CHUGACH ELECTRIC ASSOCIATION, INC.
Anchorage, Alaska

January 16, 2025

ADDENDUM #1

E2220061 – South Campus Pole Relocation – Phase 1

The following changes and additions have been made to the contract documents. Incorporate these changes and additions in your bid, sign the acknowledgement, and attach a signed copy of this addendum to your bid when submitted.

1. Pre-bid Meeting Agenda.
2. Bid Questions & Answers.
3. Pre-Bid Sign in Sheet.
4. Valmont Structure Shop Drawing.
5. South Campus Underground Facilities map.
6. Facility Site Plan – Storm Drain.
7. INSS Grounding Grid Drawing.
8. Laydown Area map.
9. Bid Extension, due date January 23, 2025.

ACKNOWLEDGEMENT

The undersigned Bidder hereby certifies that the revisions herein set forth have been incorporated in his Bid and form a part of the Contract documents.

_____	_____
Bidder (name of Company)	Address
_____	_____
Signature of Bidder's Representative	Date
_____	
Title	

APPROVED FOR DISTRIBUTION: _____

Mike Miller, P.E.
VP, Engineering

Chugach Electric Association, Inc.
South Campus Pole Relocation – Phase 1
W.O. E2220061
Pre-Bid Meeting Agenda
December 19, 2024 – 9:00 AM

Introduction of Attendees
Introduction of all attendees.

Sign in sheet to be distributed with meeting minutes.

Description of Project
Chugach is creating a new laydown yard at their South campus facility and needs several existing 138kV transmission and 34.5kV subtransmission lines realigned to reduce structure quantity and guy anchors to optimize access.

The project consists of existing transmission and subtransmission line structures, foundations, conductors, guys and anchors to be retired. And new structures, pile foundations, conductors, and guys installed.

This project involves:

A. Retiring existing 138kV Structure ITIN1 1-2 and installing new 138kV Structure ITIN1 1-2. Relocate 138kV conductors between existing lattice INSS H-frame structure and existing Structure ITIN1 1-1.

B. Retiring existing 138kV Structure ITIN2 1-2 and installing new 138kV Structure ITIN2 1-2. Relocate 138kV conductors between existing wood INSS H-frame structure and existing Structure ITIN2 1-1.

C. Retiring existing wood Stub Poles N-1 (INWJ 1-1A), N-2 (INSN 1-1B), and N-3 (INSN 1-1A), retiring existing 34.5kV Structure N-4 (INSN 1-1C), and installing new Stub Pole N-1 and new Structure N-4. Relocating 34.5kV conductors (currently de-energized) between existing Structure SLSS/ATSS 332C (INSN 1-1) and existing Structure 6-13 (0332). Replacing span guys backing up three 34.5kV deadend circuits.

Safety
Safety is a top priority on this project. As such, the Contractor shall provide a site-specific Health, Safety, and Environmental plan for this project. The plan shall include all the requirements specified in Appendix B of the Bid Documents. NTP will not be issued until the HSE plan is submitted as specified.

Access
Prior authorization is required to access the work site. The work site is accessible from Electron drive. Then East into a driveway between INSS and ITSS. See map attached.

Permits
Chugach obtained a Storm Water Pollution Prevention Plan (SWPPP), located in Appendix G. Contractor shall be responsible for installation and maintenance of all BMPs as specified in the Bid Documents. Chugach shall provide SWPPP inspection and Contractor shall be responsible for maintenance of BMPs as directed by Chugach.

All other permits shall be the responsibility of the Contractor.

Materials
All OFM (Owner Furnished Material) is listed under "List of Owner Furnished Material" in the bid package. If the material is not listed under "List of Owner Furnished Material" the Contractor is responsible for providing the material as a part of the appropriate bid unit. The Contractor shall be responsible for coordinating material pickup with Chugach warehouse. All material may not be available when NTP is issued. Material estimated arrival dates are listed on OFM list. Contractor to schedule work according to arrival dates of material.

OFM materials in the Contractor's possession shall be properly stored in accordance to the specification, industry standards and practices.

Construction Schedule
A Construction schedule shall be provided with bid. Included in the construction schedule shall be all of the items listed in Section 4.3.A of the Special Provisions.

Dates
Bids due: January 21, 2025 by 2:00 pm

The notice of intent to award is anticipated to be issued by January 30, 2025.

Notice to Proceed will NOT be issued until:

- **The Contractor provides all documents required in the Bid Documents, including:**
  - Performance and Payment Bonds
  - Insurance Certificate
  - HSE Plan
  - Project Schedule

All Work shall be completed by March 20, 2025. Liquidated damages in the amount specified in the Invitation to Bid shall apply if Contractor fails to complete the Work by March 20, 2025.

Insurance
The value of Owner Furnished Material is to be included in the Contractor's Builders Risk Insurance for the project. Builders Risk Insurance is to cover materials until the project is complete. The Contractor's bid bond shall be submitted with the bid. Insurance and the performance bond are both required prior to NTP. The Owner Furnished Material does not require bonding.

The Contractor shall comply with all Insurance Requirements as listed in the OLECC.

Site Walk Down
Site walkthrough is planned for December 19, 2024, immediately after the pre-bid meeting.

Misc. Issues
The cost of the As-Built Survey is incidental to the effected bid units.

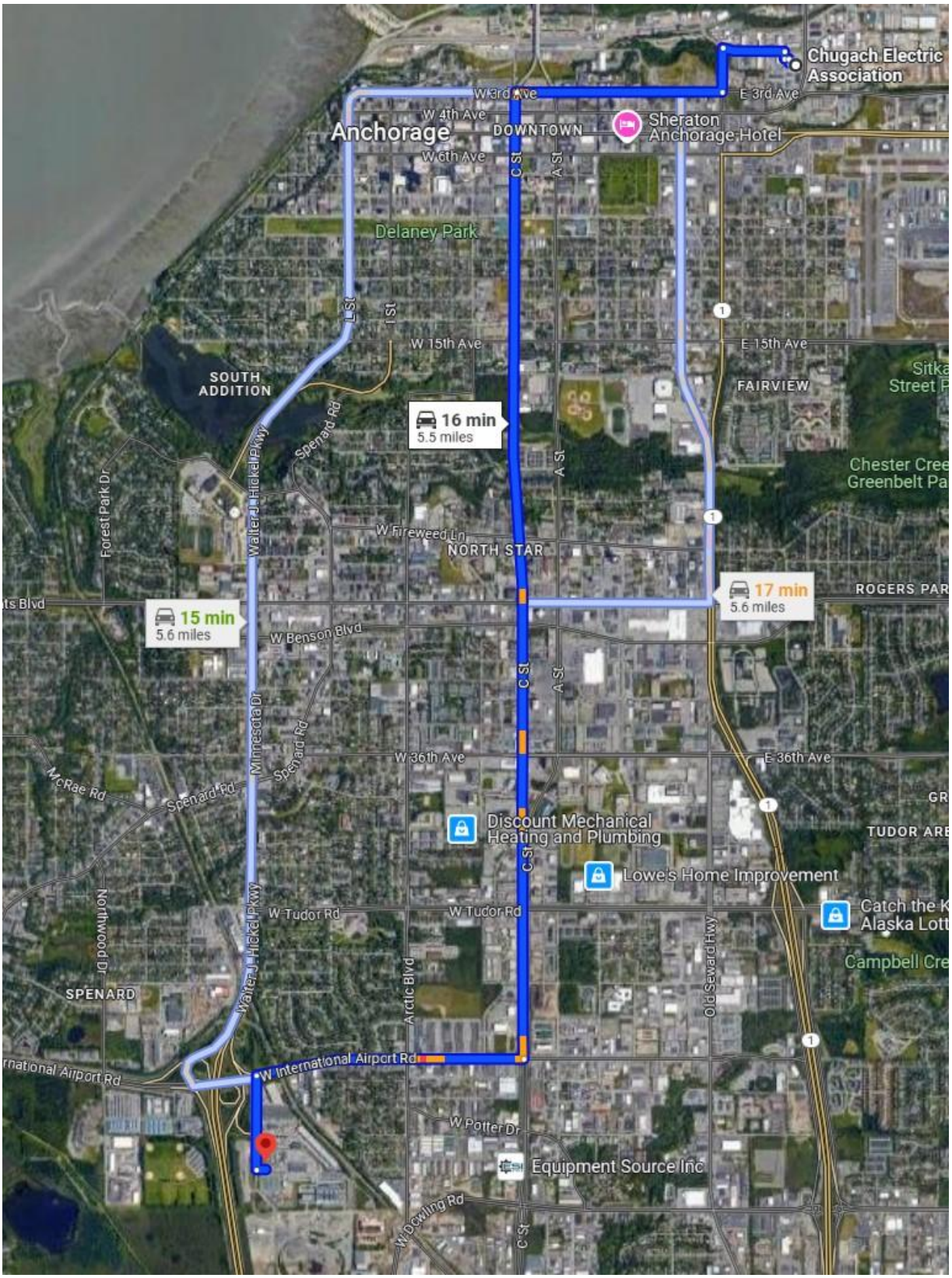
Bid Questions
Questions are due no later than 12:00 PM Alaska Time, Tuesday, January 7, 2025. Responses will be sent via email to all Bidders, by 5:00 PM, Alaska Time, Thursday, January 16, 2025.

Outage Coordination
Due to high electrical demand during wintertime. Outage sequencing is required. Sequence should be such that only one set of 138 kV transmission between INSS and ITSS can be out at a time while working. In addition, the 34.5 kV subtransmission will follow the same sequencing.

For example,

1. Deenergize INSS T1
2. Install and connect to ITIN1 1-2
3. Reenergize INSS T1
4. Deenergize INSS T2
5. Install and connect to ITIN2 1-2
6. Reenergize INSS T1
7. 34.5 kV work

Direction to project site from Chugach North campus to South campus.




W 56th Ave
Chugach Electric Association
ChargePoint Charging Station
Electron Dr
Electric Substation
Google

WO E2220061
South Campus Pole Relocation – Phase 1
Q&A

Q1: Is CEA going to reroute employee parking during construction at the entrance?

A1: A complete closure of Chugach outer West gate for duration of the construction will not be possible. Contractors should provide a work plan and schedule identifying dates for closure, work with the Project team and operations to reroute vehicular traffic to employee parking as needed.

Q2: Does CEA know of any underground impacts at the entrance where the new h-structure goes?

A2: There is a storm drain running from outer West gate to the ditch West of Electron drive. Also, an Enstar high pressure gas line is in the ROW East of Electron drive. See attached South Campus Underground Facilities map and storm drain asbuilt. The contractor is ultimately responsible for obtaining locates and navigating around any underground utilities that may exist.

Q3: What permits will the contractor be required to obtain?

A3: The 34.5 kV pole replacement work is adjacent to MOA ROW on Electron drive. MOA Traffic control permit may be needed depending on where the contractor's equipment is placed during pile driving work.

Q4: How will access through the gate be handled? Will Contractor be required to call security every time we need into the fenced yard? Will contractor be issued a security card/badge to access area behind gate? Can the gate be left open during contractor working hours?

A4: Chugach representative will be on site to open the West gate during work hours. The project team will assist in coordination between the contractor and Chugach personnel for gate access.

Q5: Will the Contractor be allowed to have a show up trailer behind the gate and have access to 120/240 power?

A5: Yes, the contractor will be allowed to have a show up trailer behind the gate. Refer to the special provisions with regards to temporary power.

Q6: Will the Contractor have access to a storage/lay down area for materials?

A6: Yes, contractor can access the BESS yard for material pick up and materials currently staged in the yard can remain stored there until the contractor picks them up as needed for the project.

Coordinate with the project team before use is required. The steel structures, piles and misc. material are currently stored in the BESS yard. See attached map for location.

Q7: Will the Contractor be allowed to shut down the access point to the employee parking when needed?

A7: A complete closure of Chugach outer West gate for duration of the construction will not be possible. Contractors should provide a work plan identifying date for closure, work with the project team and CEA operations to reroute vehicular traffic to employee parking as needed.

Q8: Will the scheduled outages on the southern intertie/sterling line conflict with outages for this project?

A8: No. This project will not conflict with the southern intertie/sterling project.

Q9: Can the anchor demo be completed in May or June of 2025 after the spring thaw?

A9: No. The guy anchors should be demo by the end of construction dated March 20, 2025.

Q10: Please verify that anchor rods need to be cut 18 inches below grade and anchors can be abandoned in place.

A10: Yes, that's Chugach intent.

Q11: Is there any update to the material delivery schedule?

A11: The piles are expected to be delivered by February 4, 2025. Misc hardware for the structure are to be delivered by January 29, 2025. Other owner furnished materials are in stock at CEA South warehouse, and structures are stored in the BESS yard.

Q12: Would it be possible to have the area where the piles will be driven located before time of bid? Or can CEA verify that no 35 KV is underground in that area?

A12: No. The contractor is ultimately responsible for obtaining locates and navigating around any underground utilities that may exist.

Q13: Can all the 35KV circuits be switched out at the same time? Or 2 out of 3? Or will these be one at a time like the 138KV?

A13: Yes, the 34.5kV circuits can be completely de-energized and isolated during the 34.5kV work.

Q14: How many pieces will each steel structure be in when Contractor picks up?

A14: All steel structures have arrived and are stored in the BESS yard. See attached manufacturer's shop drawings for complete structure breakdown.

Q15: Will each ICOR/change order event be tracked over the life of the job or will they need to be addressed as a lump sum before the change order takes place?

A15: Change Orders should be submitted and processed as documented in the OELCC.

Q16: Does CEA want to keep any of the retired materials, including poles?

A16: No. Chugach does not have any intent of retaining any of the retired materials.

Q17: Will the new poles and piling be delivered to the South Campus?

A17: The new poles are stored at South Campus BESS yard. Also, when the piles arrive it will be stored there as well. Contractors are to coordinate with Chugach warehouse personnel for material pickup.

Q18: New 35kv structure appears to be within 10ft of Enstars system. Please confirm new structure is more than 10ft away from Enstar. If within 10ft of Enstars system, will they require any special monitoring during the pile install?

A18: That is correct, Enstar gas line does appear to be within 10ft of the furthest 34.5kV West pile to be driven. Therefore, contractor will need to have this line located prior to the driving process begins. If the line is within 10ft of the new pile, an Enstar representative would need to be present during the pile driving. The project team has discussed it with Enstar representative. See attached South Campus Underground Facilities map. Any costs associated with coordinating with Enstar are incidental to the affected bid unit.

Q19: Can the two 115kv circuits between the ITN1 circuit and the 35kv SLSS circuit be de-energized during the pile installation? The worry is that there may not be enough space to set the crane up for driving the pile.

A19: Those two circuits are 115kV and 138kV. The 115kV is closest to 34.5kV work. Yes, it is possible to de-energize the two circuits during 34.5kV work. This must be part of the contractors switching order request to CEA dispatch.

Q20: It appears that the exiting conductors will have additional conductor spliced onto the ends so they can span the new back span distances. Please confirm that this is CEA's intentions.

A20: Yes, this is Chugach's intentions.

Q21: Will CEA allow multiple splices in one span of wire?

A21: Yes, if there are existing splices in the conductor, Chugach will allow one more.

Q22: What is the ground grid spacing inside the INSS substation fence?

A22: Grid spacing are approximately 19'- 9"x19'-0". See attached ground grid drawings.

Q23: Can pile driving contractor be on project without the line contractor being present?

A23: No. The Primary contractors should be on site during subcontractors' and all work.

CHUGACH
POWERING ALASKA'S FUTURE

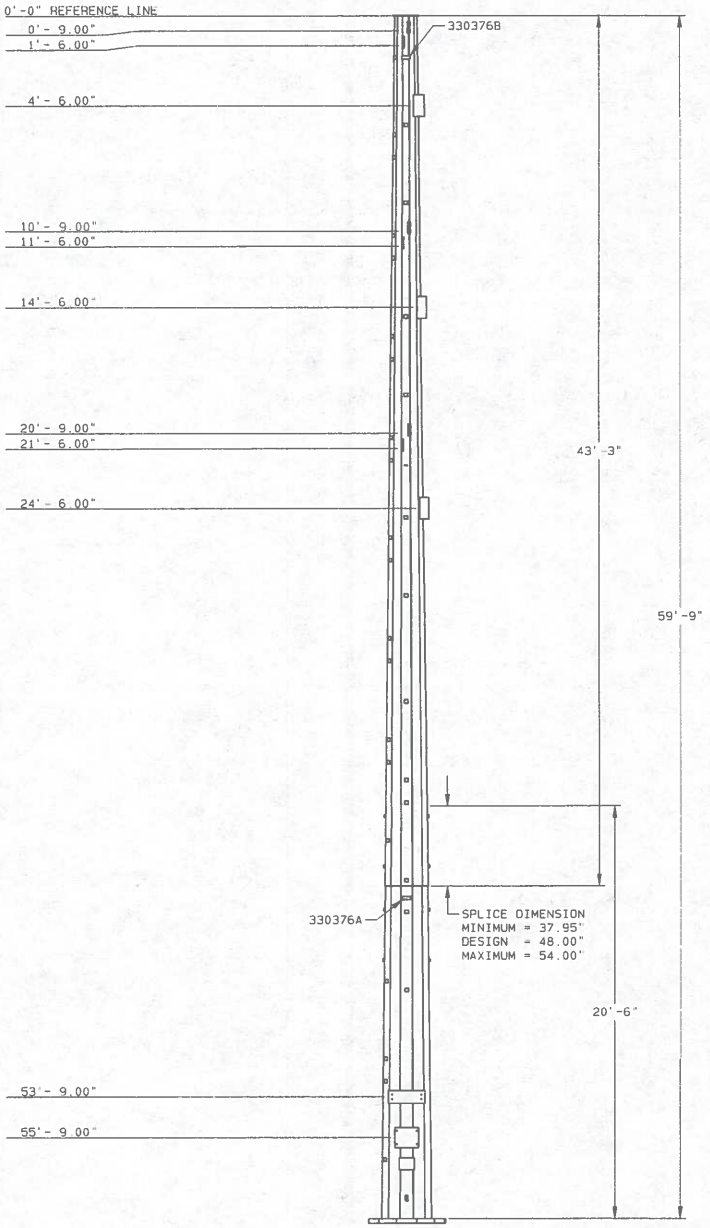
SOUTH CAMPUS POLE RELOCATION - PHASE 1

W.O. E2220061

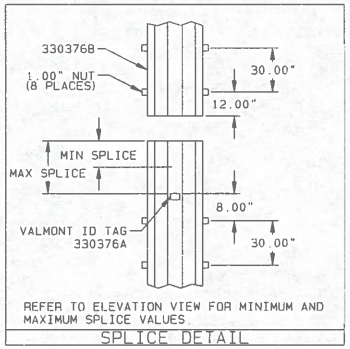
PRE-BID Sign-in Sheet

DATE: 12-19-2024, TIME: 9:00 am

	CONTACT INFORMATIONS (PRINT CLEARLY)	Company Name	Telephone Number
Name:	Supat Chamonto	CEA	907 762 4510
Email:	Supat_Chamonto@chugachelectric.com		
Name:	Ben Miebs	EPC	907-830-7304
Email:	bmiebs@EPConstructors.com		
Name:	Josh Milla	Sturgeon	907-371-0510
Email:	Jmilla@myrgroup.com		
Name:	Ian Whitmore	Stwgeon	907-440-7438
Email:	Iwhitmore@MYRGroup.com		
Name:	Mike Miller	CEA	
Email:			
Name:	Peyton Reid	CEA	907-762-4557
Email:	peyton_reid@chugachelectric.com		
Name:	Joash Marquez	CEA	907-762-4178
Email:	joash_marquez@chugachelectric.com		

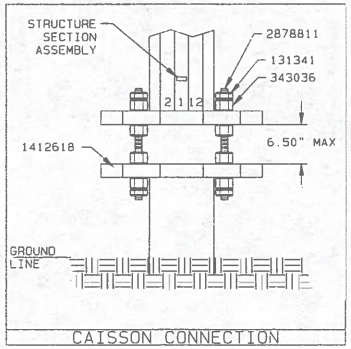


ELEVATION VIEW
SEE FABRICATION DRAWINGS FOR ADDITIONAL DETAILS



REFER TO ELEVATION VIEW FOR MINIMUM AND MAXIMUM SPLICE VALUES.

SPLICE DETAIL



CAISSON CONNECTION

NOTES:

1. POLE SHAFT GOVERNING REACTIONS.
   MOMENT = 12,713 IN-KIPS
   SHEAR = 21,780 #
   VERTICAL = 9,561 #

2. COMPONENT IDENTIFICATION. VALMONT ID TAG LOCATIONS ARE INDICATED BY CALLOUTS ON DRAWING. THE VALMONT ID TAG CONTAINS INFORMATION FOR INTERNAL TRACKING AND FIELD ASSEMBLY. ONLY THE VALMONT PART NUMBER NEEDS TO MATCH FOR FIELD ASSEMBLY. ALL OTHER IDENTIFICATION IS FOR INTERNAL USE.

   A = MANUFACTURING SITE (ONE CHARACTER)
   B = VALMONT PART NUMBER (SEVEN CHARACTERS)
   C = VALMONT ORDER NUMBER (SIX CHARACTERS)
   D = VALMONT SHOP ORDER NUMBER (SEVEN CHARACTERS)
   E = VALMONT SHOP ORDER LOT/BATCH NUMBER (ONE OR MORE CHARACTERS)

   A-BBBBBBB
   CCCCCC
   DDDDDDD-E

3. ASSEMBLY AND ERECTION GUIDELINES: SEE VALMONT TRANSMISSION INSTALLATION GUIDELINE 1002 (WWW.VALMONTUTILITY.COM/I002).

4. SLIP JOINT JACKING FORCE
   MINIMUM = 25,000#
   MAXIMUM = 90,000#

BILL OF MATERIAL
(SHIPPING SEG.=1 FOR ALL)

VALMONT PART NUMBER	DESCRIPTION	UNIT WEIGHT (LBS)	QTY PER STR
330376A	SECTION ASSEMBLY	3,219	1
330376B	SECTION ASSEMBLY	2,644	1
1412618	BASE PLATE ASSEMBLY	1,274	1

VALMONT PART NUMBER	DESCRIPTION: HARDWARE SIZE (IN) BOLT DIA	BOLT LONG	NUT	WSHR	GENERAL	FINISH	ASTM SPEC	QTY PER STR
2878811	2.25	21.00				HDGV	S23	8
343036			2.25			HDGV	A563	32
131341			2.25			HDGV	A153	16

138KV TRANSMISSION LINE
INTL TRANSMISSION SUBSTATION
59.8"AGH, ITIN 1-2

DUPLICATE DRAWING DISTRIBUTION

PED61327159.8'_AGH,_IIIN_1-2__138KV_IRA_

DWG SIZE D CLASS CODE (1) 1 CLASS NO. (3) 450

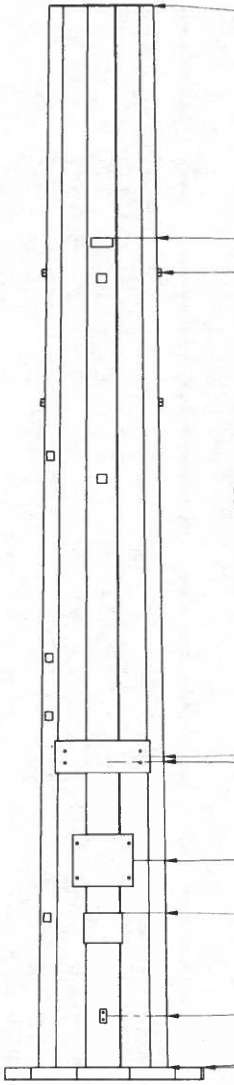
REV ID	DATE	REV BY	CHK BY	REVISION DESCRIPTION

DRAWN XJW | ENGR WMP | DATE 07/11/24 | SCALE NONE
P.A. CHK TC5 07/17/24 | SHOP CHK
OTHER SPECIFICATIONS
MATERIAL | THICKNESS | WEIGHT 7,524#

valmont

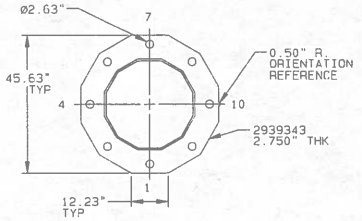
ORDER NO. 613271 | CUSTOMER CHUGACH ELECTRIC ASSOCIATION | DESCRIPTION 59.8' AGH, ITIN 1-2, 138KV TRA | DWG NO. 330376Z

PROPRIETARY INFORMATION



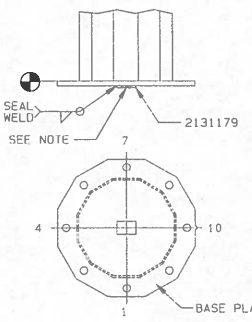
LOCATION DIMENSION		
FROM LARGE END	FROM SMALL END	DETAIL
LADDER CLIPS		
	0'- 0.00"	10
	4'- 6.00"	9
	5'- 2.00"	8-A
6'- 0.00"		7-A
	14'- 7.19"	6
4'- 0.00"		5-A
3'- 0.00"		4
1'- 0.00"		3-A
0'- 0.00"		2
0'- 0.00"		1

BOLT CIRCLE ⌀	QTY OF HOLES
39.63"	6



NOTE:
1. REFER TO W-52 FOR COMPLETE PENETRATION BASE PLATE TO SHAFT WELD.

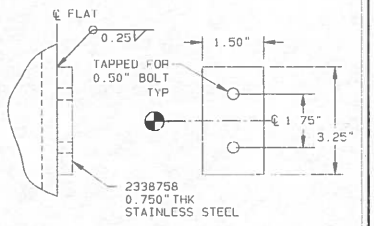
DETAIL 1 | BASE PLATE



NOTE:
1. NAME PLATE IS LOCATED ON BOTTOM OF BASE PLATE

DETAIL 2 | BASE PLATE ID TAG

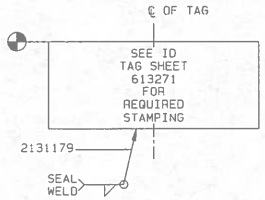
	℄ FLAT(S)
A	1.7



NOTE:
1. PROTECT FROM ALL FINISHES.

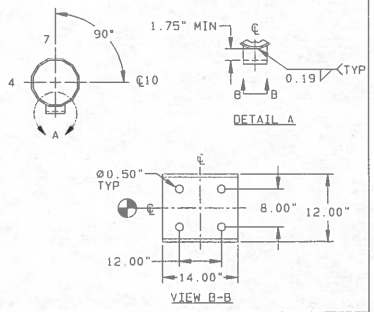
DETAIL 3 | GROUNDING ATTACHMENT

CHAR. HEIGHT	℄ OF FLAT(S)
0.50"	1



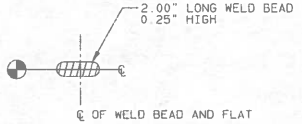
DETAIL 4 | CUSTOMER ID TAG

-	PART #	THICKNESS
A	2876749	0.250"



DETAIL 5 | BRACKET

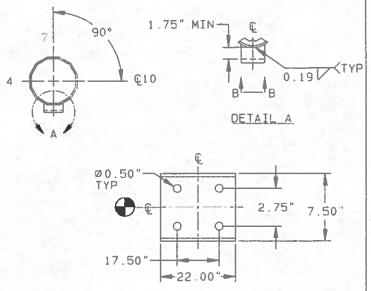
℄ OF FLAT(S)
1



NOTE:
CENTER OF GRAVITY IS AN APPROXIMATE LOCATION. THE CALCULATION DOES NOT ACCOUNT FOR WELD MATERIAL OR MATERIAL SUBSTITUTIONS.

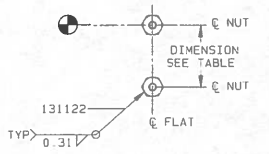
DETAIL 6 | CENTER OF GRAVITY

-	PART #	THICKNESS
A	2876923	0.250"



DETAIL 7 | BRACKET

-	TYPE	℄ FLAT(S)	DIMENSION
A	JACKING	4.10	30.00"



DETAIL 8 | JACKING/HANGING NUTS

BILL OF MATERIAL
(SHIP SEQ=0)

VALMONT PART NO	DESCRIPTION	QTY PER ASSY
2939306	SHAFT	1
2939307	BACK-UP-RING	2
2939343	BASE PLATE	1
2131179	IDENTIFICATION TAG	2
2338758	GROUND PAD	2
2876749	BRACKET	1
2876923	BRACKET	1
131122	1.00" NUT	4
2131171	IDENTIFICATION TAG	1
2939342	SEALING PLATE	1
2926088	LADDER CLIP	12

1. FLATS 1 AND 12 ARE ADJACENT TO SEAM WELD.
2. ALL CROSS SECTION VIEWS AND ORIENTATION REFERENCES ARE FROM SMALL END OF THE TUBE.
3. ALIGN WITH FLATS AT SMALL END UNLESS OTHERWISE NOTED

LOCATION SYMBOL KEY	SHAFT INFO (MEASURED ACROSS FLATS)						
LOCATION REFERENCE	SHAPE	LENGTH	BASE OD	TOP OD	TAPER	THK	ASTM
	12-SIDED	20'-6.00"	30.00"	24.16"	0.285	0.313"	A871

DUPLICATE DRAWING DISTRIBUTION

IMF SEC ASSY 30"BD 24"TD 20'-6"LG

DWG SIZE D CLASS CODE (1) 1 CLASS NO. (3) 400

REV ID	DATE	REV BY	CHK BY	REVISION DESCRIPTION
A	08/02/24	XJW	TC5	REVISED PER CUSTOMER

DRAWN	ENGR	DATE	SCALE
XJW	WMP	07/11/24	NONE

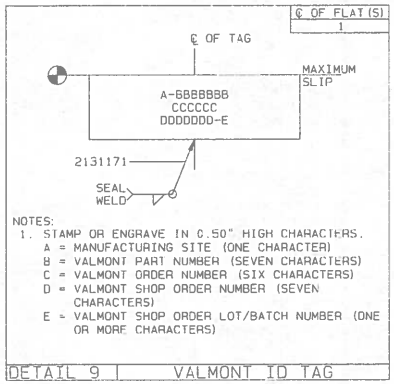
P.A. CHK: TC5 07/17/24 | SHOP CHK

OTHER SPECIFICATIONS: F-96, M-1, W-21

MATERIAL	THICKNESS	WEIGHT
		3,219#

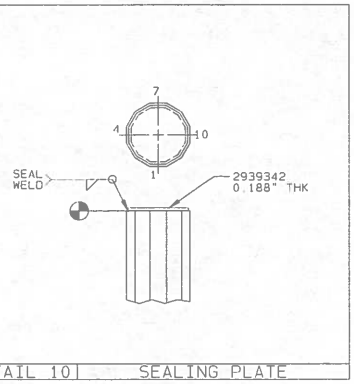
ORDER NO.	CUSTOMER	DESCRIPTION	DWG NO.
613271	CHUGACH ELECTRIC ASSOCIATION	SECTION ASSEMBLY	330376A

valmont



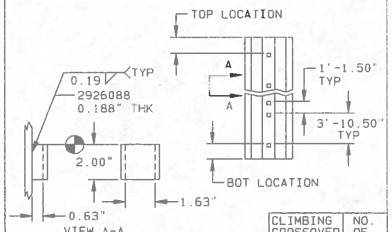
NOTES:
1. STAMP OR ENGRAVE IN 0.50" HIGH CHARACTERS.
   A = MANUFACTURING SITE (ONE CHARACTER)
   B = VALMONT PART NUMBER (SEVEN CHARACTERS)
   C = VALMONT ORDER NUMBER (SIX CHARACTERS)
   D = VALMONT SHOP ORDER NUMBER (SEVEN CHARACTERS)
   E = VALMONT SHOP ORDER LOT/BATCH NUMBER (ONE OR MORE CHARACTERS)

DETAIL 9 | VALMONT ID TAG



DETAIL 10 | SEALING PLATE

LADDER CLIP TYPE	FLAT (S)	START LOCATION TOP	START LOCATION BOT	START LOCATION DIMENSION	MIN STOP LOC (OPPOSITE END)
CLIMBING	3.5 △		X	3'-0.00"	5'-2.25"



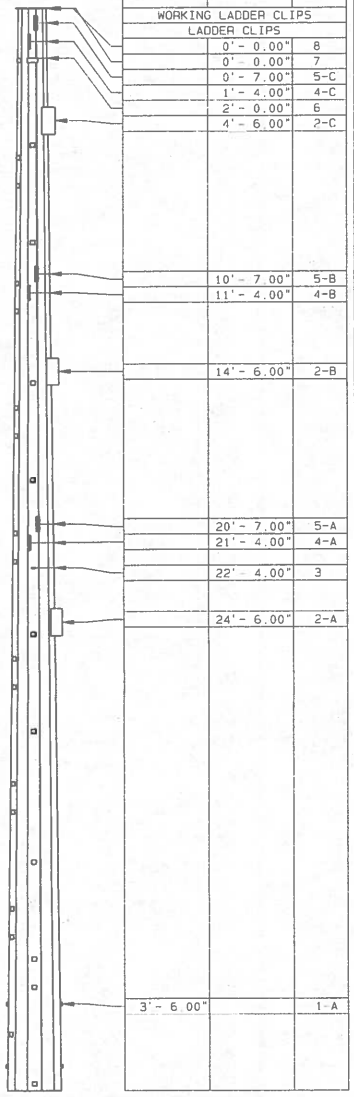
	CLIMBING CROSSOVER FLAT (S)	NO. OF PAIRS
TOP	1.7	1
BOT	N/A	N/A

NOTE:
REFER TO M-5 & M-63

LADDER CLIPS

valmont

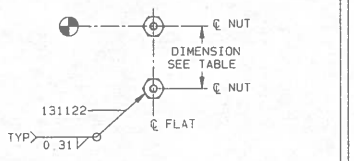
ORDER NO	CUSTOMER	DESCRIPTION	DWG NO
613271	CHUGACH ELECTRIC ASSOCIATION	SECTION ASSEMBLY	330376A



LOCATION DIMENSION		
FROM LARGE END	FROM SMALL END	DETAIL
WORKING LADDER CLIPS		
LADDER CLIPS		
	0'-0.00"	8
	0'-0.00"	7
	0'-7.00"	5-C
	1'-4.00"	4-C
	2'-0.00"	6
	4'-6.00"	2-C
	10'-7.00"	5-B
	11'-4.00"	4-B
	14'-6.00"	2-B
	20'-7.00"	5-A
	21'-4.00"	4-A
	22'-4.00"	3
	24'-6.00"	2-A
3'-6.00"		1-A

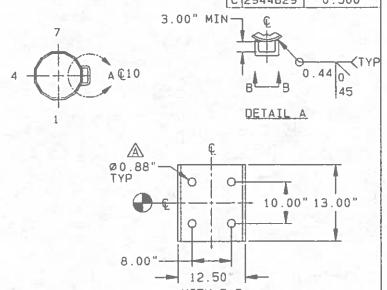
1. FLATS 1 AND 12 ARE ADJACENT TO SEAM WELD.
2. ALL CROSS SECTION VIEWS AND ORIENTATION REFERENCES ARE FROM SMALL END OF THE TUBE.
3. ALIGN WITH FLATS AT LARGE END UNLESS OTHERWISE NOTED.

-	TYPE	℄ FLAT(S)	DIMENSION
A	JACKING	4,10	30.00"



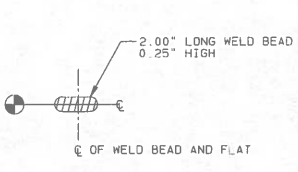
DETAIL 1 | JACKING/HANGING NUTS

-	PART #	THICKNESS
A	2944832	0.500"
B	2944831	0.500"
C	2944829	0.500"



DETAIL 2 | BRACKET

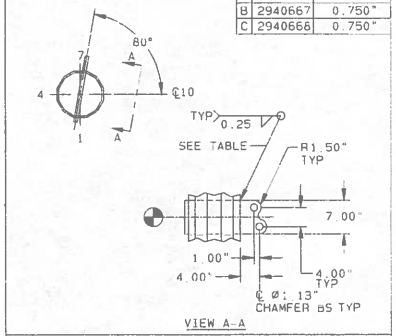
℄ OF FLAT(S)
1



NOTE:
CENTER OF GRAVITY IS AN APPROXIMATE LOCATION. THE CALCULATION DOES NOT ACCOUNT FOR WELD MATERIAL OR MATERIAL SUBSTITUTIONS.

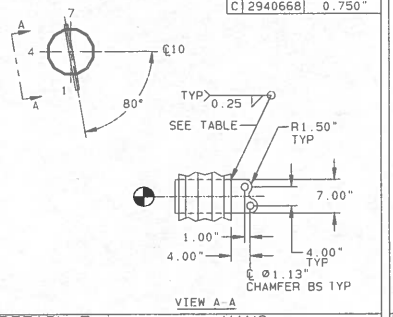
DETAIL 3 | CENTER OF GRAVITY

-	PART #	THICKNESS
A	2940671	0.750"
B	2940667	0.750"
C	2940666	0.750"



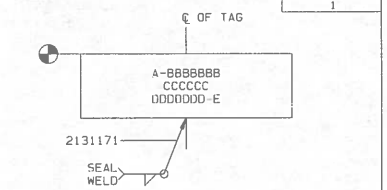
DETAIL 4 | VANG

-	PART #	THICKNESS
A	2940671	0.750"
B	2940667	0.750"
C	2940668	0.750"



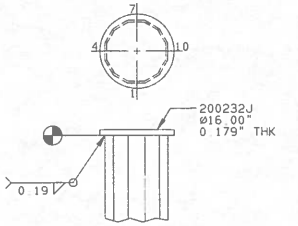
DETAIL 5 | VANG

℄ OF FLAT(S)
1

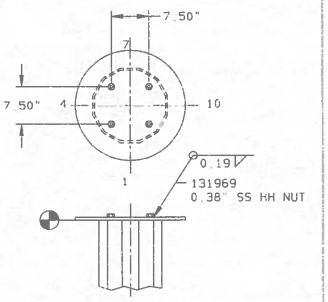


NOTES:
1. STAMP OR ENGRAVE IN 0.50" HIGH CHARACTERS.
   A = MANUFACTURING SITE (ONE CHARACTER)
   B = VALMONT PART NUMBER (SEVEN CHARACTERS)
   C = VALMONT ORDER NUMBER (SIX CHARACTERS)
   D = VALMONT SHOP ORDER NUMBER (SEVEN CHARACTERS)
   E = VALMONT SHOP ORDER LOT/BATCH NUMBER (ONE OR MORE CHARACTERS)

DETAIL 6 | VALMONT ID TAG



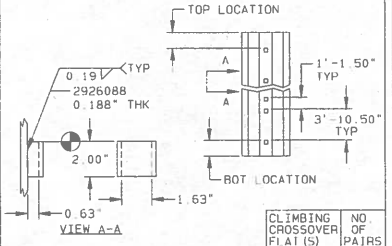
DETAIL 7 | POLE CAP



NOTE:
1. PROTECT FROM ALL FINISHES.

DETAIL 8 | TOP PLATE

LADDER CLIP TYPE	FLAT(S)	START LOCATION TOP	START LOCATION BOT	START LOCATION DIMENSION	MIN STOP LOC. (OPPOSITE END)
CLIMBING	3,5 ⚠	X		2'-0.00"	0'-4.50"

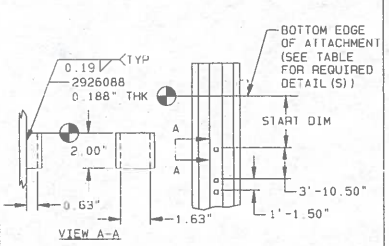


CLIMBING CROSSOVER FLAT(S)	NO. OF PAIRS
TOP N/A	N/A
BOT 1,7	2

NOTE:
REFER TO M-5 & M-63.

LADDER CLIPS

WORKING FLAT(S)	LOCATE BELOW DETAIL NO.(S)	START DIMENSION	NO. PAIRS
1,7	5-C	4'-6.00"	1
1,7	5-B	4'-0.00"	1
1,7	5-A	4'-0.00"	1



NOTE:
REFER TO M-5 & M-63.

WORKING LADDER CLIPS

BILL OF MATERIAL
(SHIP SEQ=0)

VALMONT PART NO	DESCRIPTION	QTY PER ASSY
2939308	SHAFT	1
131122	1.00" NUT	4
2944832	BRACKET	1
2940671	VANG	2
2944831	BRACKET	1
2940667	VANG	2
2944829	BRACKET	1
2131171	IDENTIFICATION TAG	1
2940668	VANG	2
200232J	POLE CAP PLATE	1
131969	0.38" SS HEX NUT	4
2926088	LADDER CLIP	52

LOCATION SYMBOL KEY	SHAFT INFO (MEASURED ACROSS FLATS)						
LOCATION REFERENCE	SHAPE	LENGTH	BASE OD	TOP OD	TAPER	THK	ASTM
	12-SIDED	43'-3.00"	25.80"	13.47"	0.285	0.250"	A871

DUPLICATE DRAWING DISTRIBUTION | IMF SEC ASSY 26"BD 13"ID 43'-3"LG

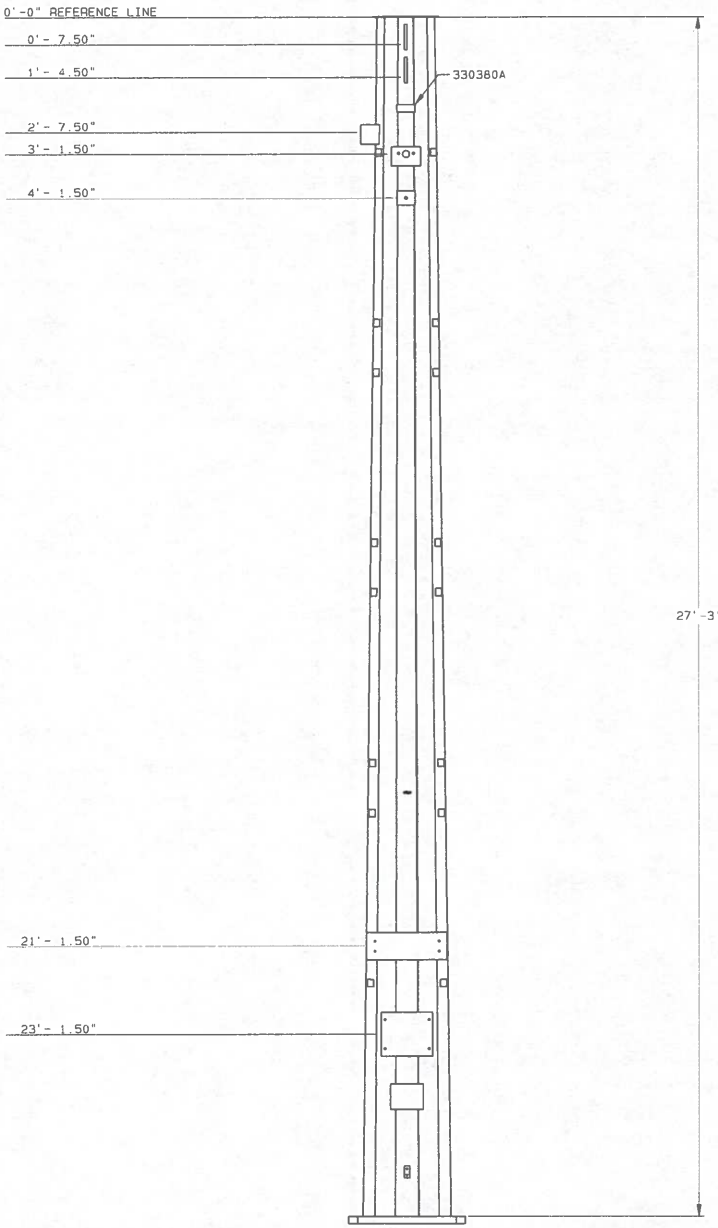
DWG SIZE D | CLASS CODE (1) 1 | CLASS NO. (3) 400

REV ID	DATE	REV BY	CHK BY	REVISION DESCRIPTION
A	08/02/24	XJW	TC5	REVISED PER CUSTOMER

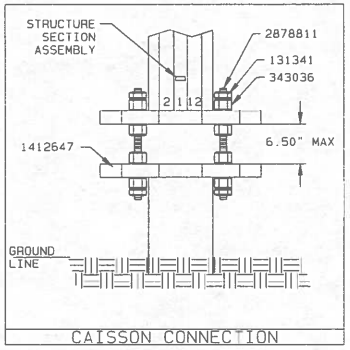
DRAWN XJW | ENGR WMP | DATE 07/11/24 | SCALE NONE
P.A. CHK TC5 07/17/24 | SHOP CHK
OTHER SPECIFICATIONS F-96, M-1, W-21
MATERIAL | THICKNESS | WEIGHT 2,644#

valmont

ORDER NO. 613271 | CUSTOMER CHUGACH ELECTRIC ASSOCIATION | DESCRIPTION SECTION ASSEMBLY | DWG NO. 330376B



ELEVATION VIEW
SEE FABRICATION DRAWINGS FOR ADDITIONAL DETAILS



CAISSON CONNECTION

NOTES:

1. POLE SHAFT GOVERNING REACTIONS.
   MOMENT = 5,408 IN-KIPS
   SHEAR = 17,261 #
   VERTICAL = -175 #

2. COMPONENT IDENTIFICATION. VALMONT ID TAG LOCATIONS ARE INDICATED BY CALLOUTS ON DRAWING. THE VALMONT ID TAG CONTAINS INFORMATION FOR INTERNAL TRACKING AND FIELD ASSEMBLY. ONLY THE VALMONT PART NUMBER NEEDS TO MATCH FOR FIELD ASSEMBLY. ALL OTHER IDENTIFICATION IS FOR INTERNAL USE.

   A = MANUFACTURING SITE (ONE CHARACTER)
   B = VALMONT PART NUMBER (SEVEN CHARACTERS)
   C = VALMONT ORDER NUMBER (SIX CHARACTERS)
   D = VALMONT SHOP ORDER NUMBER (SEVEN CHARACTERS)
   E = VALMONT SHOP ORDER LOT/BATCH NUMBER (ONE OR MORE CHARACTERS)

   A-BBBBBBB
   CCCCCC
   DDDDDDD-E

3. ASSEMBLY AND ERECTION GUIDELINES. SEE VALMONT TRANSMISSION INSTALLATION GUIDELINE I002 (WWW.VALMONTUTILITY.COM/I002).

BILL OF MATERIAL
(SHIPPING SEQ.=1 FOR ALL)

VALMONT PART NUMBER	DESCRIPTION	UNIT WEIGHT (LBS)	QTY PER STR
330380A	SECTION ASSEMBLY	2,006	1
1412647	BASE PLATE ASSEMBLY	564	1

VALMONT PART NUMBER	DESCRIPTION							QTY PER STR
	HARDWARE SIZE (IN)				GENERAL	FINISH	ASTM SPEC	
	BOLT		NUT	WSHR				
	DIA	LONG						
2878811	2.25	21.00				HDGV	523	4
343036			2.25			HDGV	A563	16
131341			2.25			HDGV	A153	8

34.5KV SUBTRANSMISSION LINE
27.3' AGH, N-1

PROPRIETARY INFORMATION

THESE DOCUMENTS, DRAWINGS, AND/OR CALCULATIONS AND ALL INFORMATION RELATED TO THEM ARE THE EXCLUSIVE PROPERTY AND THE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES, INC. AND ARE FURNISHED SOLELY UPON THE CONDITIONS THAT THEY WILL BE RETAINED IN STRICTEST CONFIDENCE AND SHALL NOT BE DUPLICATED, USED, OR DISCLOSED IN WHOLE OR IN PART FOR ANY PURPOSE, IN ANY WAY, WITHOUT THE PRIOR WRITTEN PERMISSION OF VALMONT INDUSTRIES, INC.

DUPLICATE DRAWING DISTRIBUTION

PED61327127.3'_AGH,_N-1,_34.5KV_SUBTRAN

DWG SIZE D CLASS CODE (1) 1 CLASS NO. (3) 450

DRAWN	ENGR	DATE	SCALE
XJW	WMP	07/11/24	NONE

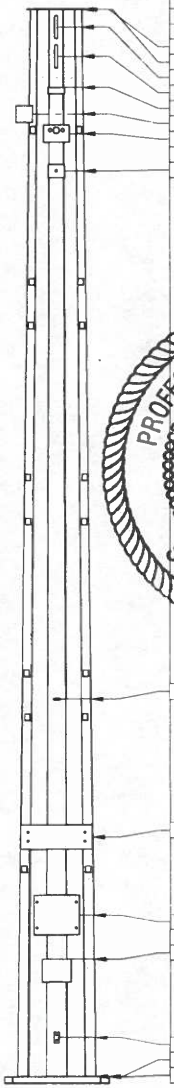
P.A CHK: TC5 07/17/24
SHOP CHK:
OTHER SPECIFICATIONS

REV ID	DATE	REV BY	CHK BY	REVISION DESCRIPTION

MATERIAL | THICKNESS | WEIGHT 2,764#

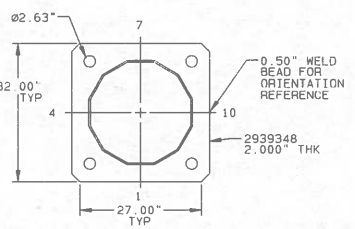
valmont

ORDER NO.	CUSTOMER	DESCRIPTION	DWG NO.
613271	CHUGACH ELECTRIC ASSOCIATION	27.3' AGH, N-1, 34.5KV SUBTRAN	330380Z



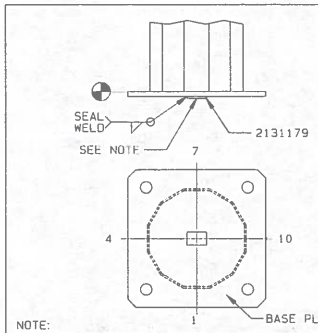
LOCATION DIMENSION		
FROM LARGE END	FROM SMALL END	DETAIL
WORKING LADDER CLIPS		
LADDER CLIPS		
	0'-0.00"	14
	0'-0.00"	13
	0'-5.50"	12-A
	1'-2.50"	12-A
	2'-0.00"	11
	2'-8.13"	10-A
	3'-2.13"	9-A
	4'-1.50"	8-A
	17'-7.38"	7
	6'-1.50"	6-A
	4'-1.50"	5-A
	3'-0.00"	4
	1'-0.00"	3-A
	0'-0.00"	2
	0'-0.00"	1

BOLT CIRCLE Ø	QTY OF HOLES
33.42"	4



NOTE:
1. REFER TO W-52 FOR COMPLETE PENETRATION BASE PLATE TO SHAFT WELD.

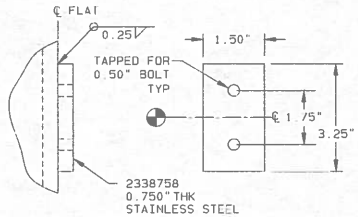
DETAIL 1 | BASE PLATE



NOTE:
1. NAME PLATE IS LOCATED ON BOTTOM OF BASE PLATE.

DETAIL 2 | BASE PLATE ID TAG

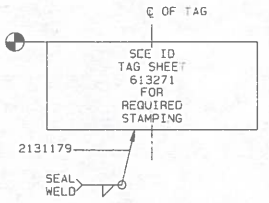
-	℄ FLAT(S)
A	1.7



NOTE:
1. PROTECT FROM ALL FINISHES.

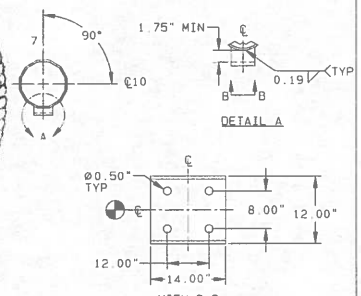
DETAIL 3 | GROUNDING ATTACHMENT

CHAR. HEIGHT	℄ OF FLAT(S)
0.50"	1



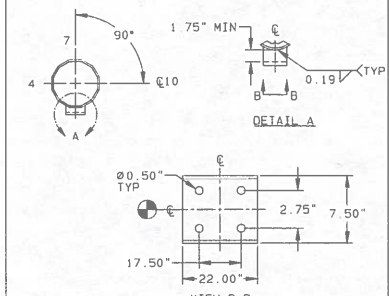
DETAIL 4 | CUSTOMER ID TAG

-	PART #	THICKNESS
A	2876749	0.250"



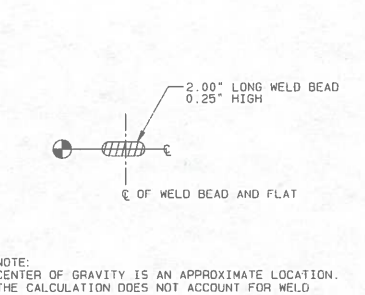
DETAIL 5 | BRACKET

-	PART #	THICKNESS
A	2876923	0.250"



DETAIL 6 | BRACKET

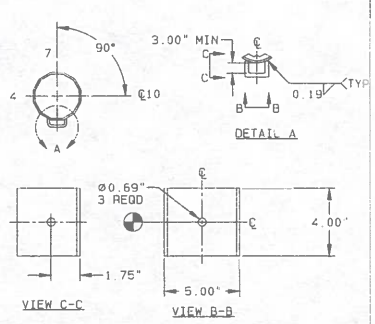
℄ OF FLAT(S)
1



NOTE:
CENTER OF GRAVITY IS AN APPROXIMATE LOCATION. THE CALCULATION DOES NOT ACCOUNT FOR WELD MATERIAL OR MATERIAL SUBSTITUTIONS.

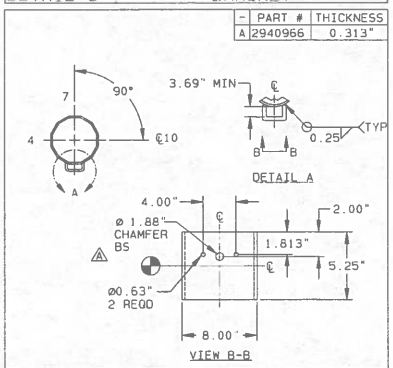
DETAIL 7 | CENTER OF GRAVITY

-	PART #	THICKNESS
A	2940039	0.250"



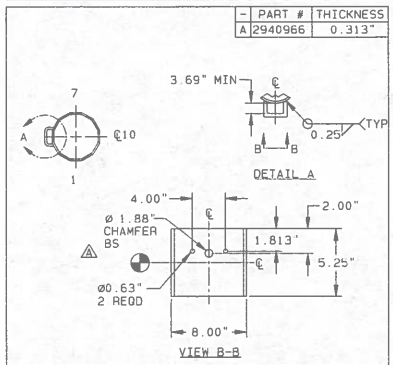
DETAIL 8 | BRACKET

-	PART #	THICKNESS
A	2940966	0.313"



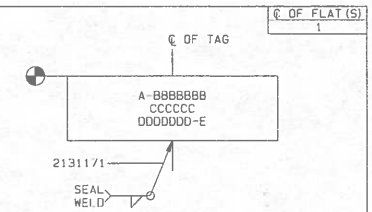
DETAIL 9 | BRACKET

-	PART #	THICKNESS
A	2940966	0.313"



DETAIL 10 | BRACKET

℄ OF FLAT(S)
1



NOTES:
1. STAMP OR ENGRAVE IN 0.50" HIGH CHARACTERS.
   A = MANUFACTURING SITE (ONE CHARACTER)
   B = VALMONT PART NUMBER (SEVEN CHARACTERS)
   C = VALMONT ORDER NUMBER (SIX CHARACTERS)
   D = VALMONT SHOP ORDER NUMBER (SEVEN CHARACTERS)
   E = VALMONT SHOP ORDER LOT/BATCH NUMBER (ONE OR MORE CHARACTERS)

DETAIL 11 | VALMONT ID TAG

BILL OF MATERIAL
(SHIP SEQ=0)

VALMONT PART NO	DESCRIPTION	QTY PER ASSY
2939325	SHAFT	1
2939326	BACK-UP-RING	2
2939348	BASE PLATE	1
2131179	IDENTIFICATION TAG	2
2338758	GROUND PAD	2
2876749	BRACKET	1
2876923	BRACKET	1
2940039	BRACKET	1
2940966	BRACKET	2
2131171	IDENTIFICATION TAG	1
2940964	VANG	2
200232L	POLE CAP PLATE	1
131969	0.38" SS HEX NUT	4
2926088	LADDER CLIP	18

1. FLATS 1 AND 12 ARE ADJACENT TO SEAM WELD.
2. ALL CROSS SECTION VIEWS AND ORIENTATION REFERENCES ARE FROM SMALL END OF THE TUBE.
3. ALIGN WITH FLATS AT SMALL END UNLESS OTHERWISE NOTED

LOCATION SYMBOL KEY	SHAFT INFO (MEASURED ACROSS FLATS)						
LOCATION REFERENCE	SHAPE	LENGTH	BASE OD	TOP OD	TAPER	THK	ASTM
	12-SIDED	27'-3.00"	24.00"	15.83"	0.300	0.219"	A871

DUPLICATE DRAWING DISTRIBUTION

IME SEC ASSY 24"BD 16"TD 27'-3"LG

DWG SIZE D | CLASS CODE (1) 1 | CLASS NO. (3) 400

REV ID	DATE	REV BY	CHK BY	REVISION DESCRIPTION
B	08/12/24	XJW	TC5	REVISED PER CUSTOMER
A	08/02/24	XJW	TC5	REVISED PER CUSTOMER

DRAWN	ENGR	DATE	SCALE
XJW	WMP	07/11/24	NONE

P.A. CHK | SHOP CHK
TC5 07/17/24

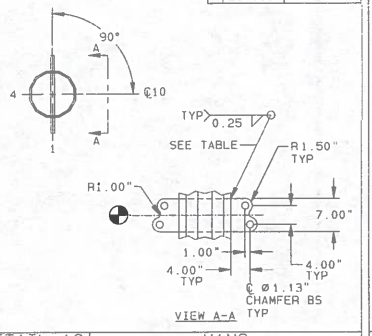
OTHER SPECIFICATIONS
F-96, M-1, W-21

MATERIAL	THICKNESS	WEIGHT
		2,006#

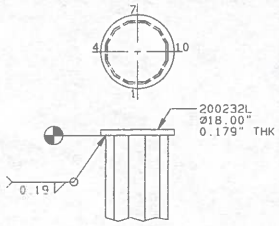
valmont

ORDER NO	CUSTOMER	DESCRIPTION	DWG NO
613271	CHUGACH ELECTRIC ASSOCIATION	SECTION ASSEMBLY	330380A

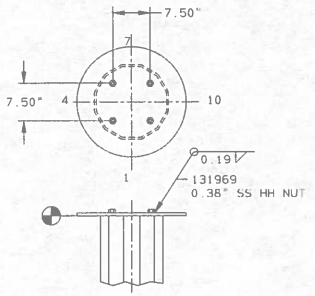
-	PART #	THICKNESS
A	2940964	0.750"



DETAIL 12 | VANG



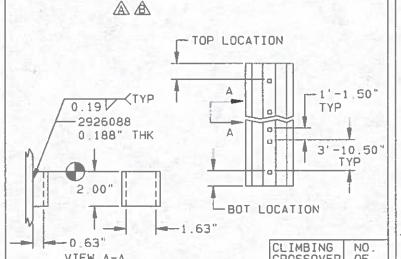
DETAIL 13 | POLE CAP



NOTE:
1. PROTECT FROM ALL FINISHES.

DETAIL 14 | TOP PLATE

LADDER CLIP TYPE	FLAT (S)	START LOCATION TOP	START LOCATION BOT	START LOCATION DIMENSION	MIN STOP LOC (OPPOSITE END)
CLIMBING	3,11	X		3'-0.00"	3'-0.00"

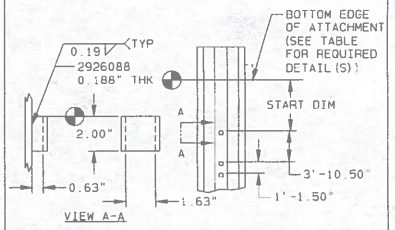


	CLIMBING CROSSOVER FLAT (S)	NO. OF PAIRS
TOP	N/A	N/A
BOT	N/A	N/A

NOTE:
REFER TO M-5 & M-63.

LADDER CLIPS

WORKING FLAT (S)	LOCATE BELOW DETAIL NO. (S)	START DIMENSION	NO. PAIRS
5 ⚠	12-A	4'-0.00"	1



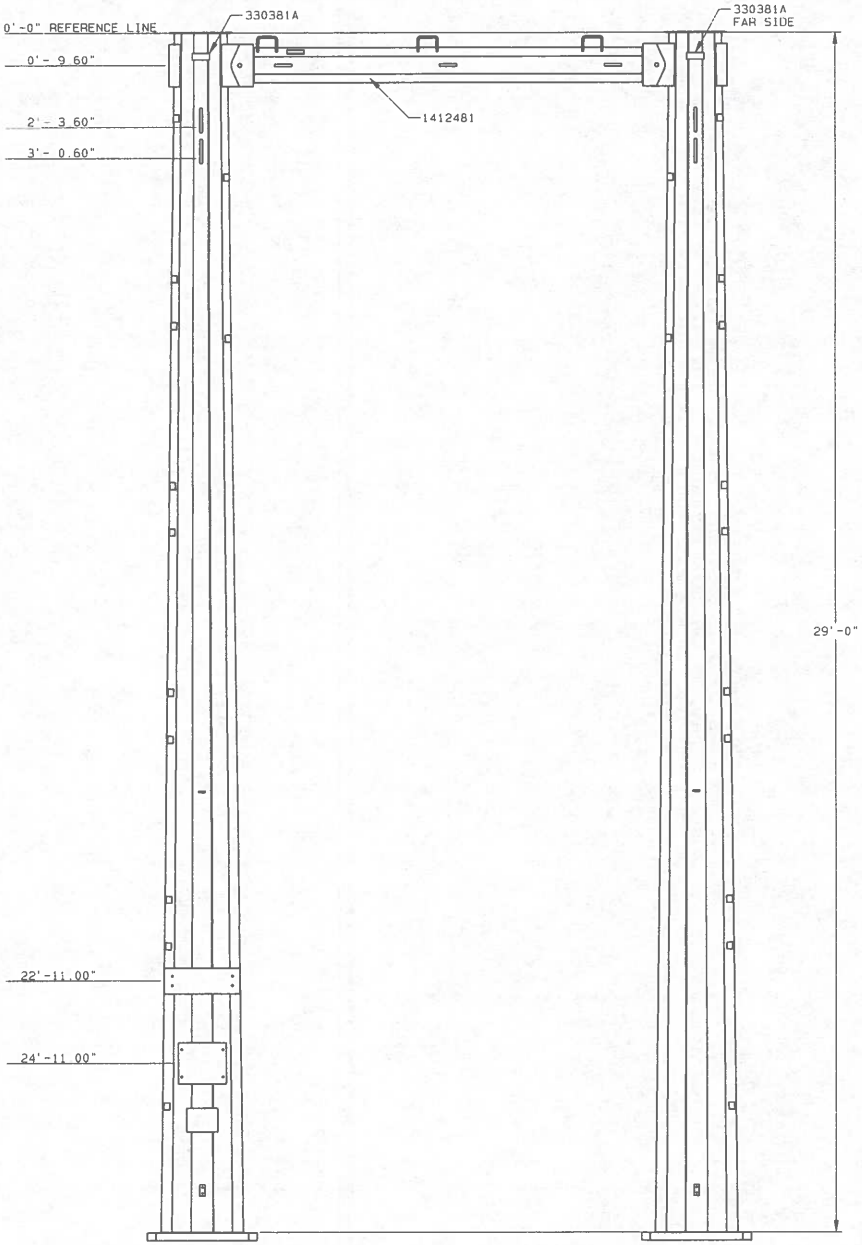
NOTE:
REFER TO M-5 & M-63.

WORKING LADDER CLIPS

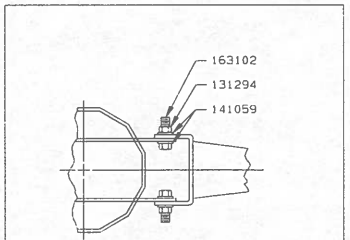
PROFESSIONAL CIVIL ENGINEER
DONGHUI
YUAN
E-9063
Donghui Yuan
STATE OF NEBRASKA
8/27/24

valmont

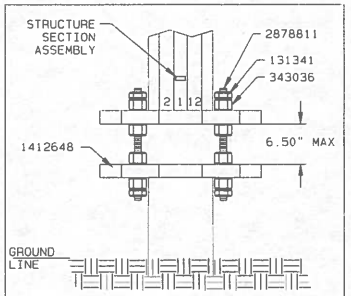
ORDER NO.	CUSTOMER	DESCRIPTION	DWG NO.
613271	CHUGACH ELECTRIC ASSOCIATION	SECTION ASSEMBLY	330380A



ELEVATION VIEW
SEE FABRICATION DRAWINGS FOR ADDITIONAL DETAILS



ARM CONNECTION



CAISSON CONNECTION

NOTES:

1. POLE SHAFT GOVERNING REACTIONS.
   MOMENT = 6,745 IN-KIPS
   SHEAR = 21.155 #
   VERTICAL = -667 #
2. COMPONENT IDENTIFICATION: VALMONT ID TAG LOCATIONS ARE INDICATED BY CALLOUTS ON DRAWING. THE VALMONT ID TAG CONTAINS INFORMATION FOR INTERNAL TRACKING AND FIELD ASSEMBLY. ONLY THE VALMONT PART NUMBER NEEDS TO MATCH FOR FIELD ASSEMBLY. ALL OTHER IDENTIFICATION IS FOR INTERNAL USE.
   A = MANUFACTURING SITE (ONE CHARACTER)
   B = VALMONT PART NUMBER (SEVEN CHARACTERS)
   C = VALMONT ORDER NUMBER (SIX CHARACTERS)
   D = VALMONT SHOP ORDER NUMBER (SEVEN CHARACTERS)
   E = VALMONT SHOP ORDER LOT/BATCH NUMBER (ONE OR MORE CHARACTERS)

   A-BBBBBBB
   CCCCCC
   DDDDDDD-E

3. ASSEMBLY AND ERECTION GUIDELINES. SEE VALMONT TRANSMISSION INSTALLATION GUIDELINE 1002 (WWW.VALMONTUTILITY.COM/1002).

BILL OF MATERIAL
(SHIPPING SEQ.=1 FOR ALL)

VALMONT PART NUMBER	DESCRIPTION	UNIT WEIGHT (LBS)	QTY PER STR
330381A	SECTION ASSEMBLY	2,387	2
1412481	INBOARD ARM	333	1
1412648	BASE PLATE ASSEMBLY	634	2

VALMONT PART NUMBER	DESCRIPTION								QTY PER STR
	HARDWARE SIZE (IN)				GENERAL	FINISH	ASTM SPEC		
	BOLT		NUT	WSHR					
	DIA	LONG							
163102	1.00	3.00				BARE	A325	4
141059				1.00	WS,FLAT	BARE	F436	8
131294			1.00		DH3,LOCK	BARE	A563	4
2878811	2.25	21.00				HDGV	S23	8
343036			2.25			HDGV	A563	32
131341			2.25			HDGV	A153	16

34.5KV SUBTRANSMISSION LINE
29.0' AGH, N-4

PROPRIETARY INFORMATION

THESE DOCUMENTS, DRAWINGS, AND/OR CALCULATIONS AND ALL INFORMATION RELATED TO THEM ARE THE EXCLUSIVE PROPERTY AND THE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES, INC. AND ARE FURNISHED SOLELY UPON THE CONDITIONS THAT THEY WILL BE RETAINED IN STRICTEST CONFIDENCE AND SHALL NOT BE DUPLICATED, USED, OR DISCLOSED IN WHOLE OR IN PART FOR ANY PURPOSE, IN ANY WAY, WITHOUT THE PRIOR WRITTEN PERMISSION OF VALMONT INDUSTRIES, INC.

DUPLICATE DRAWING DISTRIBUTION

PED61327129.0'_AGH,_N-4,_34.5KV_SUBTRAN

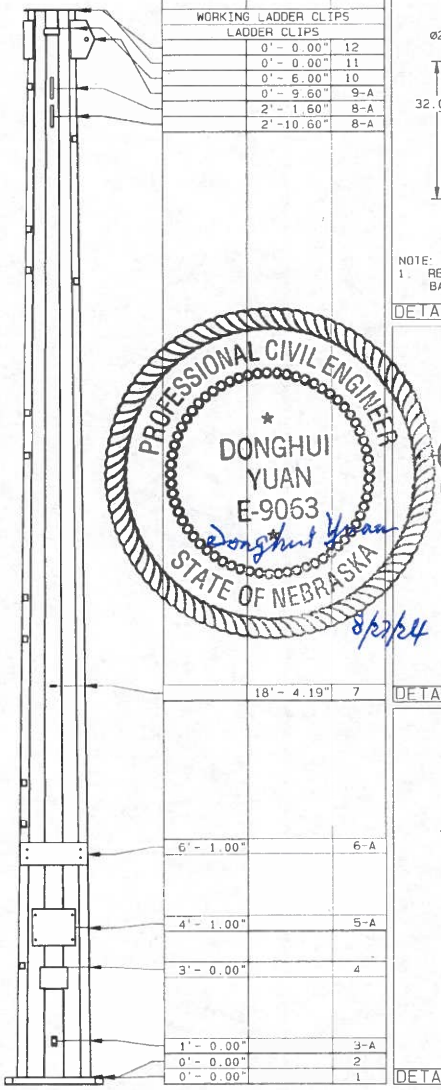
DWG SIZE D CLASS CODE (1) 1 CLASS NO. (3) 450

REV ID	DATE	REV BY	CHK BY	REVISION DESCRIPTION

DRAWN XJW | ENGR WMP | DATE 07/11/24 | SCALE NONE
P.A. CHK TC5 07/17/24 | SHOP CHK
OTHER SPECIFICATIONS
MATERIAL | THICKNESS | WEIGHT 6,770#

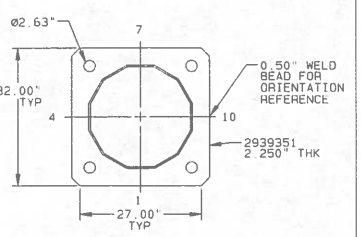
valmont

ORDER NO.	CUSTOMER	DESCRIPTION	DWG NO.
613271	CHUGACH ELECTRIC ASSOCIATION	29.0' AGH, N-4, 34.5KV SUBTRAN	330381Z



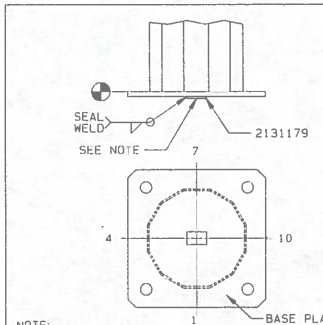
LOCATION DIMENSION		
FROM LARGE END	FROM SMALL END	DETAIL
WORKING LADDER CLIPS		
LADDER CLIPS		
	0'- 0.00"	12
	0'- 0.00"	11
	0'- 6.00"	10
	0'- 9.60"	9-A
	2'- 1.60"	8-A
	2'-10.60"	8-A
	18'- 4.19"	7
6'- 1.00"		6-A
4'- 1.00"		5-A
3'- 0.00"		4
1'- 0.00"		3-A
0'- 0.00"		2
0'- 0.00"		1

BOLT CIRCLE Ø	QTY OF HOLES
33.42"	4



NOTE:
1. REFER TO W-52 FOR COMPLETE PENETRATION BASE PLATE TO SHAFT WELD.

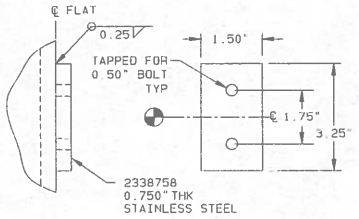
DETAIL 1 | BASE PLATE



NOTE:
1. NAME PLATE IS LOCATED ON BOTTOM OF BASE PLATE.

DETAIL 2 | BASE PLATE ID TAG

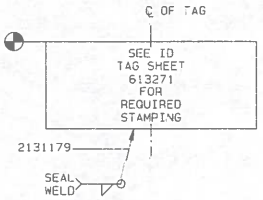
-	℄ FLAT(S)
A	1.7



NOTE:
1. PROTECT FROM ALL FINISHES.

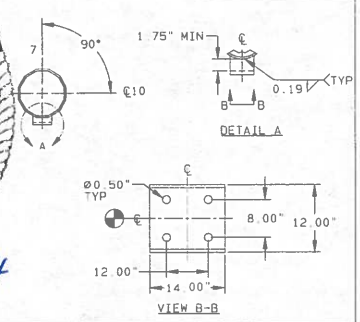
DETAIL 3 | GROUNDING ATTACHMENT

CHAR. HEIGHT	℄ OF FLAT(S)
0.50"	1



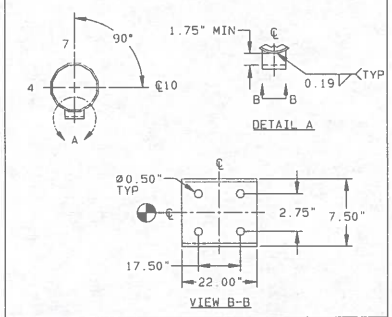
DETAIL 4 | CUSTOMER ID TAG

-	PART #	THICKNESS
A	2876749	0.250"



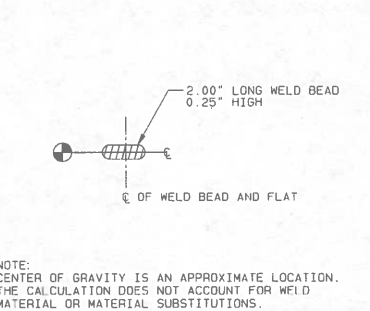
DETAIL 5 | BRACKET

-	PART #	THICKNESS
A	2876923	0.250"



DETAIL 6 | BRACKET

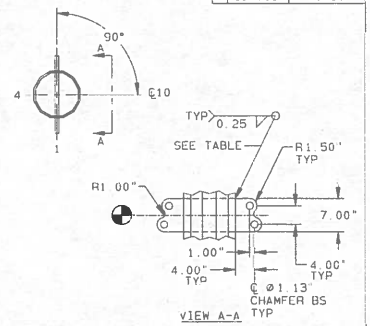
℄ OF FLAT(S)
1



NOTE:
CENTER OF GRAVITY IS AN APPROXIMATE LOCATION. THE CALCULATION DOES NOT ACCOUNT FOR WELD MATERIAL OR MATERIAL SUBSTITUTIONS.

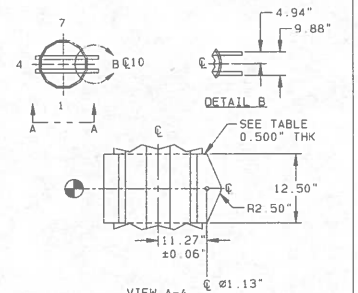
DETAIL 7 | CENTER OF GRAVITY

-	PART #	THICKNESS
A	2940964	0.750"



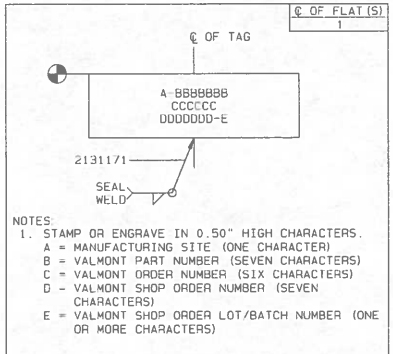
DETAIL 8 | VANG

-	SPEC	SIZE A	SIZE B	PART #
A	M-9	FLUSH	0.19"	2939349



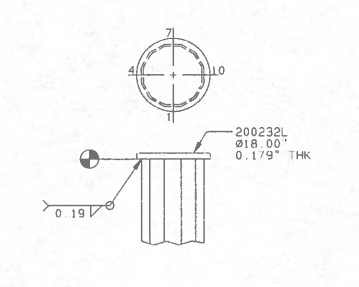
DETAIL 9 | ARM CONNECTION VANG

℄ OF FLAT(S)
1



NOTES:
1. STAMP OR ENGRAVE IN 0.50" HIGH CHARACTERS.
   A = MANUFACTURING SITE (ONE CHARACTER)
   B = VALMONT PART NUMBER (SEVEN CHARACTERS)
   C = VALMONT ORDER NUMBER (SIX CHARACTERS)
   D = VALMONT SHOP ORDER NUMBER (SEVEN CHARACTERS)
   E = VALMONT SHOP ORDER LOT/BATCH NUMBER (ONE OR MORE CHARACTERS)

DETAIL 10 | VALMONT ID TAG



DETAIL 11 | POLE CAP

BILL OF MATERIAL
(SHIP SEQ=0)

VALMONT PART NO	DESCRIPTION	QTY PER ASSY
2939328	SHAFT	1
2939329	BACK-UP-RING	2
2939351	BASE PLATE	1
2131179	IDENTIFICATION TAG	2
2338758	GROUND PAD	2
2876749	BRACKET	1
2876923	BRACKET	1
2940964	VANG	2
2939349	ARM CONN VANG	2
2131171	IDENTIFICATION TAG	1
200232L	POLE CAP PLATE	1
131969	0.38" SS HEX NUT	4
2926088	LADDER CLIP	24

PROFESSIONAL CIVIL ENGINEER
DONGHUI YUAN
E-9063
STATE OF NEBRASKA
Donghui Yuan
8/27/24

1. FLATS 1 AND 12 ARE ADJACENT TO SEAM WELD.
2. ALL CROSS SECTION VIEWS AND ORIENTATION REFERENCES ARE FROM SMALL END OF THE TUBE.
3. ALIGN WITH FLATS AT SMALL END UNLESS OTHERWISE NOTED.

LOCATION SYMBOL KEY	SHAFT INFO (MEASURED ACROSS FLATS)						
LOCATION REFERENCE	SHAPE	LENGTH	BASE OD	TOP OD	TAPER	THK	ASTM
	12-SIDED	29'-0.00"	24.00"	15.30"	0.300	0.250"	A871

DUPLICATE DRAWING DISTRIBUTION

IMF SEC ASSY 24"BD 15"TD 29'-0"LG

OWG SIZE D | CLASS CODE (1) 1 | CLASS NO. (3) 400

REV ID	DATE	REV BY	CHK BY	REVISION DESCRIPTION
A	08/02/24	XJW	TC5	REVISED PER CUSTOMER

DRAWN	ENGR	DATE	SCALE
XJW	WMP	07/11/24	NONE

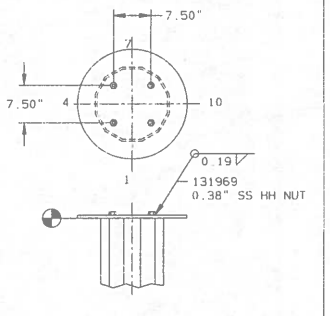
P.A. CHK: TC5 07/17/24 | SHOP CHK

OTHER SPECIFICATIONS: F-96,M-1,W-21

MATERIAL	THICKNESS	WEIGHT
		2,387#

ORDER NO	CUSTOMER	DESCRIPTION	DWG NO
613271	CHUGACH ELECTRIC ASSOCIATION	SECTION ASSEMBLY	330381A

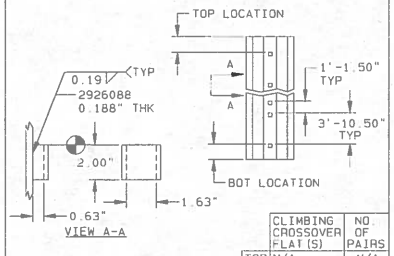
valmont



NOTE:
1. PROTECT FROM ALL FINISHES

DETAIL 12 TOP PLATE

LADDER CLIP TYPE	FLAT (S)	START LOCATION TOP	START LOCATION BOT	START LOCATION DIMENSION	MIN STOP LOC (OPPOSITE END)
CLIMBING	3,9	X		2'-0.00"	3'-0.00"

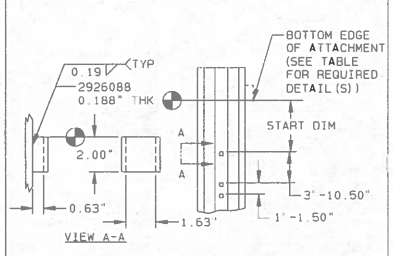


CLIMBING CROSSOVER FLAT (S)	NO. OF PAIRS
TOP N/A	N/A
BOT N/A	N/A

NOTE:
REFER TO M-5 & M-63.

LADDER CLIPS

WORKING FLAT (S)	LOCATE BELOW DETAIL NO. (S)	START DIMENSION	NO. PAIRS
5.11	8-A	1'-0.00"	1

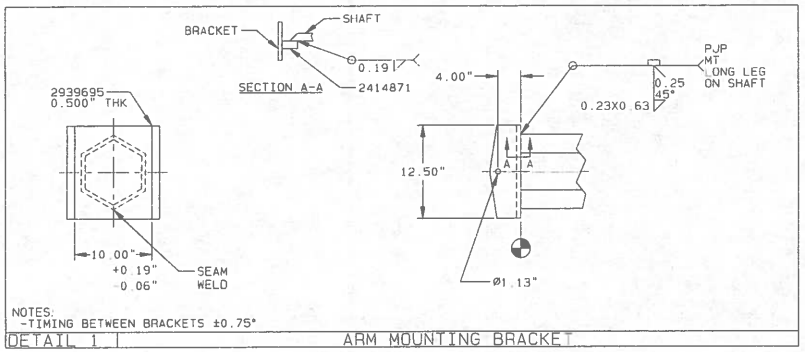


NOTE:
REFER TO M-5 & M-63.

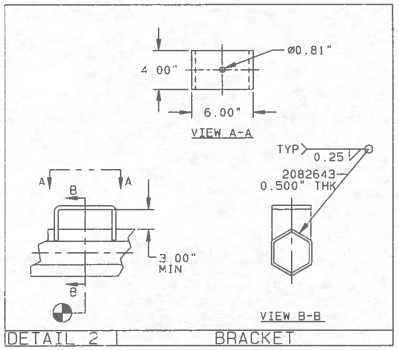
WORKING LADDER CLIPS

valmont

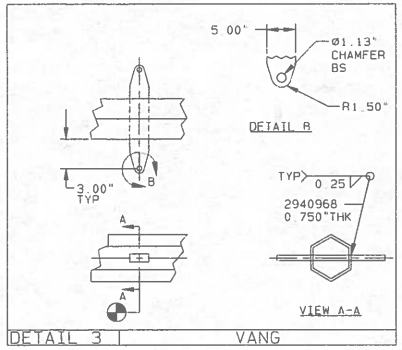
ORDER NO	CUSTOMER	DESCRIPTION	DWG NO
613271	CHUGACH ELECTRIC ASSOCIATION	SECTION ASSEMBLY	330381A



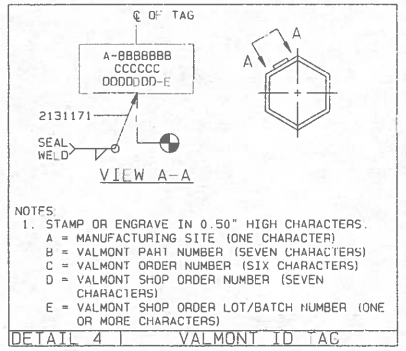
DETAIL 1 | ARM MOUNTING BRACKET



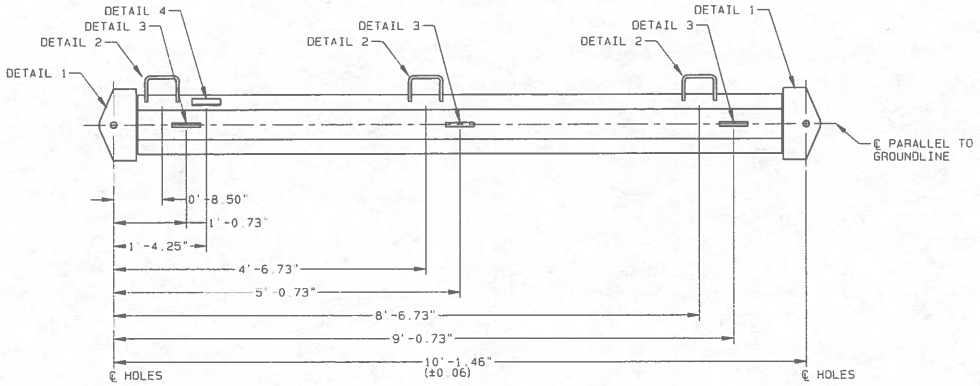
DETAIL 2 | BRACKET



DETAIL 3 | VANG



DETAIL 4 | VALMONT ID TAG



BILL OF MATERIAL (SHIP SEQ=0)		
VALMONT PART NO	DESCRIPTION	QTY PER ASSY
2939337	ARM SHAFT	1
2939695	ARM MTG BRKT	2
2414871	BACK-UP-RING	4
2082643	BRACKET	3
2940968	VANG	3
2131171	IDENTIFICATION TAG	1

DUPLICATE DRAWING DISTRIBUTION

TAAC2939337293969529396950960061327000000

DWG SIZE D CLASS CODE (1) 4 CLASS NO. (3) 300

REV ID	DATE	REV BY	CHK BY	REVISION DESCRIPTION

DRAWN XJW | ENGR WMP | DATE 07/16/24 | SCALE NONE

P.A CHK TC5 07/17/24 | SHOP CHK

OTHER SPECIFICATIONS F-96,M-1,W-21

MATERIAL | THICKNESS | WEIGHT 333#

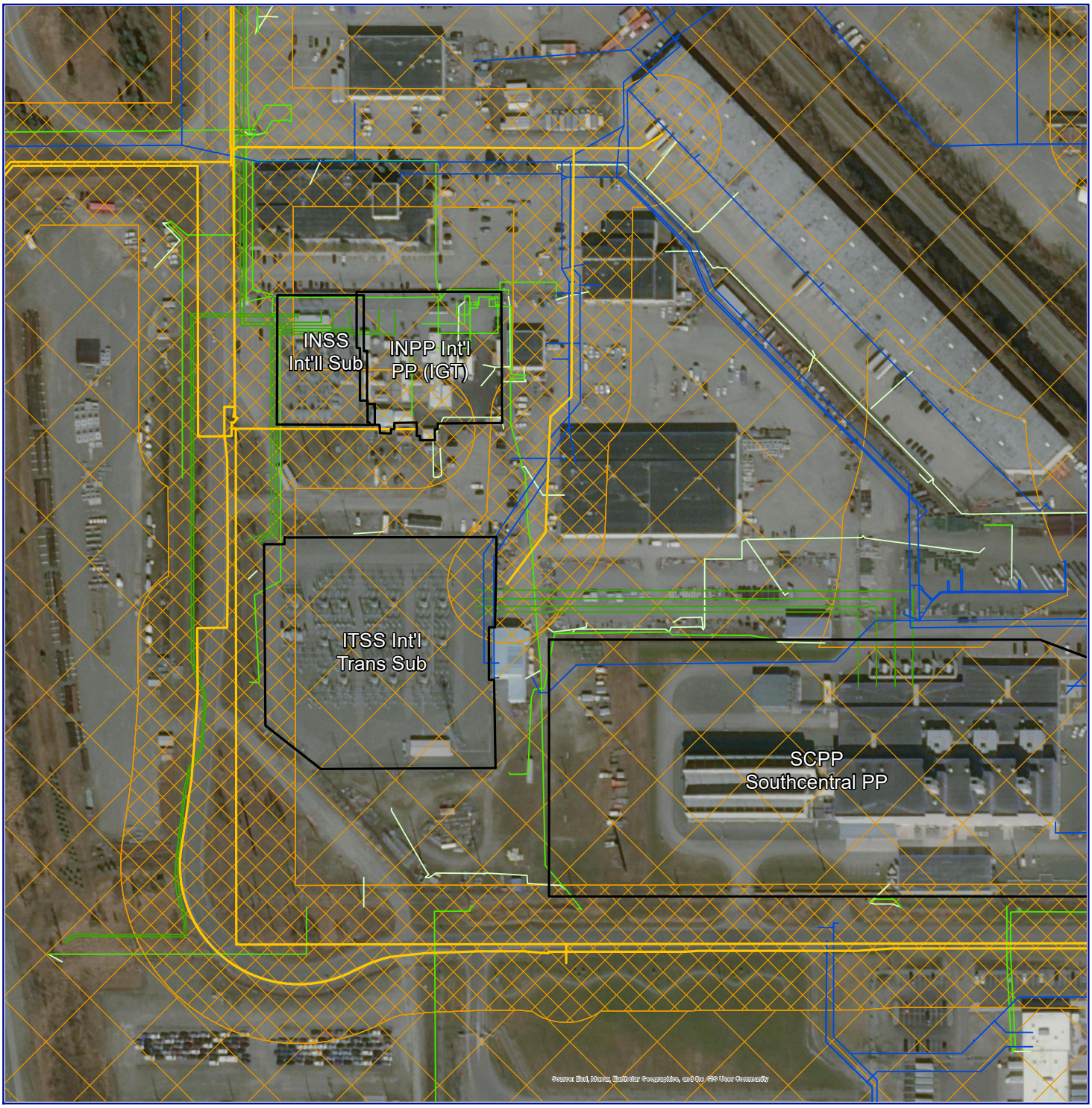
valmont

ORDER NO.	CUSTOMER	DESCRIPTION	DWG NO.
613271	CHUGACH ELECTRIC ASSOCIATION	INBOARD ARM	1412481

NOTES

1. ALL SECTION VIEWS ARE FROM RIGHT END OF ARM UNLESS OTHERWISE NOTED.

LOCATION SYMBOL KEY	SHAFT INFO (MEASURED ACROSS FLATS)						
LOCATION REFERENCE	SHAPE	LENGTH	BASE OD	TOP OD	TAPER	THK	ASTM
	6-SIDED	9'-4.96"	9.00"	9.00"	0.000	0.188"	A871



Legend

- Alaska Waste Water Utility
- Enstar Gas Lines
- Enstar Buffer 100ft & 500ft
- Electric Underground Transmission
- Electric Underground Primary Conductor
- Electric Underground Secondary Conductor

CHUGACH
POWERING ALASKA'S FUTURE

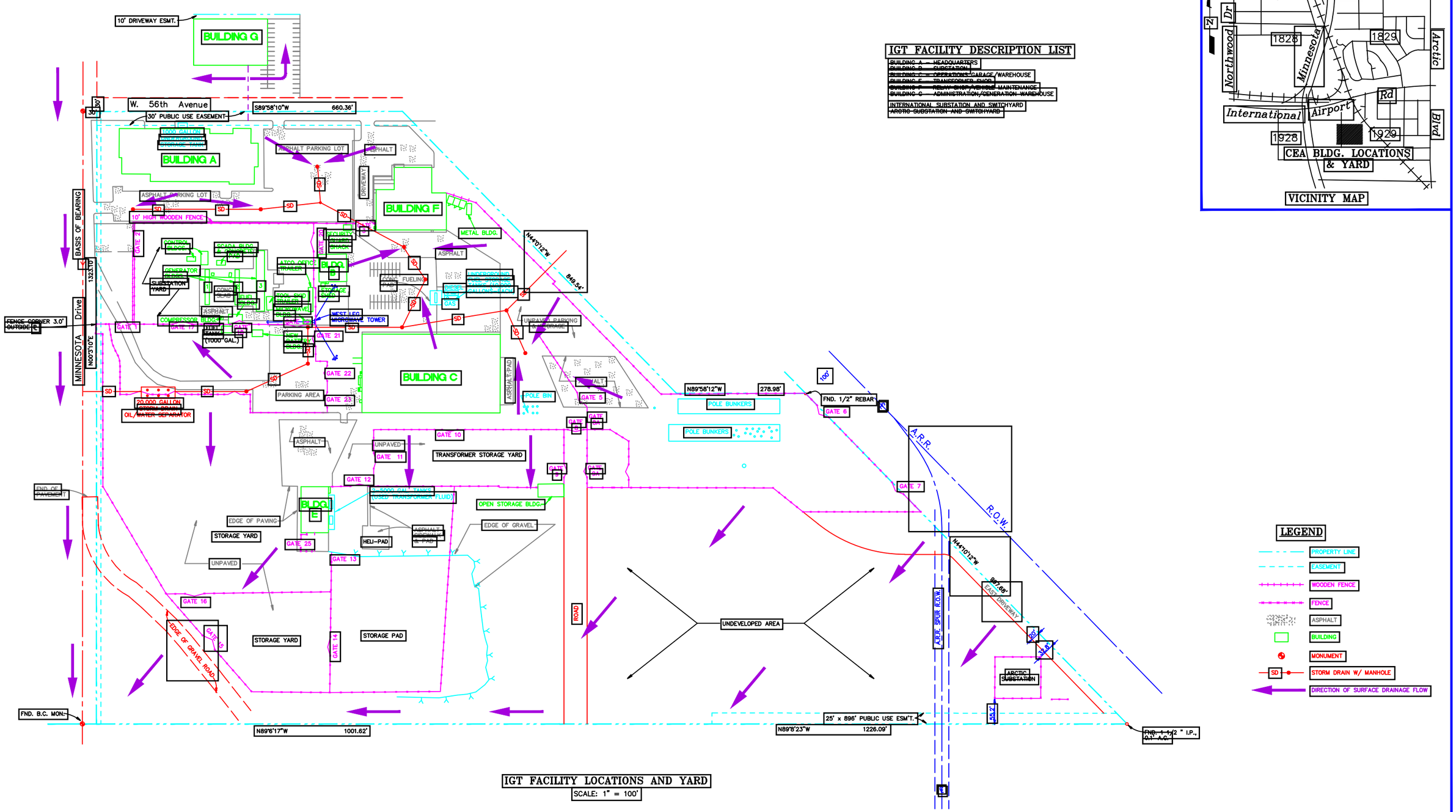
Chugach Electric Association, Inc.
5601 Electron Drive - P.O. Box 196300
Anchorage, Alaska 99519-6300

South Campus Underground Facilities

0 62.5 125 250 375 500 Feet

1 inch = 242 feet

N



IGT FACILITY LOCATIONS AND YARD
SCALE: 1" = 100'

IGT FACILITY DESCRIPTION LIST

BUILDING A – HEADQUARTERS
BUILDING B – SUBSTATION
BUILDING C – OPERATIONS GARAGE/WAREHOUSE
BUILDING E – TRANSFORMER SHOP
BUILDING F – RELAY SHOP/VEHICLE MAINTENANCE
BUILDING G – ADMINISTRATION/GENERATION WAREHOUSE
INTERNATIONAL SUBSTATION AND SWITCHYARD
ARCTIC SUBSTATION AND SWITCHYARD

VICINITY MAP

LEGEND

- PROPERTY LINE
- EASEMENT
- WOODEN FENCE
- FENCE
- ASPHALT
- BUILDING
- MONUMENT
- SD — STORM DRAIN W/ MANHOLE
- DIRECTION OF SURFACE DRAINAGE FLOW

PROJECT:
ENG./DESIGN.:
W.O. #

NO.	CONSTRUCTION REVISION	DWN. BY	APPROVED (ENG./DES.)	APPROVED (MUC/ASCH.)	DATE

ENG. STAMP

NO.	RECORD REVISION	TECH./ DWN. BY	W.P.#	W.O. APPROVED	RECORD APPROVED	DATE

Chugach Electric Association, Inc.
5601 Minnesota Drive
P.O. Box 196300
Anchorage, Alaska
99519-6300

DRAWING NAME:
INTERNATIONAL GENERATION AND TRANSMISSION FACILITY
SITE PLAN

DEPARTMENT OF ENVIRONMENTAL ENGINEERING AND HAZARDOUS MATERIAL

INSS-EN-0001_0001_0

DRAWING NO. – PREVIOUS/REFERENCE
NEW DRAWING
DRAWING NO.:

IGT-EN-SP01

SHEET 1 OF 1
PAGE 1

10' WOOD FENCE APPROX. 2' NORTH & 2' WEST OF CHAIN LINK FENCE

ASPHALT PARKING LOT

ISOLATION

SC39

SC40

SC407

PM4119

T3

SST2

SC680

34.5kV FEEDER DUCT BANK

WEST TRENCH

EAST TRENCH

HH1 HH2 HH3 HH4 HH5 HH6 HH7 HH8 HH9 HH10 HH11 HH12

NOTE 2

NOTE 3

NOTE 4

NOTE 1

NEW 34.5kV SWITCHGEAR

SWING GATE CHAIN LINK & WOOD

SWING GATE

BONDED TO FENCE POST AND GATE

SST1

4/0 CU

NEW STEPS

CONTROL BLDG.

TO SWGR & BLDG.

UNIT #1 STEP-UP XFMR

UNIT #2 STEP-UP XFMR

UNIT #3 STEP-UP XFMR

16' GND. ROD

SCADA BLDG.

T108

T187

XFMR #1

XFMR #2

YARD LIGHT

YARD LIGHT #2

YARD LIGHT #3

YARD LIGHT #1

UNIT #1 SWGR.

UNIT #2 SWGR.

#4/0

CONC. SLAB

GENERATOR BLDG. 1

GENERATOR BLDG. 2

GENERATOR BLDG. 3

NOTE: REFER DWG. IS-3-8 FOR GEN. NO. 3 INTERIOR GROUNDING

TOOL SKID TRAILER PAD

ATCO OFFICE TRAILER

CONNECTED TO FILTER POONING

PAVEMENT LINE

19'-9 1/2"

19'-1/2"

BOLTED CONNECTION (TYPICAL)

COMPRESSOR BLDG. (2-2,500 H.P.) (OUTSIDE)

FUEL BLDG.

GATE 17

GATE 18

GATE 19-SLIDEGATE ELECTRIC-AUTOMATIC

MAN GATE

CONCRETE SIDEWALK

BATTERY BUILDING

MW BATT. BLDG.

MICROWAVE BLDG.

250 MCM CU

TO ITSS DRAWING ITSS-SS-0107 SHEET 1 OF 4

GATE SWING AREA

BOLLARDS 4' CENTERS

SLAB 8'x12'

FUEL TANK (DIESEL) 1000 GAL.

LIGHT POLE

BOLT CONNECTED TO TANK BASE, 2 PLACES.

NOTES:

1. GROUND GRID INSTALLED TO 18" BELOW CONCRETE SURFACE WHERE GROUND GRID LIES BELOW 9" THICKNESS OF SWITCHGEAR BUILDING FOUNDATION. GROUND GRID INSTALLED 6" BELOW CONCRETE AT EDGES OF SWITCHGEAR BUILDING FOUNDATION.
2. 4/0 COPPER GROUND WIRE INSTALLED IN ALL CABLE TRAY WITHIN AND ATTACHED TO THE OUTSIDE OF THE 34.5 kV SWITCHGEAR BUILDING.
3. CABLE DRAIN WIRES GROUNDED TO SWITCHGEAR GROUND BUS AT EACH CABLE TERMINATION COMPARTMENT.
4. COVERS OF PULL BOXES HH9 AND HH10 BONDED TO GROUND GRID.
5. EXISTANCE OF THE #6 Cu GROUND IS DOUBTFUL. IT WAS NOT FOUND NORTH OF TRANSFORMER #1 DURING 1999 CONSTRUCTION.

LEGEND

- 6" WELL CASING 30' DEEP
- LIGHT POLE
- FENCE ELECTRICAL ISOLATION
- 10' CHAIN LINK FENCE
- 10' WOOD FENCE
- ASPHALT
- BUILDING
- SWITCH GROUNDING PLATFORM
- 3/4"ø x 20' COPPER GROUND ROD
- EXOTHERMIC CONNECTION
- #2/0 AWG STRANDED COPPER GROUNDING FENCE MESH AND BARBED WIRE WITH SPLIT BOLT CONNECTORS AND WOVEN INTO FENCE MESH.
- #6 AWG BARE SOLID COPPER
- #2 AWG BARE STRANDED COPPER
- #4/0 AWG BARE STRANDED COPPER
- 6" WELL CASING 30' DEEP
- #2/0 AWG BARE STRANDED COPPER
- 250 MCM BARE STRANDED COPPER
- CONCRETE
- UNDERGROUND CONCRETE
- SWITCHGEAR SECTION NO.

Certified for Construction of W.O. E1720055 by Billy G. Bennett, No. CE131526, Black & Veatch Consultants, on 03/22/2021

GROUNDING PLAN

NORTH 10 5 0 10 20 30 FEET

PROJECT:

ENG./DESIGN.: W.O. #

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN. BY/DATE	REVIEWED MGR./SUPV./DATE	APPROVED DIRECTOR/DATE	ENG. STAMP

NO.	RECORD REVISION	CAD DRAWN BY	W.P.#	W.O. NUMBER	RECORD APPROVED	DATE
7	25MVAR CAPACITOR BANK – AS BUILT	/SC	N/A	E9511034		1/24/96
8	AS BUILT: IGT DEDICATED BACK-UP	VECO/PFD	0400.360EN	E9410831		1/22/97
9	AUXILIARY SYSTEM UPGRADE	BN	10.0679EN	E9620117	WFN 10/4/01	11/1/01
10	ASBUILT – 34.5KV GROUNDING TRANSFORMER	WFN/BG	10.0752E	E0020159	WFN	5/6/03
11	ADD MW BATTERY BLDG PER STEVEN KALETTA	CC				5/3/07
12	ITSS TRANSMISSION SUBSTATION – CHUGACH AS-BUILT	MS	10726	E0120202	AL	11/13/12
13	REPLACE WITH MERIDIAN TITLE BLOCK & CORRECT DRAWING NUMBER	AR	–	E1720055	JLM	6/9/22
14	ASBUILT PER JESSE MOE	AR	–	E1720055	JLM	6/10/22

CHUGACH
POWERING ALASKA'S FUTURE

Chugach Electric Association, Inc.
5601 Electron Drive - P.O. Box 196300
Anchorage, Alaska 99519-6300

DRAWING NAME:

INTERNATIONAL SUBSTATION SITE & STRUCTURAL GROUNDING PLAN

CONFIDENTIAL

INSS-SS-0117_0001_2-1

DRAWING NO. – PREVIOUS/REFERENCE: INSS-SS-0009_0001_12-R

DRAWING NO.: INSS-SS-0117

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