONTRACTOR MUST READ IN THEIR ENTIRETY ALL SECTIONS OF THE COMMUNICATIONS CABLING SYSTEM DOCUMENTS AND APPLY THEM AS APPROPRIATE FOR WORK IN THIS SECTION.
13. CONTRACTOR MUST TAKE NECESSARY MEANS TO PROTECT COMMUNICATION SYSTEM COMPONENTS FROM MECHANICAL DAMAGE BEFORE, DURING AND AFTER CONSTRUCTION.
14. FOR EXTERIOR CAMERAS PROVIDE JUNCTION BOXES AND CONDUITS SIZED FOR THE AMOUNT OF CABLE TO CAMERA. REFER TO SHEET T-601 FOR ADDITIONAL INFORMATION. PROVIDE JUNCTION BOXES TO PREVENT CUMULATIVE BENDS OF 180-DEGREES BETWEEN PULL POINTS.
15. WHERE COMMUNICATION PATHWAYS ARE EMBEDDED IN A CONCRETE FLOOR (FOR FLOOR BOX OUTLETS) USE SCHEDULE 40 PVC.

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
BICSI
Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
RCDD
12/14/2022

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:
FILE NUMBER
DESIGNED BY: R. FAUVELLE
DRAWN BY: B. ARTERBURN
CHECKED BY: H. FERRIS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

TELECOM - SYMBOLS, ABBREVIATIONS AND GENERAL NOTES

SHEET ID
T-001

SECURITY DEVICE SCHEDULE

DEVICE NUMBER	DOOR NUMBER	DIB NUMBER	BID OPTION
CAM-1			
CAM-2			
CAM-3			
CAM-4			
CAM-5			
CAM-6			BID OPTION
CAM-7			BID OPTION
CAM-8			
CAM-9			
CAM-10			
R1	104	D11	
R2	106	D2	
R3	107	D3	
R4	108	D4	
R5	109	D14	
R6	110	D12	
R7	114	D10	
R8	123	D9	
R9	124	D6	
R10	129B	D5	
R11	138A	D15	BID OPTION
R12	139B	D8	
R13	203	D26	
R14	204	D25	
R15	211	D24	
R16	212	D21	
R17	216	D28	BID OPTION
R18	220	D20	
R19	225	D27	
R20	264A	D23	
R21	264B	D22	
R22	S2B	D1	
R23	252	D29	
S1	104	D11	
S2	106	D2	
S3	107	D3	
S4	107	D3	
S5	107A	D16	
S6	107A	D16	
S7	108	D4	
S8	108A	D17	
S9	108A	D17	
S10	109	D14	
S11	110	D12	
S12	111B	D18	
S13	111B	D18	
S14	114	D10	
S15	123	D9	
S16	124	D6	
S17	129B	D5	
S18	129B	D5	
S19	138A	D15	BID OPTION
S20	138B	D19	
S21	139B	D8	
S22	139B	D8	
S23	203	D26	
S24	204	D25	
S25	211	D24	
S26	212	D21	
S27	216	D28	BID OPTION
S28	220	D20	
S29	225	D27	
S30	264A	D23	
S31	264B	D22	
S32	S1B	D13	
S33	S1B	D13	
S34	S2B	D1	
S35	S2B	D1	
S36	109	D14	
S37	212	D21	
S38	211	D24	
S39	252	D29	

SECURITY PANEL SCHEDULE - ACS

DIB NUMBER	DOOR NUMBER	PANEL	BID OPTION
D1	S2B	ACS-P1	
D2	106	ACS-P1	
D3	107	ACS-P1	
D4	108	ACS-P1	
D5	129B	ACS-P2	
D6	124	ACS-P2	
D8	139B	ACS-P2	
D9	123	ACS-P3	
D10	114	ACS-P3	
D11	104	ACS-P3	
D12	110	ACS-P3	
D14	109	ACS-P4	
D15	138A	ACS-P4	BID OPTION
D20	220	ACS-P5	
D21	212	ACS-P5	
D22	264B	ACS-P5	
D23	264A	ACS-P5	
D24	211	ACS-P7	
D25	204	ACS-P7	
D26	203	ACS-P7	
D27	225	ACS-P7	BID OPTION
D28	216	ACS-P6	BID OPTION
D29	252	ACS-P5	

SECURITY PANEL SCHEDULE - IDS

DIB NUMBER	DOOR NUMBER	PANEL	BID OPTION
D1	S2B	IDS-P1	
D2	106	IDS-P1	
D3	107	IDS-P1	
D4	108	IDS-P1	
D5	129B	IDS-P2	
D6	124	IDS-P2	
D8	139B	IDS-P2	
D9	123	IDS-P3	
D10	114	IDS-P3	
D11	104	IDS-P3	
D12	110	IDS-P3	
D13	S1B	IDS-P4	
D14	109	IDS-P4	
D15	138A	IDS-P4	BID OPTION
D16	107A	IDS-P5	
D17	108A	IDS-P5	
D18	111B	IDS-P5	
D19	138B	IDS-P5	BID OPTION
D20	220	IDS-P6	
D21	212	IDS-P6	
D22	264B	IDS-P6	
D23	264A	IDS-P6	
D24	211	IDS-P7	
D25	204	IDS-P7	
D26	203	IDS-P7	
D27	225	IDS-P7	BID OPTION
D28	216	IDS-P6	BID OPTION

CABLE SCHEDULE

CABLE TYPE	DESCRIPTION	BELDEN #*	USE
A	4 COND. 22 GA.	4461140	DOOR INTERFACE BOX
B	2 PAIR 24 AWG	82842	RS485
C	2 PAIR 18 AWG	6341PC	OSDP
D	6-22 AWG	6504FE	CARD READER
E	2 COND. 20 AWG	6400FE	TAMPER
F	3 COND. 20 AWG	6401FE	REX/BMS
G	#20-4c	6402FE	SENSOR
H	2 COND. 18 AWG	82760	TAMPER
J	2-18 AWG	5341FE	REX/BMS
K	3-18 AWG	6342FE	SENSOR
L	2 COND. 16 AWG	6200FE	LOW VOLTAGE POWER
M	3 COND. 12 AWG	28110A	120 VAC
N	PLENUM 12F, SINGLE-MODE	012EC8-14101-A3	COMMUNICATION
O	PLENUM 6F, 62.5um MULTIMODE	006K88-31130-A3	COMMUNICATION
P	CAT5e CABLE, 4 PAIR	1585A	CAMERA

* OR EQUIVALENT

SECURITY SYMBOLS

ACCESS CONTROL & INTRUSION DETECTION

- CCTV CAMERA, FIXED
  W = WALL
  C = CEILING
  R = ROOF/PARAPET
  P = POLE
- CCTV CAMERA, PAN-TILT-ZOOM
  W = WALL
  C = CEILING
  R = ROOF/PARAPET
  P = POLE
- CARD READER
- CARD READER WITH KEYPAD
- KEYPAD
- EL — 24VDC ELECTRIFIED HARDWARE WITH INTEGRAL REQUEST TO EXIT SENSOR (PROVIDED BY DIV. 8)
- BREAK GLASS SENSOR
- 360° PASSIVE INFRARED/MICROWAVE SENSOR
  AC = ABOVE CEILING
- PASSIVE INFRARED/MICROWAVE SENSOR
- BALANCED MAGNETIC SWITCH (PROVIDED BY DIV. 8)
- HSS — HIGH SECURITY SWITCH
- SEISMIC SENSOR
- AUDIO SENSOR DEVICE
- P — DURESS PANIC SWITCH
- INTERCOM:
  M = MASTER STATION
  R = REMOTE STATION
- VIDEO INTERCOM (MASTER)
- VIDEO INTERCOM (REMOTE)
- CCTV MONITOR
- SIREN
- AREA NOTIFICATION EQUIPMENT
- CELLULAR TRANSMITTER
- POWER SUPPLY
- SP — SECURITY PANEL
- CBE — CELL BOOSTER ENCLOSURE
- ENC — SECURITY ENCLOSURE
- BWS — BADGING WORKSTATION
- AWS — ALARM MONITORING WORKSTATION
- ACS — ACCESS CONTROL SYSTEM PANEL
- IDS — INTRUSION DETECTION SYSTEM PANEL
- DIB — INTRUSION DETECTION SYSTEM PANEL
- NS — NETWORK SWITCH (GFGI)

SECURITY NOTES

GENERAL NOTES

1. CONTRACTOR MUST FIELD VERIFY EQUIPMENT LOCATIONS PRIOR TO THE START OF INSTALLATION. ANY CONFLICTS MUST BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT.
2. MINIMUM CONDUIT SIZE MUST BE 3/4" WITH THE EXCEPTION OF "DROP CONDUITS" AT DOOR LOCATIONS, WHICH MAY BE 1/2". ALL CONDUITS MUST BE EMT; EXCEPTIONS INCLUDE:
   - 2.1. RIGID STEEL FOR EXPOSED AREAS OR AREAS ACCESSIBLE TO UNSCREENED PERSONS
   - 2.2. PVC FOR BURIED OR CAST-IN-PLACE CONDUITS
   - 2.3. GALVANIZED RIGID STEEL FOR EXTERIOR CONDUITS
   - 2.4. FLEXIBLE CONDUIT FOR CONCEALED DROPS TO DOOR DEVICES
3. CONDUIT FILL MUST NOT EXCEED 40%. INSTALLATION OF CONDUIT AND WIRING MUST BE IN COMPLIANCE WITH NATIONAL ELECTRICAL CODE (NEC). ALL WIRING MUST BE HOMERUN, UNLESS OTHERWISE NOTED. ANY SPLICES MUST BE APPROVED BY THE DESIGNER.
4. SECURITY CONTROL CONDUCTORS MUST BE SHIELDED COPPER AND MINIMUM 18 AWG, UNLESS OTHERWISE NOTED. SECURITY CONDUCTORS MUST NOT SHARE CONDUIT WITH CONDUCTORS OF OTHER TRADES. SECURITY CONTRACTOR MUST BE RESPONSIBLE FOR ENSURING THAT HIGH VOLTAGE (120 VAC) POWER CONDUCTORS ARE NOT ROUTED WITHIN 12 INCHES OF SECURITY CONTROL WIRING. ALL CONDUCTORS MUST BE COLOR CODED AND TAGGED AS DESCRIBED IN THE WRITTEN SPECIFICATIONS AND APPROVED BY THE DESIGNER.
5. THE CONTRACTOR MUST INSTALL ALL COMPONENTS USING MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES. ALL MATERIALS MUST BE NEW AND UNUSED.
6. CONDUITS PENETRATING FIRE RATED WALLS OR FLOORS MUST USE U.L. APPROVED DEVICES IN ORDER TO MAINTAIN FIRE & ICD -705 RATING OF THE WALL OR FLOOR.
7. ALL CABLING MUST BE INSTALLED IN CONDUIT WITH THE EXCEPTION OF CABLING INSTALLED IN CABLE TRAYS/LADDER RACKS AND WITHIN COMM ROOMS.
8. THE CONTRACTOR MUST MAINTAIN ALL CABLE MINIMUM BENDING RADII ACCORDING TO THE CABLE MANUFACTURER.
9. THE CONTRACT DOCUMENTS REFLECT THE FIELD CONDITIONS OBSERVED/VERIFIED AT THE TIME OF OUR SITE AND BUILDING SURVEYS; THERE MAY BE DIFFERING FIELD CONDITIONS AT THE START OF CONSTRUCTION AND/OR BID PHASE. CONTRACTOR MUST BE RESPONSIBLE TO FIELD VERIFY ALL EXISTING CONDITIONS OF BUILDING SYSTEM AND PHYSICAL CHARACTERISTICS OF THE BUILDING/FACILITY PRIOR TO START OF WORK TO ENSURE THERE ARE NO CONFLICTS WITH THE CONSTRUCTION DOCUMENTS AND THE EXISTING FIELD CONDITIONS.
10. THE CONTRACTOR MUST COORDINATE THE WORK OF THEIR TRADE WITH THAT OF THE OTHER TRADES ON THE JOB. CONFLICTS WITH OTHER TRADES MUST BE BROUGHT TO THE ATTENTION OF THE GOVERNMENT PRIOR TO INSTALLATION. WORK MUST ALSO BE COORDINATED AROUND PORTABLE AND MOBILE EQUIPMENT.
11. ALL WORK MUST COMPLY WITH ALL APPLICABLE CODES, AMENDMENTS, RULES, REGULATIONS, ORDINANCES, LAWS, ORDERS, APPROVALS, ETC. THAT ARE REQUIRED BY PUBLIC AUTHORITIES. IN THE EVENT OF CONFLICT, THE MOST STRINGENT REQUIREMENTS MUST GOVERN.
12. THE CONTRACTOR MUST SUPERVISE AND DIRECT THE WORK USING HIS BEST SKILL AND ATTENTION. HE MUST BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

HARDWARE SPECIFICATIONS

1. HID pivCLASS RPK40-H MODEL-921PHRNEK001U,
2. MERCURY SECURITY MR-50 OR MR-52,
3. VINDIACTOR V5 ACS 3.2 REL 23
4. VINDIACTOR V5 IDS
5. ExaqVision.
6. BOSCH DINION INTERNET PROTOCOL (IP) STARLIGHT 7000 HD (NBN-73013-BA),
7. BOSCH NBN-63013-B,
8. BOSCHNBN-63023-B,
9. BOSCH FLEXI DOME STARLIGHT 8000 DUAL SD VARIANT MUST BE USED OR WLAN DISABLED,
10. BOSCH AUTO DOME IP STARLIGHT 7000i CAMERA (MODEL: NDP-7512-Z30).
11. MAGNASPHERE HSS-L2S-000 HIGH-SECURITY SENSOR (HSS) DOOR CONTACT SWITCH, BMS,
12. MAGNASPHERE L2C-101 (CONCEALED SWITCH) MAGNETIC CONTACT SWITCH,
13. MAGNASPHERE L2C 101A (RECESSED SWITCH) MAGNETIC CONTACT SWITCH,
14. MAGNASPHERE HS-L1.5-101 BMS,
15. MAGNASPHERE HS-L1.5-111 BMS,
16. MAGNASPHERE HSS-L2C-111 BMS,
17. MAGNASPHERE HSS-L2C-111-A BMS,
18. MAGNASPHERE HSS-L2D-000 BMS,
19. MAGNASPHERE HSS-L2D-800 BMS,
20. MAGNASPHERE HSS-L2S-800 BMS,
21. MAGNASPHERE INTERIOR MOTION SENSOR MODEL MSK-101-MM,
22. DORTRONICS 1110 xD xCT, MAGNETIC LOCK/BMS,
23. DORTRONICS 1120 x2D xCT, SERIES ELECTROMAGNETIC LOCK AND BMS, ELTEC 864 PIR.

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
Bicsi
Jason Himes
Reg. No. 219192
Exp. 12-31-2022
RCDD
12/14/2022

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DESIGNED BY: R. FAUVELLE
DRAWN BY: B. ARTERBURN
CHECKED BY: H. FERRIS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

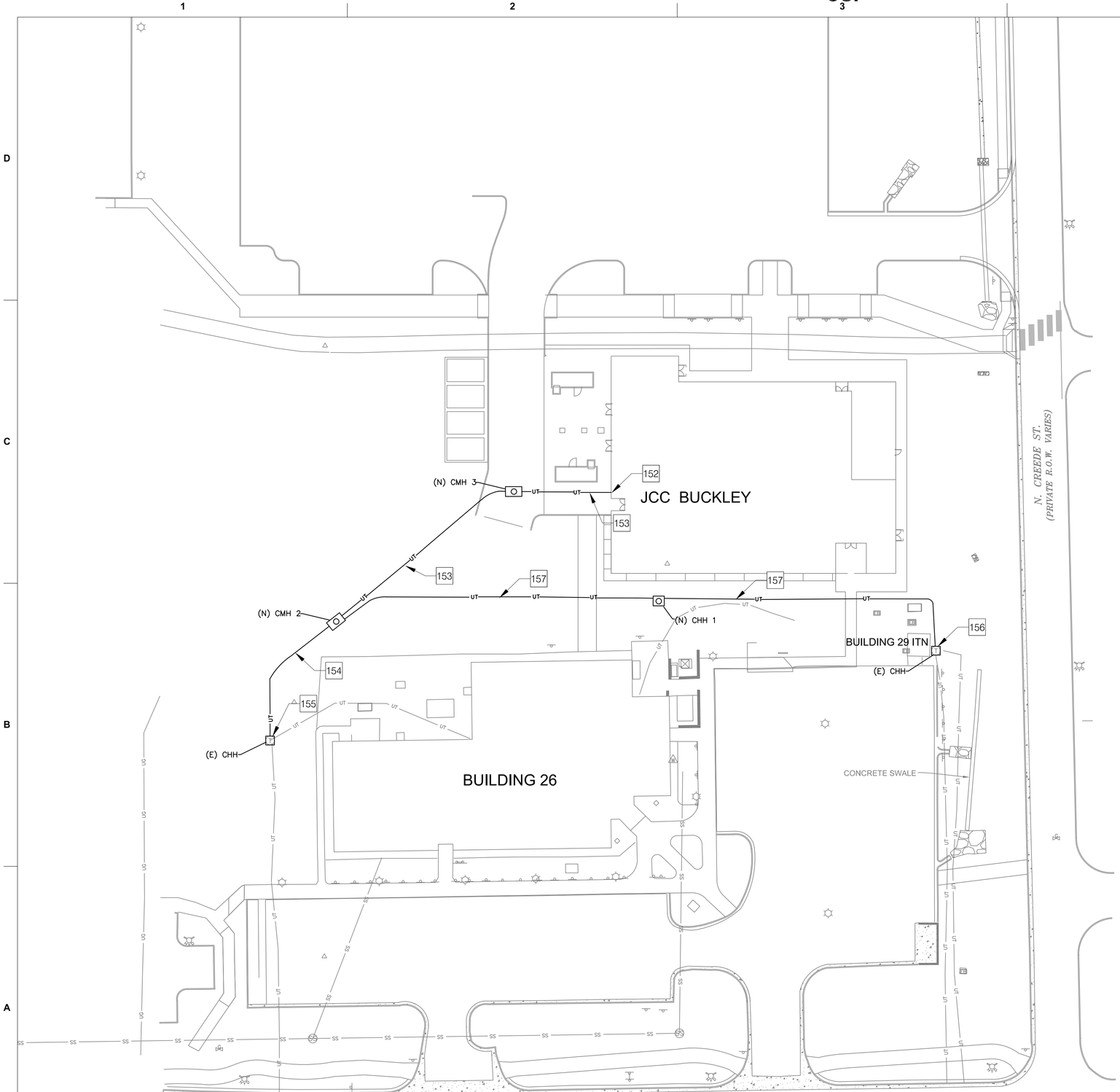
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

SECURITY - SYMBOLS AND SCHEDULES

SHEET ID
TY001



A1 SITE COMMUNICATIONS PLAN
SCALE: 1" = 30'

GENERAL SHEET NOTES

1. SEE SHEET T-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. FOR OSP (OUTSIDE PLANT) PROVIDE PATHWAYS AND CABLE TO INCLUDE COPPER, OPTICAL CABLE, SPLICE ENCLOSURES, HAND HOLES, MAINTENANCE HOLES, AND RACK HARDWARE. FOR ISP (INSIDE PLANT) PROVIDE PATHWAYS ONLY.

KEYNOTES

#	
152	PROVIDE (6) 4-INCH ID CONDUITS AT THIS LOCATION. PROVIDE SWEEPING 90-DEGREE BEND OUTSIDE OF FOUNDATION FOOTING, AND PROVIDE TERMINATION WITH BUSHINGS 4-INCHES AFF. PROVIDE PULL STRINGS WITH FOOTAGE MARKS FOR ALL CONDUIT. CONDUIT WILL STUB UP IN THE MAIN COMMUNICATIONS ROOM 109.
153	PROVIDE (6) 4-INCH CONDUITS WITH 3-CELL FABRIC INNERDUCT AND PULL TAPE WITH FOOTAGE MARKS.
154	PROVIDE (4) 4-INCH CONDUITS WITH 3-CELL FABRIC INNERDUCT AND PULL TAPE WITH FOOTAGE MARKS.
155	PROVIDE CONTINUOUS RUN OF 144-STRAND OS2 SINGLEMODE OPTICAL CABLE FROM COMM ROOM 109 IN JCC BUCKLEY TO THE BUILDING 26 COMMUNICATIONS ROOM. TERMINATE BOTH SIDES WITH DUPLEX LC.
156	PROVIDE CONTINUOUS RUN OF 100-PAIR PE89 COPPER CABLE FROM COMM ROOM 109 IN JCC BUCKLEY TO THE BUILDING 29 ITN. TERMINATE COPPER INSIDE BUILDING 29 ITN.
157	PROVIDE (2) 4-INCH ID CONDUITS WITH 3-CELL FABRIC INNERDUCT AND PULL TAPE WITH FOOTAGE MARKS.

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
Bicsi
Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
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GRAPHIC SCALE(S)

0 30 60 Feet

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE:	14 DECEMBER 2022
DESIGNED BY:	W9128F22R0017
R. FAUVELLE	
DRAWN BY:	W9128F21F0006
B. ARTERBURN	
CHECKED BY:	W9128F19D0010
J. JAMES	
SUBMITTED BY:	FILE NUMBER:
J. JAMES	
SIZE: ANSI 'D'	FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
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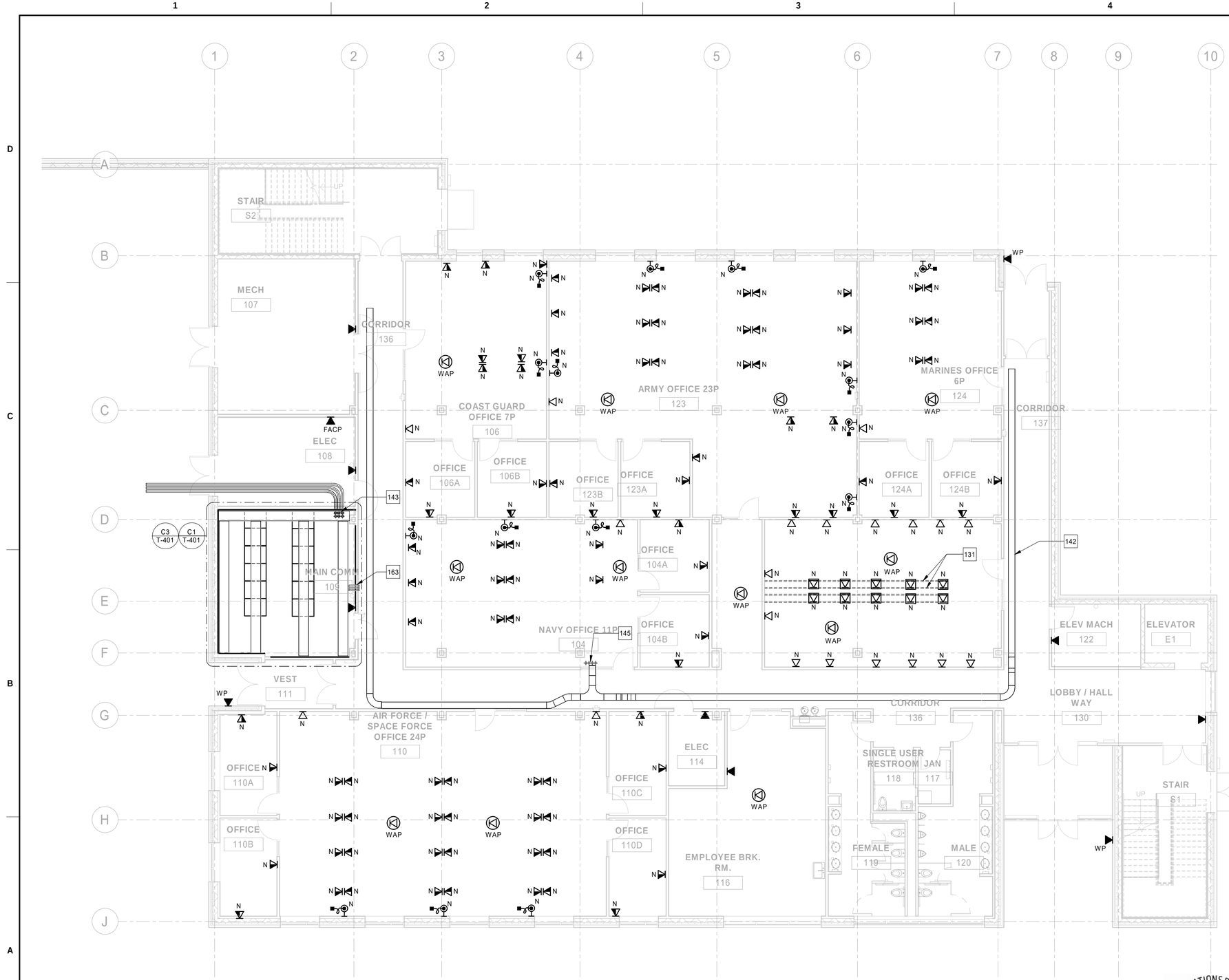
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

TELECOM - SITE COMMUNICATIONS PLAN

SHEET ID
TS010

RTA SUBMISSION



A1 TELECOM - FIRST FLOOR PLAN - DATA
1/8" = 1'-0"

GENERAL SHEET NOTES

1. PROVIDE PATHWAYS FOR CABLE ONLY AS CONTRACTOR SCOPE. PATHWAYS INCLUDE CABINETS, BASKET TRAY, EMT CONDUIT, AND BACKBOXES.
2. UNDERFLOOR PATHWAYS MUST BE COORDINATED WITH STRUCTRUAL, INTERIOR, AND ELECTRICAL DISCIPLINES PRIOR TO INSTALLATION. FOR FLOOR BOX OUTLET LOCATIONS A SECOND PATHWAY (DASHED LINE) IS DRAWN TO ILLUSTRATE THE POWER PATHWAY WHICH IS SEPARATE.
3. FOR SATELLITE TV, PROVIDE PATHWAYS AND CABLE ONLY.

KEYNOTES

131 CABLE WILL ROUTE FROM TRAY, THROUGH WALL, UNDER FLOOR TO FLOOR BOX FOR THESE LOCATIONS. PROVIDE (1) 1-INCH SCHEDULE 40 PVC (NO ALUMINUM) CONDUIT PER DROP LOCATION AT EACH FLOOR BOX. THIS WILL BE EMBEDDED CONDUIT WITH NO MORE THAN 180-DEGREES CUMULATIVE BENDS BETWEEN ACCESSABLE PULL POINTS. FOLLOW STRUCTURAL DRAWING S-001 NOTES FOR CONDUIT SPACING.

142 PROVIDE 12-INCH X 4-INCH BASKET TRAY. RESERVED FOR UNCLASSIFIED CABLE (CABLE BY GOVERNMENT).

143 PROVIDE (6) 4-INCH ID CONDUITS RESERVED FOR TELECOM SERVICES. REFER TO SITE PLAN. SEE TS010 FOR CONTINUATION.

145 PROVIDE (4) 4-INCH SLEEVED CONDUITS WITH BUSHINGS BETWEEN THE FIRST AND SECOND FLOOR. CONDUITS WILL STUB UP INTO COMMUNICATIONS ROOM ABOVE ON THE SECOND FLOOR.

163 PROVIDE (6) 4-INCH SLEEVED CONDUITS WITH BUSHINGS 4-INCHES ABOVE TRAY.

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
BICSI
Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
RCDD
12/14/2022

GRAPHIC SCALE(S)

8 6 4 2 0 8 16
SCALE: 1/8" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

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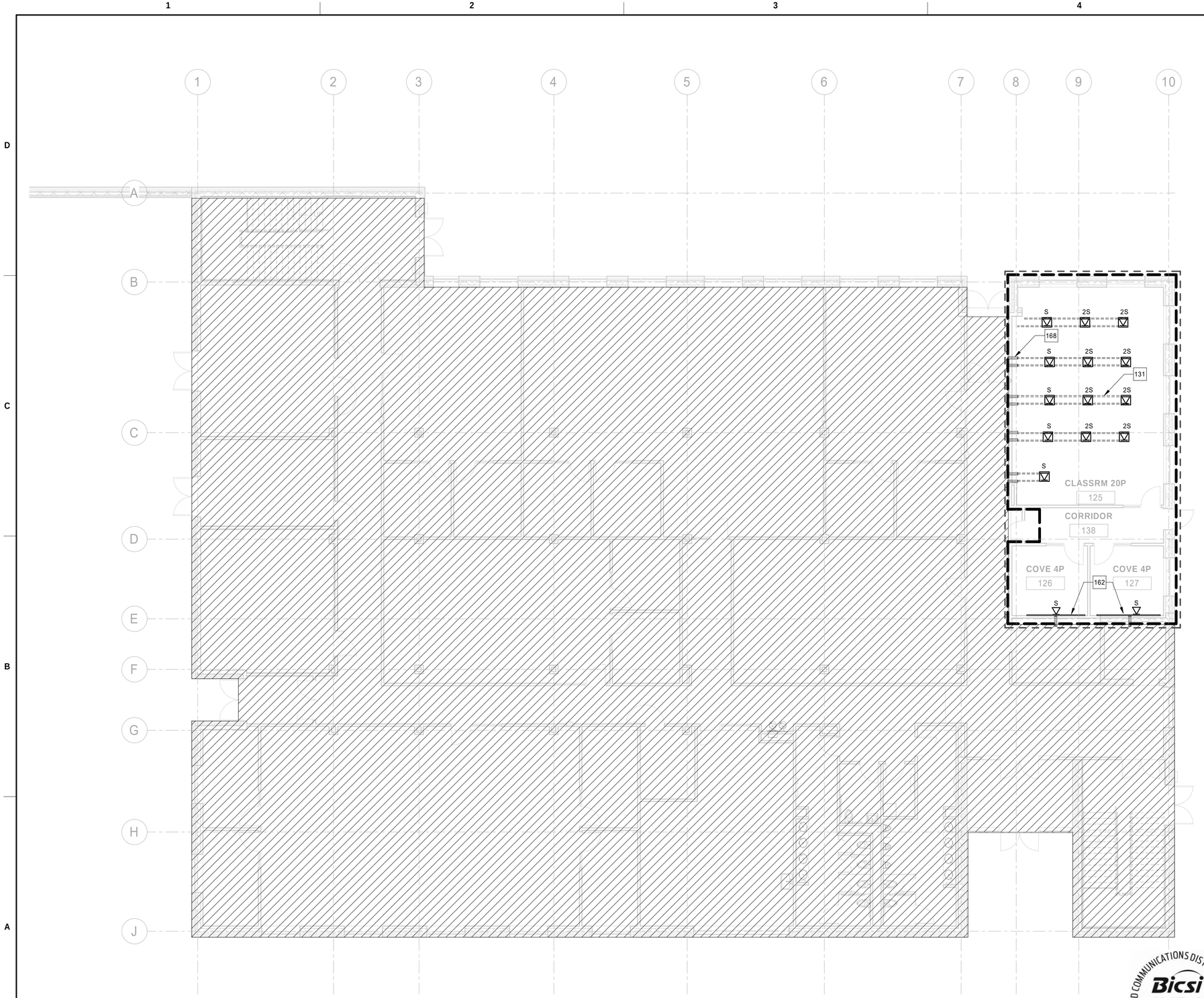
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

TELECOM - FIRST FLOOR PLAN - DATA

SHEET ID
T-110

RTA SUBMISSION



A1 TELECOM - FIRST FLOOR PLAN - DATA (BID OPTION 1)
1/8" = 1'-0"

GENERAL SHEET NOTES

1. SECURE AREA TO BE FED FROM CLASSIFIED DR ON SECOND FLOOR.
2. PROVIDE PATHWAYS FOR CABLE ONLY AS CONTRACTOR SCOPE. PATHWAYS INCLUDE CABINETS, BASKET TRAY, EMT CONDUIT, AND BACKBOXES.
3. UNDERFLOOR PATHWAYS MUST BE COORDINATED WITH STRUCTRUAL, INTERIOR, AND ELECTRICAL DISCIPLINES PRIOR TO INSTALLATION. FOR FLOOR BOX OUTLET LOCATIONS A SECOND PATHWAY IS DRAWN TO ILLUSTRATE THE POWER PATHWAY WHICH IS SEPARATE.

KEYNOTES

131 CABLE WILL ROUTE FROM TRAY, THROUGH WALL, UNDER FLOOR TO FLOOR BOX FOR THESE LOCATIONS. PROVIDE (1) 1-INCH SCHEDULE 40 PVC CONDUIT PER DROP LOCATION AT EACH FLOOR BOX. THIS WILL BE EMBEDDED CONDUIT WITH NO MORE THAN 180-DEGREES CUMULATIVE BENDS BETWEEN ACCESSABLE PULL POINTS. FOLLOW STRUCTURAL DRAWING S-001 NOTES FOR CONDUIT SPACING.

162 SURFACE RACEWAY. TYPICAL IN SECURE AREA.

168 REFER TO DETAIL A1 ON SHEET T-510 FOR UNCLASSIFIED TO CLASSIFIED PENETRATION DETAIL.

LEGEND

AREA OF BID OPTION 1

SECURE AREA

AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16
SCALE: 1/8" = 1'-0"

PLAN NORTH

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
Bicsi
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BICSI ID # 128496
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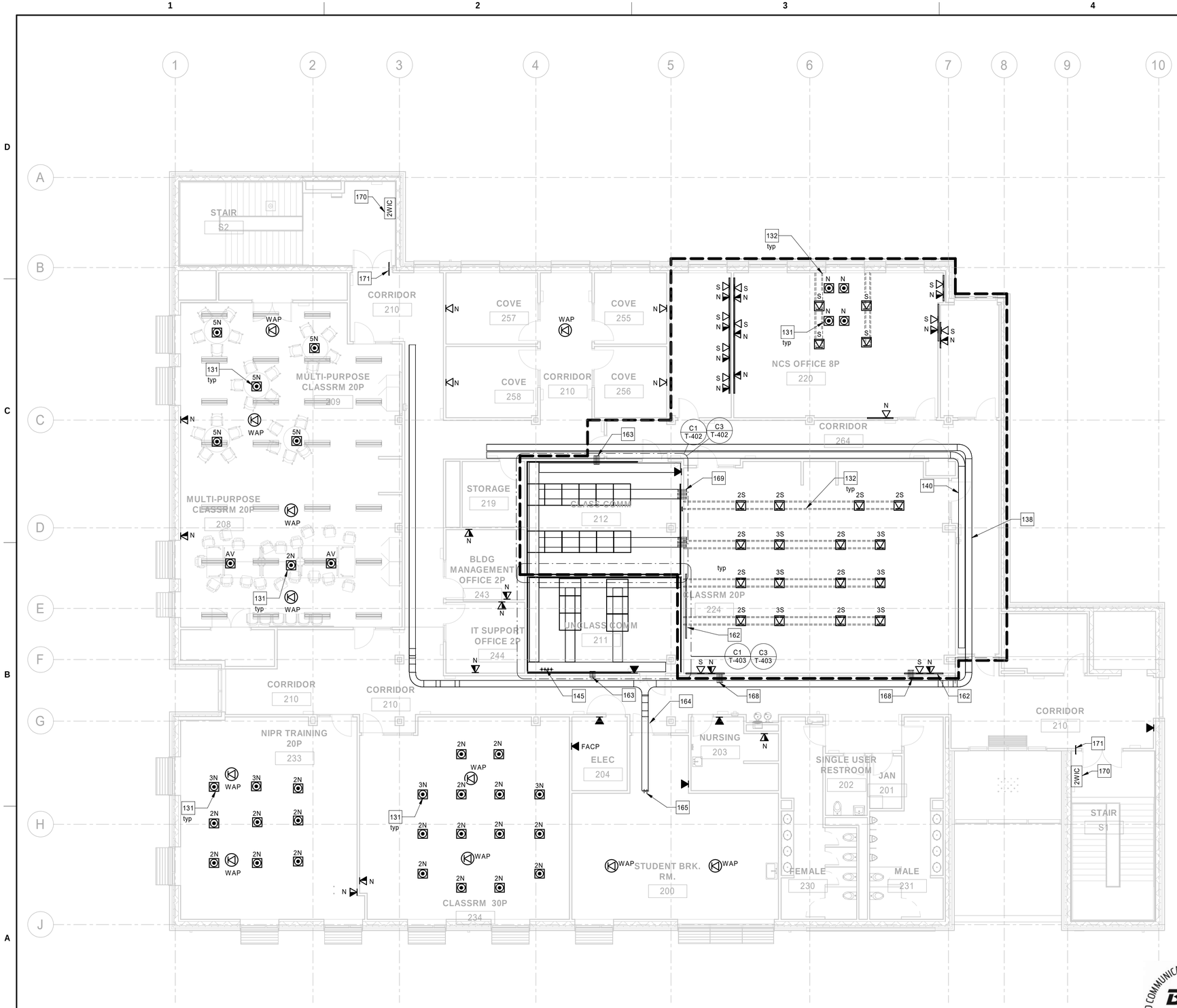
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

TELECOM - FIRST FLOOR PLAN - DATA
(BID OPTION 1)

SHEET ID
T-110A



GENERAL SHEET NOTES

1. PROVIDE PATHWAYS FOR CABLE ONLY AS CONTRACTOR SCOPE. PATHWAYS INCLUDE CABINETS, BASKET TRAY, EMT CONDUIT, AND BACKBOXES.
2. FOR SATELLITE TV, PROVIDE CABLE AND PATHWAYS ONLY.
3. UNDERFLOOR PATHWAYS MUST BE COORDINATED WITH STRUCTRUAL, INTERIOR, AND ELECTRICAL DISCIPLINES PRIOR TO INSTALLATION. FOR FLOOR BOX OUTLET LOCATIONS A SECOND PATHWAY IS DRAWN TO ILLUSTRATE THE POWER PATHWAY WHICH IS SEPARATE.

KEYNOTES

131 FOR NIPR FLOOR BOXES ON 2ND FLOOR, CABLE (PROVIDED BY GOVERNMENT) WILL ROUTE FROM THE UNCLASSIFIED COMM ROOM 211, DOWN TO THE FALSE CEILING AREA OF THE FIRST FLOOR. FROM THERE, IT WILL TAKE THE CABLE TRAY TO THE AREA CLOSEST TO THE 2ND FLOOR BOX. PROVIDE SLEEVED 1-INCH CORES DIRECTLY BELOW THE FLOOR BOX AND SECURE TO FLOOR BOX ON 2ND FLOOR AT EACH NIPR FLOOR BOX LOCATION. COORDINATE WITH STRUCTURAL AND FOLLOW STRUCTURAL DRAWING S-001 NOTES FOR ANY POSSIBLE STRUCTURAL CONSIDERATIONS THAT APPLY TO EACH FLOOR BOX LOCATION AND PENETRATION.

132 FOR SIPR FLOOR BOXES ON 2ND FLOOR, CABLE (PROVIDED BY GOVERNMENT) WILL ROUTE FROM CLASSIFIED COMM ROOM 212, THROUGH THE TRAY ON THE SECOND FLOOR OR THE WALL (DEPENDING ON I-BEAM LAYOUT) TO THE CLASSROOM WALL. WHEN TRAVERSING THE WALL, PROVIDE SLEEVED 1-INCH CONDUIT DOWN THE WALL, TRANSITIONING TO A SWEEPING 90-DEGREE BEND RUNNING PARALLEL TO WALL. PROVIDE A SECOND SWEEPING HORIZONTAL BEND PARALLEL TO FLOOR LEADING TO PULL-BOX FLUSH WITH FINISHED FLOOR. PULL-BOXES AND CONDUIT MUST TRANSITION TO PLASTIC IF ENCASED IN CONCRETE. FROM PULL-BOX, PROVIDE 1-INCH PLASTIC (NO ALUMINUM OR METAL) CONDUIT TO EACH FLOOR BOX OUTLET LOCATION UNDER A DESK. COORDINATE WITH STRUCTURAL AND FOLLOW STRUCTURAL DRAWING S-001 NOTES FOR ANY POSSIBLE STRUCTRUAL CONSIDERATIONS THAT APPLY TO EACH FLOOR BOX LOCATION AND PENETRATION. NOTE: SPACING AND I-BEAM LOCATIONS MAY REQUIRE CONDUITS TO ENTER SEPARATE FLOOR BOX OUTLET LOCATIONS FROM OPPOSITE SIDES OF ROOM. NIPR AND SIPR WILL FOLLOW SEPARATE PATHWAYS IN THE NCS OFFICE (ROOM 220) REFER TO KEY NOTE 131.

138 PROVIDE 12-INCH X 4-INCH CABLE TRAY. RESERVED FOR UNCLASSIFIED CABLE (CABLE BY GOVERNMENT).

140 PROVIDE 12-INCH X 4-INCH CABLE TRAY. RESERVED FOR CLASSIFIED CABLE (CABLE BY GOVERNMENT).

145 PROVIDE (4) 4-INCH ID CONDUITS WITH SLEEVES AND BUSHINGS BETWEEN THE FIRST AND SECOND FLOOR. CONDUITS WILL STUB UP FROM THE CEILING AREA BELOW ON THE FIRST FLOOR.

162 SURFACE RACEWAY. TYPICAL IN SECURE AREA.

163 PROVIDE (4) 4-INCH SLEEVED CONDUITS WITH BUSHINGS 4-INCHES ABOVE TRAY.

164 PROVIDE 12-INCH X 4-INCH CABLE TRAY EXTENSION FOR SATELLITE CABLE TO ROOF.

165 PROVIDE (2) 4-INCH SLEEVED CORES WITH WEATHER-HEADS. COORDINATE WITH STRUCTURAL AND ARCHITECTURAL. PENETRATIONS MUST BE WEATHER PROOF AND SEALED OVER ALL CABLE WITH WEATHER-TIGHT GROMMETS.

168 REFER TO DETAIL A1 ON SHEET T-510 FOR UNCLASSIFIED PENETRATION DETAIL.

169 REFER TO DETAIL C1 ON SHEET T-510 FOR CLASSIFIED PENETRATION DETAIL.

170 PROVIDE 2-WAY INTERCOM FOR AREA OF REFUGE.

171 PROVIDE (1) 1-INCH FIRESTOP SLEEVE.

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

A1 TELECOM - SECOND FLOOR PLAN - DATA
1/8" = 1'-0"

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
BICSI
Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
RCDD
12/14/2022

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	R. FAUVELLE
DRAWN BY:	B. ARTERBURN
CHECKED BY:	H. FERRIS
SUBMITTED BY:	
SIZE: ANSI 'D'	FILE NAME:
ISSUE DATE:	14 DECEMBER 2022
SOLICITATION NO.:	W912BF22R0017
CONTRACT NO.:	
FILE NUMBER:	
FILE NUMBER	

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

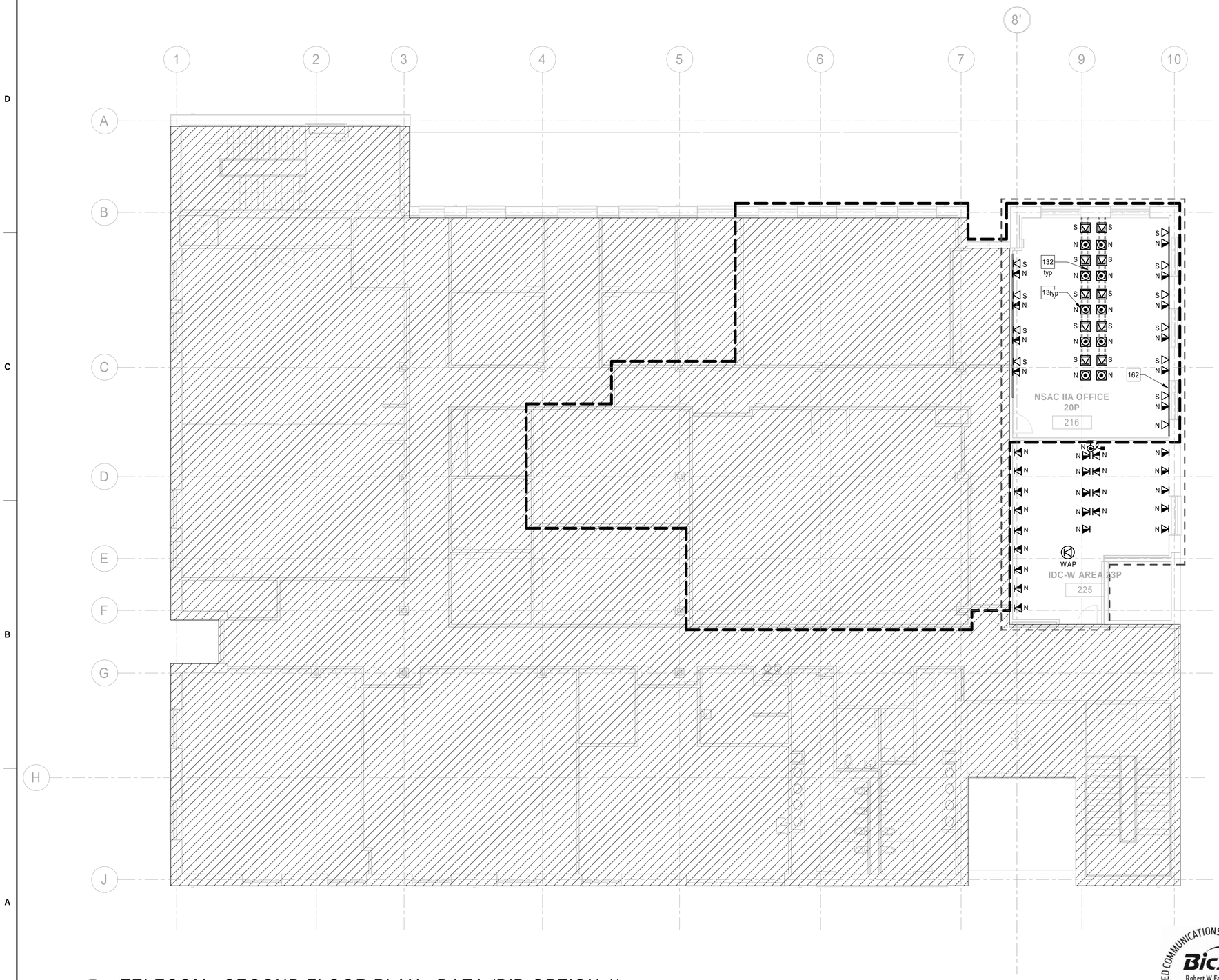
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

TELECOM - SECOND FLOOR PLAN - DATA

SHEET ID

T-120

RTA SUBMISSION



GENERAL SHEET NOTES

1. PROVIDE PATHWAYS FOR CABLE ONLY AS CONTRACTOR SCOPE. PATHWAYS INCLUDE CABINETS, BASKET TRAY, EMT CONDUIT, AND BACKBOXES.
2. SECURE AREA TO BE FED FROM CLASSIFIED DR ON SECOND FLOOR.
3. UNDERFLOOR PATHWAYS MUST BE COORDINATED WITH STRUCTRUAL, INTERIOR, AND ELECTRICAL DISCIPLINES PRIOR TO INSTALLATION. FOR FLOOR BOX OUTLET LOCATIONS A SECOND PATHWAY IS DRAWN TO ILLUSTRATE THE POWER PATHWAY WHICH IS SEPARATE.

KEYNOTES

131 FOR NIPR FLOOR BOXES ON 2ND FLOOR, CABLE (PROVIDED BY GOVERNMENT) WILL ROUTE FROM THE UNCLASSIFIED COMM ROOM 211, DOWN TO THE FALSE CEILING AREA OF THE FIRST FLOOR. FROM THERE, IT WILL TAKE THE CABLE TRAY TO THE AREA CLOSEST TO THE 2ND FLOOR BOX. PROVIDE SLEEVED 1-INCH CORES DIRECTLY BELOW THE FLOOR BOX AND SECURE TO FLOOR BOX ON 2ND FLOOR AT EACH NIPR FLOOR BOX LOCATION. COORDINATE WITH STRUCTURAL AND FOLLOW STRUCTURAL DRAWING S-001 NOTES FOR ANY POSSIBLE STRUCTURAL CONSIDERATIONS THAT APPLY TO EACH FLOOR BOX LOCATION AND PENETRATION.

132 FOR SIPR FLOOR BOXES ON 2ND FLOOR, CABLE (PROVIDED BY GOVERNMENT) WILL ROUTE FROM CLASSIFIED COMM ROOM 212, THROUGH THE TRAY ON THE SECOND FLOOR OR THE WALL (DEPENDING ON I-BEAM LAYOUT) TO THE CLASSROOM WALL. WHEN TRAVERSING THE WALL, PROVIDE SLEEVED 1-INCH CONDUIT DOWN THE WALL, TRANSITIONING TO A SWEEPING 90-DEGREE BEND RUNNING PARALLEL TO WALL. PROVIDE A SECOND SWEEPING HORIZONTAL BEND PARALLEL TO FLOOR LEADING TO PULL-BOX FLUSH WITH FINISHED FLOOR. PULL-BOXES AND CONDUIT MUST TRANSITION TO PLASTIC IF ENCASED IN CONCRETE. FROM PULL-BOX, PROVIDE 1-INCH PLASTIC (NO ALUMINUM OR METAL) CONDUIT TO EACH FLOOR BOX OUTLET LOCATION UNDER A DESK. COORDINATE WITH STRUCTURAL AND FOLLOW STRUCTURAL DRAWING S-001 NOTES FOR ANY POSSIBLE STRUCTRUAL CONSIDERATIONS THAT APPLY TO EACH FLOOR BOX LOCATION AND PENETRATION. NOTE: SPACING AND I-BEAM LOCATIONS MAY REQUIRE CONDUITS TO ENTER SEPARATE FLOOR BOX OUTLET LOCATIONS FROM OPPOSITE SIDES OF ROOM. NIPR AND SIPR WILL FOLLOW SEPARATE PATHWAYS IN THE NCS OFFICE (ROOM 220) REFER TO KEY NOTE 131.

162 SURFACE RACEWAY. TYPICAL IN SECURE AREA.

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

A1 TELECOM - SECOND FLOOR PLAN - DATA (BID OPTION 1)
1/8" = 1'-0"

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
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Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
RCDD
12/14/2022

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: R. FAUVELLE	ISSUE DATE: 14 DECEMBER 2022
DRAWN BY: B. ARTERBURN	SOLICITATION NO.: W9128F22R0017
CHECKED BY: H. FERRIS	CONTRACT NO.:
SUBMITTED BY:	FILE NUMBER: FILE NUMBER
SIZE: ANSI D	FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

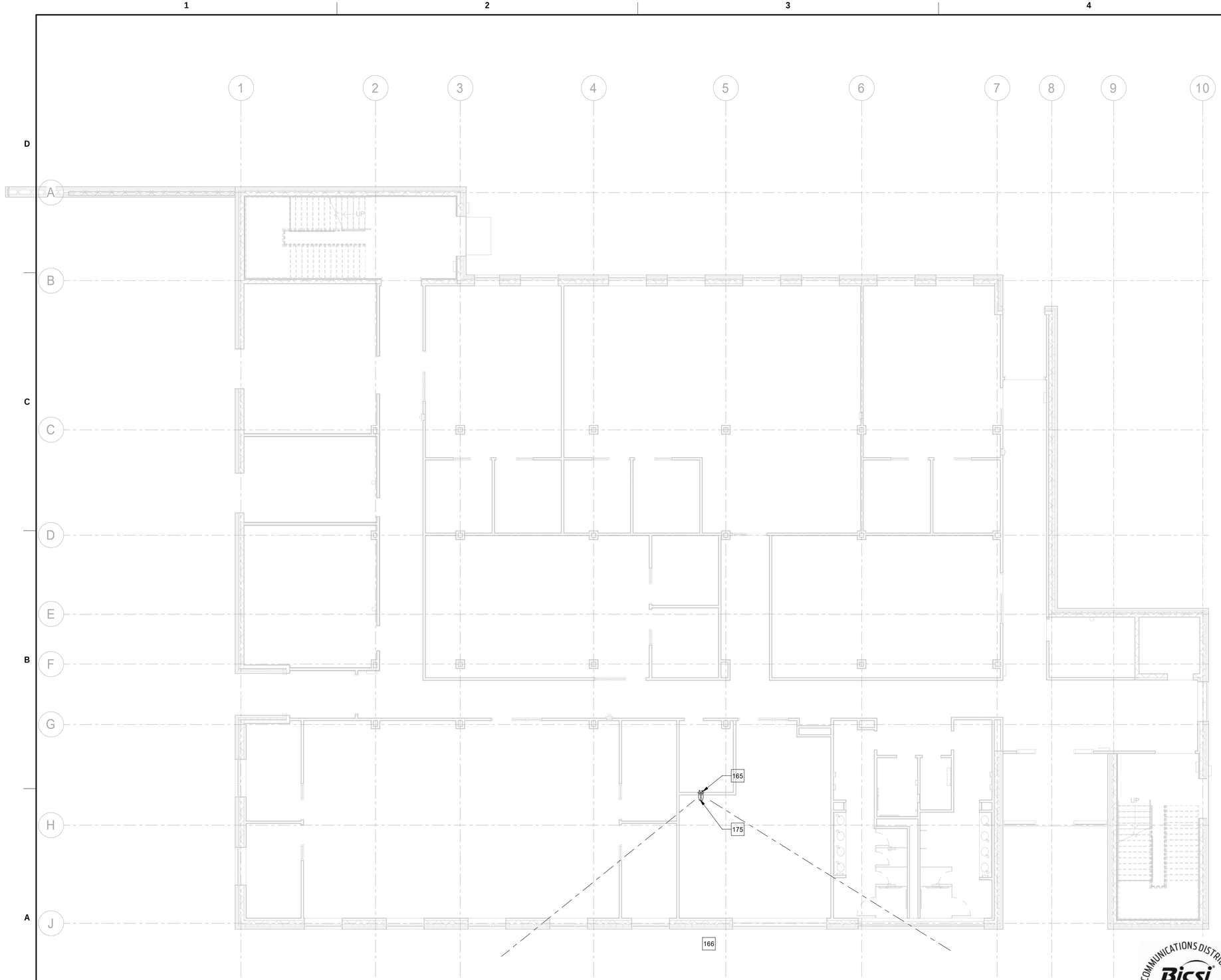
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

TELECOM - SECOND FLOOR PLAN - DATA
(BID OPTION 1)

SHEET ID

T-120A

RTA SUBMISSION



GENERAL SHEET NOTES

1. PROVIDE PATHWAYS FOR CABLE ONLY AS CONTRACTOR SCOPE. PATHWAYS INCLUDE CABINETS, BASKET TRAY, EMT CONDUIT, AND BACKBOXES,.
2. FOR SATELLITE TV, PROVIDE PATHWAYS AND CABLE ONLY.

KEYNOTES

165 PROVIDE (2) 4-INCH SLEEVED CORES WITH WEATHER-HEADS. COORDINATE WITH STRUCTURAL AND ARCHITECTURAL. PENETRATIONS MUST BE WEATHER PROOF AND SEALED OVER ALL CABLE WITH WEATHER-TIGHT GROMMETS.

166 THE BUILDING CABLE TELEVISION SERVICE WILL REQUIRE A NON-PENETRATING ROOF MOUNT SATELLITE DISH (BY GOVERNMENT) FACING SOUTH AND ACQUIRING 3 DIFFERENT SATELLITES AT AN ANGLE OF 30 TO 40 DEGREES. PROVIDE PATHWAYS FOR THIS CONNECTION ONLY.

175 PROVIDE TWO SETS OF (3) RG-11 CABLES FROM SATELLITE TV HEAD-END LOCATIONS IN COMMUNICATIONS ROOMS 109 AND 211. THESE BACKBONE CABLES WILL BE DEDICATED RUNS WITH NO SPLITTERS AND PROVIDE SERVICE FROM BOTH ORBITS (3 CABLES EACH ORBIT). WEATHERIZE COAX CONNECTIONS ON THE ROOFTOP AND BOND ALL CABLE AND HARDWARE FOR THESE SIX COAX CABLES. BOTH SIDES OF THE (6) RG-11 COAX CABLES MUST BE TERMINATED INTO BONDED LIGHTNING ARRESTOR BANKS RATED FOR THE SIGNAL OF THE RG-11. THESE MUST BE BOTH BONDED AND WEATHERIZED ON TOP OF THE BUILDING.

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BICSI ID # 128496
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12/14/2022

GRAPHIC SCALE(S)

8 6 4 2 0 8 16
SCALE: 1/8" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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Omaha, NE

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ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

TELECOM - ROOF PLAN - DATA

SHEET ID
T-130

A1 TELECOM - ROOF PLAN - DATA
1/8" = 1'-0"

RTA SUBMISSION

A1 TELECOM - FIRST FLOOR PLAN - AUDIO-VISUAL
1/8" = 1'-0"

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
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Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
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12/14/2022

GENERAL SHEET NOTES

KEYNOTES

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16
SCALE: 1/8" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

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Omaha District
Omaha, NE

JACOBS
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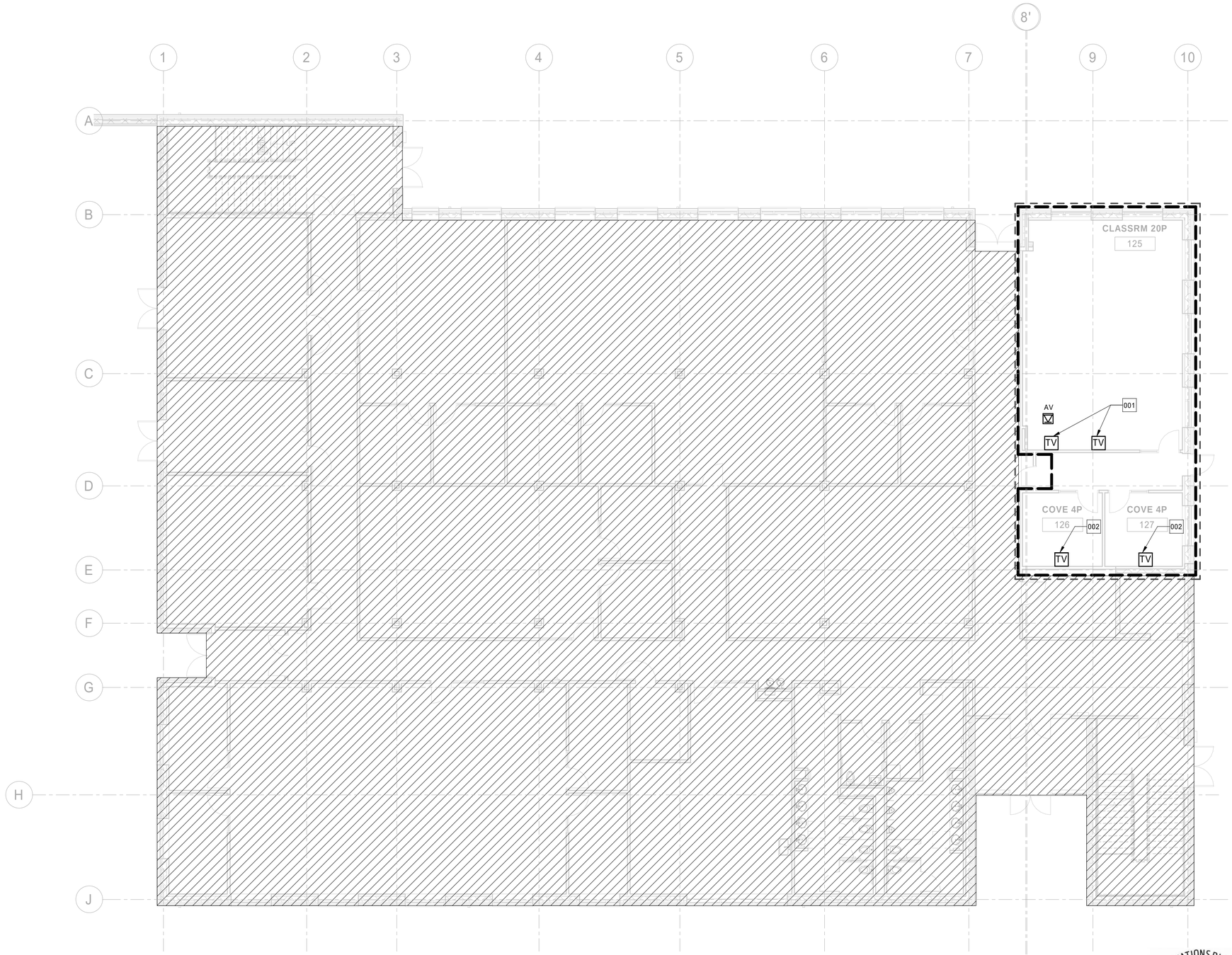
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

TELECOM - FIRST FLOOR PLAN - AUDIO-VISUAL

SHEET ID
TA160

RTA SUBMISSION



A1 TELECOM - FIRST FLOOR PLAN - AUDIO-VISUAL (BID OPTION 1)
1/8" = 1'-0"

GENERAL SHEET NOTES

KEYNOTES

001 REFER TO DETAIL A1 ON SHEET T-205 FOR 86" DISPLAY A/V INSTALLATION DETAILS.

002 REFER TO DETAIL A1 ON SHEET T-204 FOR 65" DISPLAY A/V INSTALLATION DETAILS.

LEGEND

AREA OF BID OPTION 1

SECURE AREA

AREA OF BASE BID

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
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Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
RCDD
12/14/2022

GRAPHIC SCALE(S)

8 6 4 2 0 8 16
SCALE: 1/8" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

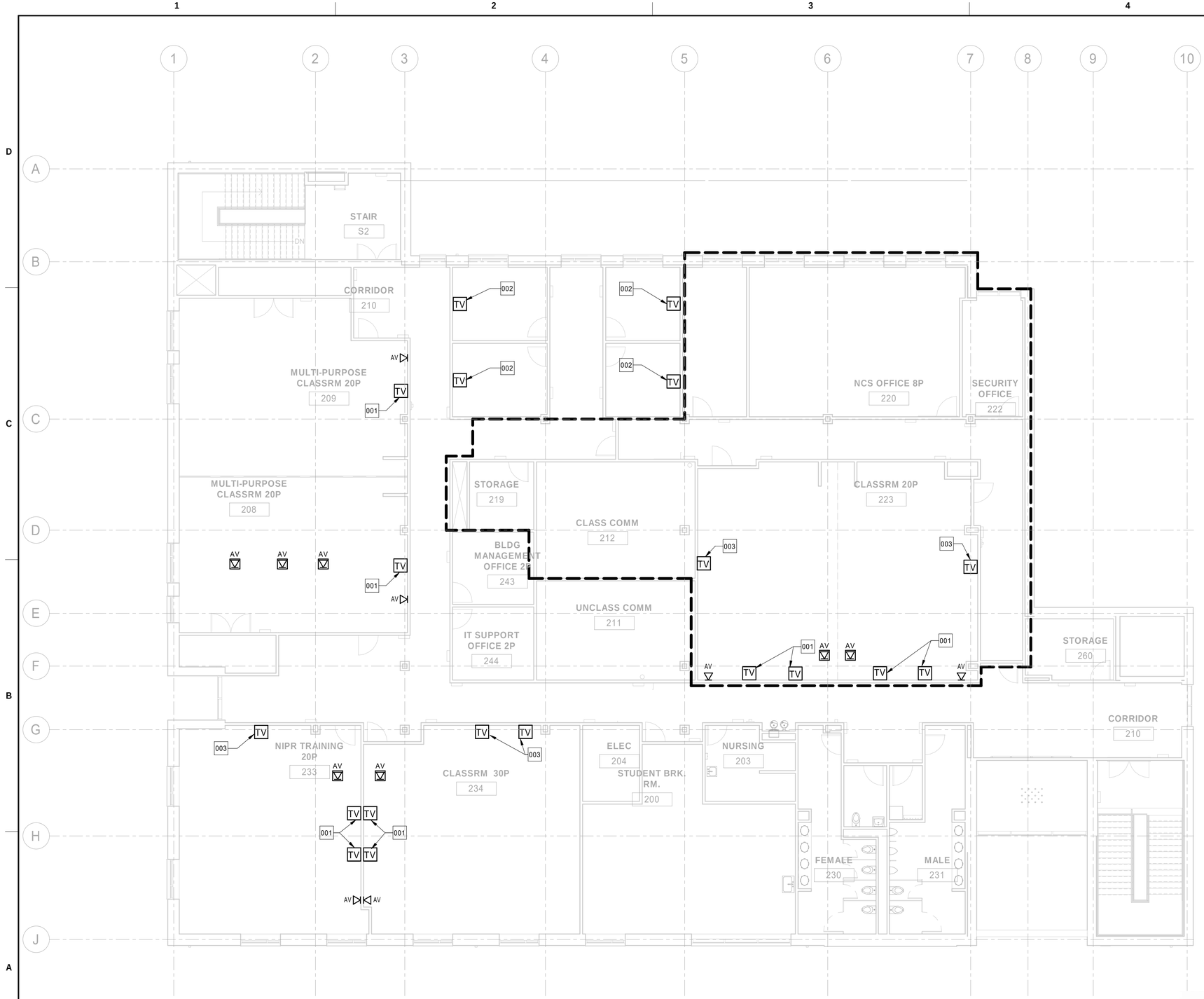
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SPB, CO

TELECOM - FIRST FLOOR PLAN - AUDIO-VISUAL (BID OPTION 1)

SHEET ID
TA160A

RTA SUBMISSION



A1 TELECOM - SECOND FLOOR PLAN - AUDIO-VISUAL

1/8" = 1'-0"

GENERAL SHEET NOTES

KEYNOTES

001 REFER TO DETAIL A1 ON SHEET T-205 FOR 86" DISPLAY A/V INSTALLATION DETAILS.

002 REFER TO DETAIL A1 ON SHEET T-204 FOR 65" DISPLAY A/V INSTALLATION DETAILS.

003 REFER TO DETAIL A3 ON SHEET T-204 FOR 75" DISPLAY A/V INSTALLATION DETAILS.

LEGEND

AREA OF BID OPTION 1

SECURE AREA

AREA OF BASE BID

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
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Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
RCDD
12/14/2022

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:
FILE NUMBER

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DRAWN BY: B. ARTERBURN
CHECKED BY: H. FERRIS
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SIZE: ANSI 'D'
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

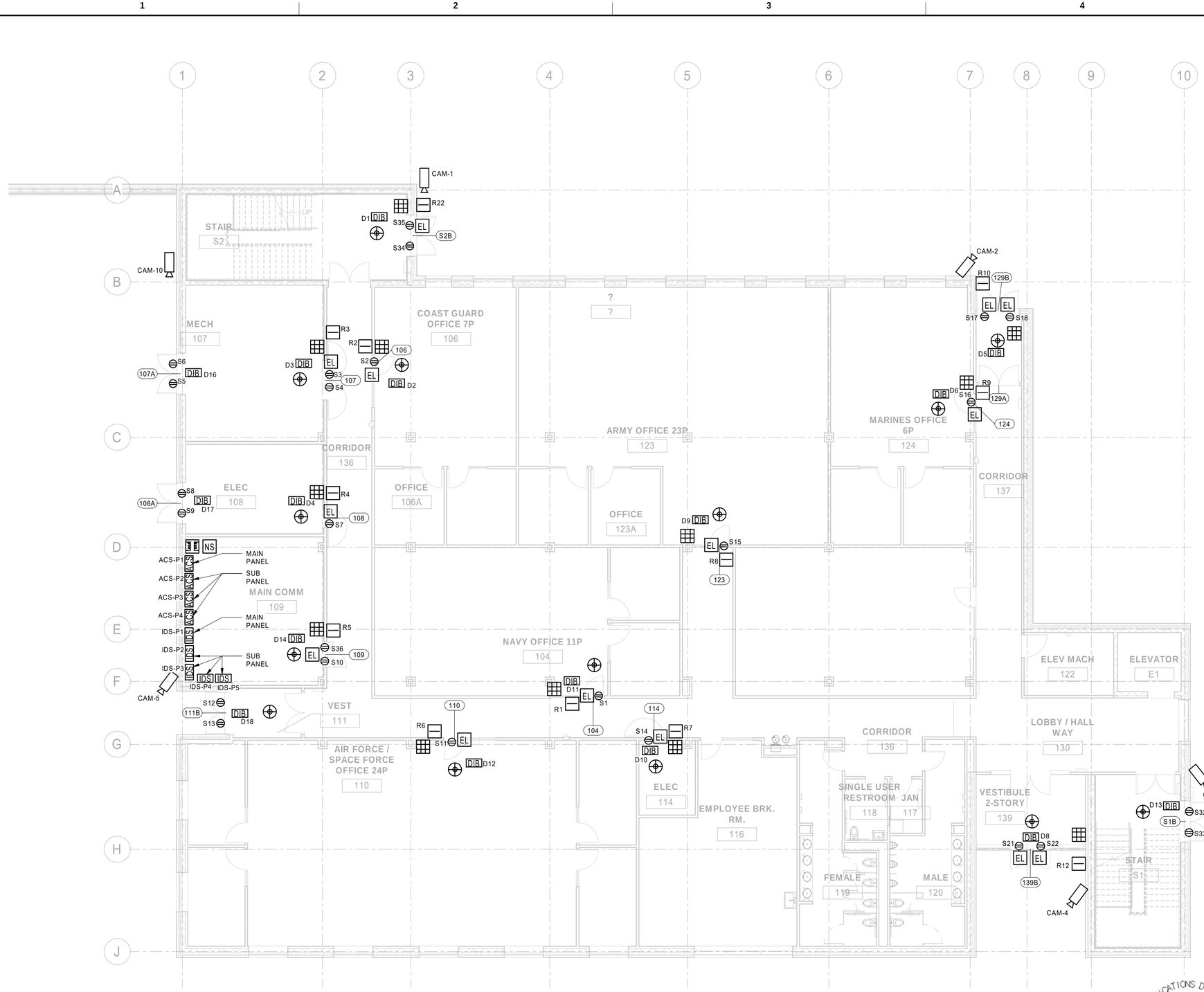
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

TELECOM - SECOND FLOOR PLAN - AUDIO-VISUAL

SHEET ID

TA170

RTA SUBMISSION



A1 SECURITY - FIRST FLOOR PLAN - ACS/IDS/CCTV

1/8" = 1'-0"

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
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Jason Himes
Reg. No. 219192
Exp. 12-31-2022
RCDD
12/14/2022

GENERAL SHEET NOTES

KEYNOTES

GRAPHIC SCALE(S)

8 6 4 2 0 8 16

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

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DRAWN BY:	B. ARTERBURN
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SIZE: ANSI 'D'	FILE NAME:

ISSUE DATE:	14 DECEMBER 2022
SOLICITATION NO.:	W9128F22R0017
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FILE NUMBER	

US ARMY CORPS OF ENGINEERS
Omaha District
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JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

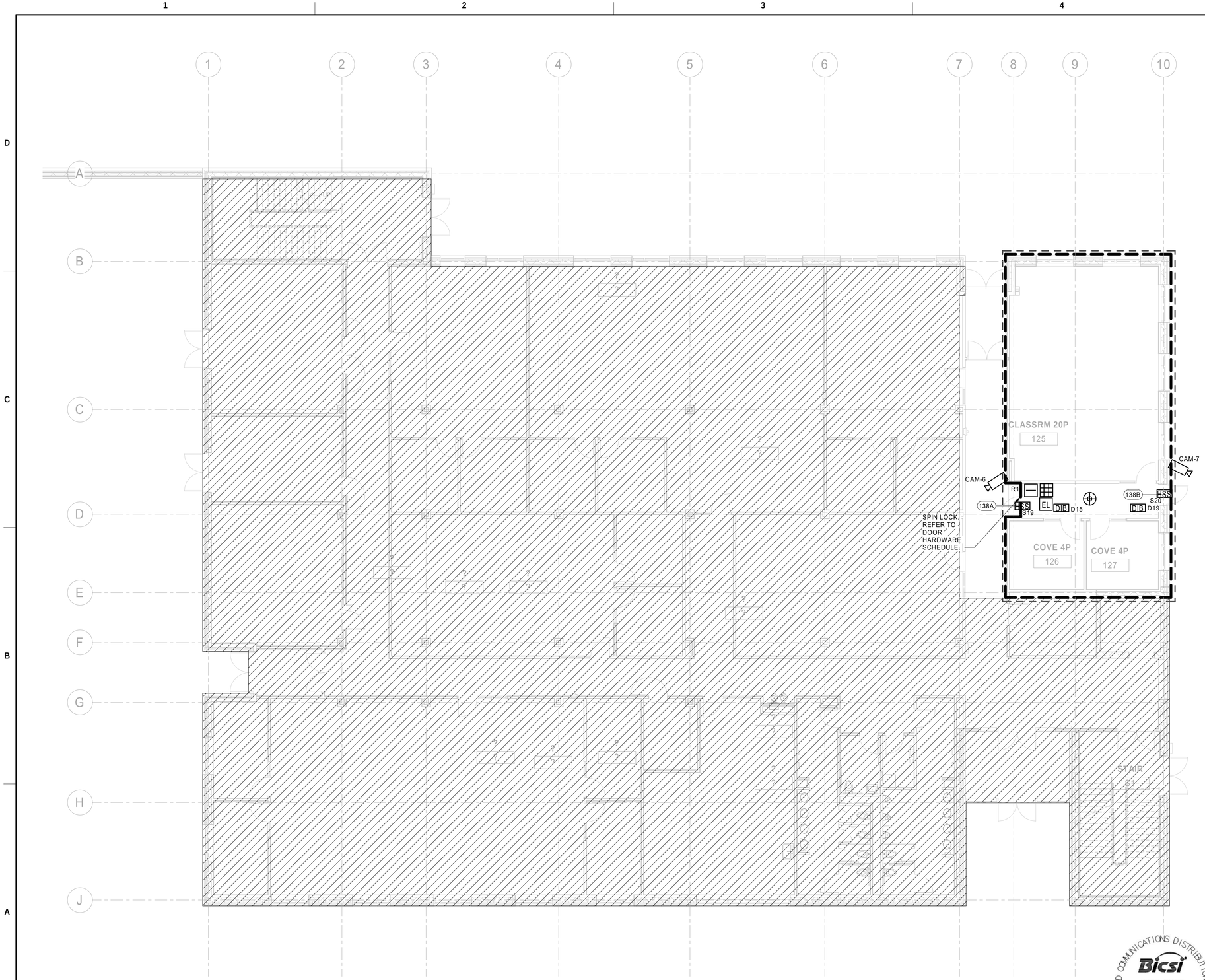
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SPB, CO

SECURITY - FIRST FLOOR PLAN - ACS/IDS/CCTV

SHEET ID

TY140

RTA SUBMISSION



A1 SECURITY - FIRST FLOOR PLAN - ACS/IDS/CCTV (BID OPTION 1)
1/8" = 1'-0"

GENERAL SHEET NOTES

KEYNOTES

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

8 6 4 2 0 8 16
SCALE: 1/8" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

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ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

SECURITY - FIRST FLOOR PLAN - ACS/IDS/CCTV (BID OPTION 1)

SHEET ID

TY140A

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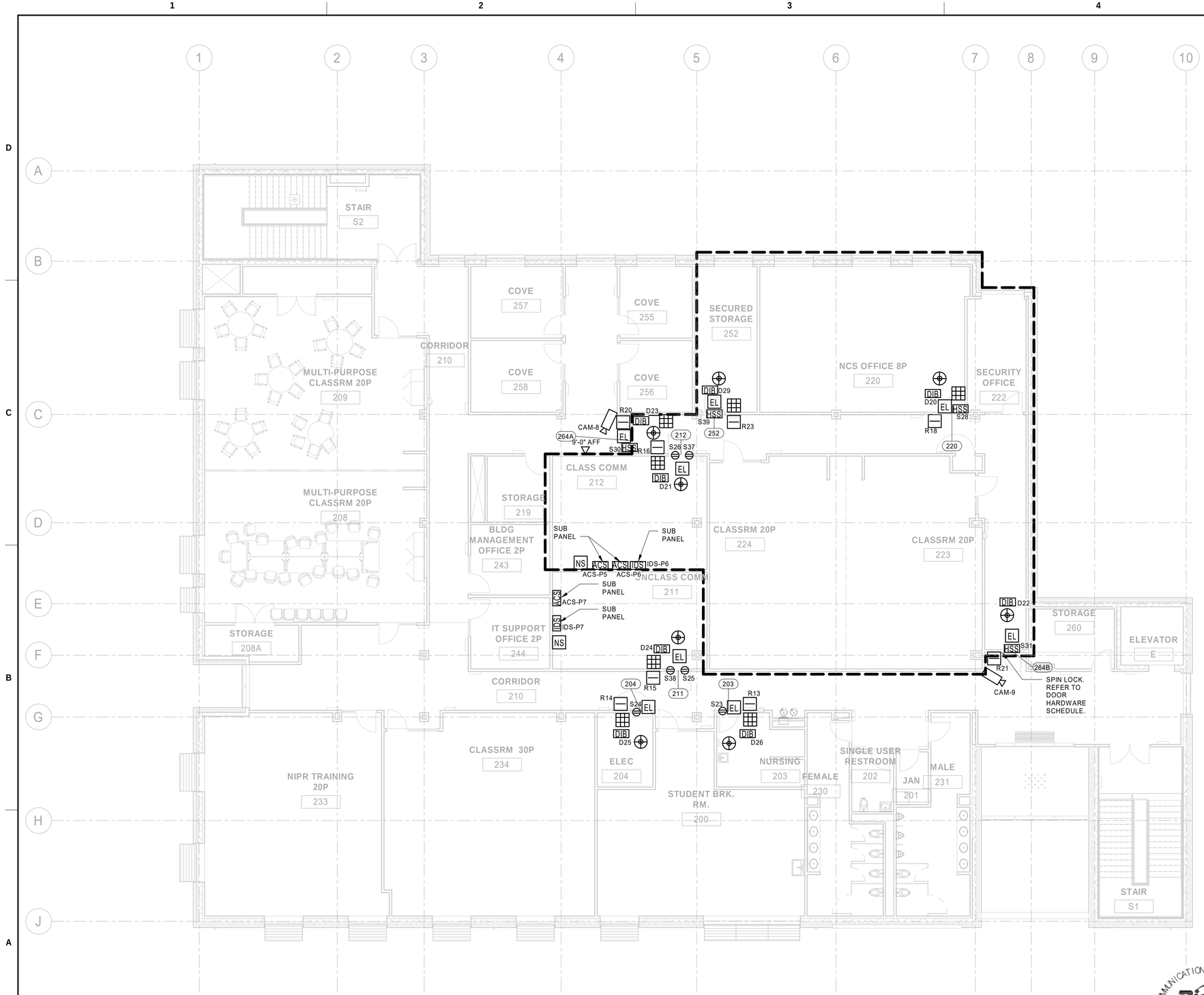

A1 SECURITY - SECOND FLOOR PLAN - ACS/IDS/CCTV
1/8" = 1'-0"

GENERAL SHEET NOTES

KEYNOTES

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

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

PLAN NORTH

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Omaha, NE

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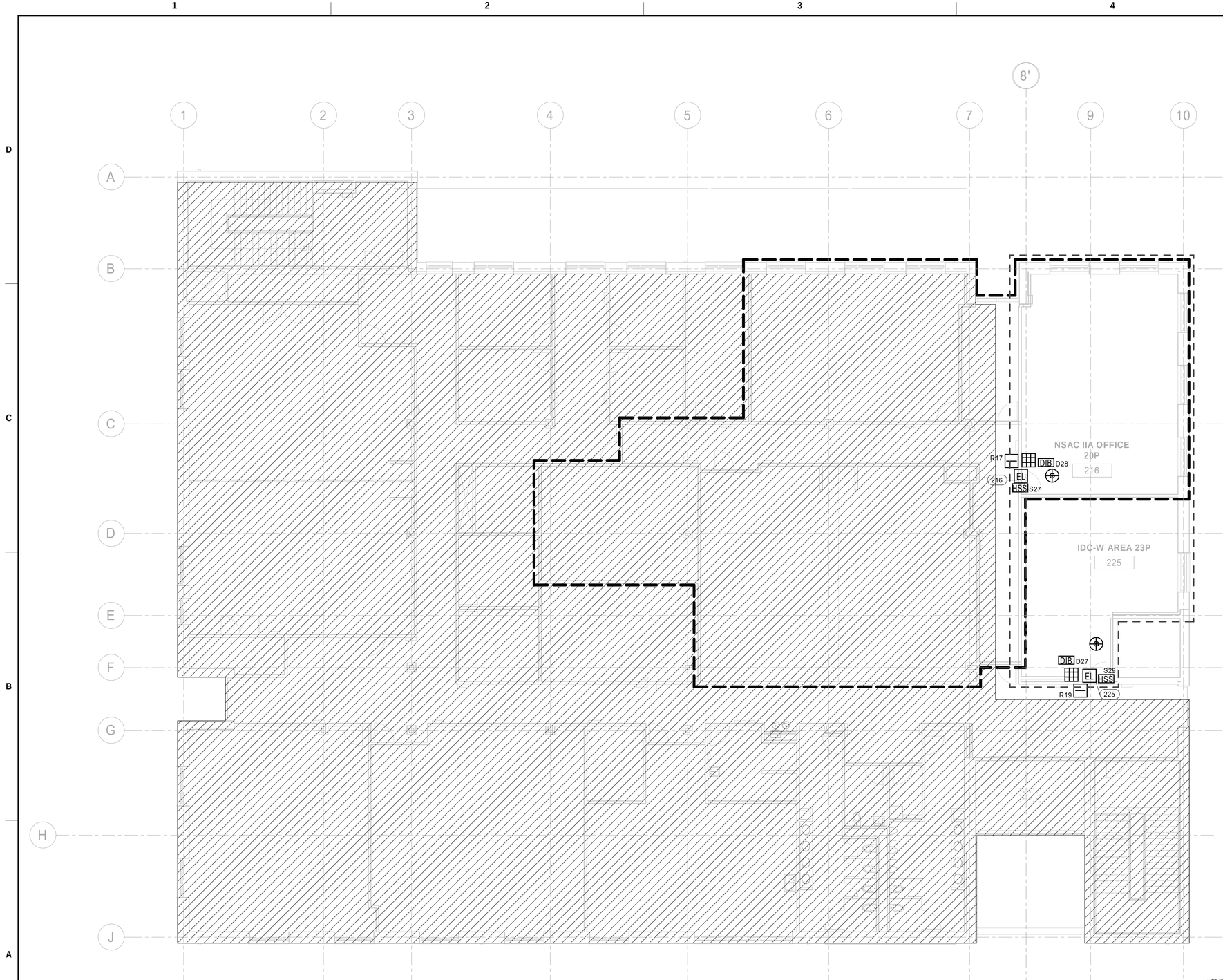
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

SECURITY - SECOND FLOOR PLAN - ACS/IDS/CCTV

SHEET ID
TY150

RTA SUBMISSION



A1 SECURITY - SECOND FLOOR PLAN - ACS/IDS/CCTV (BID OPTION 1)
1/8" = 1'-0"

GENERAL SHEET NOTES

KEYNOTES

LEGEND

- AREA OF BID OPTION 1
- SECURE AREA
- AREA OF BASE BID

GRAPHIC SCALE(S)

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

PLAN NORTH

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

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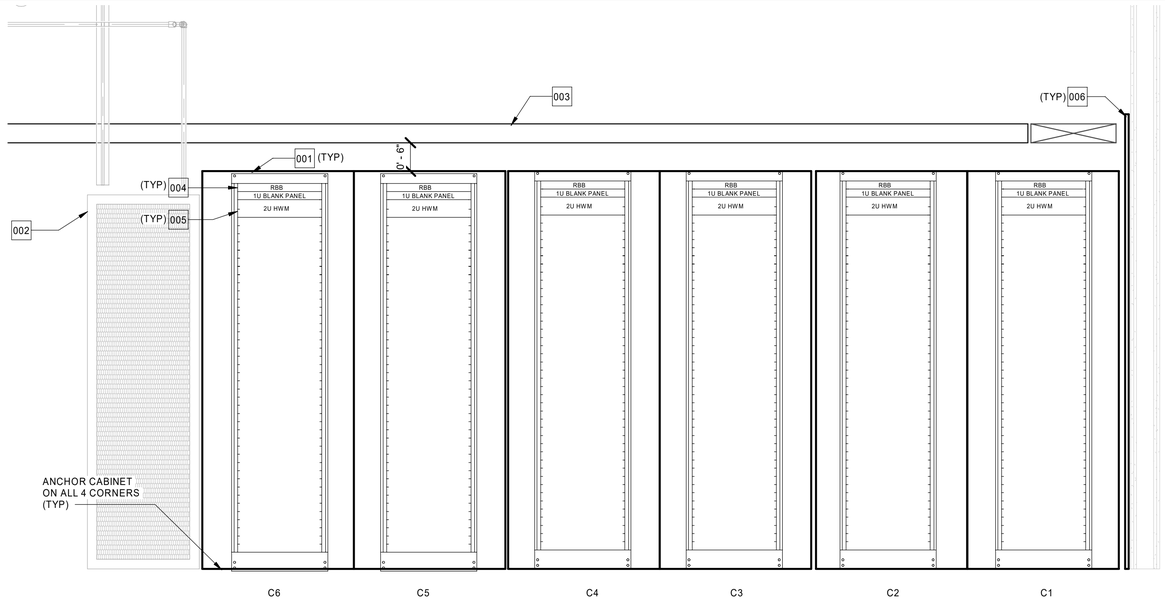
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SPB, CO

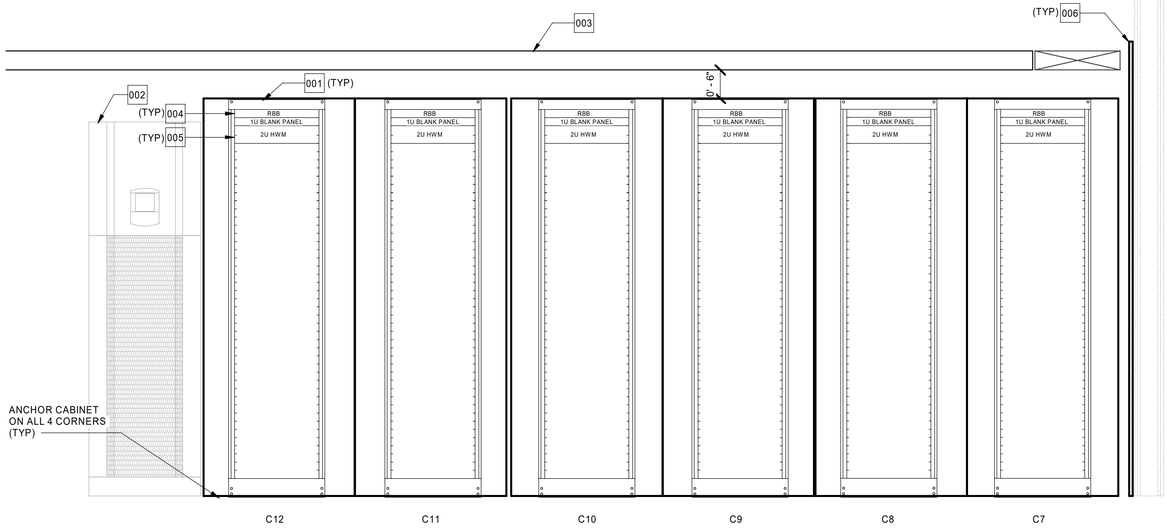
SECURITY - SECOND FLOOR PLAN - ACS/IDS/CCTV (BID OPTION 1)

SHEET ID
TY150A



C1 MAIN COMM ROOM 109 - RACK ELEVATIONS

NTS



A1 MAIN COMM ROOM 109 - RACK ELEVATIONS

3/4" = 1'-0"

GENERAL SHEET NOTES

1. PATHWAYS INCLUDE CABINETS, BASKET TRAY, EMT CONDUIT, PULLTAPE, AND BACKBOXES.

KEYNOTES

001 PROVIDE FREESTANDING ENCLOSED 48RU 4-POST SERVER CABINET WITH REMOVABLE, LOCKABLE SHEET METAL SIDE PANEL, TWO HINGED ACCESS DOORS, METAL TOP PANEL AND VERTICAL CABLE MANAGER. 32-INCHES WIDE X 90-INCHES HIGH X 40-INCHES DEEP. BLACK PERFORATED DOORS, TAPPED RAILS, 751 KEYED LOCKS. PROVIDE CABINET WITH COOLING FAN KIT, BLACK, 115V, 60Hz.

002 IN-ROW COOLING

003 PROVIDE 18-INCHES WIDE X 4-INCHES HIGH BASKET TRAY

004 PROVIDE A 1U RACK BONDING BUSBAR (RBB), REFER TO DETAIL A5 ON SHEET T-504 (TYP)

005 PROVIDE 2RU, 19-INCH EIA UNIVERSAL HORIZONTAL CABLE MANAGER, SINGLE SIDED WITH SNAP-ON COVER THAT OPENS 180-DEGREES UP OR DOWN, 3.5-INCHES HIGH X 19-INCHES WIDE X 5.14-INCHES DEEP, CHATSWORTH CATALOG NO. 30130-719 (TYP)

006 PROVIDE 48-INCH WIDE X 78-INCH HIGH X 3/4-INCH DEEP FIRE RATED PLYWOOD BACKBOARDS ON THE ENTIRE LENGTH OF THE WALL, MOUNTED 6-INCHES A.F.F. TO BOTTOM OF PLYWOOD BACKBOARD.

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
Bicsi
Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
RCDD
12/14/2022

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. HEITZ
DRAWN BY: B. ARTERBURN
CHECKED BY: H. FERRIS
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
CONTRACT NO.:
FILE NUMBER:
FILE NUMBER

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

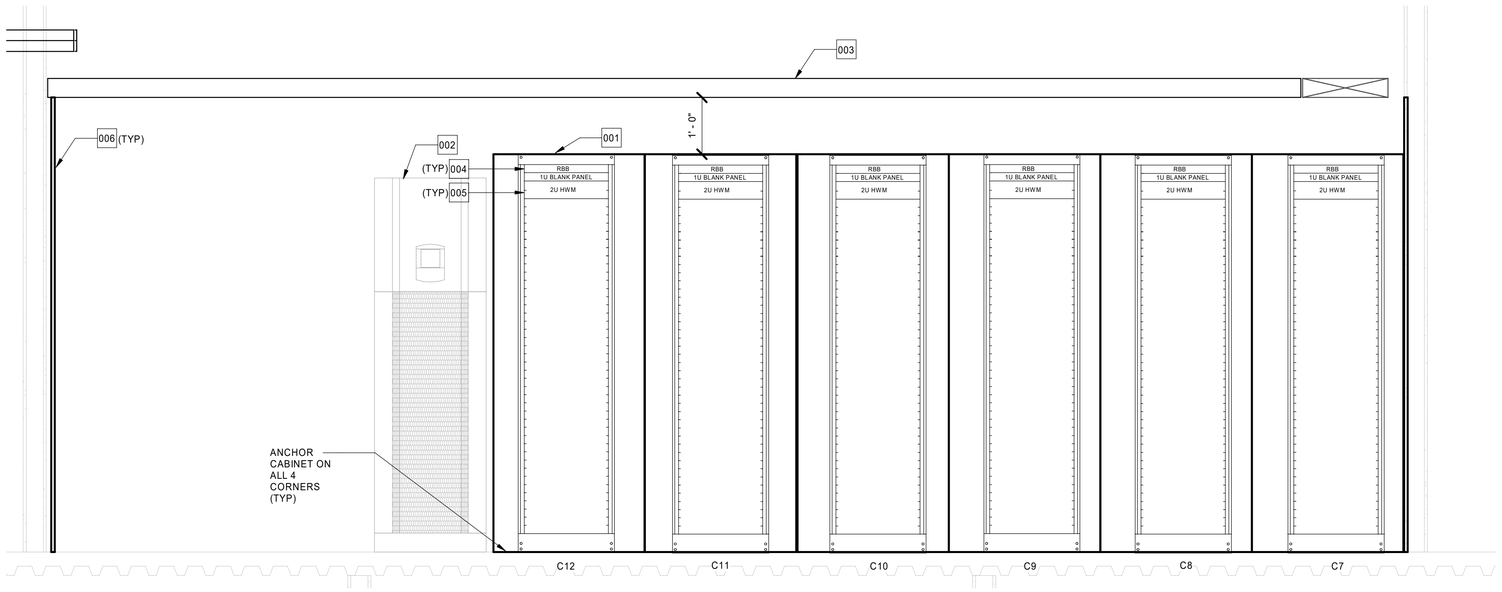
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

TELECOM - RACK ELEVATIONS

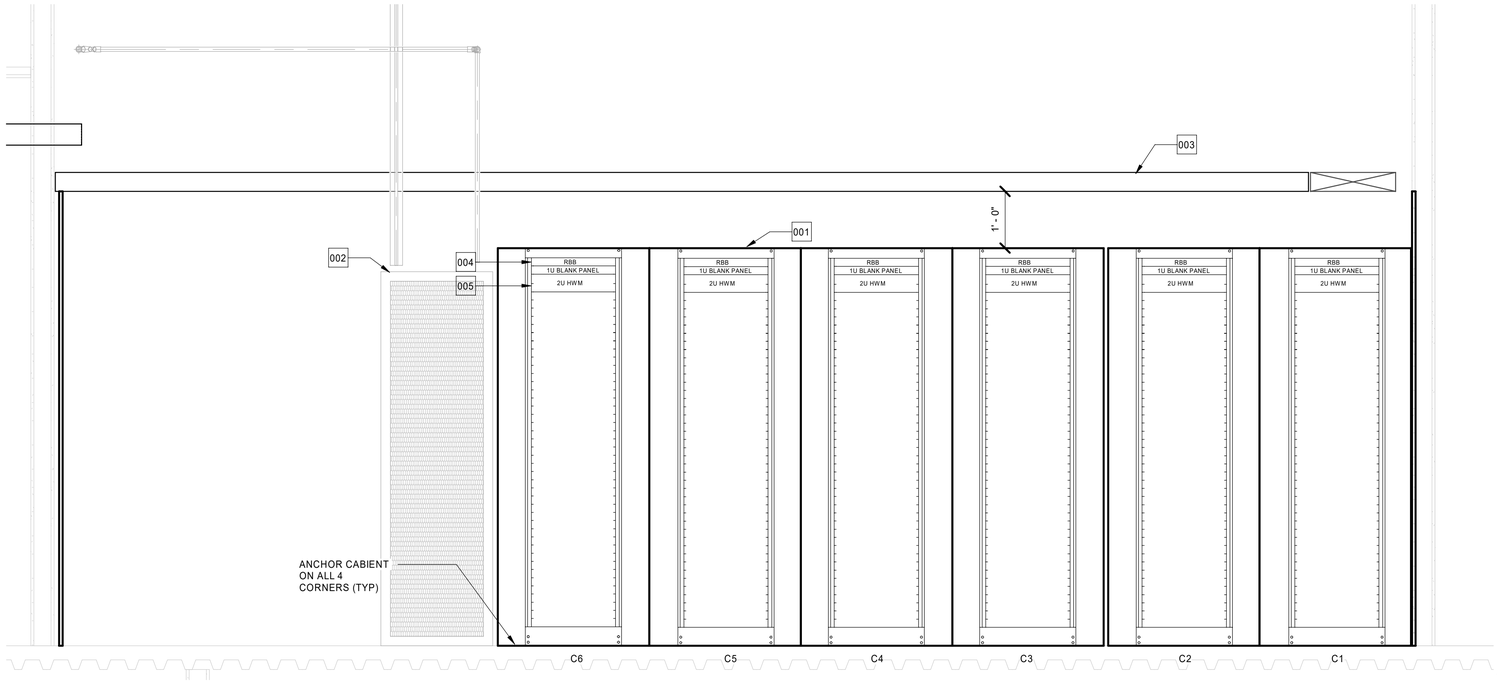
SHEET ID

T-201



C1 CLASSIFIED COMM ROOM 212 - RACK ELEVATIONS

3/4" = 1'-0"



A1 CLASSIFIED COMM ROOM 212 - RACK ELEVATIONS

3/4" = 1'-0"

GENERAL SHEET NOTES

1. PATHWAYS INCLUDE CABINETS, BASKET TRAY, EMT CONDUIT, PULLTAPE, AND BACKBOXES.

KEYNOTES

001 PROVIDE FREESTANDING ENCLOSED 48RU 4-POST SERVER CABINET WITH REMOVABLE, LOCKABLE SHEET METAL SIDE PANEL, TWO HINGED ACCESS DOORS, METAL TOP PANEL AND VERTICAL CABLE MANAGER. 32-INCHES WIDE X 90-INCHES HIGH X 40-INCHES DEEP. BLACK PERFORATED DOORS, TAPPED RAILS, 751 KEYED LOCKS. PROVIDE CABINET WITH COOLING FAN KIT, BLACK, 115V, 60Hz.

002 IN-ROW COOLING

003 PROVIDE 18-INCHES WIDE X 4-INCHES HIGH BASKET TRAY

004 PROVIDE A 1U RACK BONDING BUSBAR (RBB), REFER TO DETAIL A5 ON SHEET T-504 (TYP)

005 PROVIDE 2RU, 19-INCH EIA UNIVERSAL HORIZONTAL CABLE MANAGER, SINGLE SIDED WITH SNAP-ON COVER THAT OPENS 180-DEGREES UP OR DOWN, 3.5-INCHES HIGH X 19-INCHES WIDE X 5.14-INCHES DEEP, CHATSWORTH CATALOG NO. 30130-719 (TYP)

006 PROVIDE 48-INCH WIDE X 78-INCH HIGH X 3/4-INCH DEEP FIRE RATED PLYWOOD BACKBOARDS ON THE ENTIRE LENGTH OF THE WALL, MOUNTED 6-INCHES A.F.F. TO BOTTOM OF PLYWOOD BACKBOARD.

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
Bicsi
Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
RCDD
12/14/2022

US Army Corps of Engineers ®

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FILE NUMBER

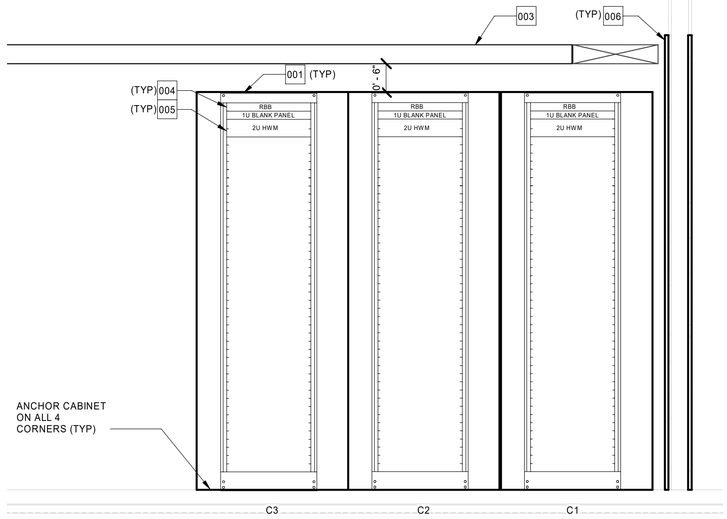
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

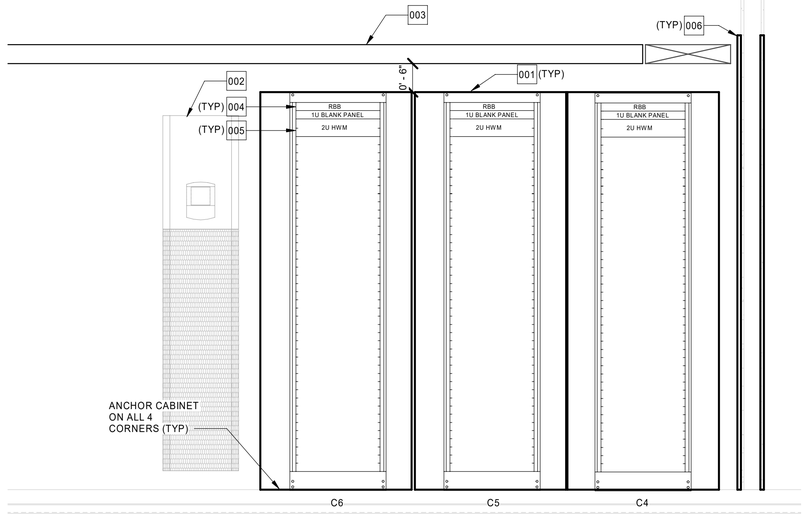
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

TELECOM - RACK ELEVATIONS

SHEET ID
T-202



C1 UNCLASSIFIED COMM ROOM 211 - RACK ELEVATIONS
3/4" = 1'-0"



C3 UNCLASSIFIED COMM ROOM 211 - RACK ELEVATIONS
3/4" = 1'-0"

GENERAL SHEET NOTES

1. PATHWAYS INCLUDE CABINETS, BASKET TRAY, EMT CONDUIT, PULLTAPE, AND BACKBOXES.

KEYNOTES

001 PROVIDE FREESTANDING ENCLOSED 48RU 4-POST SERVER CABINET WITH REMOVABLE, LOCKABLE SHEET METAL SIDE PANEL, TWO HINGED ACCESS DOORS, METAL TOP PANEL AND VERTICAL CABLE MANAGER. 32-INCHES WIDE X 90-INCHES HIGH X 40-INCHES DEEP. BLACK PERFORATED DOORS, TAPPED RAILS, 751 KEYED LOCKS. PROVIDE CABINET WITH COOLING FAN KIT, BLACK, 115V, 60Hz.

002 IN-ROW COOLING

003 PROVIDE 18-INCHES WIDE X 4-INCHES HIGH BASKET TRAY

004 PROVIDE A 1U RACK BONDING BUSBAR (RBB), REFER TO DETAIL A5 ON SHEET T-504 (TYP)

005 PROVIDE 2RU, 19-INCH EIA UNIVERSAL HORIZONTAL CABLE MANAGER, SINGLE SIDED WITH SNAP-ON COVER THAT OPENS 180-DEGREES UP OR DOWN, 3.5-INCHES HIGH X 19-INCHES WIDE X 5.14-INCHES DEEP, CHATSWORTH CATALOG NO. 30130-719 (TYP)

006 PROVIDE 48-INCH WIDE X 78-INCH HIGH X 3/4-INCH DEEP FIRE RATED PLYWOOD BACKBOARDS ON THE ENTIRE LENGTH OF THE WALL, MOUNTED 6-INCHES A.F.F. TO BOTTOM OF PLYWOOD BACKBOARD.

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
Bicsi
Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
RCDD
12/14/2022

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. HEITZ
DRAWN BY: B. ARTERBURN
CHECKED BY: H. FERRIS
SUBMITTED BY:
SIZE: ANSI D
FILE NAME:
ISSUE DATE: 14 DECEMBER 2022
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CONTRACT NO.:
FILE NUMBER:
FILE NUMBER

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

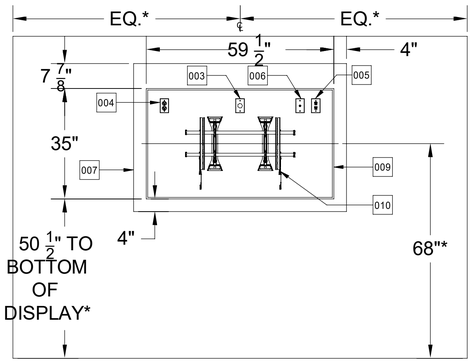
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

TELECOM - RACK ELEVATIONS

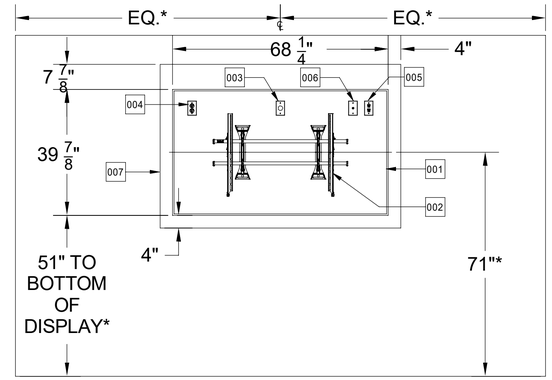
SHEET ID
T-203

RTA SUBMISSION



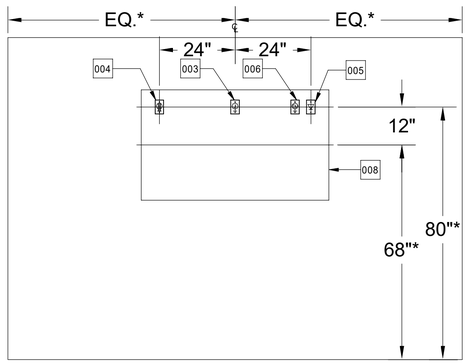
*(ACTUAL FINAL DEVICE PLACEMENT, LOCATION, AND HEIGHT TO BE VERIFIED BY THE CLIENT)

AV DEVICE ELEVATION

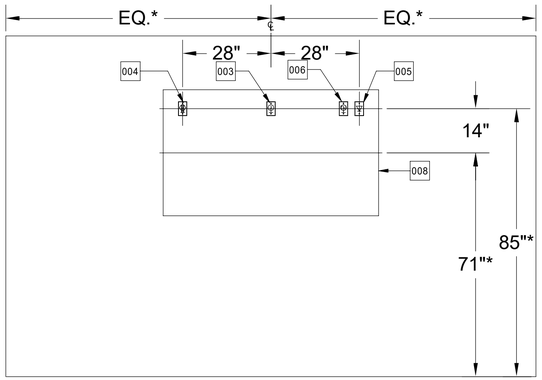


*(ACTUAL FINAL DEVICE PLACEMENT, LOCATION, AND HEIGHT TO BE VERIFIED BY THE CLIENT)

AV DEVICE ELEVATION



FACILITY REQUIREMENT ELEVATION



FACILITY REQUIREMENT ELEVATION

A1 65-INCH AV MONITOR ELEVATION
NOT TO SCALE

A3 75-INCH AV MONITOR ELEVATION
NOT TO SCALE

KEYNOTES

#	
	ALL EQUIPMENT PROVIDED AND INSTALLED BY GOVERNMENT, UNLESS OTHERWISE NOTED
001	GOVERNMENT FURNISHED, GOVERNMENT INSTALLED (GFGI) 75-INCH FLAT PANEL DISPLAY, CENTERED ON CONFERENCE TABLE OR DISPLAY WALL. *DISPLAY WEIGHT: ~116 LBS. (COORDINATE EXACT WEIGHT/MANUFACTURER OF FLAT PANEL WITH GOVERNMENT)
002	NEW X-LARGE WALL DISPLAY MOUNT. ASSUMED WEIGHT: ~28 LBS. (COORDINATE EXACT WEIGHT/MANUFACTURER OF FLAT PANEL WITH GOVERNMENT)
003	PROVIDE 1-GANG JUNCTION BOX BEHIND DISPLAY FOR A/V CABLE PASS THROUGH. PROVIDE CABLE PATHWAY STUBBED ABOVE FINISH CEILING.
004	PROVIDE (1) DUPLEX RECEPTACLE, 120VAC, 20A BEHIND DISPLAY.
005	PROVIDE ( ) DATA DROP(S) WITH CABLE PATHWAY STUBBED ABOVE FINISH CEILING BEHIND DISPLAY, BY GOVERNMENT.
006	PROVIDE (1) CATV DROP WITH CABLE PATHWAY STUBBED ABOVE FINISH CEILING BEHIND DISPLAY, BY GOVERNMENT.
007	DISPLAY VENTILATION CLEARANCES MUST BE INCORPORATED PER MANUFACTURER OR EQUIPMENT WARRANTY WILL BE VOIDED.
008	BLOCKING IS REQUIRED TO ALLOW THESE DISPLAYS TO BE ATTACHED TO THE WALL. BLOCKING MUST BE CAPABLE OF SUPPORTING FIVE TIMES (5x) THE TOTAL COMBINED WEIGHT OF THE DISPLAYS AND WALL MOUNTS PROVIDED BY GOVERNMENT. (COORDINATE EXACT WEIGHT/MANUFACTURER OF FLAT PANEL WITH GOVERNMENT)
009	GOVERNMENT FURNISHED, GOVERNMENT INSTALLED (GFGI) 65-INCH FLAT PANEL DISPLAY, CENTERED ON CONFERENCE TABLE OR DISPLAY WALL. *DISPLAY WEIGHT: ~103.6 LBS. (COORDINATE EXACT WEIGHT/MANUFACTURER OF FLAT PANEL WITH GOVERNMENT)
010	NEW LARGE WALL DISPLAY MOUNT. ASSUMED WEIGHT: ~20 LBS. (COORDINATE EXACT WEIGHT/MANUFACTURER OF FLAT PANEL WITH GOVERNMENT)

Bicsi
Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
RCDD
12/14/2022

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. HEITZ
DRAWN BY: B. ARTERBURN
CHECKED BY: H. FERRIS
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:
FILE NUMBER
FILE NAME:

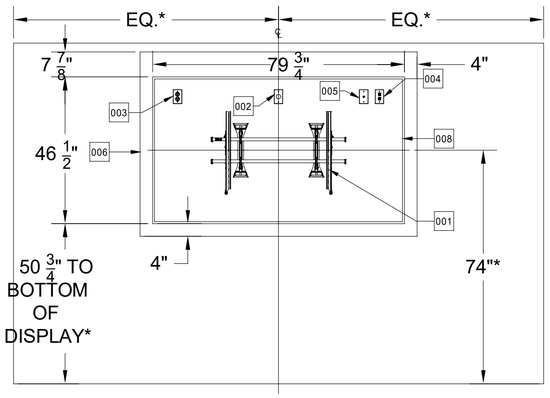
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

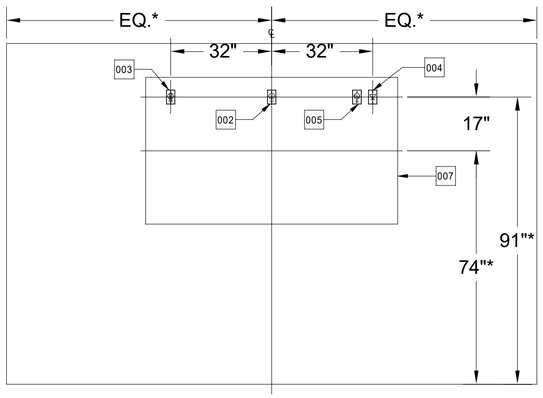
AV WALL ELEVATIONS

SHEET ID
T-204



*(ACTUAL FINAL DEVICE PLACEMENT, LOCATION, AND HEIGHT TO BE VERIFIED BY THE CLIENT)

AV DEVICE ELEVATION



FACILITY REQUIREMENT ELEVATION

A1 86-INCH AV MONITOR ELEVATION
NOT TO SCALE

KEYNOTES

ALL EQUIPMENT PROVIDED AND INSTALLED BY GOVERNMENT, UNLESS OTHERWISE NOTED

001 NEW X-LARGE WALL DISPLAY MOUNT. ASSUMED WEIGHT: ~28 LBS. (COORDINATE EXACT WEIGHT/MANUFACTURER OF FLAT PANEL WITH GOVERNMENT)

002 PROVIDE 1-GANG JUNCTION BOX BEHIND DISPLAY FOR A/V CABLE PASS THROUGH. PROVIDE CABLE PATHWAY STUBBED ABOVE FINISH CEILING, BY GOVERNMENT.

003 PROVIDE (1) DUPLEX RECEPTACLE, 120VAC, 20A BEHIND DISPLAY, BY ELECTRICAL CONTRACTOR.

004 PROVIDE ( ) DATA DROP(S) WITH CABLE PATHWAY STUBBED ABOVE FINISH CEILING BEHIND DISPLAY, BY ELECTRICAL CONTRACTOR.

005 PROVIDE (1) CATV DROP WITH CABLE PATHWAY STUBBED ABOVE FINISH CEILING BEHIND DISPLAY, BY GOVERNMENT.

006 DISPLAY VENTILATION CLEARANCES PER MANUFACTURER MUST BE INCORPORATED OR EQUIPMENT WARRANTY WILL BE VOIDED.

007 BLOCKING IS REQUIRED TO ALLOW THESE DISPLAYS TO BE ATTACHED TO THE WALL. BLOCKING MUST BE CAPABLE OF SUPPORTING FIVE TIMES (5x) THE TOTAL COMBINED WEIGHT OF THE DISPLAYS AND WALL MOUNTS PROVIDED BY GOVERNMENT. (COORDINATE EXACT WEIGHT/MANUFACTURER OF FLAT PANEL WITH GOVERNMENT)

008 GOVERNMENT FURNISHED, GOVERNMENT INSTALLED (GFGI) 86-INCH FLAT PANEL DISPLAY, CENTERED ON CONFERENCE TABLE OR DISPLAY WALL. *DISPLAY WEIGHT: ~204.5 LBS. (COORDINATE EXACT WEIGHT/MANUFACTURER OF FLAT PANEL WITH GOVERNMENT)

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
Bicsi
Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
RCDD
12/14/2022

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: J. HEITZ
DRAWN BY: B. ARTERBURN
CHECKED BY: H. FERRIS
SUBMITTED BY:
SIZE: ANSI D
ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W9128F22R0017
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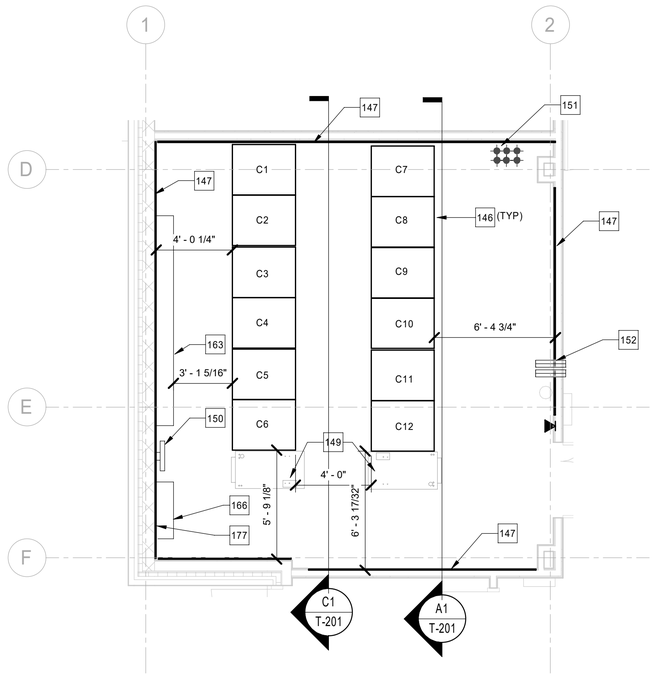
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

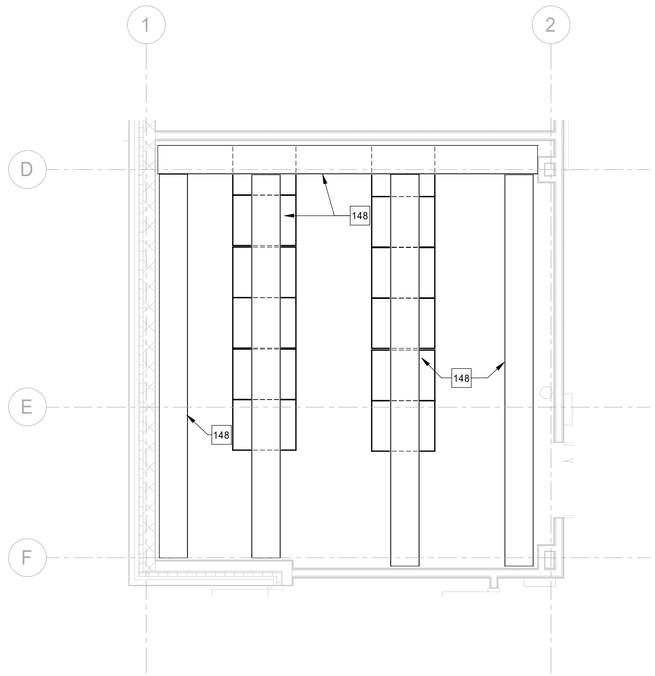
AV WALL ELEVATIONS

SHEET ID
T-205



C1 MAIN COMM ROOM 109 - EQUIPMENT PLAN

1/4" = 1'-0"



C3 MAIN COMM ROOM 109 - CABLE TRAY PLAN

1/4" = 1'-0"

GENERAL SHEET NOTES

1. PROVIDE PATHWAYS FOR CABLE ONLY AS CONTRACTOR SCOPE. PATHWAYS INCLUDE CABINETS, BASKET TRAY, EMT CONDUIT, PULLTAPE, AND BACKBOXES.

KEYNOTES

#	
146	PROVIDE FREESTANDING ENCLOSED 48RU 4-POST SERVER CABINET WITH REMOVABLE, LOCKABLE SHEET METAL SIDE PANEL, TWO HINGED ACCESS DOORS, METAL TOP PANEL AND VERTICAL CABLE MANAGER. 32-INCHES WIDE X 90-INCHES HIGH X 40-INCHES DEEP, BLACK PERFORATED DOORS, TAPPED RAILS, 751 KEYED LOCKS. PROVIDE CABINET WITH COOLING FAN KIT, BLACK, 115V, 60Hz.
147	PROVIDE 48-INCH WIDE X 78-INCH HIGH X 3/4-INCH DEEP FIRE RATED PLYWOOD BACKBOARDS ON THE ENTIRE LENGTH OF THE WALL, MOUNTED 6-INCHES A.F.F. TO BOTTOM OF PLYWOOD BACKBOARD.
148	PROVIDE 18-INCHES WIDE X 4-INCHES HIGH BASKET TRAY
149	IN-ROW COOLING
150	PROVIDE PBB 4-INCHES ABOVE BASKET TRAY
151	PROVIDE (6) 4-INCH ID CONDUITS TO SITE. PROVIDE BUSHINGS AND PULL-TAPE. STUB UP 4-INCHES AFF ALONG EXTERIOR WALL.
152	PROVIDE E-Z PATH GANGABLE WALL PENETRATIONS
163	WALL SPACE RESERVED FOR ESS EQUIPMENT
166	RESERVE WALL SPACE FOR SATELLITE DISH CABLE TV HEAD END EQUIPMENT (BY GOVERNMENT). EQUIPMENT WILL REQUIRE 3 FEET BY 3 FEET OF SPACE.
177	PROVIDE A WALL-MOUNT RG-11 TERMINATION FIELD, LOADED WITH MODULES RATED TO PASS THE SPECIFIC FREQUENCY BAND USED BY DON-LORS AT EACH 3-FEET BY 3-FEET RESERVED AREA. OBTAIN PRIOR TO ORDERING MODULES. THESE RG-11 COAX TERMINATION FIELDS WILL TERMINATE ALL HORIZONTAL RG-11 CABLES LEADING TO INDIVIDUAL TV SERVICE PORTS IN THE BUILDING. PROVIDE HORIZONTAL RG-11 COAX FROM THE HEAD-END TERMINATION FIELD TO EACH F-CONNECTOR FACEPLATE. CABLES WILL BE DEDICATED, LESS THAN 200 FEET, AND WITHOUT SPLITTERS. IN THE EVENT ANY CABLE EXCEEDS 200 FEET, THE CONTRACTOR WILL NOTIFY DON-LORS. FOR THESE EXCEPTIONS (NOT ANTICIPATED) DON-LORS MUST PROVIDE A SMARTBOX LOCATION AT THE HEAD-END EQUIPMENT AREA TO BOOST SIGNAL. TERMINATE ALL RG-11 WITH F-CONNECTORS RATED FOR 3GHz OR BETTER. FROM THE HEAD-END LOCATION IN EACH DR TO INDIVIDUAL WORKSTATIONS, THE CONTRACTOR MUST PROVIDE RG-11 CABLE.

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
Bicsi
Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
RCDD
12/14/2022

GRAPHIC SCALE(S)

4 3 2 1 0 4 8

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

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	R. FAUVELLE
DRAWN BY:	B. ARTERBURN
CHECKED BY:	H. FERRIS
SUBMITTED BY:	
SIZE:	ANSI D
ISSUE DATE:	14 DECEMBER 2022
SOLICITATION NO.:	W912BF22R0017
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FILE NAME:	

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

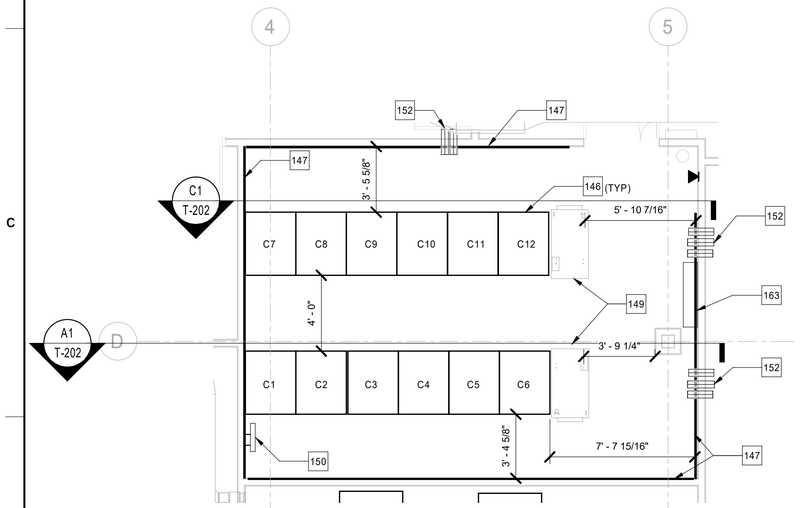
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SPB, CO

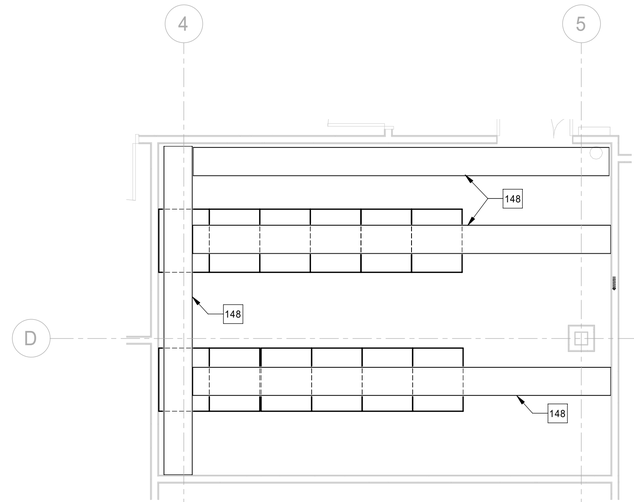
TELECOM - ENLARGED PLANS

SHEET ID

T-401



C1 CLASSIFIED COMM ROOM 212 - EQUIPMENT PLAN
1/4" = 1'-0"



C3 CLASSIFIED COMM ROOM 212 - CABLE TRAY PLAN
1/4" = 1'-0"

GENERAL SHEET NOTES

1. PROVIDE PATHWAYS FOR CABLE ONLY AS CONTRACTOR SCOPE. PATHWAYS INCLUDE CABINETS, BASKET TRAY, EMT CONDUIT, PULLTAPE, AND BACKBOXES.

KEYNOTES

146 PROVIDE FREESTANDING ENCLOSED 48RU 4-POST SERVER CABINET WITH REMOVABLE, LOCKABLE SHEET METAL SIDE PANEL, TWO HINGED ACCESS DOORS, METAL TOP PANEL AND VERTICAL CABLE MANAGER. 32-INCHES WIDE X 90-INCHES HIGH X 40-INCHES DEEP. BLACK PERFORATED DOORS, TAPPED RAILS, 751 KEYED LOCKS. PROVIDE CABINET WITH COOLING FAN KIT, BLACK, 115V, 60Hz.

147 PROVIDE 48-INCH WIDE X 78-INCH HIGH X 3/4-INCH DEEP FIRE RATED PLYWOOD BACKBOARDS ON THE ENTIRE LENGTH OF THE WALL, MOUNTED 6-INCHES A.F.F. TO BOTTOM OF PLYWOOD BACKBOARD.

148 PROVIDE 18-INCHES WIDE X 4-INCHES HIGH BASKET TRAY

149 IN-ROW COOLING

150 PROVIDE SBB. MOUNT 78-INCHES ABOVE FINISHED FLOOR (A.F.F.)

152 PROVIDE E-Z PATH GANGABLE WALL PENETRATIONS

163 WALL SPACE RESERVED FOR ESS EQUIPMENT

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
Bicsi
Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
RCDD
12/14/2022

GRAPHIC SCALE(S)

4 3 2 1 0 4 8
SCALE: 1/4" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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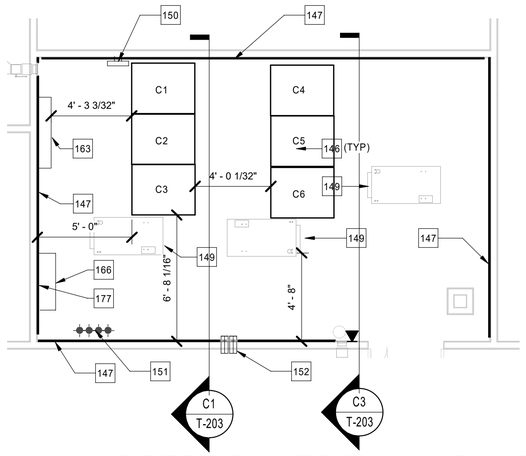
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

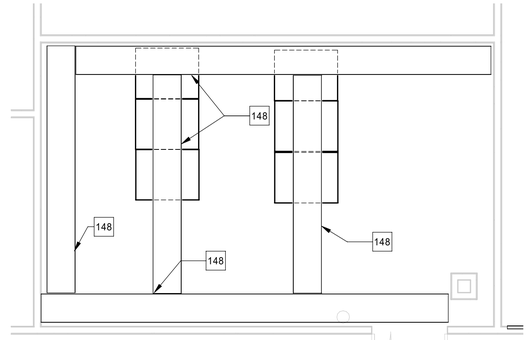
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

TELECOM - ENLARGED PLANS

SHEET ID
T-402



C1 UNCLASSIFIED COMM ROOM 211 - EQUIPMENT PLAN
1/4" = 1'-0"



C3 UNCLASSIFIED COMM ROOM 211 - CABLE TRAY PLAN
1/4" = 1'-0"

GENERAL SHEET NOTES

1. PROVIDE PATHWAYS FOR CABLE ONLY AS CONTRACTOR SCOPE. PATHWAYS INCLUDE CABINETS, BASKET TRAY, EMT CONDUIT, PULLTAPE, AND BACKBOXES.

KEYNOTES

146 PROVIDE FREESTANDING ENCLOSED 48RU 4-POST SERVER CABINET WITH REMOVABLE, LOCKABLE SHEET METAL SIDE PANEL, TWO HINGED ACCESS DOORS, METAL TOP PANEL AND VERTICAL CABLE MANAGER. 32-INCHES WIDE X 90-INCHES HIGH X 40-INCHES DEEP, BLACK PERFORATED DOORS, TAPPED RAILS, 751 KEYED LOCKS. PROVIDE CABINET WITH COOLING FAN KIT, BLACK, 115V, 60Hz.

147 PROVIDE 48-INCH WIDE X 78-INCH HIGH X 3/4-INCH DEEP FIRE RATED PLYWOOD BACKBOARDS ON THE ENTIRE LENGTH OF THE WALL, MOUNTED 6-INCHES A.F.F. TO BOTTOM OF PLYWOOD BACKBOARD.

148 PROVIDE 18-INCHES WIDE X 4-INCHES HIGH BASKET TRAY

149 IN-ROW COOLING

150 PROVIDE SBB. MOUNT 78-INCHES ABOVE FINISHED FLOOR (A.F.F.)

151 PROVIDE (4) FOUR-INCH SLEEVED CONDUITS WITH BUSHINGS FROM FIRST FLOOR

152 PROVIDE E-Z PATH GANGABLE WALL PENETRATIONS

163 WALL SPACE RESERVED FOR ESS EQUIPMENT

166 RESERVE WALL SPACE FOR SATELLITE DISH CABLE TV HEAD END EQUIPMENT (BY GOVERNMENT). EQUIPMENT WILL REQUIRE 3 FEET BY 3 FEET OF SPACE.

177 PROVIDE A WALL-MOUNT RG-11 TERMINATION FIELD, LOADED WITH MODULES RATED TO PASS THE SPECIFIC FREQUENCY BAND USED BY DON-LORS AT EACH 3-FEET BY 3-FEET RESERVED AREA. OBTAIN PRIOR TO ORDERING MODULES. THESE RG-11 COAX TERMINATION FIELDS WILL TERMINATE ALL HORIZONTAL RG-11 CABLES LEADING TO INDIVIDUAL TV SERVICE PORTS IN THE BUILDING. PROVIDE HORIZONTAL RG-11 COAX FROM THE HEAD-END TERMINATION FIELD TO EACH F-CONNECTOR FACEPLATE. CABLES WILL BE DEDICATED, LESS THAN 200 FEET, AND WITHOUT SPLITTERS. IN THE EVENT ANY CABLE EXCEEDS 200 FEET, THE CONTRACTOR WILL NOTIFY DON-LORS. FOR THESE EXCEPTIONS (NOT ANTICIPATED) DON-LORS MUST PROVIDE A SMARTBOX LOCATION AT THE HEAD-END EQUIPMENT AREA TO BOOST SIGNAL. TERMINATE ALL RG-11 WITH F-CONNECTORS RATED FOR 3GHz OR BETTER. FROM THE HEAD-END LOCATION IN EACH DR TO INDIVIDUAL WORKSTATIONS, THE CONTRACTOR MUST PROVIDE RG-11 CABLE.

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
BICSI
Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
RCDD
12/14/2022

GRAPHIC SCALE(S)

4 3 2 1 0 4 8
SCALE: 1/4" = 1'-0"

PLAN NORTH

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	R. FAUVELLE
DRAWN BY:	B. ARTERBURN
CHECKED BY:	H. FERRIS
SUBMITTED BY:	
SIZE: ANSI 'D'	FILE NAME:
ISSUE DATE:	14 DECEMBER 2022
SOLICITATION NO.:	W912BF22R0017
CONTRACT NO.:	
FILE NUMBER:	
FILE NUMBER	

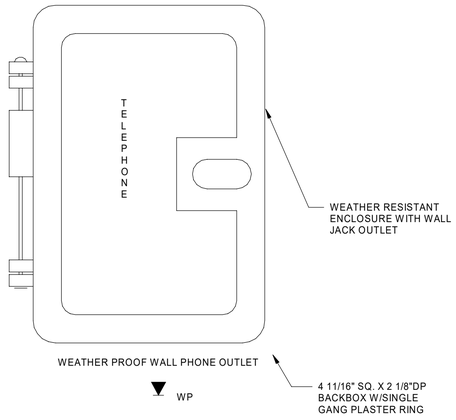
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

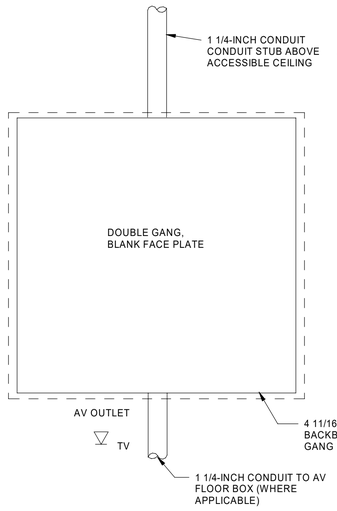
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

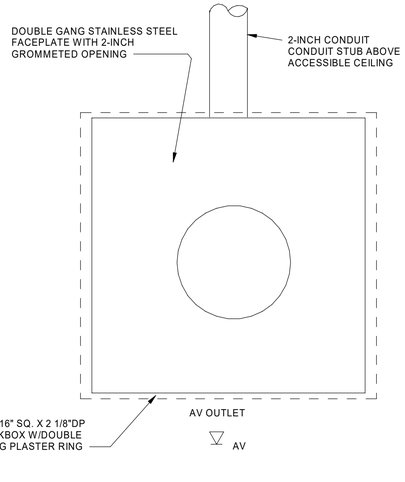
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

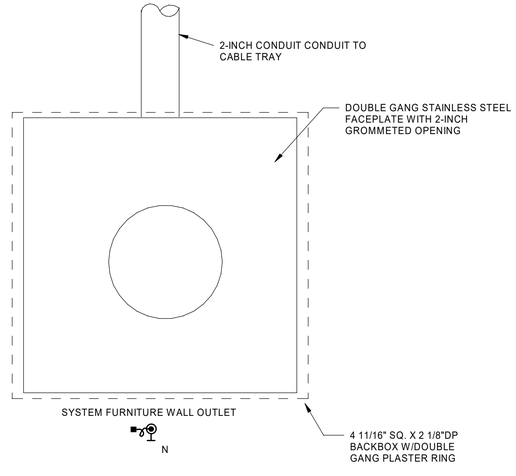
TELECOM - ENLARGED PLANS

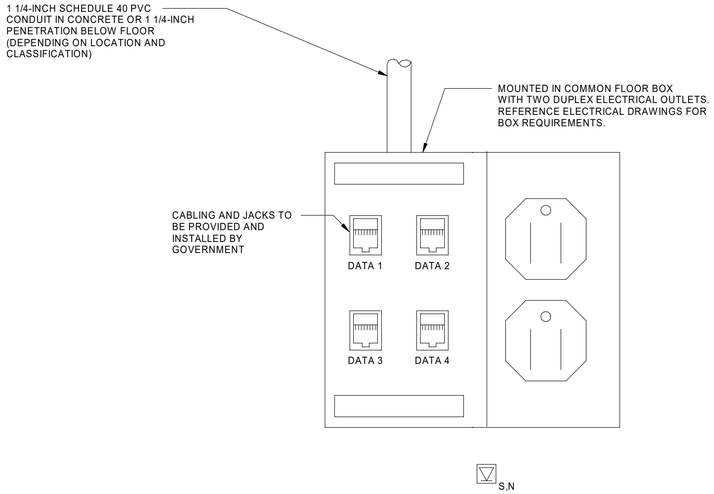
SHEET ID
T-403

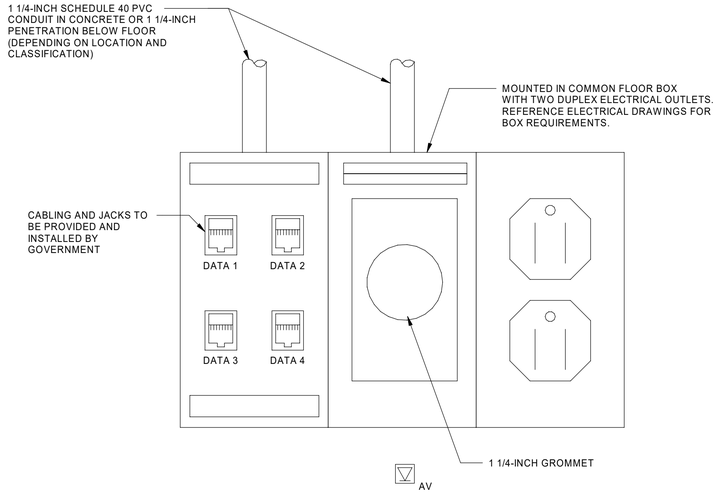












A1 VOICE AND DATA OUTLETS
NOT TO SCALE

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
BICSI
Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
RCDD
12/14/2022

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: R. FAUVELLE	ISSUE DATE: 14 DECEMBER 2022
DRAWN BY: B. ARTERBURN	SOLICITATION NO.: W9128F22R0017
CHECKED BY: H. FERRIS	CONTRACT NO.:
SUBMITTED BY:	FILE NUMBER: FILE NUMBER
SIZE: ANSI D	FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

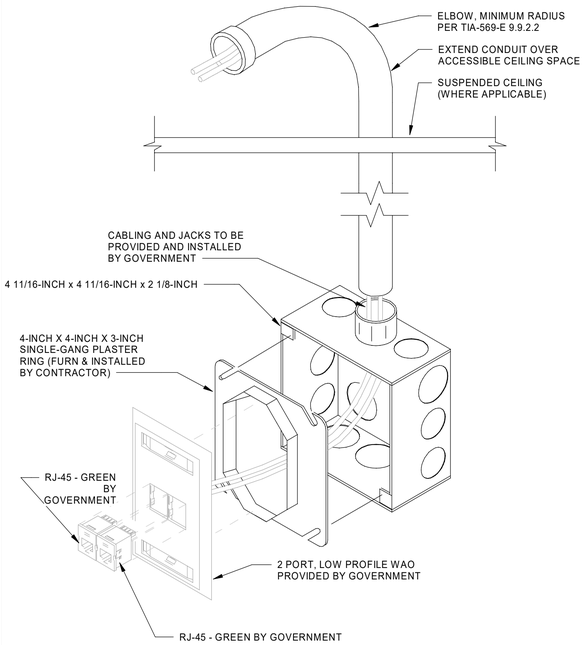
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

TELECOM - DETAILS - DATA

SHEET ID
T-501

RTA SUBMISSION

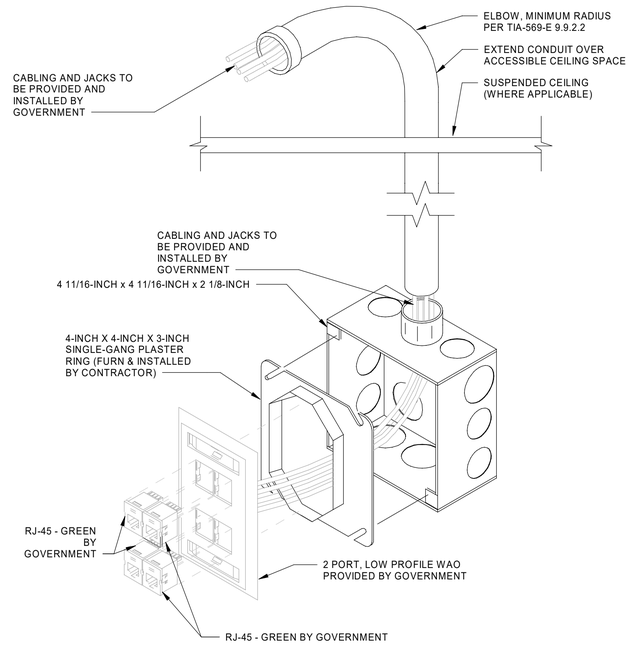


NOTES:

1. CONDUIT MUST BE PROVIDED AND INSTALLED BY CONTRACTOR.
2. REFERENCE DETAIL A1/A-551 IN ARCHITECTRUAL DRAWING SET FOR ACOUSTICAL SEALANT AT OUTLET BOX REQUIREMENTS.

C1 TYPICAL UNCLASSIFIED OUTLET DETAIL

NTS

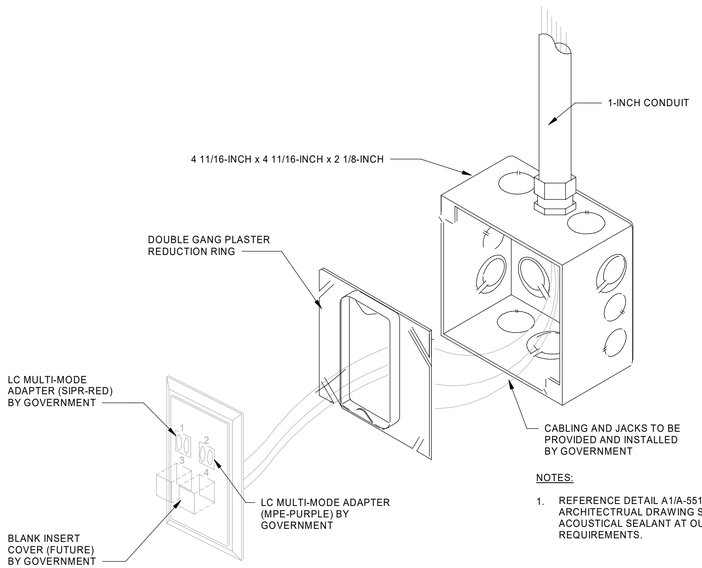


NOTES:

1. CONDUIT MUST BE PROVIDED AND INSTALLED BY CONTRACTOR.
2. REFERENCE DETAIL A1/A-551 IN ARCHITECTRUAL DRAWING SET FOR ACOUSTICAL SEALANT AT OUTLET BOX REQUIREMENTS.

C3 TYPICAL UNCLASSIFIED QUAD OUTLET DETAIL

NTS

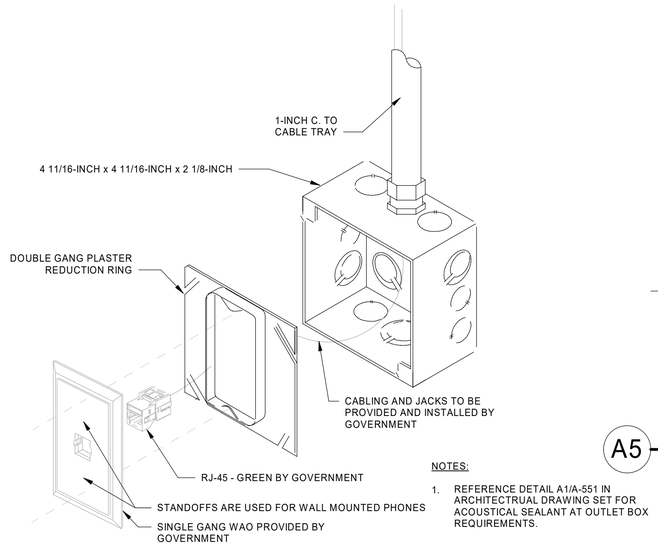


NOTES:

1. REFERENCE DETAIL A1/A-551 IN ARCHITECTRUAL DRAWING SET FOR ACOUSTICAL SEALANT AT OUTLET BOX REQUIREMENTS.

A1 TYPICAL CLASSIFIED OUTLET DETAIL

NTS

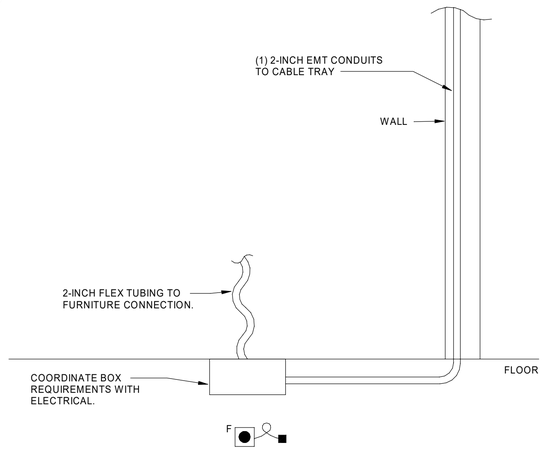


NOTES:

1. REFERENCE DETAIL A1/A-551 IN ARCHITECTRUAL DRAWING SET FOR ACOUSTICAL SEALANT AT OUTLET BOX REQUIREMENTS.

A3 SINGLE VOICE OUTLET DETAIL

NTS



A5 MODULAR SYSTEMS FURNITURE FLOOR BOX DETAIL

NOT TO SCALE

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY:	R. FAUVELLE
DRAWN BY:	B. ARTERBURN
CHECKED BY:	H. FERRIS
SUBMITTED BY:	
SIZE: ANSI 'D'	FILE NAME:

ISSUE DATE:	14 DECEMBER 2022
SOLICITATION NO.:	W9128F22R0017
CONTRACT NO.:	
FILE NUMBER:	
FILE NUMBER	

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

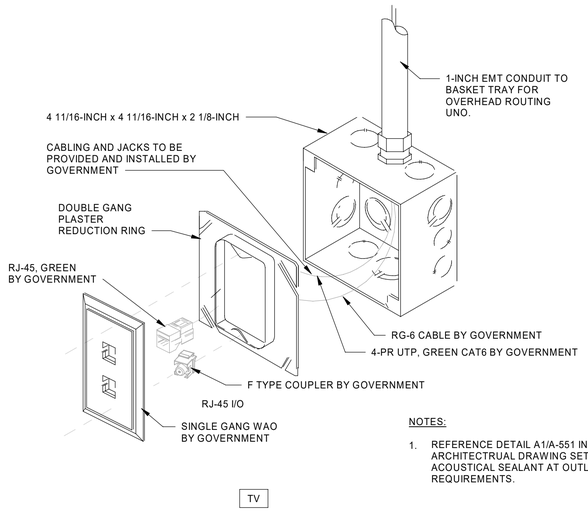
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SPB, CO

TELECOM - DETAILS - DATA

SHEET ID

T-502

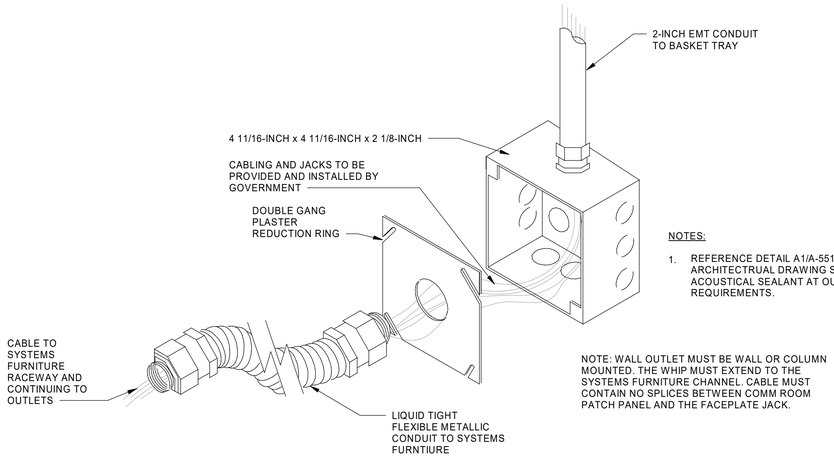


NOTES:

1. REFERENCE DETAIL A1/A-551 IN ARCHITECTRUAL DRAWING SET FOR ACOUSTICAL SEALANT AT OUTLET BOX REQUIREMENTS.

D1 TYPICAL CATV OUTLET DETAIL

N.T.S.



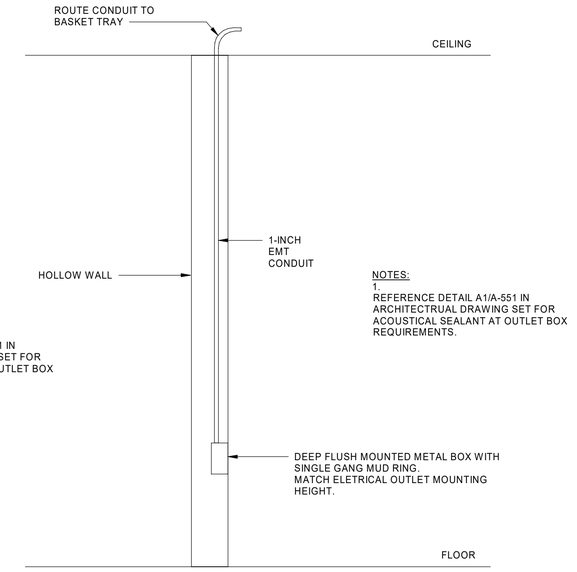
NOTES:

1. REFERENCE DETAIL A1/A-551 IN ARCHITECTRUAL DRAWING SET FOR ACOUSTICAL SEALANT AT OUTLET BOX REQUIREMENTS.

NOTE: WALL OUTLET MUST BE WALL OR COLUMN MOUNTED. THE WHIP MUST EXTEND TO THE SYSTEMS FURNITURE CHANNEL. CABLE MUST CONTAIN NO SPLICES BETWEEN COMM ROOM PATCH PANEL AND THE FACEPLATE JACK.

D3 TYPICAL WALL OUTLET WITH WHIP DETAIL

N.T.S.

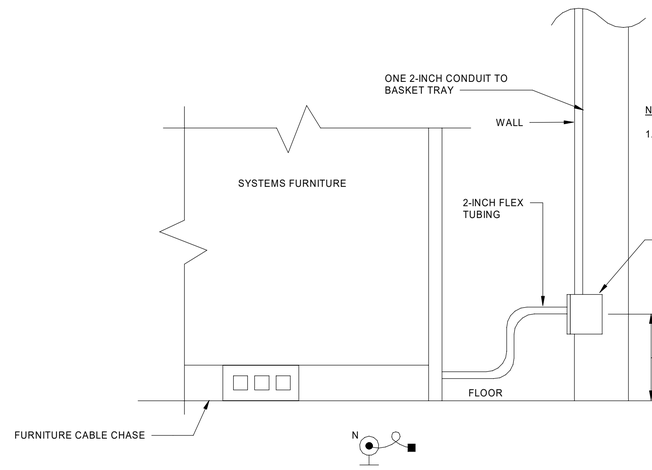


NOTES:

1. REFERENCE DETAIL A1/A-551 IN ARCHITECTRUAL DRAWING SET FOR ACOUSTICAL SEALANT AT OUTLET BOX REQUIREMENTS.

D5 HOLLOW WALL OUTLET BOX AND CONDUIT DETAIL

NOT TO SCALE

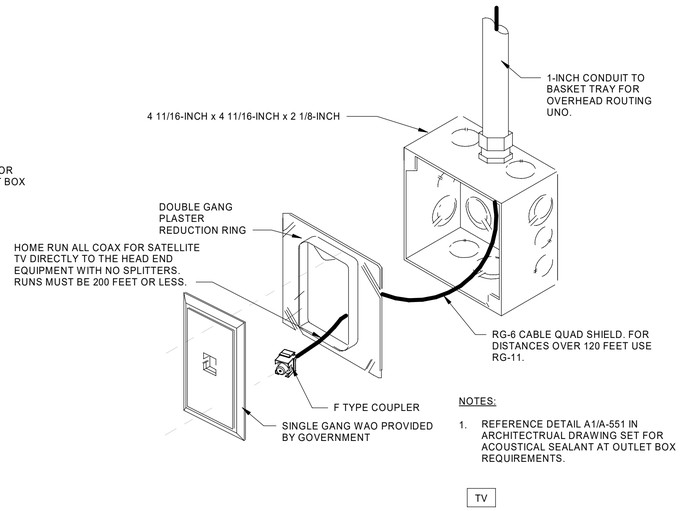


NOTES:

1. REFERENCE DETAIL A1/A-551 IN ARCHITECTRUAL DRAWING SET FOR ACOUSTICAL SEALANT AT OUTLET BOX REQUIREMENTS.

A3 MODULAR SYSTEMS FURNITURE OUTLET INSTALLATION (NIPR)

NOT TO SCALE



NOTES:

1. REFERENCE DETAIL A1/A-551 IN ARCHITECTRUAL DRAWING SET FOR ACOUSTICAL SEALANT AT OUTLET BOX REQUIREMENTS.

A5 TYPICAL SATELLITE CABLE TV OUTLET

N.T.S.

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
BICSI
Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
RCDD
12/14/2022

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DRAWN BY:	B. ARTERBURN
CHECKED BY:	H. FERRIS
SUBMITTED BY:	
SIZE:	ANSI 'D'
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FILE NUMBER	
FILE NAME:	

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

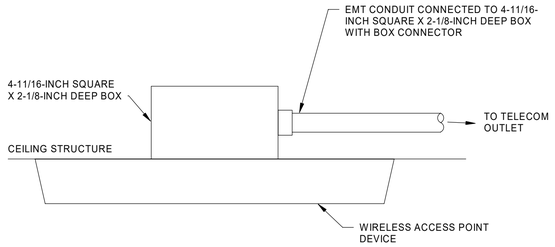
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

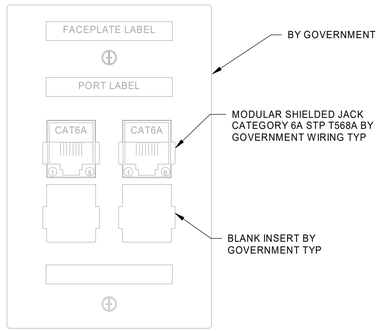
TELECOM - DETAILS - DATA

SHEET ID

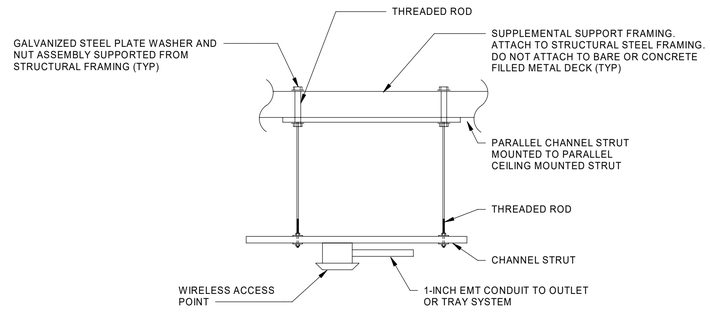
T-503



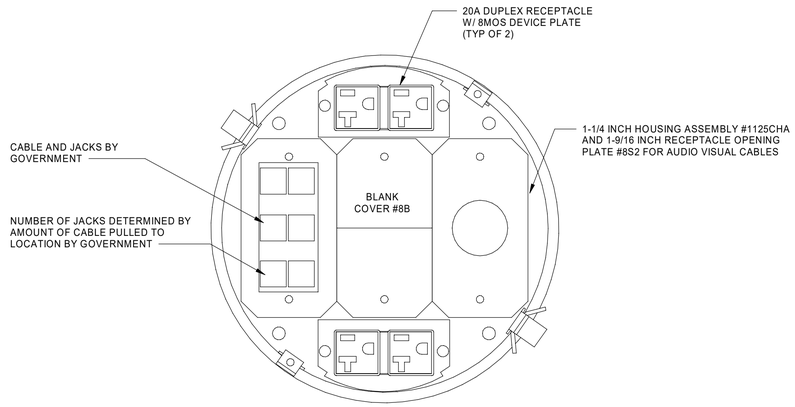
C1 WIRELESS ACCESS POINT MOUNTED TO CEILING
NOT TO SCALE

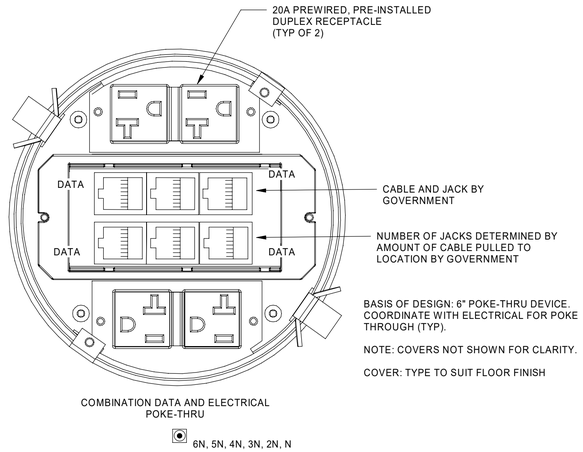


C3 TWO PORT OUTLET FOR WLAN
NOT TO SCALE



C5 WIRELESS ACCESS POINT FROM STRUCTURAL CEILING
NOT TO SCALE





A1 POKE THRU DETAILS
NOT TO SCALE

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
Bicsi
Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
RCDD
12/14/2022

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: R. FAUVELLE
DRAWN BY: B. ARTERBURN
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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

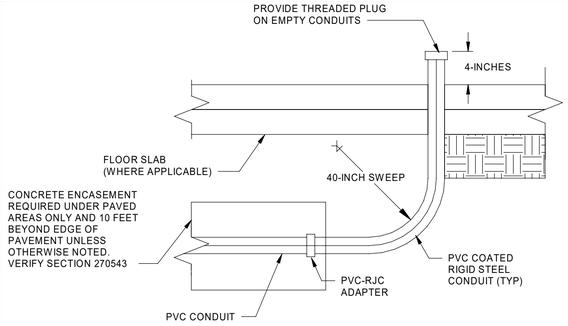
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

TELECOM - DETAILS - DATA

SHEET ID
T-504

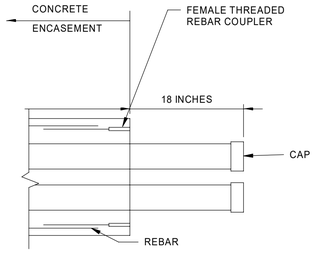
RTA SUBMISSION



TYPICAL DUCT BANK STUB-UP DETAIL IN TELECOM ROOM

D1 DUCT BANK STUB-UP DETAIL

NOT TO SCALE



C1 TYPICAL DUCT BANK STUB-OUT DETAIL

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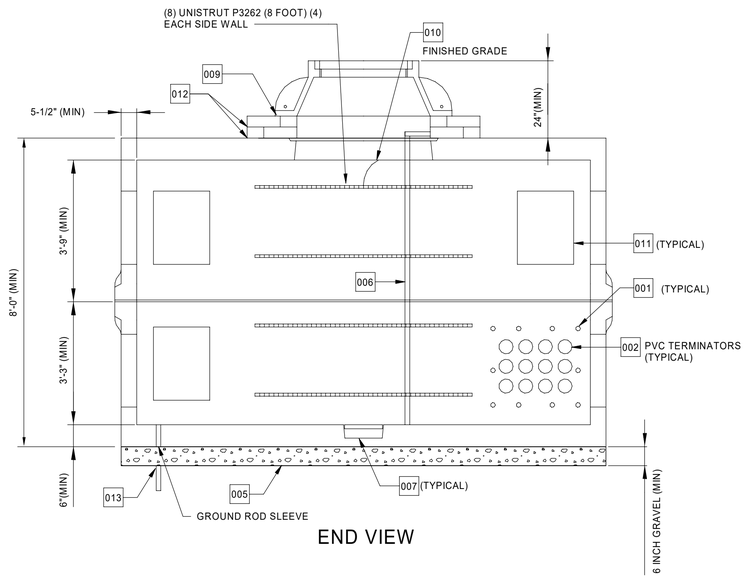
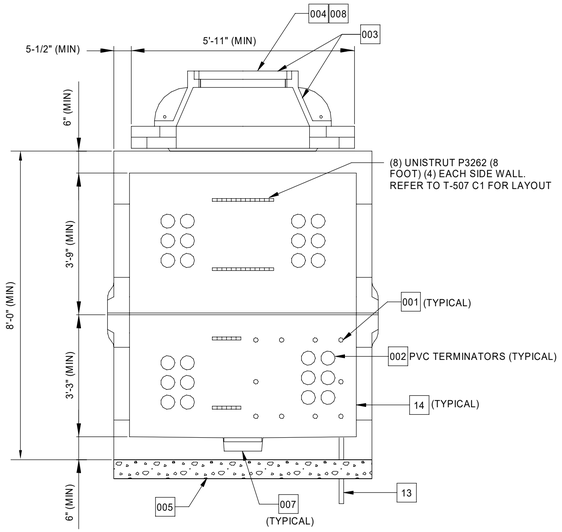
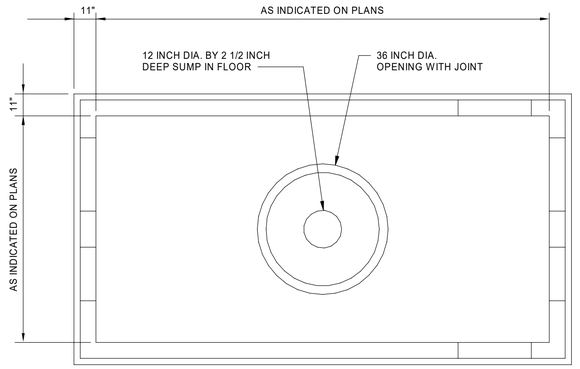


END VIEW



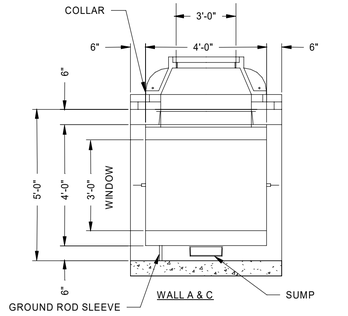
SIDE VIEW

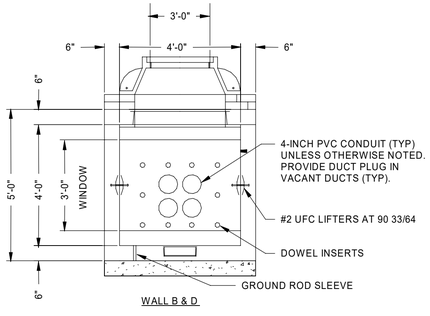


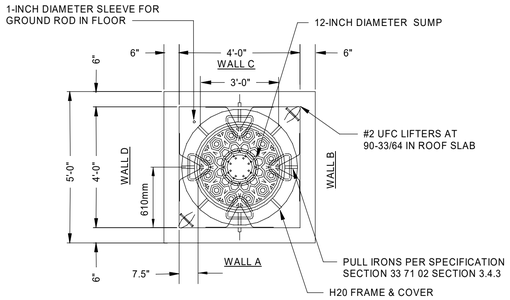
PLAN VIEW

A1 COMMUNICATION MAINTENANCE HOLE (CMH) DETAIL

NOT TO SCALE







A3 HANDHOLE DETAILS

PLAN VIEW

NOT TO SCALE

KEYNOTES

#	
001	PROVIDE THREADED DOWEL INSERTS AND CAST INTO THE WALL OF THE MAINTENANCE HOLE OR HANDHOLE IN ALL DUCT TERMINATOR LOCATIONS THE DOWEL INSERTS ARE TO MATCH THE REBAR IN THE REINFORCED DUCT BANK DETAILS FOR APPROPRIATE SIZE DUCT. SECURE THE DUCT BANK TO THE MAINTENANCE HOLE OR HANDHOLE WITH THREADED DOWEL RODS SCREWED INTO THREADED INSERTS.
002	PROVIDE NUMBER AND LOCATION OF PVC DUCT TERMINATORS PER TELECOM DETAILS.
003	VERIFY WITH THE CONTRACTING OFFICER THAT MAINTENANCE HOLE OR HANDHOLE NUMBERS SHOWN ON THE DRAWINGS ARE THE ACTUAL NUMBER FOR EACH MAINTENANCE HOLE OR HANDHOLE. STENCIL THIS NUMBER ON COLLAR AND LID.
004	MAINTENANCE HOLE OR HANDHOLE MUST HAVE AN AASTO H-20 LOAD RATING. COVERS MUST NOT VIOLATE THE RATING.
005	PROVIDE MAINTENANCE HOLE OR HANDHOLE ON A LEVELED, CRUSHED, WASHED GRAVEL BASE UNDER THE ENTIRE STRUCTURE. THIS GRAVEL BASE MUST BE A MINIMUM DEPTH OF 6 INCHES FOR DRAINAGE AND STABILITY. EXTEND GRAVEL BASE TO 12 INCHES BEYOND STRUCTURE ON EACH SIDE. THE MAINTENANCE HOLE OR HANDHOLE MUST HAVE 24 INCHES MINIMUM OF COVER.
006	CAST A SUMP (12" DIAMETER MINIMUM) INTO THE FLOOR. THE FLOOR IS TO SLOPE TO THE SUMP HOLE FOR DRAINAGE. PROVIDE A COVER FOR THE SUMP.
007	EQUIP EACH MAINTENANCE HOLE WITH A DETACHABLE HOOK AND GALVANIZED LADDER.
008	GROUT MAINTENANCE HOLE OR HANDHOLE FRAME TO MAINTENANCE HOLE OR FLAT TOP LID.
009	BONDING RIBBON. BOND INSULATED 6 AWG WIRE WITH ROUND CLAMP. EQUIP MAINTENANCE HOLE WITH AN INTEGRATED BONDING SYSTEM CAST INTO MAINTENANCE HOLE FROM THE MANUFACTURER. BOND ALL RACKS TO THE GROUND ROD IN THE MAINTENANCE HOLE, BOND CABLES AND SPLICE CASES TO THE GROUND ROD USING COMPRESSION OR EXOTHERMIC CONNECTORS.
010	PROVIDE SMOOTH SURFACE WINDOWS WHERE PVC DUCT TERMINATORS ARE NOT PROVIDED. THESE WINDOWS ARE FOR CORE DRILLING FUTURE DUCT ADDITIONS.
011	PLACE A WATER RESISTANT SEAL OR GASKET BETWEEN THE SECTIONS OF THE MAINTENANCE HOLE OR HANDHOLE AND BETWEEN THE COVER FRAMES, COLLARS, AND MAINTENANCE HOLE OR HANDHOLE TOPS.
012	THE MAINTENANCE HOLE OR HANDHOLE COVERS MUST BE 36-INCHES MINIMUM IN DIAMETER EXCEPT WHERE ANOTHER DIAMETER IS SPECIFIED.
013	PROVIDE 3/4-INCH BY 10-FOOT COPPER CLAD IRON GROUND ROD FOR EACH MAINTENANCE HOLE. ABOVE THE FINISHED FLOOR BETWEEN 3 1/2-INCH AND 4 1/2-INCHES, AND LOCATE NOT MORE THAN 3-INCHES OR LESS THAN 2-INCHES FROM THE VERTICAL SURFACE OF THE ADJACENT WALL.
014	PROVIDE PHOTOS OF EACH WALL OF COMMUNICATION MAINTENANCE HOLE SHOWING THE CONDUITS AND CABLING ENTERING AND LEAVING THE MAINTENANCE HOLE AS PART OF THE AS BUILT DOCUMENTATION.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

DESIGNED BY: R. FAUVELLE
DRAWN BY: B. ARTERBURN
CHECKED BY: H. FERRIS
SUBMITTED BY:
SIZE: ANSI D

ISSUE DATE: 14 DECEMBER 2022
SOLICITATION NO.: W912BF22R0017
CONTRACT NO.:
FILE NUMBER:
FILE NUMBER
FILE NAME:

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

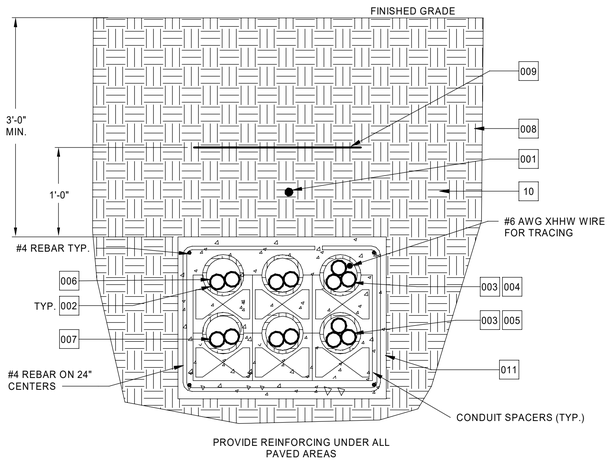
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

TELECOM - DETAILS - DATA

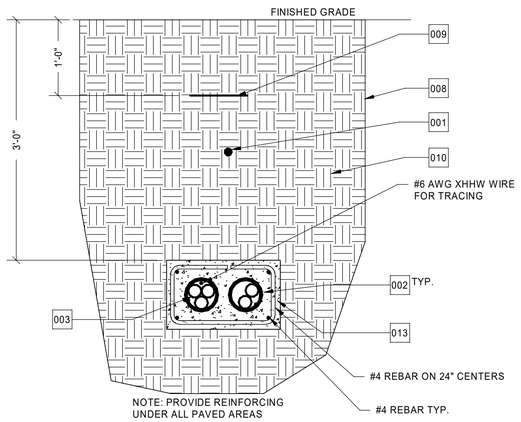
SHEET ID

T-505



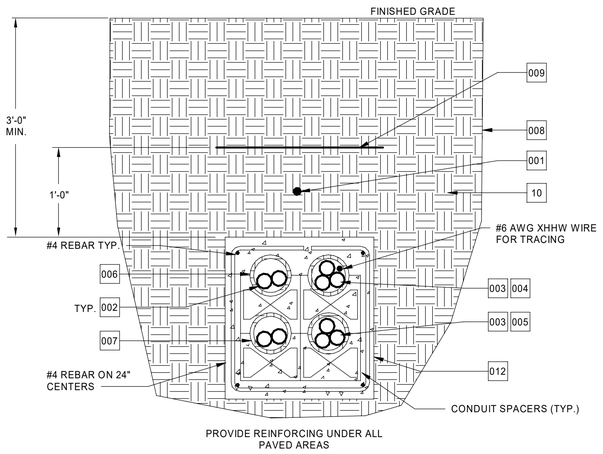
C3 DETAIL 3 - 6-WAY DUCT BANK - 4-INCH ID CONDUITS

NTS



A1 DETAIL 1 - 2-WAY DUCT BANK - 4-INCH ID CONDUITS

NTS



A3 DETAIL 2 - 4-WAY DUCT BANK - 4-INCH ID CONDUITS

NTS

GENERAL SHEET NOTES

1. REFER TO SHEET T-001 FOR SYMBOLS AND ABBREVIATIONS.
2. BACK FILL TRENCH WITH SMALL LIMESTONE SCREENINGS AND PROVIDE COMPACTION IN NO MORE THAN 6-INCH LIFTS TO COVER DEPTH OF ONE FOOT ABOVE DUCTS. FINAL LIFTS TO GRADE MUST BE NO MORE THAN 12-INCH LIFTS.
3. WARNING TAPE TO BE ACID AND ALKALI RESISTANT POLYETHYLENE FILM 6-INCH WIDE. TAPE MUST HAVE A MINIMUM STRENGTH OF 1750 PSI LENGHTWISE AND 1500 PSI CROSSWISE. THE TAPE TO BE MANUFACTURED WITH INTEGRAL WIRES, FOIL BACKING OR OTHER MEANS TO ENABLE DETECTION BY A METAL DETECTOR. THE TAPE SHALL BE OF A TYPE OF SPECIFICALLY MANUFACTURED FOR MAKING AND LOCATING UNDERGROUND UTILITIES. THE METALLIC CORE OF THE TAPE TO BE ENCASED IN A PROTECTIVE JACKET OR PROVIDED WITH OTHER MEANS OT PROTECT IT FROM CORROSION. TAPE COLOR TO BE ORANGE WITH PRINTED INSCRIPTION DESCRIBING DUCTBANK (COMMUNICATIONS).
4. PROVIDE ALL EMPTY CONDUITS WITH 3/4-INCH PULL TAPE RATED FOR 2500 LBS IN EACH CONDUIT.

KEYNOTES

001 INSTALL PERMANENT 6 AWG TRACER WIRE ABOVE ALL DUCT BANKS. ONE TRACER WIRE IS REQUIRED PER BANK. PLACE AS CENTRALLY AS POSSIBLE ABOVE TOP CONDUIT FORMATION.

002 PROVIDE A MINIMUM OF (1) 3-INCH 3-CELL FABRIC INNERDUCT IN EACH CONDUIT. TYP.

003 PROVIDE A MINIMUM OF (3) 3-INCH 3-CELL FABRIC INNERDUCTS IN THE DUCT.

004 DEDICATED FOR TELECOM FIBER CABLES

005 DEDICATED FOR TELECOM COPPER CABLES

006 DEDICATED FOR FIRE ALARM CABLES

007 DEDICATED FOR SECURITY CABLES

008 CONCRETE ENCASE AT ROAD CROSSINGS ONLY. PLACE REBAR TO REINFORCE ALL CONCRETE POURS WITH BASES SPACED EVERY 5 FEET TO PREVENT SAG.

009 WARNING TAPE TO BE ACID AND ALKALI RESISTANT POLYETHYLENE FILM MINIMUM 3-INCHES WIDE. TAPE MUST HAVE A MINIMUM STRENGTH OF 1750 PSI LENGHTWISE AND 1500 PSI CROSSWISE. THE TAPE TO BE MANUFACTURED WITH INTEGRAL WIRES, FOIL BACKING OR OTHER MEANS TO ENABLE DETECTION BY A METAL DETECTOR. THE TAPE SHALL BE OF A TYPE OF SPECIFICALLY MANUFACTURED FOR MARKING AND LOCATING UNDERGROUND UTILITIES. THE METALLIC CORE OF THE TAPE TO BE ENCASED IN A PROTECTIVE JACKET OR PROVIDED WITH OTHER MEANS TO PROTECT IT FROM CORROSION. TAPE COLOR TO BE ORANGE WITH PRINTED INSCRIPTION DESCRIBING DUCTBANK (COMMUNICATIONS).

010 BACK FILL TRENCH WITH SMALL LIMESTONE SCREENINGS AND PROVIDE COMPACTION IN NO MORE THAN 6-INCH LIFTS TO COVER DEPTH OF ONE FOOT ABOVE DUCTS. FINAL LIFTS TO GRADE MUST BE NO MORE THAN 12-INCH LIFTS.

011 PROVIDE (6) 4-INCH AND (2) 2-INCH SCHEDULE 80 PVC CONCRETE ENCASED CONDUITS WITH 3/4-INCH WIDE PULL TAPE WITH FOOTAGE MARKS RATED FOR 2500 LBS IN EACH CONDUIT. (4) 4-INCH WILL BE PROVIDED WITH (3) 1-1/4-INCH INNERDUCTS, THE REAMINING CONDUITS ARE SPARE. (2) 2-INCH CONDUITS WITH 2-INCH MAXCELL 3-CELL MESH INNERDUCT.

012 PROVIDE (4) 4-INCH SCHEDULE 80 PVC CONCRETE ENCASED CONDUITS WITH 3/4-INCH WIDE PULL TAPE WITH FOOTAGE MARKS RATED FOR 2500 LBS IN EACH CONDUIT. (2) CONDUITS WILL BE PROVIDED WITH (3) 1-1/4-INCH INNERDUCTS, THE REAMINING CONDUITS ARE SPARE.

013 PROVIDE (2) 4-INCH SCHEDULE 80 PVC CONCRETE ENCASED CONDUITS WITH 3/4-INCH WIDE PULL TAPE WITH FOOTAGE MARKS RATED FOR 2500 LBS IN EACH CONDUIT. (1) 4-INCH CONDUIT WILL BE PROVIDED WITH (3) 1-1/4-INCH INNERDUCTS, AND (1) 4-INCH SPARE.

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
Bicsi
Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
RCDD
12/14/2022

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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CHECKED BY:	H. FERRIS
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SIZE: ANSI 'D'	FILE NAME:
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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

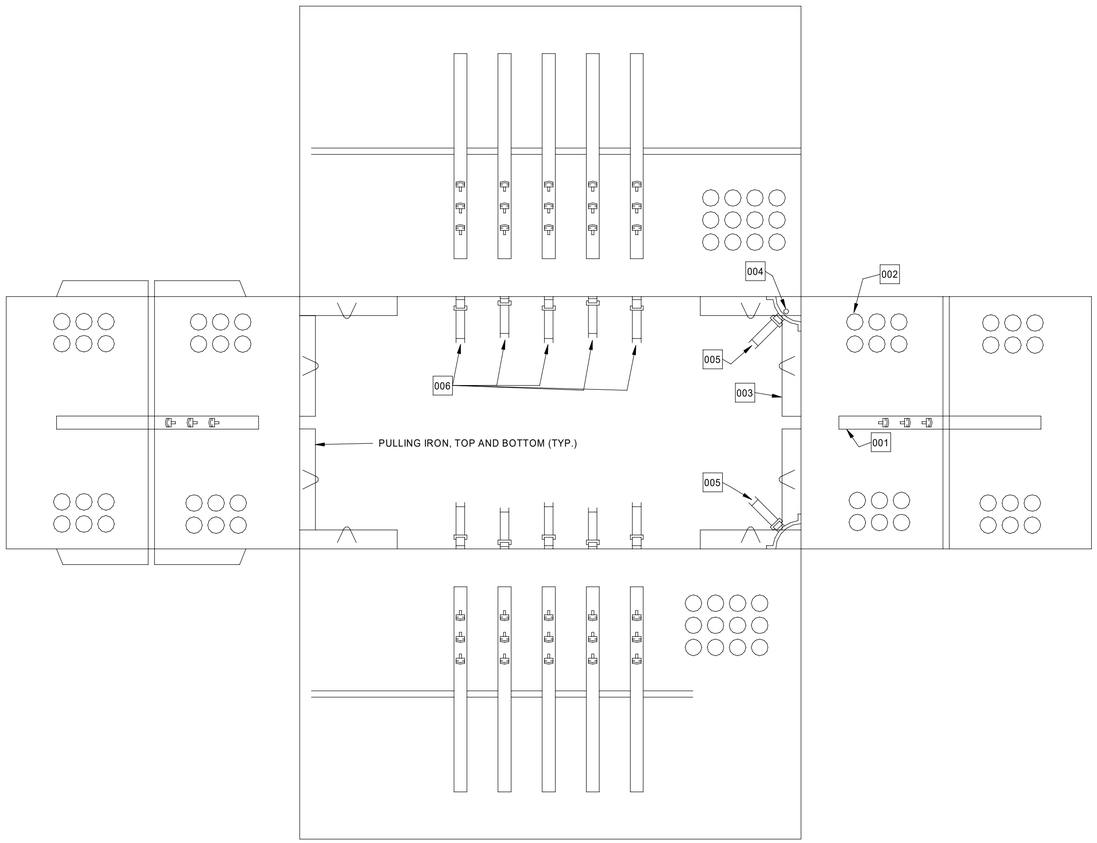
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SPB, CO

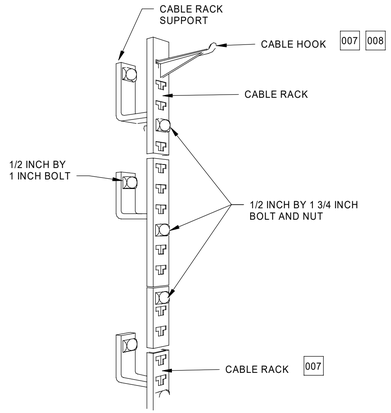
TELECOM - DETAILS - DATA

SHEET ID

T-506



C1 MAINTENANCE HOLE FOLDOUT
NOT TO SCALE



C4 COMMUNICATION MAINTENANCE HOLE CABLE RACK DETAIL
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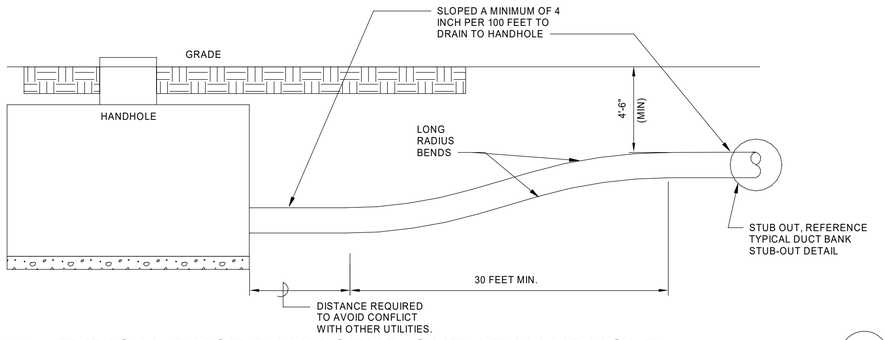
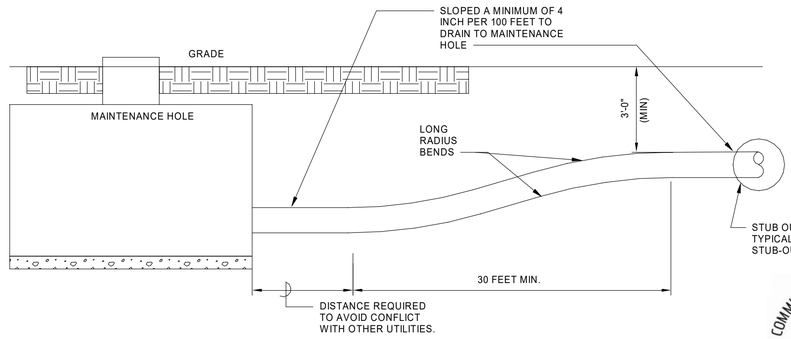


A1 TYPICAL DUCT BANK STUB-OUT AT HANDHOLE
NOT TO SCALE



C3 TYPICAL DUCT BANK STUB-OUT AT MAINTENANCE HOLE
NOT TO SCALE

KEYNOTES

#	
001	PROVIDE WALL MAINTENANCE HOLE RACKS AT THE T-END OR MULTI-DIRECTIONAL MAINTENANCE HOLES.
002	TERMINATE COMMUNICATIONS DUCT BANK TO THE PVC TERMINATORS AT THE MAINTENANCE HOLE OR HANDHOLE WALL. USE THE LOWER WINDOWS OF THE MAINTENANCE HOLD. PROVIDE DUCT OPENING SEALS.
003	BONDING RIBBON. CONNECT INSULATED 6 AWG WIRE WITH GROUND CLAMP. EQUIP MAINTENANCE HOLES WITH AN INTEGRATED BONDING SYSTEM CAST INTO MAINTENANCE HOLE FROM THE MANUFACTURER. BOND ALL RACKS TO THE GROUND ROD IN THE MAINTENANCE HOLE. BOND CABLES AND SPLICE CASES TO THE GROUND ROD.
004	3/4-INCH BY 120-INCH COPPER CLAD IRON GROUND ROD. EXTEND THE GROUND ROD FOR EACH MAINTENANCE HOLE OR HANDHOLE ABOVE THE FINISHED FLOOR BETWEEN 3 1/2-INCHES AND 4 1/2-INCHES AND LOCATE NOTE MORE THAN 3-INCHES OR LESS THAN 2-INCHES FROM THE VERTICAL SURFACE OF THE ADJACENT WALL.
005	PROVIDE CORNER RACKS AT THE IN-LINE ENDS OF THE MAINTENANCE HOLES.
006	PROVIDE THE MAINTENANCE HOLE WITH A MINIMUM OF FIVE CABLE RACKS, EACH CONTAINING 47 HOOK SPACES MOUNTED VERTICALLY ON EACH LONG WALL. INSTALL TWO OF THE RACKS FLUSH TO THE WALL AND THREE WITH STANDOFFS TO CREATE SPLICE BAYS.
007	DESIGN ACCESSORIES FOR USE IN A COMMUNICATIONS MAINTENANCE HOLE OR HANDHOLE. ALL HOOKS AND RACKS MUST BE GALVANIZED METAL.
008	EQUIP EACH RACK WITH TWO CABLE HOOKS. MINIMUM LENGTH OF 7 1/2-INCHES.

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
BICSI
Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
RCDD
12/14/2022

US Army Corps of Engineers ®

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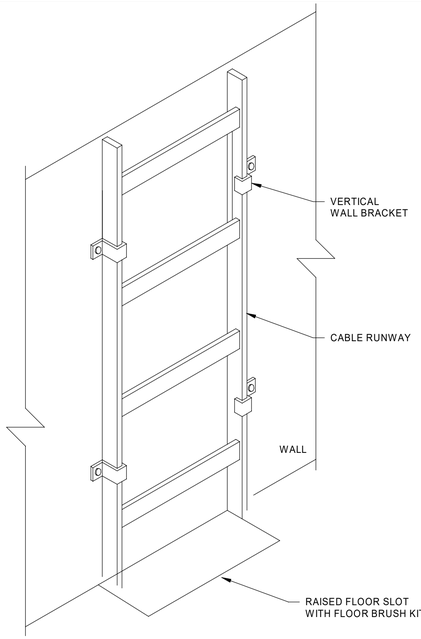
US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

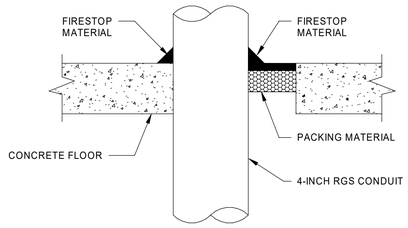
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

TELECOM - DETAILS - DATA

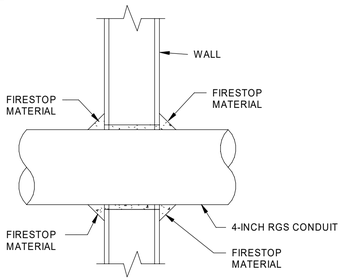
SHEET ID
T-507



C1 RAISED FLOOR SLOT AND VERTICAL CABLE RUNWAY DETAIL
NOT TO SCALE



D3 VERTICAL CONDUIT PENETRATION DETAIL
NOT TO SCALE



C3 HORIZONTAL CONDUIT PENETRATION DETAIL
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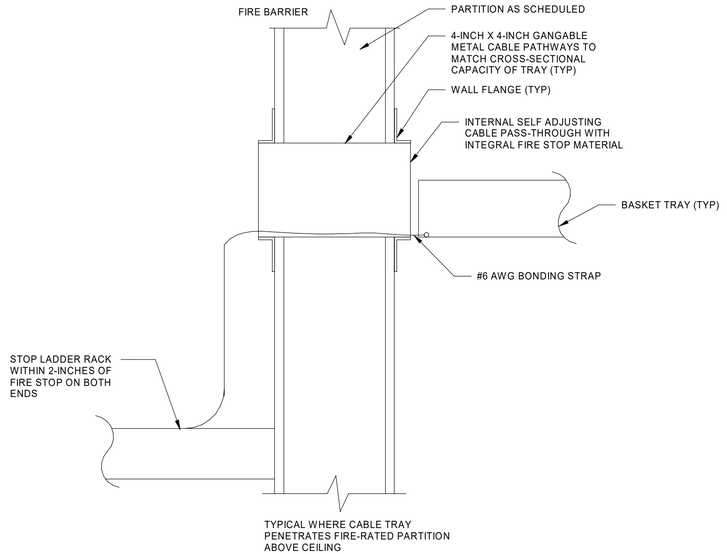
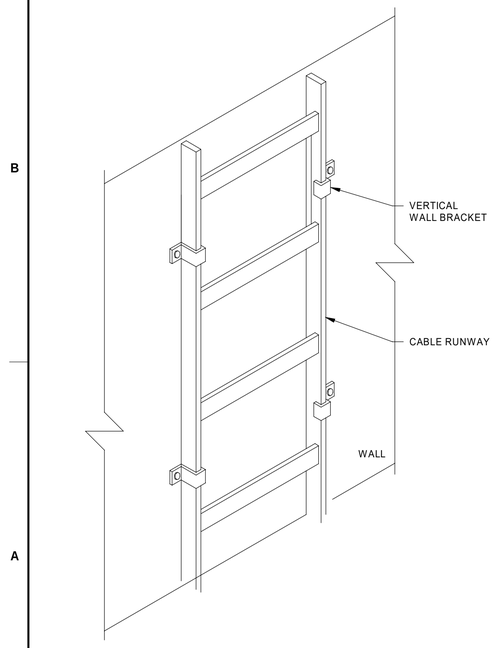
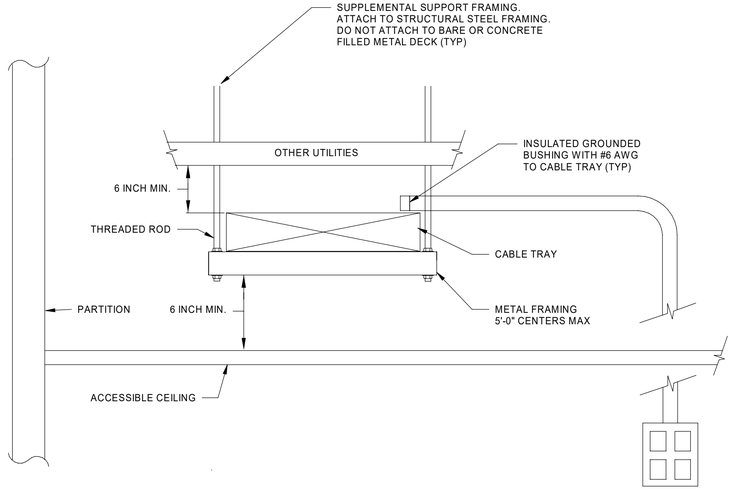


C5 HORIZONTAL CABLE TRAY TRANSITION DETAIL
NOT TO SCALE



A1 VERTICAL CABLE RUNWAY DETAIL
NOT TO SCALE



A2 CABLE TRAY AND OUTLET DETAIL
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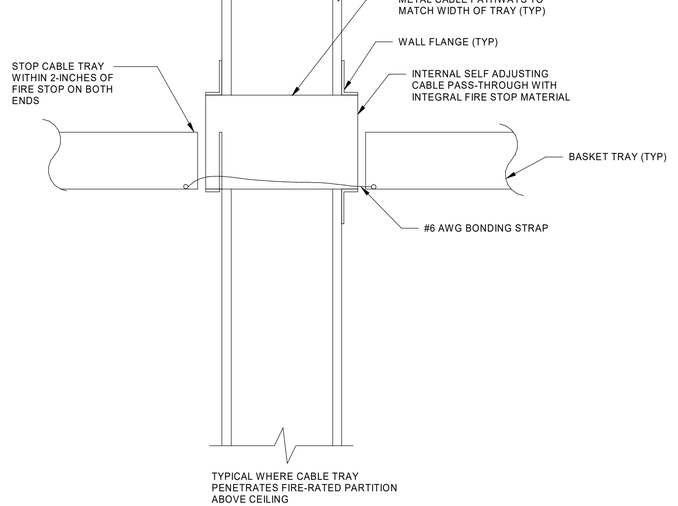

A5 HORIZONTAL CABLE TRAY TRANSITION DETAIL
NOT TO SCALE

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
BICSI
Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
RCDD
12/14/2022

US Army Corps of Engineers ®

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US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

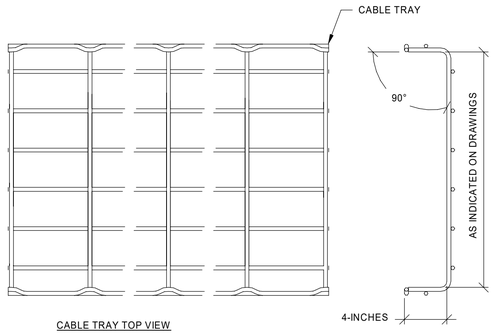
JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

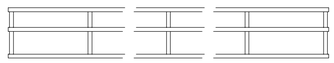
TELECOM - DETAILS - DATA

SHEET ID
T-508

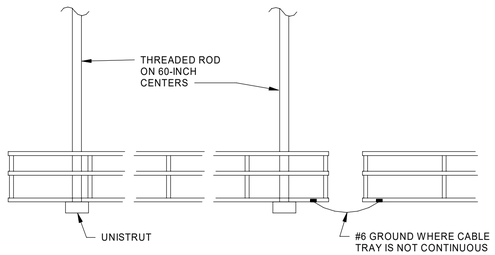
RTA SUBMISSION



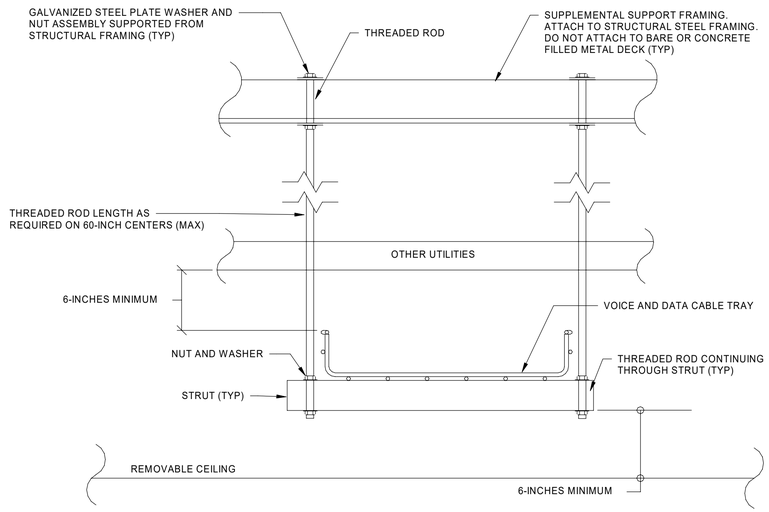
CABLE TRAY TOP VIEW



CABLE TRAY SIDE VIEW



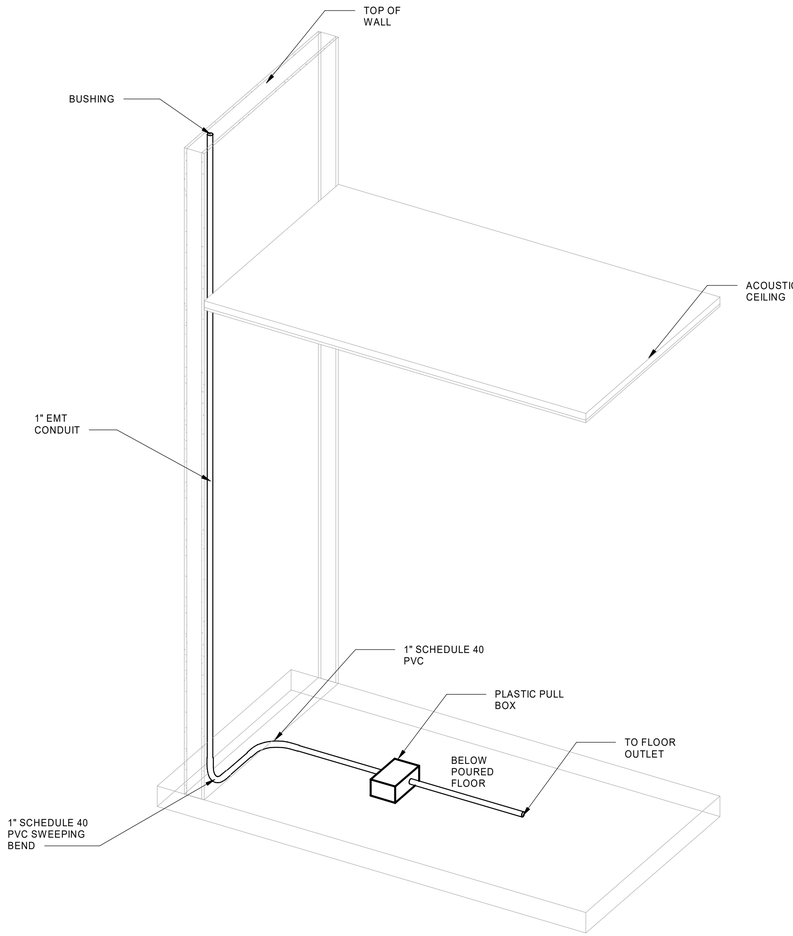
MOUNTING AND BONDING DETAIL



ABOVE CEILING MOUNTED CABLE TRAY

A1 TELECOM CABLE TRAY MOUNTING DETAIL

NOT TO SCALE



A3 SWEEPING 90 CONFIGURATION

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
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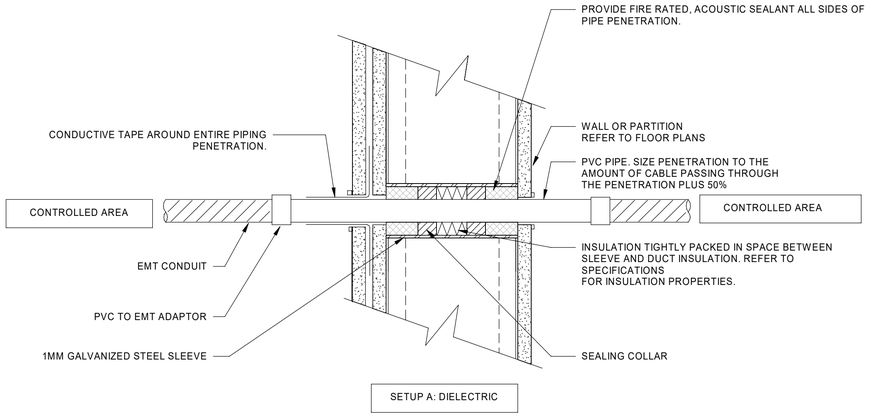
TELECOM - DETAILS - DATA

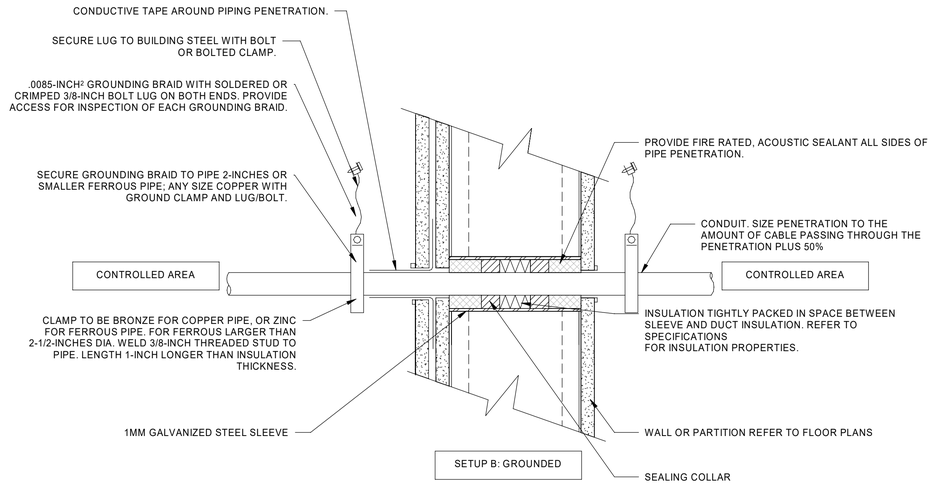
SHEET ID

T-509



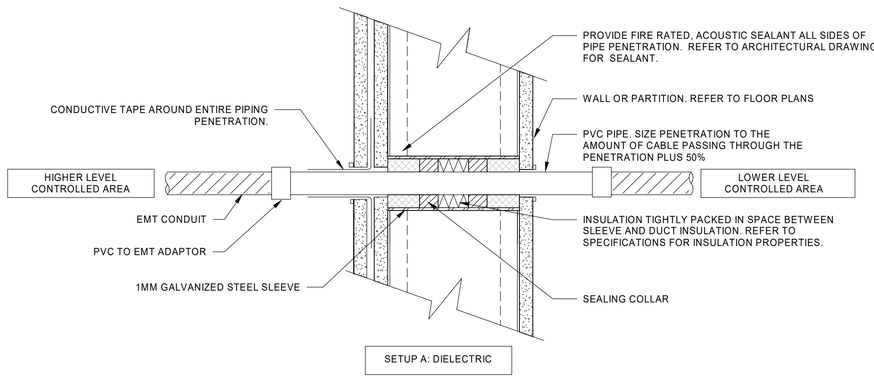
SECURITY INTERFACE	
SCI	MCV
SCI	SCI
MCV	MCV

NOTE: CONTRACTOR MAY SELECT EITHER SETUP A OR SETUP B.
REFER TO SECURITY PLANS FOR LEVEL OF PROTECTION.



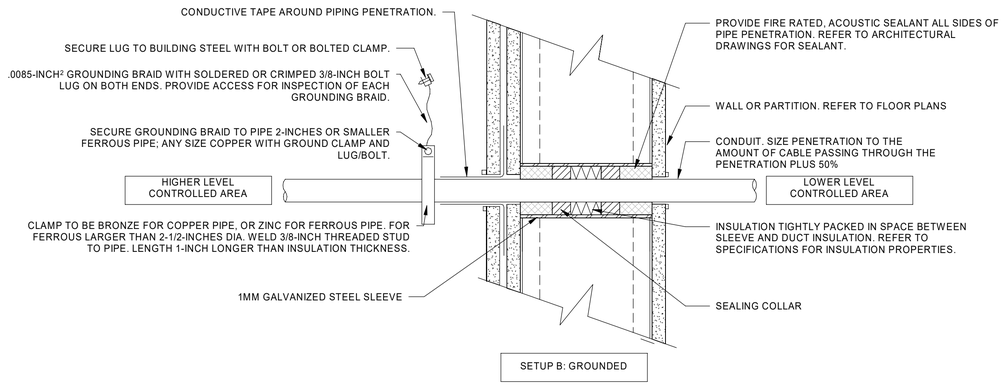
C1 SECURE TO SECURE CONDUIT PIPE PENETRATION

NOT TO SCALE



SECURITY INTERFACE	
LOWER	HIGHER
UNC	TI, SCI, MCV
TI	SCI, MCV

NOTE: CONTRACTOR MAY SELECT EITHER SETUP A OR SETUP B.
REFER TO SECURITY PLANS FOR LEVEL OF PROTECTION.



A1 SECURE TO UNSECURE CONDUIT PIPE PENETRATION

NOT TO SCALE

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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

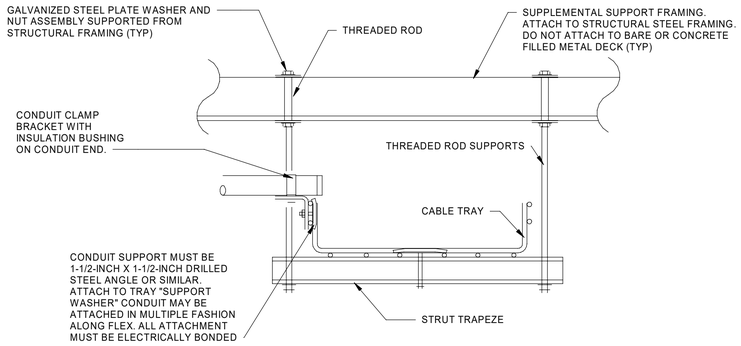
TELECOM - DETAILS - DATA

SHEET ID

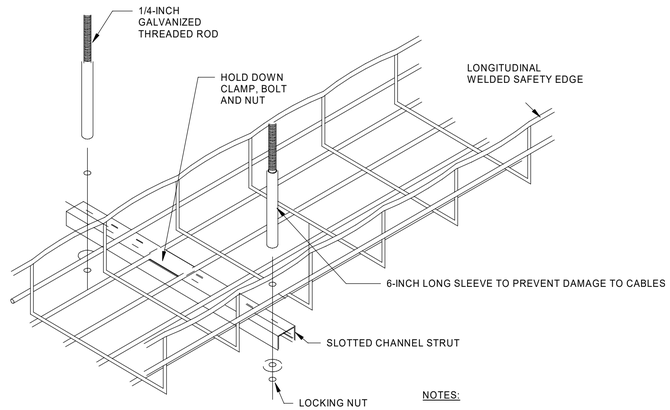
T-510

GENERAL SHEET NOTES

1. ALL CONDUIT MUST BE MINIMUM 1-INCH UNLESS OTHERWISE STATED.
2. CABLE TRAY MUST HAVE A MINIMUM OF 12-INCHES OF CLEARANCE ABOVE TRAY FREE OF CONDUIT, PIPING, OR DUCTWORK TO ALLOW PLACEMENT OF CABLES WITHIN CABLE TRAY PER ANSI/EIA/TIA 569B.



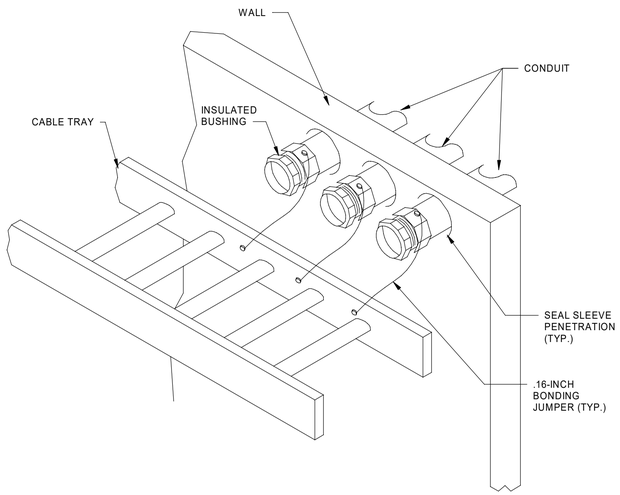
C1 TYPICAL CONDUIT TO CABLE TRAY CONNECTION DETAIL
N.T.S.



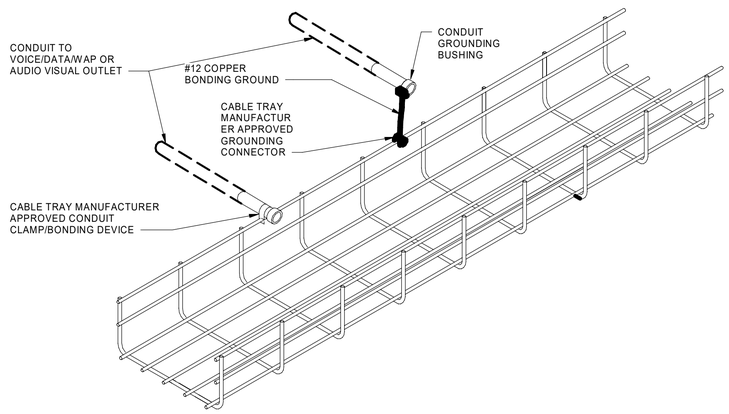
NOTES:

1. SUPPORT TRAY AT 6 FEET INTERVALS. REFER TO ELECTRICAL DETAILS DRAWING FOR SEISMIC REQUIREMENTS.
2. BOND CABLE TRAY TO PBB IN ACCORDANCE WITH ANSI TIA 607-C.
3. BASKET TRAY FOR IN-LINE RACKS MUST BE 18-INCHES BY 4-INCHES.

C3 BASKET TYPE CABLE TRAY
N.T.S.



A1 TYPICAL SLEEVE THRU WALL TO CONDUIT DETAIL
N.T.S.



INSTALL WATERFALLS WHERE CABLES LEAVE THE TRAY IN ORDER TO PROVIDE PROPER BEND RADIUS.

A3 BASKET TRAY - CONDUIT BONDING DETAIL
N.T.S.

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DESIGNED BY:	R. FAUVELLE
DRAWN BY:	B. ARTERBURN
CHECKED BY:	H. FERRIS
SUBMITTED BY:	
SIZE:	ANSI D
ISSUE DATE:	14 DECEMBER 2022
SOLICITATION NO.:	W9128F22R0017
CONTRACT NO.:	
FILE NUMBER:	
FILE NUMBER	
FILE NAME:	

US ARMY CORPS OF ENGINEERS
Omaha District
Omaha, NE

JACOBS
1100 N. GLEBE ROAD, SUITE 500
ARLINGTON, VA 22201

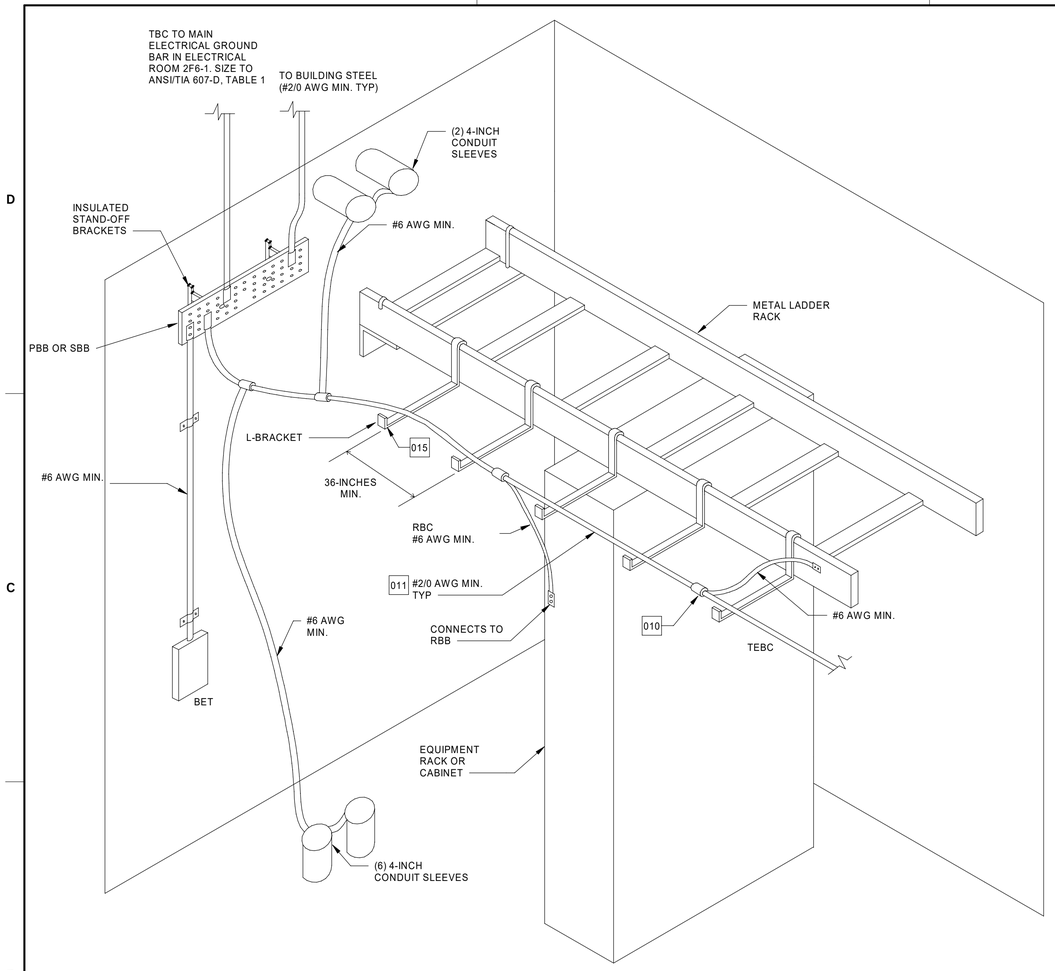
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

TELECOM - DETAILS - DATA

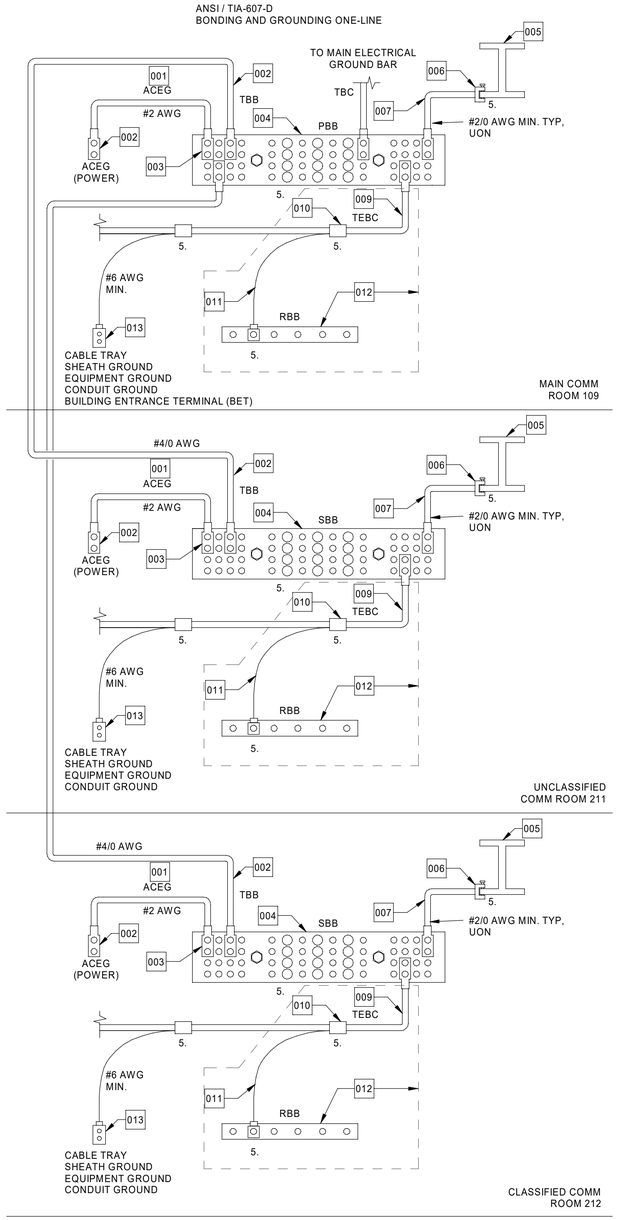
SHEET ID

T-511

RTA SUBMISSION



C1 GROUNDING AND BONDING INSTALLATION DETAIL
N.T.S.



GENERAL SHEET NOTES

1. PBB'S MUST MEET ANSI / TIA-607-D 6.2.1.
2. SBB'S MUST MEET ANSI / TIA-607-D 6.2.2.
3. RBB'S MUST MEET ANSI / TIA-607-D 6.2.3.
4. UNLESS NOTED OTHERWISE, SIZE TBB / BBC CONDUCTORS TO ANSI / TIA-607-D TABLE 1 THESE CONDUCTORS MUST BE THE SAME SIZE WHEN CONNECTED.
5. BONDING CONNECTIONS ARE EITHER LISTED EXOTHERMIC WELDS, LISTED IRREVERSIBLE COMPRESSION CONNECTORS, OR LISTED MECHANICAL CONNECTORS. CONNECTORS, LUGS, AND COMPONENTS SHALL BE LISTED FOR THE PURPOSE.
6. REFER TO SHEET T-001 FOR SYMBOLS AND ABBREVIATIONS.
7. ALL TELECOMMUNICATIONS GROUND WIRES MUST BE IN 1-INCH CONDUIT WHEN IT IS OUTSIDE THE COMM CLOSET.
8. ALL GROUNDING CONNECTIONS MUST BE EXOTHERMIC WELDS.

KEYNOTES

001	IF PANELBOARD IS LOCATED IN SAME SPACE, BOND PBB OR SBB TO ACEG BUS. MAINTAIN 12-INCHES SEPARATION.
002	THIS CONDUCTOR MUST BE CONTINUOUS AND AS SHORT AS POSSIBLE IN A STRAIGHT-LINE PATH.
003	CONNECTIONS TO THE PBB / SBB MUST UTILIZE EXOTHERMIC WELDING OR LISTED TWO-HOLE COMPRESSION LUGS.
004	PBB OR SBB MUST COMPLY WITH REQUIREMENTS OF ANSI / TIA-607-D 6.2.1.
005	BUILDING STEEL (STRUCTURAL METAL) VERIFIED ELECTRONICALLY CONTINUOUS VIA TWO-POINT TEST OR EQUIPMENT.
006	LISTED BONDING CONNECTOR. LISTED EXOTHERMIC, COMPRESSION, OR MECHANICAL CONNECTION.
007	SIZE THIS BONDING CONDUCTOR TO TIA 607-D TABLE 1. THIS CONDUCTOR MUST BE NO SMALLER THAN ANY OTHER CONDUCTOR IN THE TELECOM BONDING BACKBONE SYSTEM.
008	WHEN USED, THE MINIMUM GROUND ELECTRODE IS 3/4-INCH DIAMETER BY 8'-0" LONG BURIED 24-INCHES FOR A SUM OF 10'-0" DRIVEN DEPTH. ROD / ELECTRODE MUST HAVE A 1/2-INCH COPPER PLATING THICKNESS. A GROUND ROD IS NOT ANTICIPATED FOR THIS PROJECT. THE INDIRECT BOND TO THE GROUND RING REQUIREMENT WILL BE THROUGH THE TBC.
009	TEBC MUST BE SIZED TO LARGEST-SIZE GROUNDING CONDUCTOR. USE #2/0 AWG, UNLESS OTHERWISE NOTED.
010	USE IRREVERSIBLE COMPRESSION CONNECTORS TO BOND TEBC TO RBC'S OR OTHER GROUNDING CONDUCTORS.
011	USE #6 AWG AS A MINIMUM RBC SIZE, UNLESS OTHERWISE NOTED.
012	USE LISTED RBBS SIZED TO ANSI / TIA-607-D 6.2.3. RBB AND ALL HARDWARE AND CABLING IS PROVIDED BY COMMUNICATIONS CONTRACTOR.
013	BOND EQUIPMENT TO TEBC VIA IRREVERSIBLE COMPRESSION CONNECTORS AND #6 AWG.
014	BOND GROUND CABLE TO GROUND ELECTRODE.
015	STAND-OFF BRACKET TO MAINTAIN SEPARATION (MINIMUM 2-INCHES) FROM OTHER CABLE SPACE BRACKETS NO GREATER THAN 36-INCHES CENTER TO CENTER.
016	WHERE PRESENT, BOND TO 25-PAIR ENTRANCE PROTECTION PANEL.

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
Bicsi
Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
RCDD
12/14/2022

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 14 DECEMBER 2022
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DESIGNED BY: R. FAUVELLE
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SUBMITTED BY:
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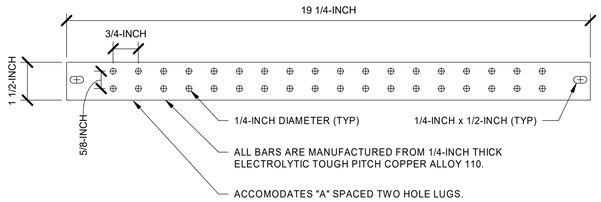
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

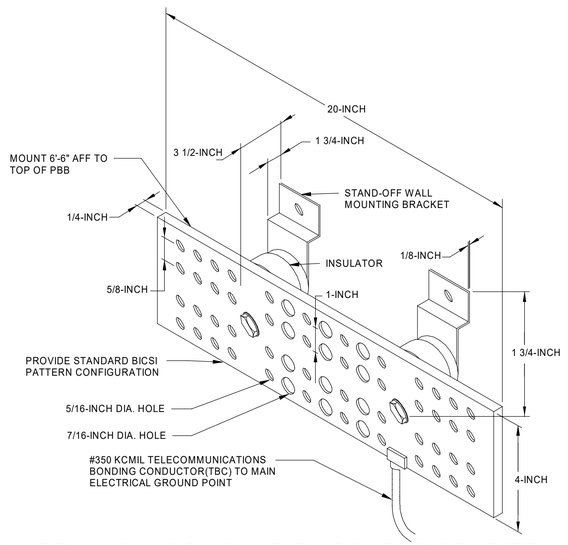
TELECOM - DETAILS - DATA

SHEET ID
T-512



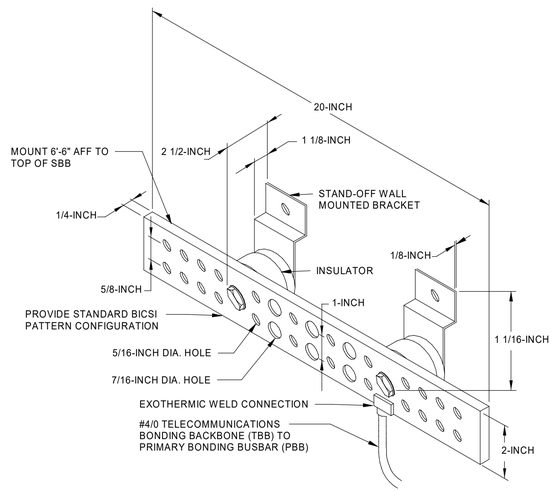
C3 RACK BONDING BUSBAR (RBB) DETAIL

NOT TO SCALE



A1 PRIMARY BONDING BUSBAR (PBB) DETAIL

NOT TO SCALE



A3 SECONDARY BONDING BUSBAR (SBB) DETAIL

NOT TO SCALE

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Bicsi
Robert W Fauvelle
BICSI ID # 128496
EXPIRES 12-31-23
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12/14/2022

US Army Corps of Engineers ®

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CHECKED BY: H. FERRIS
SUBMITTED BY:
SIZE: ANSI 'D'
FILE NAME:

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US ARMY CORPS OF ENGINEERS
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JACOBS
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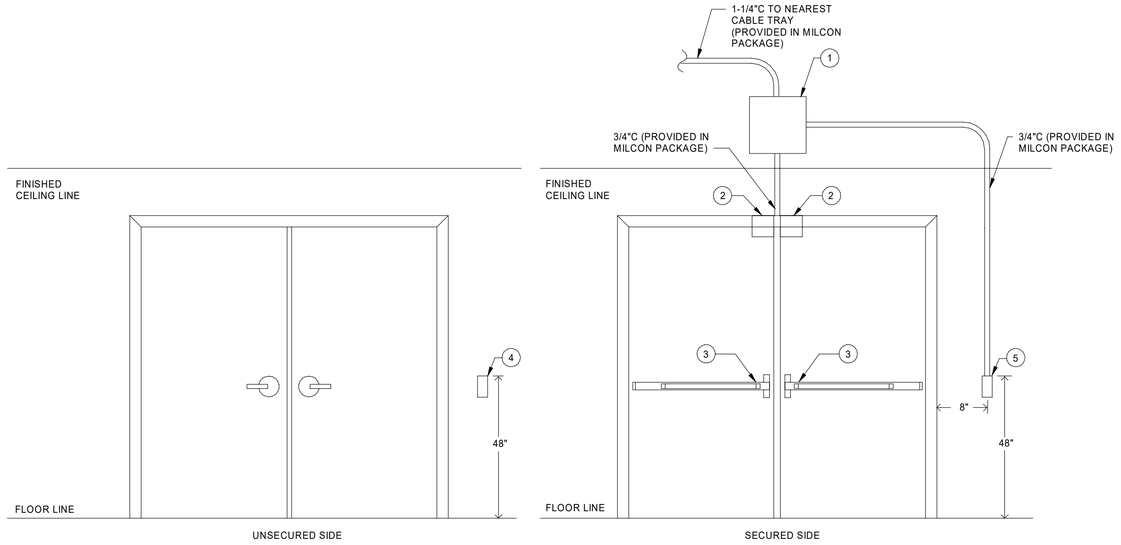
DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

TELECOM - DETAILS - DATA

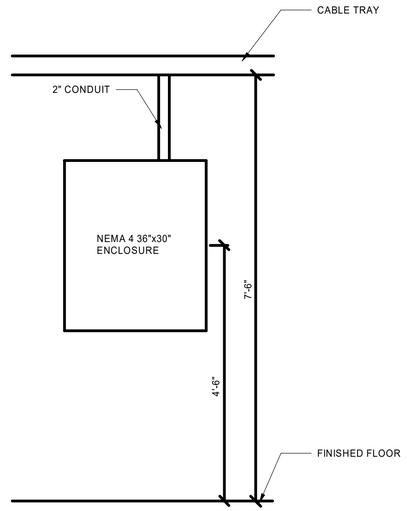
SHEET ID

T-513

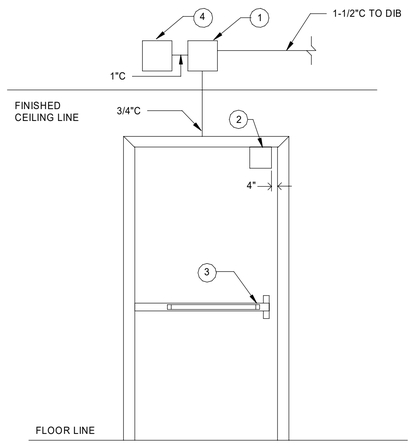


1. DOOR INTERFACE BOX
2. MAGNETIC CONTACT (PROVIDED IN MILCON PACKAGE)
3. 24VDC ELECTRIFIED LOCKING HARDWARE (PROVIDED IN MILCON PACKAGE)
4. CARD READER
5. SINGLE GANG BOX (PROVIDED IN MILCON PACKAGE)

C1 DOUBLE DOOR WITH CARD READER
NOT TO SCALE

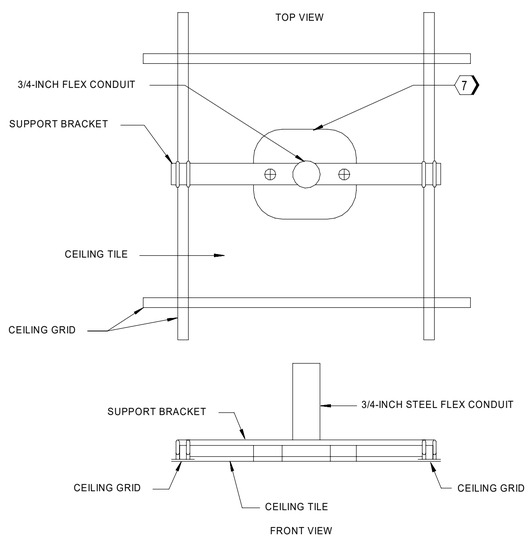


C3 ACP ELEVATION
NOT TO SCALE

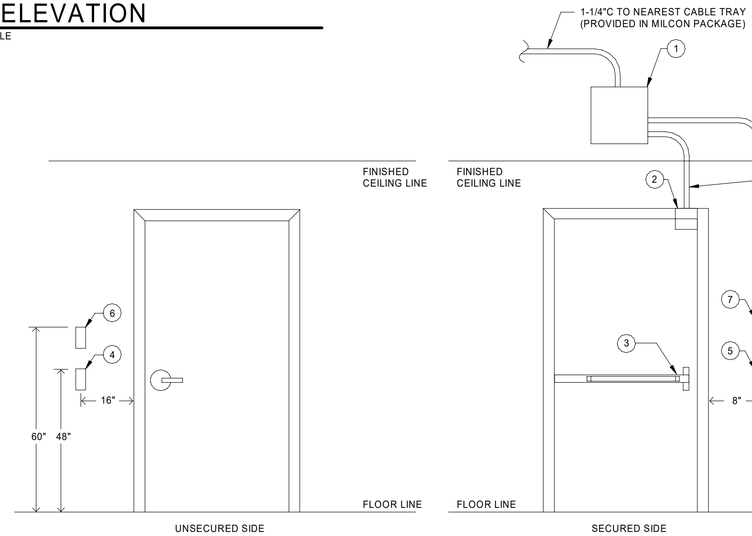


1. DOOR INTERFACE BOX (DIB)
2. BALANCED MAGNETIC SWITCH (HSS)
3. PANIC HARDWARE (PROVIDED BY DIV. 8)
4. DOOR LOCKING POWER SUPPLY (PROVIDED BY DIV. 8)

A1 TYPICAL MONITORED SINGLE DOOR
NOT TO SCALE



A2 SENSOR JUNCTION BOX CEILING TILE DETAIL
NT TO SCALE



1. DOOR INTERFACE BOX
2. MAGNETIC CONTACT (PROVIDED IN MILCON PACKAGE)
3. 24VDC ELECTRIFIED LOCKING HARDWARE (PROVIDED IN MILCON PACKAGE)
4. CARD READER
5. SINGLE GANG BOX (PROVIDED IN MILCON PACKAGE)
6. VIDEO INTERCOM DOOR STATION
7. VIDEO INTERCOM DOOR STATION BACKBOX (PROVIDED IN MILCON PACKAGE)

A4 SINGLE DOOR WITH CARD READER
NOT TO SCALE

REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
BICSI
Jason Himes
Reg. No. 219192
Exp. 12-31-2022
RCDD
12/14/2022

US Army Corps of Engineers ®

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US ARMY CORPS OF ENGINEERS
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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
BUCKLEY SFB, CO

SECURITY - DETAILS - ACS/IDS/CCTV

SHEET ID

TY501

RTA SUBMISSION

A1 SECURITY CAMERA CEILING MOUNTED
NOT TO SCALE

A3 SECURITY CAMERA
SOFFIT CEILING MOUNTED
NOT TO SCALE

A5 SECURITY CAMERA WALL MOUNTED
NOT TO SCALE

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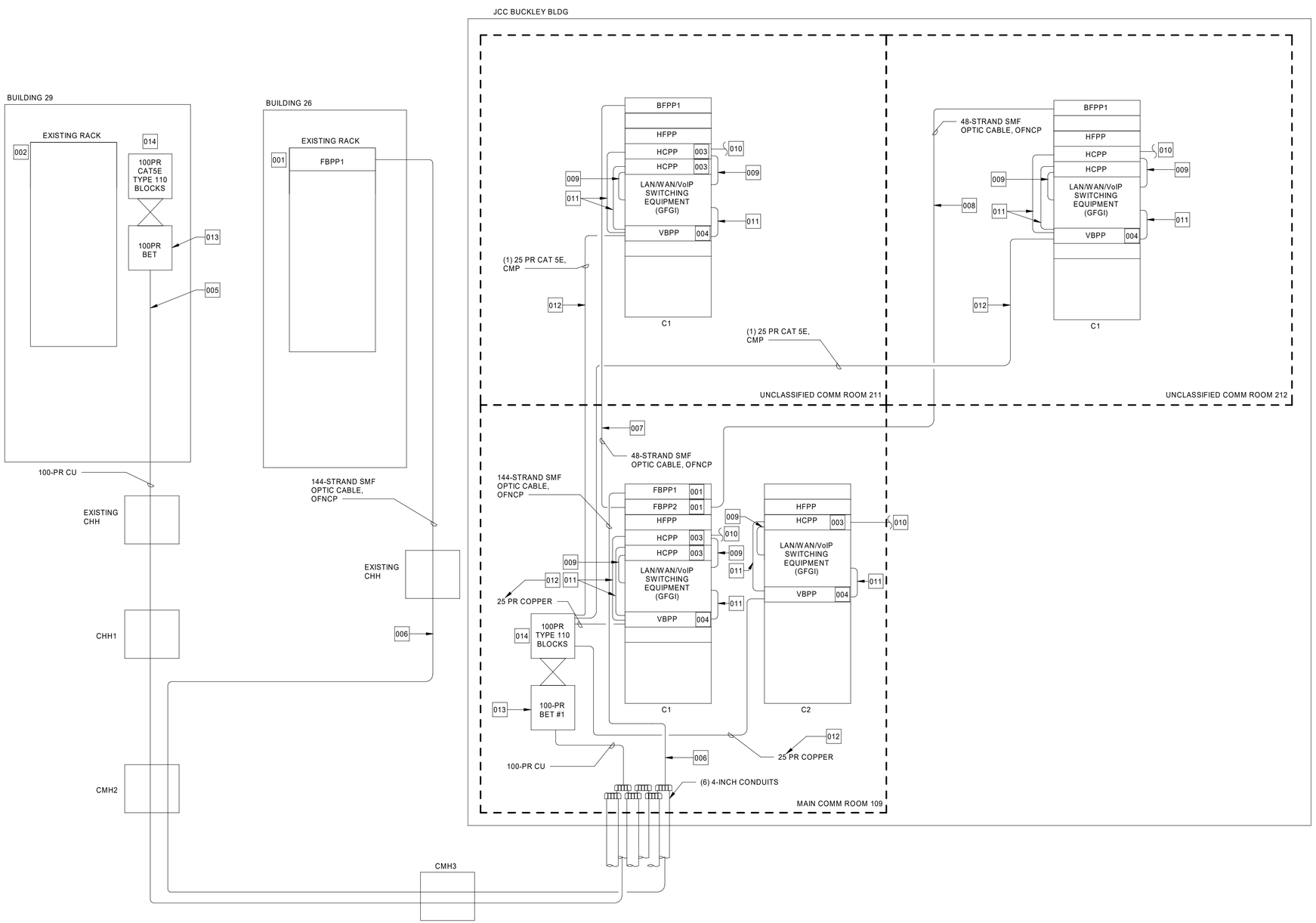

A1 VOICE AND DATA ONE-LINE DIAGRAM
NOT TO SCALE

KEYNOTES

001 PROVIDE 4 RU FIBER SPLICE ENCLOSURE WITH 6-DUPLEX (12-FIBER) LC, SINGLEMODE FIBER, OS1 ADAPTER PANELS, BLUE CERAMIC ALIGNMENT SLEEVES 12-FIBER SPLICE TRAYS, LOOSE TUBE BREAKOUT KIT, HEAT SHRINK TUBES, 12-FIBER PIGTAILS 2M, LC-IPC, SMF, OS1.

002 PROVIDE 6-PORT DUPLEX (12-FIBER) SMF, LC, APC (GREEN) FIBER ADAPTER PANEL, GREEN ADAPTER CERAMIC ALIGNMENT SLEEVES WITH 12-FIBER PIGTAILS, 2M, LC, APC (GREEN)-IPC, SMF, OS1.

003 RACK MOUNTED CAT 6 HORIZONTAL CABLE TERMINATION PANEL SERVING CABLING FOR VOICE OR DATA JACKS, TYPICAL OF MULTIPLE PANELS.

004 PROVIDE PAN-PUNCH, CAT 5e, 19-INCH RACK MOUNT PANEL WITH TWO 100-PAIR BASES PREMOUNTED TO PANEL WITH C4 AND C5 CLIPS, LABEL HOLDERS AND LABELS.

005 PROVIDE A 100-PAIR, CAT 3, OSP RATED, PE89 COPPER BACKBONE CABLE.

006 PROVIDE 144-STRAND SMF, OSP RATED, NON-CONDUCTIVE FIBER OPTIC CABLE FROM MAIN COMM ROOM 109/CABINET 1/BFPP1/SLOTS 1-12 TO BUILDING 26/TER/CAB X/BFPP1/SLOTS 1-12.

007 PROVIDE 48-STRAND SMF, OFNP FROM MAIN COMM ROOM 109/CABINET 1/BFPP2/SLOTS 1-4 TO UNCLASSIFIED COMM ROOM 211/C1/BFPP1/SLOTS 1-4.

008 PROVIDE 48-STRAND SMF, OFNP FROM MAIN COMM ROOM 109/CABINET 1/BFPP2/SLOTS 5-8 TO CLASSIFIED COMM ROOM 212/C1/BFPP1/SLOTS 1-4.

009 HORIZONTAL CABLE PATCH CABLES ARE PROVIDED AND INSTALLED BY GOVERNMENT (TYPICAL).

010 CAT 6 HORIZONTAL DATA CABLES TO DATA OUTLETS FOR WORKSTATIONS AND VoIP PHONES (TYP. FOR MULTIPLE PANELS TO BE PROVIDED AND INSTALLED BY GOVERNMENT) AS INDICATED ON TELECOM FLOOR PLAN DRAWINGS.

011 MISCELLANEOUS ANALOG VOICE LINES PATCHED TO HORIZONTAL CABLING TERMINATION PATCH PANEL (TYP).

012 PROVIDE A 25-PAIR CAT 5e CMR CABLE FROM BET TO CAT 5e 19-INCH RACK MOUNT PANEL KIT.

013 PROVIDE 100-PAIR, BUILDING ENTRANCE TERMINAL (BET) WITH 110 INPUT AND OUTPUT TERMINALS AND (100) 5-PIN GAS TUBES.

014 PROVIDE 100-PAIR, CAT 5E 110 BLOCK WITH LEGS AND C4 AND C5 CLIPS.

Bicsi
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DESIGN OF JOINT CRYPTOLOGIC CENTER (JCC) BUILDING
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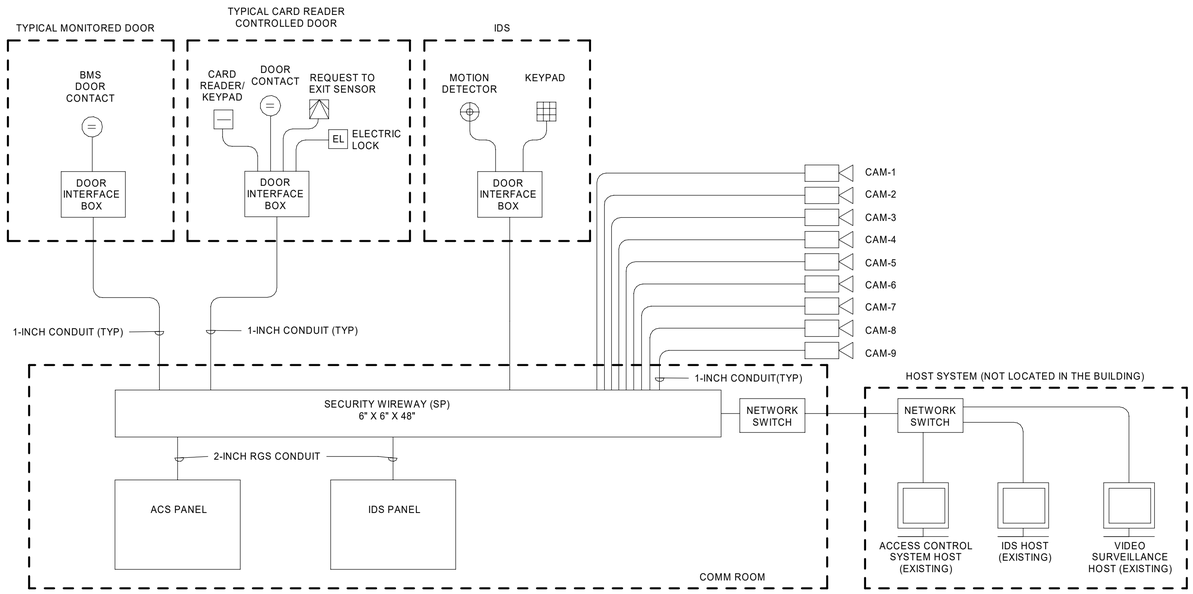
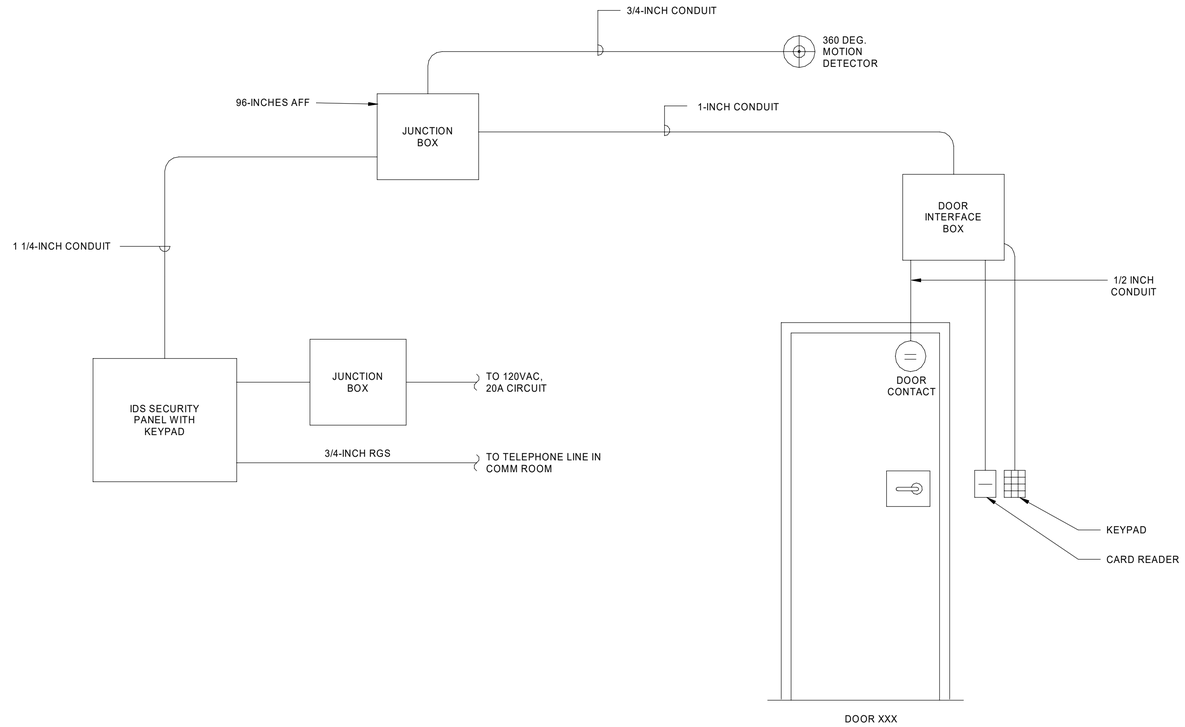
TELECOM - ONE-LINE DIAGRAMS

SHEET ID
T-601



C1 ACS, IDS, CCTV SYSTEMS ONE-LINE DIAGRAM

NOT TO SCALE



A1 INTRUSION DETECTION SYSTEM ONE-LINE DIAGRAM

NOT TO SCALE

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SECURITY - ONE-LINE DIAGRAMS

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