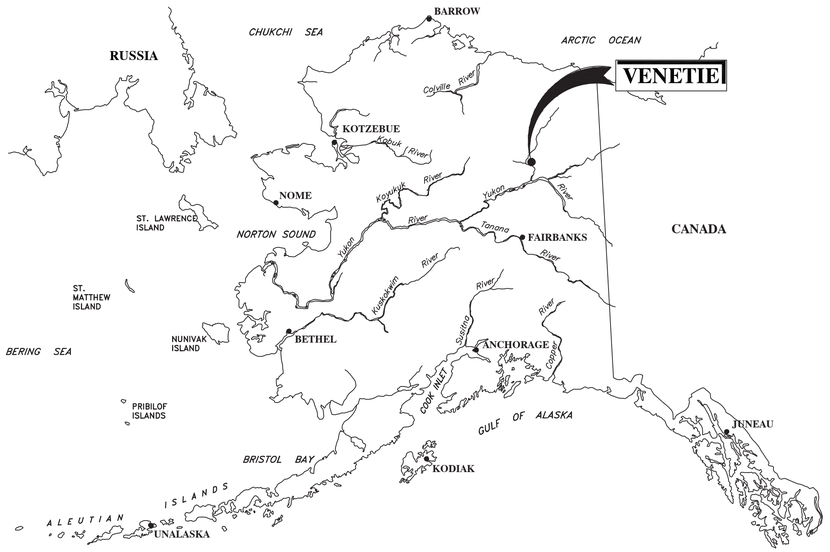

ALASKA ENERGY AUTHORITY

813 West Northern Lights Blvd.
Anchorage, Alaska 99503

VENETIE, ALASKA

POWER SYSTEM UPGRADE

ISSUED FOR CONSTRUCTION
NOVEMBER 2021

Project Number	(Consultant) 30416.00	(AEA)
AEA Project Manager	WILLIAM PRICE, PE	
Construction Manager		
Final Design	(Date)	
Fire Marshal Approval	(Date)	
Construction Period	(From)	(To)
As-Builts	(Date)	

CRW ENGINEERING GROUP, LLC
3940 Arctic Blvd. Suite 300
Anchorage, Alaska 99503
PHONE: (907) 562-3252
#AKCL882-AK

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

Sheet No. G1

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CIVIL

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STATE OF ALASKA 49TH
Karl R. Hulse
CE-10583
11/1/21
REGISTERED PROFESSIONAL ENGINEER

PROJECT NO. 30416.00
CITY GRID –
WATER GRID –
SEWER GRID –

PROJECT NO: –

VENETIE, ALASKA
POWER SYSTEM UPGRADE
SCHEDULE OF DRAWINGS

DATE: NOV 2021
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G2

File: \\10-share01\JobsData\30416.00 Venetie BFU RPSU Project\01 CADD 2019\01 Working Set\02 Survey\03 Survey Control\30416.00 SURVEY CONTROL (PLACE HOLDER).dwg   PLOT DATE: 11/2/2021 3:30 PM

LEGEND

- (123) CONTROL POINT #
- TEMPORARY BENCH MARK
- BRASS CAP MONUMENT
- 5/8" Rebar
- AL Cap

3 SURVEY CONTROL

SCALE: GRAPHIC

250' 0 250' 500'

HORIZONTAL & VERTICAL CONTROL STATEMENT

CRW ESTABLISHED THE BASIS OF COORDINATES BY STATIC GPS AND PROCESSED ON NGS – ONLINE POSITION USER SERVICE (OPUS), FOR POINT #601, A 3 1/4" BRASS CAP ON A 2 1/2" STAINLESS STEEL PIPE, FLUSH WITH GROUND. PROCESSED OPUS VALUES OF LATITUDE 67° 00' 55.17644" N LONGITUDE 146° 25' 20.20364" W (NAD 83 (2011), NAVD88 GEOID 12B ELEVATION IS 594.69'.

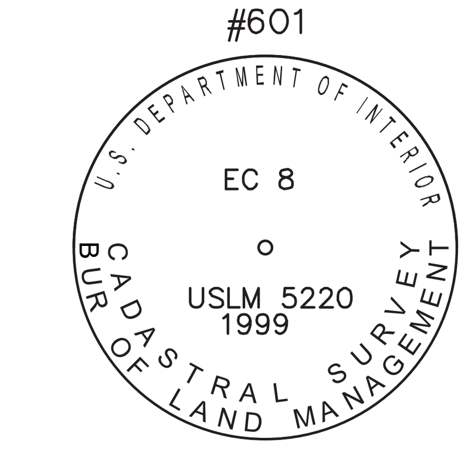
NGS BASE STATIONS USED FOR OPUS PROCESSING

PID	DESIGNATION	LATITUDE	LONGITUDE
DL7644	AB45 SAGRIVRDOT AK2007 CORS ARP	68° 45' 37.784" N	148° 52' 16.024" W
DR5991	TLK2 TFS_WELLHEAD GPS CORS ARP	68° 37' 40.935" N	149° 35' 43.401" W
DR4396	GCGO GILMORE CREEK GEO CORS ARP	64° 58' 41.015" N	147° 29' 57.841" W

CRW POINT #601 IS THE BASIS OF COORDINATES WITH STATE PLANE ZONE 3 COORDINATES OF NORTHING 4757420.01, EASTING 1580029.00, ELEVATION 594.69'.

COORDINATE SYSTEM:
- NAME: AK83–ZONE 3
- LINEAR UNIT: US SURVEY FEET
- GEODETIC DATUM: NAD83(2011)
- ELLIPSOID: GRS80
- PROJECTION: TRANSVERSE MERCATOR

#601



BASIS OF VERTICAL DATUM: THE BASIS OF ELEVATION IS GEOID 12B (NAVD88) OPUS SOLUTION FOR POINT #601 DETERMINED TO BE 594.69 ELEVATION. CRW USED LEICA GS14 DUAL FREQUENCY GPS RECIEVERS TO DETERMINE ELEVATIONS ON CONTROL POINTS.

NOTES

1. ALL COORDINATES AND DIMENSIONS SHOWN ARE IN U.S. SURVEY FEET.
2. A FIELD SURVEY WAS CONDUCTED IN JUNE 2021.
3. THE DEVELOPMENT OF THIS SURVEY CONTROL SHEET IS FOR THE NEW PROPOSED VENETIE ENERGY SYSTEM UPGRADE.
4. THE SITE CONTROL SHOWN WAS ESTABLISHED DURING A JUNE SURVEY WITH METHODOLOGY DESCRIBED IN THE HORIZONTAL AND VERTICAL STATEMENT.
5. CONTROL POINTS ARE SUBJECT TO SEASONAL DISTURBANCE, VERIFY HORIZONTAL COORDINATES AND VERTICAL ELEVATIONS BEFORE USE IN CONSTRUCTION TO BASIS OF COORDINATES.
6. WHETHER LISTED OF NOT, ALL MONUMENTS OR PROPERTY MARKERS, CORNERS, OR ACCESSORIES, WHICH WILL BE DISTURBEDOR BURIED, SHALL BE REFERENCED OR RE–ESTABLISHED IN THEIR ORIGINAL POSITION (A.S. 19.10.260) AND RECORDED (A.S. 34.65.0401).
7. THE BACKGROUND INFORMATION SHOWN IS FOR ORIENTATION PURPOSES ONLY AND DOES NOT REPRESENT RIGHT–OF–WAY/BOUNDARY. SEE RECORDED PLATS, DEEDS & EASEMENTS FOR DETAILED PROPERTY INFORMATION.
8. AERIAL IMAGE AND MAPPING SHOWN WHERE COLLECTED IN 2010, CONDITIONS AND IMPROVEMENTS MAY HAVE CHANGED.

Horizontal Control

Point No	Northing	Easting	Description	LATITUDE	LONGITUDE	ELEVATION
601	4757420.01	1580029.00	3 1/4" BRASS CAP	N067° 00' 55.1764"	W146° 25' 20.2036"	594.69
602	4758932.25	1582826.61	2 1/2" ALCAP	N067° 01' 10.2391"	W146° 24' 10.0252"	603.13
603	4757145.58	1581166.55	5/8" REBAR	N067° 00' 52.5513"	W146° 24' 51.5218"	601.20

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STATE OF ALASKA 49TH
Bradford W. Watts
LS-12319
11/1/21
REGISTERED PROFESSIONAL LAND SURVEYOR

PROJECT NO. 30416.00
CITY GRID –
WATER GRID –
SEWER GRID –

PROJECT NO: –

VENETIE, ALASKA
POWER SYSTEM UPGRADE
SURVEY CONTROL

DATE: NOV 2021

STATUS: ISSUED FOR CONSTRUCTION

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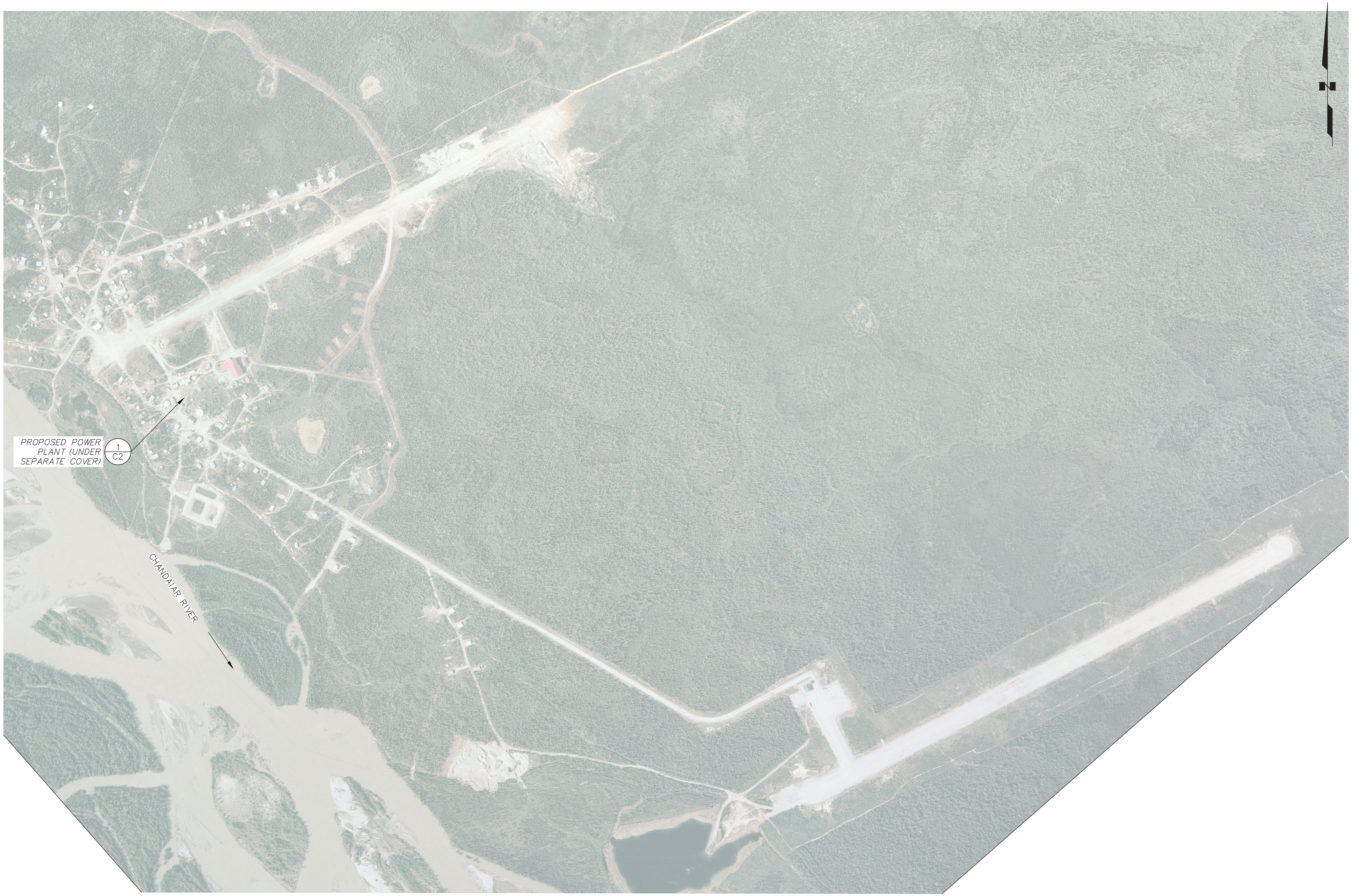

1 **VICINITY MAP**

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ANCHORAGE, ALASKA 99503
PHONE: (907) 562-3252
#AECL862-AK

STATE OF ALASKA 49TH Karl R. Hulse CE-10583 11/1/21 REGISTERED PROFESSIONAL ENGINEER

PROJECT NO. 30416.00
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WATER GRID –
SEWER GRID –

PROJECT NO: –

VENETIE, ALASKA

POWER SYSTEM UPGRADE

VICINITY MAP

STATUS: ISSUED FOR CONSTRUCTION **DATE: NOV 2021**

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File: J:\JobsData\30416.00 Venetie BFU RPSU Project\001 CADD 2019\01 Working Set\01 Civil\30416.00 Vicinity Map.dwg PLOT DATE: 11/2/2021 4:07 PM

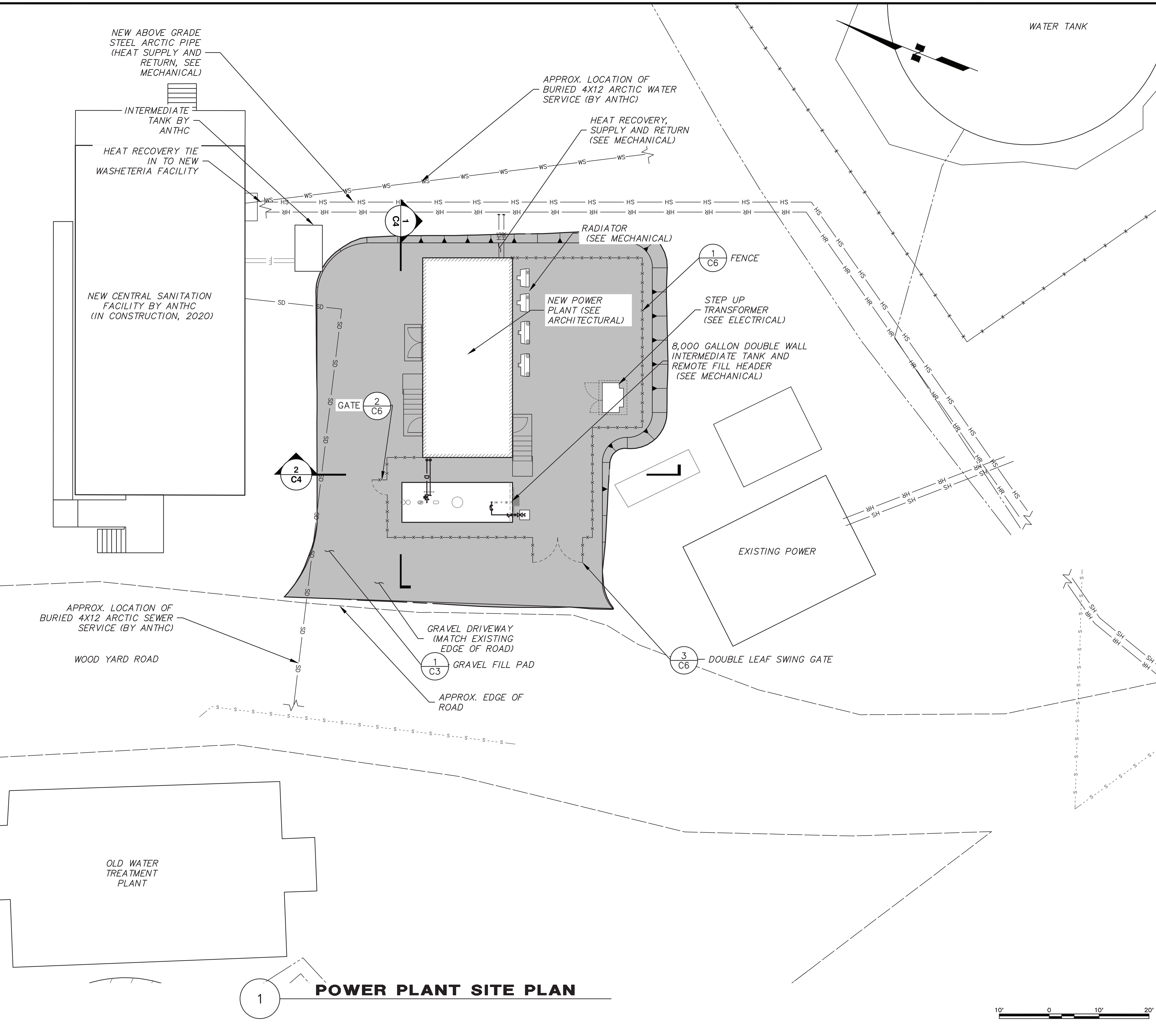
GENERAL NOTES:

1. SEE STRUCTURAL FOR FOUNDATION DETAILS.
2. SEE ARCHITECTURAL AND STRUCTURAL FOR POWER PLANT BUILDING CONSTRUCTION.

CODE NOTES:

THE INTERNATIONAL FIRE CODE AND STATE OF ALASKA REGULATIONS REQUIREMENT AND ADHERENCE:

1. 30' OF CLEARANCE FROM 751–12,000 GALLON BULK STORAGE TANKS TO THE NEAREST PROPERTY LINE WHICH IS OR CAN BE BUILT UPON. THE VILLAGE OWNS ALL OF THE LAND IN THE COMMUNITY AND THERE ARE NO ESTABLISHED PROPERTY BOUNDARIES IN THE VICINITY.
2. 10' MINIMUM CLEARANCE FROM THE NEW POWER PLANT TO THE NEAREST PROPERTY LINE WHICH IS OR CAN BE BUILT UPON. THE VILLAGE OWNS ALL OF THE LAND IN THE COMMUNITY AND THERE ARE NO ESTABLISHED PROPERTY BOUNDARIES IN THE VICINITY..
3. PROVIDE ACCESS TO WITHIN 150' OF EVERY PORTION OF THE FACILITY. THE EXISTING GRAVEL ROADS PROVIDE ACCESS TO WITHIN 50' OF ALL PORTIONS OF THE NEW POWER PLANT.



1 **POWER PLANT SITE PLAN**

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STATE OF ALASKA — 49TH — Karl R. Hulse — CE-10583 — 11/1/21 — REGISTERED PROFESSIONAL ENGINEER

PROJECT NO. 30416.00 | CITY GRID – | WATER GRID – | SEWER GRID –

VENETIE, ALASKA
POWER SYSTEM UPGRADE
POWER PLANT SITE PLAN

DATE: NOV 2021
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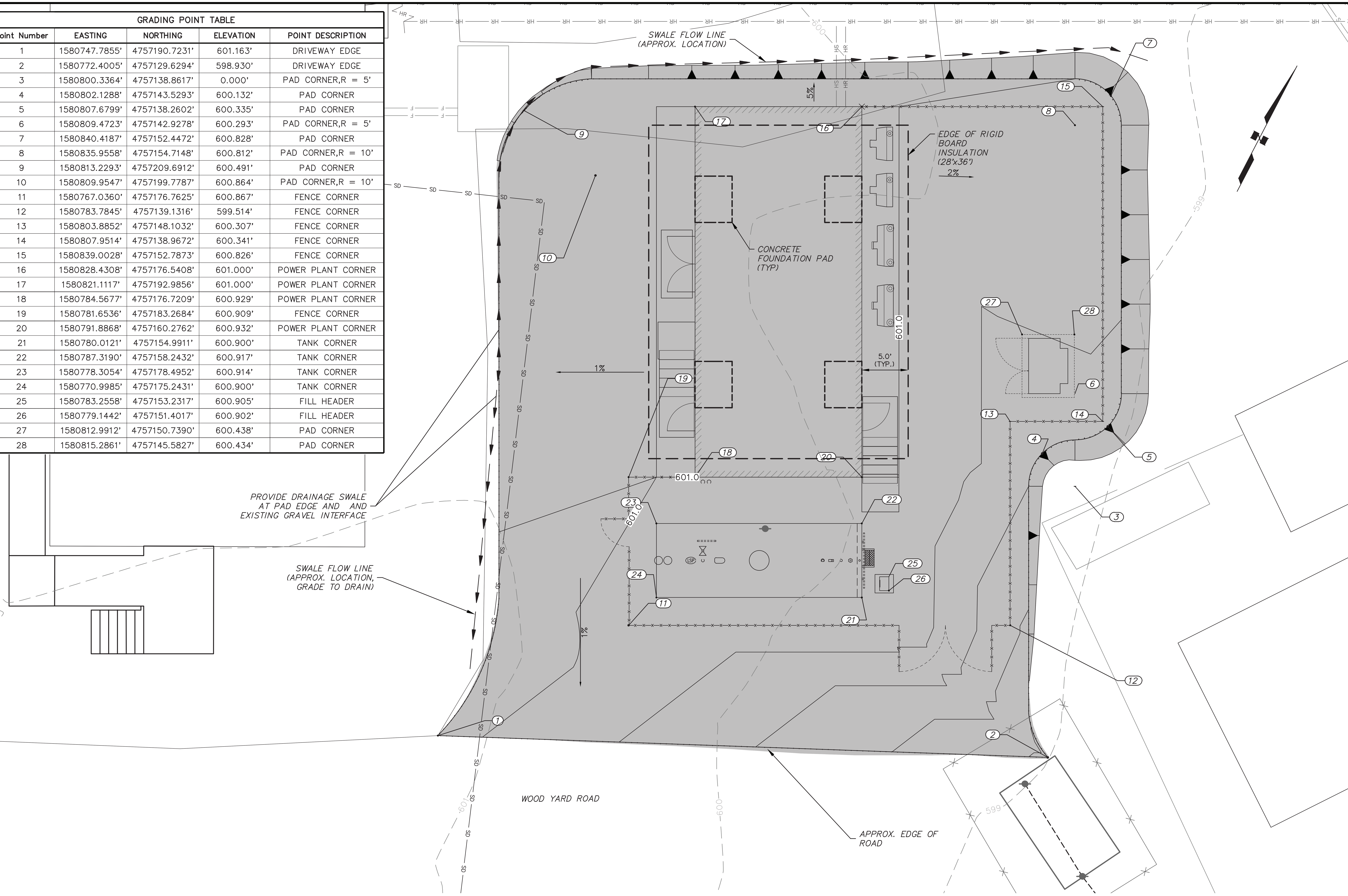
File: J:\JobsData\30416.00 Venetie BFU RPSU Project\001 CADD 2019\01 Working Set\01 Civil\RPSU PLANSET\30416.00 RPSU SITE PLAN - POWER PLANT.dwg PLOT DATE: 11/3/2021 1:06 PM

GRADING POINT TABLE

Point Number	EASTING	NORTHING	ELEVATION	POINT DESCRIPTION
1	1580747.7855'	4757190.7231'	601.163'	DRIVEWAY EDGE
2	1580772.4005'	4757129.6294'	598.930'	DRIVEWAY EDGE
3	1580800.3364'	4757138.8617'	0.000'	PAD CORNER,R = 5'
4	1580802.1288'	4757143.5293'	600.132'	PAD CORNER
5	1580807.6799'	4757138.2602'	600.335'	PAD CORNER
6	1580809.4723'	4757142.9278'	600.293'	PAD CORNER,R = 5'
7	1580840.4187'	4757152.4472'	600.828'	PAD CORNER
8	1580835.9558'	4757154.7148'	600.812'	PAD CORNER,R = 10'
9	1580813.2293'	4757209.6912'	600.491'	PAD CORNER
10	1580809.9547'	4757199.7787'	600.864'	PAD CORNER,R = 10'
11	1580767.0360'	4757176.7625'	600.867'	FENCE CORNER
12	1580783.7845'	4757139.1316'	599.514'	FENCE CORNER
13	1580803.8852'	4757148.1032'	600.307'	FENCE CORNER
14	1580807.9514'	4757138.9672'	600.341'	FENCE CORNER
15	1580839.0028'	4757152.7873'	600.826'	FENCE CORNER
16	1580828.4308'	4757176.5408'	601.000'	POWER PLANT CORNER
17	1580821.1117'	4757192.9856'	601.000'	POWER PLANT CORNER
18	1580784.5677'	4757176.7209'	600.929'	POWER PLANT CORNER
19	1580781.6536'	4757183.2684'	600.909'	FENCE CORNER
20	1580791.8868'	4757160.2762'	600.932'	POWER PLANT CORNER
21	1580780.0121'	4757154.9911'	600.900'	TANK CORNER
22	1580787.3190'	4757158.2432'	600.917'	TANK CORNER
23	1580778.3054'	4757178.4952'	600.914'	TANK CORNER
24	1580770.9985'	4757175.2431'	600.900'	TANK CORNER
25	1580783.2558'	4757153.2317'	600.905'	FILL HEADER
26	1580779.1442'	4757151.4017'	600.902'	FILL HEADER
27	1580812.9912'	4757150.7390'	600.438'	PAD CORNER
28	1580815.2861'	4757145.5827'	600.434'	PAD CORNER



1 **POWER PLANT GRADING PLAN**

5' 0 5' 10'

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PHONE: (907) 562-3252

STATE OF ALASKA 49TH
Karl R. Hulse
CE-10583
11/1/21
REGISTERED PROFESSIONAL ENGINEER

PROJECT NO. 30416.00
CITY GRID –
WATER GRID –
SEWER GRID –

VENETIE, ALASKA
POWER SYSTEM UPGRADE
GRADING PLAN

DATE: NOV 2021
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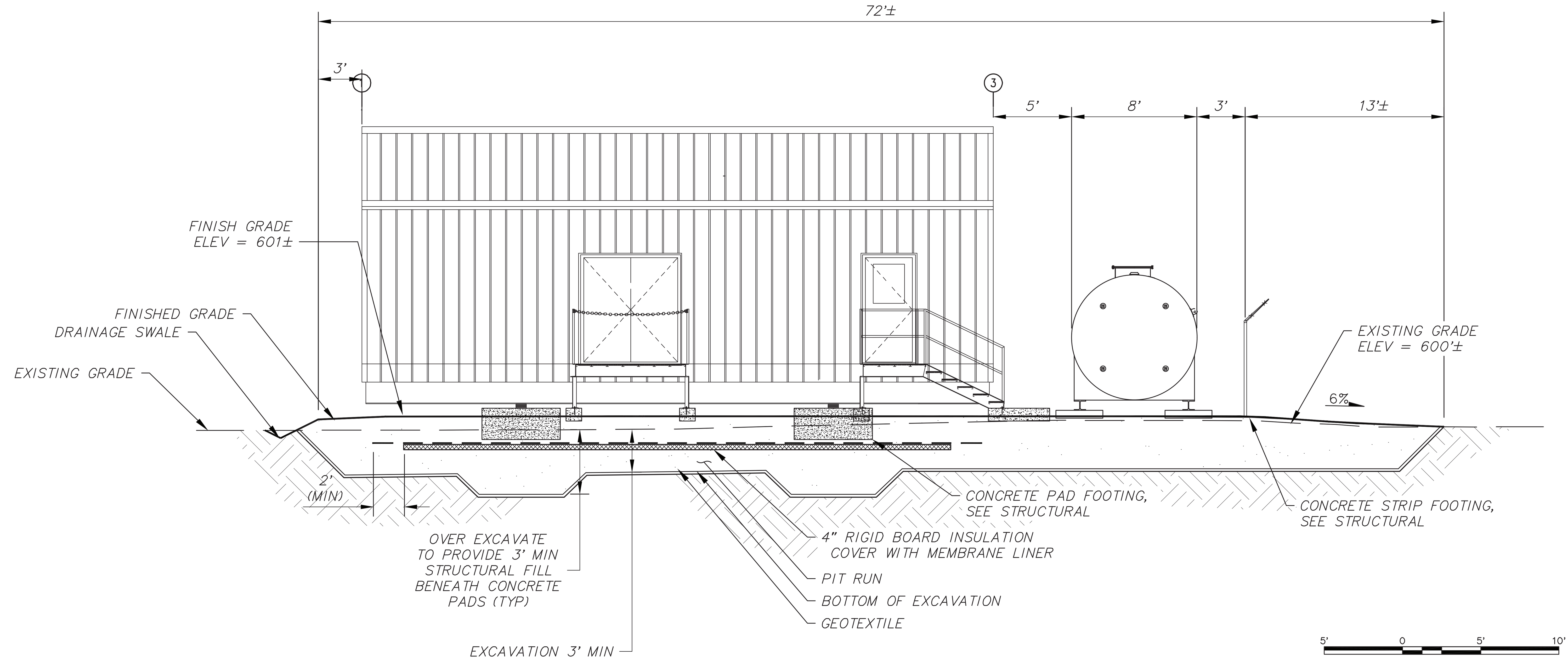
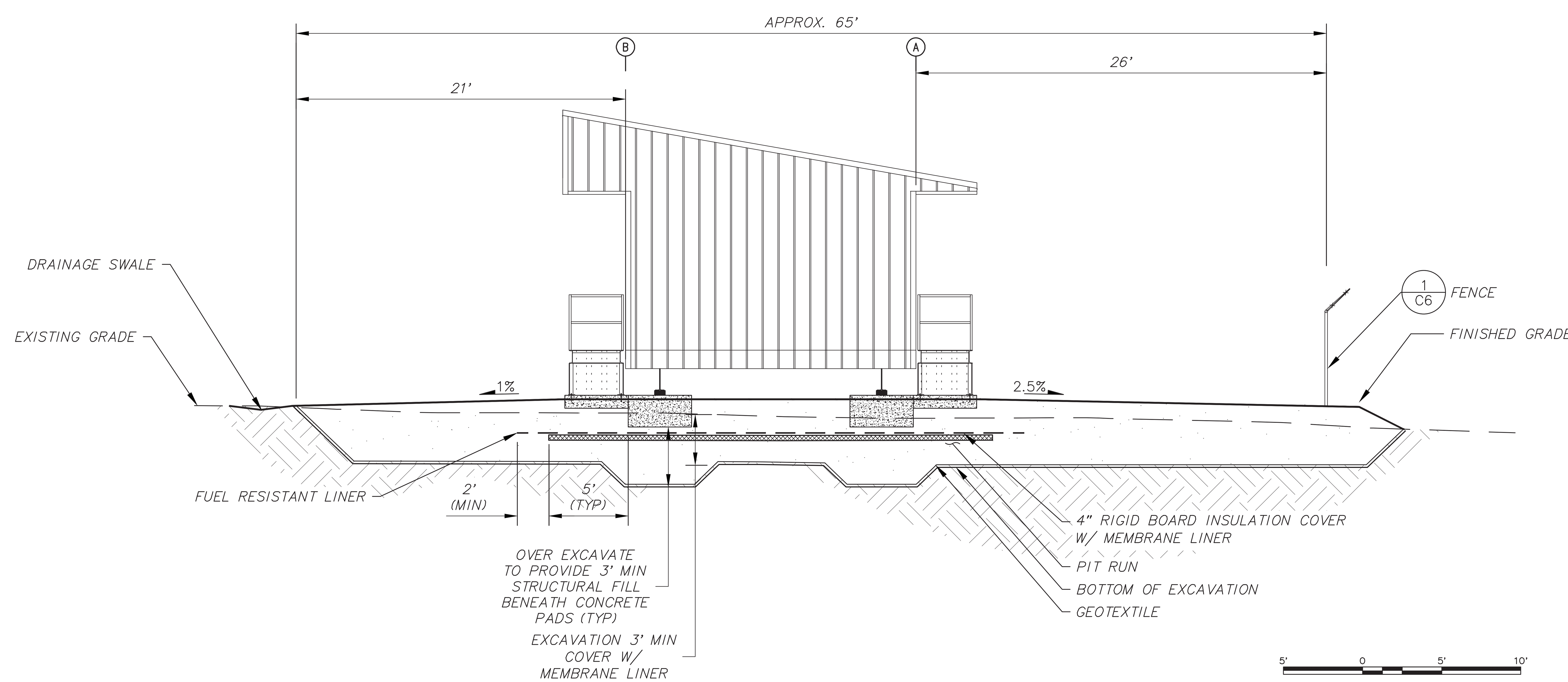
File: J:\JobsData\30416.00 Venetie BFU RPSU Project\01 CADD 2019\01 Working Set\01 Civil\RPSU PLANSET\30416.00 RPSU GRADING PLAN.dwg PLOT DATE: 11/3/2021 1:13 PM



1 **POWER PLANT PAD SECTION**

SEQUENCE OF CONSTRUCTION:

1. CLEAR AND GRUB EXISTING GROUND BENEATH PROPOSED FOUNDATION PAD FOOTPRINT. EXCAVATE A MINIMUM 3 FT TO EXPOSE IN-SITU UNDERNEATH SILTS (BOTTOM OF EXCAVATION ELEV = 597±). PERFORM ADDITIONAL EXCAVATION BENEATH CONCRETE PAD FOOTING AS SHOWN.
2. SCARIFY EXPOSED SILTS 8" DEEP THEN PROOF COMPACT TO 95% MAX DRY DENSITY.
3. INSTALL GEOTEXTILE FABRIC.
4. PLACE AND COMPACT CLASSIFIED FILL MATERIAL IN ACCORDANCE WITH THE SPECIFICATIONS.
5. INSTALL RIGID BOARD INSULATION AND FUEL RESISTANT LINER. COVER LINER WITH GEOTEXTILE. TOP OF LINER ELEV = 598.5'.
6. EXCAVATE CLASSIFIED FILL AND INSTALL CONCRETE FOOTERS AS SHOWN.



2 **POWER PLANT PAD SECTION**

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STATE OF ALASKA — 49TH — Karl R. Hulse CE-10583 11/1/21 — REGISTERED PROFESSIONAL ENGINEER

PROJECT NO. 30416.00
CITY GRID –
WATER GRID –
SEWER GRID –

PROJECT NO: –

VENETIE, ALASKA

POWER SYSTEM UPGRADE

POWER PLANT SECTIONS

DATE: NOV 2021

STATUS: ISSUED FOR CONSTRUCTION

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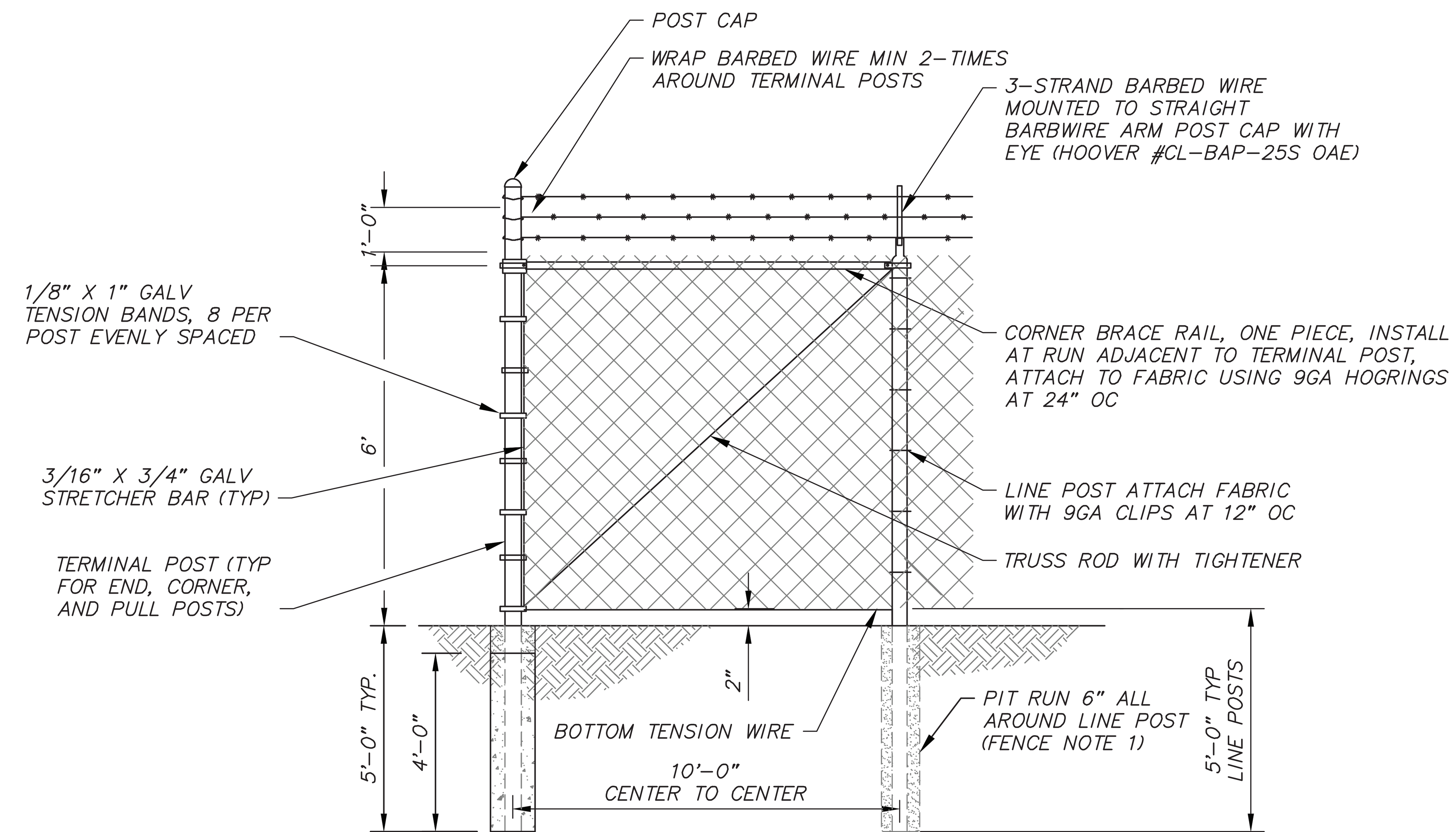
File: J:\JobsData\30416.00 Venetie BFU RPSU Project\001 CADD 2019\01 Working Set\01 Civil\RPSU PLANSET\30416.00 RPSU SECTIONS.dwg PLOT DATE: 11/3/2021 1:03 PM

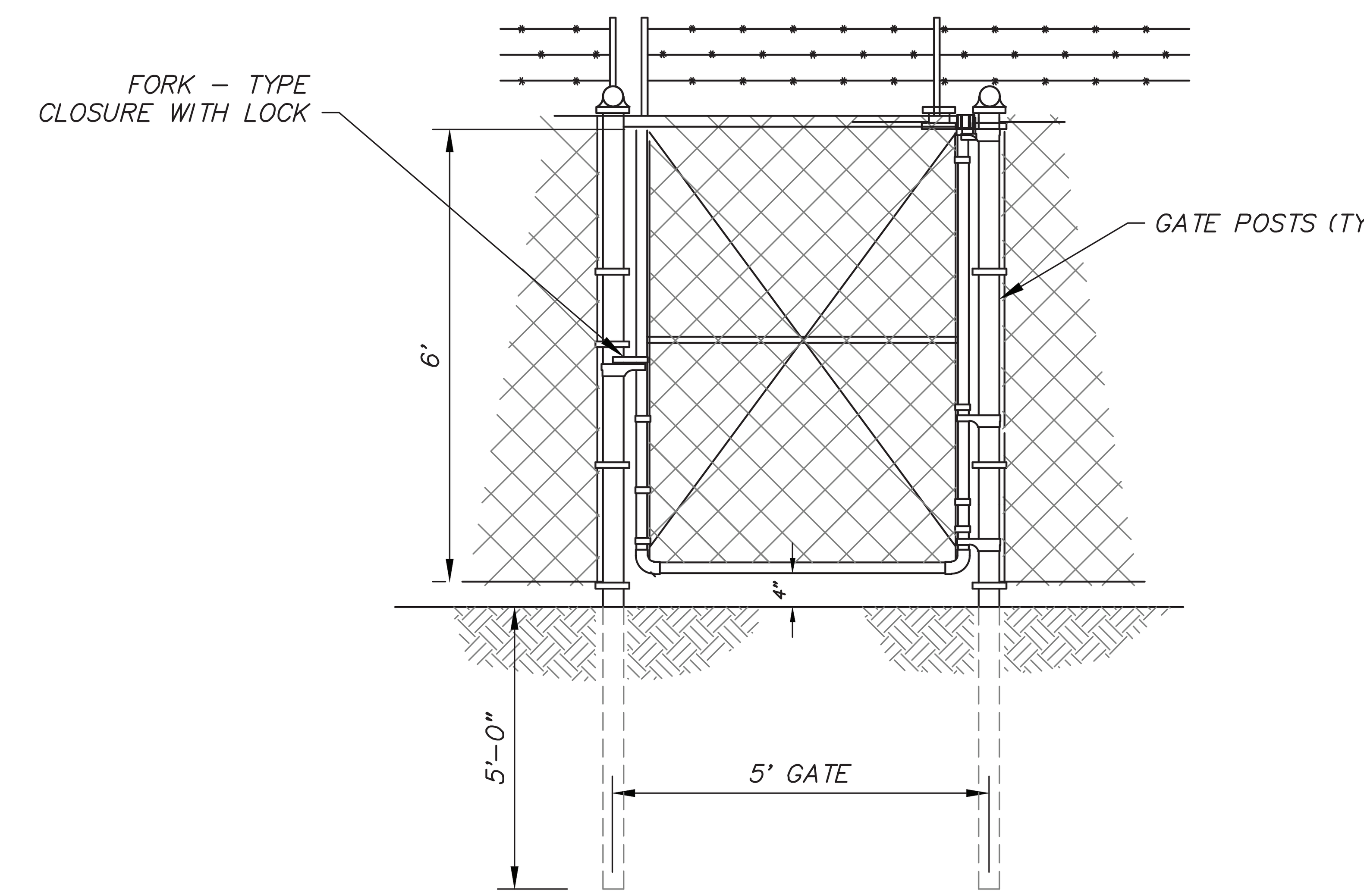


FENCE NOTES:

1. LINE POSTS MAY BE DRIVEN IF APPROVED BY ENGINEER. CORNER POSTS SHALL BE BEDDED IN CONCRETE AS SHOWN.

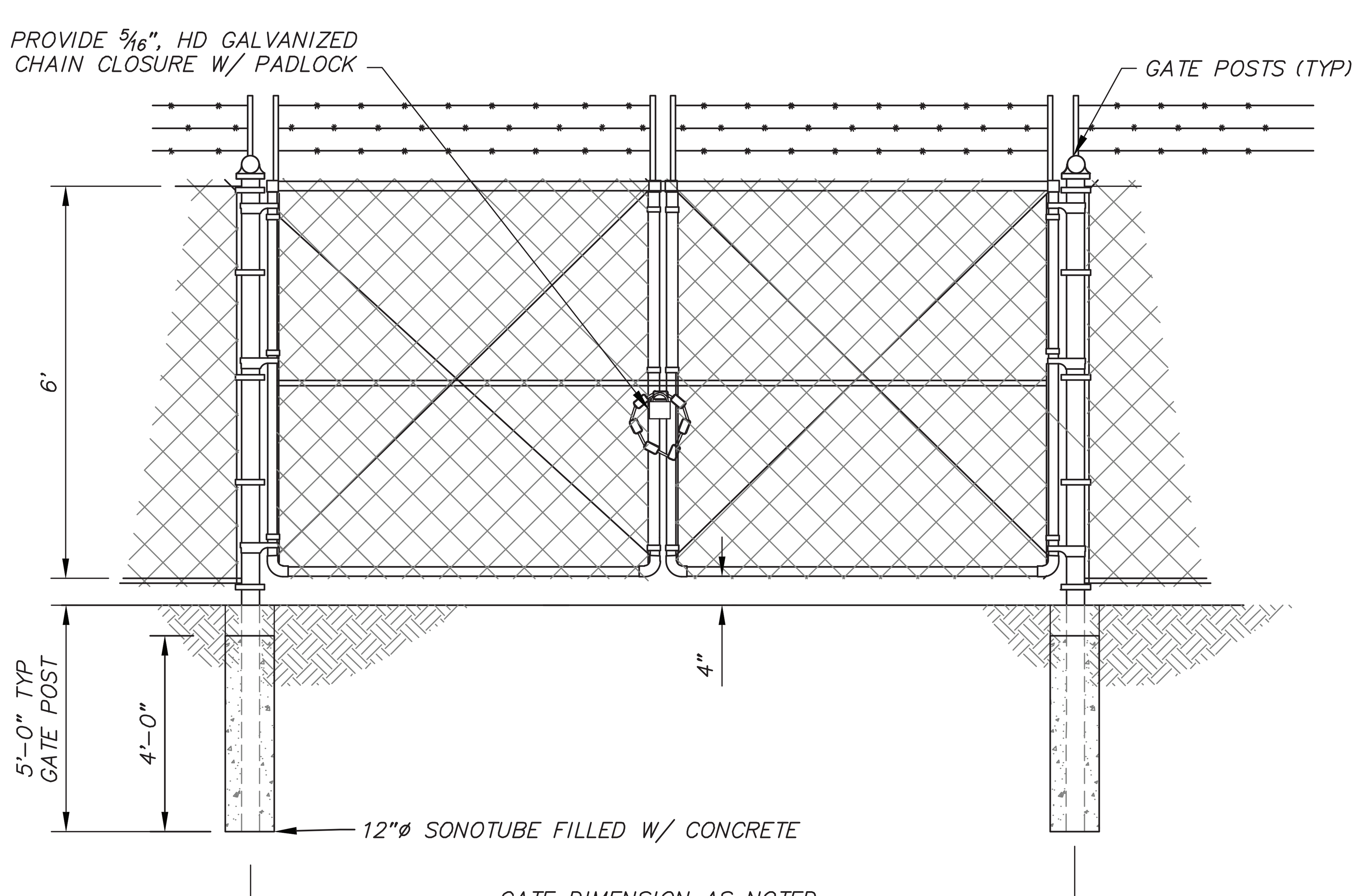
1 **FENCE DETAIL**

SCALE: NTS



2 **MAN GATE DETAIL**

SCALE: NTS



4 **DOUBLE SWING GATE DETAIL (SIZE AS NOTED)**

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VENETIE, ALASKA
POWER SYSTEM UPGRADE
FENCE DETAILS

DATE: NOV 2021

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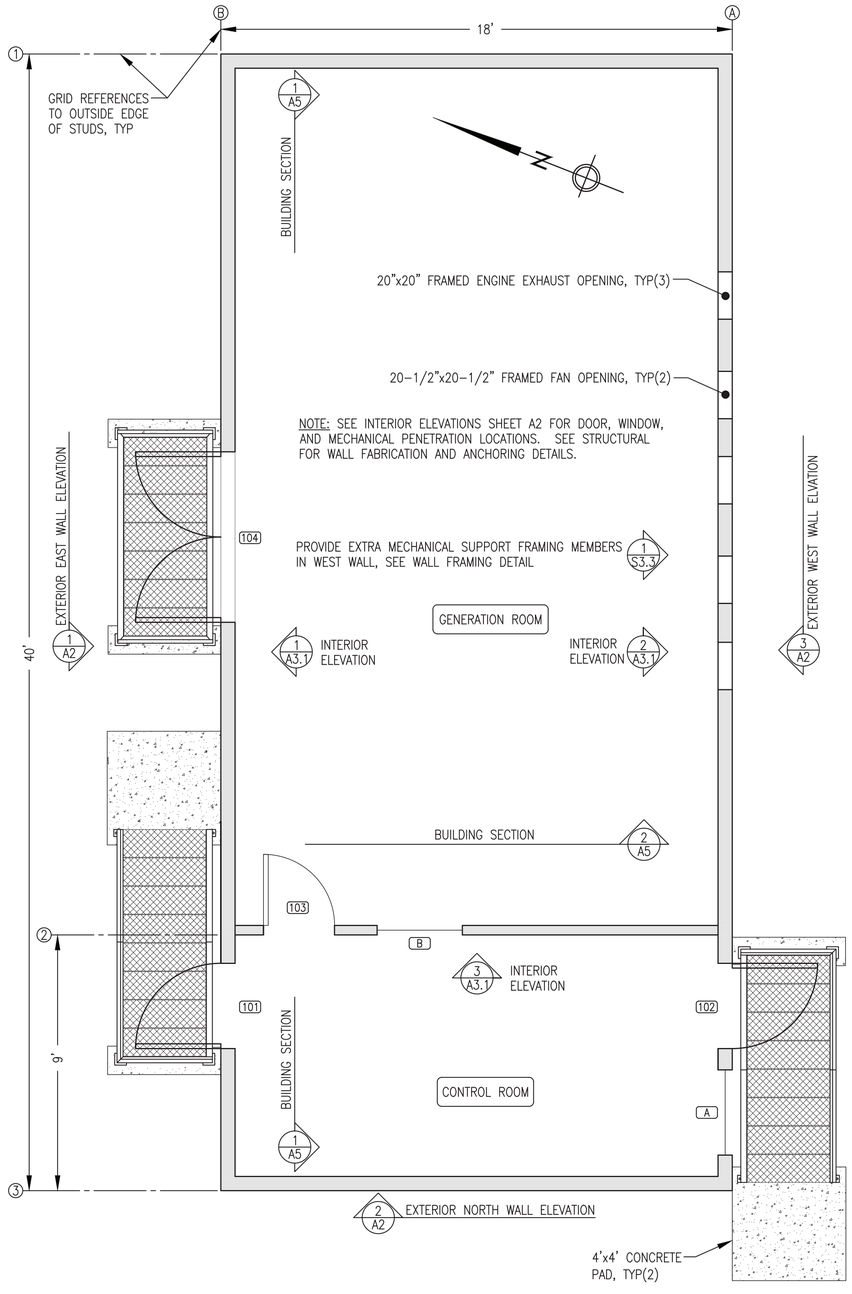
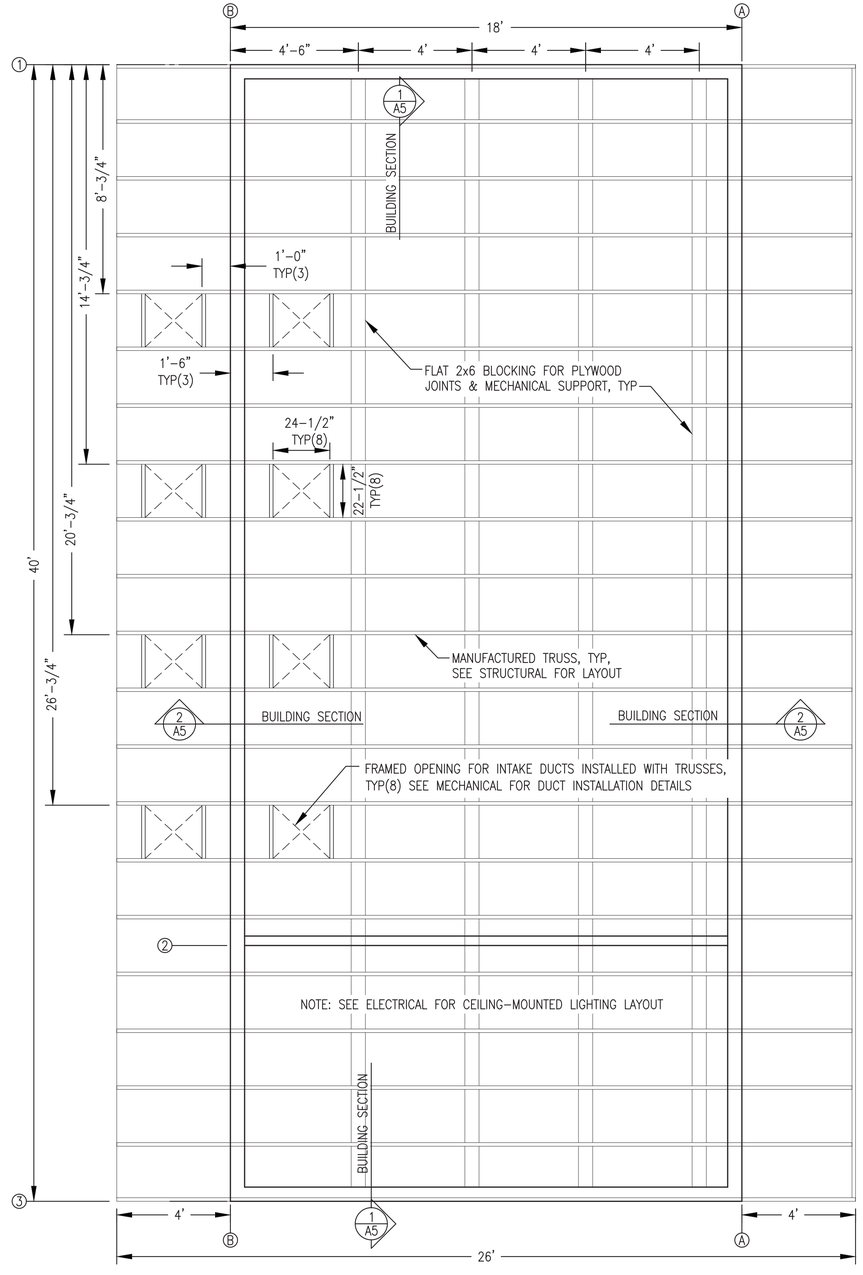
SHEET NO.
C5

File: J:\JobsData\30416.00 Venetie BFU RPSU Project\001 CADD 2019\01 Working Set\01 Civil\RPSU PLANSET\30416.00 RPSU DETAILS FENCE.dwg PLOT DATE: 11/2/2021 4:02 PM



1/A1 BUILDING PLAN
3/8"=1'-0"



2/A1 ROOF PLAN
3/8"=1'-0"

CODE ANALYSIS – 2012 EDITION INTERNATIONAL BUILDING CODE

OCCUPANCY CLASSIFICATION	REF: IBC-2012, SEC. 306.2
GROUP F-1: FACTORY INDUSTRIAL MODERATE HAZARD – ELECTRIC GENERATION PLANT	
TYPE OF CONSTRUCTION	REF: IBC-2012, TABLE 601
TYPE V-B (NON-RATED)	REF: IBC-2012, SEC. 602.5
BUILDING HEIGHTS AND AREAS	REF: IBC-2012, TABLE 503
ALLOWED 40'-0" 1 STORY 8,500 S.F.	PROVIDED: 16'-0" 1 STORY 720 S.F.
FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS	REF: IBC-2012, TABLE 601
STRUCTURAL FRAME: 0 HR BEARING WALLS: 0 HR INTERIOR PARTITIONS: 0 HR	FLOOR: 0 HR ROOF: 0 HR
FIRE RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS	REF: IBC-2012, TABLE 602
EXTERIOR WALLS 10' < X < 30' 0 HR	
FIRE PROTECTION SYSTEM	REF: IBC-2012, SEC. 903.2.4
FIRE PROTECTION NOT REQUIRED. WATER MIST FIRE SUPPRESSION SYSTEM PROVIDED (SEE MECHANICAL).	
OCCUPANT LOAD	REF: IBC-2012, TABLE 1004.1.2
MECHANICAL/STORAGE = 300 S.F./PERSON	720 S.F./300 S.F. PER OCCUPANT = 2 OCCUPANTS
MEANS OF EGRESS – TRAVEL DISTANCE	REF: IBC-2012, TABLE 1016.2
REQUIRED = 200' PROVIDED = 45'	
COMBUSTIBLE LIQUIDS STORAGE	REF: IBC-2012, TABLE 307.1(1)(i) & IFC 2009 603.3.2
660 GAL CLASS II LIQUIDS	200 GAL CLASS II (DIESEL FUEL DAY TANK)
13200 GAL CLASS IIIB LIQUIDS	110 GAL CLASS IIIB (GLYCOL & LUBE OIL)

ARCHITECTURAL GENERAL NOTES:

1) PROVIDE A COMPLETE AND OPERATIONAL FACILITY. ALL WORK TO BE IN ACCORDANCE WITH CURRENT APPROVED EDITIONS OF THE IBC, IMC, IFC, AND NEC INCLUDING STATE OF ALASKA AMENDMENTS.
2) SEE CIVIL SITE PLAN FOR LOCATION AND LAYOUT. PROVIDE SEPARATION TO PROPERTY BOUNDARIES IN ACCORDANCE WITH CODE ANALYSIS.
3) DIMENSIONS TO FACE OF STUD OR STRUCTURAL MEMBER UNLESS INDICATED OTHERWISE.
4) FRAME EXTERIOR WALLS WITH 6" DIMENSIONAL LUMBER AND INTERIOR WALL WITH 4" DIMENSIONAL LUMBER WITH 5/8" CDX PLYWOOD BOTH SIDES. PROVIDE CONTINUOUS 2x BLOCKING ON PLYWOOD JOINTS AND AS INDICATED.
5) FRAME OPENINGS, INSTALL AIR INTAKE DUCTS AND TRIM OUT AS INDICATED. SEE MECHANICAL FOR FLASHING & INSTALLATION DETAILS.
6) ALL EXPOSED SURFACES TO BE PAINTED OR FACTORY FINISHED. CAULK ALL JOINTS AND PROVIDE FLASHING AS NEEDED TO PROVIDE COMPLETE WEATHER PROOF INSTALLATION.
7) INSTALL LOW PROFILE 1/4" METAL SIDING OVER INTERIOR WALL SURFACES AND 5/8" METAL SIDING OVER INTERIOR CEILING SURFACES. SEE SHEETS A3.1 AND A6.
8) INSTALL METAL SIDING OVER ALL EXTERIOR WALL SURFACES. SEE SHEETS A2 AND A6.
9) INSTALL ICE AND WATER SHIELD OVER ROOF SHEATHING AND INSTALL NEW METAL ROOFING OVER ENTIRE ROOF. INSTALL PERFORATED SOFFIT OVER ROOF OVERHANGS. SEE SHEETS A5 AND A6.
10) INSTALL DOORS AND WINDOWS AS INDICATED. SEE PLANS AND ELEVATIONS FOR LOCATIONS AND SEE SHEET A4 FOR DETAILS AND SPECIFICATIONS.

ISSUED FOR CONSTRUCTION NOVEMBER 2021

STATE OF ALASKA 49 TH
David G. Thompson No. 7034 11/1/21
REGISTERED PROFESSIONAL ARCHITECT

CRW ENGINEERING GROUP, LLC
PHONE: (907) 562-3252

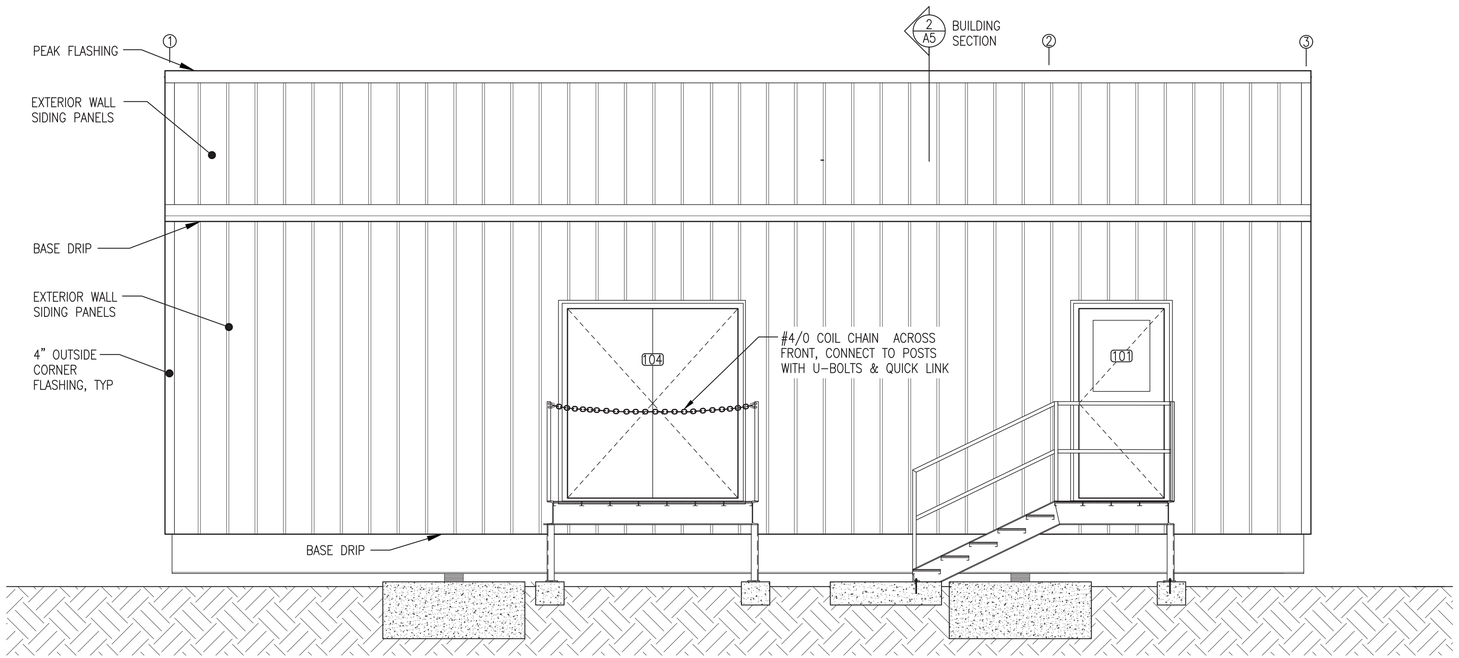
ALASKA ENERGY AUTHORITY

PROJECT: VENETIE POWER SYSTEM UPGRADE

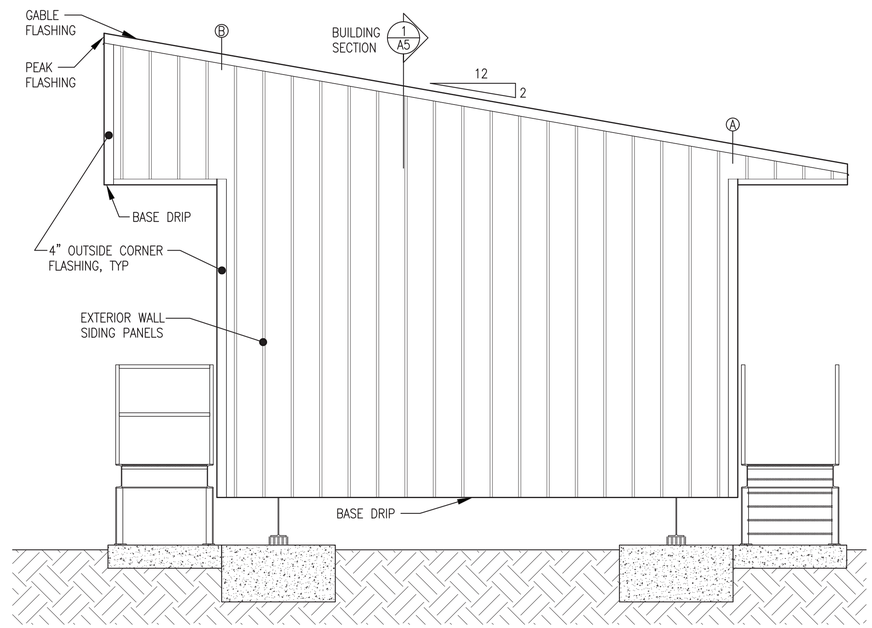
TITLE: BUILDING PLANS & NOTES

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

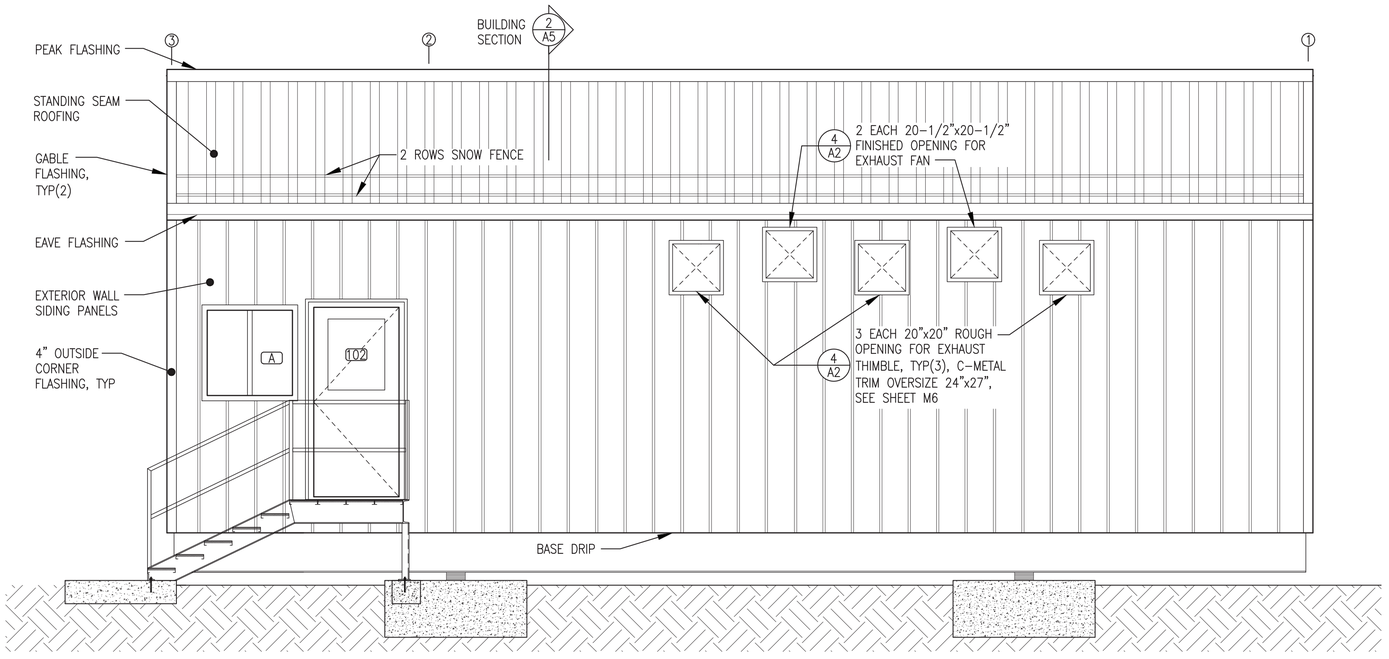
DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: DGT/BCG	DATE: 11/1/21
FILE NAME: VEN PP A&S	SHEET: A1
PROJECT NUMBER:	



1/A2 EXTERIOR FRONT (GRID B) WALL ELEVATION
3/8"=1'-0"

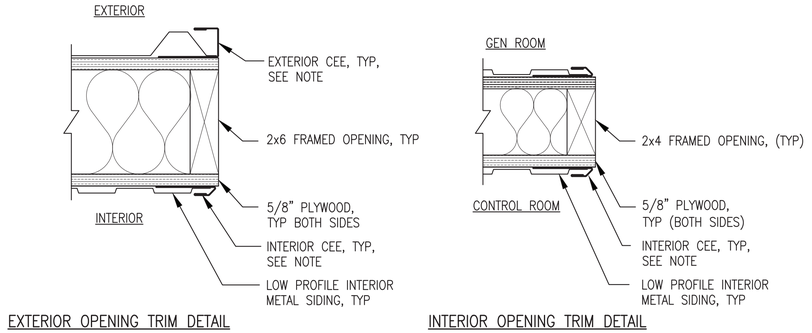


2/A2 EXTERIOR END WALL ELEVATION
3/8"=1'-0"



3/A2 EXTERIOR BACK (GRID A) WALL ELEVATION
3/8"=1'-0"

NOTE: CAULK CEE METAL TO EQUIPMENT, DUCT OR WIREWAY ALL AROUND, COLOR GRAY.



4/A2 TYPICAL MECHANICAL/ELECTRICAL OPENING TRIM DETAIL
NO SCALE

ISSUED FOR CONSTRUCTION NOVEMBER 2021

STATE OF ALASKA 49TH
David G. Thompson
No. 7034
11/1/21
REGISTERED PROFESSIONAL ARCHITECT

CRW ENGINEERING GROUP, LLC
PHONE: (907) 562-3252

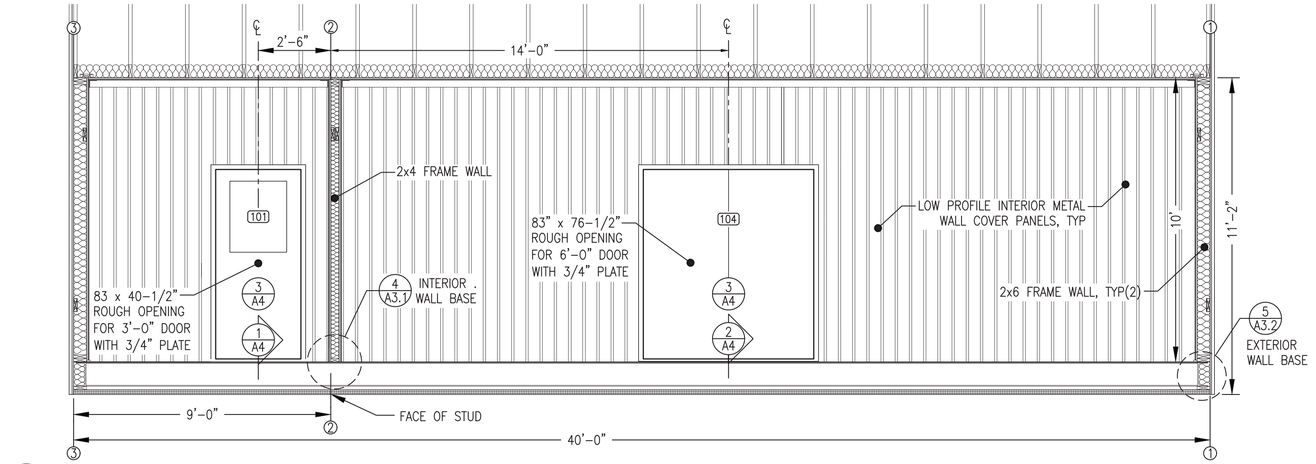
ALASKA ENERGY AUTHORITY

PROJECT: VENETIE POWER SYSTEM UPGRADE

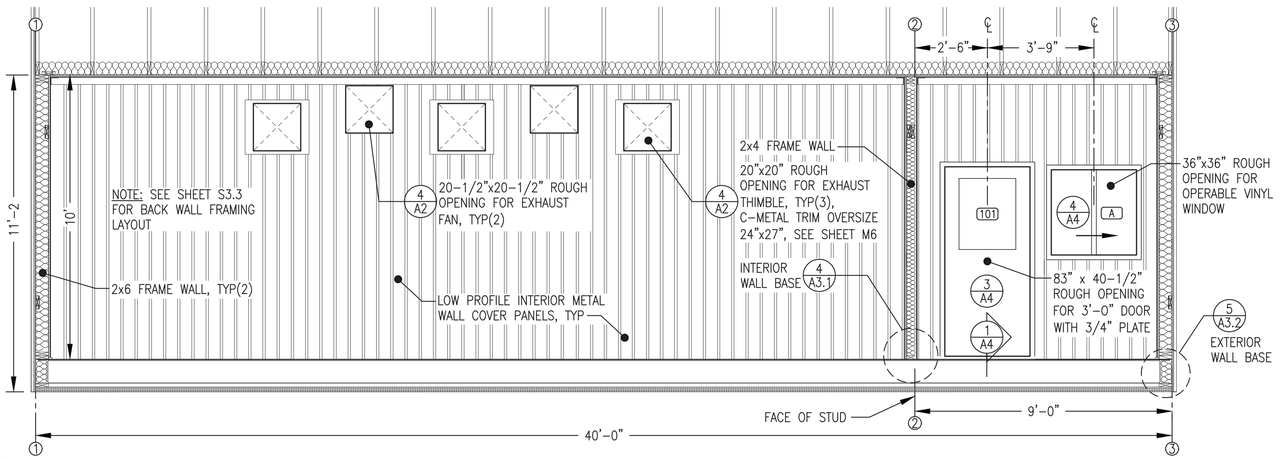
TITLE: EXTERIOR BUILDING ELEVATIONS

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

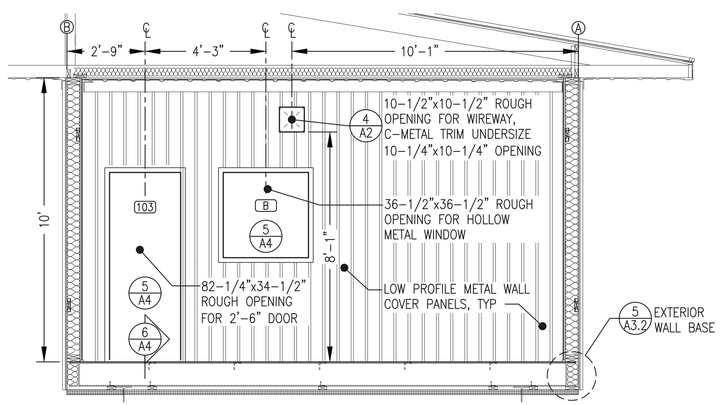
DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: DGT/BCG	DATE: 11/1/21
FILE NAME: VEN PP A&S	SHEET: A2
PROJECT NUMBER:	



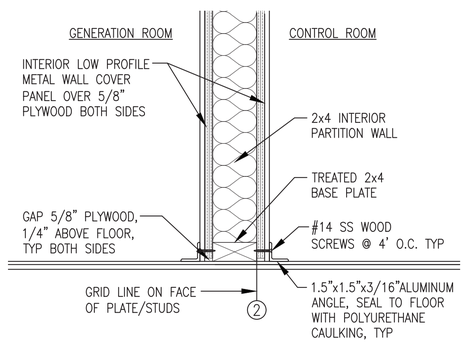
1 A3.1 FRONT WALL INTERIOR ELEVATION
3/8"=1'-0"



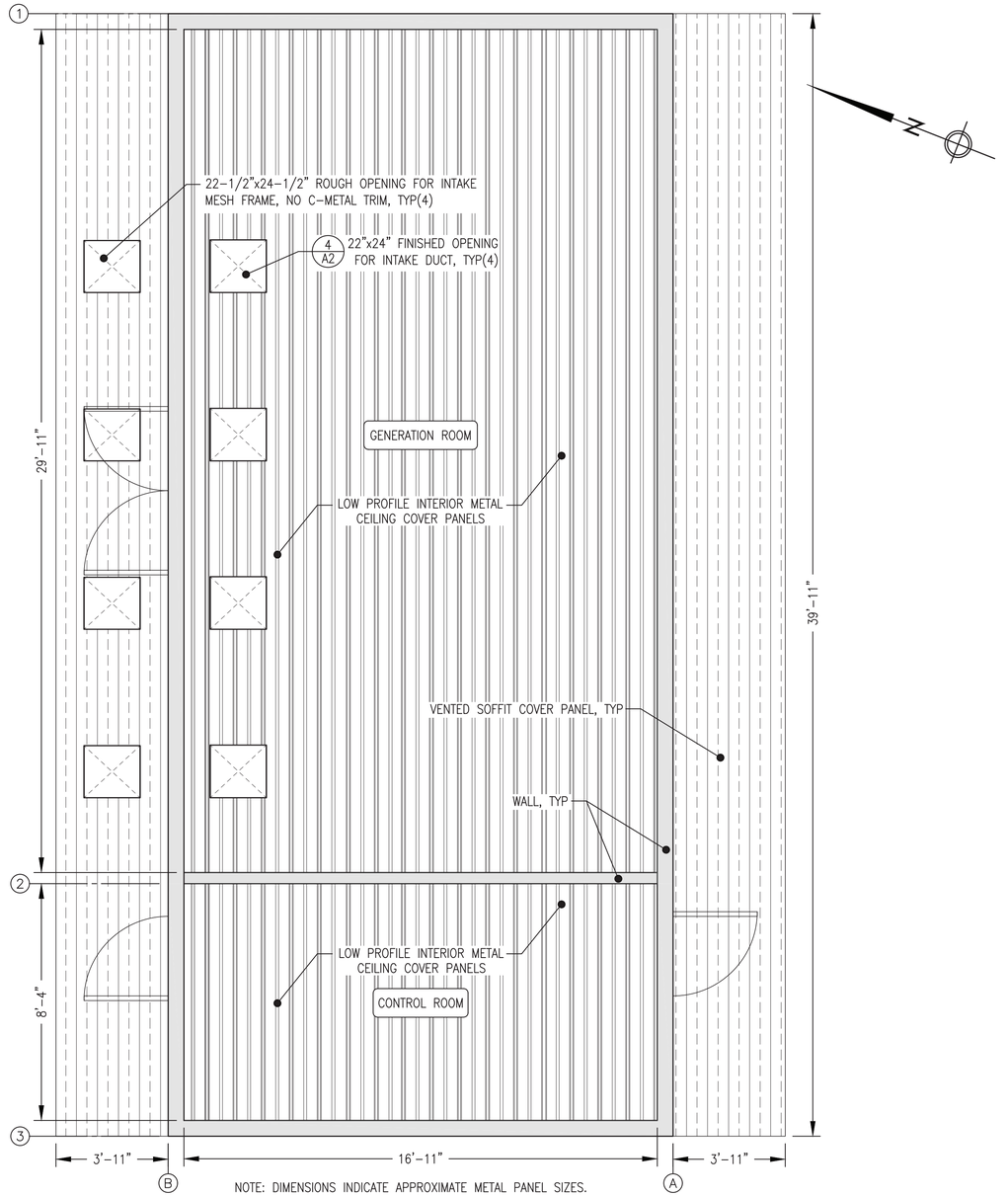
2 A3.1 BACK WALL INTERIOR ELEVATION
3/8"=1'-0"



3 A3.1 INTERIOR PARTITION ELEVATION
3/8"=1'-0"



4 A3.1 INTERIOR PARTITION WALL BASE
1"=2'-0"



NOTE: DIMENSIONS INDICATE APPROXIMATE METAL PANEL SIZES.

ISSUED FOR CONSTRUCTION NOVEMBER 2021

STATE OF ALASKA 49 TH
David G. Thompson
No. 7034
11/1/21
REGISTERED PROFESSIONAL ARCHITECT

CRW ENGINEERING GROUP, LLC
PHONE: (907) 562-3252

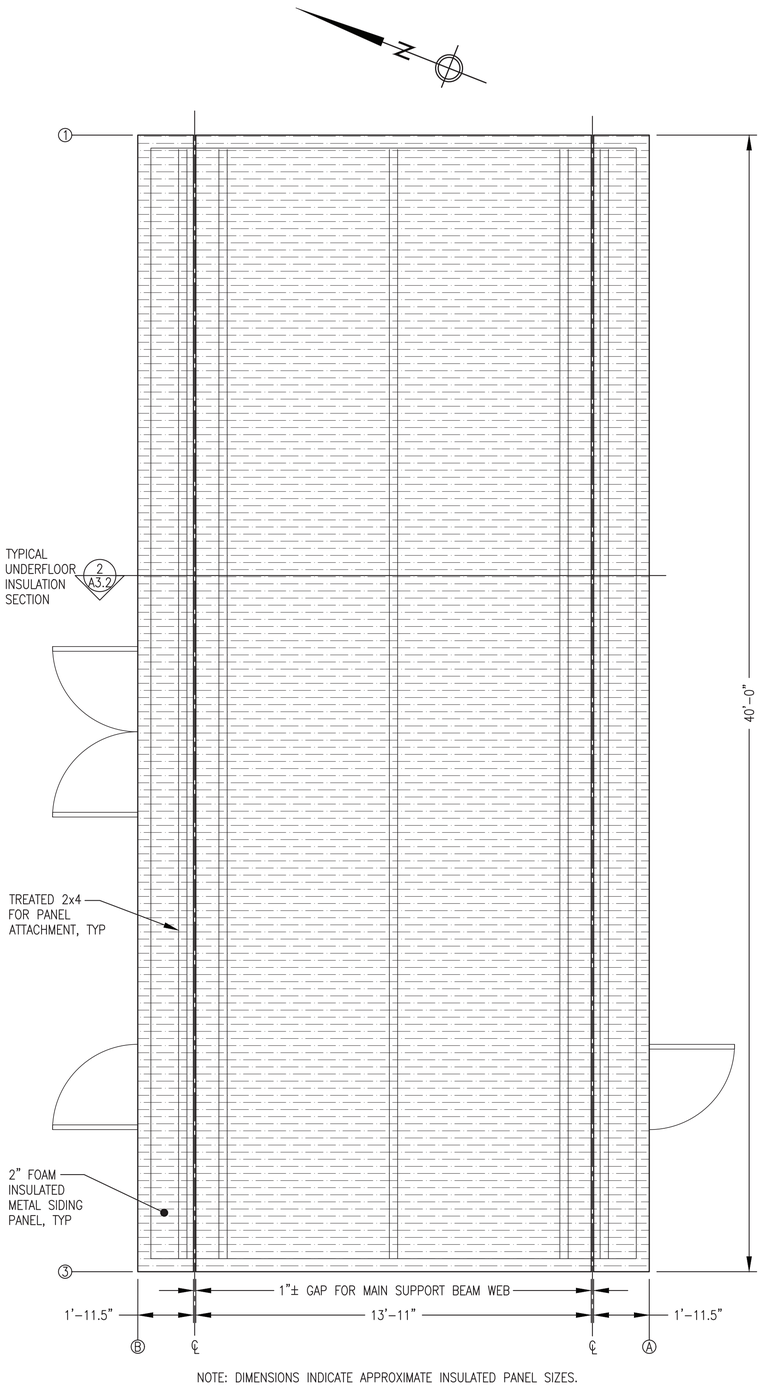
ALASKA ENERGY AUTHORITY

PROJECT: VENETIE POWER SYSTEM UPGRADE

TITLE: INTERIOR BUILDING ELEVATIONS, DETAILS & REFLECTED CEILING PLAN

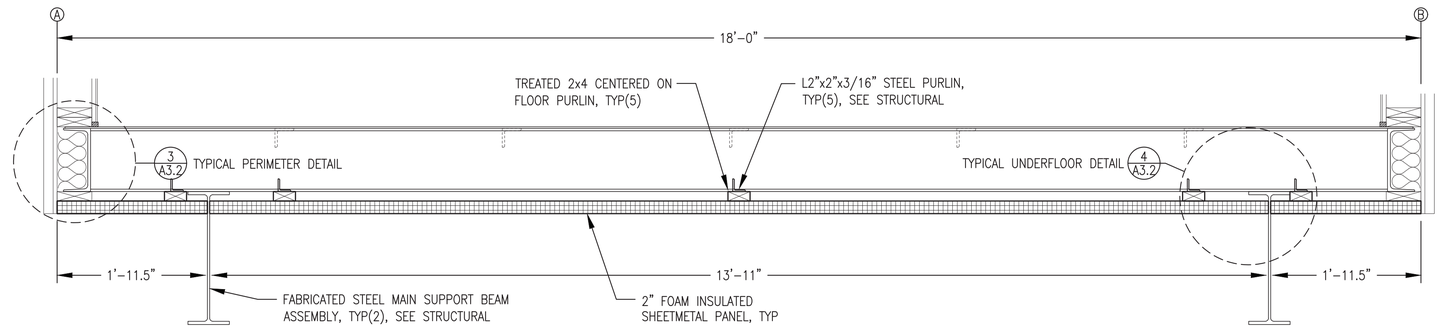
Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

DRAWN BY: JTD | SCALE: AS NOTED
DESIGNED BY: DGT/BCG | DATE: 11/1/21
FILE NAME: VEN PP A&S | SHEET: A3.1
PROJECT NUMBER:



NOTE: DIMENSIONS INDICATE APPROXIMATE INSULATED PANEL SIZES.

1 A3.2 UNDERFLOOR INSULATION PLAN
3/8"=1'-0"



2 A3.2 TYPICAL UNDERFLOOR INSULATION SECTION
1"=1'-0"

3 A3.2 TYPICAL PERIMETER DETAIL
1"=1'-0"

4 A3.2 TYPICAL UNDERFLOOR DETAIL
1"=1'-0"

5 A3.2 EXTERIOR WALL BASE
1"=2'-0"

ISSUED FOR CONSTRUCTION
NOVEMBER 2021

STATE OF ALASKA 49 TH David G. Thompson No. 7034 11/1/21 REGISTERED PROFESSIONAL ARCHITECT

CRW ENGINEERING GROUP, LLC
PHONE: (907) 562-3252

ALASKA ENERGY AUTHORITY

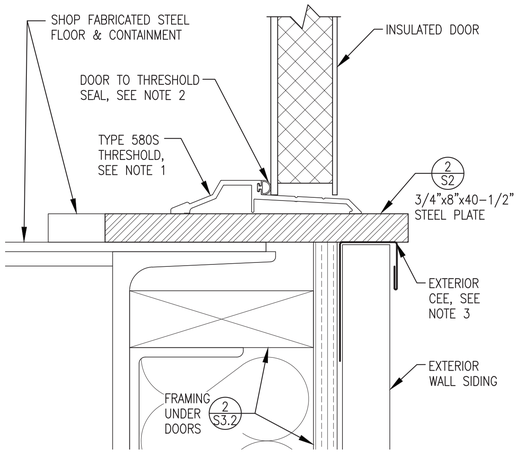
PROJECT: VENETIE POWER SYSTEM UPGRADE

TITLE: UNDERFLOOR INSULATION INSTALLATION PLAN & DETAILS

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

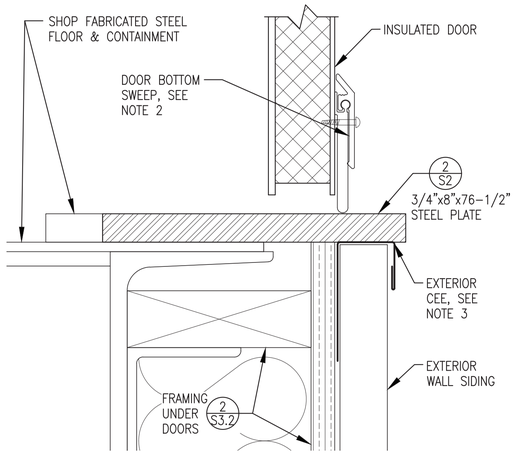
DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: DGT/BCG	DATE: 11/1/21
FILE NAME: VEN PP A&S	SHEET: A3.2
PROJECT NUMBER:	

NOTES:
1. SET DOOR FRAME ON TOP OF 3/4" STEEL PLATE AND CAULK FRAME TO PLATE ALL AROUND. SET THRESHOLD ON STEEL PLATE IN CONTINUOUS BED OF POLYURETHANE CAULKING AND CAULK ENDS TO DOOR JAMB.
2. ENSURE DOOR HEIGHT ABOVE STEEL PLATE SET PROPERLY FOR FULL ENGAGEMENT OF DOOR SURFACE WITH THRESHOLD SEAL.
3. CAULK CEE METAL TO STEEL PLATE, COLOR GRAY TO MATCH DOOR FRAME.



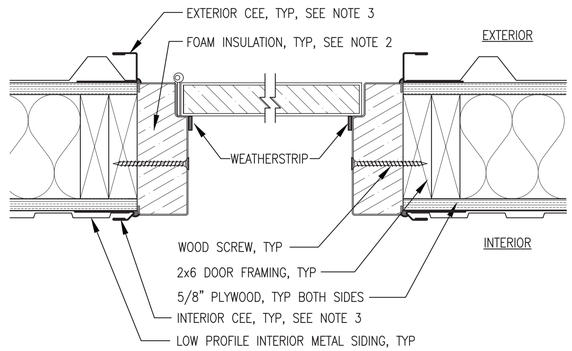
1 A4 EXTERIOR DOOR 101/102 THRESHOLD
NO SCALE

NOTES:
1. SET DOOR FRAME ON TOP OF 3/4" STEEL PLATE AND CAULK FRAME TO PLATE ALL AROUND.
2. ENSURE DOOR HEIGHT ABOVE STEEL PLATE AND SWEEP POSITION SET PROPERLY FOR FULL CONTACT OF SWEEP WITH PLATE.
3. CAULK CEE METAL TO STEEL PLATE, COLOR GRAY TO MATCH DOOR FRAME.



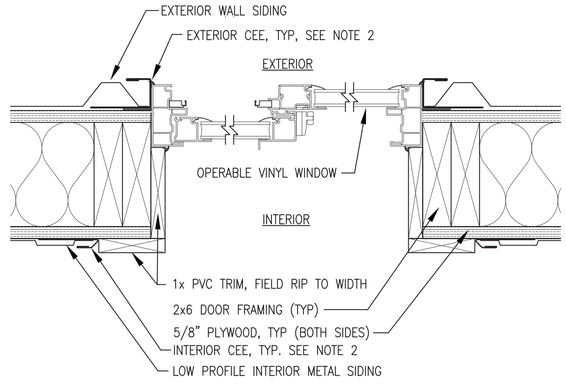
2 A4 EXTERIOR DOOR 104 THRESHOLD
NO SCALE

NOTES:
1) DOOR JAMB SHOWN, HEAD SIMILAR.
2) AFTER ADJUSTING & ANCHORING FRAME, FILL VOID BETWEEN FRAME & STUDS WITH MINIMAL EXPANDING FOAM INSULATION.
3) CAULK CEE METAL TO FRAME ALL AROUND, COLOR GRAY TO MATCH DOOR FRAME.



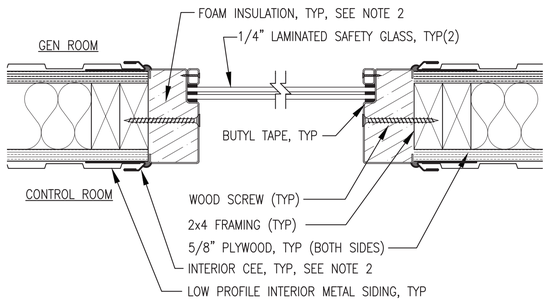
3 A4 TYPICAL EXTERIOR DOOR INSTALLATION
NO SCALE

NOTES:
1) WINDOW JAMB SHOWN, HEAD & SILL SIMILAR.
2) CAULK CEE METAL TO WINDOW/PVC TRIM ALL AROUND, COLOR WHITE TO MATCH PVC TRIM & WINDOW.



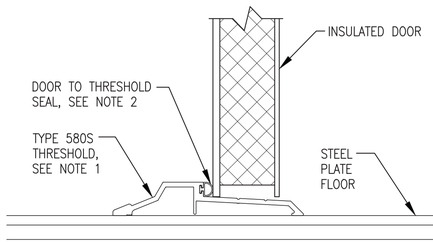
4 A4 EXTERIOR WINDOW A INSTALLATION
NO SCALE

NOTES:
1) WINDOW SHOWN, DOOR SIMILAR. JAMB SHOWN, HEAD SIMILAR.
2) AFTER ADJUSTING & ANCHORING FRAME, FILL VOID BETWEEN FRAME & STUDS WITH MINIMAL EXPANDING FOAM INSULATION.
3) CAULK CEE METAL TO FRAME ALL AROUND, COLOR GRAY TO MATCH DOOR FRAME.

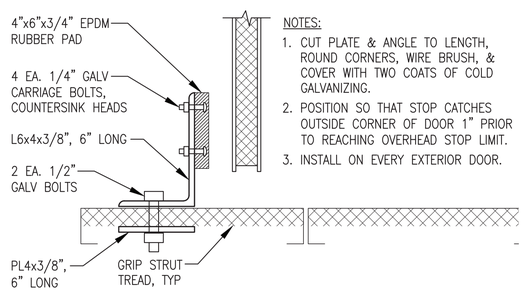


5 A4 INTERIOR DOOR 103/WINDOW B INSTALLATION
NO SCALE

NOTES:
1. SET DOOR FRAME DIRECTLY ON STEEL FLOOR AND CAULK FRAME TO FLOOR ALL AROUND. SET THRESHOLD ON FLOOR IN CONTINUOUS BED OF POLYURETHANE CAULKING AND CAULK ENDS TO DOOR JAMB.
2. ENSURE DOOR HEIGHT ABOVE FLOOR SET PROPERLY FOR FULL ENGAGEMENT OF DOOR SURFACE WITH THRESHOLD SEAL.



6 A4 INTERIOR DOOR 103 THRESHOLD
NO SCALE



NOTES:
1. CUT PLATE & ANGLE TO LENGTH, ROUND CORNERS, WIRE BRUSH, & COVER WITH TWO COATS OF COLD GALVANIZING.
2. POSITION SO THAT STOP CATCHES OUTSIDE CORNER OF DOOR 1" PRIOR TO REACHING OVERHEAD STOP LIMIT.
3. INSTALL ON EVERY EXTERIOR DOOR.

7 A4 TYPICAL EXTERIOR DOOR BOTTOM STOP
NO SCALE

DOOR CONSTRUCTION							FRAME CONSTRUCTION							
DOOR NO.	WIDTH	HEIGHT	THICK NESS	MATERIAL	CORE	REMARKS	HEAD/JAMB DETAIL	SILL DETAIL	FIRE RATING	MATERIAL	TYPE	PROFILE	FRAME DEPTH	HWR
101	3'-0"	6'-8"	1-3/4"	16 GA. H.M.	INSULATED	24"x24" RE-LIGHT {3}	3/A4	1/A4	NONE	16 GA. H.M.	WELDED	SINGLE RABBETED	6.75"	HW-1
102	3'-0"	6'-8"	1-3/4"	16 GA. H.M.	INSULATED	24"x24" RE-LIGHT {3}	3/A4	1/A4	NONE	16 GA. H.M.	WELDED	SINGLE RABBETED	6.75"	HW-1
103	2'-6"	6'-8"	1-3/4"	16 GA. H.M.	INSULATED	24"x18" RE-LIGHT {3}	5/A4	6/A4	NONE	16 GA. H.M.	WELDED	SINGLE RABBETED	4.75"	HW-2
104	6'-0"	6'-8"	1-3/4"	16 GA. H.M.	INSULATED		3/A4	2/A4	NONE	16 GA. H.M.	WELDED	SINGLE RABBETED	6.75"	HW-3
HOLLOW METAL WINDOW B							5/A4	5/A4	NONE	16 GA. H.M.	WELDED	SINGLE RABBETED	4.75"	N/A

DOOR HARDWARE:

HW-1

3 EA	HINGES	HAGER	BB1191 4.5 x 4.5NRP x 630
1 EA	EXIT DEVICE	PRECISION	2108 x 4908AX3 x 630
1 EA	CORE	BEST	BROWN CONSTRUCTION CORE
1 EA	DOOR CLOSER W/ SPRING STOP	LCN	4040 x SCUSH x 689
1 EA	KICK PLATE	ROCKWOOD	K1050 10 x 34 x 630
1 EA	WEATHER STRIP	PEMKO	2891AS x 36 (HEAD)
2 EA	WEATHER STRIP	PEMKO	290AS x 80 (SIDE JAMBS)
1 EA	THRESHOLD	HAGER	580S x 36

HW-2

3 EA	HINGES	HAGER	BB1191 4.5 x 4.5 x 630
1 EA	EXIT DEVICE	PRECISION	2108 x 4908AX3 x 630
1 EA	DOOR CLOSER	LCN	4040 x CUSH x 689
1 EA	KICK PLATE	ROCKWOOD	K1050 10 x 28 x 630
1 EA	MOP PLATE	ROCKWOOD	K1050 10 x 29 x 630
1 EA	SOUND SEAL	PEMKO	2891AS x 30 (HEAD)
2 EA	SOUND SEAL	PEMKO	290AS x 80 (SIDE JAMBS)
1 EA	THRESHOLD	HAGER	580S x 30

HW-3

6 EA	HINGES	HAGER	BB1191 4.5 x 4.5NRP x 630
1 EA	EXIT LOCK	SCHLAGE	ND25D x RHODES x 626
2 EA	OVERHEAD STOP HEAVY DUTY	ROCKWOOD	OH903H x US32D
2 EA	WEATHER STRIP	PEMKO	2891AS x 36 (HEAD)
2 EA	WEATHER STRIP	PEMKO	290AS x 80 (SIDE JAMBS)
1 EA	ASTRAGAL	PEMKO	355S x 80 (GASKETED "T")
2 EA	BOTTOM SWEEP	HAGER	750S x 36

NOTES:

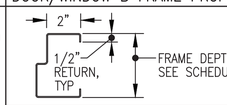
{1} DOORS AND DOOR FRAMES GALVANIZED AND FACTORY PRIMED. HOLLOW METAL WINDOW FRAMES FACTORY PRIMED. ALL FRAMES WELDED WITH EXPANSION ANCHORS.

{2} DOORS TO HAVE TOPS INVERTED AND CAULKED.

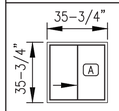
{3} INSTALL 24"x24" OR 24"x18" INSULATED RE-LIGHT WITH TWO PANES OF 1/4" LAMINATED SAFETY GLASS WITH 1/2" AIR GAP IN EACH DOOR PANEL AS NOTED.

{4} FIELD FINISH ALL DOORS AND FRAMES WITH TWO COATS OF EPOXY, PPG AMERLOC 2 VOC OR APPROVED EQUAL, COLOR ANSI 61 GRAY.

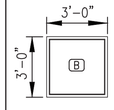
DOOR/WINDOW B FRAME PROFILE:



WINDOW TYPES:



OPERABLE SLIDER, WHITE VINYL FRAME & 1" INSULATED GLAZING



SINGLE RABBET HOLLOW METAL FRAME WITH 2 PANES OF 1/4" LAMINATED SAFETY GLASS & 1/2" AIR GAP

NOTE: DIMENSIONS ARE OVERALL FRAME SIZE.

ISSUED FOR CONSTRUCTION NOVEMBER 2021

STATE OF ALASKA 49 TH
David G. Thompson No. 7034 11/1/21
REGISTERED PROFESSIONAL ARCHITECT

CRW ENGINEERING GROUP, LLC PHONE: (907) 562-3252

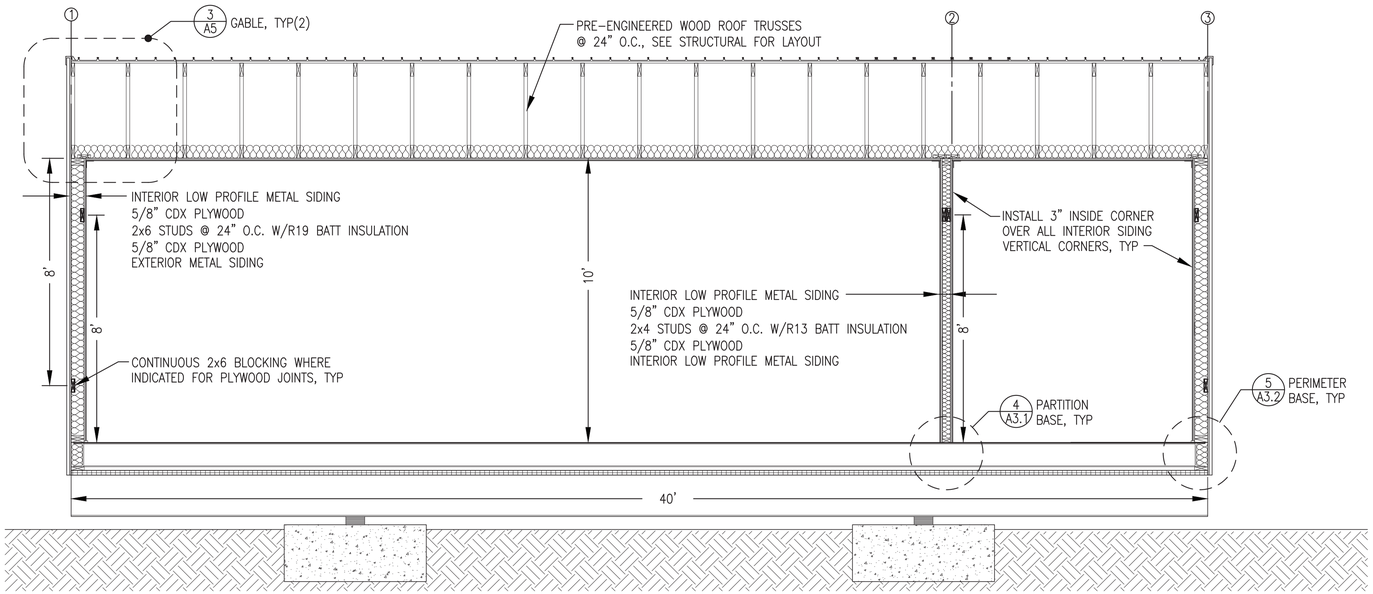
ALASKA ENERGY AUTHORITY

PROJECT: VENETIE POWER SYSTEM UPGRADE

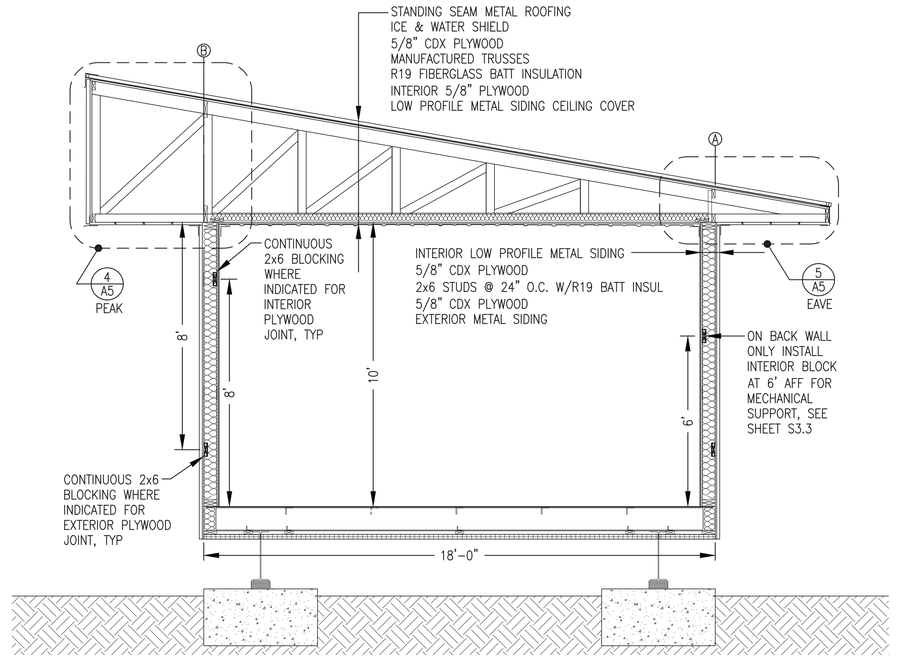
TITLE: DOORS/WINDOWS SCHEDULES & DETAILS

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

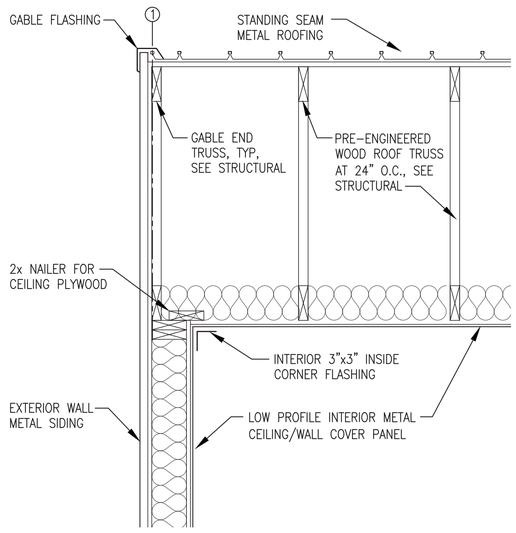
DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: DGT/BCG	DATE: 11/1/21
FILE NAME: VEN PP A&S	SHEET: A4
PROJECT NUMBER:	



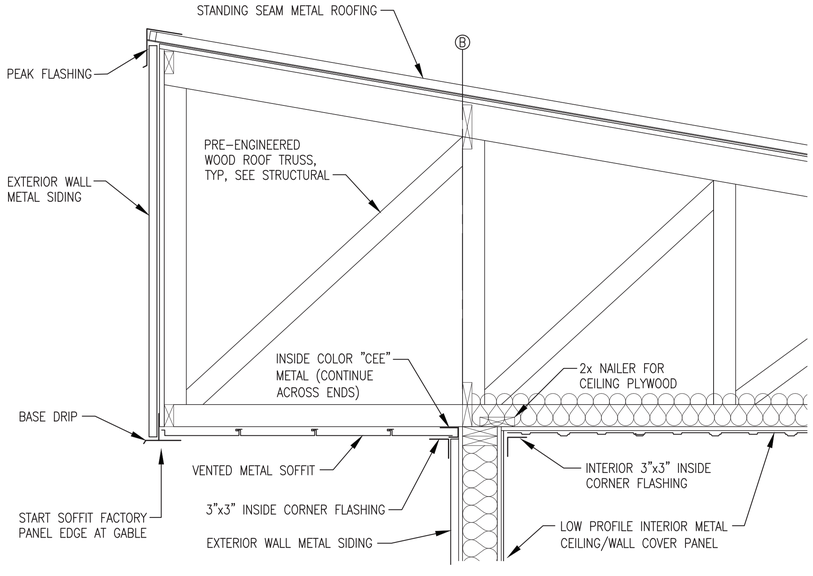
1 A5 BUILDING SECTION
3/8"=1'-0"



2 A5 BUILDING SECTION
3/8"=1'-0"



3 A5 GABLE DETAIL
1"=1'-0"



4 A5 PEAK DETAIL
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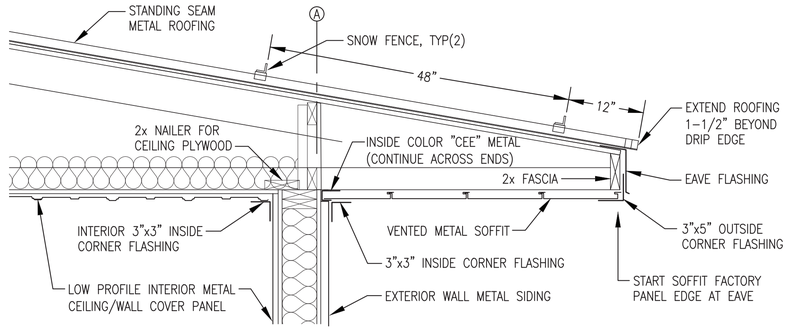


5 A5 EAVE DETAIL
1"=1'-0"

ISSUED FOR CONSTRUCTION
NOVEMBER 2021

STATE OF ALASKA
49 TH
David G. Thompson
No. 7034
11/1/21
REGISTERED PROFESSIONAL ARCHITECT

CRW ENGINEERING GROUP, LLC
PHONE: (907) 562-3252

ALASKA ENERGY AUTHORITY

PROJECT: VENETIE POWER SYSTEM UPGRADE

TITLE: BUILDING SECTIONS & DETAILS

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: DGT/BCG	DATE: 11/1/21
FILE NAME: VEN PP A&S	SHEET: A5
PROJECT NUMBER:	

METAL ROOFING/SIDING GENERAL NOTES:

1) FURNISH A COMPLETE EXTERIOR METAL ROOFING SYSTEM AND METAL SIDING SYSTEM WITH ALL FLASHINGS AND ACCESSORIES REQUIRED TO FORM A CONTINUOUS WEATHERPROOF SEAL.

2) FURNISH CLIPS AND FASTENERS AS REQUIRED TO MEET MEET LOAD CONDITIONS INDICATED ON SHEET S1.2. ALL FASTENERS CORROSION RESISTANT STAINLESS STEEL OR ALUMINUM.

3) FURNISH A COMPLETE INTERIOR METAL CEILING AND WALL COVERAGE SYSTEMS WITH ALL FLASHING AND ACCESSORIES AS INDICATED.

4) PROVIDE CEE METAL TRIM FOR ALL DOORS, WINDOWS, AND MECHANICAL/ELECTRICAL OPENINGS SHOWN ON PLANS AND SECTIONS. CEE METAL TO MATCH ASSOCIATED METAL SIDING AS INDICATED.

5) ROOFING SYSTEM COLOR FORREST GREEN TO INCLUDE ROOF TRIM AS INDICATED. EXTERIOR WALL COLOR SIERRA TAN TO COVER ALL EXTERIOR SURFACES UP TO ROOF TRIM INCLUDING SOFFIT. ALL INTERIOR METAL COLOR WHITE.

6) IN ADDITION TO PANELS REQUIRED FOR COMPLETE COVERAGE OF ALL SURFACES FURNISH ONE EACH SPARE OF LONGEST OF EACH TYPE OF PANEL INCLUDING ROOF, SOFFIT, EXTERIOR SIDING, INTERIOR WALL, AND INTERIOR CEILING.

7) PROVIDE COMPLETE SHOP DRAWINGS FOR ALL METAL ROOFING AND SIDING INCLUDING LAYOUT, DETAILS, AND BILL OF MATERIALS.

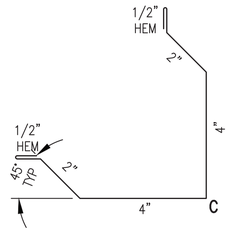
EXTERIOR WALL SIDING SYSTEM SPECIFICATIONS:

1) EXTERIOR SIDING SYSTEM PANELS SHALL BE MIN 24 GAUGE GALVANIZED STEEL, 36" NET COVERAGE, 1-1/4" HIGH MAJOR RIBS AT 16" O.C. AND 1/4" HIGH MINOR RIBS AT 12" O.C. AEP SPAN PBR OR EQUAL. KYNAR OR PVDF FINISH, COLOR COOL SIERRA TAN.

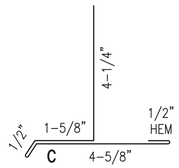
2) VENTED SOFFIT PANELS SHALL BE 24 GAUGE GALVANIZED STEEL, 12" NET COVERAGE, KYNAR FINISH, 1" STANDOFF FROM SUBSTRATE, CONCEALED FASTENERS, WITH TWO PENCIL RIBS PROVIDING MINIMUM 7.8% NET FREE AREA. AEP SPAN FLUSH-PANEL OR EQUAL. KYNAR OR PVDF FINISH, COLOR COOL SIERRA TAN.

3) EXTERIOR SIDING SYSTEM TRIM/FLASHING SHALL BE MIN 24 GAUGE GALVANIZED STEEL, KYNAR OR PVDF FINISH TO MATCH EXTERIOR SIDING PANELS.

EXTERIOR WALL SIDING SYSTEM TRIM & FLASHING (PVDF FINISH, COLOR COOL SIERRA TAN):

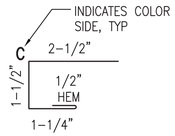


4" OUTSIDE CORNER

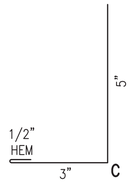


BASE DRIP

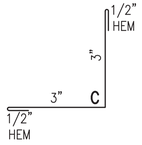
INSIDE COLOR CEE-METAL



OUTSIDE COLOR CEE-METAL



3"x5" OUTSIDE CORNER



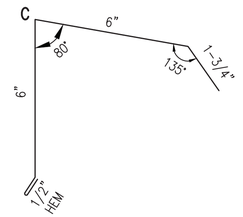
3"x3" INSIDE CORNER

ROOFING SYSTEM SPECIFICATIONS:

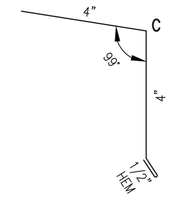
1) ROOFING SYSTEM STANDING SEAM PANELS SHALL BE MIN 22 GAUGE GALVANIZED STEEL, 16" NET COVERAGE, 1-7/8" HIGH RIBS. AEP SPAN DESIGN SPAN HP OR EQUAL. KYNAR OR PVDF FINISH, COLOR COOL LEAF GREEN.

2) ROOFING SYSTEM TRIM/FLASHING SHALL BE MIN 24 GAUGE GALVANIZED STEEL. KYNAR OR PVDF FINISH TO MATCH ROOF PANELS.

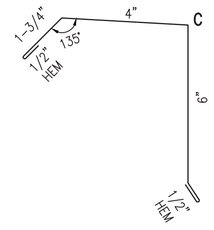
ROOFING SYSTEM TRIM & FLASHING (PVDF FINISH, COLOR COOL LEAF GREEN):



PEAK FLASHING



EAVE FLASHING



GABLE FLASHING

SNOW FENCE SPECIFICATIONS:

1) PROVIDE 2 ROWS OF SNOW RETENTION FENCE AS INDICATED.

2) SNOW FENCE SHALL BE L.M. CURBS COLOR GUARD OR APPROVED EQUAL. FURNISH COMPLETE SYSTEM INCLUDING UNPUNCHED COLOR GUARD, SPLICES, VERSA CLIPS, SNO CLIPS III, S5 KHD CLAMPS, 6" INSERTS, AND ALL REQUIRED FASTENERS.

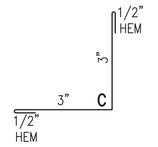
INTERIOR CEILING/WALL COVER SPECIFICATIONS:

1) INTERIOR METAL CEILING COVER SHALL BE MIN 29 GAUGE GALVANIZED STEEL, 36" NET COVERAGE, 5/8" LOW PROFILE RIBS AT 9" O.C. ASC NOR-CLAD OR EQUAL. STMP, KYNAR, OR PVDF FINISH, COLOR WINTER WHITE.

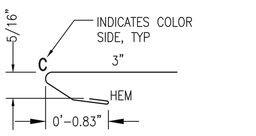
2) INTERIOR METAL WALL COVER SHALL BE MIN 29 GAUGE GALVANIZED STEEL, 36" NET COVERAGE, 1/4" LOW PROFILE RIBS AT 4" O.C. ASC KLONDIKE OR EQUAL. STMP, KYNAR, OR PVDF FINISH, COLOR WINTER WHITE.

3) INTERIOR METAL CEILING/WALL COVER TRIM/FLASHING SHALL BE MIN 29 GAUGE GALVANIZED STEEL. STMP, KYNAR, OR PVDF FINISH, COLOR WINTER WHITE.

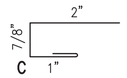
INTERIOR CEILING/WALL TRIM & FLASHING (COLOR REGAL WHITE):



3"x3" INSIDE CORNER



5/16" (KLONDIKE) OUTSIDE COLOR CEE-METAL



7/8" (NORCLAD) OUTSIDE COLOR CEE-METAL

UNDERFLOOR INSULATED SIDING PANEL SPECIFICATIONS:

1) INSULATED UNDERFLOOR SHALL BE ROLL-FORMED GALVANIZED STEEL SHEET FACES CHEMICALLY BONDED TO INSULATED CORE. CONTINUOUSLY FOAMED-IN-PLACE POLYURETHANE, FACTORY MUTUAL CLASS 1 APPROVAL. METL-SPAN SANTA FE OR APPROVED EQUAL.

2) EXTERIOR FACE SHALL BE MINIMUM 24 GAUGE STUCCO EMBOSSED FLAT WALL PANEL. KYNAR OR PVDF FINISH, COLOR COOL ZINC GRAY. INTERIOR FACE SHALL BE MINIMUM 24 GAUGE STUCCO EMBOSSED FLAT WALL PANEL. STMP, KYNAR, OR PVDF FINISH, COLOR WHITE.

3) SIDE CONNECTION JOINTS SHALL BE OFFSET DOUBLE TONGUE AND GROOVE WITH AN EXTENDED METAL SHELF.

ISSUED FOR CONSTRUCTION
NOVEMBER 2021

STATE OF ALASKA 49 TH
David G. Thompson No. 7034 11/1/21
REGISTERED PROFESSIONAL ARCHITECT

CRW ENGINEERING GROUP, LLC
PHONE: (907) 562-3252

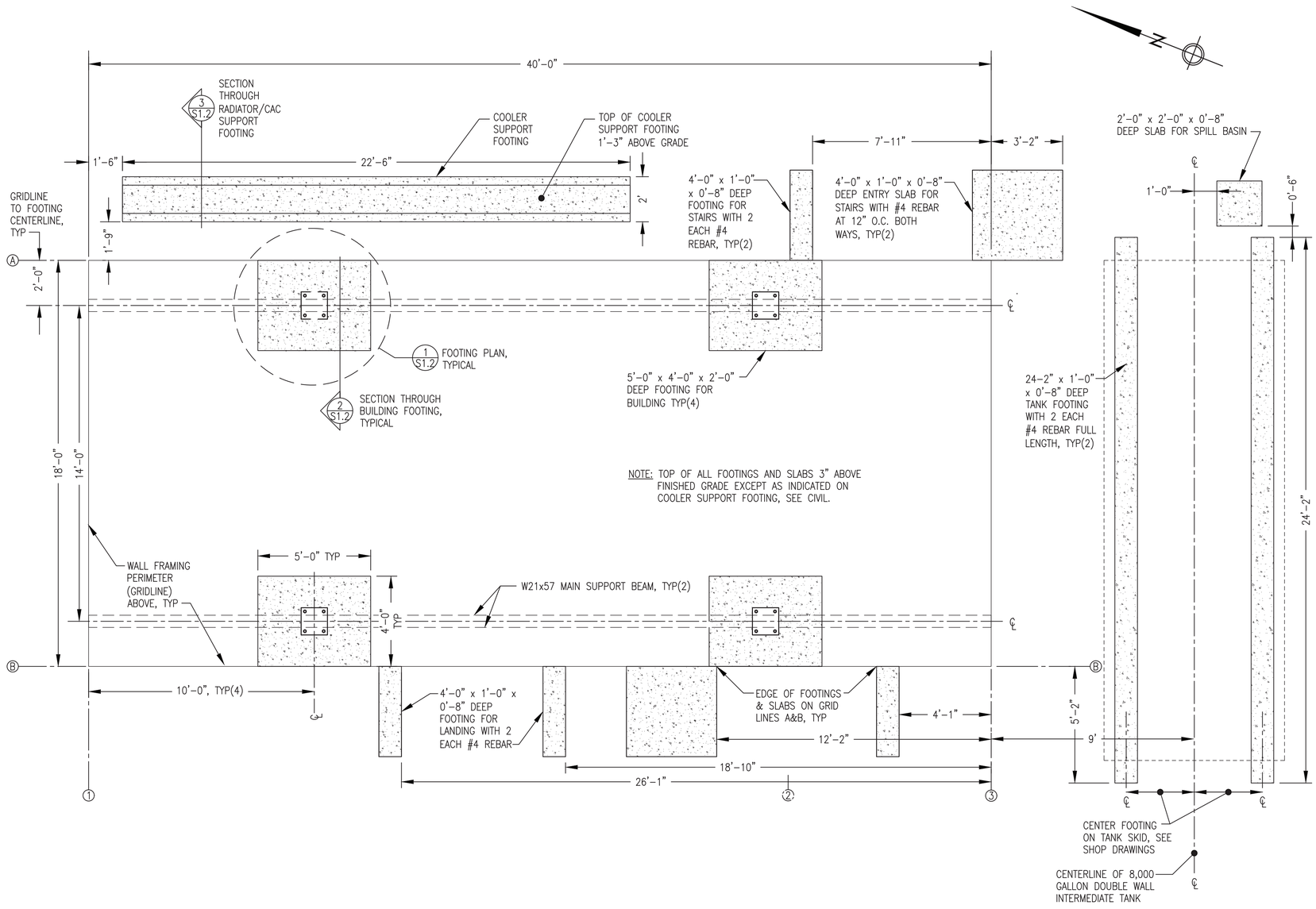
ALASKA ENERGY AUTHORITY

PROJECT: VENETIE POWER SYSTEM UPGRADE

TITLE: ROOFING/SIDING SPECIFICATIONS & DETAILS

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: DGT/BCG	DATE: 11/1/21
FILE NAME: VEN PP A&S	SHEET: A6
PROJECT NUMBER:	



1 S1.1 FOUNDATION PLAN
3/8"=1'-0"

STRUCTURAL GENERAL NOTES:

1.0 DESIGN LOADS:

A. BUILDING CODE: 2012 INTERNATIONAL BUILDING CODE

B. FLOOR LIVE LOADS: (IBC TABLE 1607.1)
- LIGHT STORAGE/MANUFACTURING: 125 PSF OR 2000 POUND POINT LOAD
- MAXIMUM GENERATOR UNIT WEIGHT: 6,000 POUNDS

C. SNOW LOADS: (ASCE 7-10)
- GROUND SNOW LOAD, Pg = 70 PSF
- COEFFICIENT OF EXPOSURE, Ce = 1.0 PARTIALLY EXPOSED
- SNOW IMPORTANCE FACTOR, Is = 1.2 CATEGORY IV
- THERMAL COEFFICIENT, Ct = 1.1 COLD, VENTILATED ROOF
- ROOF/FLAT SNOW LOAD, Pf = 65 PSF

D. WIND LOADS:
- BASIC WIND SPEED = 116 MPH, 3 SECOND GUST
- RISK CATEGORY = CATEGORY IV
- EXPOSURE CLASSIFICATION = EXPOSURE C

E. SEISMIC LOADING:
- SEISMIC = Ss = 0.55 S1 = 0.21
- SEISMIC IMPORTANCE FACTOR = 1.50 , CATEGORY IV
- SITE CLASS = "D"
- BASIC SEISMIC FORCE RESISTANCE SYSTEM = BUILDING - WOOD BEARING/SHEAR WALLS FOUNDATION - SPREAD CONCRETE FOOTINGS
- SEISMIC RESPONSE COEFFICIENT, R = 6-1/2

2.0 FOUNDATIONS:

A. SEE CIVIL FOR NFS STRUCTURAL GRAVEL PAD.

B. PROVIDE REINFORCED CONCRETE FOUNDATIONS IN ACCORDANCE WITH SPECIFICATIONS AND AS DETAILED ON SHEET S1.2.

3.0 STRUCTURAL STEEL:

A. THE DESIGN, FABRICATION, AND ERECTION OF ALL STRUCTURAL STEEL SHALL COMPLY WITH THE CODE OF STANDARD PRACTICE OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.

B. ALL STEEL PLATE, SHAPES, AND ROLLED SECTIONS SHALL BE ASTM A36. ALL STEEL TUBING SHALL BE ASTM A500, GRADE B.

C. ALL METAL TO METAL CONNECTIONS SHALL BE EQUAL TO STANDARD CONNECTION, OR AS DETAILED USING A325 BOLTS (BEARING TYPE CONNECTIONS). TIGHTEN HIGH STRENGTH BOLTS WITH PROPERLY CALIBRATED WRENCHES, BY TURN-OF-THE-NUT METHOD, OR BY LOAD WASHERS. ALL CONNECTIONS UNLESS OTHERWISE DETAILED, SHALL HAVE THE MAXIMUM NUMBER OF 3/4" DIAMETER BOLTS USING STANDARD GAUGES AND CLEARANCES.

D. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH THE CURRENT CODE OF THE AMERICAN WELDING SOCIETY. USE AWS 5.1 E70XX ELECTRODES. MINIMUM FILLET WELD SHALL BE 3/16" EXCEPT FOR SEAL WELDS TO GAUGE METAL AS INDICATED.

E. STEEL SURFACES SHALL BE PREPARED AND PAINTED AS INDICATED IN THE ASSOCIATED FABRICATION AND ASSEMBLY NOTES.

4.0 WOOD:

A. 5/8" PLYWOOD SHALL HAVE A PANEL SPAN RATING OF 32/16 - MINIMUM NAILING FOR PANELS, UNLESS OTHERWISE NOTED, SHALL EQUAL 10d NAILS AT 4" CENTERS AROUND PLYWOOD PANEL EDGES AND 10d'S @ 12" CENTERS ALONG INTERMEDIATE FRAMING. BLOCK ALL DIAPHRAGM PANEL EDGES WITH 2X4 FLAT BLOCKING. OSB PANELS WILL NOT BE ACCEPTED.

B. FRAMING MATERIAL: DOUGLAS FIR OR HEM FIR, NO. 2 OR BETTER MINIMUM FOR JOISTS, STUDS, PANEL JOINTS, WOOD PLATES, BLOCKING, AND HEADERS. MAXIMUM MOISTURE CONTENT SHALL BE 19%. FOR FRAMING SPECIFICALLY INDICATED AS TREATED PROVIDE LUMBER TREATED FOR GROUND CONTACT TO 0.4 RETENTION MINIMUM.

C. ALL METAL TO WOOD OR WOOD TO WOOD CONNECTIONS SHALL BE STANDARD OR AS DETAILED ON THE DRAWINGS. ALL FASTENERS SHALL BE GALVANIZED OR STAINLESS STEEL.

D. ALL METAL FRAMING ANCHORS AND SPLICE PLATES SHALL BE FABRICATED FROM GALVANIZED STEEL AND SHALL SUPPORT THE LOADS INDICATED ON THE DRAWINGS. ANCHORS INDICATED ON THE DRAWINGS ARE "SIMPSON COMPANY" OR EQUAL.

E. MINIMUM NAILING SHALL EQUAL THAT INDICATED IN 2012 IBC TABLE 2304.9.1 UNLESS OTHERWISE INDICATED ON THE DRAWINGS OR ANCHOR MANUFACTURER'S INSTALLATION INSTRUCTIONS. MINIMUM NAILING FOR EXTERIOR PLYWOOD PANELS SHALL EQUAL 10d NAILS AT 4" CENTERS AROUND PLYWOOD PANEL EDGES AND 10d'S @ 12" CENTERS ALONG INTERMEDIATE FRAMING. BLOCK ALL DIAPHRAGM PANEL EDGES WITH 2x4 OR 2x6 BLOCKING.

F. ERECT WOOD FRAMING MEMBERS TRUE TO LINES AND LEVELS. DO NOT DEVIATE FROM TRUE ALIGNMENT MORE THAN 1/4 INCH.

G. PREMANUFACTURED ROOF TRUSSES: ALL PRE-MANUFACTURED WOOD TRUSSES SHALL BE "GANG NAIL" OR EQUAL AND SHALL BE FABRICATED WITH GALVANIZED PLATES AND FASTENERS AS INDICATED ABOVE. TRUSSES SHALL DESIGNED FOR THE GRAVITY LOADS, WIND & SEISMIC LATERAL & UPLIFT LOADS, AND SUPPORT CONDITIONS AS INDICATED ON THE DRAWINGS. NO DURATION OF LOAD INCREASE IN STRESSES WILL BE ALLOWED FOR SNOW LOADING. UNBALANCED SNOW AND DRIFT LOADING IS REQUIRED. SUBMIT TRUSS DESIGNS STAMPED BY AN ENGINEER LICENSED TO PRACTICE IN THE STATE OF ALASKA. TRUSS DRAWINGS SHALL INDICATE ALL MATERIALS OF CONSTRUCTION.

ISSUED FOR CONSTRUCTION NOVEMBER 2021

STATE OF ALASKA 49TH
David G. Thompson SE 14226 11/1/21
REGISTERED PROFESSIONAL ENGINEER

CRW ENGINEERING GROUP, LLC
PHONE: (907) 562-3252

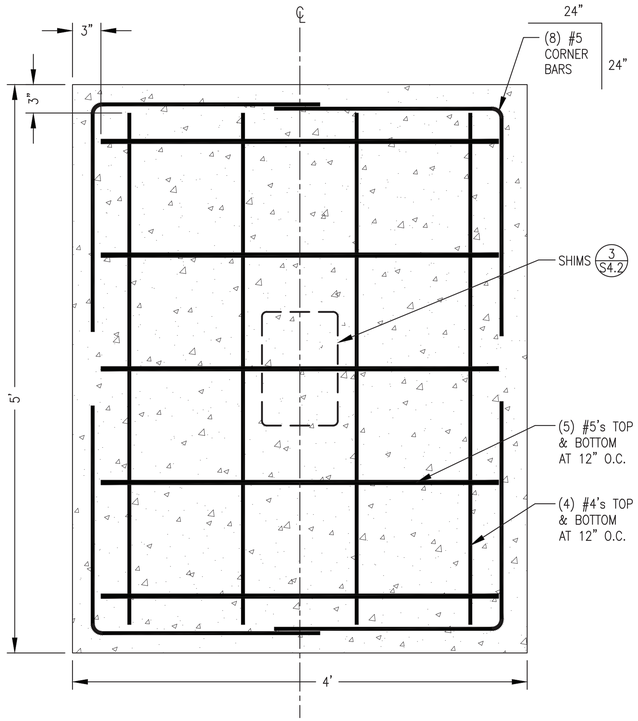
ALASKA ENERGY AUTHORITY

PROJECT: VENETIE POWER SYSTEM UPGRADE

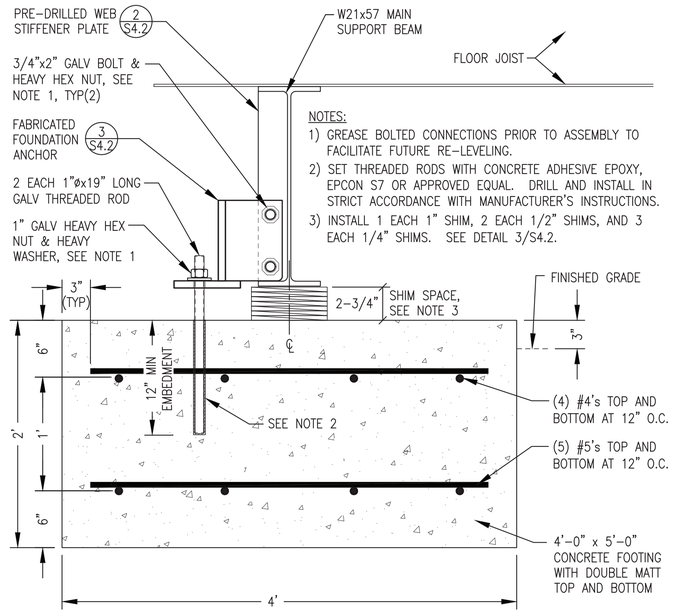
TITLE: FOUNDATION PLAN, CODE ANALYSIS, & STRUCTURAL NOTES

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

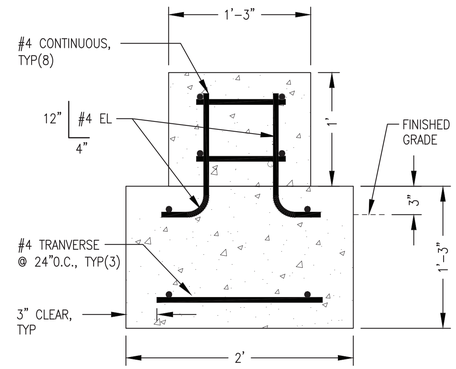
DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: DGT/BCG	DATE: 11/1/21
FILE NAME: VEN PP A&S	SHEET: S1.1
PROJECT NUMBER:	



1 S1.2 BUILDING FOOTING PLAN
1 1/2"=1'-0"



2 S1.2 SECTION THROUGH BUILDING FOOTING
1 1/2"=1'-0"



3 S1.2 SECTION THROUGH RADIATOR SUPPORT FOOTING
1 1/2"=1'-0"

ISSUED FOR CONSTRUCTION NOVEMBER 2021

STATE OF ALASKA
49TH
David G. Thompson
SE 14226
11/1/21
REGISTERED PROFESSIONAL ENGINEER

CRW ENGINEERING GROUP, LLC
PHONE: (907) 562-3252

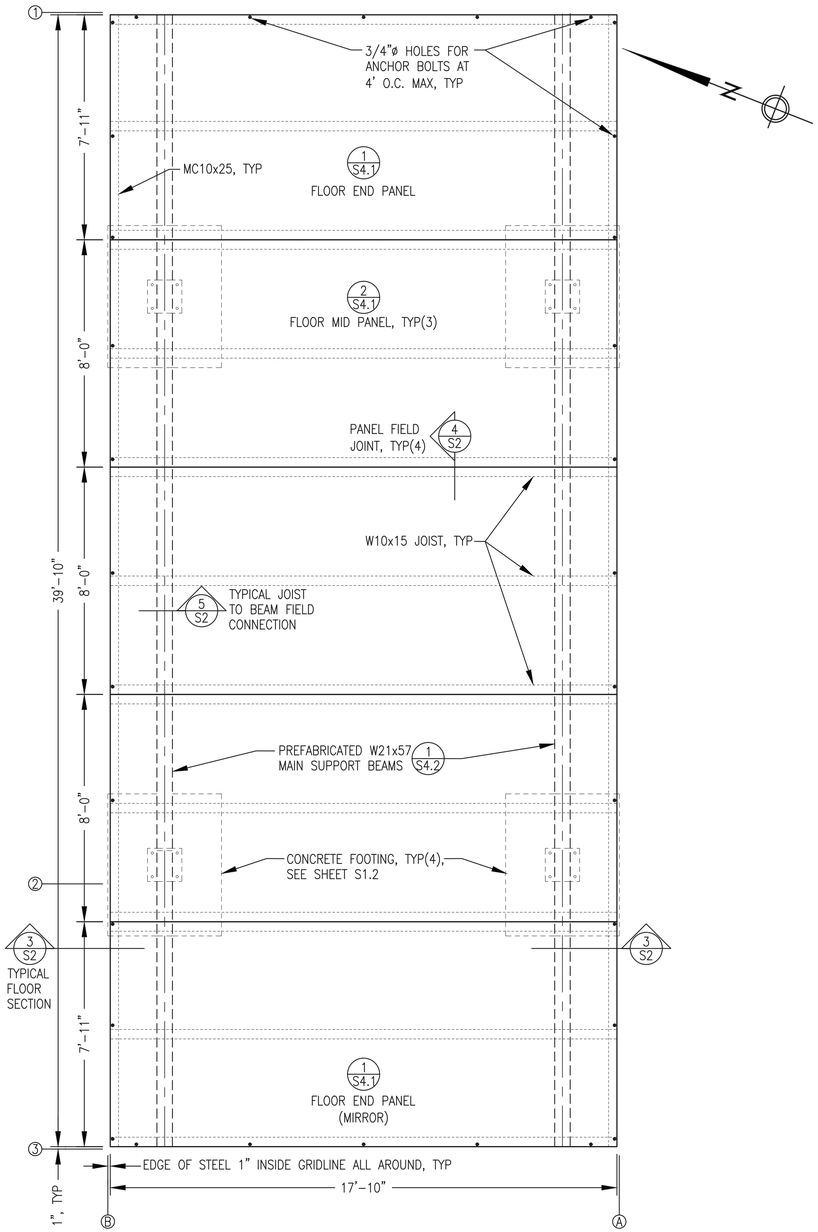
ALASKA ENERGY AUTHORITY

PROJECT: VENETIE POWER SYSTEM UPGRADE

TITLE: FOUNDATION DETAILS

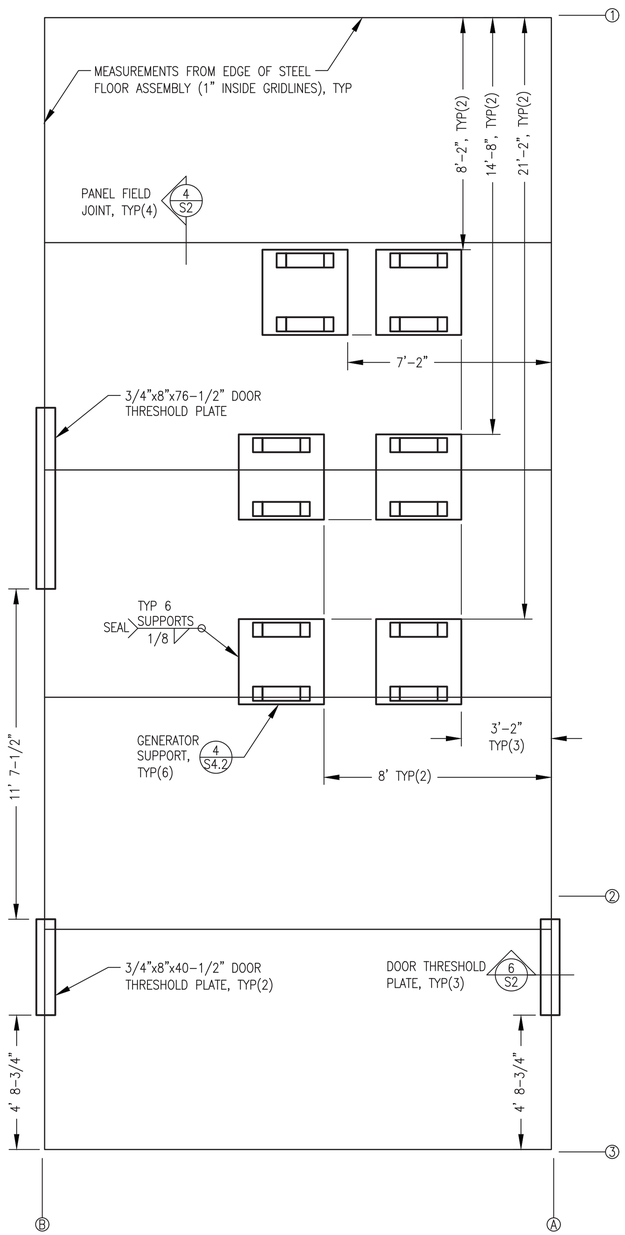
Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: DGT/BCG	DATE: 11/1/21
FILE NAME: VEN PP A&S	SHEET: S1.2
PROJECT NUMBER:	



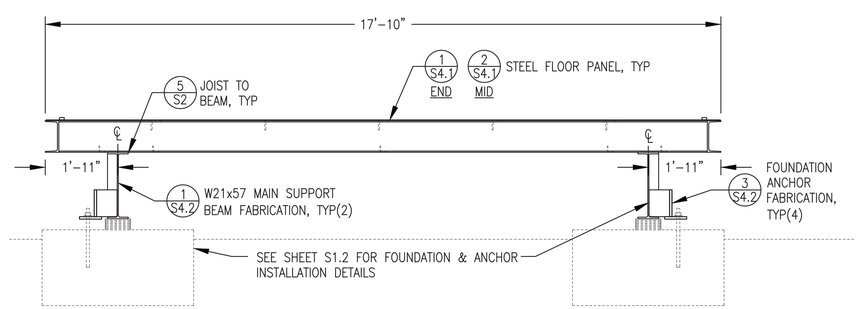
1 S2 STEEL FLOOR PANEL ASSEMBLY PLAN

3/8"=1'-0"



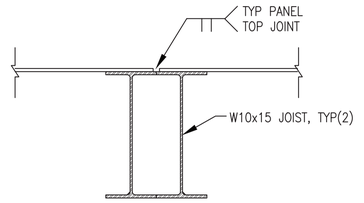
2 S2 GENERATOR SUPPORT & THRESHOLD PLATES PLAN

3/8"=1'-0"



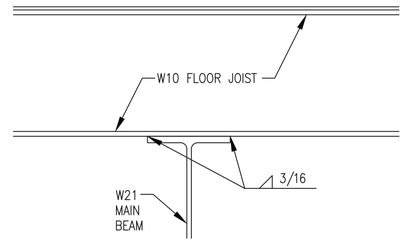
3 S2 TYPICAL FLOOR SECTION

1/2"=1'-0"



4 S2 TYPICAL FLOOR PANEL JOINT

NO SCALE

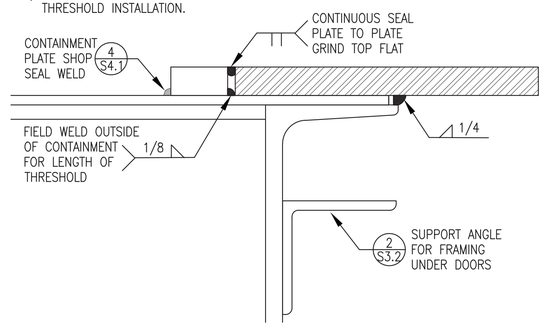


5 S2 TYPICAL JOIST TO BEAM CONNECTION

NO SCALE

NOTES:

1) AFTER GRINDING AND PREPARING THRESHOLD AREAS, WELD OUTSIDE EDGE OF CONTAINMENT PLATE TO FLOOR PLATE AS SHOWN.
2) REPOSITION DOOR THRESHOLD PLATES AND WELD TO FLOOR PLATE AND CONTAINMENT PLATE AS SHOWN.
3) GRIND TOP OF GROOVE WELD FLAT TO CREATE SMOOTH BASE FOR DOOR THRESHOLD INSTALLATION.



6 S2 DOOR THRESHOLD PLATE INSTALLATION DETAIL

3/8"=1'-0"

STEEL FLOOR ASSEMBLY AND PAINTING NOTES:

1) SHOP FABRICATED FLOOR PANELS TO BE PROVIDED WITH EPOXY PRIME COAT ON ENTIRE FLOOR SURFACE AREA EXCEPT EDGE JOINT WELD AREAS. REMOVE ALL MASKING AND CLEAN ANY ADHESIVE FROM WELD AREA PRIOR TO WELDING & RE-PRIMING.
2) MAKE ALL FLOOR PANEL JOINTS AND CONNECTIONS WITH GROOVE OR FILLET WELDS FOR CONTINUOUS SEAL.
3) UPON COMPLETION OF FLOOR PANEL ASSEMBLY LAYOUT PERIMETER OF ALL GENERATOR SUPPORTS AND DOOR THRESHOLD PLATES. MARK EDGES FOR WELDING. GRIND OFF MINIMUM 2" WIDE STRIP OF PAINT ALONG ALL WELD PERIMETERS. GRIND ALL FLOOR JOINT WELDS FLAT WITHIN THE GENERATOR SUPPORT AND DOOR THRESHOLD FOOTPRINTS. REPOSITION GENERATOR SUPPORTS AND DOOR THRESHOLDS AND WELD TO FLOOR PLATE.
4) AFTER COMPLETING INSTALLATION OF ALL SUPPORTS AND PLATES GRIND ALL REMAINING FLOOR JOINT AND GENERATOR SUPPORT WELDS SMOOTH. GRIND/WIRE BRUSH AREAS ADJACENT TO WELDS TO REMOVE ANY RESIDUAL SLAG OR HEAT DAMAGED PRIMER. WIRE BRUSH BARE METAL AND ADJOINING PAINT AREAS AS REQUIRED TO ABRADE SURFACE FOR PRIMING. PRIME ALL PREPARED SURFACES WITH ONE COAT OF EPOXY, PPG AMERLOC 2 VOC OR APPROVED EQUAL, COLOR ANSI 61 GRAY, MINIMUM 4 MILS DRY FILM THICKNESS.
5) SEE MECHANICAL AND ELECTRICAL FOR ADDITIONAL EQUIPMENT, TANKS, SUPPORT RACKS, ETC.. TO BE WELDED TO STEEL FLOOR. FOLLOW PROCEDURES LISTED ABOVE FOR SURFACE PREPARATION AND RE-PRIMING OF ALL ADDITIONAL MISCELLANEOUS FLOOR WELD AREAS.
6) UPON PROJECT COMPLETION OF POWER PLANT CONSTRUCTION, CLEAN AND DEGREASE ENTIRE FLOOR. LIGHTLY SAND ENTIRE FLOOR TO ABRADE SURFACE FOR TOP COAT. FINISH WITH ONE OR MORE COATS OF EPOXY, PPG AMERLOC 2 VOC OR APPROVED EQUAL, COLOR ANSI 61 GRAY, MINIMUM 4 MILS DRY FILM THICKNESS.

ISSUED FOR CONSTRUCTION NOVEMBER 2021

STATE OF ALASKA 49TH David G. Thompson SE 14226 11/1/21 REGISTERED PROFESSIONAL ENGINEER

CRW ENGINEERING GROUP, LLC PHONE: (907) 562-3252

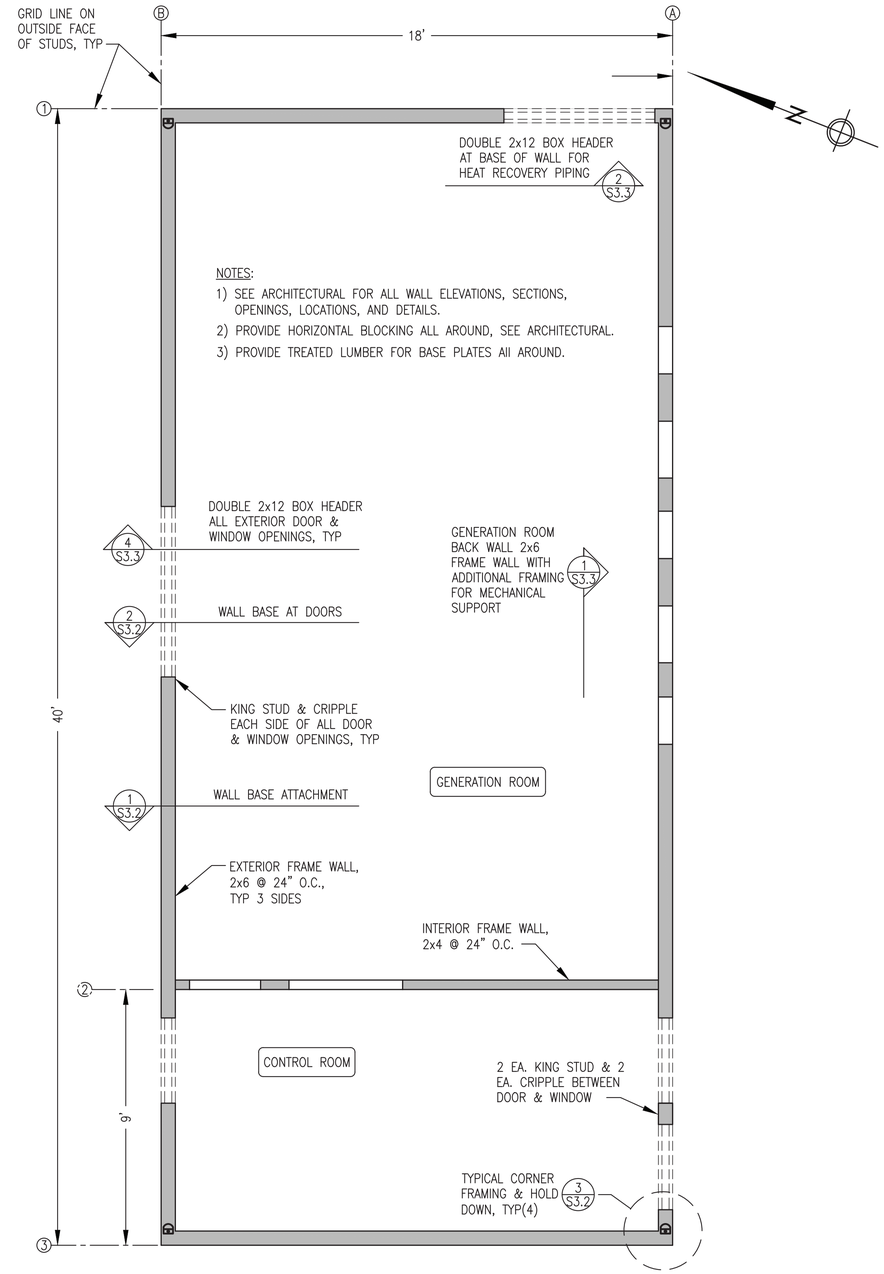
ALASKA ENERGY AUTHORITY

PROJECT: VENETIE POWER SYSTEM UPGRADE

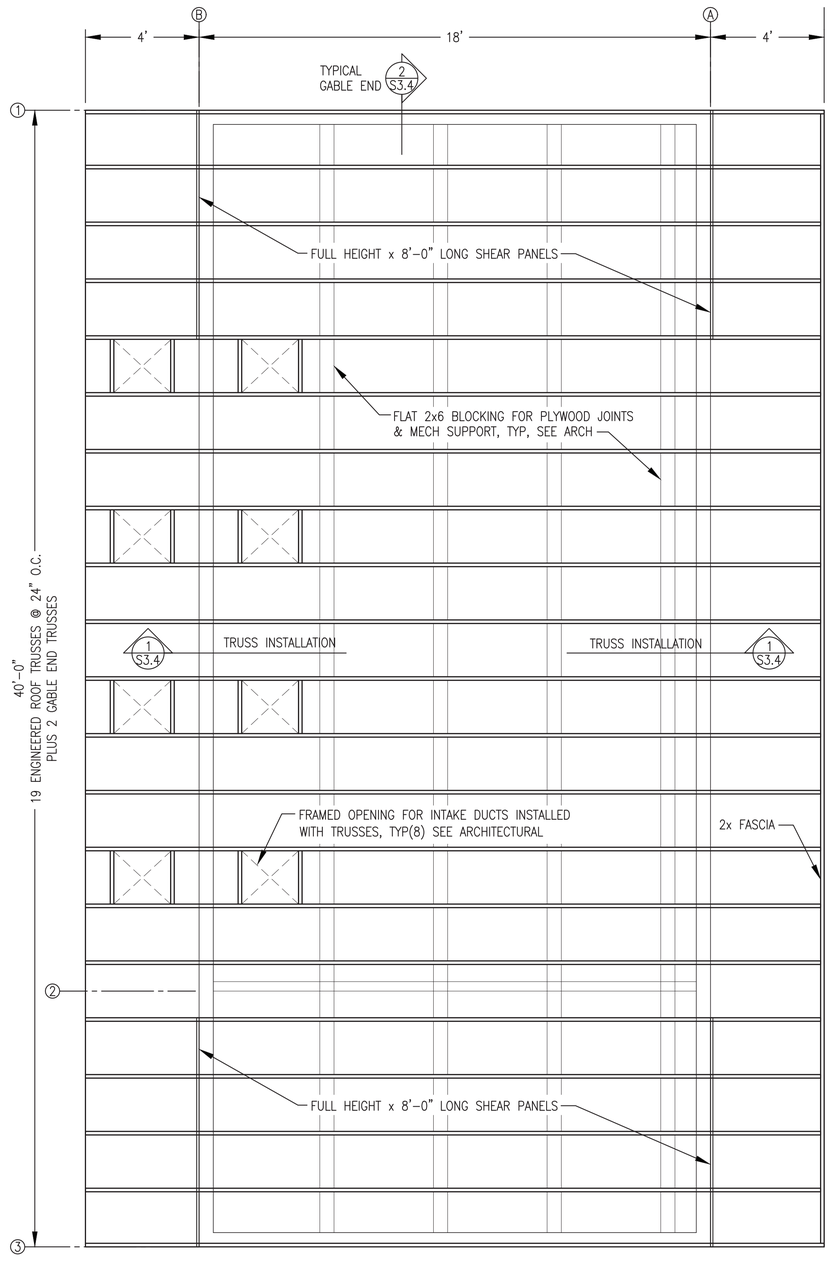
TITLE: STEEL FLOOR FIELD INSTALLATION PLANS & DETAILS

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: DGT/BCG	DATE: 11/1/21
FILE NAME: NIKORPSU A&S	SHEET: S2
PROJECT NUMBER:	



1 S3.1 WALL FRAMING PLAN
3/8"=1'-0"



2 S3.1 ROOF FRAMING PLAN
3/8"=1'-0"

ISSUED FOR CONSTRUCTION
NOVEMBER
2021

STATE OF ALASKA
49 TH
David G. Thompson
SE 14226
11/1/21
REGISTERED PROFESSIONAL ENGINEER

CRW ENGINEERING GROUP, LLC
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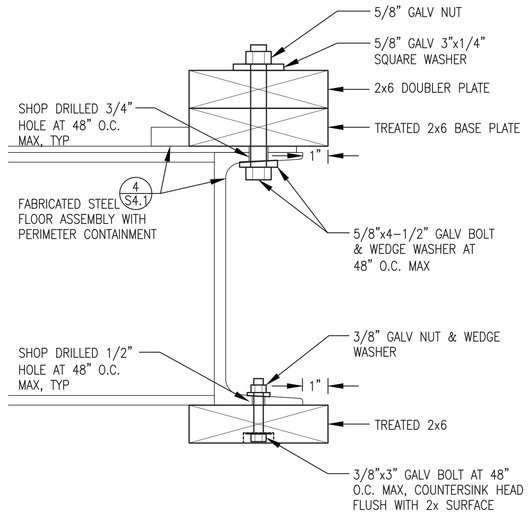
ALASKA ENERGY AUTHORITY

PROJECT:
VENETIE POWER SYSTEM UPGRADE

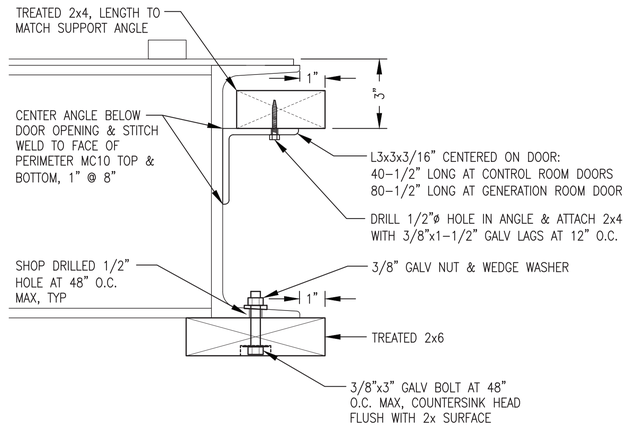
TITLE:
WALL & ROOF FRAMING PLANS

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

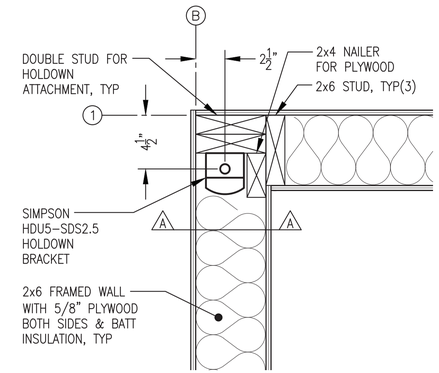
DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: DGT/BCG	DATE: 11/1/21
FILE NAME: VEN PP A&S	SHEET: S3.1
PROJECT NUMBER:	



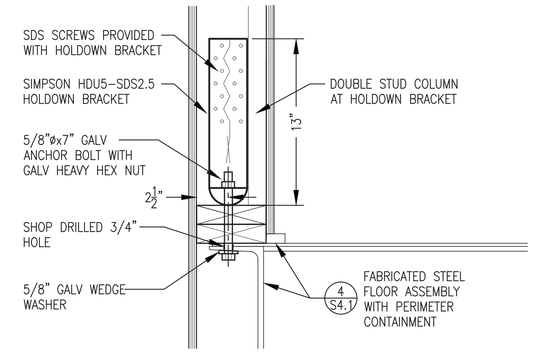
1 S3.2 WALL BASE ATTACHMENT
NO SCALE



2 S3.2 WALL BASE AT DOORS
NO SCALE



PLAN VIEW



SECTION A-A

3 S3.2 WALL CORNER HOLD DOWN BRACKET DETAIL
NO SCALE

ISSUED FOR CONSTRUCTION
NOVEMBER 2021

STATE OF ALASKA
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David G. Thompson
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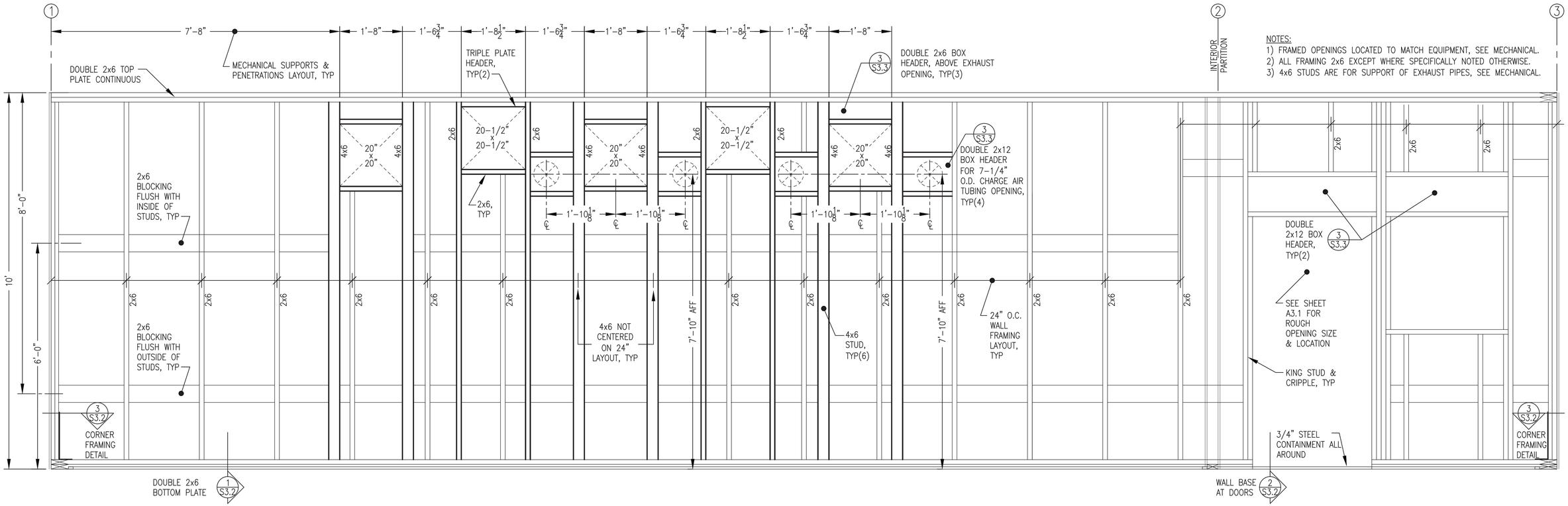
ALASKA ENERGY AUTHORITY

PROJECT: VENETIE POWER SYSTEM UPGRADE

TITLE: WALL BASE & HOLD DOWN DETAILS

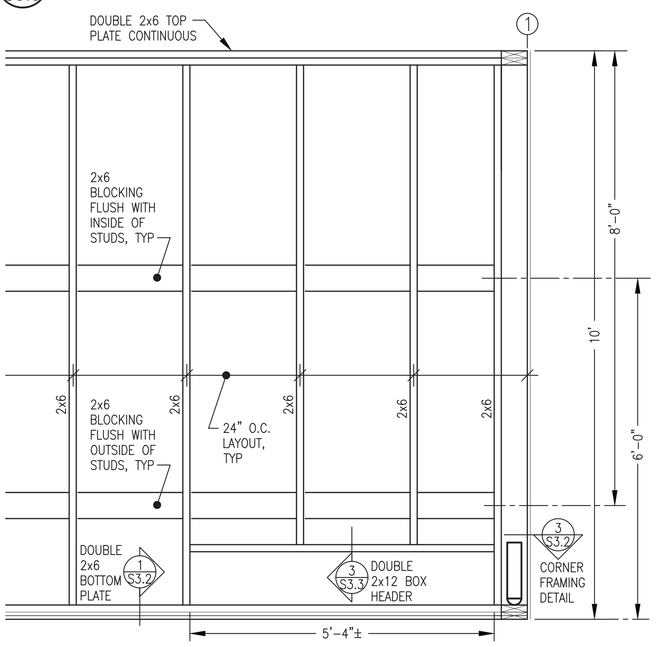
Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: DGT/BCG	DATE: 11/1/21
FILE NAME: VEN PP A&S	SHEET: S3.2
PROJECT NUMBER:	



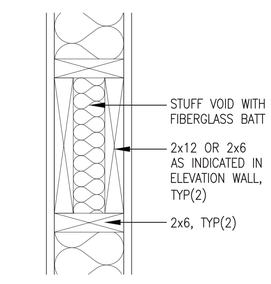
1 S3.3 GENERATION ROOM BACK WALL MECHANICAL SUPPORT FRAMING ELEVATION

3/4"=1'-0"



2 S3.3 GENERATION ROOM END WALL PARTIAL FRAMING ELEVATION

3/4"=1'-0"



3 S3.3 BOX HEADER

NO SCALE

ISSUED FOR CONSTRUCTION NOVEMBER 2021

STATE OF ALASKA
49TH
David G. Thompson
SE 14226
11/1/21
REGISTERED PROFESSIONAL ENGINEER

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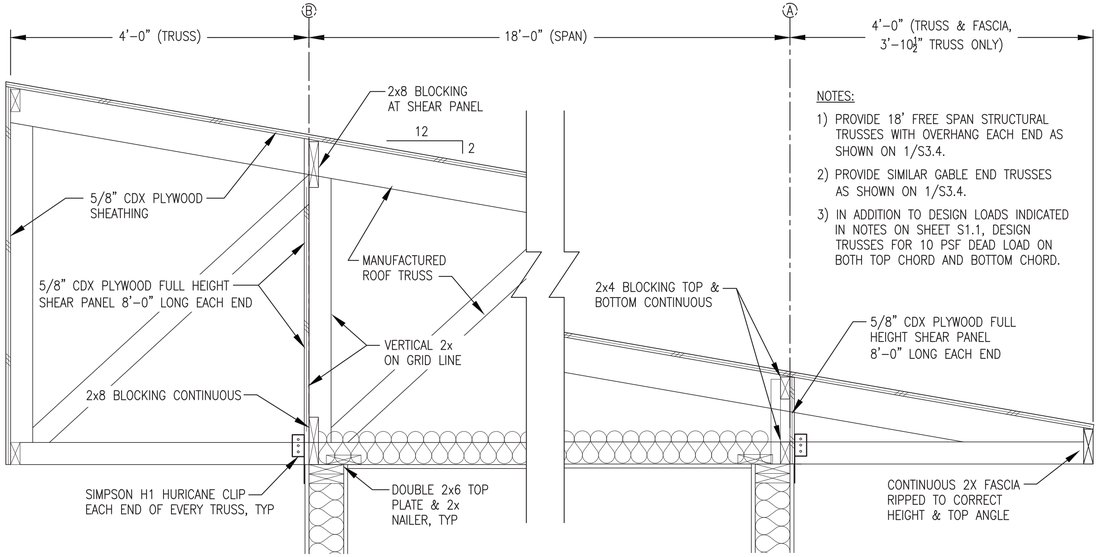
ALASKA ENERGY AUTHORITY

PROJECT: VENETIE POWER SYSTEM UPGRADE

TITLE: WALL FRAMING DETAILS

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

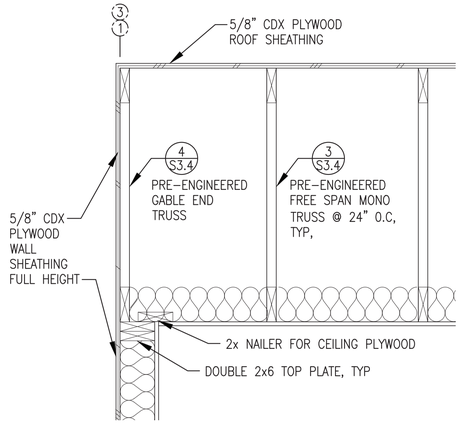
DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: DGT/BCG	DATE: 11/1/21
FILE NAME: VEN PP A&S	SHEET: S3.3
PROJECT NUMBER:	



NOTES:

1) PROVIDE 18' FREE SPAN STRUCTURAL TRUSSES WITH OVERHANG EACH END AS SHOWN ON 1/S3.4.
2) PROVIDE SIMILAR GABLE END TRUSSES AS SHOWN ON 1/S3.4.
3) IN ADDITION TO DESIGN LOADS INDICATED IN NOTES ON SHEET S1.1, DESIGN TRUSSES FOR 10 PSF DEAD LOAD ON BOTH TOP CHORD AND BOTTOM CHORD.

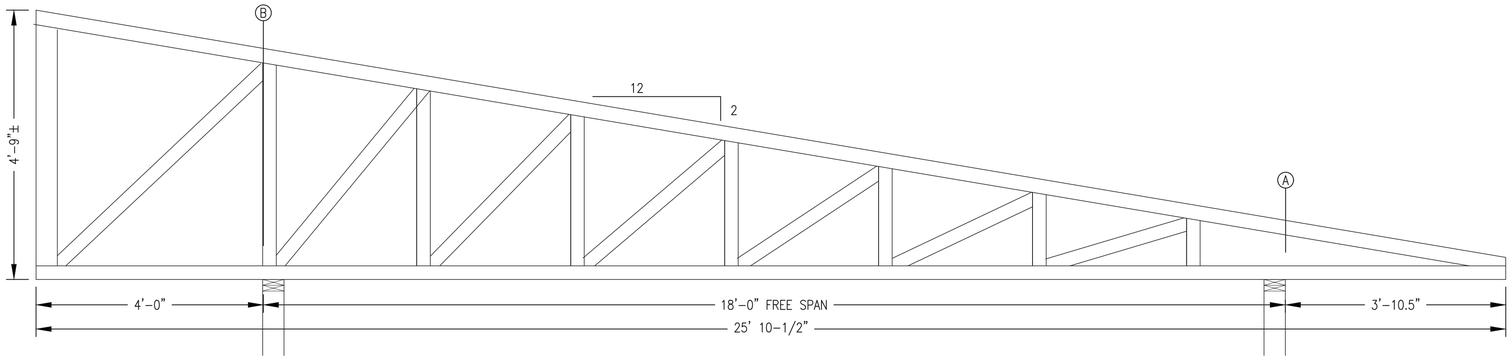
1/S3.4 TYPICAL TRUSS INSTALLATION
NO SCALE



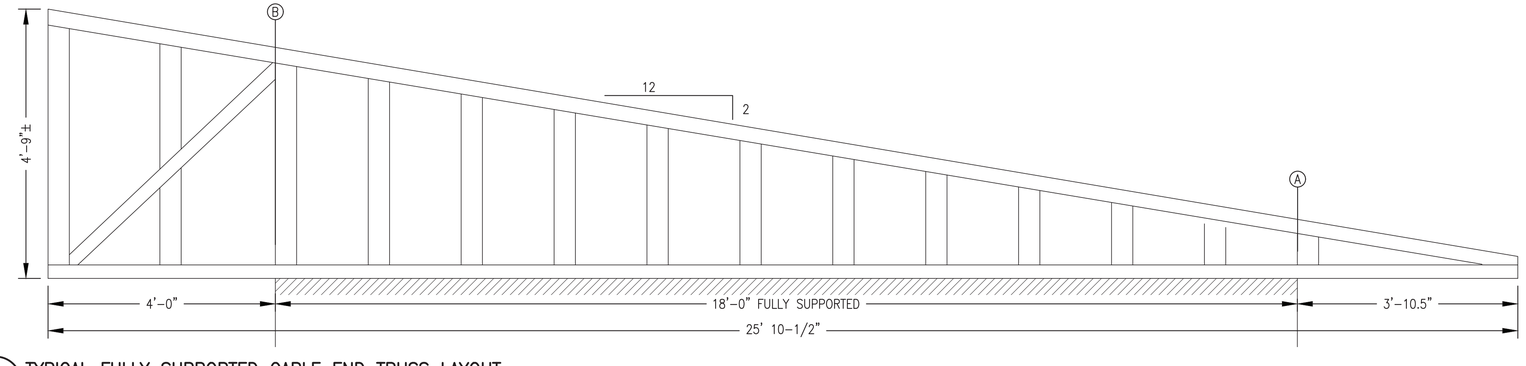
2/S3.4 GABLE DETAIL
NO SCALE

NOTES:

1) PROVIDE 19 EACH 18' FREE SPAN STRUCTURAL TRUSSES WITH OVERHANG EACH END AS SHOWN IN DETAIL 1/S3.4.
2) PROVIDE 2 EACH SIMILAR GABLE END TRUSSES WITH VERTICAL MEMBERS AT 24" O.C. MIN AS SHOWN IN DETAIL 2/S3.4.
3) IN ADDITION TO DESIGN LOADS INDICATED IN NOTES ON SHEET S1, DESIGN TRUSSES FOR 10 PSF DEAD LOAD ON BOTH TOP CHORD AND BOTTOM CHORD.



3/S3.4 TYPICAL ENGINEERED FREE SPAN MONO TRUSS LAYOUT
NO SCALE



4/S3.4 TYPICAL FULLY SUPPORTED GABLE END TRUSS LAYOUT
NO SCALE

ISSUED FOR CONSTRUCTION NOVEMBER 2021

STATE OF ALASKA 49TH David G. Thompson SE 14226 11/1/21 REGISTERED PROFESSIONAL ENGINEER

CRW ENGINEERING GROUP, LLC
PHONE: (907) 562-3252

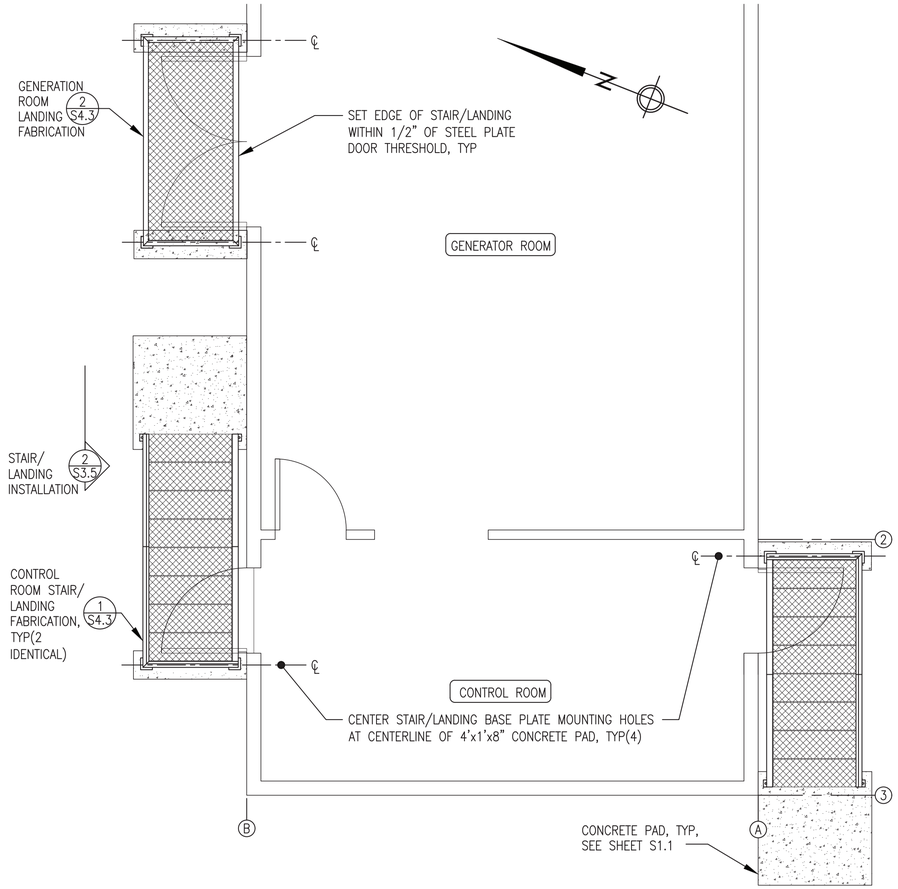
ALASKA ENERGY AUTHORITY

PROJECT: VENETIE POWER SYSTEM UPGRADE

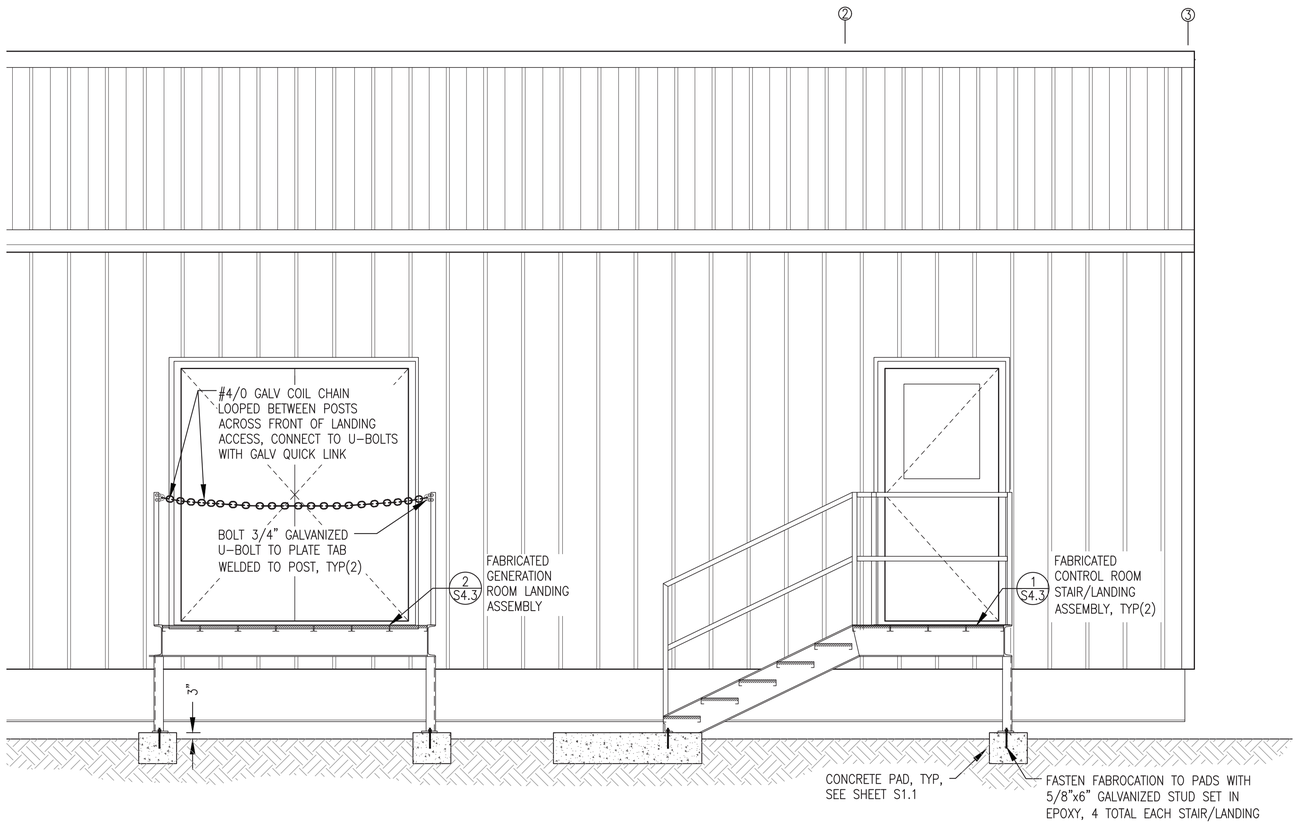
TITLE: ROOF FRAMING DETAILS

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: DGT/BCG	DATE: 11/1/21
FILE NAME: VEN PP A&S	SHEET: S3.4
PROJECT NUMBER:	



1 S3.5 STAIR/LANDING INSTALLATION PLAN
3/8"=1'-0"



2 S3.5 STAIR/LANDING INSTALLATION ELEVATION
1/2"=1'-0"

ISSUED FOR CONSTRUCTION NOVEMBER 2021

STATE OF ALASKA
49TH
David G. Thompson
SE 14226
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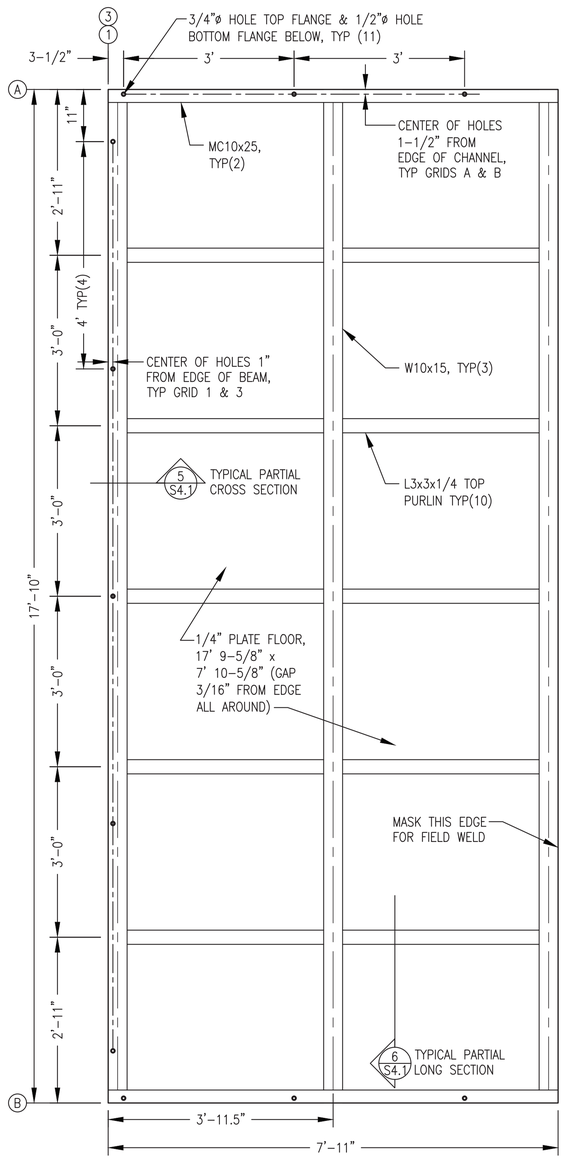
ALASKA ENERGY AUTHORITY

PROJECT: VENETIE POWER SYSTEM UPGRADE

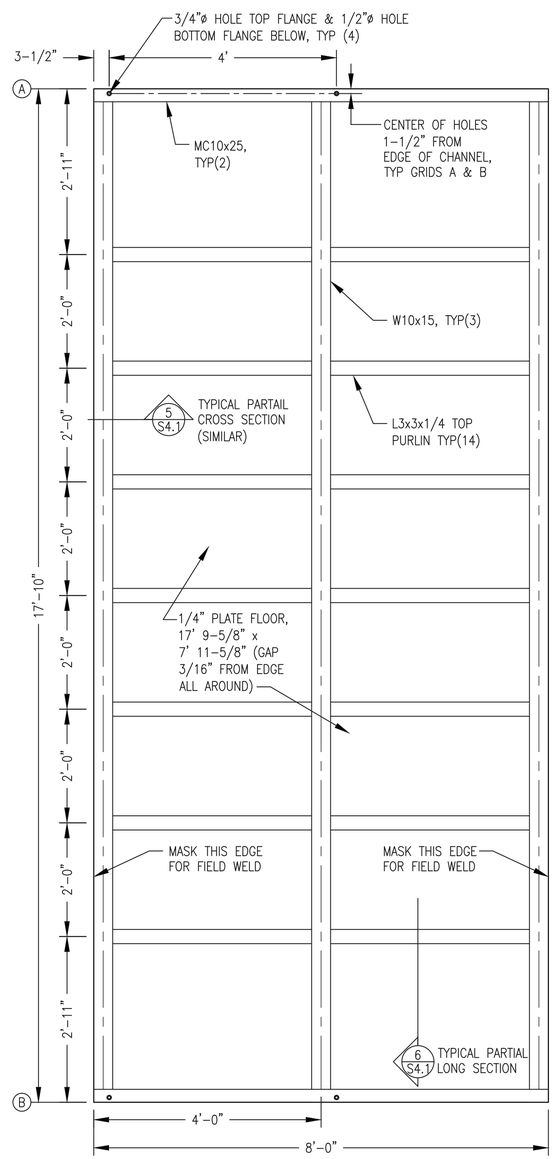
TITLE: STAIR/LANDING INSTALLATION PLAN & ELEVATION

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

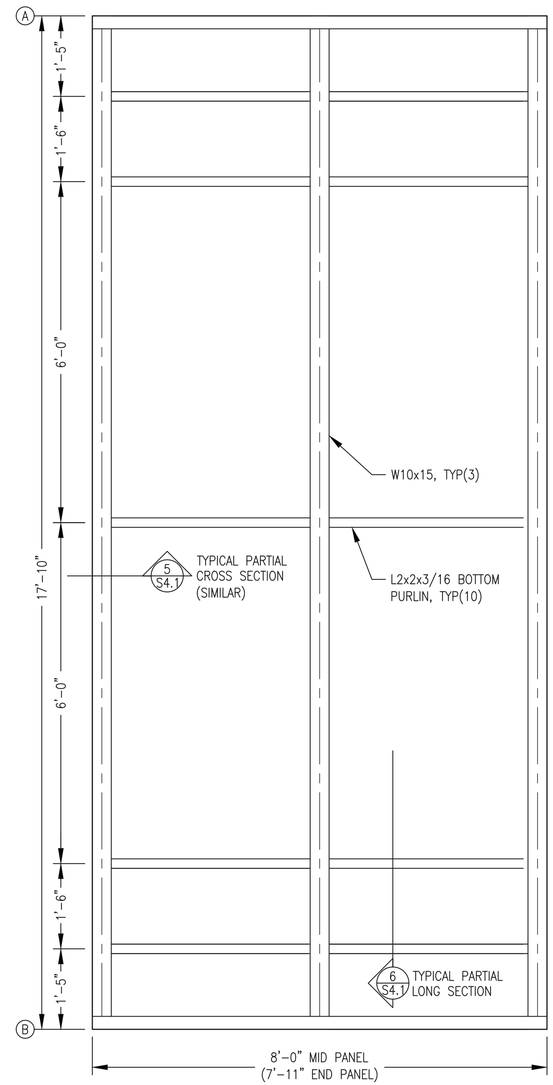
DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: DGT/BCG	DATE: 11/1/21
FILE NAME: VEN PP A&S	SHEET: S3.5
PROJECT NUMBER:	



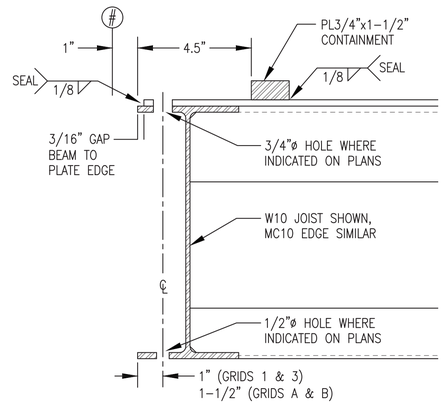
1 S4.1 END PANEL WITH TOP PURLIN LAYOUT (TWO MIRROR IMAGE)
3/4"=1'-0"



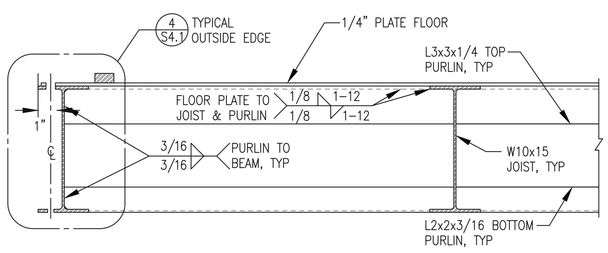
2 S4.1 MID PANEL WITH TOP PURLIN LAYOUT (THREE IDENTICAL)
3/4"=1'-0"



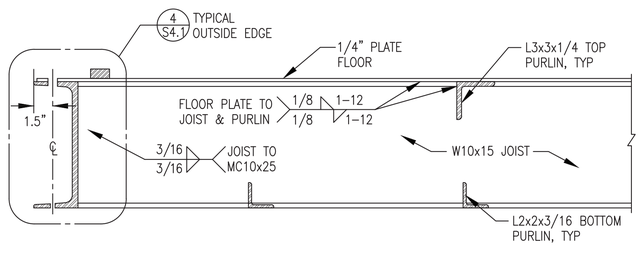
3 S4.1 TYPICAL PANEL BOTTOM PURLIN LAYOUT (FIVE TOTAL)
3/4"=1'-0"



4 S4.1 TYPICAL PANEL OUTSIDE EDGE
NO SCALE



5 S4.1 TYPICAL PARTIAL CROSS SECTION
NO SCALE



6 S4.1 TYPICAL PARTIAL LONG SECTION
NO SCALE

STEEL FLOOR FABRICATION NOTES:

1) FABRICATE FIVE FLOOR PANELS AS INDICATED – TWO MIRROR IMAGE END PANELS AND THREE IDENTICAL MID PANELS.
2) FABRICATE FROM ASTM A-36 STEEL SHAPES AND PLATE.
3) MAKE ALL JOINTS AND CONNECTIONS WITH CONTINUOUS OR STITCHED GROOVE OR FILLET WELDS AS INDICATED.
4) UPON COMPLETION OF FABRICATION ROUND ALL OUTSIDE CORNERS AND GRIND ALL EDGES SMOOTH.
5) ALL SURFACES TO REMAIN UNPAINTED EXCEPT TOP SURFACE OF FLOOR PLATE AND PERIMETER CONTAINMENT PLATE. SAND BLAST TOP SURFACE OF FLOOR PLATE TO SSPC-SP-6. MASK 1" WIDE STRIP ON ALL FIELD ASSEMBLY EDGES AFTER SAND BLASTING. PRIME FLOOR PLATE SURFACES WITH ONE COAT OF EPOXY, PPG AMERLOC 2 VOC OR APPROVED EQUAL, COLOR ANSI 61 GRAY, MINIMUM 4 MILS DRY FILM THICKNESS.

ISSUED FOR CONSTRUCTION NOVEMBER 2021

STATE OF ALASKA
49TH
David G. Thompson
SE 14226
11/1/21
REGISTERED PROFESSIONAL ENGINEER

CRW ENGINEERING GROUP, LLC
PHONE: (907) 562-3252

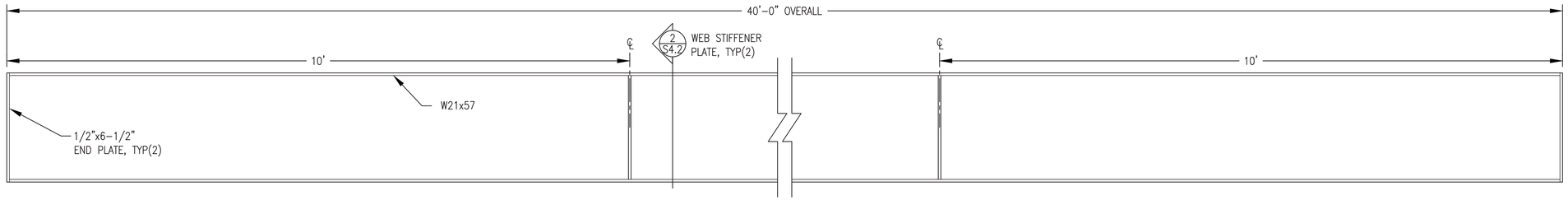
ALASKA ENERGY AUTHORITY

PROJECT: VENETIE POWER SYSTEM UPGRADE

TITLE: STEEL FLOOR SHOP FABRICATION

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

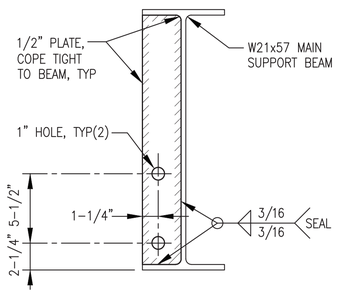
DRAWN BY: JTD
DESIGNED BY: DGT/BCG
FILE NAME: VEN PP A&S
PROJECT NUMBER:
SCALE: AS NOTED
DATE: 11/1/21
SHEET: S4.1



MAIN SUPPORT BEAM FABRICATION & PAINTING NOTES:

1) FABRICATE TWO IDENTICAL MAIN SUPPORT BEAM ASSEMBLIES.
2) FABRICATE FROM ASTM A-36 STEEL SHAPES AND PLATE.
3) MAKE ALL JOINTS AND CONNECTIONS WITH CONTINUOUS GROOVE OR FILLET WELDS.
4) UPON COMPLETION OF FABRICATION ROUND ALL OUTSIDE CORNERS AND GRIND ALL EDGES SMOOTH.
5) DO NOT SAND BLAST OR PAINT TOP FLANGE OF BEAM. SAND BLAST ALL OTHER SURFACES TO SSPC-SP-6. COAT SANDBLASTED SURFACES WITH 2 COATS OF COLD GALVANIZING COMPOUND, ZRC OR APPROVED EQUAL TO 8 MILS MINIMUM DRY FILM THICKNESS.

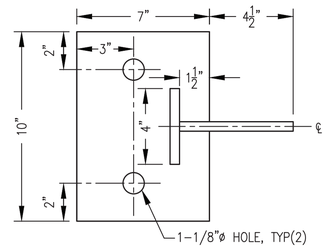
1 S4.2 MAIN SUPPORT BEAM FABRICATION, TYP(2 MIRROR IMAGE)
3/4"=1'-0"



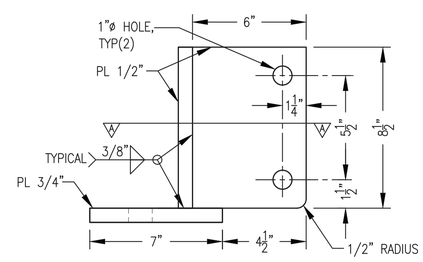
STIFFENER PLATE FABRICATION NOTES:

1) INSTALL TWO WEB STIFFENER PLATES ON EACH MAIN SUPPORT BEAM.
2) DO NOT SHEAR STIFFENER PLATE. CUT WITH WATER JET, TORCH, OR SAW.

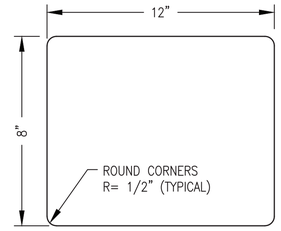
2 S4.2 MAIN SUPPORT BEAM WEB STIFFENER PLATE
2"=1'-0"



SECTION A-A



ELEVATION



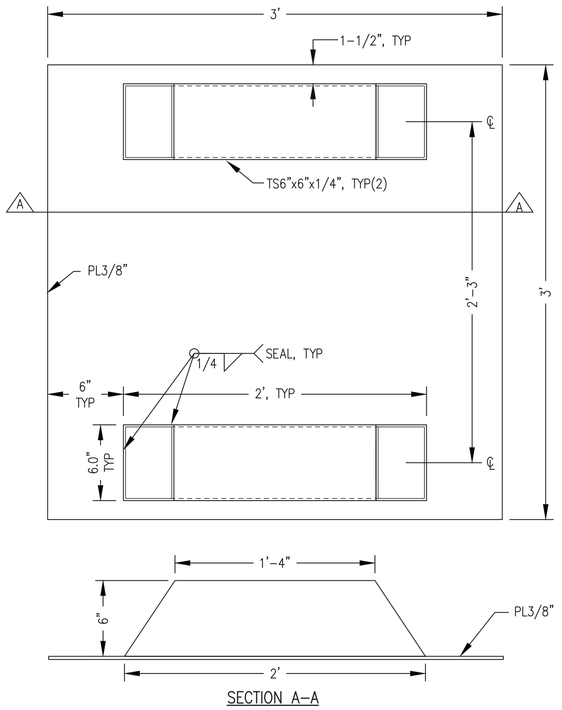
TYPICAL SHIM

SHIM FABRICATION TABLE		
THICKNESS	QUANTITY	MATERIAL
1/4"	12	GALV STEEL
1/2"	8	GALV STEEL
1"	4	GALV STEEL

ANCHOR & SHIM FABRICATION NOTES:

1) FABRICATE FOUR IDENTICAL ANCHOR ASSEMBLIES. DO NOT SHEAR ANCHOR PLATES. CUT WITH WATER JET, TORCH, OR SAW.
2) FABRICATE FROM ASTM A-36 STEEL SHAPES AND PLATE.
3) MAKE ALL JOINTS AND CONNECTIONS WITH CONTINUOUS GROOVE OR FILLET WELDS.
4) FABRICATE SHIMS OF QUANTITY AND THICKNESS AS DESCRIBED IN SHIM FABRICATION TABLE.
5) UPON COMPLETION OF FABRICATION ROUND ALL OUTSIDE CORNERS AND GRIND ALL EDGES SMOOTH.
6) SAND BLAST ALL PIECES TO SSPC-SP-6. COAT WITH 2 COATS OF COLD GALVANIZING COMPOUND, ZRC OR APPROVED EQUAL TO 8 MILS MINIMUM DRY FILM THICKNESS.

3 S4.2 TYPICAL FOUNDATION ANCHOR & SHIM FABRICATION
3"=1'-0"

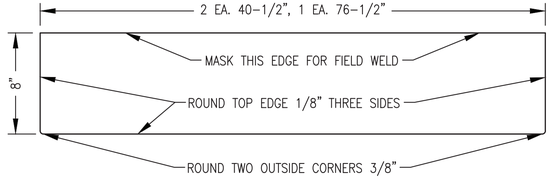


SECTION A-A

4 S4.2 GENERATOR SUPPORT PEDESTAL FABRICATION
2"=1'-0"

GENERATOR SUPPORTS FABRICATION NOTES:

1) FABRICATE SIX IDENTICAL GENERATOR SUPPORT PEDESTAL ASSEMBLIES.
2) FABRICATE FROM ASTM A-36 STEEL SHAPES AND PLATE AS INDICATED.
3) MAKE ALL JOINTS AND CONNECTIONS WITH CONTINUOUS GROOVE OR FILLET WELDS.
4) UPON COMPLETION OF FABRICATION ROUND ALL OUTSIDE CORNERS AND GRIND ALL EDGES SMOOTH.
5) SAND BLAST SUPPORTS TO SSPC-SP-6. MASK 1" WIDE STRIP ALL AROUND TOP/EDGE OF PLATE AFTER SAND BLASTING. FINISH WITH TWO COATS OF EPOXY, PPG AMERLOC 2 VOC OR APPROVED EQUAL, COLOR ANSI 61 GRAY, MINIMUM 8 MILS DRY FILM THICKNESS.



5 S4.2 DOOR THRESHOLD PLATE FABRICATION
NO SCALE

GENERATOR SUPPORTS FABRICATION NOTES:

1) FABRICATE THREE DOOR THRESHOLD PLATES OF DIMENSIONS INDICATED FROM 3/4" THICK ASTM A-36 STEEL PLATE.
2) UPON COMPLETION OF FABRICATION ROUND OUTSIDE CORNERS AS INDICATED AND GRIND ALL EDGES SMOOTH.
3) SAND BLAST TOP AND OUTSIDE EDGE TO SSPC-SP-6. MASK 1" WIDE STRIP ONE SIDE AS INDICATED AFTER SAND BLASTING. FINISH SANDBLASTED SURFACES WITH TWO COATS OF HIGH SOLIDS EPOXY COATING, PPG AMERLOC 2 VOC OR APPROVED EQUAL, COLOR ANSI 61 GRAY, MINIMUM 8 MILS DRY FILM THICKNESS.

ISSUED FOR CONSTRUCTION NOVEMBER 2021

STATE OF ALASKA
49TH
David G. Thompson
SE 14226
11/1/21
REGISTERED PROFESSIONAL ENGINEER

CRW ENGINEERING GROUP, LLC
PHONE: (907) 562-3252

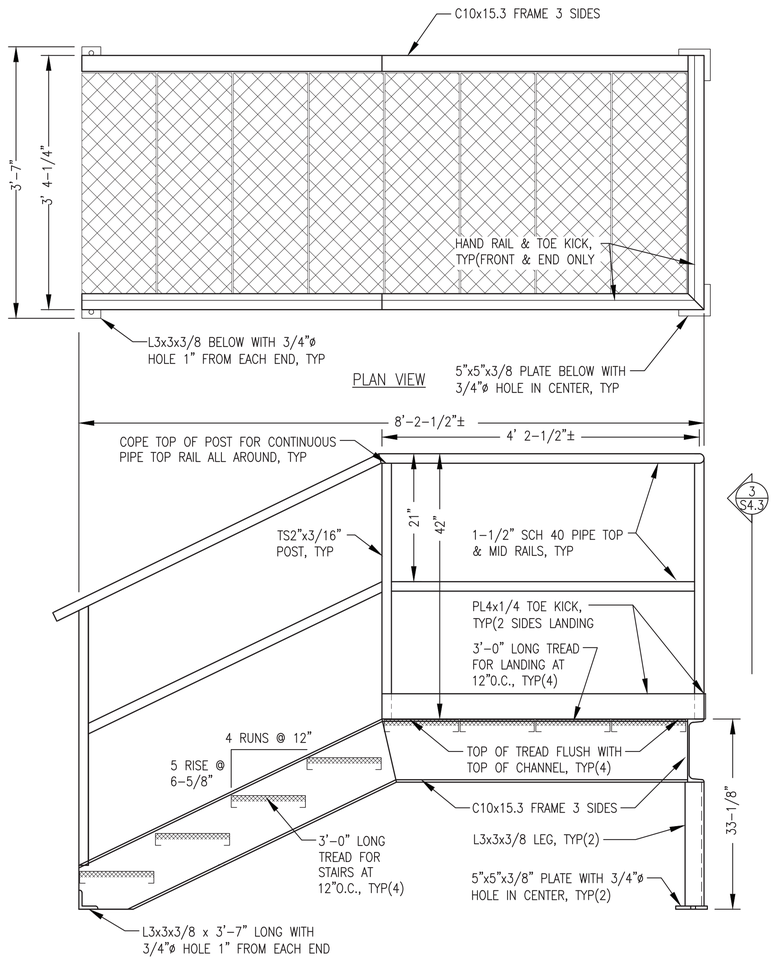
ALASKA ENERGY AUTHORITY

PROJECT: VENETIE POWER SYSTEM UPGRADE

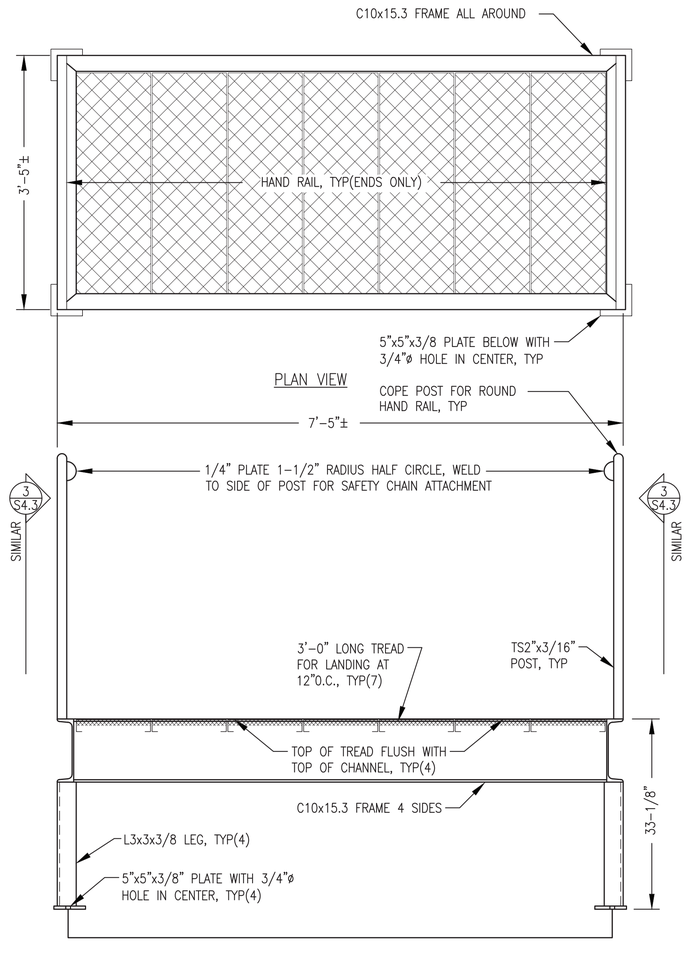
TITLE: MISCELLANEOUS STEEL SHOP FABRICATION DETAILS

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: DGT/BCG	DATE: 11/1/21
FILE NAME: VEN PP A&S	SHEET: S4.2
PROJECT NUMBER:	



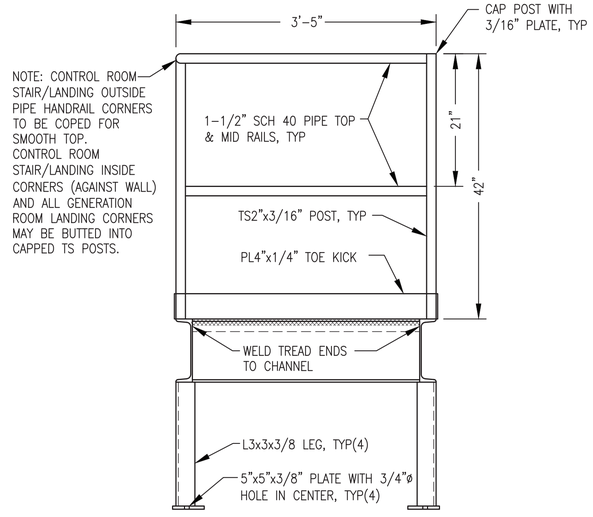
1 S4.3 CONTROL ROOM STAIR/LANDING FABRICATION FRONT ELEVATION, TYP(2)
1"=1'-0"



2 S4.3 GENERATOR ROOM LANDING FABRICATION FRONT ELEVATION
1"=1'-0"

STAIR & LANDING FABRICATION NOTES:

1) FABRICATE TWO IDENTICAL CONTROL ROOM STAIR/LANDING ASSEMBLIES AND ONE GENERATOR ROOM LANDING ASSEMBLY.
2) FABRICATE FROM ASTM A-36 STEEL SHAPES AND PLATE. STAIR AND PLATFORM TREADS TO BE PRE-GALVANIZED 2"x11-3/4"x12 GA. GRIP STRUT.
3) MAKE ALL JOINTS AND CONNECTIONS WITH CONTINUOUS GROOVE OR FILLET WELDS.
4) UPON COMPLETION OF FABRICATION ROUND ALL OUTSIDE CORNERS AND GRIND ALL EDGES SMOOTH.
5) DO NOT SANDBLAST OR COAT PRE-GALVANIZED GRIP STRUT EXCEPT FOR WELD AREAS AS REQUIRED. SAND BLAST ALL OTHER STAIR/LANDING SURFACES TO SSPC-SP-6. COAT SANDBLASTED SURFACES WITH 2 COATS OF COLD GALVANIZING COMPOUND, ZRC OR APPROVED EQUAL TO 8 MILS MINIMUM DRY FILM THICKNESS.



3 S4.3 TYPICAL STAIR & LANDING INSTALLATION END ELEVATION
3/4"=1'-0"

ISSUED FOR CONSTRUCTION NOVEMBER 2021

STATE OF ALASKA 49TH David G. Thompson SE 14226 11/1/21 REGISTERED PROFESSIONAL ENGINEER

CRW ENGINEERING GROUP, LLC
PHONE: (907) 562-3252

ALASKA ENERGY AUTHORITY

PROJECT: VENETIE POWER SYSTEM UPGRADE

TITLE: STAIR & LANDING SHOP FABRICATION DETAILS

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: DGT/BCG	DATE: 11/1/21
FILE NAME: VEN PP A&S	SHEET: S4.3
PROJECT NUMBER:	