



**IMU Board of Trustees of the
Electric, Water and Communications Utilities
October 26, 2020
City Hall Council Chambers
5:30 p.m.**

Agenda

1. Call to Order
2. Roll Call
3. Public Comments
4. Consent Agenda
 - A. Claims for October 26, 2020.
 - B. October 12, 2020 Minutes.
5. Electric Utility Action Items
 - A. Consideration of a resolution approving an engineering proposal for the Downtown Underground Conversion Project.
6. Electric Utility Informational Items
7. Water Utility Action Items
 - A. Consideration of a resolution approving an engineering proposal from Veenstra and Kimm for the North 8th Street Water Main Improvement Project.
8. Water Utility Informational Items

9. Communications Utility Informational Items
10. Combined Electric, Water and Communications Utilities Action Items
 - A. Consideration of a resolution approving a water tower lease agreement with Warren County.
11. Combined Electric, Water and Communications Utilities Informational Items
12. Other Business
13. Adjourn

IMU Regular Downstairs
Meeting Date: 10/26/2020

4. A.

Information

Subject

Claims for October 26, 2020.

Information

Fiscal Impact

Attachments

Claims

Customer Refunds

AP Check Preview

Date Range: All Dates

Indianola Municipal Utilities

Friday, October 23, 2020

11:50:42 AM

Vendor	Due Date	Notes	Terms	Bill Total	Discount	Interest	Amount Due	Payment	Invoice Number	Bill Number
Account To Be Paid From 0000-10120-999										
ACCO UNLIMITED CORP. - VEND-2810										
10/6/2020	ACCO Liquid Chlorinating	Open Terms	1,443.40	0.00	0.00	1,443.40	1,443.40	0205685-IN	BL-3894	
						1,443.40	1,443.40			
Avesis Third Party Administrators Inc - VEND-1108										
10/31/2020	1020 Premiums	Net 30	255.89	0.00	15.00	255.89	255.89	2554367	BL-3887	
						255.89	255.89			
Bear Communications - VEND-1098										
11/20/2020	Service Installs	Net 30	7,077.26	0.00	15.00	7,077.26	7,077.26	10102020	BL-3964	
10/27/2020	Service installs	Net 30	11,601.38	0.00	15.00	11,601.38	11,601.38	10032020	BL-3977	
						18,678.64	18,678.64			
Border States Industries Inc - VEND-1070										
11/5/2020	Meter tests	Net 30	82.50	0.00	15.00	82.50	82.50	920775849	BL-3928	
11/8/2020	150 Watt HPS Bulbs	Net 30	198.85	0.00	15.00	198.85	198.85	920843054	BL-3929	
						281.35	281.35			
Calix Inc - VEND-1028										
9/6/2020	Axos	Net 30	3,300.00	0.00	15.00	3,300.00	3,300.00	4015215	BL-3978	
11/14/2020	Shelf and r2 card	Net 30	20,250.23	0.00	15.00	20,250.23	20,250.23	237917	BL-3995	
						23,550.23	23,550.23			
Casual Rags - VEND-1006										
11/13/2020	Apparel	Net 30	667.25	0.00	15.00	667.25	667.25	153723	BL-3904	
						667.25	667.25			
Cedar Falls Utilities - VEND-1045 - BL-3972										
11/4/2020	0920 Bandwidth and 5g	Net 30	5,816.00	0.00	15.00	5,816.00	5,816.00	0920 Bandwidth and 5g	BL-3972	
						5,816.00	5,816.00			
Cintas Corporation - VEND-1007										
11/8/2020	First aid supplies	Net 30	66.53	0.00	15.00	66.53	66.53	8404845208	BL-3920	
						66.53	66.53			
City Of Indianola - VEND-1008 - BL-3989										

AP Check Preview

Date Range: All Dates

Indianola Municipal Utilities

Friday, October 23, 2020

11:50:42 AM

Vendor	Due Date	Notes	Terms	Bill Total	Discount	Interest	Amount Due	Payment	Invoice Number	Bill Number
	11/21/2020	1020 Caselle Claims	Net 30	9,881.34	0.00	15.00	9,881.34	9,881.34	1020 Caselle Claims	BL-3989
							9,881.34	9,881.34		
Connect Des Moines LLC - VEND-1030										
	11/14/2020	Shared rack	Net 30	5,370.00	0.00	15.00	5,370.00	5,370.00	26044	BL-3963
							5,370.00	5,370.00		
Convergint Technologies LLC - VEND-1082										
	10/29/2020	Door repair	Net 30	246.68	0.00	15.00	246.68	246.68	W975679	BL-3922
							246.68	246.68		
CORE & MAIN - VEND-102636										
	10/9/2020	6x20 Rep Clp	Open Terms	165.00	0.00	0.00	165.00	165.00	N135058	BL-3895
	10/17/2020	Hose and gaskets	Open Terms	475.87	0.00	0.00	475.87	475.87	N139297	BL-3933
							640.87	640.87		
Des Moines Register Media - VEND-1010										
	10/23/2020	Board Of Trustee Minutes	Net 30	222.06	0.00	15.00	222.06	222.06	0003529397	BL-3910
	10/30/2020	Project Share, directory and listing	Net 30	150.87	0.00	15.00	150.87	150.87	0003529603	BL-3911
							372.93	372.93		
Dust Pros Janitorial - VEND-1011										
	11/19/2020	Cleaning supplies	Net 30	150.07	0.00	15.00	150.07	150.07	2284	BL-3917
	11/19/2020	1020 Cleaning customer service center	Net 30	749.00	0.00	15.00	749.00	749.00	2283	BL-3918
	11/19/2020	Cleaning supplies	Net 30	69.02	0.00	15.00	69.02	69.02	2287	BL-3951
	11/19/2020	1020 Cleaning-EL	Net 30	1,096.75	0.00	15.00	1,096.75	1,096.75	2286	BL-3949
	11/19/2020	1020 Cleaning-Fiber	Net 30	856.00	0.00	15.00	856.00	856.00	2285	BL-3962
							2,920.84	2,920.84		
ECHO Group, Inc - VEND-1061										
	9/26/2020	Conduit	Net 30	5,026.21	0.00	15.00	5,026.21	5,026.21	S8690067.003	BL-3970
	11/7/2020	3" PVC Couplings	Net 30	54.28	0.00	15.00	54.28	54.28	S8689862.001	BL-3927
	11/8/2020	Coupling and elbow	Net 30	298.47	0.00	15.00	298.47	298.47	S8692197.001	BL-3996
							5,378.96	5,378.96		
Iconectiv - VEND-1201										
	8/30/2020	Annual porting fee	Net 30	42.38	0.00	15.00	42.38	42.38	L-10189803	BL-3993
							42.38	42.38		

IMU - VEND-8629

AP Check Preview

Date Range: All Dates

Indianola Municipal Utilities

Friday, October 23, 2020

11:50:42 AM

Vendor	Due Date	Notes	Terms	Bill Total	Discount	Interest	Amount Due	Payment	Invoice Number	Bill Number
	10/2/2020	0920 Utilities	Open Terms	2,558.22	0.00	0.00	2,558.22	2,558.22	10055962	BL-3925
	10/2/2020	0920 Utilities-Fiber	Open Terms	647.62	0.00	0.00	647.62	647.62	10056512	BL-3973
	10/2/2020	0920 Utilities-Fiber	Open Terms	1,027.96	0.00	0.00	1,027.96	1,027.96	10062279	BL-3974
	10/2/2020	0920 Utilities-Fiber	Open Terms	537.91	0.00	0.00	537.91	537.91	10058169	BL-3975
							4,771.71	4,771.71		
IMWCA - VEND-1130										
	10/31/2020	Work comp premium	Net 30	2,462.36	0.00	15.00	2,462.36	2,462.36	INV77761	BL-3902
							2,462.36	2,462.36		
Independent Advocate - VEND-1136										
	11/8/2020	Digital advertising	Net 30	200.00	0.00	15.00	200.00	200.00	607	BL-3892
							200.00	200.00		
Iowa Dept Of Revenue - VEND-1117										
	11/19/2020	1020 Sales Tax	Net 30	30,647.60	0.00	15.00	30,647.60	30,647.60	1020 Sales Tax	BL-3948
							30,647.60	30,647.60		
JMK LAWN CARE - VEND-102101										
	10/1/2020	0820 & 0920 Mowing	Open Terms	930.00	0.00	0.00	930.00	930.00	0820 & 0920 Mowing	BL-3947
							930.00	930.00		
John Deere Financial - VEND-1106										
	11/14/2020	6" PVC	Net 30	11.32	0.00	15.00	11.32	11.32	3006436	BL-3908
	11/8/2020	D battery and clevis	Net 30	39.97	0.00	15.00	39.97	39.97	3002840	BL-3897
							51.29	51.29		
JV TRUCKING LLC - VEND-102429										
	10/18/2020	Pea gravel	Open Terms	593.98	0.00	0.00	593.98	593.98	4900	BL-3952
							593.98	593.98		
Kimball Construction - VEND-1146										
	11/20/2020	Vaults-Autumn Ridge Plat 3	Net 30	1,920.00	0.00	15.00	1,920.00	1,920.00	Vaults-Autumn Ridge Plt 3	BL-3965
	11/11/2020	Vaults-Quail Meadows Plat 3	Net 30	4,707.80	0.00	15.00	4,707.80	4,707.80	Vaults-Quail Meadows 3	BL-3966
	11/14/2020	Vaults-Heritage Hills Plot 10	Net 30	1,600.00	0.00	15.00	1,600.00	1,600.00	Vaults-Heritage Hills 10	BL-3967
							8,227.80	8,227.80		

Mahaska Communications Group - VEND-1017

AP Check Preview

Date Range: All Dates

Indianola Municipal Utilities

Friday, October 23, 2020

11:50:42 AM

Vendor	Due Date	Notes	Terms	Bill Total	Discount	Interest	Amount Due	Payment	Invoice Number	Bill Number
	10/31/2020	0920 Customer Conversions	Net 30	202.50	0.00	15.00	202.50	202.50	0920 Customer Conversions	BL-3976
							202.50	202.50		
McCoy Hardware Inc - VEND-1035										
	11/19/2020	Lock and battery	Net 30	27.36	0.00	15.00	27.36	27.36	A463309 & A463591	BL-3980
	11/18/2020	Enamel	Net 30	10.78	0.00	15.00	10.78	10.78	A463302	BL-3984
	11/7/2020	Building and heavy hardware	Net 30	23.30	0.00	15.00	23.30	23.30	A461490	BL-3896
							61.44	61.44		
MCMASTER-CARR SUPPLY CO - VEND-34108										
	10/7/2020	Sump pump parts	Open Terms	147.33	0.00	0.00	147.33	147.33	46662075	BL-3924
							147.33	147.33		
Metlife - Group Benefits - VEND-1109										
	10/16/2020	Acct #5945869	Net 30	1,910.86	0.00	15.00	1,910.86	1,910.86	KM05945869	BL-3886
							1,910.86	1,910.86		
Mid American Energy Co - VEND-1018										
	11/12/2020	Gas at Muni plt substation	Net 30	10.10	0.00	15.00	10.10	10.10	504921616	BL-3932
							10.10	10.10		
MUNICIPAL ENERGY AGENCY OF NEBRASKA - VEND-35805										
	10/13/2020	Purchased power - Sept 20	Open Terms	790,964.67	0.00	0.00	790,964.67	790,964.67	301236	BL-3900
							790,964.67	790,964.67		
MUNICIPAL SUPPLY INC - VEND-35810										
	10/16/2020	Wire Box, Adapter And Plug	Open Terms	272.30	0.00	0.00	272.30	272.30	0778498-IN	BL-3983
							272.30	272.30		
Mutual Of Omaha - VEND-1107										
	10/22/2020	1020 Premiums	Net 30	1,437.78	0.00	15.00	1,437.78	1,437.78	001125568109	BL-3890
							1,437.78	1,437.78		
NAPA AUTO PARTS - VEND-35949										
	10/20/2020	Clear seal & butt connector	Open Terms	29.17	0.00	0.00	29.17	29.17	Clear seal & butt connect	BL-3979
							29.17	29.17		
O'REILLY AUTO PARTS - VEND-40157										

AP Check Preview

Date Range: All Dates

Indianola Municipal Utilities

Friday, October 23, 2020

11:50:42 AM

Vendor	Due Date	Notes	Terms	Bill Total	Discount	Interest	Amount Due	Payment	Invoice Number	Bill Number
	10/20/2020	Connector and mini bulb	Open Terms	17.22	0.00	0.00	17.22	17.22	0337-173841	BL-3981
	10/21/2020	Light	Open Terms	15.87	0.00	0.00	15.87	15.87	0337-173947	BL-3982
							33.09	33.09		
PIERCE BROTHERS REPAIR - VEND-42410										
	10/20/2020	Reinforce Tank Brackets	Open Terms	308.00	0.00	0.00	308.00	308.00	47169	BL-3935
							308.00	308.00		
Professional Solutions Financial Services - VEND-1044										
	11/4/2020	0920 Online Payment Svcs	Net 30	28.95	0.00	15.00	28.95	28.95	0920 Online Payment Svcs	BL-3987
							28.95	28.95		
RESCO - VEND-47234										
	10/13/2020	Single Phase Pad-mounted Transformers	Open Terms	14,570.78	0.00	0.00	14,570.78	14,570.78	791126-00	BL-3960
	10/13/2020	1/0 Tap Wire	Open Terms	642.02	0.00	0.00	642.02	642.02	799718-00	BL-3961
	10/17/2020	Single Phase Transformer	Open Terms	1,436.36	0.00	0.00	1,436.36	1,436.36	791126-01	BL-3926
							16,649.16	16,649.16		
SKARSHAUG TESTING LABORATORY INC - VEND-50410										
	10/7/2020	PPE Testing	Open Terms	821.05	0.00	0.00	821.05	821.05	247065	BL-3923
							821.05	821.05		
T & R ELEC SUPPLY CO - VEND-52010										
	10/4/2020	Repair Damaged 3-phase Transformer	Open Terms	9,795.00	0.00	0.00	9,795.00	9,795.00	159863	BL-3950
							9,795.00	9,795.00		
The Extinguisher Company - VEND-1071										
	11/21/2020	Fire extinguisher inspections	Net 30	511.19	0.00	15.00	511.19	511.19	000465	BL-3986
							511.19	511.19		
TITAN MACHINERY - VEND-9266										
	9/9/2020	Washer and snap ring	Open Terms	14.00	0.00	0.00	14.00	14.00	14504023 GP	BL-3893
							14.00	14.00		
TrueNorth Companies LC - VEND-1100										
	10/29/2020	Safety committee meeting	Net 30	50.00	0.00	15.00	50.00	50.00	108031	BL-3903
							50.00	50.00		
U.S. Cellular - VEND-1104										

AP Check Preview

Date Range: All Dates

Indianola Municipal Utilities

Friday, October 23, 2020

11:50:42 AM

Vendor	Due Date	Notes	Terms	Bill Total	Discount	Interest	Amount Due	Payment	Invoice Number	Bill Number
	11/11/2020	Cel phone bill 1020	Net 30	606.79	0.00	15.00	606.79	606.79	400544141	BL-3988
							606.79	606.79		
UPHDM Occupational Medicine - VEND-1101										
	10/30/2020	Employee testing	Net 30	189.00	0.00	15.00	189.00	189.00	36243	BL-3889
							189.00	189.00		
Vanderpool Plumbing & Heating - VEND-1066										
	11/5/2020	Fuses	Net 30	359.79	0.00	15.00	359.79	359.79	4289	BL-3968
							359.79	359.79		
VERIZON WIRELESS - VEND-3535										
	10/1/2020	0920 Cel phone bill	Open Terms	411.65	0.00	0.00	411.65	411.65	9863902044	BL-3891
							411.65	411.65		
VESSCO INC - VEND-57620										
	8/21/2020	411423 Probe	Open Terms	3,188.40	0.00	0.00	3,188.40	3,188.40	80941	BL-3909
							3,188.40	3,188.40		
Warren County Engineer - VEND-1102										
	11/1/2020	0920 Fuel Distribution	Net 30	2,015.03	0.00	15.00	2,015.03	2,015.03	0920 Fuel Distribution	BL-3888
							2,015.03	2,015.03		
Waverly Utilities - VEND-1142										
	11/20/2020	Power supply	Net 30	3,369.02	0.00	15.00	3,369.02	3,369.02	13066	BL-3990
							3,369.02	3,369.02		
WESCO - VEND-60220										
	10/7/2020	Photo Controls and Square Washers	Open Terms	317.79	0.00	0.00	317.79	317.79	401448	BL-3930
	10/15/2020	FR Hooded sweatshirt	Open Terms	138.75	0.00	0.00	138.75	138.75	415415	BL-3931
	10/17/2020	Meter Tabs and Trench Scare Tape	Open Terms	322.88	0.00	0.00	322.88	322.88	420456	BL-3953
	10/22/2020	Transformer Cleats	Open Terms	120.18	0.00	0.00	120.18	120.18	426503	BL-3955
	10/17/2020	350 MCM URD Triplex	Open Terms	2,375.40	0.00	0.00	2,375.40	2,375.40	420457	BL-3958
	10/14/2020	Lifting sling	Open Terms	32.17	0.00	0.00	32.17	32.17	412602	BL-3959
							3,307.17	3,307.17		
YMCA Of Greater Des Moines - VEND-1169										
	11/13/2020	1020 Wellness	Net 30	75.00	0.00	15.00	75.00	75.00	CPD012146	BL-3899
							75.00	75.00		

AP Check Preview

Date Range: All Dates

Indianola Municipal Utilities

Friday, October 23, 2020
11:50:42 AM

Vendor	Due Date	Notes	Terms	Bill Total	Discount	Interest	Amount Due	Payment	Invoice Number	Bill Number
--------	----------	-------	-------	------------	----------	----------	------------	---------	----------------	-------------

Check Count: 51Totals: \$960,266.47 \$960,266.47

Accounts Payable Check Register

Date Range: 10/14/2020 to 10/23/2020

Indianola Municipal Utilities

Friday, October 23, 2020

11:53:48 AM

Date	Check Number	Payee	Memo	Status	Method	Payment
0000-10120-999 - Cash - IMU Checking						
10/14/2020	211445	Brad Vanderlinden (Owner) - VEND-1141 - BL-3883		Outstanding	Check	31.55
10/14/2020	211446	Roger G Betsworth - VEND-1141 - BL-3885		Outstanding	Check	68.62
10/16/2020	211447	Jean Sheffer - VEND-1141 - BL-3898		Outstanding	Check	378.73
10/16/2020	211448	Rilla Riccio - VEND-1141 - BL-3905		Outstanding	Check	50.36
10/22/2020	211449	Dave & Mary Summy - VEND-1141 - BL-3956		Outstanding	Check	1,209.43
10/22/2020	211450	Primus Companies - VEND-1141 - BL-3944		Outstanding	Check	321.22
Count from Cash - IMU Checking		6	Total Payments made from Cash - IMU Checking			2,059.91

IMU Regular Downstairs
Meeting Date: 10/26/2020

4. B.

Information

Subject

October 12, 2020 Minutes.

Information

Fiscal Impact

Attachments

Minutes

BOARD OF TRUSTEES MINUTES - REGULAR SESSION – October 12, 2020

The Board of Trustees met in regular session on October 12, 2020 in the City Hall Council Chambers. Chairperson Mike Rozga called the meeting to order at 5:30 pm and on roll call the following members were present: Mike Rozga, Adam Voigts, Jim McClymond, Deb Richardson and via phone, Lesley Forbush. Absent: None.

The consent agenda consisting of the following was approved on a motion by Voigts and seconded by McClymond. Question was called for and on voice vote the Chairperson declared the motion carried unanimously.

Claims list for September 30, and October 12, 2020.
Minutes from September 28, 2020.

Mike Metcalf, Electric Superintendent, discussed the electric underground conversion project in the downtown district.

Lou Elbert reported the Water Department will be replacing water mains this budget cycle and the next while the Square Streetscape project is being done. The scope of the project may require the reprioritization of some capital improvement projects.

Kurt Ripperger, Telecommunications Superintendent, reported that they are completing drops before the winter freeze in new development areas; staff will complete 75-90 fiber installations this month; the Streetscape project will affect the department because the fiber is overhead in many places in the downtown district.

Scott Ebert with American Business Phones explained the recommended phone system and took questions from Board Members. Discussion was held on IMU buying the equipment on their own instead of through the shared services agreement with the City. Staff recommended to continue sharing services with the City because there is not a dedicated IT staff member employed solely by IMU.

Resolution 2020-35 approving the purchase of a telecommunications system for IMU was introduced on a motion by Voigts and seconded by McClymond. On roll call, the vote was AYES: Rozga, Voigts, and McClymond. NAYS: Forbush and Richardson. Whereas the chairperson declared the motion passed.

In Other Business, Finance and HR Director Chris Longer stated the annual audit will begin on October 19 and that bank reconciliation for FY20 is nearly complete.

Voigts moved and McClymond seconded to enter into closed session at 6:22 p.m. in accordance with Iowa Code Section 21.5 (1)(c) to discuss strategy with legal counsel in matters that are presently in litigation or where litigation is imminent and where its disclosure would be likely to prejudice or disadvantage the government. On roll call, the vote was AYES: Richardson, Rozga, Voigts, McClymond, Forbush. NAYS: None. Whereas the chairperson declared the motion passed unanimously.

Voigts moved to exit closed session at 6:45 p.m. and Richardson seconded the motion. On roll call, the vote was AYES: Richardson, Rozga, Voigts, McClymond, Forbush. NAYS: None. Whereas the chairperson declared the motion passed unanimously.

It was moved by Voigts and seconded by Richardson at 6:46 p.m. to enter into closed session in accordance with Iowa Code Section 21.5(1)(i) to evaluate the professional competency of an individual whose appointment, hiring, performance, or discharge is being considered when necessary to prevent needless and irreparable injury to that individual's reputation and that individual requests a closed session. On roll call, the vote was AYES: Richardson, Rozga, Voigts, McClymond, Forbush. NAYS: None. Whereas the chairperson declared the motion passed unanimously.

Voigts moved to exit closed session at 7:44 p.m. and Richardson seconded the motion. On roll call, the vote was AYES: Richardson, Rozga, Voigts, McClymond, Forbush. NAYS: None. Whereas the chairperson declared the motion passed unanimously.

Meeting adjourned at 7:44 p.m. on a motion by McClymond and seconded by Richardson.

Mike Rozga, Chairperson

ATTEST:

Jackie Raffety, Deputy City Clerk

IMU Regular Downstairs**5. A.****Meeting Date:** 10/26/2020

Information**Subject**

Consideration of a resolution approving an engineering proposal for the Downtown Underground Conversion Project.

Information

This is a proposal from P&E Engineering that covers engineering design, drawing preparation, contract preparation, assistance with bidding, right of way services and construction phase services for conversion of existing overhead facilities to underground.

Design Phase Services	\$78,000
Right of Way Services	\$12,000
Construction Phase Services	\$25,000
Total	\$115,000 (not to exceed)

Project Schedule

Bidding for materials and installation	Early January 2021
Contracts signed and construction starts	Late Spring 2021
Project Completion	Fall 2022

P&E Engineering will be available during the meeting to answer any questions.

Roll call is in order.

Fiscal Impact**Attachments**

Resolution Approving Proposal
Proposal
Map

Indianola Municipal Utilities
Resolution NO 2020-

**RESOLUTION APPROVING PROPOSAL FROM P&E ENGINEERING COMPANY FOR THE SQUARE
STREETSCAPE ELECTRICAL UNDERGROUND CONVERSION PROJECT**

WHEREAS, Indianola Municipal Utilities is in need of engaging a company to provided services for the Square Streetscape Electrical Underground Conversion Project; and

WHEREAS, IMU has an engineering services agreement with P&E Engineering Company of Carlisle, Iowa; and

WHEREAS, P&E Engineering has proposed a design phase, contract preparation and bidding assistance, right of way services and construction phase services project in an amount not to exceed \$115,000; and

WHEREAS, it is the determination of the Board of Trustees that IMU should enter into an agreement with P&E Engineering in the form attached as Exhibit A.

NOW, THEREFORE, BE IT RESOLVED by the IMU Board of Trustees that:

1. The proposal with P&E Engineering in an amount not to exceed \$115,000 is hereby approved; and
2. The IMU General Manager is authorized and directed to execute the agreement on behalf of Indianola Municipal Utilities.

PASSED this 26th day of October 2020.

Mike Rozga, Chairperson

ATTEST:

Jackie Raffety, Deputy City Clerk



Richard D. Kline, P.E. Timothy G. Ernst, P.E.

Jared A. Kline, P.E. Mark C. Reisinger, P.E.

245 S. 5th St., PO Box 620, Carlisle, IA 50047
p. 515-989-3083 f. 515-989-3138 pe@peengr.com

Oct. 20, 2020

Mr. Mike Metcalf
Indianola Municipal Utilities
PO Box 356
Indianola, IA 50125

Dear Mike:

I am pleased to present this proposal to you for engineering design work and construction phase services related to your proposed Square StreetScape Electrical Underground Conversion Project. This proposal covers engineering design, drawing preparation, contract preparation, assistance with bidding, and construction phase services for conversion of existing overhead facilities to underground in the area shown on the attached map. It is expected that conduit within the StreetScape area will be installed by the StreetScape contractor. The construction contract may be divided, with the inside building work bid separately from the distribution system work.

The following specific tasks are included in this proposal.

Design Phase Services

- Develop a preliminary design for review by IMU, including proposed circuit routes and transformer and switchgear locations.
- Complete a detailed map of all existing facilities in the project area.
- Develop detailed plans for the proposed electric system.
- Prepare drawings, specifications, and bills of material for all required work.
- Prepare equipment and material specifications for all items to be purchased by IMU.
- Assemble contracts for purchase of materials and equipment, and for the contract work (this may be two contracts if the building work is bid separately).
- Review all project drawings and contract documents with IMU.
- Assist with bidding, including attendance at a pre-bid meeting and the bid opening, evaluation of bids, and preparation of recommendations.
- Assist with preparation of an informational mailing to property owners in the area and attend an open house to answer questions about the project.

Right of Way Services

- Identify easements that will be required for the construction, and work with IMU to determine where easements are in place and where additional easements are required.
- Provide needed research to identify property owners and land parcel descriptions.
- Prepare new easements that will be needed.

Oct. 20, 2020
Mr. Mike Metcalf

Page 2 of 3

- This proposal does not include contacting individual property owners or negotiating for easement rights. All easement negotiations will be done by IMU.
- This proposal does not include land surveying or related civil engineering services. If land surveying is required to locate property corners or easement boundaries or to prepare easements or easement descriptions, these services will be procured directly by IMU.
- This proposal does not include structural engineering or related services to assess the structural integrity of the buildings within or near the project area or any impacts that the proposed work may have on them.

Construction Phase Services

- Attendance at pre-construction meeting.
- Assistance with staking, in conjunction with IMU personnel and the Contractor.
- Attend regular construction meetings and observe the status of construction as needed. Construction meetings will be held bi-weekly during the initial period of active construction and every 4-6 weeks for the remainder of the project.
- Review any questions that arise during the construction process, and issue revised drawings as needed.
- Review pay applications from Contractor and prepare recommendations for payment
- Assist IMU with final inspections and close out of the contract.

This proposal does not include detailed project inspection services, as it is assumed that IMU personnel will handle the day to day contract administration duties, and will coordinate all work activities. As always, we will be available to assist with any questions or specific needs.

The estimated cost for the work as described above is as follows.

Design phase services	\$ 78,000.
Right of Way services	\$ 12,000.
Construction phase services	\$ 25,000.
 Total Project	 \$ 115,000.

The total invoiced amount will not exceed the estimate unless authorized by IMU. I will work closely with your personnel, and will keep you informed as to the progress of the work. I will notify you immediately of any significant developments that might affect the anticipated engineering costs. We will bill you for only the actual time and expenses that are incurred in connection with the project. All invoices will be in accordance with our standard Billing Rates in effect at the time the service is performed. A copy of our current rate schedule is attached.

Oct. 20, 2020
Mr. Mike Metcalf

Page 3 of 3

I will act as the project manager for these engineering services, and will be directly responsible for all aspects of the proposed engineering services. Other P & E personnel will be assisting me with the detailed design and drafting work, including Al Powers, Bob Brunia, Marty Hinton, Dave Wilson, John Ehorn, and Michele Ballhagen.

We are prepared to start work on this project in the near future. We will develop a detailed schedule as we begin the design work, but my current intention is to have the project ready for bidding contracts for both materials and installation by early January of 2021. The intent is to have a contract in place to allow construction to start in late spring of 2021, with completion no later than the end of the 2022 construction season. The schedule will be coordinated with that of the StreetScape project.

Our services will be provided under the existing engineering services agreement between IMU and P&E dated September 23, 1996.

I look forward to working with you on this project. Please call me if you have any questions or if you would like to discuss any aspects of the project or of this proposal.

Sincerely,



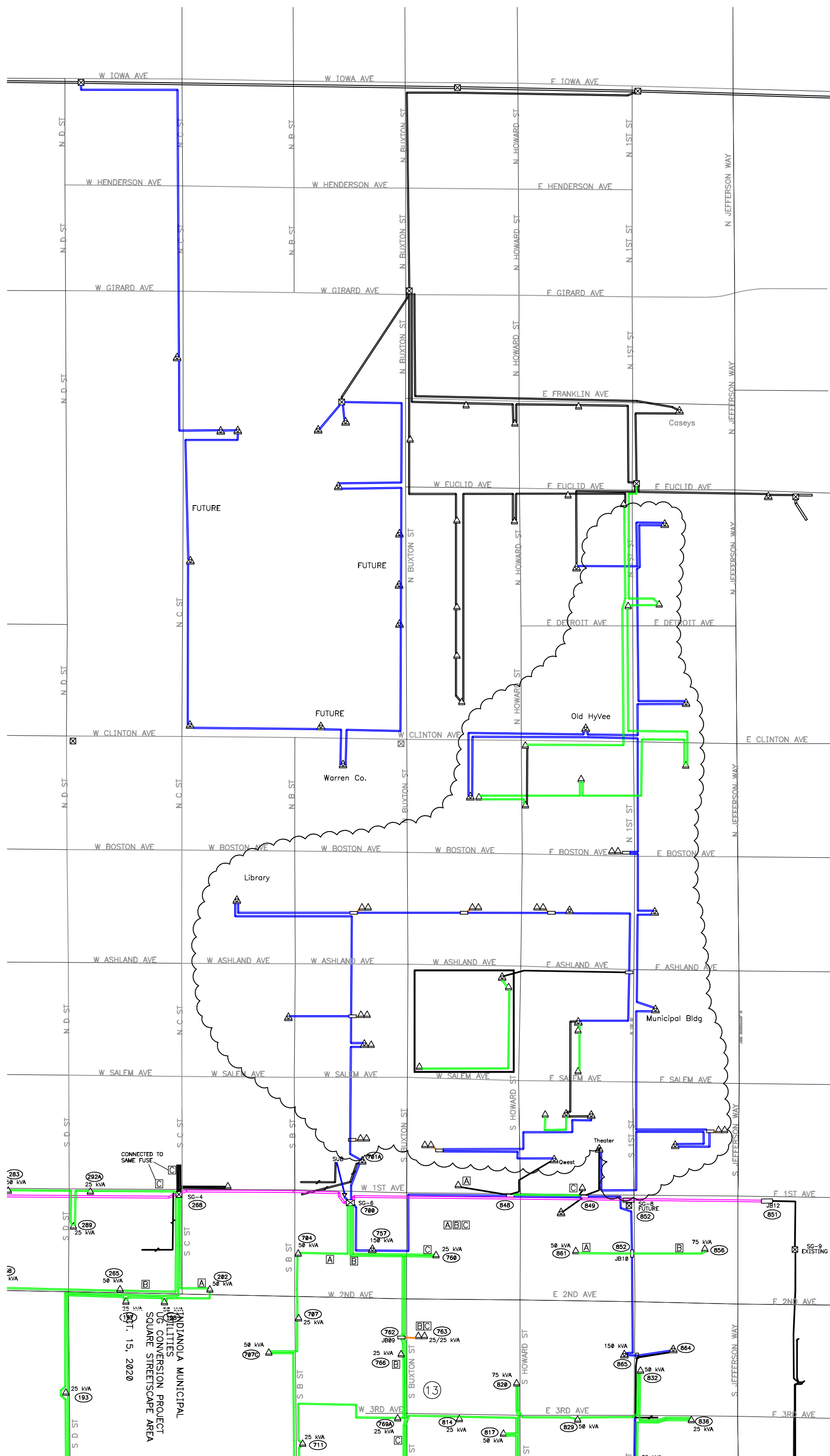
Jared Kline

Proposal Accepted on _____, 2020

Indianola Municipal Utilities

Name Printed

Signed



IMU Regular Downstairs

7. A.

Meeting Date: 10/26/2020

Information

Subject

Consideration of a resolution approving an engineering proposal from Veenstra and Kimm for the North 8th Street Water Main Improvement Project.

Information

Fiscal Impact

Attachments

Resolution Approving Agreement
Agreement

Indianola Municipal Utilities

RESOLUTION NO 2020-

**RESOLUTION APPROVING AN ENGINEERING PROPOSAL FROM VEENSTRA AND KIMM, INC FOR A
WATER MAIN IMPROVEMENT PROJECT**

WHEREAS, Indianola Municipal Utilities is in need of engineering services for the North 8th Street Water Main Improvement Project (“Project”); and

WHEREAS, IMU has an engineering services agreement with Veenstra and Kimm, Inc of West Des Moines, Iowa; and

WHEREAS, Veenstra and Kimm, Inc has prepared a proposal for engineering services for said Project in the form attached as Exhibit A; and

WHEREAS, it is the determination of the Board of Trustees that IMU should enter into an agreement with Veenstra and Kimm, Inc in the form attached as Exhibit A.

NOW, THEREFORE, BE IT RESOLVED by the IMU Board of Trustees that:

1. The proposal with Veenstra and Kimm, Inc as attached is hereby approved; and
2. The IMU staff is authorized and directed to execute the agreement on behalf of Indianola Municipal Utilities.

PASSED this 26th day of October 2020.

Mike Rozga, Chairperson

ATTEST:

Jackie Raffety, Deputy City Clerk



VEENSTRA & KIMM, INC.

3000 Westown Parkway • West Des Moines, Iowa 50266-1320

515-225-8000 • 515-225-7848 (FAX) • 800-241-8000 (WATS)

Exhibit A

October 19, 2020

Lou Elbert
Water Superintendent
Indianola Municipal Utilities
210 West 2nd Avenue
Indianola, Iowa 50125

INDIANOLA MUNICIPAL UTILITIES
INDIANOLA, IOWA
NORTH 8TH STREET WATER MAIN IMPROVEMENTS
AGREEMENT

Enclosed are two copies of the proposed engineering services agreement for the North 8th Street Water Main Improvements project. If the agreement is acceptable to the Indianola Municipal Utilities, please arrange for execution of each document. Return one executed document to our office.

If you have any questions or comments concerning the agreement, please contact us at 1-800-241-8000.

VEENSTRA & KIMM, INC.

A handwritten signature in blue ink that reads "Forrest S. Aldrich". The signature is fluid and cursive, with the first name being the most prominent.

Forrest S. Aldrich

FSA:dml
0-03
Enclosures

AGREEMENT

INDIANOLA MUNICIPAL UTILITIES NORTH 8TH STREET WATER MAIN IMPROVEMENTS

THIS AGREEMENT, made and entered into this _____ day of _____, 20____, by and between the **INDIANOLA MUNICIPAL UTILITIES**, hereinafter referred to as the **Owner**, party of the first part, and **VEENSTRA & KIMM, INC.**, a corporation organized and existing under the laws of the State of Iowa, with principal offices in West Des Moines, Iowa, party of the second part, hereinafter referred to as the **Engineers**.

WITNESSETH: THAT WHEREAS, the Owner wishes to proceed with construction of **North 8th Street Water Main Improvements**, hereinafter referred to as the **Project**, and

WHEREAS, the Owner desires the Engineers to perform professional engineering services to prepare construction plans and specifications and provide other necessary engineering services in connection with the Project.

NOW, THEREFORE, it is hereby agreed by and between the parties hereto that the Owner does retain the Engineers to act for and represent it in engineering matters, as set forth hereinafter, involved in the Project. Such contract of employment will be subject to the following terms, conditions and stipulations, to wit:

1. **SCOPE OF PROJECT.** It is understood and agreed that the Project shall consist of an 8-inch diameter water main along North 8th Street from Iowa Avenue to Euclid Avenue including all connections, valves, side street connections, water service connections, and fire hydrants, and miscellaneous associated work for a complete project.

It is further understood and agreed that the scope of the Project may be modified by mutual agreement of the parties hereto.

2. **DESIGN SURVEYS.** The Engineers shall complete all topographic surveys necessary for design of the Project and preparation of the plans and specifications. The Engineers shall use aerial photography for the development of plans.
3. **DESIGN CONFERENCE.** The Engineers shall attend a conference with the Owner, if necessary, to make decisions as to the details of design of the Project.
4. **PLANS AND SPECIFICATIONS.** The Engineers shall prepare such detailed plans and specifications as are reasonably necessary and desirable for construction of the Project. The specifications shall describe, in detail, the work to be done and materials to be used.

5. **PERMITS AND LICENSES.** The Engineers shall provide copies of plans and specifications, explanatory letters of transmittal, completion of required application forms and other information necessary to obtain an Iowa Department of Natural Resources permit for construction.

The Owner shall pay for all licenses and other costs associated with permits and licenses and said costs shall not be charged against the Engineer's maximum fee set forth hereinafter.

6. **ESTIMATES OF COST.** The Engineers shall prepare an Engineers' Estimate of Cost for the improvements to be constructed under the Project. The Engineers' Estimate of Cost is intended for the use of the Owner in financing the Project. The Engineers shall not be responsible if the contract(s) awarded for construction of the Project vary from the Engineers' Estimate of Cost.

7. **ADVERTISEMENT FOR BIDS.** The Engineers shall assist in the preparation of the notice to contractors and shall provide plans and specifications to prospective bidders. Publication costs shall be borne by the Owner.

8. **COSTS OF PLANS AND SPECIFICATIONS.** The Owner shall compensate the Engineers for the actual costs of the plans and specifications provided contractors, plan rooms and suppliers during Project bidding. The costs of plans shall be separate from the fee provisions under "**14. COMPENSATION**".

9. **BIDDING SERVICES.** The Engineers shall provide services during the bidding phase of the Project that will include the following:

- a. Notification of potential bidders of the upcoming Project and availability of plans and specifications.
- b. Distribute bidding documents and maintain bidders list.
- c. Respond to questions raised during the bidding period and prepare and issue addendum as appropriate to clarify, correct or change the bidding documents.
- d. Assist the City in evaluating alternate equipment submittals during and following the bidding phase of the Project.

10. **AWARD OF CONTRACT.** The improvements outlined in the Project shall be bid at not more than one letting. The Engineers shall have a representative present when the bids and proposals are opened and shall make tabulations of bids for the Owner and shall advise as to the responsiveness of the bidders, and assist in making the award of contracts. After the awards are made, the Engineers shall prepare the necessary contract documents. The Engineers shall not be responsible for advising the Owner as to the responsibility of any bidder.

11. GENERAL SERVICES DURING CONSTRUCTION. The Engineers shall provide general services during construction including:

- a. Conduct a preconstruction conference with the contractor and Owner prior to starting work on the Project.
- b. Attend conferences, as necessary, with the Owner and contractor as requested by the Owner.
- c. Assist in interpretation of plans and specifications.
- d. Review shop drawings and manufacturers' data.
- e. Settle disputes with the contractor regarding concurrence with the specifications and consult with Owner when the Engineers and contractor cannot resolve such dispute.
- f. Prepare change orders to construction contract documents, as necessary, during construction. All change orders are subject to approval of Owner.
- g. Process monthly partial payment estimates.
- h. Provide as-constructed plans to the Owner.

12. RESIDENT REVIEW.

- a. Resident review services is understood to include the detailed observation and review of work of the Contractors and materials to assure compliance with the plans and specifications.
- b. The Engineers shall provide resident review services by assigning resident engineers and/or engineering technicians to the Project for such periods reasonably required to ensure proper review of the construction work. On-site review shall take place on a part time basis during the construction work on the Project.

13. FINAL REVIEW. The Engineers shall make a final review after construction is complete to determine that the construction complies with the plans and specifications. The Engineers shall certify to the Owner that construction is substantially in compliance with the plans and specifications.

- 14. COMPENSATION.** The Owner shall compensate the Engineers for their services by payment of the following fees:
- a. The fee for engineering design services for the Project as set out in **1. SCOPE OF PROJECT** through **10. AWARD OF CONTRACT**, shall be a fee on the basis of the standard hourly fees with a maximum not-to-exceed fee of Twenty-eight Thousand Eight Hundred Dollars (\$28,800) without written authorization by the Owner. The standard hourly fees of the Engineers are shown in attached Exhibit A.
 - b. The fee for engineering services during construction as set out in **11. GENERAL SERVICES DURING CONSTRUCTION** and **13. FINAL REVIEW**, shall be determined on the basis of the standard hourly fees plus expenses of the personnel of the Engineers actually engaged in the performance of the services. The fee shall not exceed the sum of Seven Thousand Nine Hundred Dollars (\$7,900) without written authorization by the Owner. The standard hourly fees of the Engineers are shown in attached Exhibit A.
 - c. For resident review services during construction as delineated in **12. RESIDENT REVIEW**, but excluding materials testing, the fee will be Seventy-six Dollars (\$76) per hour. It is anticipated the construction will require 160 hours of resident review time and will not exceed Twelve Thousand Eight Hundred Dollars (\$12,800).
 - d. The Owner shall compensate the Engineers for the cost of plans and distribution of plans as set forth in **7. ADVERTISEMENT FOR BIDS** above as provided in Iowa Code Section 26.3(2). The reimbursement of the cost plans and distribution of plans as required under Iowa Code Section 26.3(2) is not included in the fees for services set forth under this Agreement.
- 15. PAYMENT.** The fee for work set out in **14. COMPENSATION** shall be billed and payable monthly during the course of the rendering of the services.
- 16. TIME OF COMPLETION.** The plans and specifications for the Project shall be completed within ninety (90) days after written authorization to proceed for the Project is issued by the Owner. The Project design will be completed to allow for Spring 2021 construction.
- 17. LEGAL SERVICES.** The Owner shall provide the services of the Owner's Attorney in matters pertaining to this Project. The Engineers shall cooperate with the Attorney and shall comply with his requirements as to form of contract documents and procedures relative to them.

18. SERVICES NOT INCLUDED. Services not included under this Agreement are as follows:

- a. Laboratory tests.
- b. Services related to or regarding arbitration or litigation of the construction contract between the construction contractor and the Owner regarding any part of the Project.
- c. Services relating to the acquisition of easements, permanent or construction. Legal surveys, property surveys and easement surveys are not included in this Project cost.
- d. Construction testing services.
- e. Soil borings, soil testing and contaminated soil investigations.
- f. Environmental and archaeological studies.
- g. Services required for the evaluation of and determination to accept defective work by Contractor including required re-design services.
- h. Assistance in connection with bid protests, rebidding or renegotiating contracts for construction, materials, equipment, or services, only so long as the original work is reasonably consistent with the Owner's program or other instruction.
- i. Providing assistance in resolving any Hazardous Environmental Condition in compliance with current Laws and Regulations.
- j. Construction staking.
- k. Other services performed or furnished by Engineer not otherwise provided for in this Agreement.

19. SUSPENSION.

- a. The Owner agrees that the Engineer is not responsible for damages arising directly or indirectly from any delays for causes beyond the Engineer's control. For purposes of this Agreement, such causes include, but are not limited to, strikes or other labor disputes; severe weather disruptions or other natural disasters or acts of God; fires, riots, war or other emergencies; failure of any government agency to act in a timely manner; failure of performance by the Owner; or discovery of any hazardous substances or differing site conditions. In addition, if the delays resulting from any such causes increase the cost or time required by the Engineer to perform its services in an orderly and efficient manner, the Engineer shall be entitled to a reasonable adjustment in schedule and compensation.
- b. If Engineer's services are extended by Contractor's actions or inactions for more than the scheduled final construction completion, as defined in the Contract Documents, through no fault of the Engineer, the Engineer will be entitled to equitable and agreeable adjustment of rates and amounts of compensation provided in this Agreement.

20. CHANGES. If after the plans and specifications are completed and approved by the Owner, the Engineers are required to change the plans and specifications because of changes made by the Owner, the Engineers shall receive additional compensation for making such changes. The compensation for such changes shall be based upon the standard hourly fees as shown on Exhibit A, plus expenses for personnel of the Engineers actually engaged in making the changes.

21. EXTRA WORK. Fees stated in this Agreement cover the specific services outlined in this Agreement for the Project. If the Owner requires additional services of the Engineers in connection with the Project, or changes or modifications in the Project, the Engineers shall receive additional compensation for said services. Such additional compensation shall be at the standard hourly fees for personnel of the Engineers, as shown on Exhibit A, plus expenses for personnel engaged in the authorized extra work.

22. INDEMNIFICATION. The Engineers shall and hereby agree to hold and save the Owner harmless from any and all claims, settlements, and judgments, to include all reasonable investigative fees, attorneys' fees, suit and court costs for personal injury, property damage, and/or death arising out of the Engineers' or any of its agents', servants', and employees' errors, omissions or negligent acts for services under this Agreement, and for all injury and/or death to any and all of the Engineers' personnel, agents, servants, and employees occurring under the Workers' Compensation Act of the State of Iowa.

- 23. INSURANCE.** The Engineers shall furnish the Owner with certificates of insurance by insurance companies licensed to do business in the State of Iowa, upon which the Owner is endorsed as an additional named insured, in the following limits. It must be clearly disclosed on the face of the certificates that the coverage is on an occurrence basis:

General Liability*	\$1,000,000/2,000,000
Automobile Liability	1,000,000
Excess Liability (Umbrella)*	8,000,000/8,000,000
Workers' Compensation, Statutory Benefits Coverage B	1,000,000
Professional Liability**, ***	2,000,000/2,000,000

*Occurrence/Aggregate

**The Owner is not to be named as an additional insured

***Claims made basis

- 24. TERMINATION.** Should the Owner abandon the Project before the Engineers have completed their work, the Engineers shall be paid proportionately for the work and services performed until the date of termination.

- 25. BETTERMENT.** When a Change Order is necessitated by an act or omission of Engineer or an error in the design of the Project, responsibility for such act, omission, or error shall be determined in good faith by Owner and Engineer. To the extent that such act, omission, or error arose out of the lack of quality professional services provided by Engineer or of the lack of professional quality deliverables prepared by Engineer, Owner shall be entitled to an amount equal to the difference between the actual cost of the change work and the estimated cost of the change work (less added value to the Owner) if there had been no such act, omission, or error. Engineer shall pay such sum to Owner.

- 26. ASSISTANTS AND CONSULTANTS.** It is understood and agreed that the employment of the Engineers by the Owner for the purposes aforesaid shall be exclusive, but the Engineers shall have the right to employ such assistants and consultants as they deem proper in the performance of the work.

- 27. ASSIGNMENT.** This Agreement and each and every portion thereof shall be binding upon the successors and assigns of the parties hereto.

The undersigned do hereby covenant and state that this Agreement is executed in duplicate as though each were an original, and that there are no oral agreements that have not been reduced to writing in this instrument.

It is further covenanted and stated that there are no other considerations or monies contingent upon or resulting from the execution of this Agreement, nor have any of the above been implied by or for any party to this Agreement.

IN WITNESS WHEREOF, the parties hereto have subscribed their names on the date first written above.

INDIANOLA MUNICIPAL UTILITIES

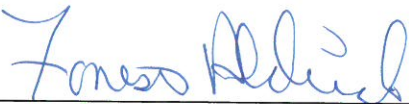
ATTEST:

By _____
Water Superintendent

By _____

VEENSTRA & KIMM, INC.

ATTEST:

By 
President

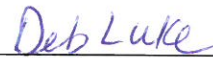
By 

EXHIBIT A

VEENSTRA & KIMM, INC.
HOURLY RATES BY EMPLOYEE CLASSIFICATION
(Effective July 2020)

Management I	\$181.00
Management II	175.00
Process Engineer I	199.00
Client Services I	175.00
Client Services V	66.00
Engineer I-A	181.00
Engineer I-B.....	172.00
Engineer I-C	163.00
Engineer I-D	156.00
Engineer II-A	147.00
Engineer II-B.....	138.00
Engineer III-A	130.00
Engineer III-B.....	124.00
Engineer III-C	121.00
Engineer IV	117.00
Engineer V	109.00
Engineer VI	102.00
Engineer VII	98.00
Engineer VIII	95.00
Engineer IX.....	88.00
Engineer X.....	78.00
Engineer XI.....	72.00
Engineer XII.....	63.00
Design Technician I.....	104.00
Design Technician II.....	92.00
Architect	110.00
Planner I	113.00
Planner II	75.00
Planner III	69.00
Drafter IA	103.00
Drafter IB	96.00
Drafter II	90.00
Drafter III	84.00
Drafter IV	75.00
Drafter V	65.00
Drafter VI	60.00
Drafter VII	47.00
Clerical I	93.00
Clerical II	66.00
Clerical III	57.00
Clerical IV	50.00
Clerical V.....	42.00
Construction Manager	175.00
Surveyor I.....	123.00

Surveyor II.....	105.00
Technician I	90.00
Technician II	83.00
Technician III	76.00
Technician IV.....	74.00
Technician V.....	67.00
Technician VI.....	62.00
Technician VII.....	51.00
Technician VIII.....	45.00
Technician IX.....	37.00
Building Inspector I	172.00
Building Inspector I-A.....	115.00
Building Inspector II	90.00
Building Inspector III	68.00
Robotics.....	30.00/Hour
GPS	30.00/Hour
Leica Total Station	20.00/Hour
Total Station Robotics.....	15.00/Hour
Tablet.....	45.00/Hour
Fluoroscope	50.00/Hour
4-Wheeler	45.00/Hour
Drone	75.00/Hour
Mileage.....	IRS Rate

IMU Regular Downstairs

10. A.

Meeting Date: 10/26/2020

Information

Subject

Consideration of a resolution approving a water tower lease agreement with Warren County.

Information

Fiscal Impact

Attachments

Resolution Approving Agreement

Memorandum of Agreement

Drawings

Indianola Municipal Utilities
RESOLUTION NO. 2020-

**RESOLUTION APPROVING A WATER TOWER LEASE AGREEMENT BETWEEN
WARREN COUNTY AND INDIANOLA MUNICIPAL UTILITIES**

WHEREAS, Warren County desires to use water tower space for communications for the County's law enforcement, public safety, emergency services, and county engineer and secondary roads; and

WHEREAS, Indianola Municipal Utilities ("Landlord") and Warren County Iowa ("Tenant") desire to enter into a Water Tower Lease Agreement under which the Tenant may use the Hillcrest Water Tower owned by Landlord; and

WHEREAS, the Memorandum Agreement is attached as Exhibit 1.

THEREFORE, BE IT RESOLVED by the Indianola Municipal Utilities, that

1. The attached Water Tower Lease Agreement between Warren County Iowa and Indianola Municipal Utilities is hereby approved, and
2. The General Manager is authorized to sign the attached agreement on behalf of IMU.

APPROVED this 26th day of October 2020.

Mike Rozga, Chairperson

ATTEST:

Jackie Raffety, Deputy City Clerk

**MEMORANDUM OF AGREEMENT
RE: INDIANOLA MUNICIPAL UTILITIES
AND
WARREN COUNTY, IOWA**

This Agreement is entered into by and between the Indianola Municipal Utilities (IMU) and Warren County, Iowa (County).

Section 1. Identity of the Parties.

1.1 Indianola Municipal Utilities is a publicly owned utility overseen by the Board of Trustees, appointed by the Mayor and City Council of Indianola, Iowa.

1.2 Warren County is a political subdivision of the State of Iowa, and is granted home rule authority in Article III, Section 39A of the Constitution of the State of Iowa and as exercised in Chapter 331, Iowa Code (2020).

Section 2. Purpose.

The purpose of this Agreement is to specify the terms and conditions under which the County may use the Hillcrest Water Tower for the County's law enforcement, public safety, emergency services, and county engineer and secondary roads, communications system.

Section 3. Authority for Agreement.

3.1 The IMU Board of Trustees was established by the citizens of Indianola in 1973. The IMU Board has autonomous control over the operation, staffing and financial activity of all three (electric, water and telecom) utilities, and authority to enter into this Agreement.

3.2 Warren County has authority to enter into this Agreement pursuant to Iowa Code Chapter 331 (2020).

Section 4. Terms.

The County desires to use water tower space for communications as described in Section 2.

As used in this Agreement, "County equipment", "County radio equipment", "County-owned equipment", "County communications equipment", or "County-owned communications equipment" includes but is not limited to any equipment or service that is owned by the County, or which is used by the County, or which is leased, contracted, or provided for the County's use by a third party. The layout of the equipment on the Hillcrest Water Tower is set out on Hillcrest WT Construction Drawings attached Exhibit "A". In addition, the County will be placing a prefabricated building with NO footings and a natural gas tank outside of the Hillcrest Water Tower as indicated on Exhibit "A". Any change in the equipment, prefabricated building or natural gas tank, or the layout of any item shall require the written approval of IMU; which approval may be withheld in the sole discretion of IMU.

As part of this Agreement, the IMU Board of Trustees agrees to allow the County to use the Hillcrest Water Tower for the County's communications purposes, subject to the following restrictions:

- a. The County's equipment shall not interfere with or degrade city's communications systems to any extent. The IMU Board of Trustees shall have the sole authority to determine whether, and to what extent, the County's equipment can be located on the Hillcrest Water Tower. The County may request the IMU Board of Trustees review the County's proposed use of the tower, including but not limited to any equipment or third-party vendor, to determine whether approval will be granted.
- b. All use of the Hillcrest Water Tower by the County must be for law enforcement, public safety, emergency services, or county engineer and secondary roads communications only.
- c. All costs of the County's equipment, cabling, installation, maintenance, repair and other costs associated with operating the equipment on the tower shall be paid by the County. Tower space provided under the terms of this Agreement shall be at no cost to the County. IMU and Warren County shall refer to the Hillcrest WT Construction Drawings for equipment, building specifications and utilities.
- d. The County and/or its contractor shall have access to the Hillcrest Water Tower for purposes of maintenance and repairs to the County's communications systems and equipment IMU may, in its discretion, require that a representative of the IMU be present on site with the County's employee or contractor. In the event the County or contractor needs to address an emergency or make an urgent repair, the County shall notify the IMU Water Department Superintendent.
- e. Any changes to the equipment must be preapproved by IMU before installation, for the purpose of ensuring that the equipment does not interfere with or degrade IMU communications or the Water Tower. All installation, maintenance, and repair shall be at the County's expense.
- f. The County shall defend, indemnify, and hold harmless the IMU and Board of Trustees from any and all claims and liability arising out of or in any way related to the County's use of the Hillcrest Water Tower, or in any way related to activities or persons employed by the County. IMU and Board of Trustees acknowledge that Motorola is the contractor for the County's 911 Communications System, and therefore is under separate contract with the County for locating the County's communication equipment on the Hillcrest Water Tower. The County agrees to pay for any damage to the Hillcrest Water Tower or equipment if the damage is caused by the County or its employees or contractors. The County shall maintain appropriate liability insurance, and provide proof thereof, sufficient to pay for any claims or judgments for which the County is responsible.

- g. To the fullest extent permitted by law, IMU and the County shall defend, indemnify, hold harmless, and insure the other party and its directors, officers, employees and agents from and against any and all liabilities, obligations, damages, penalties, claims, costs, charges and expenses, including reasonable attorneys' fees, which may be imposed upon or incurred by or asserted against one party as a result of any negligence or misconduct on the other party's part or anyone employed directly or indirectly by the other party, including subcontractors, employees or agents of that party.

Section 5. Use of Property.

The County will retain ownership of the communications equipment placed on the tower, as well as the shelter building and its equipment placed in the shelter building, and within the Premises.

The County shall have an easement to access the County's equipment for maintenance and repair.

Use of the Hillcrest Water Tower for County communications under this Agreement does not create any possessory or ownership rights in the site, tower, or IMU's equipment. IMU and the Board of Trustees agrees that the County shall not be charged a fee for its use of the Hillcrest Water Tower, so long as the County's use does not violate this Agreement. In the event that the County's use interferes with or degrades the city's communication or Hillcrest Water Tower, or in the event of a violation of the terms of this Agreement, IMU agrees to allow the County up to sixty (60) days to correct the violation or remove its equipment. IMU will provide notice to the County of the violation in writing. Upon a refusal or failure by the County to correct the issue or the violation within 60 days, or has not entered into discussion with IMU and the Board of Trustees within 60 days regarding correction of the violation, and if no less severe remedy is available, IMU and the Board of Trustees may immediately disconnect the County's equipment from the tower.

Section 6. Effective Date and Duration.

It is mutually understood and agreed that this Agreement is effective upon execution by IMU Board of Trustees and approval by the Board of Supervisors of Warren County and execution by the chair of the Board.

This Agreement shall remain in force and effect for twenty-five (25) years from the date this Agreement is executed, unless sooner terminated in accordance with the Termination section (Section 9) of this Agreement. This Agreement may be extended an additional twenty-five (25) years upon mutual Agreement of the parties, in writing.

7. Notification.

Any notice required to be given under this Agreement will be given to:

Indianola Municipal Utilities
Board of Trustees
210 West 2nd Ave.

Indianola, Iowa 50125

Douglas McCasland/Director
Warren County 911
111 N. Buxton St., Room 129
Indianola, IA 50125

8. Compensation.

No payment shall be required under the Agreement for the term of this Agreement. The parties may, by mutual Agreement, extend the term of this Agreement under the same terms and conditions, or negotiate new or additional terms.

9. Termination.

Any termination of this Agreement is subject to and must be consistent with Section 5 of this Agreement.

9.1 Termination upon Notice. Either party may terminate this Agreement, without penalty or incurring further obligation upon 90 days' written notice or as mutually agreed by the parties. The parties are mutually obligated to pay any unpaid invoices provided prior to, and up to and including, the termination date.

9.2 Termination Due to Lack of Funds or Change in Law. Either party shall have the right to terminate this Agreement without penalty as a result of any of the following by giving thirty (30) days' written notice to the other party:

9.2.1 If sufficient funds are not allocated to either party to operate as required and to fulfill its obligation under this Agreement; or

9.2.2 Withdrawal of either party's authorization to conduct its business or a material alteration in the programs the party administers; or

9.2.3 Modification of either party's duties; or

9.2.4 Delay or Impossibility of Performance. Neither the Department nor the County shall be considered to be in default under this Agreement if performance is delayed or made impossible by an act of God, flood, fire, strike or similar events. In each case, the delay or impossibility must be beyond the control and without fault or negligence of the delaying party.

Section 10. Agreement Administration.

10.1 Compliance with Laws and Regulations. IMU and the County shall comply with all applicable state and federal laws, rules, ordinances, regulations, orders and executive orders.

10.2 Cumulative Rights. The various powers, options, elections and remedies of either party provided in this Agreement shall be construed as cumulative and none of them is exclusive of the others or exclusive of any rights, remedies or priorities allowed either party by law, or shall in any way affect or impair the right of either party to pursue any other equitable or legal remedy to which either party may be entitled as long as any default remains in any way not remedied, unsatisfied, or no discharged.

10.3 Severability. If any provision of this Agreement is determined by a court of competent jurisdiction to be invalid or unenforceable, such determination shall not affect the validity or enforceability of any other part or provision of this Agreement.

10.4 Amendments. This Agreement may be amended in writing from time to time by mutual consent of the parties. All amendments to this Agreement shall be fully executed by both parties and filed accordingly.

10.5 Additional Provisions. The parties agree that if an Addendum, Attachment or Exhibit is attached hereto by the parties, and referred to herein, then the same shall be deemed incorporated herein by reference.

10.6 Notices. Notices under this Agreement shall be in writing and delivered to the representative of the party to receive notice (identified in Section 7, above) at the address of the party to receive notice as it appears above or as otherwise provided for by proper notice hereunder. The effective date for any notice under this Agreement shall be the date of delivery of such notice.

Section 11. Execution.

IN WITNESS WHEREOF, and in consideration of the mutual covenants set forth above and for other good and valuable consideration, the receipt, adequacy and legal sufficiency of which are hereby acknowledged, the parties have entered into the above Agreement and have caused their duly authorized representatives to execute this Agreement.

INDIANOLA MUNICIPAL UTILITIES BOARD OF TRUSTEES

By: _____

Date: _____

_____, Chair

Board of Trustees
210 West 2nd Ave.
Indianola, Iowa 50125

WARREN COUNTY, IOWA

By: _____

Date: _____

Aaron DeKock, Chairman
Warren County Supervisors
301 N. Buxton
Indianola, IA 50125

By: _____

Date: _____

Douglas McCasland, Director
Warren County 911
111 N. Buxton St., Room 129
Indianola, IA 50125

PROJECT DESCRIPTION

INSTALLATION OF ANTENNAS, MICROWAVE DISHES, COAXIAL CABLE, AND ASSOCIATED MOUNTS ON AN EXISTING 140' WATER TANK.
INSTALLATION OF A 11'-8" x 16'-6" UNMANNED EQUIPMENT SHELTER ON CONCRETE FOUNDATION.
NEW ELECTRIC SERVICE TO SITE AND EQUIPMENT SHELTER. NO WATER SUPPLY OR SEWAGE TO/FROM THE SITE.

SITE NAME:

HILLCREST WT

SITE ADDRESS:

909 E HILLCREST AVE
INDIANOLA, IA 50125

SITE COORDINATES AND ELEVATION

LATITUDE - N 41° 22' 46.1" (2C LETTER)
LONGITUDE - W 93° 32' 56.27" (2C LETTER)
GRD ELEV. - ±957' AMSL (2C LETTER)

SITE INFORMATION

LANDLORD

CITY OF INDIANOLA

POWER

INDIANOLA MUNICIPLE UTILITIES
ERIC SCHEIER
PH: (515) 960-9444
EMAIL: ESCHREIER@INDIANOLAOWA.GOV

APPLICANT

XXXX

CONTACT

MOTOROLA SOLUTIONS
PH: (989) 710-1062

PROJECT MANAGER

PYRAMID NETWORK SERVICES, LLC
RJ MCLAUGHLIN
PH: (515) 305-0175
EMAIL: RMCLAUGHLIN@PYRAMIDNS.COM

ARCHITECTURAL AND ENGINEERING

MISSION 1 COMMUNICATIONS
MARK ALLEN
6202 CONSTITUTION DRIVE, SUITE C
FORT WAYNE, IN 46804
PH: (260) 436-3922
EMAIL: MALLEN@M1COMM.COM

CONSULTANT TEAM

WARREN COUNTY
REPRESENTATIVE :

RECEIVED :

ACCEPTED :

MOTOROLA :

RECEIVED :

ACCEPTED :

PROPERTY OWNER:

RECEIVED :

ACCEPTED :

RECEIVED AND ACCEPTED

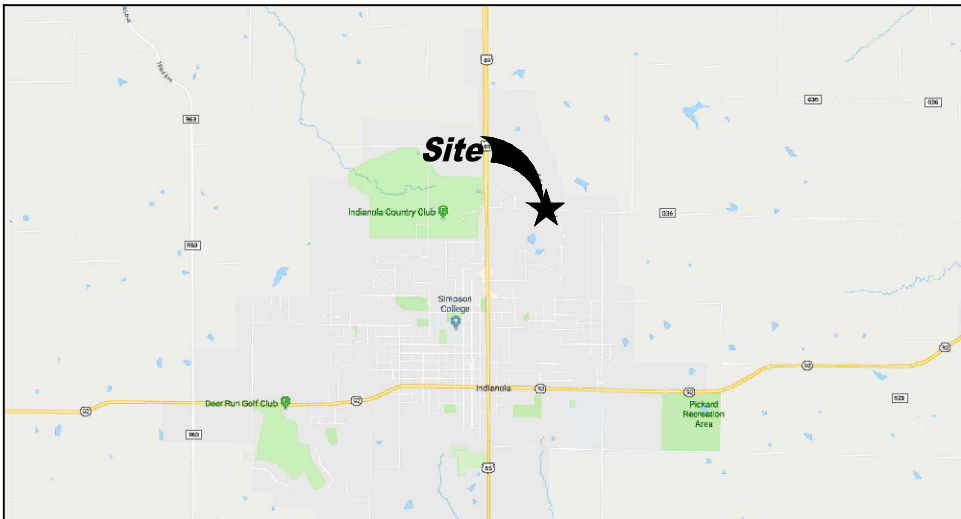


DIRECTIONS TO SITE

HILLCREST WT

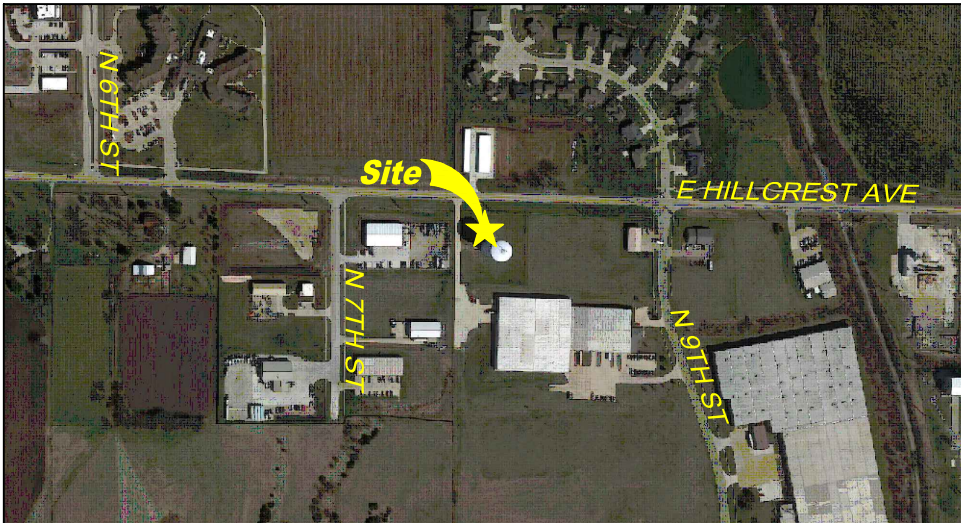
909 E HILLCREST AVE
INDIANOLA, IA 50125
WARREN COUNTY

ASR# 1316017



VICINITY MAP

MAP PROVIDED BY GOOGLE MAPS



LOCATION MAP

AERIAL MAP PROVIDED BY GOOGLE EARTH

DRAWING INDEX

T-1 PROJECT INFORMATION, LOCATION MAPS, AND DRAWING INDEX

SUR 2 SITE SURVEY

GN-1 GENERAL NOTES

GN-2 GENERAL NOTES AND LEGEND

C-1 SITE LOCATION PLAN

C-2 ENLARGED SITE PLAN

C-3 TOWER ELEVATION AND ANTENNA INFORMATION

C-3.1 FEEDLINE CABLE ROUTING

C-4 EQUIPMENT SHELTER PLAN

C-5 EQUIPMENT SHELTER ELEVATIONS

C-6 SITE CIVIL DETAILS

C-7 SITE CIVIL DETAILS

E-1 ELECTRICAL SITE PLAN

E-2 EXTERIOR ELECTRICAL DETAILS

E-3 PANEL SCHEDULES / ONE LINE DIAGRAM

E-4 GROUNDING PLAN

E-5 GROUNDING SCHEMATIC AND NOTES

E-6 GROUNDING DETAILS

E-7 GROUNDING DETAILS

T-1 TITLE SHEET

GN-1 GENERAL NOTES

GN-2 GENERAL NOTES

IN-1 LEGENDS AND ABBREVIATIONS

S-1 TOWER MODIFICATION SCHEDULE

S-2 CONFIGURATION PLAN VIEW

S-3 SECTION DETAILS

S-4 SECTION DETAILS

S-5 BASE PLATE DETAILS

S-6 KICKER BASE PLATE DETAILS

S-7 MOUNTING BRACKET DETAILS

S-8 MOUNT DETAILS

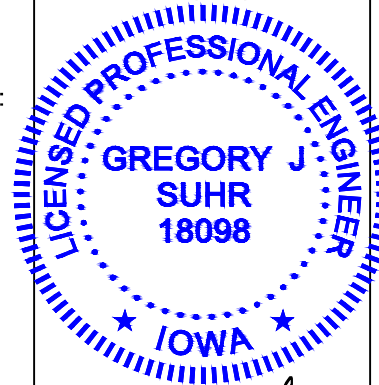
S-9 SITE PHOTOS

REFER TO SGS
MOUNT DESIGN
DRAWINGS DATED:
07-17-20



1-800-292-8989
CALL TOLL FREE

EXP 12/31/2021



10-20-20

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

O	10-20-20	PERMIT CDs	AML	MJA	
H	10-09-20	PRELIMINARY CDs	ZDE	MJA	
G	09-03-20	PRELIMINARY CDs	ZDE	MJA	
F	08-13-20	PRELIMINARY CDs	AML	MJA	
E	08-03-20	PRELIMINARY CDs	AML	MJA	
NO.	DATE	REVISIONS	BY	CHK	APP'D



6202 Constitution Drive, Suite C
Fort Wayne, IN 46804



MOTOROLA
SOLUTIONS

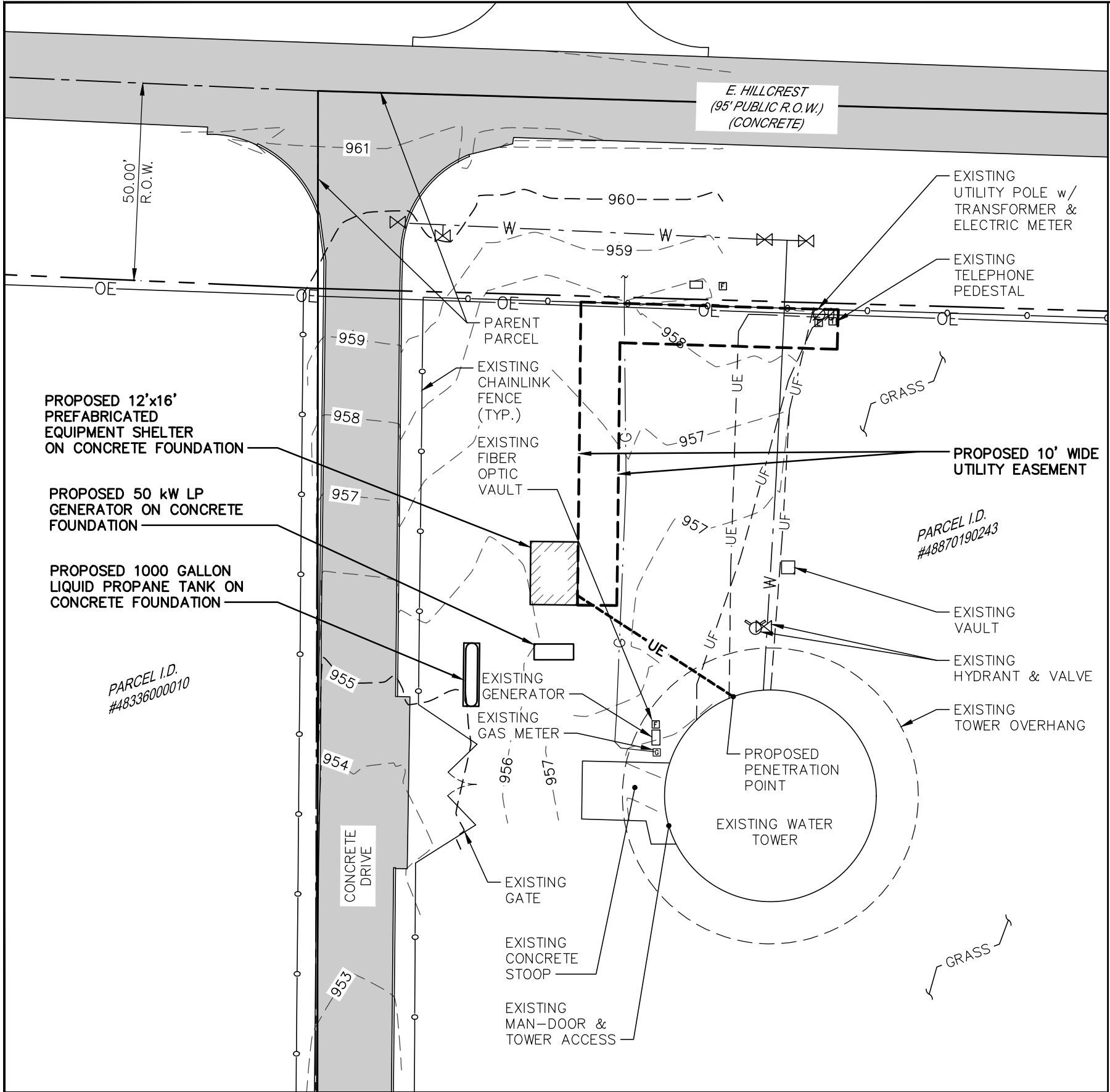


Warren County
Iowa

PROJECT INFORMATION, LOCATION MAPS,
AND DRAWING INDEX

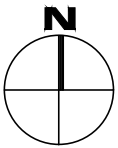
HILLCREST WT
909 E HILLCREST AVE
INDIANOLA, IA 50125

T-1



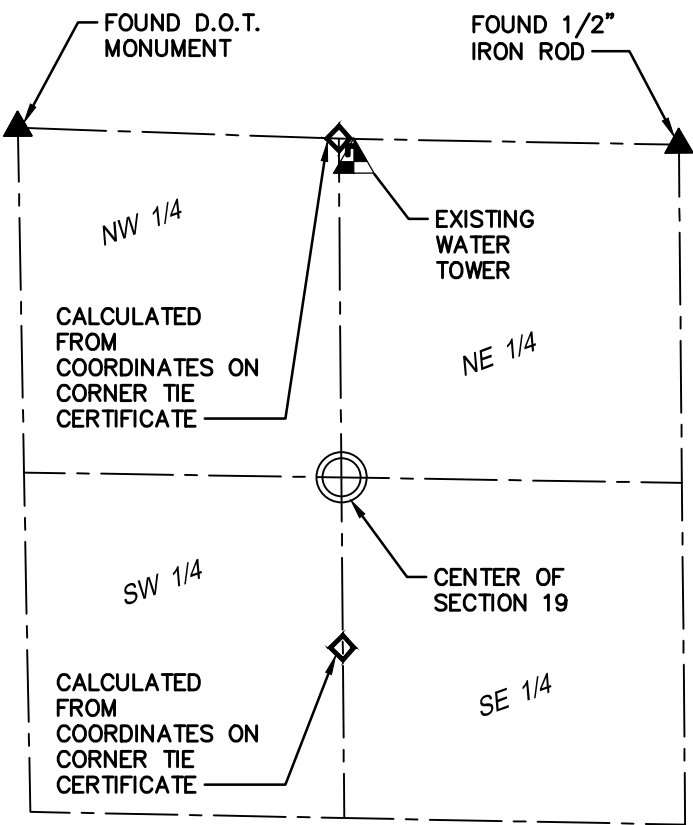
SITE PLAN

SCALE: 1" = 30'



GENERAL LEGEND

- | | | | |
|-----|--------------------------------------|---------------------------|--------------------|
| | TOWER CENTERLINE | | GAS METER |
| | CALCULATED SECTION CORNER (AS NOTED) | | TELEPHONE PEDESTAL |
| | FOUND SECTION CORNER (AS NOTED) | | ELECTRIC METER |
| | UTILITY POLE | | FIBER OPTIC VAULT |
| | UTILITY POLE W/TRANSFORMER | | WATER VALVE |
| | | | FIRE HYDRANT |
| OE | | ELECTRIC - OVERHEAD | |
| UE | | ELECTRIC - UNDERGROUND | |
| UF | | FIBER OPTIC - UNDERGROUND | |
| G | | ELECTRIC - OVERHEAD | |
| W | | WATER MAIN | |
| 621 | | MINOR CONTOUR | |
| 620 | | MAJOR CONTOUR | |



SECTION 19 - T76N - R23W

SCALE: 1" = 1500'



PROJECT NO: 20-02-01

DRAWN BY: JD

CHECKED BY: WCB

A 03/03/20 INTERNAL REV.

HILLCREST WT

E. HILLCREST AVE.
INDIANOLA, IA 50125
WARREN COUNTY
EXISTING WATER TOWER

SHEET TITLE
SITE PLAN

SHEET NUMBER
SUR-2

•FEDERAL COMMUNICATIONS COMMISSION – RULES AND REGULATIONS PART 17, CONSTRUCTION, MARKING, AND LIGHTING OF ANTENNA STRUCTURES.

THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR PRESERVING ALL ESTABLISHED SURVEY CONTROL POINTS. IF THE CONTRACTOR OR ANY OF HIS SUB-CONTRACTORS MOVE OR DESTROY ANY SURVEY CONTROL POINTS, THE COST INCURRED BY THE LAND OWNER OR MOTOROLA TO RE-ESTABLISH THEM WILL BE BORNE BY THE CONTRACTOR.

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

1.10. PERMITS

THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. THE CONTRACTOR SHALL MEET ALL OF THE REGULATORY REQUIREMENTS OF THE JURISDICTION GOVERNING CONSTRUCTION.

1.11. SITE INSPECTION

THE CONTRACTOR SHALL HAVE THE RESPONSIBILITY FOR ARRANGING WITH MOTOROLA FOR AN INSPECTION PRIOR TO COVERING UP ALL WORK THAT WILL BE COVERED IN FINISHED CONDITION. IT IS THE SITE GENERAL CONTRACTOR'S RESPONSIBILITY TO MANAGE THE SEQUENCE OF WORK AND REQUEST THE INSPECTIONS IN A TIMELY MANNER. THE SITE GENERAL CONTRACTOR SHALL NOT REQUEST AN INSPECTION UNLESS ALL OF THE RELATED WORK HAS BEEN COMPLETED. WORK SHALL NOT PROCEED TO THE NEXT STEP UNTIL THE PREVIOUS STEP HAS BEEN INSPECTED AND APPROVED BY THE LOCAL INSPECTORS AND THE MOTOROLA REPRESENTATIVE. THE PRESENCE OF THE OWNER OR MOTOROLA REPRESENTATIVE ON THE JOB SITE IN NO WAY RELIEVES THE SITE GENERAL CONTRACTOR OF THE ASSOCIATED RESPONSIBILITIES OF THE JOB. ANY WORK WHICH DOES NOT MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS WILL BE CORRECTED OR REMOVED SOLELY AT THE SITE GENERAL CONTRACTOR'S EXPENSE.

THE FOLLOWING INFORMATION IS INCLUDED AS A GUIDE TO THE CONTRACTOR TO ASSIST IN DETERMINING THE TYPE AND FREQUENCY OF INSPECTIONS. THE LISTED INSPECTIONS REPRESENT THOSE REQUIRED FOR SMALL OR SIMPLE PROJECTS. LARGE OR COMPLEX PROJECTS MAY REQUIRE ADDITIONAL INSPECTIONS DEPENDING ON THE SEQUENCE OF WORK.

•FOUNDATION EXCAVATIONS AND REBAR: TO BE MADE AFTER TRENCHES ARE EXCAVATED AND FORMS ERECTED, REINFORCEMENT PLACED, COMPACTION TESTED, SOIL TREATED, VAPOR BARRIER PLACED, AND ESSENTIALLY READY FOR CONCRETE PLACEMENT.

•GROUNDING: TO BE MADE AFTER THE BELOW GROUND CADWELD CONNECTIONS HAVE BEEN COMPLETED, PRIOR TO COVERING UP THE TRENCHES.

•ELECTRICAL WORK WITHIN WALLS: TO BE MADE AFTER THE ROOF, FRAMING, FIRE BLOCKING AND BRACING IS IN PLACE PRIOR TO THE INSTALLATION OF INSULATION OR WALL/CEILING MEMBRANES.

AS A GENERAL RULE. THE CONTRACTOR SHALL PROVIDE ADVANCE NOTICE TO MOTOROLA FOR INSPECTION OF ALL WORK PRIOR TO CONCEALMENT. THE CONTRACTOR HAS RESPONSIBILITIES RELATIVE TO ALL TYPES OF INSPECTIONS AND IS RESPONSIBLE FOR CONTACTING ALL OF THE INSPECTING ENTITIES TO DETERMINE HIS RESPONSIBILITIES. ALL OF THESE INSPECTING ENTITIES HAVE UNIQUE AND SEPARATE RESPONSIBILITIES. ONE INSPECTION FROM AN ENTITY WILL NOT SUBSTITUTE FOR AN INSPECTION FROM ANOTHER ENTITY.

1.12. SAFETY

THE CONTRACTOR, HIS EMPLOYEES, ANY SUB-CONTRACTORS, VENDORS, THEIR RESPECTIVE EMPLOYEES AND CONTRACTOR'S VISITORS SHALL COMPLY WITH ALL SAFETY STANDARDS, ACCIDENT PREVENTION REGULATIONS AND ENVIRONMENTAL REGULATIONS PROMULGATED BY FEDERAL, STATE, OR LOCAL AUTHORITIES HAVING JURISDICTION AND SHALL AT ALL TIMES CONDUCT ALL OPERATIONS UNDER THE CONTRACT IN A MANNER TO AVOID THE RISK OF BODILY HARM TO ANY PERSONS AND THE RISK OF DAMAGE TO ANY PROPERTY, EQUIPMENT OR MATERIAL SUCH PARTIES SHALL ALSO COMPLY WITH ANY SAFETY PROGRAMS AND/OR RULES PROMULGATED BY OWNER AND/OR MOTOROLA.

1.13. ELECTRO MAGNETIC EMISSIONS

THE CONTRACTOR SHALL ACKNOWLEDGE ALL OR PORTIONS OF THE WORK MAY INVOLVE POSSIBLE EXPOSURE OF CONTRACTOR, SUB-CONTRACTORS, AND THEIR RESPECTIVE EMPLOYEES, AGENTS, INVITEES, LICENSEES AND OTHER VISITORS TO THE JOBSITE AND/OR MOTOROLA PREMISES TO ELECTRO-MAGNETIC ENERGY ("EME") WHILE PERFORMING WORK UNDER THIS CONTRACT, ESPECIALLY IF WORK IS PERFORMED ON EXISTING ANTENNA TOWERS WHERE ANTENNAS ARE LOCATED. THE CONTRACTOR REPRESENTS THAT CONTRACTOR, SUBCONTRACTORS, AND ALL OF THEIR RESPECTIVE EMPLOYEES, AGENTS, INVITEES, LICENSEES, AND OTHER AUTHORIZED REPRESENTATIVES WHO ARE PERFORMING SERVICES UNDER THIS AGREEMENT WILL COMPLY WITH ALL ANSI AND ANY OTHER APPLICABLE EME STANDARDS, RULES OR REGULATIONS, INCLUDING, BUT NOT LIMITED TO THOSE RULES OR REGULATIONS IMPOSED OR SUGGESTED BY MOTOROLA, IF ANY.

THE CONTRACTOR SHALL ADHERE TO ALL OSHA RULES, REGULATIONS AND ADOPTED POLICIES. ALL CONTRACTOR PERSONNEL SHALL HAVE UNDERGONE ELECTROMAGNETIC ENERGY (EME) TRAINING FOR PERSONNEL WORKING IN THE VICINITY OF ACTIVE ANTENNAS. AS SUCH IT IS RECOMMENDED THAT RF MONITORS BE USED BY THE TOWER PERSONNEL TO MONITOR EXPOSURE LEVELS. IF EME LEVELS AT THE SITE EXCEED THE MAXIMUM PERMISSIBLE EXPOSURE LIMITS, THE CONTRACTOR SHALL COORDINATE WITH THE INDIVIDUALS RESPONSIBLE FOR USE OF THE TRANSMITTER TO MAKE SURE THAT THE EQUIPMENT IS DEACTIVATED BEFORE WORK CAN BE RESUMED, WITHOUT CAUSING A SERIOUS DISRUPTION OF THE SERVICE.

1.14. SITE CLEANUP

THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE AT ALL TIMES DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, VEGETATION, AND RUBBISH, AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. WHENEVER THE WORK-SITE IS LEFT UNATTENDED, THE CONTRACTOR SHALL BLOCK THE OPENING WITH WARNING TAPE TO DISCOURAGE TRESPASSING. THE PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE AT THE CONCLUSION OF SITE WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR LANDSCAPE GRADING AND SEEDING OF THE DISTURBED SOIL THE CONTRACTOR SHALL USE LOCAL GRASS SEED TO STABILIZE SOIL AND SHALL COVER DISTURBED AREAS WITH HAY MULCH TO REDUCE RUNOFF OF SEDIMENT TO DOWNSTREAM AREAS. THE CONTRACTOR SHALL RESTORE THE SITE TO ITS ORIGINAL CONDITION. ALL SLOPES AND DISTURBED AREAS NOT RECEIVING AGGREGATE SURFACING ARE TO BE PREPARED AND BROADCAST SEEDED AND FERTILIZED FOR EROSION PROTECTION. SEEDING FOR AREAS DISTURBED SHALL BE ESTABLISHED SEASONALLY AS REQUIRED BY LOCAL CODES.

THE CONTRACTOR SHALL EXERCISE ALL CARE TO AVOID DAMAGE OR INTERRUPTION OF EXISTING UNDERGROUND OR OVERHEAD ELECTRIC SERVICES, UNDERGROUND GROUNDING AND FUEL LINES, EQUIPMENT AND BUILDINGS ON THE SITE, PLUS OFF SITE SERVICES, BURIED OR OVERHEAD, SURROUNDING THE EXISTING OR EXPANDED COMPOUND. ANY PROPERTY DAMAGE CAUSED BY THE CONTRACTOR OR HIS OPERATIONS SHALL BE CORRECTED AND/OR RESTORED TO THE SATISFACTION OF THE PROPERTY OWNER(S) AND MOTOROLA AT NO ADDITIONAL COST TO THE PROPERTY OWNER OR MOTOROLA. BURNING WILL NOT BE PERMITTED.

1.15. FACILITY STARTUP & COMMISSIONING

THE CONTRACTOR AND/OR SUB-CONTRACTORS SHALL DEMONSTRATE TO MOTOROLA THAT ALL SYSTEMS AND SUB-SYSTEMS INSTALLED UNDER THIS CONTRACT, OPERATE PROPERLY PRIOR TO THE FINAL ACCEPTANCE INSPECTION AND PROVIDE THE OPERATIONS AND MAINTENANCE MANUALS AT THIS TIME.

1.16. SHOP DRAWINGS/AS-BUILT DRAWINGS

THE MODIFICATIONS TO THE DRAWINGS AFTER CONSTRUCTION START SHALL RECEIVE ENGINEERING AND MOTOROLA APPROVAL PRIOR TO ANY CHANGES BEING MADE. THE ENGINEER OF RECORD SHALL MAKE THE REQUIRED CHANGE AND WILL SUBMIT CHANGES TO MOTOROLA AND ANY JURISDICTION HAVING AUTHORITY.

THE CONTRACTOR SHALL KEEP UP-TO-DATE MARKED-UP PRINTS OF THE PROJECT DRAWINGS. UPON COMPLETION OF WORK AT THE SITE, THE CONTRACTOR SHALL REVIEW THE COMPLETED AS-BUILT DRAWINGS, AND ASCERTAIN THAT ALL DATA FURNISHED ON THE DRAWINGS IS ACCURATE AND TRULY REPRESENTS THE WORK IS ACTUALLY INSTALLED. MARKINGS INDICATING CHANGES TO THE DRAWINGS SHALL BE RED OR GREEN AND CLEARLY VISIBLE. TWO (2) SETS OF "AS-BUILT" DRAWINGS SHALL BE FURNISHED TO THE MOTOROLA REPRESENTATIVE WITHIN 5 DAYS OF THE COMPLETION OF THE PROJECT. THESE DRAWINGS SHALL ALSO SHOW THE FOLLOWING:

•MODIFICATIONS TO SITE LAYOUT.

•GROUNDING SYSTEM LAYOUT.

•UNDERGROUND FUEL LINE RUN.

•UNDERGROUND TELCO CABLE RUN.

•UNDERGROUND ELECTRICAL RUN.

WHERE THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING THE SITE EQUIPMENT ROOM. ISOLATION TRANSFORMER. GENERATOR, ETC.) THAT REQUIRES PERIODIC MAINTENANCE, THE CONTRACTOR SHALL INCLUDE ALL OPERATION AND MAINTENANCE MANUALS AND ALL AS-BUILT DRAWINGS WHICH FULLY DESCRIBE THE ACTUAL INSTALLED EQUIPMENT.

1.17. TEST PROCEDURES AND RESULTS

CONTRACTOR WILL CONTRACT WITH A THIRD PARTY "INDEPENDENT" TESTING FIRM TO PERFORM & SUBMIT THE RESULTS OF ALL TESTS REQUIRED BY THE PROJECT SPECIFICATIONS AND DRAWINGS THAT FALL WITHIN THE SCOPE OF WORK. THESE RESULTS SHALL BE SUBMITTED TO THE DESIGNATED MOTOROLA REPRESENTATIVE. IN GENERAL, THE "INDEPENDENT" TESTING FIRM SHALL SUBMIT THE FOLLOWING TEST RESULTS:

• MIX DESIGN/CONCRETE COMPRESSION TEST FOR ALL CONCRETE WORK.

• FREQUENCY DOMAIN REFLECTOMETER (FDR) WITH PRECISION LOAD / SWEEP TEST FOR ANTENNA AND TRANSMISSION LINE INSTALLATION WORK. ALL SWEEP AND TEST MUST BE WITHIN THE GUIDELINES OUTLINED IN MOTOROLA MOP.

• FUEL LINE LEAKAGE TEST FOR FUEL TANK AND PIPING INSTALLATION WORK.

• SLUMP TEST FOR CONCRETE WORK.

• GROUNDING RESISTANCE TEST FOR GROUNDING WORK.

• STRUCTURAL STEEL FABRICATION DRAWINGS.

• STRUCTURAL (TOWER) STEEL MATERIALS, FINISH, ASSEMBLY, AND PROPER ASSEMBLY AND INSTALLATION OF ANTENNAS AND TRANSMISSION LINES. ("THIRD PARTY CLIMB" AND REPORT INCLUDING PHOTO DOCUMENTATION)

• ANY OTHER TEST THAT MAY BE REQUIRED.

1.18. CONTRACT CLOSEOUT – IN ACCORDANCE WITH MOTOROLA’S SUBCONTRACT AGREEMENT TERMS AND CONDITIONS

THE MOTOROLA REPRESENTATIVE WILL PROVIDE A CERTIFICATE OF COMPLETION AND APPROVE FINAL PAYMENT WHEN ALL PUNCH-LIST ITEMS HAVE BEEN CORRECTED, RECORD DRAWINGS SUBMITTED, AND ALL SYSTEMS ARE ACCEPTABLE. THE CONTRACTOR MUST ALSO RECEIVE A CERTIFICATE OF COMPLETION FROM THE MUNICIPALITY. AFTER FINAL PAYMENT, CONTRACTOR WILL SIGN A RELEASE OF LIEN.

1.19. WARRANTY

ALL WORK PERFORMED BY THE CONTRACTOR IN COMPLETING THE SCOPE IDENTIFIED ON THE DRAWINGS SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL COMPLETION OF THE PROJECT. THIS GUARANTEE SHALL COVER ALL MATERIALS, EQUIPMENT OR WORKMANSHIP WHICH IN THE OPINION OF MOTOROLA IS RENDERED DEFECTIVE OR INFERIOR OR NOT IN ACCORDANCE WITH THE TERMS OF THE CONTRACT DURING THE GUARANTEE PERIOD. IF, WITHIN THE GUARANTEE PERIOD, REPAIRS OR CHANGES ARE REQUIRED TO CORRECT THE GUARANTEE WORK. THEN UPON RECEIPT OF NOTICE, THE CONTRACTOR SHALL PROMPTLY AND WITHOUT EXPENSE TO MOTOROLA OR THE OWNER, PROCEED TO:

• PLACE IN SATISFACTORY CONDITION ALL OF SUCH GUARANTEED WORK AND CORRECT ALL DEFECTS THEREIN.

• MAKE GOOD ALL DAMAGES TO THE STRUCTURE OR SITE OR EQUIPMENT OR CONTENTS THEREOF, WHICH, IN THE OPINION OF THE MOTOROLA REPRESENTATIVE, IS THE RESULT OF THE USE OF MATERIALS, EQUIPMENT, OR WORKMANSHIP WHICH ARE INFERIOR, DEFECTIVE, OR NOT IN ACCORDANCE WITH THE TERMS OF THE CONTRACT.

• MAKE GOOD ANY WORK, MATERIALS OR EQUIPMENT AND ADJACENT STRUCTURES DISTURBED IN FULFILLING THE GUARANTEE.

1.20. RELATED DOCUMENTS

CONTRACTOR SHALL BECOME FAMILIAR WITH THE INFORMATION AND REQUIREMENTS CONTAINED IN THE FOLLOWING DOCUMENTS RELATED TO THE PROJECT:

A. TOWER AND TOWER FOUNDATION DRAWINGS BY THE MANUFACTURER.

B. R-56 STANDARDS AND GUIDELINES FOR COMMUNICATIONS SITES BY MOTOROLA.

C. ALL OTHER PERTINENT DOCUMENTS.

Abbreviations and Symbols

A/C	AIR CONDITIONING	N	NORTH
ADJ	ADJUSTABLE	N/A	NOT APPLICABLE
AFF	ABOVE FINISH FLOOR	NIC	NOT IN CONTRACT
APPROX	APPROXIMATELY	NTS	NOT TO SCALE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS		
AWG	AMERICAN WIRE GAUGE	O/C,O.C.	ON CENTER
		OD	OUTSIDE DIAMETER
		OPG	OPENING
		OPP	OPPOSITE
BLDG	BUILDING		
BLK	BLOCK		
BMR	BASE MOBILE RADIO	PLYWD	PLYWOOD
B/S	BUILDING STANDARD	PR	PAIR
		PROJ	PROJECT
		PROP	PROPERTY
		PT	PRESSURE TREATED
CLG	CEILING		
CLR	CLEAR		
CND,C	CONDUIT		
CONC	CONCRETE	REQ'D	REQUIRED
CONST	CONSTRUCTION	RM	ROOM
CONT	CONTINUOUS	RO	ROUGH OPENING
DBL	DOUBLE	S	SOUTH
DIA,ø	DIAMETER	SHT	SHEET
DIAG	DIAGONAL	SIM	SIMILAR
DIM	DIMENSION	SPEC	SPECIFICATION
DN	DOWN	SQ	SQUARE
DTL,DETL	DETAIL	SS	STAINLESS STEEL
DWG	DRAWING	STL	STEEL
		STRUCT	STRUCTURAL
		SUSP	SUSPENDED
		SV	SHEET VINYL
E	EAST		
EA	EACH	THRU	THROUGH
EL,ELEV	ELEVATION	TNND	TINNED
ELECT	ELECTRICAL	TOC	TOP OF CONCRETE
EQ	EQUAL	TOM	TOP OF MASONRY
EQUIP	EQUIPMENT	TYP	TYPICAL
EW	EACH WAY		
EXIST	EXISTING		
EXT	EXTERIOR		
		UBC	UNIFORM BUILDING CODE
		UNO	UNLESS NOTED OTHERWISE
FIN	FINISH		
FLUOR	FLUORESCENT		
FLR	FLOOR		
FT	FOOT		
		VERT	VERTICAL
		VIF	VERIFY IN FIELD
		VT	VINYL TILE
GA	GAUGE	W	WEST
GALV	GALVANIZE(D)	W/	WITH
GC	GENERAL CONTRACTOR	WIN	WINDOW
GRND	GROUND	W/O	WITHOUT
GWB	GYP SUM WALL BOARD	WP	WATERPROOF
GYP BD	GYP SUM BOARD		
HARD'WD	HARDWOOD	&	ANGLE
HORIZ	HORIZONTAL	@	AND
HR	HOUR	R	CENTER LINE
HT	HEIGHT	#	PROPERTY LINE
HVAC	HEATING, VENTING & AIR CONDITIONING		AT
			NUMBER
ID	INSIDE DIA.		
IN	INCH		
INFO	INFORMATION		
INSUL.	INSULATION		
INT	INTERIOR		
LB(S)	POUND(S)		
MAX	MAXIMUM		
MECH	MECHANICAL		
MET,MTL	METAL		
MFR	MANUFACTURER		
MGR	MANAGER		
MIN	MINIMUM		
MISC	MISCELLANEOUS		

1

REVISION

1

KEY NOTE

100

ROOM NUMBER

22

KEYED NOTE

1

DETAIL REFERENCE

1

ELEVATION REFERENCE

1

SECTION REFERENCE

GENERAL NOTES AND LEGEND

HILLCREST WT
909 E HILLCREST AVE
INDIANOLA, IA 50125

GN-2

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

10-20-20

EXP 12/31/2021

LICENSED PROFESSIONAL ENGINEER

GREGORY J. SUHR

18098

IOWA

10-20-20

MISSION 1 COMMUNICATIONS

6202 Constitution Drive, Suite C
Fort Wayne, IN 46804

PYRAMID Network Services, LLC

MOTOROLA SOLUTIONS

Warren County, Indiana

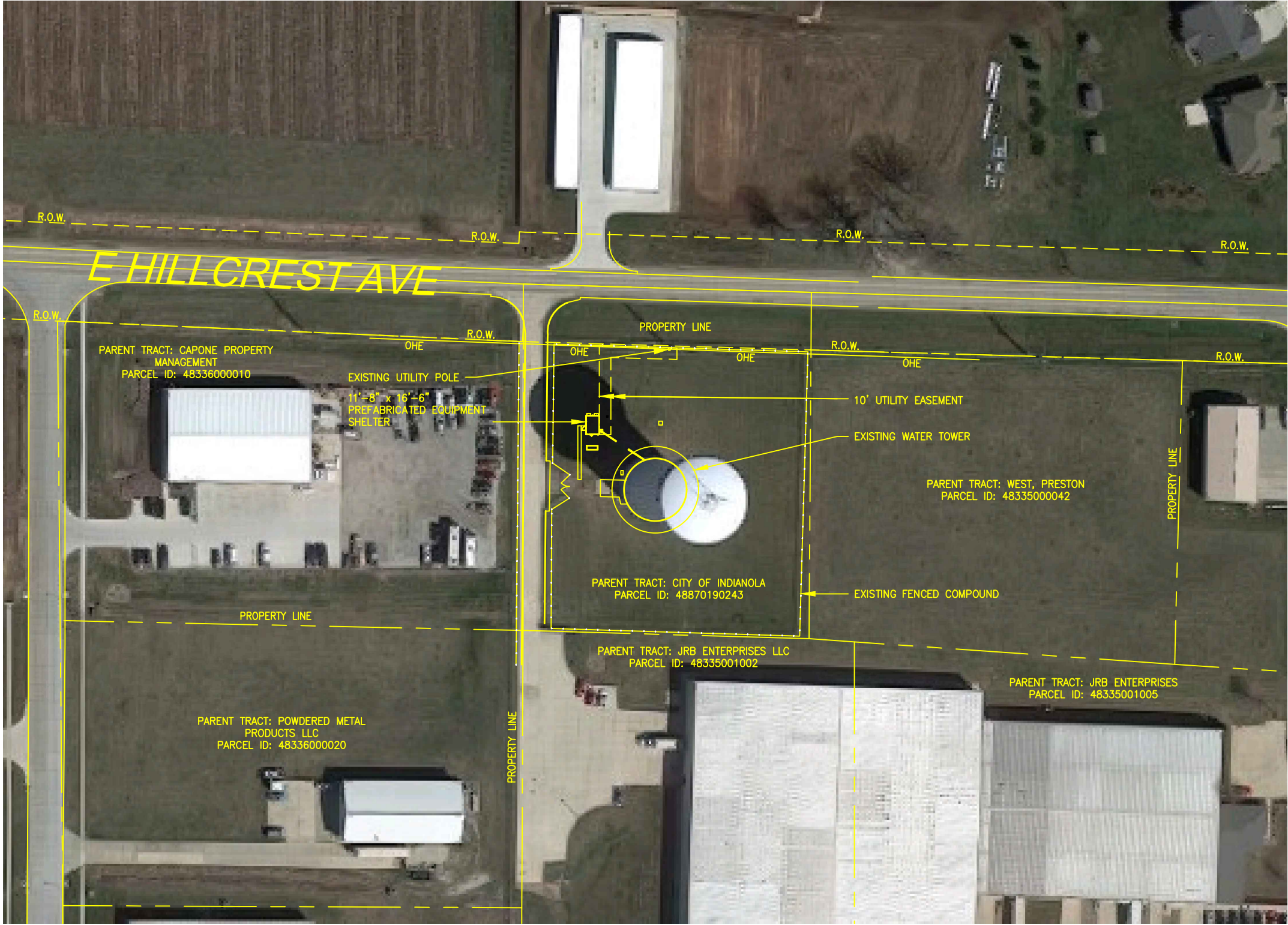
GENERAL NOTES AND LEGEND

HILLCREST WT
909 E HILLCREST AVE
INDIANOLA, IA 50125

GN-2

REVISIONS

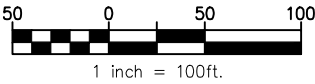
Q	10-20-20	PERMIT CDs	AML	MJA	
H	10-09-20	PRELIMINARY CDs	ZDE	MJA	
G	09-03-20	PRELIMINARY CDs	ZDE	MJA	
F	08-13-20	PRELIMINARY CDs	AML	MJA	
E	08-03-20	PRELIMINARY CDs	AML	MJA	
NO.	DATE		BY	CHK	APP'D



- GENERAL NOTES:
1. PROPERTY OFFSETS ARE APPROXIMATE. FINAL LOCATION OF COMPOUND TO BE DEVELOPED FROM TOWER CL
 2. THE LOCATION, SIZE & TYPE OF MATERIAL OF EXISTING UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING THE SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS & SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION & ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES & THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS & SERVICES SHALL BE RESTORED TO SERVICE AT ONCE & PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.
 3. ALL PROPOSED CONSTRUCTION ACTIVITIES & MODIFICATIONS SHALL COMPLY WITH MOTOROLA R-56 STANDARDS, MOST CURRENT REVISION.

ANY DISCREPANCIES BETWEEN THIS DRAWING PACKAGE AND EXISTING FIELD CONDITIONS MUST BE REPORTED TO THE ENGINEER OF RECORD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

Site Location Plan



NO.	DATE	REVISIONS	BY	CHK	APP'D
O	10-20-20	PERMIT CDs	AML	MJA	
H	10-09-20	PRELIMINARY CDs	ZDE	MJA	
G	09-03-20	PRELIMINARY CDs	ZDE	MJA	
F	08-13-20	PRELIMINARY CDs	AML	MJA	
E	08-03-20	PRELIMINARY CDs	AML	MJA	

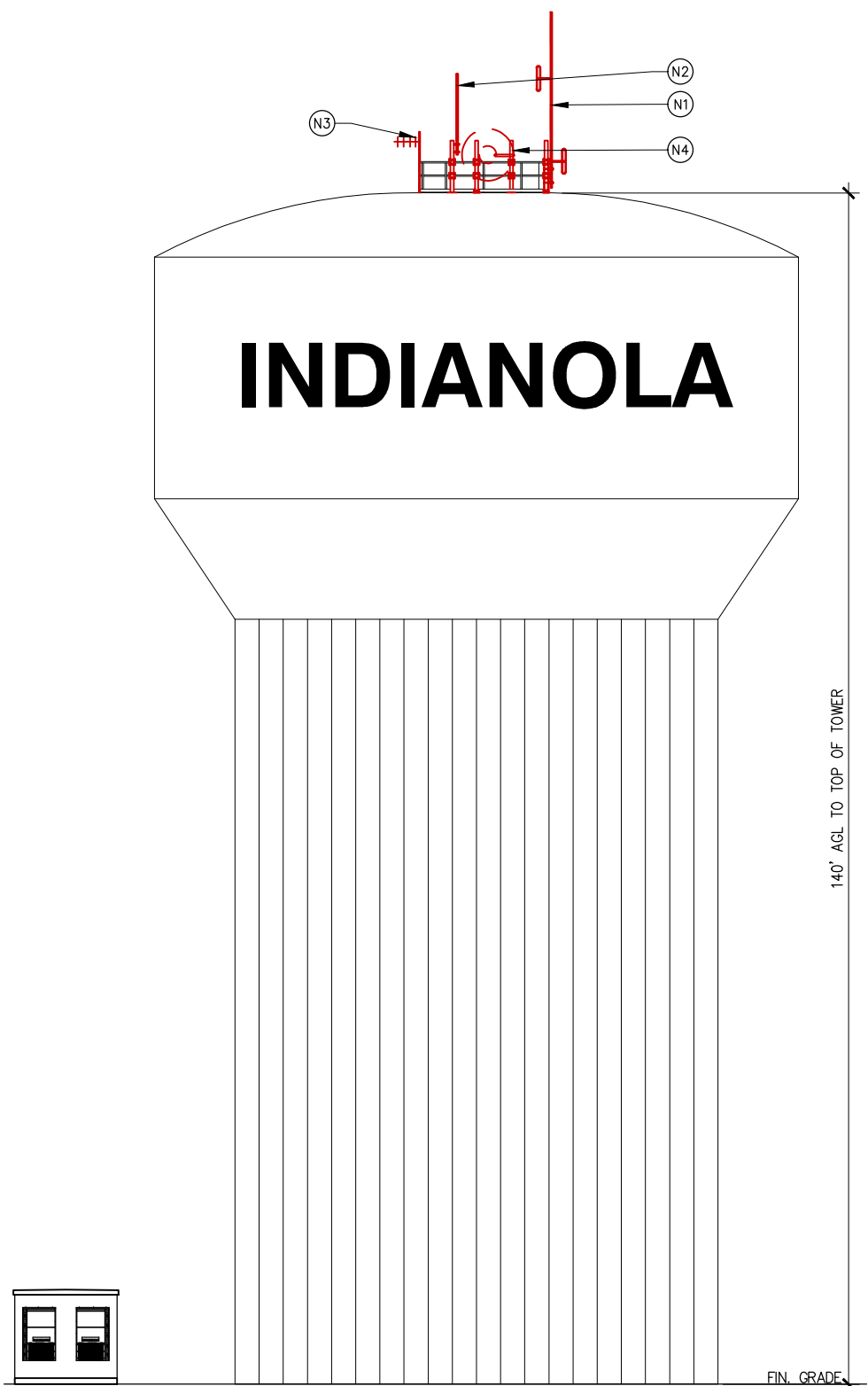


SITE LOCATION PLAN		C-1
HILLCREST WT 909 E HILLCREST AVE INDIANOLA, IA 50125		

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

NOTE: EXISTING ANTENNAS NOT SHOWN FOR CLARITY



1 Tower Elevation
NOT TO SCALE

ANTENNA INFORMATION										FEEDLINE INFORMATION				
ANTENNA ID	MANUFACTURER	MODEL	TYPE	LENGTH	BOTTOM ELEV	RAD CENTER	TOP ELEV.	AZIMUTH	QTY.	TYPE	MANUFACTURER	MODEL	SIZE	QTY.
E1	WADE ANTENNA	YAGI-J-105-HI	YAGI	8.7'	144.0'	148.3'	152.7'	N/A	2	-	-	-	-	-
E2	WADE ANTENNA	YAGI J-55-LO	YAGI	7.8'	144.0'	147.9'	151.8'	N/A	1	-	-	-	-	-
E3	WADE ANTENNA	YAGI-J-275-D	YAGI	6.4'	144.0'	147.2'	150.4'	N/A	4	-	-	-	-	-
N1	RFI	BA-40-41-DIN	OMNI	20.6'	138.6'	148.9'	159.2'	N/A	1	COAX	COMMSCOPE	AVA5-50	7/8"	1
N2	DB SPECTRA	DS7C09P36U-D	TX	14.2'	142.7'	149.8'	156.9'	N/A	1	COAX	COMMSCOPE	AVA6-50	1-1/4"	1
N3	RFI	CC807-08	OMNI	9.5'	141.5'	146.3'	151.0'	N/A	1	COAX	COMMSCOPE	CNT-400	3/8"	1
N4	RFI	SB6-W60 C	MW	6.0'	138.5'	141.7'	144.7'	194.2°	1	COAX	COMMSCOPE	AVA5-50	7/8"	2
REFER TO TOWER MANUFACTURER DRAWINGS FOR BEACON AND OBSTRUCTION LIGHTING HEIGHTS														

Antenna/Appurtenance Location Chart

E = EXISTING
N = NEW
F = FUTURE

GENERAL NOTES:

- MISSION 1 COMMUNICATIONS HAS NOT COMPLETED A STRUCTURAL ANALYSIS FOR THE EXISTING OR PROPOSED LOADING OF ANY STRUCTURES AT THIS TIME. FINAL STRUCTURAL ANALYSIS TO BE COMPLETED BY OTHERS PRIOR TO CONSTRUCTION ACTIVITIES COMMENCE.
- ALL VERTICAL TRANSMISSION LINE RUNS FROM THE ANTENNAS SHALL BE GROUNDED NEAR THE TOP & BOTTOM OF THE TOWER (BEFORE THE CABLE MAKES HORIZONTAL TRANSITION & NEAR ENTRY PORT ON THE SHELTER). ADDITIONAL TRANSMISSION LINE GROUND KITS SHALL BE INSTALLED AS NEEDED TO LIMIT THE DISTANCE BETWEEN GROUND KITS TO 75 FEET.
- THE CONTRACTOR SHALL CONDUCT A TDR SWEEP TEST ON ALL THE NEWLY INSTALLED TRANSMISSION LINES TO DETERMINE THE CABLE CONDUCTOR RESISTANCE, CABLE INSERTION LOSS, REFLECTION & STIMULUS RESPONSE MEASUREMENTS. RESULTS TO BE SUBMITTED TO MOTOROLA.
- DRIP LOOPS SHALL BE INCORPORATED IN CABLE RUNS TO PREVENT WATER FROM TRICKLING DOWN THE LINES INTO THE SHELTER.
- ALL TRANSMISSION LINES SHALL BE MARKED WITH APPROPRIATE COLOR TAPE BANDS (ONE INCH WIDE COLOR TAPE) FOR IDENTIFICATION NEAR THE ANTENNA. JUST BEFORE ENTERING THE SHELTER AS WELL AS INSIDE THE SHELTER, BEFORE CONNECTING TO THE SURGE SUPPRESSORS. SEE EQUIPMENT & COAXIAL CABLE SCHEDULE FOR COLOR CODING SCHEME.

EXP 12/31/2021

LICENSED PROFESSIONAL ENGINEER

GREGORY J. SUHR

18098

IOWA

10-20-20

O	10-20-20	PERMIT CDs	AML	MJA	
H	10-09-20	PRELIMINARY CDs	ZDE	MJA	
G	09-03-20	PRELIMINARY CDs	ZDE	MJA	
F	08-13-20	PRELIMINARY CDs	AML	MJA	
E	08-03-20	PRELIMINARY CDs	AML	MJA	
NO.	DATE	REVISIONS	BY	CHK	APP'D



MISSION 1
COMMUNICATIONS

6202 Constitution Drive, Suite C
Fort Wayne, IN 46804







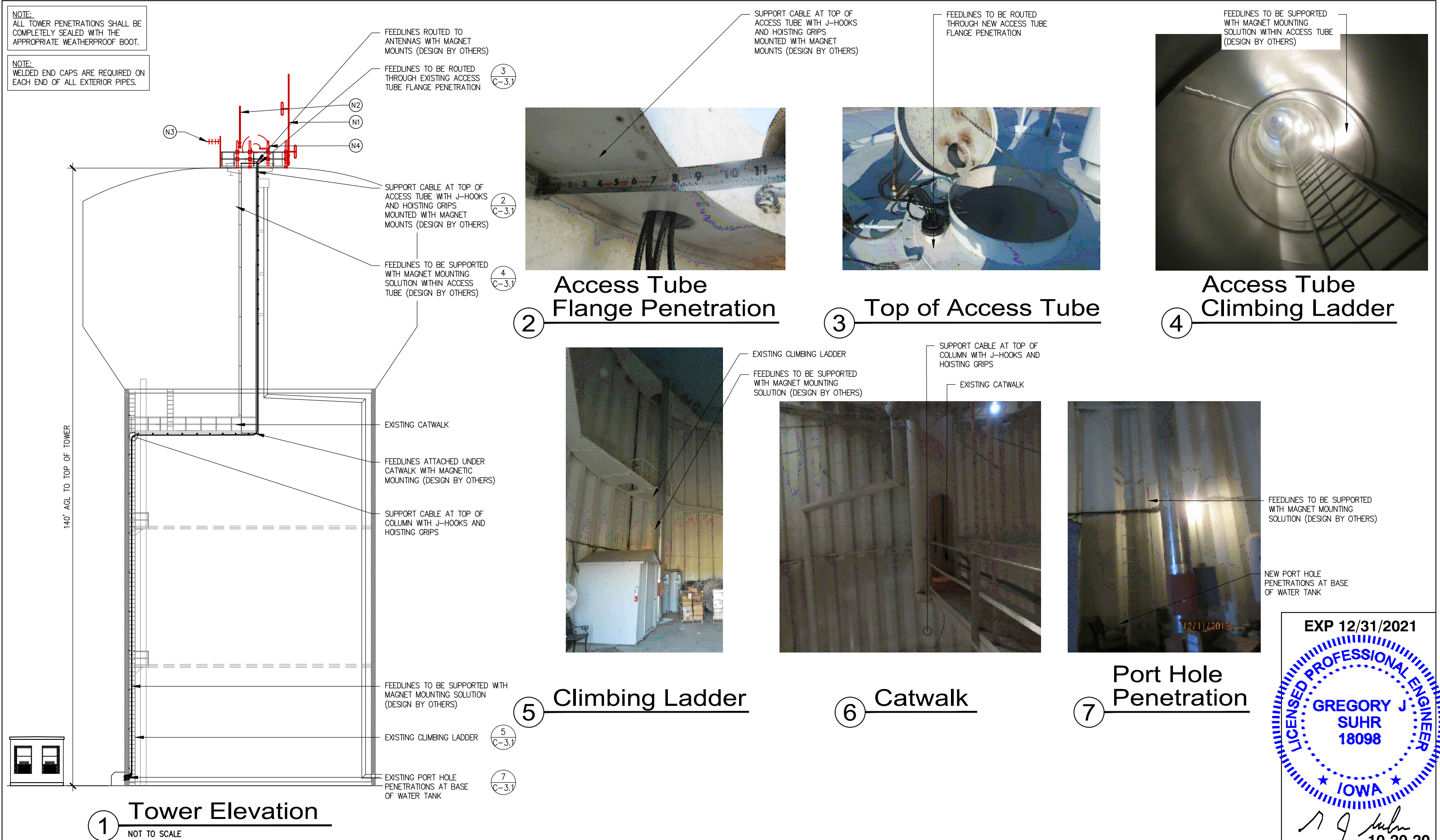
TOWER ELEVATION AND ANTENNA INFORMATION

HILLCREST WT
909 E HILLCREST AVE
INDIANOLA, IA 50125

C-3

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.



O	10-20-20	PERMIT CDs	AML	MJA	
H	10-09-20	PRELIMINARY CDs	ZDE	MJA	
G	09-03-20	PRELIMINARY CDs	ZDE	MJA	
F	08-13-20	PRELIMINARY CDs	AML	MJA	
E	08-03-20	PRELIMINARY CDs	AML	MJA	
NO.	DATE	REVISIONS	BY	CHK	APP'D


MISSION 1
COMMUNICATIONS
6202 Constitution Drive, Suite C
Fort Wayne, IN 46804


PYRAMID
Network Services, LLC


MOTOROLA
SOLUTIONS


Warren County
Indiana

FEEDLINE CABLE ROUTING

HILLCREST WT
909 E HILLCREST AVE
INDIANOLA, IA 50125

C-3.1

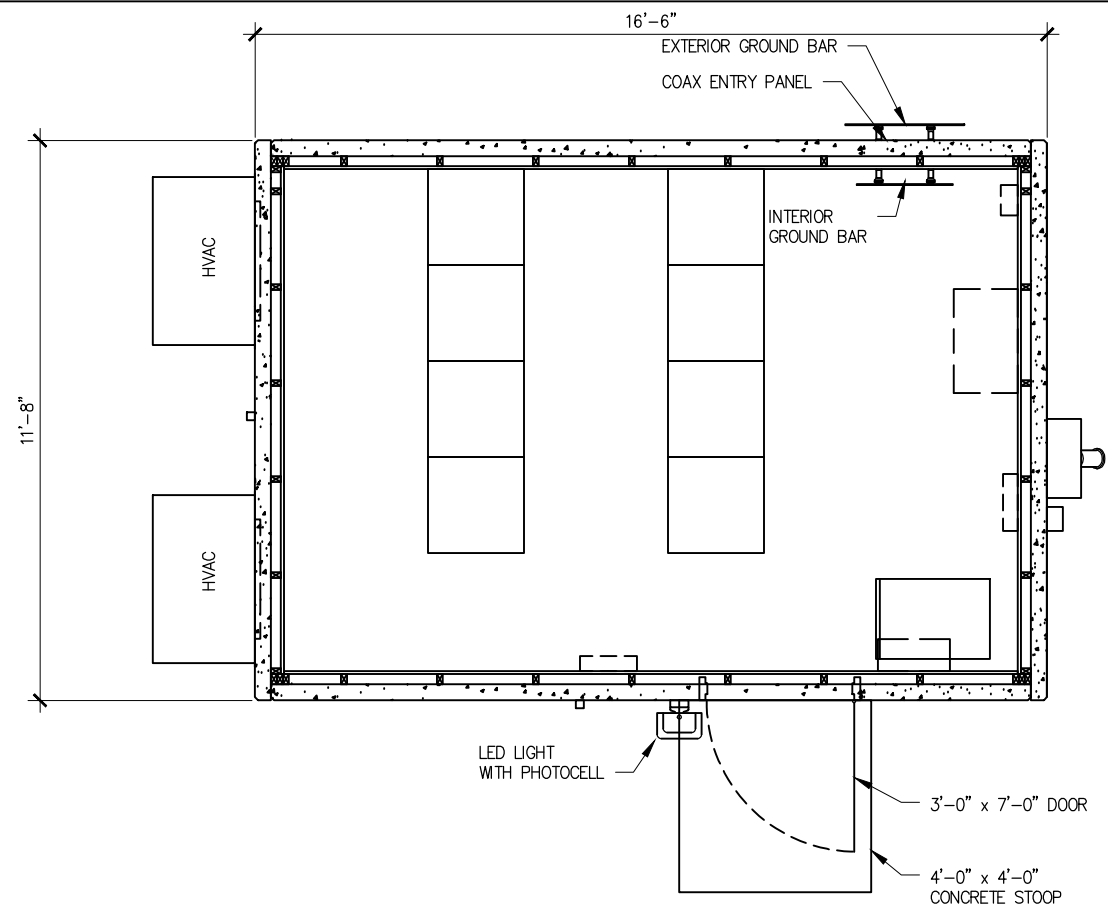
EXP 12/31/2021


GREGORY J.
SUHR
18098
IOWA

10-20-20

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

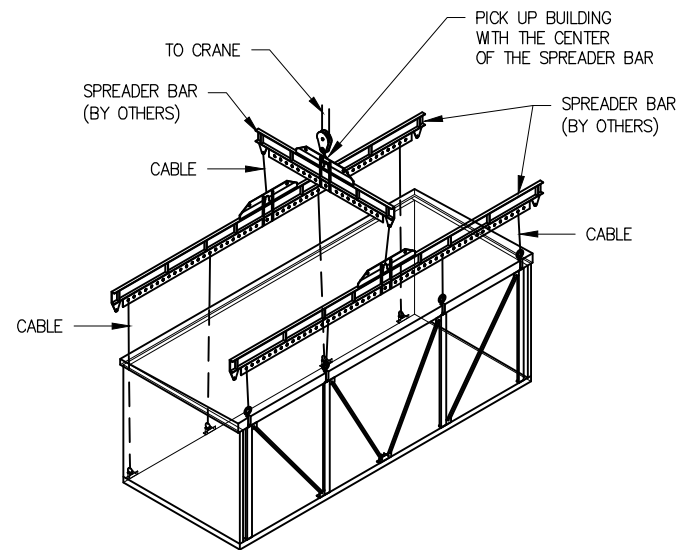
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.



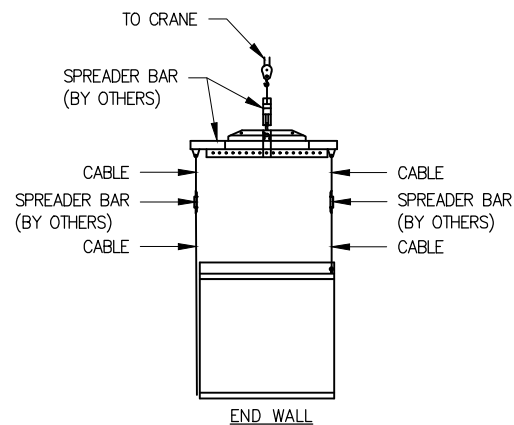
NOTE:
GENERAL CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL EXTERIOR ATTACHMENTS FOR GENERATOR (MUFFLER, VENTS, ETC.), DOOR CANOPIES, AND SECURITY LIGHTS.

1 Equipment Shelter Plan

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



ALL BUILDINGS MUST BE LIFTED FROM ALL LIFTING POINTS (DOUBLE WIDE)



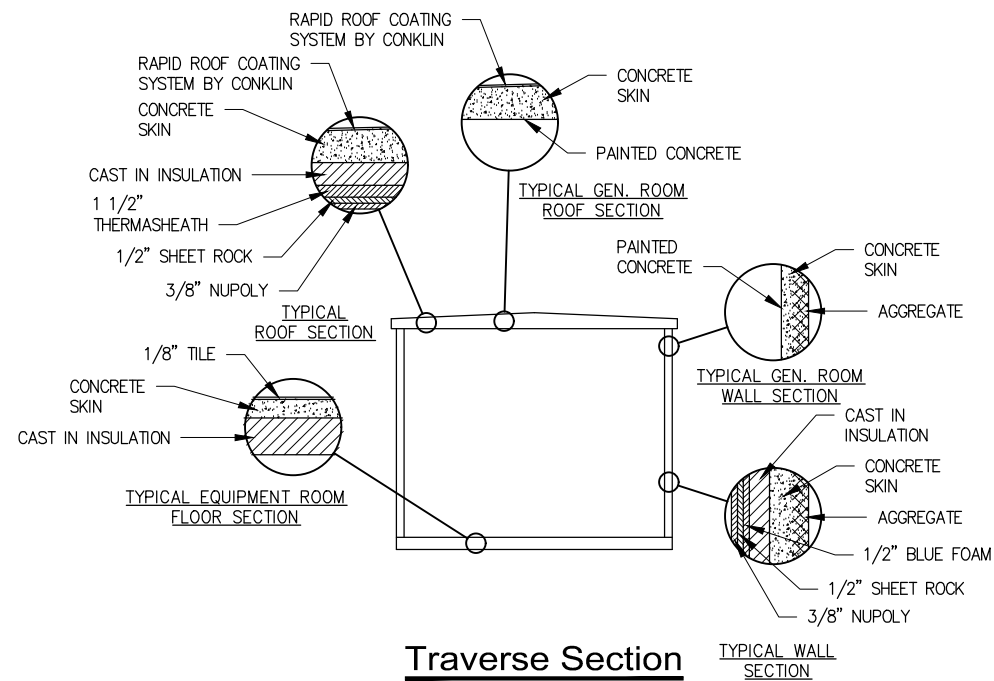
ALL BUILDINGS MUST BE LIFTED FROM ALL LIFTING POINTS

Equipment Shelter Set Up Procedure

1. INSPECT BUILDING UPON DELIVERY FOR DAMAGE DURING TRANSPORTATION.
2. REMOVE LIFTING BRACKETS FROM SHELTER.
3. ATTACH TIE DOWN BRACKETS TO SHELTER AND FOUNDATION USING ANCHOR BOLTS.
4. INSTALL AND CAULK ALL ACCESSORIES (EXTERIOR LIGHTS, CANOPIES, GENERATOR EXHAUST AND VENT PIPES ETC.)
5. INSPECT ROOF AND ROOF EDGES FOR DAMAGE CAUSED BY OFFLOAD AND REPAIR IF NEEDED.
6. INSTALL BACKER ROD AND CAULK EXTERIOR WALLS AND ROOF.
7. INSTALL FLASHING ON ALL INTERIOR MOD. LINES.
8. MAKE ALL CONDUIT AND CABLE TRAY CROSSOVERS.
9. CLEAN INTERIOR AND COMPLETE ANY TOUCH UP PAINTING AS NEEDED.
10. CHECK DOOR ALARM FOR PROPER OPERATION.
11. CHECK LIGHTING AND AIR CONDITIONING FOR PROPER OPERATION.
12. INSPECT COMPLETE BUILDING COSMETICS.

Offload Notes

1. BUILDING SHALL BE OFFLOADED LEVEL.
2. ALL CABLES, SHACKLING, SPREADER BARS, ETC. SHALL BE DESIGNED AND SUPPLIED BY OTHERS.
3. ALL LIFTING POINTS SHALL BE USED.
4. 1 1/8" MAXIMUM DIAMETER FOR SHACKLES.
5. REMOVE BRACKET AFTER PLACEMENT OF SHELTER AND INSTALL ANCHOR TIE-DOWN PLATES (SHIPPED LOOSE INSIDE SHELTER) AT EACH LOCATION.
6. OFFLOAD BUILDING WITH CABLES IN VERTICAL POSITION. ANGLED POSITION CABLES ARE NOT ACCEPTABLE.



Traverse Section

Q	10-20-20	PERMIT CDs	AML	MJA	
H	10-09-20	PRELIMINARY CDs	ZDE	MJA	
G	09-03-20	PRELIMINARY CDs	ZDE	MJA	
F	08-13-20	PRELIMINARY CDs	AML	MJA	
E	08-03-20	PRELIMINARY CDs	AML	MJA	
NO.	DATE	REVISIONS	BY	CHK	APP'D



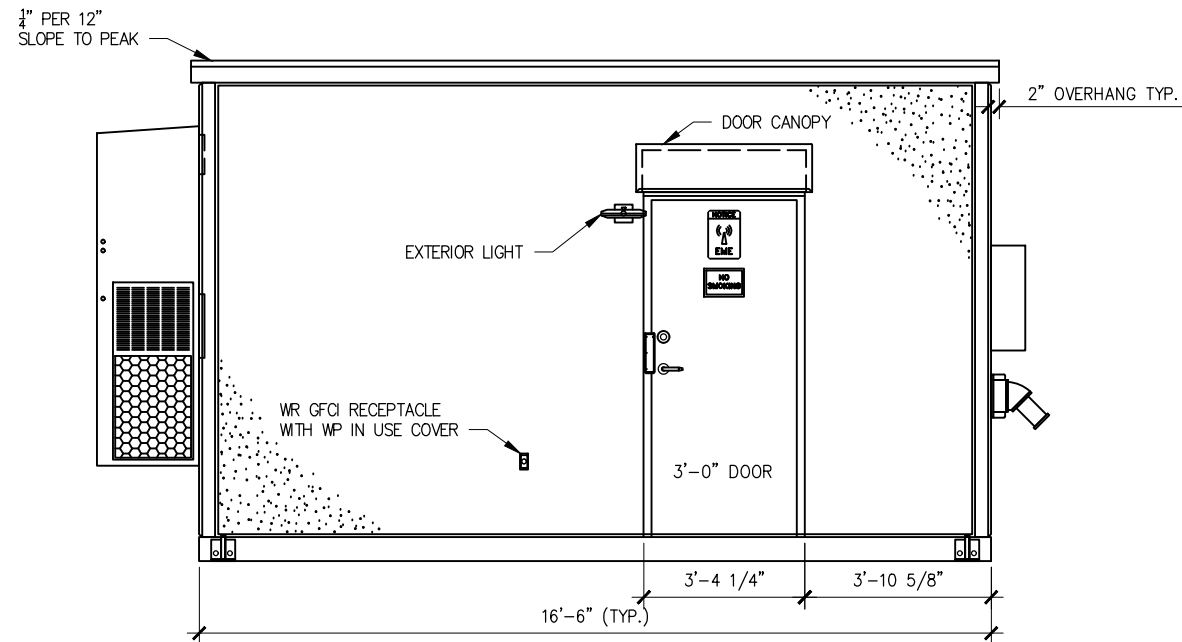
EQUIPMENT SHELTER PLAN

HILLCREST WT
909 E HILLCREST AVE
INDIANOLA, IA 50125

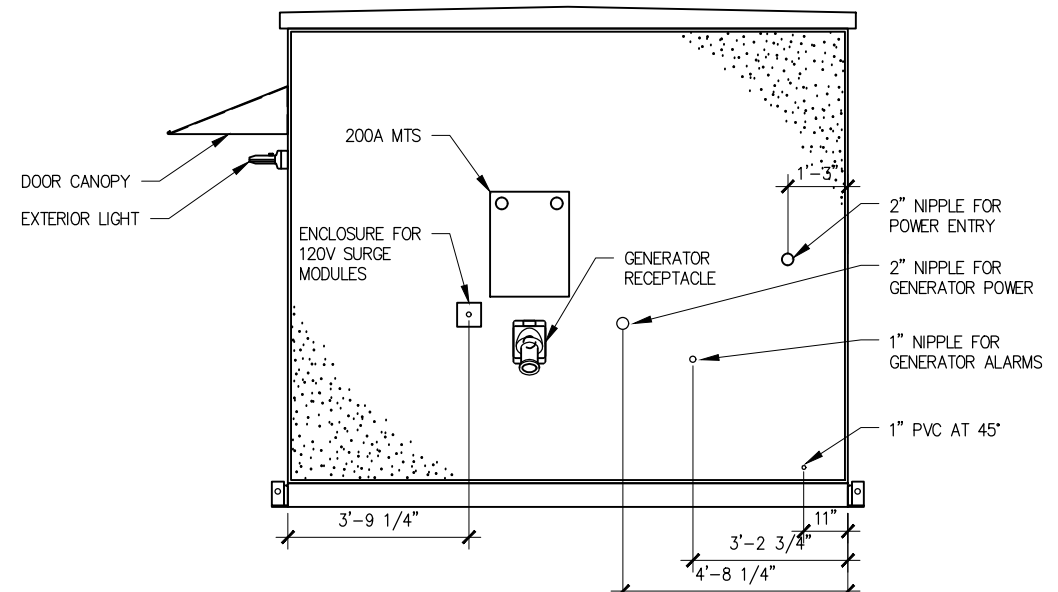
C-4

FOR REFERENCE ONLY

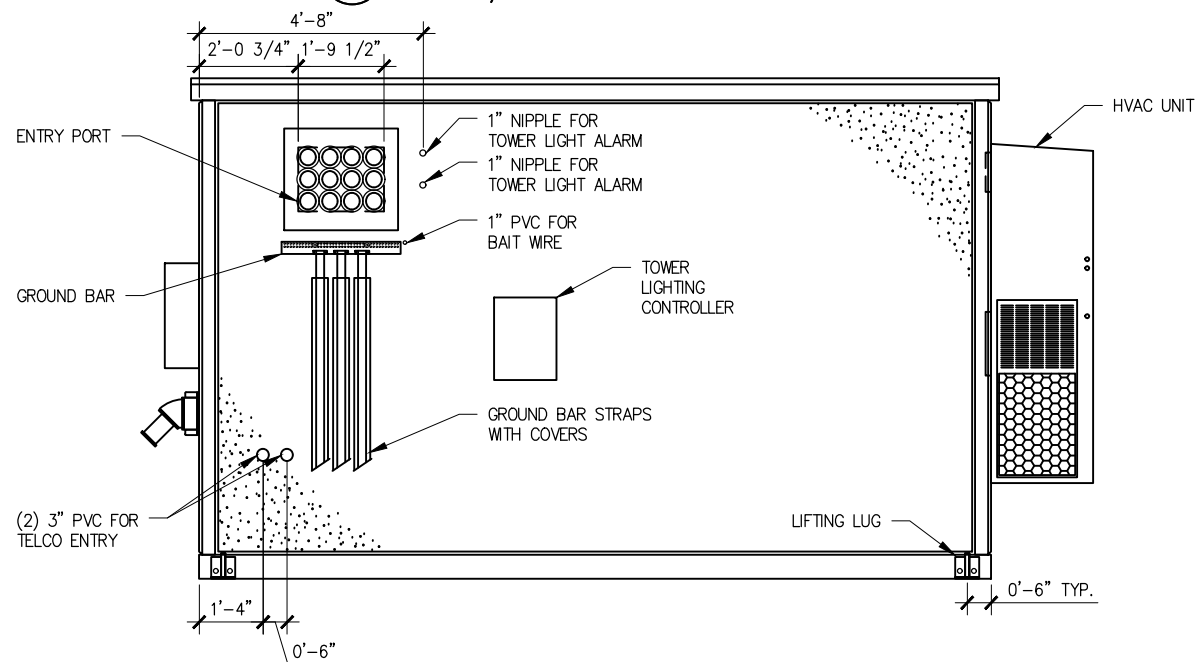
THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.



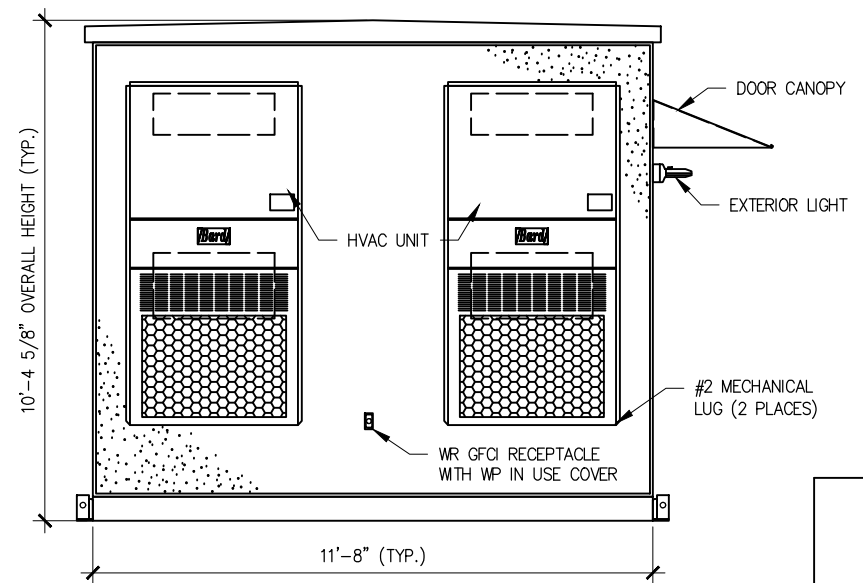
1 Front Wall Elevation
SCALE: 1/4" = 1'-0"



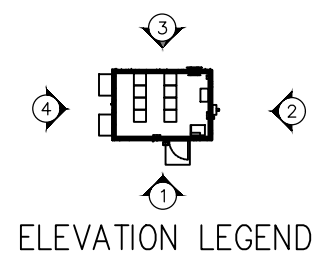
2 End Wall Elevation
SCALE: 1/4" = 1'-0"



3 Rear Wall Elevation
SCALE: 1/4" = 1'-0"



4 End Wall Elevation
SCALE: 1/4" = 1'-0"



NOTES:

INFORMATION CONTAINED IN THESE DRAWINGS REFERRING TO THE PROPOSED EQUIPMENT SHELTER WERE OBTAINED FROM STANDARD EQUIPMENT SHELTER DRAWINGS PROVIDED BY MOTOROLA & PRODUCED BY THE SHELTER MANUFACTURER. THE INFORMATION CONTAINED IN THESE PLANS SHOULD BE CONSIDERED AS A GUIDE & THE CONTRACTOR IS SPECIFICALLY DIRECTED TO OBTAIN & USE THE SPECIFIED SHELTER MANUFACTURER'S PLANS PROVIDED BY MOTOROLA SPECIFIC TO THIS SITE.

FOR REFERENCE ONLY

O	10-20-20	PERMIT CDs	AML	MJA	
H	10-09-20	PRELIMINARY CDs	ZDE	MJA	
G	09-03-20	PRELIMINARY CDs	ZDE	MJA	
F	08-13-20	PRELIMINARY CDs	AML	MJA	
E	08-03-20	PRELIMINARY CDs	AML	MJA	
NO.	DATE	REVISIONS	BY	CHK	APP'D



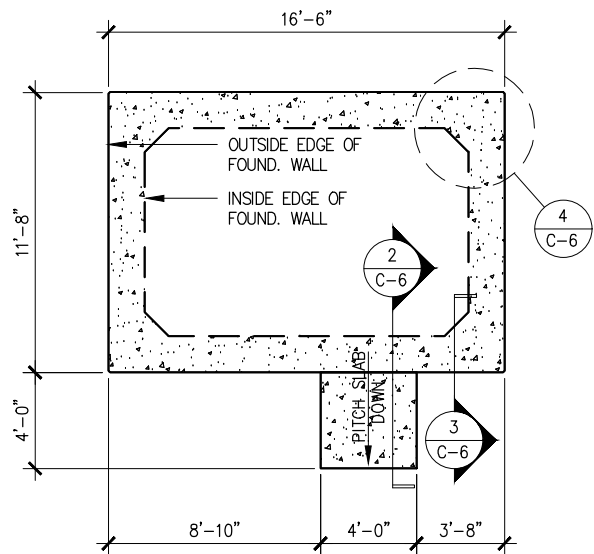
EQUIPMENT SHELTER ELEVATIONS

HILLCREST WT
909 E HILLCREST AVE
INDIANOLA, IA 50125

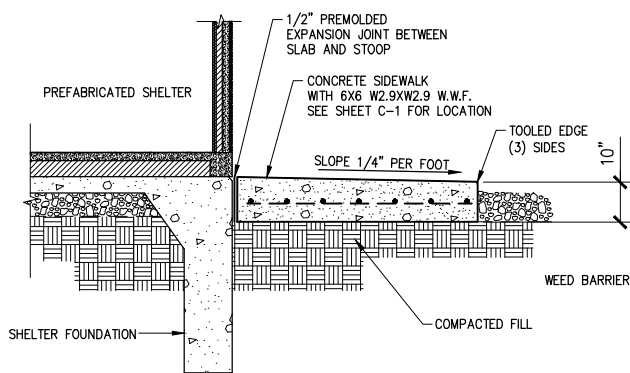
C-5

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

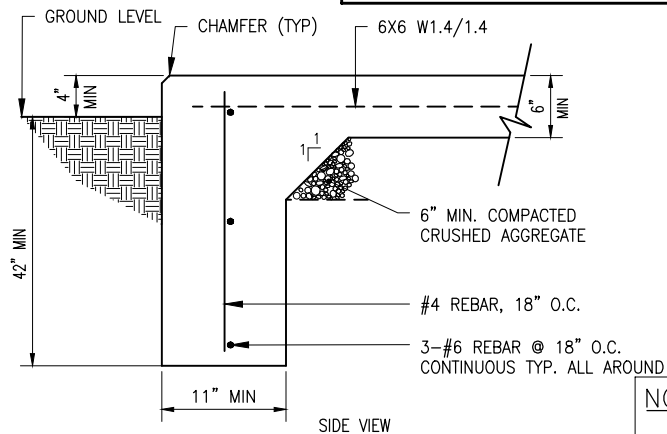


1 Shelter Foundation
SCALE: 1/8" = 1'-0"



2 Concrete Stoop
SCALE: 1/4" = 1'-0"

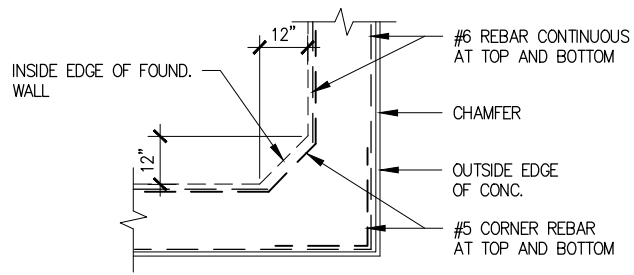
CONTRACTOR SHALL REMOVE ANY TOP SOIL AND ANY DELETERIOUS/UNSUITABLE SOILS AND REPLACE WITH ENGINEERED FILL. FILL SHOULD BE PLACED IN MAX. 8" LIFTS IN LOOSE THICKNESS, MOISTURE CONDITIONED TO WITHIN 2% OF THE OPTIMUM MOISTURE CONTENT TO A 95% DENSITY PER ASTM D1557 MODIFIED PROCTOR METHOD.



3 Foundation Section
NOT TO SCALE

NOTES:

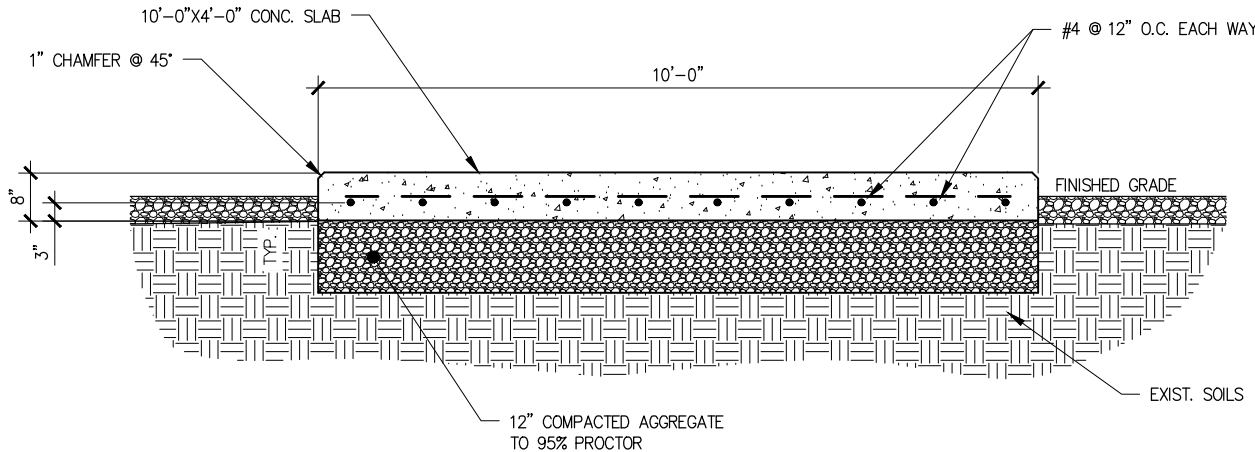
FOUNDATIONS AS DESIGNED ASSUME NORMAL SOILS - GEOTECHNICAL BORING RESULTS NOT PROVIDED AT TIME OF DESIGN, RESULTS OF THIS REPORT COULD ALTER THE FOUNDATION DESIGN - COORDINATE W/SOILS ENGINEER



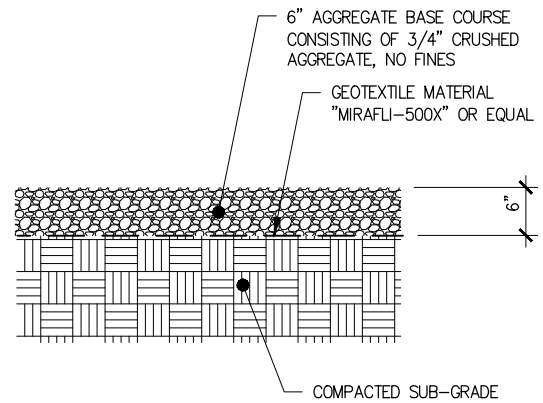
4 Corner Reinforcing
SCALE: 1/4" = 1'-0"

NOTES:

WHERE PERMISSIBLE BY THE LOCAL CODES, AS EPA APPROVED HERBICIDE SHALL BE APPLIED TO ALL AREAS PRIOR TO LAYING DOWN THE GEOTEXTILE FABRIC. THE RATE OF APPLICATION OF THIS HERBICIDE SHALL BE A MIN. OF 10 POUNDS OF PRODUCT PER ACRE, UNLESS OTHERWISE REQUIRED BY LOCAL CODES OR MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR SHALL CHECK THE LOCAL CODES PRIOR TO APPLYING DEFOLIANT. SUBSTANCE SHALL NOT BE APPLIED IF GROUND IS FROZEN OR THERE IS DANGER OR WEED KILLER BEING WASHED BEYOND THE INTENDED AREA.

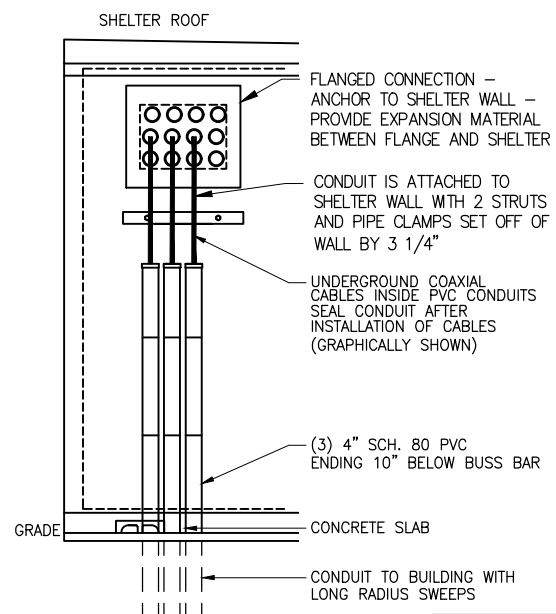


5 Generator Slab Detail
SCALE: 3/8" = 1'-0"



NOTE:
IT IS THE RESPONSIBILITY OF THE G.C. TO VERIFY THE STONE IS UNIFORMLY WHITE IN COLOR AFTER PLACEMENT

7 Aggregate Base
SCALE: 1/2" = 1'-0"



8 Conduit Detail
SCALE: 1/4" = 1'-0"

EXP 12/31/2021

LICENSED PROFESSIONAL ENGINEER

GREGORY J. SUHR
18098

IOWA

Gregory J. Suhr
10-20-20

NO.	DATE	REVISIONS	BY	CHK	APP'D
O	10-20-20	PERMIT CDs	AML	MJA	
H	10-09-20	PRELIMINARY CDs	ZDE	MJA	
G	09-03-20	PRELIMINARY CDs	ZDE	MJA	
F	08-13-20	PRELIMINARY CDs	AML	MJA	
E	08-03-20	PRELIMINARY CDs	AML	MJA	

MISSION 1 COMMUNICATIONS

6202 Constitution Drive, Suite C
Fort Wayne, IN 46804

PYRAMID Network Services, LLC

MOTOROLA SOLUTIONS

Warren County

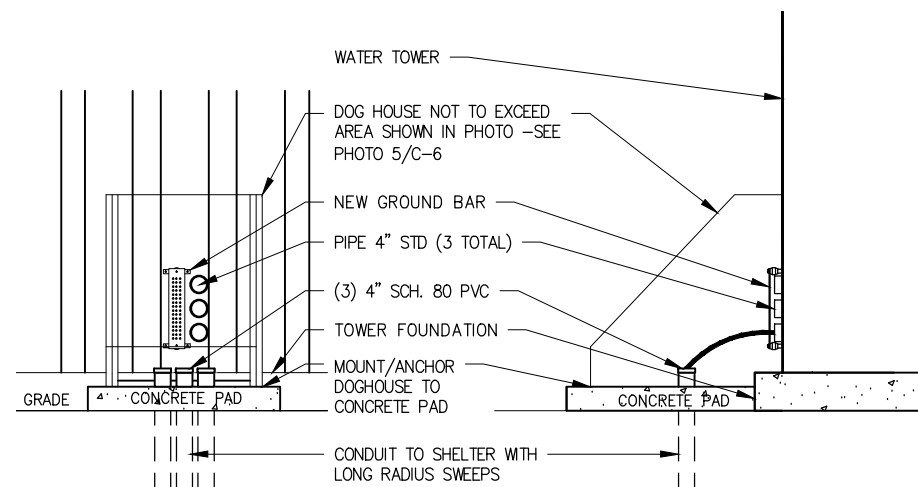
SITE CIVIL DETAILS

HILLCREST WT
909 E HILLCREST AVE
INDIANOLA, IA 50125

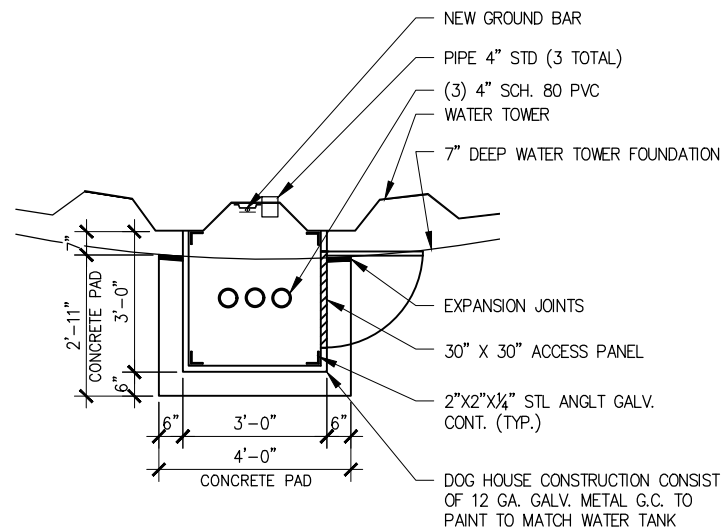
C-6

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

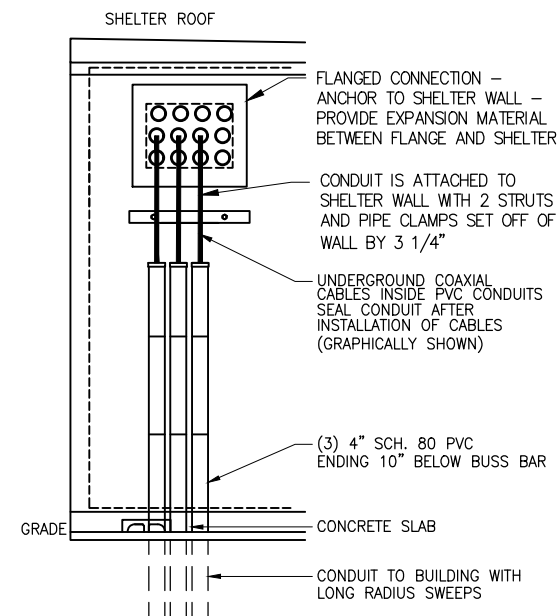
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.



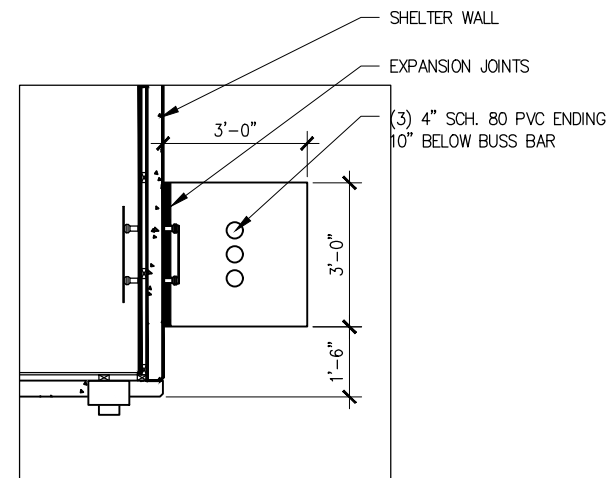
1 Dog House Detail at Water Tower
SCALE: 1/4" = 1'-0"



2 Dog House Plan at Water Tower
SCALE: 1/4" = 1'-0"



3 Conduit Detail at Shelter
SCALE: 1/4" = 1'-0"



3 Concrete Slab at Shelter
SCALE: 1/4" = 1'-0"



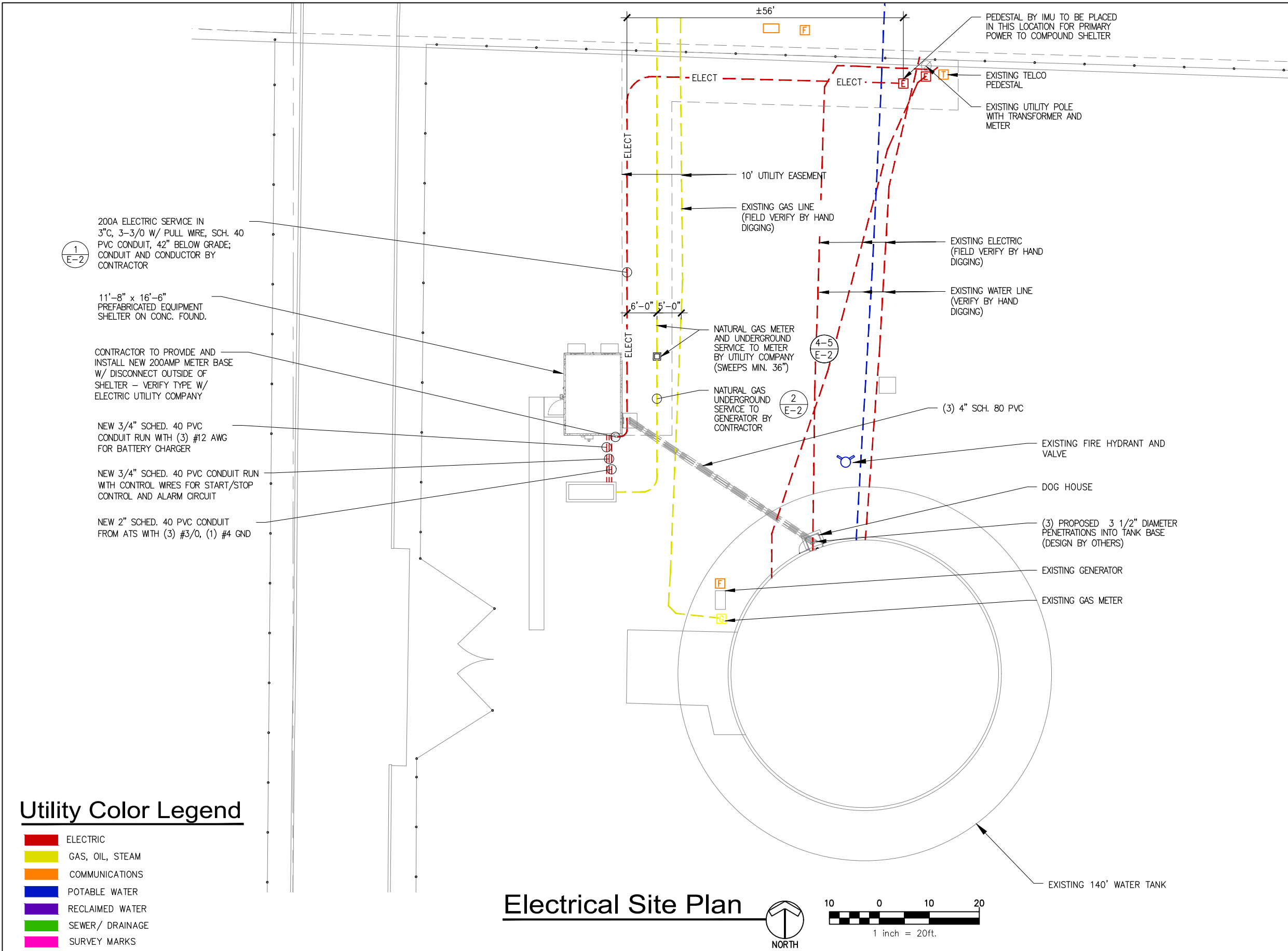
Q	10-20-20	PERMIT CDs	AML	MJA	
H	10-09-20	PRELIMINARY CDs	ZDE	MJA	
G	09-03-20	PRELIMINARY CDs	ZDE	MJA	
F	08-13-20	PRELIMINARY CDs	AML	MJA	
E	08-03-20	PRELIMINARY CDs	AML	MJA	
NO.	DATE	REVISIONS	BY	CHK	APP'D



SITE CIVIL DETAILS		C-7
HILLCREST WT 909 E HILLCREST AVE INDIANOLA, IA 50125		

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.



GENERAL NOTES:

1. THE LOCATION, SIZE & TYPE OF MATERIAL OF EXISTING UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING THE SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS & SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION & ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES & THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS & SERVICES SHALL BE RESTORED TO SERVICE AT ONCE & PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

2. NEW GROUNDING NOT SHOWN FOR CLARITY

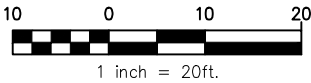
3. WARNING TAPE SHALL BE INSTALLED DIRECTLY ABOVE CONDUITS AT A DEPTH OF 12 INCHES BELOW FINISHED GRADE UNLESS NOTED OTHERWISE. TAPE COLOR SHALL BE AS SPECIFIED BELOW AND SHALL BEAR DESCRIPTION OF THE UTILITY.

G.C. RESPONSIBLE FOR PRE-CONSTRUCTION WALK WITH UTILITY PROVIDERS TO VERIFY REQUIREMENTS

Utility Color Legend

- ELECTRIC
- GAS, OIL, STEAM
- COMMUNICATIONS
- POTABLE WATER
- RECLAIMED WATER
- SEWER/ DRAINAGE
- SURVEY MARKS

Electrical Site Plan



O	10-20-20	PERMIT CDs	AML	MJA	
H	10-09-20	PRELIMINARY CDs	ZDE	MJA	
G	09-03-20	PRELIMINARY CDs	ZDE	MJA	
F	08-13-20	PRELIMINARY CDs	AML	MJA	
E	08-03-20	PRELIMINARY CDs	AML	MJA	
NO.	DATE	REVISIONS	BY	CHK	APP'D

MISSION 1
COMMUNICATIONS
6202 Constitution Drive, Suite C
Fort Wayne, IN 46804

PYRAMID
Network Services, LLC

MOTOROLA
SOLUTIONS

Warren County
Indiana

ELECTRICAL SITE PLAN

HILLCREST WT
909 E HILLCREST AVE
INDIANOLA, IA 50125

E-1

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

EXP 12/31/2021

LICENSED PROFESSIONAL ENGINEER

GREGORY J. SUHR
18098

IOWA

10-20-20

811
Know what's below.
Call before you dig.
1-800-292-8989
CALL TOLL FREE

NOTES:
CONTRACTOR TO COORDINATE ALL INSPECTIONS.
ALL CONDUIT ELBOWS TO BE LONG SWEEP 90° ONLY.
NO SHARP BENDS.
CONTRACTOR SHALL SUPPLY DETECTABLE METALLIC
FLAT "MULE" TAPE IN ALL UTILITY CONDUIT BETWEEN
H-FRAME AND EQUIPMENT SHELTER

CONTRACTOR TO PROVIDE AND INSTALL
NEW MILLBANK METER W/200A OUTSIDE
OF SHELTER- DISCONNECT VERIFY
TYPE W/ ELECTRIC UTILITY COMPANY

200A ELECTRIC SERVICE IN
3"C, 3-3/0 W/ PULL WIRE, SCH. 40
PVC CONDUIT, 42" BELOW GRADE;
CONDUIT AND CONDUCTOR BY
CONTRACTOR

RIGID PIPE TO BE INSTALLED FOR
THE FIRST 10' OF THE ELECTRICAL
RUN OUT OF THE SHELTER

SHELTER MANUF. 3"
ELECTRIC SERVICE NIPPLE

METER & DISCONNECT
AT WALL

RIGID PIPE TO BE
INSTALLED FOR THE
FIRST 10' OF THE
ELECTRICAL RUN OUT
OF THE SHELTER

CONC. SHELTER FOUND.

LONG SWEEP ELBOW

SEE RISER DIAGRAM
FOR SIZING

RIGID PIPE TO BE INSTALLED FOR
THE FIRST 10' OF THE ELECTRICAL
RUN OUT OF THE SHELTER

Electric Service Entrance

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

Buried Utility

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

EXISTING POLE WITH
TRANSFORMER AND
OVERHEAD UTILITY LINES

PEDESTAL BY IMU TO BE PLACED
IN THIS LOCATION FOR PRIMARY
POWER TO COMPOUND SHELTER

INSIDE COMPOUND

3' CLEARANCE FROM
REGULATOR

GAS METER - PROVIDED
AND INSTALLED BY
UTILITY COMPANY

METER MOUNTING BRACKET
PROVIDED AND INSTALLED BY
UTILITY COMPANY

1-1/2" STEEL NATURAL
GAS PIPE

1-1/2" STEEL NATURAL GAS PIPE
BY CONTRACTOR - 2 PSI NATURAL
GAS SERVICE BY UTILITY COMPANY -
11-14" WC REGULATOR AT
GENERATOR - CONTRACTOR TO
PRESSURE TEST LINE

EXIST. GRADE

GAS LINE BY UTILITY COMPANY

GAS LINE TO RIGHT-OF-WAY

GAS LINE TO GENERATOR

BY CONTRACTOR

Natural Gas Service from Meter to Generator

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

Gas Meter Riser Diagram

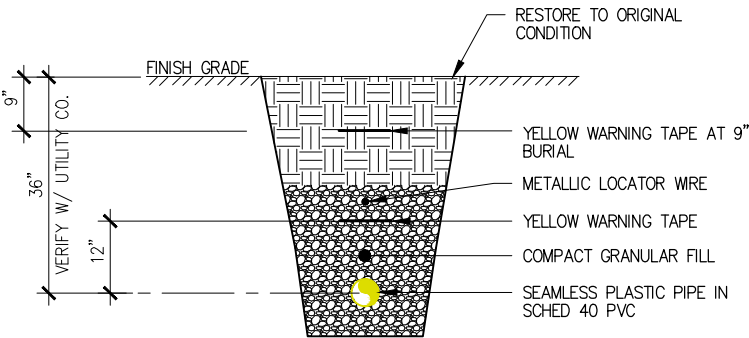
SCALE: N.T.S.

Utility Riser Diagram

NO SCALE

Utility Color Legend

- ELECTRIC
- GAS, OIL, STEAM
- COMMUNICATIONS
- POTABLE WATER
- RECLAIMED WATER
- SEWER/ DRAINAGE
- SURVEY MARKS



Q	10-20-20	PERMIT CDs	AML	MJA	
H	10-09-20	PRELIMINARY CDs	ZDE	MJA	
G	09-03-20	PRELIMINARY CDs	ZDE	MJA	
F	08-13-20	PRELIMINARY CDs	AML	MJA	
E	08-03-20	PRELIMINARY CDs	AML	MJA	
NO.	DATE	REVISIONS	BY	CHK	APP'D



EXTERIOR ELECTRICAL DETAILS

HILLCREST WT
909 E HILLCREST AVE
INDIANOLA, IA 50125

E-2

EXP 12/31/2021

LICENSED PROFESSIONAL ENGINEER

GREGORY J. SUHR
18098

IOWA

10-20-20

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

PP2 200A, 120/240VAC, 1φ/3W, 60Hz, M.BKR																
LOAD	VOLT AMPS		WIREBREAKER				BREAKER WIRE				VOLT AMPS		LOAD			
	A	B		P	TRIP		TRIP	P		A	B					
ROW 1 QUAD #1	180		12	1	20	1		2	20	1	12	180		ROW 2 QUAD #1		
ROW 1 QUAD #1		180	12	1	20	3		4	20	1	12		180	ROW 2 QUAD #1		
ROW 1 QUAD #2	180		12	1	20	5		6	20	1	12	180		ROW 2 QUAD #2		
ROW 1 QUAD #2		180	12	1	20	7		8	20	1	12		180	ROW 2 QUAD #2		
ROW 1 QUAD #3	180		12	1	20	9		10	20	1	12	180		ROW 2 QUAD #3		
ROW 1 QUAD #3		180	12	1	20	11		12	20	1	12		180	ROW 2 QUAD #3		
ROW 1 QUAD #4	180		12	1	20	13		14	20	1	12	180		ROW 2 QUAD #4		
ROW 1 QUAD #4		180	12	1	20	15		16	20	1	12		180	ROW 2 QUAD #4		
TWIST LOCK #1	1000		10	2	30	17		18	30	2	10	1000		TWIST LOCK #2		
		1000				19		20					1000			
TWIST LOCK #3	1000		10	2	30	21		22	30	2	10	1000		TWIST LOCK #4		
		1000				23		24					1000			
						25		26								
						27		28								
						29		30								
						31		32								
BLANK						33		34								
BLANK						35		36								
TELCO RECEPT #1	180		12	1	20	37		38	20	1	12	180		TELCO RECEPT #2		
TELCO RECEPT #3		180	12	1	20	39		40	20	1	12		180	TELCO RECEPT #4		
VA PER PHASE	2900	2900											2900	2900	VA PER PHASE	
													5800	5800	TOTAL VA PER PHASE	
													48	48	AMPS PER PHASE	
														11.6	TOTAL KVA	
													48	48	MAX AMPS PER PHASE	

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

TYPICAL GROUNDING NOTES

- 1. ALL METALLIC ITEMS AND FENCE POSTS WITHIN 6' OF THE GROUNDING SYSTEM TO BE BONDED TO GROUND RING.
- 2. FENCE FABRIC TO BE BONDED PER MOTOROLA R-56 STANDARDS REV B.
- 3. FENCE FABRIC RUNS LESS THAN 40' SHALL BE BONDED ON ONE END. FENCE FABRIC RUNS GREATER THAN 40' SHALL BE BONDED ON BOTH ENDS.
- 4. FENCE TOP RAIL TO BE BONDED TO CORNER POSTS ON BOTH ENDS.
- 5. CONTRACTOR TO REPAIR ANY EXISTING GROUNDING LEADS CUT DURING CONSTRUCTIONS

11'-8" x 16'-6"
PREFABRICATED EQUIPMENT
SHELTER ON CONC. FOUND.

EXISTING FENCED
COMPOUND

EXISTING FIRE HYDRANT AND
VALVE

ESG

1

1

50 kW LP GENERATOR ON
CONCRETE FOUNDATION

BUSS BAR AT TOWER
COAX ENTRANCE

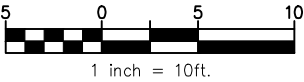
EXISTING GENERATOR

EXISTING 140' WATER TANK

Legend

- ① #2 AWG SOLID TINNED BARE COPPER GROUND 36" BELOW GRADE
- ② CADWELD TO FENCE POST
- ③ BOND GATE LEAF TO GATE POST WITH A FLEXIBLE GATE JUMPER
- GROUND ROD
- ⊙ GROUND SYSTEM TEST WELL (HAND HOLE)
- CADWELD CONNECTION
- FENCE LINE

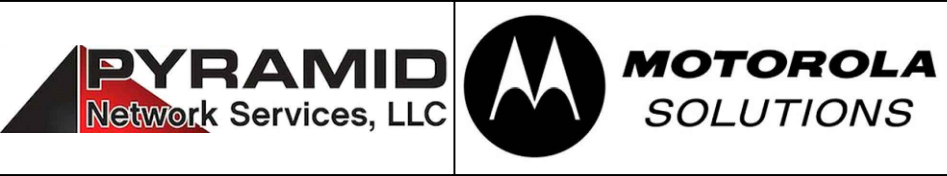
Grounding Plan



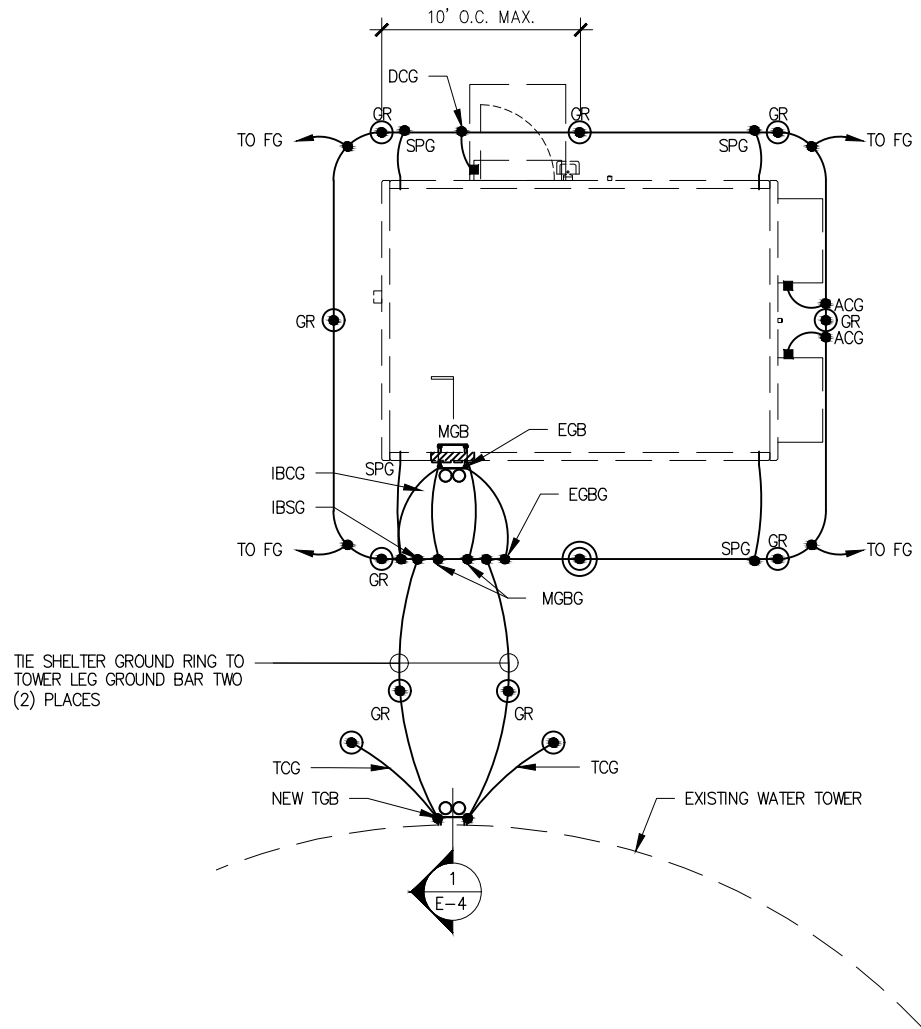
1-800-292-8989
CALL TOLL FREE



NO.	DATE	REVISIONS	BY	CHK	APP'D
O	10-20-20	PERMIT CDs	AML	MJA	
H	10-09-20	PRELIMINARY CDs	ZDE	MJA	
G	09-03-20	PRELIMINARY CDs	ZDE	MJA	
F	08-13-20	PRELIMINARY CDs	AML	MJA	
E	08-03-20	PRELIMINARY CDs	AML	MJA	



GROUNDING PLAN		E-4	THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.
HILLCREST WT 909 E HILLCREST AVE INDIANOLA, IA 50125			
			IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.



Shelter and Tower Grounding Schematic

1

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

GROUNDING LEGEND	
SYMBOL	DESCRIPTION
	5/8" x 10'-0" COPPER OR STAINLESS STEEL COPPERCLAD GROUND ROD
	GROUND ROD WITH INSPECTION WELL
	EXOTHERMIC WELD (CADWELD)
	#2 AWG SOLID TINNED COPPER WIRE UNLESS OTHERWISE NOTED
	MECHANICAL CONNECTION
ESG	ELECTRICAL SERVICE GROUND
TSG	TELCO SERVICE GROUND

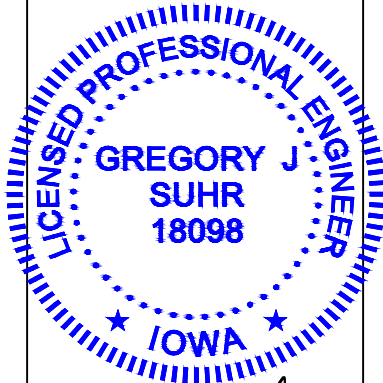
Legend

- FG FENCE GROUND: E.C. TO FURNISH AND INSTALL #2 AWG BARE SOLID TINNED COPPER GROUND WIRE AT FENCE POST. GROUND WIRE TO BE ROUTED ALONG FENCE POST AND CADWELDED FOUR (4) PLACES, TOP RAIL, TOP AND BOTTOM OF CORNER POST, AND GROUND RING.
- GG GATE GROUND: SIMILAR TO FENCE GROUND (FG), E.C. SHALL ALSO FURNISH AND INSTALL #2 BRAIDED GATE JUMPER WIRE BETWEEN THE GATE FRAME AND THE GATE POST. CONNECTIONS AT GATE FRAME AND GATE POST TO BE CADWELD.
- TG TOWER GROUND: E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID TINNED COPPER GROUND WIRES FROM BASE OF TOWER OR TOWER LEGS TO TOWER GROUND RING. ALL CONNECTIONS TO BE CADWELD.
- TGB TOWER GROUND BAR: E.C. TO FURNISH AND INSTALL 20"x4"x1/4" TINNED COPPER GROUND BARS ON THE TOWER AS REQUIRED. ONE TO BE LOCATED AT ANTENNA MOUNT ELEVATION (ATTACHED TO TOWER STEEL), THE OTHER AT THE BASE OF THE TOWER ADJACENT TO THE ICE BRIDGE (ISOLATED FROM TOWER STEEL). ADDITIONAL TRANSMISSION LINE GROUND KITS SHALL BE INSTALLED AS NEEDED TO LIMIT THE DISTANCE BETWEEN GROUND KITS TO 50 FEET MINIMUM AND 75 FEET MAXIMUM.
- TCG TOWER COAX GROUND: E.C. TO FURNISH AND INSTALL TWO (2) #2 AWG BARE SOLID TINNED COPPER GROUND WIRES FROM TOWER GROUND BAR (TGB) TO GROUND RING. ALL CONNECTIONS TO BE CADWELD.
- EGB EXTERIOR GROUND BAR: SHELTER MANUFACTURER FURNISHED AND INSTALLED 24"x4"x1/4" TINNED COPPER GROUND BAR ON EXTERIOR SIDEWALL OF SHELTER BELOW COAX BUILDING ENTRY.
- IEHG INTERIOR/EXTERIOR HOOD GROUND: E.C. TO FURNISH AND INSTALL TWO (2) #2 AWG BARE SOLID TINNED COPPER GROUND WIRES FROM THE INTERIOR / EXTERIOR GENERATOR HOOD TO GROUND RING. ALL CONNECTIONS TO BE CADWELD.
- MGB MASTER GROUND BAR: SHELTER MANUFACTURER FURNISHED AND INSTALLED 24"x4"x1/4" TINNED COPPER GROUND BAR ON INTERIOR SIDEWALL OF SHELTER BELOW COAX BUILDING ENTRY.
- DCG DOOR CANOPY GROUND: E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID TINNED COPPER GROUND WIRE FROM DOOR CANOPY TO SHELTER GROUND RING. CONNECTION AT DOOR CANOPY TO BE MECHANICAL, CONNECTION AT GROUND RING TO BE CADWELD.
- IBCG ICE BRIDGE CHANNEL GROUND: E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID TINNED COPPER GROUND JUMPER WIRE FROM ICE BRIDGE CHANNEL TO ICE BRIDGE SUPPORT POST. ALL CONNECTIONS TO BE CADWELD.
- IBSG ICE BRIDGE SUPPORT GROUND: E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID TINNED COPPER GROUND WIRE FROM ICE BRIDGE SUPPORT POST TO GROUND RING. ALL CONNECTIONS TO BE CADWELD.
- ACG AIR CONDITIONER GROUND: E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID TINNED COPPER GROUND WIRE FROM AIR CONDITIONER CABINET TO GROUND RING. CONNECTION AT AIR CONDITIONER CABINET TO BE MECHANICAL, CONNECTION AT GROUND RING TO BE CADWELD (TYPICAL OF 2).
- GEG GENERATOR EXHAUST GROUND: E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID TINNED COPPER GROUND WIRE FROM GENERATOR EXHAUST TO GROUND RING. CONNECTION AT GENERATOR EXHAUST TO BE MECHANICAL, CONNECTION AT GROUND RING TO BE CADWELD (TYPICAL OF 1).
- GR 5/8" DIA. x 10' LONG TINNED COPPER CLAD STEEL GROUND ROD DRIVEN VERTICAL TOP OF ROD 30" MIN. BELOW GRADE. SPACING OF GROUND RODS 10' MIN TO TWICE THE LENGTH OF THE ROD USED. ALL CONNECTIONS TO BE CADWELD.
- SPG SHELTER PLATE GROUND: E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID TINNED COPPER GROUND WIRE FROM SHELTER PLATE TO SHELTER GROUND RING. TYPICAL OF 2 AT SHELTER AND ON DIAGONAL CORNERS. CONNECTION AT GROUND RING TO BE CADWELD.
- NOTE: ALL GROUND LEADS AT TOWER, ICE BRIDGE SUPPORT POSTS, FENCE POSTS, ETC. TO BE ROUTED IN 1/2" NON-METALLIC PVC FLEX CONDUIT. GROUND LEADS AT SHELTER FROM EXTERNAL GROUND BARS, COAX ENTRY, LOUVERS, PIPES, ETC. TO BE ROUTED IN 1/2" NON-METALLIC PVC RIGID CONDUIT SECURED TO SHELTER WALL WITH AT LEAST ONE (1) NON-METALLIC CONDUIT CLAMP 36" MAX. SPACING. CONDUIT TO BE 4" MAX. FROM APPLIANCE CONNECTION AND EXTEND 18" MIN. BELOW GRADE.

TYPICAL GROUNDING NOTES

- ALL GROUND CABLE IN CONCRETE OR THROUGH WALL SHALL BE IN 3/4" PVC CONDUIT. NO METALLIC CONDUIT SHALL BE USED FOR GROUNDING CONDUCTOR SLEEVES.
- GROUND ALL EXPOSED METALLIC OBJECTS USING A TWO-HOLE NEMA DRILLED CONNECTOR SUCH AS THOMAS & BETTS #32207 OR APPROVED EQUAL
- THE CONTRACTOR SHALL NOTIFY THE PYRAMID NETWORK SERVICES, LLC REPRESENTATIVE WHEN THE GROUND RING IS INSTALLED SO THAT THE REPRESENTATIVE CAN INSPECT GROUND RING BEFORE IT IS CONCEALED.
- ALL EXTERIOR GROUND CONDUCTORS INCLUDING GROUND RING SHALL BE #2 AWG SOLID BARE TINNED COPPER. MAKE ALL GROUND CONNECTIONS AS SHORT AND DIRECT AS POSSIBLE. AVOID SHARP BENDS. THE RADIUS OF ANY BEND SHALL NOT BE LESS THAN 8" AND THE INCLUSIVE ANGLE OF ANY BEND SHALL NOT EXCEED 90'. GROUNDING CONDUCTORS SHALL BE ROUTED DOWNWARD TOWARD THE BURIED GROUND RING.
- ALL BELOW GROUND EXTERNAL CONNECTIONS SHALL BE EXOTHERMICALLY WELDED. ALL EXOTHERMIC WELDS TO BURIED GROUND RING SHALL BE THE PARALLEL-TYPE. EXCEPT FOR THE GROUND RODS WHICH ARE TEE-TYPE EXOTHERMIC WELDS. REPAIR ALL GALVANIZED SURFACES THAT HAVE BEEN DAMAGED BY EXOTHERMIC WELDING. USE SPRAY GALVANIZED SUCH AS HOLUB LECTROSOL #15-501.
- WHERE MECHANICAL CONNECTORS (TWO-HOLE OR CLAMP) ARE USED, APPLY A LIBERAL PROTECTIVE COATING OF A CONDUCTIVE ANTI-OXIDE COMPOUND ON ALL CONNECTORS. PROVIDE LOCK WASHERS ON ALL MECHANICAL CONNECTORS. USE STAINLESS STEEL HARDWARE THROUGHOUT. THOROUGHLY REMOVE ALL PAINT AND CLEAN ALL DIRT FROM SURFACES REQUIRING GROUND CONNECTORS, REPAINT TO MATCH EXISTING AFTER CONNECTION IS MADE TO MAINTAIN CORROSION RESISTANCE. ALL GROUND CONNECTIONS SHALL BE APPROVED FOR THE TYPES OF METALS BEING ATTACHED TO.
- A RESISTANCE TO GROUND OF (10) OHMS OR LESS IS REQUIRED FOR ALL MOTOROLA SITES. THE CONTRACTOR SHOULD RETAIN HIS OWN TESTER AT HIS OWN EXPENSE. IN ADDITION, A THIRD PARTY SHOULD BE HIRED TO OBTAIN MEGGER AND SWEEP RESULTS ON ALL SITES INCLUSIVE OF WHAT RESULTS THE CONTRACTOR SUBMITS, TO INSURE PROPER QUALITY CONTROL ON ALL SITES. SCHEDULE FLNAL MEGGER TEST SUCH THAT THE PYRAMID NETWORK SERVICES, LLC REPRESENTATIVE CAN BE PRESENT FOR FIELD VERIFICATION. REFER TO THE MOTOROLA MASTER SPECIFICATION FOR MEGGER TESTING PROCEDURES. IF THE FINAL GROUNDING RESISTANCE MEASUREMENT EXCEEDS 10 (TEN) OHMS, THE CONTRACTOR SHALL NOTIFY THE PYRAMID NETWORK SERVICES, LLC REPRESENTATIVE.
- ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL
- THE GROUND CONDUCTORS SHALL BE RUN STRAIGHT FOR MINIMUM INDUCTANCE AND VOLTAGE DROP. SINCE CABLE BENDS INCREASE INDUCTANCE, THE MINIMUM REQUIRED BENDING RADIUS IS 8 INCHES WHEN BENDS ARE UNAVOIDABLE. ALL METAL WORK WITHIN 10 FEET OF THE GROUND RING SHALL BE DIRECTLY BONDED TO THIS GROUND SYSTEM, WITHOUT USING SERIES OR DAISY CHAIN CONNECTION ARRANGEMENTS.
- PAINT, ENAMEL, LACQUER AND OTHER ELECTRICALLY NON-CONDUCTIVE COATINGS SHALL BE REMOVED FROM THREADS AND SURFACE AREAS WHERE CONNECTIONS ARE MADE TO ENSURE GOOD ELECTRICAL CONTINUITY.
- CONNECTIONS BETWEEN DISSIMILAR METALS SHALL NOT BE MADE UNLESS THE CONDUCTORS ARE SEPARATED BY A SUITABLE MATERIAL. THAT IS A PART OF THE ATTACHMENT DEVICE LISTED AND APPROVED FOR USE WITH THE SPECIFIC DISSIMILAR METALS MAY BE USED FOR THE PURPOSE.
- ALL BELOW GRADE GROUND SYSTEM CONDUCTORS SHALL BE A MINIMUM DEPTH OF 30".

EXP 12/31/2021



1-800-292-8989
CALL TOLL FREE

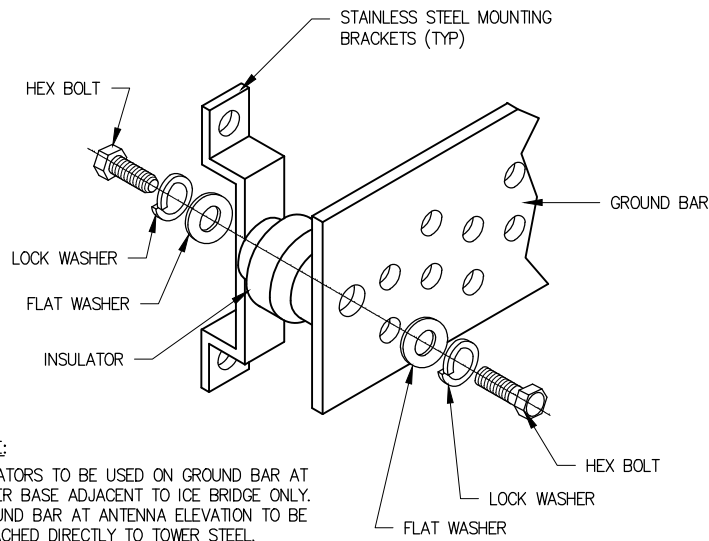
E-5

GROUNDING SCHEMATIC AND NOTES

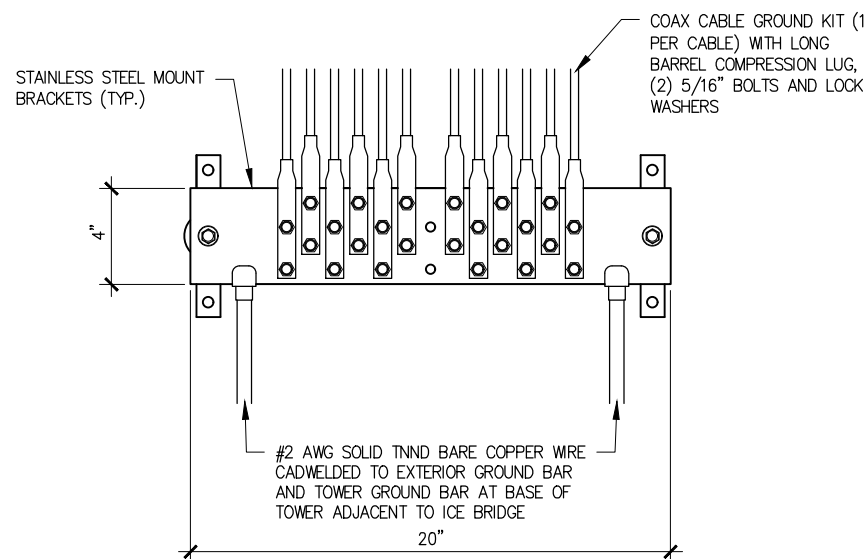
HILLCREST WT
909 E HILLCREST AVE
INDIANOLA, IA 50125

O	10-20-20	PERMIT CDs	AML	MJA	
H	10-09-20	PRELIMINARY CDs	ZDE	MJA	
G	09-03-20	PRELIMINARY CDs	ZDE	MJA	
F	08-13-20	PRELIMINARY CDs	AML	MJA	
E	08-03-20	PRELIMINARY CDs	AML	MJA	
NO.	DATE	REVISIONS	BY	CHK	APP'D

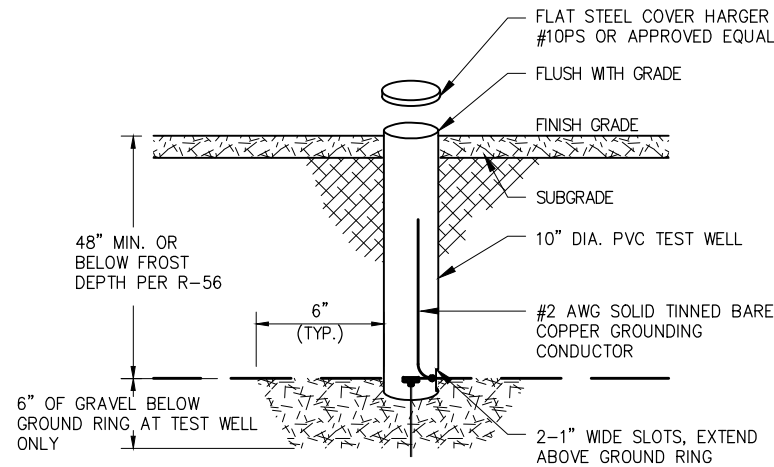




1 Ground Bar Installation
SCALE: 3" = 1'-0"

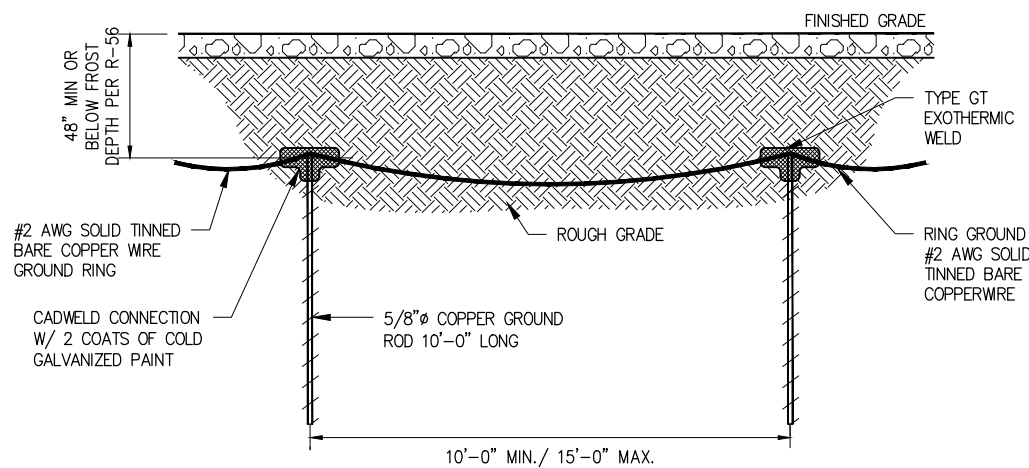


2 Tower Ground Bar (TGB)
SCALE: 1 1/2" = 1'-0"

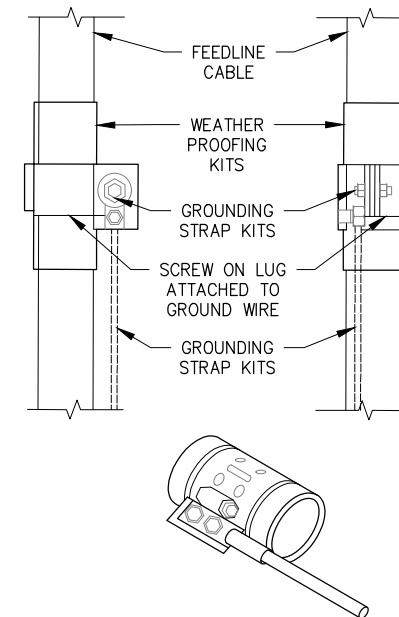


3 Grounding Inspection Test Well
NOT TO SCALE

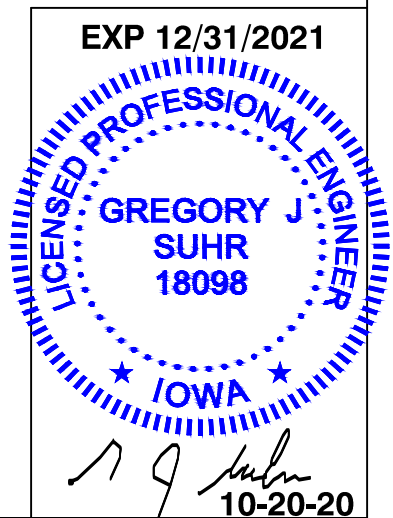
- NOTES:**
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR
 - THIS DETAIL IS TYPICAL FOR EACH COAX / HYBRID CABLE WHERE IT IS SPECIFIED TO BE GROUNDED
 - CABLE TO BE GROUNDED AT ANTENNA LEVEL AND PRIOR TO ENTERING SHELTER ENTRY PANEL
 - CABLE ALSO TO BE GROUNDED TO GROUND BAR AT TOWER BASE IF APPLICABLE



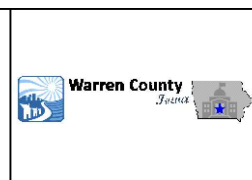
4 Grounding Rod Detail
SCALE: 1/4" = 1'-0"



5 Coax Cable Ground Kit Detail
SCALE: N.T.S.



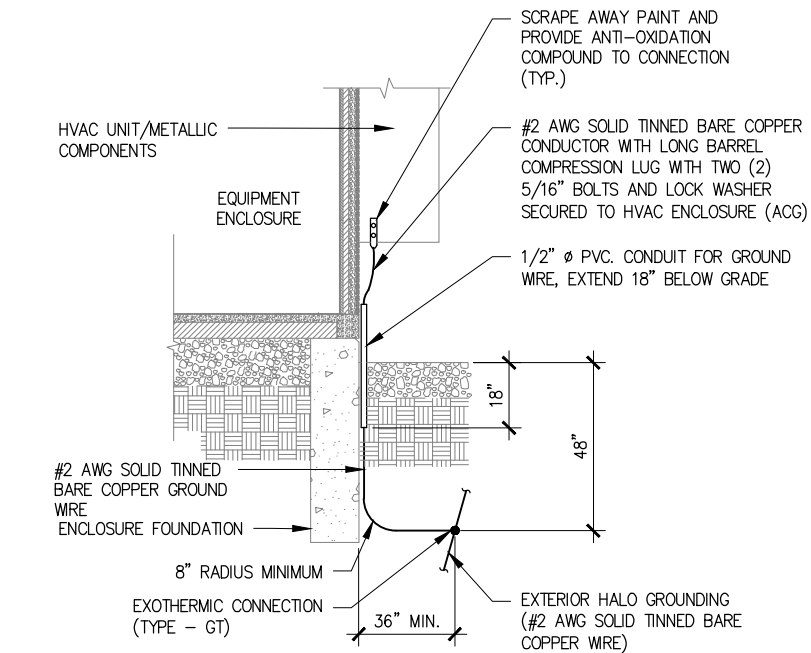
NO.	DATE	REVISIONS	BY	CHK	APP'D
O	10-20-20	PERMIT CDs	AML	MJA	
H	10-09-20	PRELIMINARY CDs	ZDE	MJA	
G	09-03-20	PRELIMINARY CDs	ZDE	MJA	
F	08-13-20	PRELIMINARY CDs	AML	MJA	
E	08-03-20	PRELIMINARY CDs	AML	MJA	



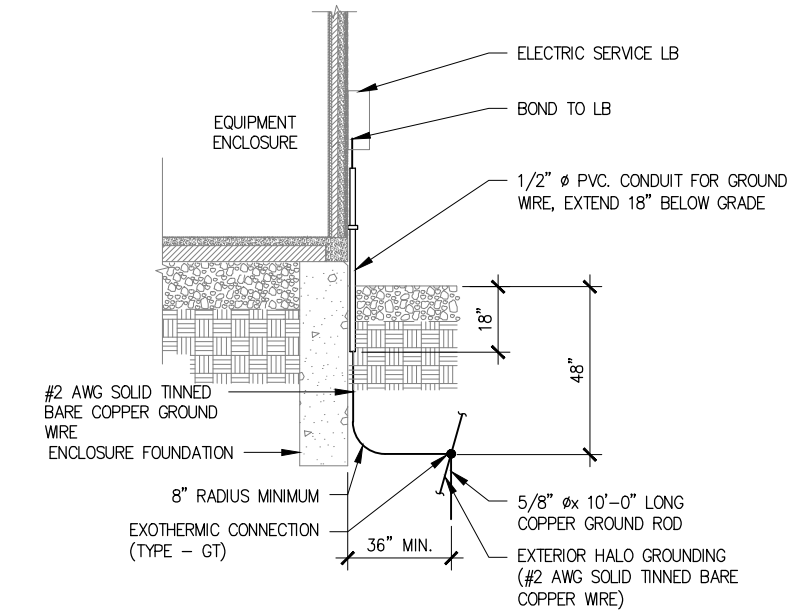
GROUNDING DETAILS	
HILLCREST WT 909 E HILLCREST AVE INDIANOLA, IA 50125	E-6

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

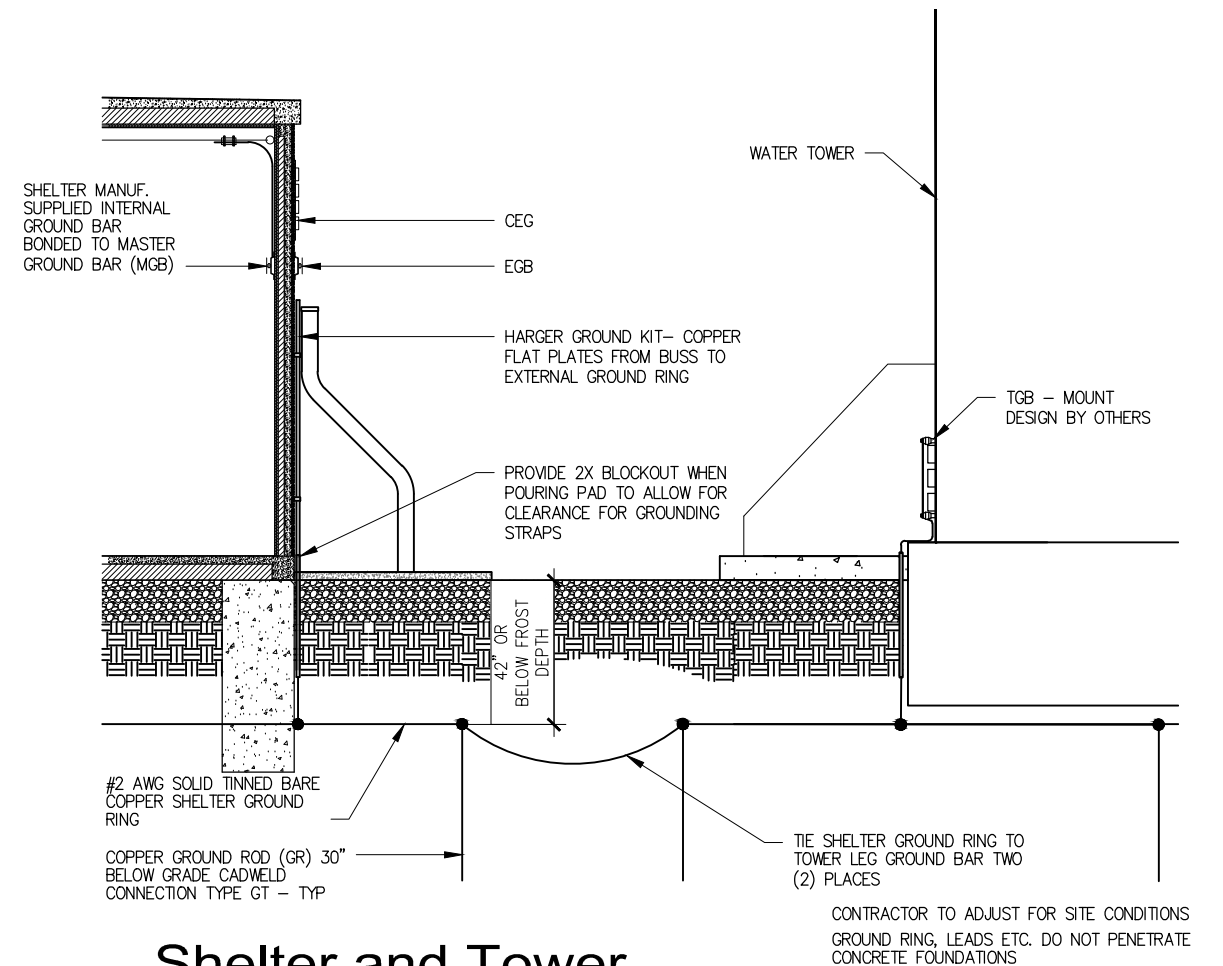
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.



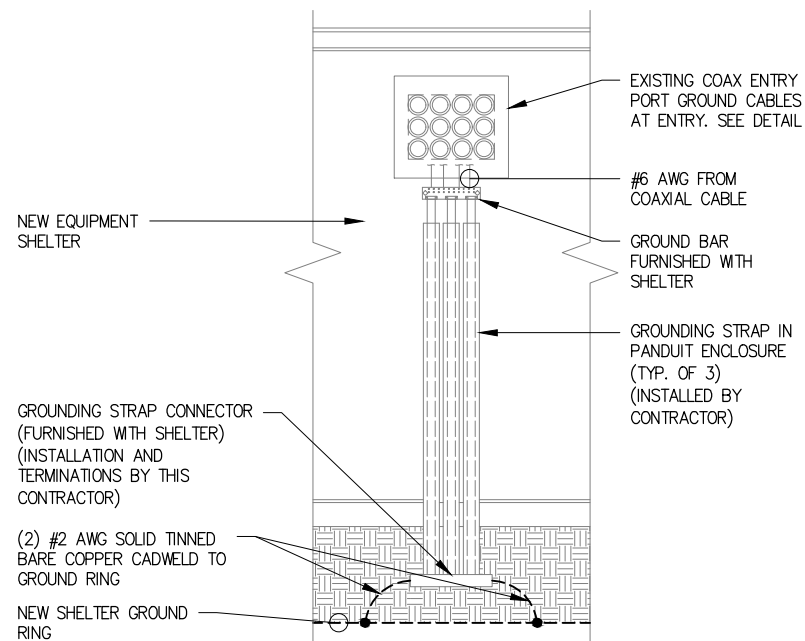
1 HVAC (ACG)/Metallic Components Grounding
SCALE: 1/4" = 1'-0"



2 Electric Service Grounding
SCALE: 1/4" = 1'-0"



3 Shelter and Tower Grounding Elevation Schematic
SCALE: 1/4" = 1'-0"



4 Shelter Grounding Detail
SCALE: 1/4" = 1'-0"



NO.	DATE	REVISIONS	BY	CHK	APP'D
O	10-20-20	PERMIT CDs	AML	MJA	
H	10-09-20	PRELIMINARY CDs	ZDE	MJA	
G	09-03-20	PRELIMINARY CDs	ZDE	MJA	
F	08-13-20	PRELIMINARY CDs	AML	MJA	
E	08-03-20	PRELIMINARY CDs	AML	MJA	



GROUNDING DETAILS		E-7
HILLCREST WT 909 E HILLCREST AVE INDIANOLA, IA 50125		

THIS DRAWING IS COPYRIGHTED AND IS THE SOLE PROPERTY OF THE OWNER. IT IS PRODUCED SOLELY FOR USE BY THE OWNER AND ITS AFFILIATES. REPRODUCTION OR USE OF THIS DRAWING AND/OR THE INFORMATION CONTAINED IN IT IS FORBIDDEN WITHOUT THE WRITTEN PERMISSION OF THE OWNER.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SITE NAME:

HILLCREST WT

SITE NUMBER:

2002913.2

STRUCTURE TYPE:

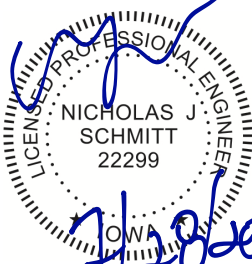
137'-3" WATER TANK

PROJECT SCOPE:

MOUNT DESIGN DRAWINGS



10834 OLD MILL RD, SUITE 8
OMAHA, NE 68154
(402)575-8885
SGS# : 2002913.2



I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

REVISIONS

REV.	DATE	DESCRIPTION	BY
0	05/18/20	CLIENT REVISIONS	ITM
0	07/17/20	CLIENT REVISIONS	ITM

HILLCREST WT

909 E HILLCREST AVE
INDIANOLA, IA 50125

EXISTING 137'-3"
WATER TANK

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

REVISION

0

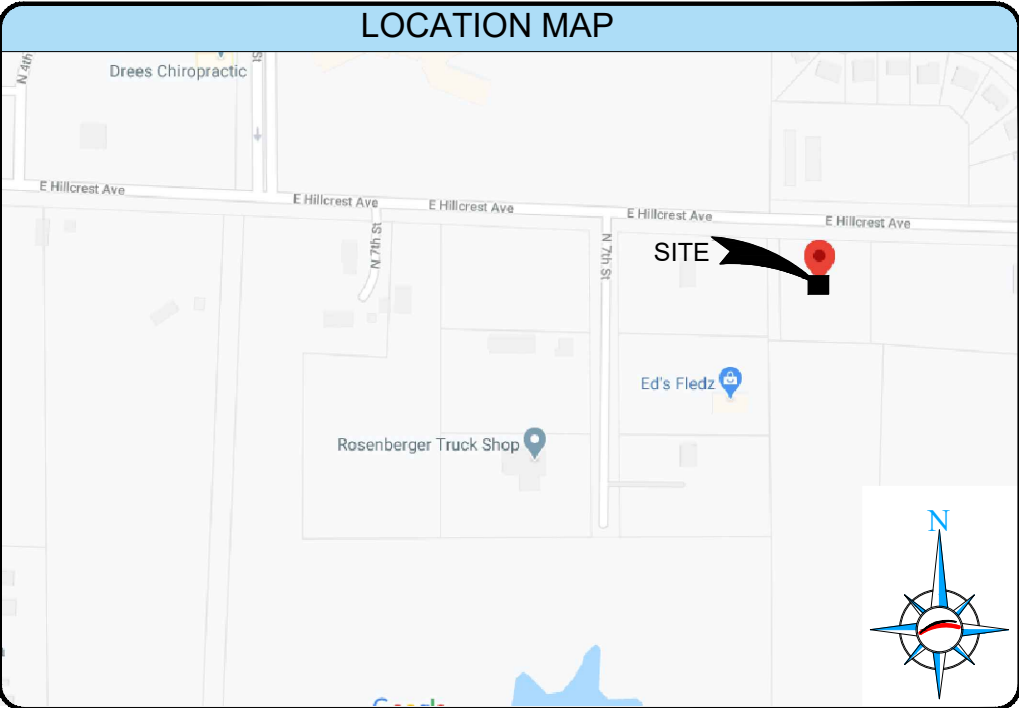
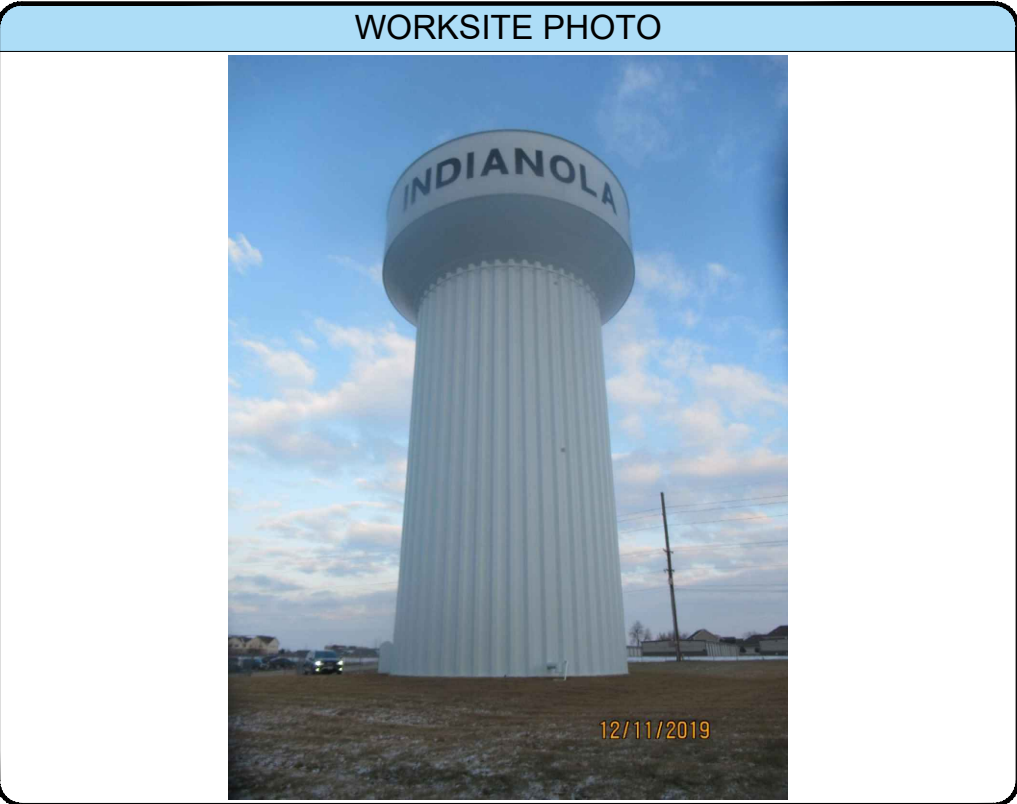
REFERENCE DOCUMENTS		
DOCUMENT TYPE	DESIGNATION	DATE
TOWER MAPPING	SGS TOWERS JOB NUMBER: 1924843	01/14/20
MOUNT ANALYSIS	SGS TOWERS JOB NUMBER: 2002327	03/19/20

DRAWING INDEX		
SHEET	DESCRIPTION	REV
T-1	TITLE SHEET	0
GN-1	GENERAL NOTES	0
GN-2	GENERAL NOTES	0
IN-1	INSPECTION NOTES & CHECKLIST	0
S-1	TOWER MODIFICATION SCHEDULE	0
S-2	CONFIGURATION PLAN VIEW	0
S-3	SECTION DETAILS	0
S-4	SECTION DETAILS	0
S-5	BASE PLATE DETAILS	0
S-6	KICKER BASE PLATE DETAILS	0
S-7	MOUNTING BRACKET DETAILS	0
S-8	MOUNT DETAILS	0
S-9	SITE PHOTOS	0

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17. CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OR ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR THE SAME.

PROJECT DESCRIPTION
THE PURPOSE OF THIS PROJECT IS TO PROVIDE THE STRUCTURAL MODIFICATIONS NECESSARY TO SUPPORT THE PROPOSED LOADING CONDITIONS. SEE MODIFICATION SCHEDULE ON SHEET S-1.

APPROVALS		
PYRAMID NETWORK SERVICES REPRESENTATIVE:	APPROVED: ☐ REJECTED: ☐	DATE:
PROPERTY OWNER:	APPROVED: ☐ REJECTED: ☐	DATE:



PROJECT TEAM	
APPLICANT/CUSTOMER: PYRAMID NETWORK SERVICES, LLC CONTACT: RJ MCLAUGHLIN PHONE: 515.305.0175 mclaughlin@pyramidns.com	ENGINEERING SERVICES: SGS TOWERS 10834 OLD MILL RD OMAHA, NE 68154 CONTACT: BRANDON KATHOL PHONE: 402.575.8885 brandon.kathol@sgstowers.com

PROJECT INFORMATION	
SITE NAME:	HILLCREST WT
SITE NUMBER:	2002913.2
SITE ADDRESS:	909 E HILLCREST AVE INDIANOLA, IA 50125 WARREN COUNTY
COUNTY:	WARREN COUNTY
LATITUDE:	41° 22' 46.18" N (41.379494 N)
LONGITUDE:	93° 32' 56.29" W (-93.548969 W)
GROUND ELEVATION:	958' (NAVD '88)
JURISDICTION:	WARREN COUNTY
STRUCTURE HEIGHT:	137'-3"
ELECTRIC PROVIDER:	INDIANOLA MUNICIPAL UTILITIES 515.961.9444
TELEPHONE/FIBER PROVIDER:	INDIANOLA MUNICIPAL UTILITIES 515.961.9444
PROPERTY OWNER:	CITY OF INDIANOLA 110 NORTH 1ST STREET INDIANOLA, IA 50125



CODE COMPLIANCE
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.
- INTERNATIONAL BUILDING CODE - 2012 - NATIONAL ELECTRICAL CODE - 2005

GENERAL NOTES

1. ALL MODIFICATIONS MUST BE INSTALLED TO BRING THE TOWER INTO CONFORMANCE WITH ALL APPLICABLE CODES.
- GOVERNING CODES

TIA-222-H
- WIND SPEED

120 MPH ULTIMATE
- WIND SPEED W/ICE

40 MPH
- RADIAL ICE THICKNESS

1.5 IN
- STRUCTURE CLASS

III
- EXPOSURE CATEGORY

C
- TOPOGRAPHIC FACTOR

1.0
2. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE OR APPROVED BY THE EOR. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE PERFORMING WORK SIMILAR TO THAT DESCRIBED WITHIN THESE DRAWINGS. BY ACCEPTANCE OF THIS PROJECT, THE CONTRACTOR IS ATTESTING THAT HE HAS SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED, AND THAT HE IS PROPERLY LICENSED AND REGISTERED TO PERFORM THE WORK IN THE PROJECT JURISDICTION.
3. WORK SHALL ONLY BE PERFORMED DURING CALM, DRY DAYS (WINDS LESS THAN 10-MPH). IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE INSTALLATION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION AND/OR MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE-DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
4. ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATIONS. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND EOR. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE EOR SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES AND PROCEDURES.
5. THE DESIGN WITHIN THESE DRAWINGS ASSUMES THE TOWER AND ITS FOUNDATIONS HAVE BEEN WELL MAINTAINED, IN GOOD CONDITION AND ARE WITHOUT DEFECT. BENT MEMBERS, CORRODED MEMBERS, LOOSE BOLTS, CRACKED WELDS, AND OTHER STRUCTURAL DEFECTS HAVE NOT BEEN CONSIDERED UNLESS SPECIFICALLY NOTED. THE TOWER IS ASSUMED TO BE PLUMB AND THE SITE IS ASSUMED LEVEL. THE OWNER AND/OR EOR SHALL BE NOTIFIED IMMEDIATELY IF ANY VARIANCES ARE FOUND.
6. THE CONTRACTOR SHALL ONLY WORK WITHIN THE LIMITS OF THE TOWER OWNER'S PROPERTY, LEASE AREA OR APPROVED EASEMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY WORK IS PERFORMED WITHIN THESE BOUNDARIES. CONSTRUCTION STAKING AND BOUNDARY MARKING IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL EMPLOY A SURVEYOR AS REQUIRED. ANY WORK OUTSIDE THESE BOUNDARIES SHALL BE APPROVED IN WRITING BY THE OWNER.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL WORK PERFORMED COMPLIES WITH ALL APPLICABLE SAFETY CODES AND GOVERNING REGULATIONS.
8. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULES AND MATERIAL DELIVERIES, WITH THE OWNER/RESIDENT LEASING AGENT FOR APPROVAL.
9. THE CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNING AGENCIES. THE CONTRACTOR WILL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
10. ALL MATERIAL UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDED BUT NOT LIMITED TO ALTERED SIZES AND/OR STRENGTHS, MUST BE APPROVED BY THE EOR.
11. UNLESS NOTED OTHERWISE, ALL NEW MEMBERS SHALL MAINTAIN THE EXISTING MEMBER WORKING LINES AND NOT INTRODUCE ECCENTRICITIES INTO THE STRUCTURE.
12. ALL DIMENSIONS AND QUANTITIES LISTED WITHIN THESE DRAWINGS ARE INTENDED TO AID THE CONTRACTOR. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND QUANTITIES PRIOR TO BIDDING AND/OR ORDERING MATERIALS.
13. ALL MANUFACTURERS' INSTRUCTIONS SHALL BE FOLLOWED EXACTLY. ANY DEVIATION REQUIRES WRITTEN APPROVAL FROM THE EOR.
14. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARILY REMOVING COAX, BRACKETS, ANTENNAS, MOUNTS AND ANY OTHER TOWER APPURTENANCE THAT MAY INTERFERE WITH THE INSTALLATION OF THE TOWER MODIFICATIONS. ALL TOWER APPURTENANCES MUST BE REPLACED AND/OR RESTORED TO THEIR ORIGINAL LOCATIONS. SOME MOUNTS OR ATTACHMENTS MAY REQUIRE CUSTOM MODIFICATION TO PROPERLY FIT THE MODIFIED REGION OF THE STRUCTURE. THESE CUSTOM MOUNTS OR ATTACHMENTS ARE DESIGNED BY OTHERS AND MUST BE APPROVED BY THE OWNER/EOR PRIOR TO REMOVAL. ANY CARRIER DOWNTIME MUST BE COORDINATED WITH THE OWNER IN WRITING.
15. ENGINEERING REVIEW FEE WILL COVER THE BASIC SHOP REVIEW, MINOR FIELD QUESTIONS, ASSISTANCE DURING CONSTRUCTION AND EOR APPROVAL DURING INSPECTION PROCESS. HOWEVER, IF THE MODIFICATION IS EXTENSIVE THE FEE IS SUBJECTED TO CHANGE AND SGS TOWERS WILL COMMUNICATE THE REVISED AMOUNT TO THE CONTRACTOR PRIOR TO PROCEEDING WITH THE REVIEW. A PO WILL BE SENT TO THE GENERAL CONTRACTOR AND ONCE SGS TOWERS RECEIVES THE PO, WE WILL SUBMIT THE REVIEWED DRAWINGS IN 5 BUSINESS DAYS. WE REQUEST THAT ALL INQUIRIES AND QUESTIONS RELATED TO SHOP AND ASSEMBLY DRAWINGS BE SENT TO ENGINEERING@SGSTOWERS.COM.

STRUCTURAL STEEL NOTES

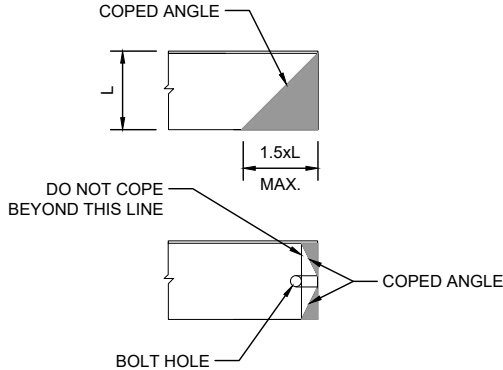
1. ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS, LATEST EDITION.
2. ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE FABRICATOR IN ACCORDANCE WITH AISC SPECIFICATIONS, LATEST EDITION.
3. CAULKING SHALL BE PROVIDED AROUND PERIMETER OF ANY AND ALL MODIFICATION MEMBERS TO ENSURE COMPLETE SEAL BETWEEN EXISTING STRUCTURE AND REINFORCING MEMBERS IN FULL CONTACT WITH EXISTING STEEL. SEALANT IS TO BE EXTERIOR GRADE, PAINTABLE SILICONE CAULKING AS MANUFACTURED BY DOW AND ACCEPTABLE TO EOR.
4. HOLES SHALL NOT BE FLAME CUT THROUGH STEEL UNLESS APPROVED BY THE EOR.
5. ALL EXPOSED STEEL SHALL BE HOT-DIPPED GALVANIZED PER ASTM A123, ASTM A153/A153M, OR ASTM A653 G90, AS APPLICABLE FOR FULL WEATHER PROTECTION. FOR HIGH STRENGTH STEEL FASTENERS WHERE HOT-DIPPED GALVANIZING IS NOT PERMITTED DACROMET F1136 GRADE 3 COATING SHALL BE USED. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING TOWER STEEL. CONTRACTOR SHALL OBTAIN EOR APPROVAL FOR STEEL PROTECTION BY ANY OTHER MEANS.
6. SHOP OR FIELD-WELDED CONNECTIONS SHALL CONFORM TO THE LATEST REVISED CODE OF THE AMERICAN WELDING SOCIETY AWS D1.1 USING E70XX ELECTRODES.
7. REPAIR DAMAGED PAINTED/GALVANIZED SURFACES WITH TWO COATS OF BRUSH OR ROLL ON ZRC COLD GALVANIZING COMPOUND OR EOR APPROVED COATING. SURFACES MUST BE WIRE BRUSHED AND SOLVENT CLEANED PRIOR TO APPLICATION OF GALVANIZING COMPOUND.
8. ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES (SPLIT WASHER/PAL NUT) TO BE INSTALLED IN ACCORDANCE WITH TIA/EIA-222 REQUIREMENTS.
9. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
10. FIELD DRILLED OR CUT MATERIAL OR ANY GALVANIZED SURFACE THAT IS SCRATCHED OR DAMAGED DUE TO THE CONTRACTOR'S EFFORTS IS TO BE COATED WITH TWO BRUSH COATS OF COLD GALVANIZATION.
11. PAINTING OF ALL NEW ITEMS, AND REPAIR OF ALL DAMAGED AREA OF THE TOWER WILL BE REQUIRED. SURFACE PREPARATION AND PAINTING REQUIREMENTS ARE AS FOLLOWS
12. REMOVE ALL SURFACE CONTAMINANTS IN ACCORDANCE WITH SSPC-SP-1 SOLVENT CLEANING. DO NOT USE HYDROCARBON SOLVENTS ON SURFACES TO BE COATED WITH WATER BASED COATING
13. BEFORE ANY PRIMER OR COATING IS APPLIED, METAL SURFACES SHALL BE COMPLETELY DRY, DUST FREE, INSPECTED AND APPROVED BY THE ENGINEER
14. NO COATING SHALL BE PERMITTED WHEN THE RELATIVE HUMIDITY IS EXPECTED TO EXCEED 85% OR TEMPERATURE IS EXPECTED TO DROP BELOW 40 DEGREES WITHIN 8 HOURS AFTER THE APPLICATION OF THE COATING. PROCEED WITH SURFACE PREPARATION AND COATING APPLICATION ONLY WHEN AIR AND SURFACE TEMPERATURES ARE ABOVE THE MANUFACTURER'S RECOMMENDED MINIMUM TEMPERATURE AND BELOW 100 DEGREES F, AND SURFACE TEMPERATURE IS AT LEAST 5 DEGREES ABOVE WET BULB AIR TEMPERATURE READING. COATING SHALL NOT BE APPLIED TO DUSTY, WET, OR DAMP SURFACES, AND SHALL NOT BE APPLIED IN RAIN, SNOW, FOG, OR MIST. IF WORKING CONDITIONS ARE QUESTIONABLE, THE ENGINEER SHALL MAKE THE DECISION AND THE CONTRACTOR SHALL ACCEPT THE ENGINEER'S INTERPRETATION AS FINAL AND BINDING.
15. PRIME COAT MUST BE APPLIED WITHIN 8 HOURS OF ABRASIVE BLASTING.
16. APPLY BY BRUSH ONE (1) ADDITIONAL COAT OF PRIMER TO ENSURE A UNIFORM COAT OF PRIMER THOROUGHLY WORKED INTO AND AROUND ALL SEAMS, WELDS, BOLT ASSEMBLIES, PLATE OVERLAP SEAMS, AND OTHER IRREGULARITIES IN THE SURFACE.
17. FINISH COAT SHALL BE UNIFORM IN COLOR AND SHEEN WITHOUT STREAKS, LAPS, RUNS, SAGS OR MISSING AREAS, AND SHALL MATCH EXISTING TANK COATING SYSTEM AND COLOR.
18. IF GALVANIZED MATERIALS USED, THE GALVANIZED SURFACES MUST BE SOLVENT WIPED AND BRUSH-BLASTING PRIOR TO COATING.
19. SPECIFICATIONS APPLY TO BOTH SHOP AND FIELD COATING.
20. ALL CONNECTIONS TO HAVE ASSOCIATED LOCK WASHER, ETC . . . UNLESS NOTED OTHERWISE.

MATERIAL SPECIFICATIONS

ALL STRUCTURAL STEEL SHALL ELEMENTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS.

ANGLES	ASTM A36 (36 KSI YIELD STRENGTH)
PIPES	ASTM A53 GR.B (35 KSI YIELD STRENGTH)
BOLTS	ASTM A325N
NUTS	ASTM A563
WASHER	ASTM F436
PLATE	ASTM A36 (36 KSI YIELD STRENGTH)
U-BOLTS	ASTM A307
WELDS	E-70XX ELECTRODES

ALLOWABLE ANGLE COPE



1. ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
2. THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENT.

COLOR OF MEMBERS

- EXISTING MEMBER
- PROPOSED MEMBER



10834 OLD MILL RD, SUITE 8
OMAHA, NE 68154
(402)575-8885
SGS# : 2002913.2



I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

REVISIONS

REV.	DATE	DESCRIPTION	BY
0	05/18/20	CLIENT REVISIONS	ITM
0	07/17/20	CLIENT REVISIONS	ITM

HILLCREST WT

909 E HILLCREST AVE
INDIANOLA, IA 50125

EXISTING 137'-3"
WATER TANK

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-1

REVISION

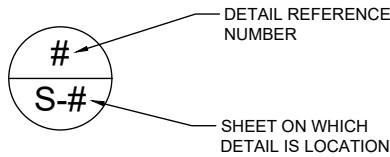
0

BASEPLATE GROUT REMOVAL NOTES

1. THE GC SHALL BEGIN THIS PROCEDURE AS EARLY AS POSSIBLE DURING THE MODIFICATION PROCESS SO THAT IF ISSUE ARISES, THEY CAN BE RESOLVED WITHIN THE ANTICIPATED MODIFICATION TIMELINE.
2. IF ANY DETERIORATED GROUT EXIST, BEGIN AT THIS LOCATION. REMOVE DETERIORATED GROUT AND THE GROUT NEAREST ONE OR TWO ANCHOR RODS TO FULLY EXPOSE THE LEVELING NUT. IF THE GC DISCOVERS THAT A HALF NUT OR JAM NIT WAS USED AS A LEVELING NUT OR NOT LEVELING NUT IS PRESENT, IMMEDIATELY CONTACT EOR. DO NOT REMOVE ANY ADDITIONAL GROUT UNTIL DIRECTED BY THE EOR.
3. OTHERWISE, CHECK THE LEVELING NUT FOR TIGHTNESS. IF SEVERE CORROSION / MATERIAL LOSS IS FOUND OR CORROSION EXIST TO THE POINT WHERE THE LEVELING NUT IS UNABLE TO BE TIGHTENED WHEN OBVIOUSLY LOOSE, IMMEDIATELY NOTIFY THE EOR. DO NOT REMOVE ANY ADDITIONAL GROUT UNTIL DIRECTED BY THE EOR.
4. IN THE EVENT THAT SEVERE CORROSION IS NOT ENCOUNTERED, AND BEING SURE TO CHECK EACH ANCHOR ROD FOR CORROSION, REMOVE ALL EXISTING BASEPLATE GROUT WHILE CHECKING LEVELING NUT FOR TIGHTNESS.
5. HAND TOOL CLEAN TO SSPC-SP2 AND SOLVENT CLEAN TO SSPC-SS1, ALL EXPOSED STRUCTURAL STEEL ELEMENTS, INCLUDING ANCHOR RODS, LEVELING NUTS, AND UNDERSIDE OF BASE PLATE TO THE GREATEST EXTENT POSSIBLE. ENSURE THAT ALL OLD GROUT IS REMOVED TO ALLOW COLD GALVANIZING TO ADHERE TO THE STEEL.
6. APPLY BY BRUSH TWO (2) COATS OF A EOR APPROVED COLD-GALVANIZING COMPOUND TO ALL EXPOSED STRUCTURAL STEEL ELEMENTS BENEATH THE BASE PLATE, AND ALLOW CURING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION
7. THE GC SHALL PROVIDE PHOTOGRAPHS OF EACH ANCHOR ROD WITH LEVELING NUT AFTER CLEANING BUT BEFORE COLD GALVANIZATION, AND AGAIN AFTER COLD GALVANIZATION, FOR INCLUSION IN THE MI REPORT.

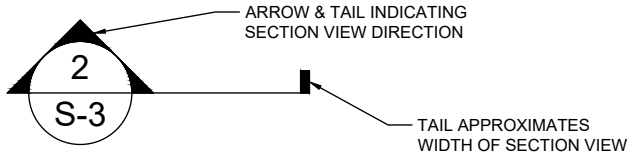
SYMBOLS & CALL-OUTS

TYPICAL DETAIL CALL-OUT



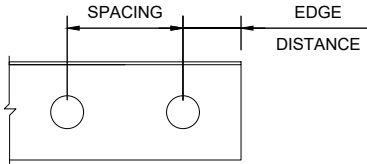
NOTE:
DETAIL CALL-OUT
INFORMATION IS THE SAME
FOR SECTION CALL-OUTS

TYPICAL SECTION CALL-OUT



BOLT SCHEDULE

BOLT DIAMETER	STANDARD HOLE	SHORT SLOT	MIN. EDGE DISTANCE	SPACING
1/2"	9/16"	9/16"x1 1/16"	7/8"	1 1/2"
5/8"	1 1/16"	1 1/16"x7/8"	1 1/8"	1 7/8"
3/4"	13/16"	13/16"x1"	1 1/4"	2 1/4"
7/8"	15/16"	15/16"x1 1/8"	1 1/2"	2 5/8"
1"	1 1/16"	1 1/16"x1 5/16"	1 3/4"	3"

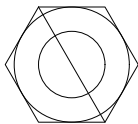


- DIMENSIONS GIVEN IN INCHES.

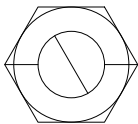
- SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED ON THE PLANS.

BOLT TIGHTENING PROCEDURE

1. TIGHTEN BOLTS BY AISC "TURN OF THE NUT" METHOD ACCORDING TO THE FOLLOWING CHART:
- BOLT LENGTHS UP TO AND INCLUDING FOUR DIAMETERS:
+1/3 TURN BEYOND SNUG TIGHT
- BOLT LENGTHS OVER FOUR AND UP TO EIGHT DIAMETERS:
+1/2 TURN BEYOND SNUG TIGHT
- BOLT LENGTHS OVER EIGHT AND UP TO TWELVE DIAMETERS:
+2/3 TURN BEYOND SNUG TIGHT
2. SPLICE BOLTS UNDER DIRECT TENSION SHALL BE INSTALLED AND TIGHTENED PER SECTION 8(d)(1) OF THE AISC MANUAL OF STEEL CONSTRUCTION



BEFORE 1/3 TURN



AFTER 1/3 TURN

WELDING NOTES

1. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH AWS D1.1/D1.1M, "STURCTURAL WELDING CODE-STEEL" (LATEST EDITION).
2. CONTRACTOR IS RESPONSIBLE FOR COMMISSIONING A THIRD-PARTY CERTIFIED WELD INSPECTOR (CWI) THROUGHOUT THE ETIRETY OF THE PROJECT. A PASSING CWI REPORT SHALL BE PROVIDED TO THE ENGINEER UPON COMPLETION OF THE PROJECT.
3. OXY FUEL GAS WELDING OR BRAZING IS STRICTLY PROHIBITED. SPECIFICALLY, NO TORCH CUTTING IS PERMITTED ON SITE. ALL HOLES SHALL BE CUT WITH A GRINDER.
4. INSTALL 3000° (NFPA 701) FIRE BLANKET AROUND ALL COAX AT AND BELOW EACH WELDING PROCEDURE AND ELEVATION. COAX IS FLAMMABLE AND CAN CATCH FIRE IF PROPSER PRECAUTIONS ARE NOT MADE TO SHIELD COAX FROM ALL WELDING PROCEDURES. IN ADDITION, COAX SHALL BE PUSHED AWAY FROM TOWER FACE WHERE WELDING IS BEING PERFORMED.
5. CONTRACTOR SHALL EXERCISE CAUTION WHEN WELDING ON A GALVANIZED SURFACE. ADDITIONAL SPLATTER AND SPARKS SHALL BE ANTICIPATED GIVEN THE PREVIOUSLY GALV. SURFACE. IF THE WELD MATERIAL IS CONTAMINATED WITH ZINC IT DOES NOT PROVIDE A STRUCTURAL WELD. FUMES CREATED FROM WELDING ON A PREVIOUSLY GALV. SURFACE CAN BE HAZARDOUS. PRIOR TO WELDING, ALL SURFACES SHALL BE PROPERLY GROUND TO REMOVE GALVANIZING, SCALE, SLAG, RUST OR ANY OTHER MATERIAL TO PREVENT PROPER WELDING.
6. ALL FIELDS SHALL BE TOUCHED UP WITH TWO COATS OF COLD GALVANIZED PAINT (ZRC OR APPROVED EQUIVALENT), INCLUDING THE INTERIOR OF MONOPOLE SHAFTS, WHERE ACCESS PERMITS. IN ANY AREAS AFFECTED BY ANY WELDING, PHOTO DOCUMENTATION IS REQUIRED TO BE SUBMITTED TO THE PMI INSPECTOR.
7. WATER SHALL BE ON SITE, OF ADEQUATE AMOUNT, AND AVAILABLE AT SHORT NOTICE AT ALL TIMES DURING WELDING ACTIVITY. A MINIMUM OF 500 GAL. OF WATER SHALL BE PROVIDED. WATER SHALL BE CAPABLE OF REACHING HEIGHT WHERE WELDING IS BEING PERFORMED. IN ADDITION, A MINIMUM OF SIX (6) 10 LB. CLASS ABC MULTIPURPOSE FIRE EXTINGUISHERS FULLY CHARGED AND CAPABLE OF DISCHARGE WITHIN 30 SECONDS OF DETECTING A FIRE SHALL BE PROVIDED. FIRE EXTINGUISHERS SHALL BE STRATEGICALLY LOCATED AROUND COMPOUND AND IN THE AIR (I.E. ON THE MAN LIFT WHERE WELDING IS BEING PERFORMED).
8. CLEAN OUT ALL DEBRIS THROUGHOUT TOWER AND STRUCTURE BASE PRIOR TO WELDING.
9. THE CONTRACTOR SHALL TAKE COOLING EFFECTS OF THE WELDING MATERIAL INTO CONSIDERATION (I.E. EXPANSION OF HOT MATERIAL AND CONTRACTION OF COOLED MATERIAL).

STUD WELDING NOTES

1. STUDS SHALL COMPLY WITH AWS D1.1/D1.1M.
2. THE CONTRACTOR SHALL HAVE EXPERIENCE WITH STUD WELDING AND BE FAMILIAR WITH THE TECHNIQUE GUIDANCE PROVIDED IN AWS C5.4, RECOMMENDED PRACTICES FOR STUD WELDING, AND THE MANUFACTURER SPECIFICATIONS.
3. FINISHED STUDS SHALL BE OF UNIFORM QUALITY AND CONDITION, FREE OF DEFECTS THAT MAY AFFECT THE WELDING QUALITY.
4. THE CONTRACTOR SHALL FURNISH THE STUD MANUFACTURER'S STUD CERTIFICATIONS, TEST REPORTS, AND MATERIAL TEST REPORTS TO THE MODIFICATION INSPECTOR AND ENGINEER OF RECORD (EOR).
5. AT THE TIME OF WELDING, THE STUDS SHALL BE FREE OF RUST, SCALE, OIL, MOISTURE OR ANY OTHER MATTER THAT MAY ADVERSELY AFFECT THE WELDING OPERATION.
6. THE BASE METAL BEING WELDED TO SHALL NOT BE PAINTED OR GALVANIZED PRIOR TO WELDING. PAINT OR GALVANIZATION SHALL BE REMOVED BY WIRE BRUSH OR GRINDING.
7. THE CONTRACTOR SHALL FIELD VERIFY THAT THE BASE METAL IS NO THINNER THAN 1/3 THE STUD DIAMETER PRIOR TO WELDING.
8. AFTER WELDING, THE STUDS SHALL BE FREE OF ANY DISCONTINUITIES OR SUBSTANCES THAT WOULD INTERFERE WITH THEIR INTENDED FUNCTION AND HAVE A FULL 360° FLASH.
9. THE CONTRACTOR SHALL FURNISH THE EOR AND MODIFICATION INSPECTOR WITH PHOTOS OF THE STUD WELDS FOR VISUAL INSPECTION. THE PHOTOS SHALL BE TAKEN 360° AROUND THE WELD PRIOR TO INSTALLING THE FLANGES SO THAT ALL AREAS OF THE WELD CAN BE INSPECTED (SEE NOTE 10 BELOW).
10. IT IS HIGHLY RECOMMENDED THAT THE MODIFICATION INSPECTOR BE ONSITE WITH THE CONTRACTOR TO TEST A REASONABLE QUANTITY OF STUDS BEFORE COMPLETION OF THE PRODUCTION STUD WELDING OPERATION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPLACE ANY STUDS THAT DO NOT CONFORM WITH THE DESIGN OR MODIFICATION INSPECTION. THE CONTRACTOR SHALL REVISE THE WELDING PROCEDURE AS NECESSARY TO ENSURE THAT SUBSEQUENT WELDING WILL MEET REQUIREMENTS.



10834 OLD MILL RD, SUITE 8
OMAHA, NE 68154
(402)575-8885
SGS# : 2002913.2



I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

REVISIONS

REV.	DATE	DESCRIPTION	BY
0	05/18/20	CLIENT REVISIONS	ITM
0	07/17/20	CLIENT REVISIONS	ITM

HILLCREST WT

909 E HILLCREST AVE
INDIANOLA, IA 50125

EXISTING 137'-3"
WATER TANK

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-2

REVISION

0

MODIFICATION INSPECTION CHECKLIST					
BEFORE CONSTRUCTION		DURING CONSTRUCTION		AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTION AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM	CONSTRUCTION/INSTALLATION INSPECTION AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM	CONSTRUCTION/INSTALLATION INSPECTION AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
X	MODIFICATION INSPECTION CHECKLIST DWG	X	CONSTRUCTION INSPECTION	X	MODIFICATION INSPECTOR REDLINE OR RECORD DRAWING(S)
X	ENGINEER OF RECORD APPROVED SHOP DRAWINGS	N/A	FOUNDATION INSPECTION	N/A	POST INSTALLED ANCHOR ROD PULL-OUT TESTING
X	FABRICATION INSPECTION	N/A	CONCRETE COMP. STRENGTH AND SLUMP TEST	X	PHOTOGRAPHS
X	MATERIAL TEST REPORT	N/A	POST INSTALLED ANCHOR ROD VERIFICATION	N/A	ADDITIONAL TESTING AND INSPECTION
X	FABRICATOR CERTIFIED WELD INSPECTION	N/A	BASE PLATE GROUT VERIFICATION		
N/A	NDE REPORT OF TOWER BASE PLATES (AS REQUIRED)	X	THIRD PARTY CERTIFIED WELD INSPECTION		
X	PACKING SLIP	N/A	ON SITE COLD GALVANIZING VERIFICATION		
N/A	ADDITIONAL TESTING AND INSPECTION	N/A	GUY WIRE TENSION REPORT		
		N/A	GC AS-BUILT DOCUMENTS		
		N/A	ADDITIONAL TESTING AND INSPECTION		

HOT WORKING INCLUDED	
N/A	BASE GRINDING ONLY
N/A	BASE WELDING & GRINDING
N/A	AERIAL GRINDING
X	AERIAL WELDING & GRINDING

GENERAL
1. THE MODIFICATION INSPECTION IS A VISUAL INSPECTION OF TOWER MODIFICATION AND A REVIEW OF CONSTRUCTION INSPECTION AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS; NAMELY, THE MODIFICATION DRAWINGS AS DESIGNED BY THE ENGINEER OF RECORD.
2. THE MODIFICATION INSPECTION IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AN IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF. NOR DOES THE MODIFICATION INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTENT RESIDES WITH THE ENGINEER OF RECORD AT ALL TIMES.
3. TO ENSURE THAT THE REQUIREMENT OF THE MODIFICATION INSPECTION ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MODIFICATION INSPECTOR BEGIN COMMUNICATION AND COORDINATING AS SOON AS A PO OR PAYMENT IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY.

GENERAL CONTRACTOR
1. THE GC IS REQUIRED TO CONTACT THE MODIFICATION INSPECTOR AS SOON AS RECEIVING A PO OR PAYMENT FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO: - REVIEW THE REQUIREMENT OF THE MODIFICATION INSPECTION CHECKLIST - WORK WITH THE MI INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE MODIFICATION INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS - BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS
2. THE GC SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MODIFICATION INSPECTION CHECKLIST.

CANCELLATION OR DELAYS IN SCHEDULED MODIFICATION INSPECTION
IF THE GC AND MODIFICATION INSPECTOR AGREE TO A DATE ON WHICH THE MODIFICATION INSPECTION WILL BE CONDUCTED, AND EITHER ARTY CANCELS OR DELAYS, THE TOWER OWNER SHALL NOT BE RESPONSIBLE FOR ANY COSTS, FEES, LOSS OR DEPOSITS AND/OR OTHER PENALTIES RELATE TO THE CANCELLATION OR DELAY INCURRED BY EITHER PARTY FOR ANY TIME. EXCEPTIONS MAY BE MADE IN THE DELAY/ CANCELLATION IS CAUSED BY WEATHER OR OTHER CONDITIONS THAT MAY COMPROMISE THE SAFETY OF THE PARTIES INVOLVED.

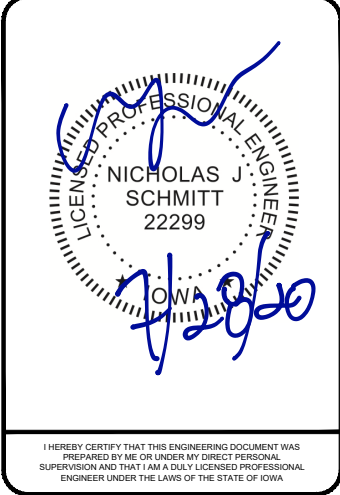
VERIFICATION INSPECTIONS
1. TOWER OWNER RESERVES THE RIGHT TO CONDUCT A VERIFICATION INSPECTION TO VERIFY THE ACCURACY AND COMPLETENESS OF PREVIOUSLY COMPLETED MODIFICATION AND INSPECTION(S) ON TOWER MODIFICATION PRODUCTS.
2. VERIFICATION INSPECTION MAY BE CONDUCTED BY AN INDEPENDENT FIRM AFTER A MODIFICATION PROJECT IS COMPLETED, AS MARKED BY THE DATE OF AN ACCEPTED "PASSING MODIFICATION INSPECTION" REPORT FOR THE ORIGINAL PROJECT.

CORRECTION OF FAILING MODIFICATION INSPECTION
1. IF THE MODIFICATION INSTALLATION WOULD FAIL THE MODIFICATION INSPECTION ("FAILED MODIFICATION INSPECTION"), THE GC SHALL WORK WITH MODIFICATION INSPECTOR TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS: - CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT MODIFICATION INSPECTION. - WITH TOWER OWNER'S APPROVAL, THE GC MAY WORK WITH THE ENGINEER OF RECORD TO RE-ANALYZE THE MODIFICATION/REINFORCEMENT USING AS-BUILT CONDITION.

MODIFICATION INSPECTOR
1. THE MODIFICATION INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO OR PAYMENT FOR THE MODIFICATION INSPECTION TO: - REVIEW THE REQUIREMENT OF THE MODIFICATION INSPECTION CHECKLIST - WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS - DISCUSS ANY SITE SPECIFIC INSPECTIONS OR CONCERNS
2. THE MODIFICATION INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR (GC) INSPECTION AND TEST REPORTS. REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE MODIFICATION INSPECTION REPORT.

RECOMMENDATIONS
1. IT IS SUGGESTED THAT THE GC PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, TO THE MODIFICATION INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR HE MODIFICATION INSPECTION TO BE CONDUCTED.
2. THE GC AND MODIFICATION INSPECTION COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.
3. WHEN POSSIBLE IT IS PREFERRED TO HAVE THE MODIFICATION INSPECTOR AND GC ON-SITE SIMULTANEOUSLY FOR ANY GUY WIRE TENSIONING OR RE-TENSIONING OPERATIONS.
4. IT MAY BE BENEFICIAL TO INSTALL ALL TOWER MODIFICATIONS PRIOR TO CONDUCTING THE FOUNDATION INSPECTION TO ALLOW FOUNDATION AND MODIFICATION INSPECTION(S) DONE IN ONE SITE VISIT.
5. WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MODIFICATION INSPECTOR ON-SITE DURING THE MODIFICATION INSPECTION. THEREFORE, THE GC MAY CHOOSE TO COORDINATE THE MODIFICATION INSPECTION CAREFULLY INSPECTOR IS ON SITE.

REQUIRED PHOTOS
1. BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS ARE TO BE TAKEN AND INCLUDED IN THE MODIFICATION INSPECTION REPORT: - PRE-CONSTRUCTION GENERAL SITE CONDITION - PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION & INSPECTION - RAW MATERIALS - PHOTOS OF ALL CRITICAL DETAILS - WELD PREPARATION - FOUNDATION MODIFICATION - BOLT INSTALLATION & TORQUE - FINAL INSTALLED CONDITION - SURFACE COATING REPAIR - POST CONDITION PHOTOGRAPHS - FINAL INFIELD CONDITION AND ANY OTHER PHOTOS DEEMED RELEVANT TO SHOW COMPLETE DETAILS OF MODIFICATIONS
2. PHOTOS OF ELEVATED MODIFICATIONS TAKEN FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.



REVISIONS			
REV.	DATE	DESCRIPTION	BY
0	05/18/20	CLIENT REVISIONS	ITM
0	07/17/20	CLIENT REVISIONS	ITM

HILLCREST WT
909 E HILLCREST AVE INDIANOLA, IA 50125
EXISTING 137'-3" WATER TANK

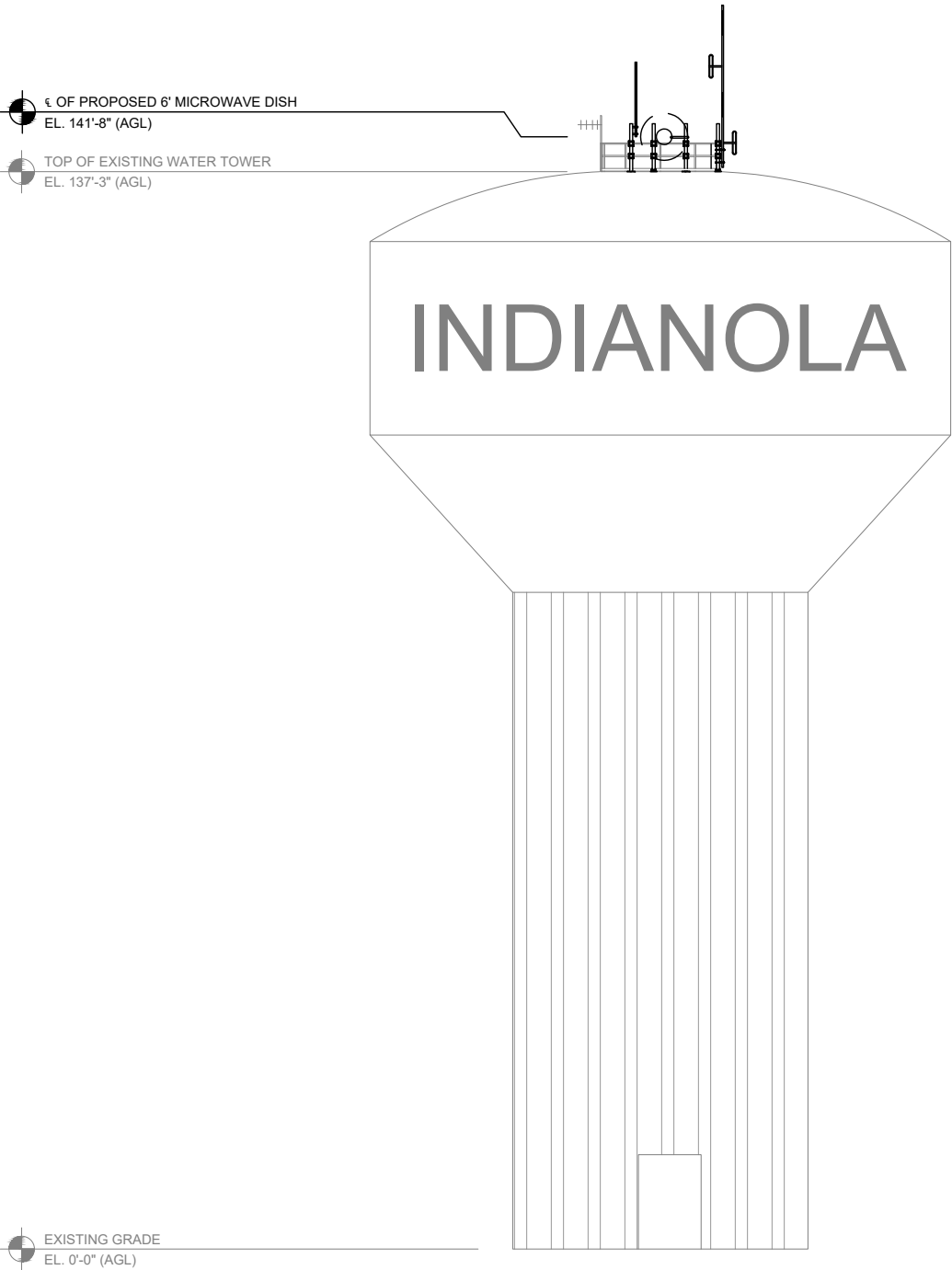
SHEET TITLE
LEGENDS & ABBREVIATIONS

SHEET NUMBER
IN-1

REVISION
0

MODIFICATION SCHEDULE

LABEL	SCOPE	NOTES
1	INSTALL (2) PROPOSED $\angle 2 \frac{1}{2} \times 2 \frac{1}{2} \times \frac{1}{4}$ " KICKER ANGLE WITH PROPOSED $\frac{1}{2} \times 6 \frac{1}{2} \times \frac{1}{2}$ " KICKER PLATE & PROPOSED $\frac{1}{2} \times 6 \times \frac{3}{8}$ " MOUNTING BRACKET	S-6, S-7
2	INSTALL (2) 6'-0" LONG PIPE 4 STD (SCHEDULE 40) WITH $\frac{1}{2} \times 10 \times 10 \times \frac{1}{2}$ " PLATE & SITE PRO1 #DCP18K FOR PROPOSED DIPOLE BA80-41-DIN & SB6-W60C	S-3, S-4, S-5
3	INSTALL (3) 6' LONG PIPE 4 STD FOR PROPOSED SWAY BAR, RFI CC807-08, & DS7C09P36U-D WITH SITE PRO1 #DCP18K	S-3, S-4, S-5
4	RELOCATE (1) EXISTING EQUIPMENT FROM GUYED TOWER TO VERTICAL POST (FIELD VERIFY REQUIRED CONNECTION HARDWARE)	S-1
5	REMOVE (1) GUYED TOWER & (3) GUY WIRES	S-1



PROPOSED MOUNT - ELEVATION VIEW

SCALE: 1" = 20' (11x17)

1

PROPOSED MOUNT - PLAN VIEW @ ELEV. 140'-0"

SCALE: 1/4" = 1'-0" (11x17)

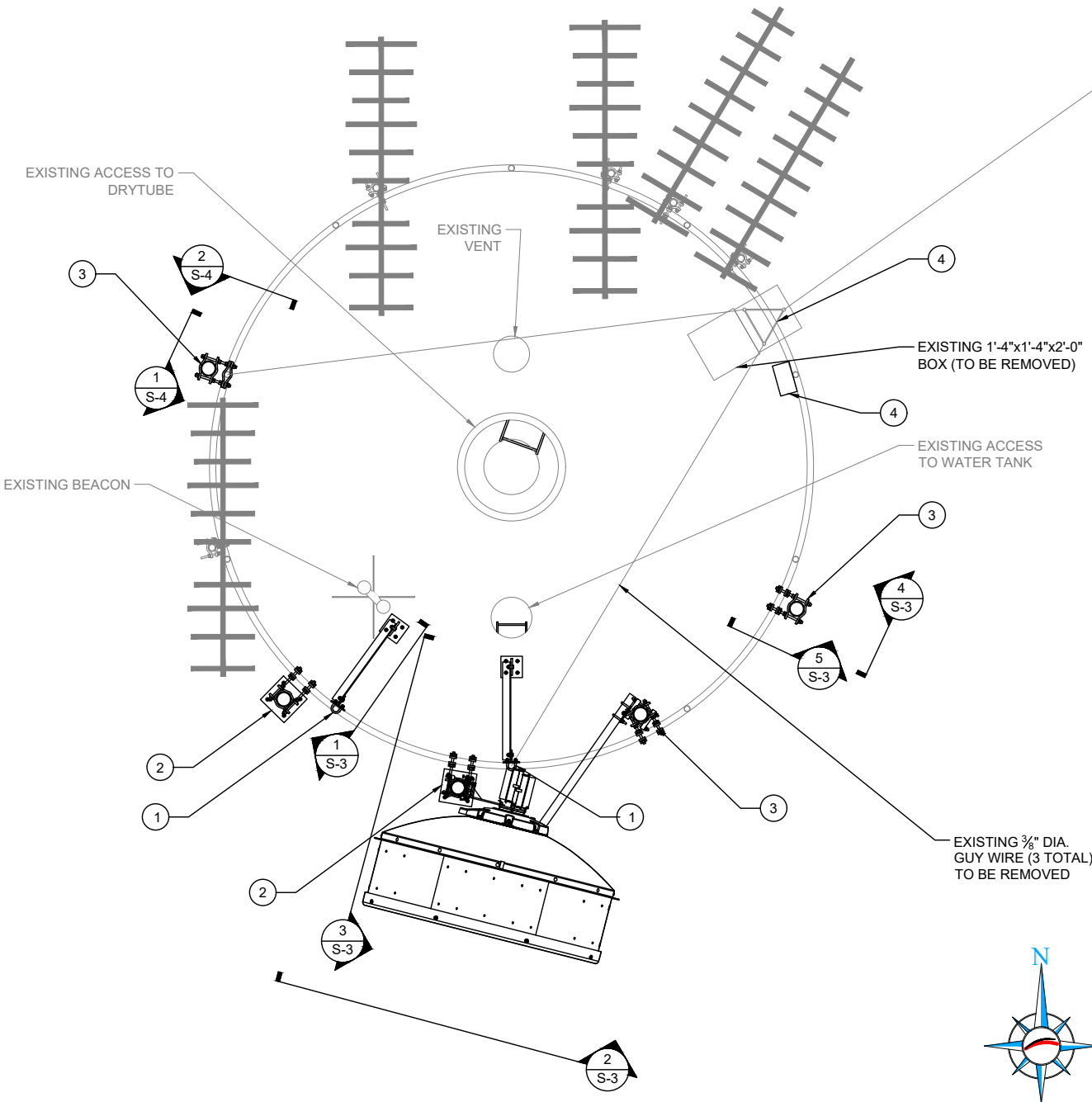
2

CONSTRUCTION NOTES

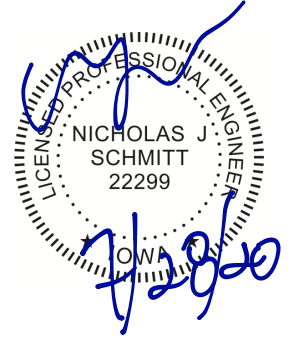
- SCOPE OF WORK MUST BE COMPLETED AT WIND SPEEDS < 20 MPH. CONSULT WITH QUALIFIED ENGINEER IF RIGGING TO MOUNT.
- ALL DIMENSIONS ARE APPROXIMATE, CONTRACTOR SHOULD FIELD VERIFY ALL DIMENSIONS BEFORE FABRICATION OF STEEL AND COMMENCEMENT OF WORK. FIELD CUT MEMBERS AS REQUIRED.
- FIELD DRILLING IS REQUIRED. TOUCH UP FIELD DRILLED AREA WITH MATCHING PAINT.
- GAGE LINE FOR HOLES TO BE DRILLED AT MIDPOINT OF ANGLE.
- FOR ADDITIONAL PREPARATION AND PAINTING REQUIREMENTS, REFER TO SHEET GN-1, "STRUCTURAL STEEL NOTES".
- CONTRACTOR SHALL BUDGET \$900.00 TOWARDS ENGINEERING REVIEW. REFER TO GENERAL NOTES 15 FOR ADDITIONAL DETAILS.
- PAINT ALL MODIFICATIONS TO MATCH EXISTING COLOR.

PLEASE CONTACT SGS FOR BIDS FOR THE FOLLOWING SERVICES:

- MODIFICATION INSPECTIONS → Inspections@SGSTowers.com
- CLASS IV MODIFICATIONS → Engineering@SGSTowers.com



10834 OLD MILL RD, SUITE 8
OMAHA, NE 68154
(402)575-8885
SGS# : 2002913.2



I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

REVISIONS			
REV.	DATE	DESCRIPTION	BY
0	05/18/20	CLIENT REVISIONS	ITM
0	07/17/20	CLIENT REVISIONS	ITM

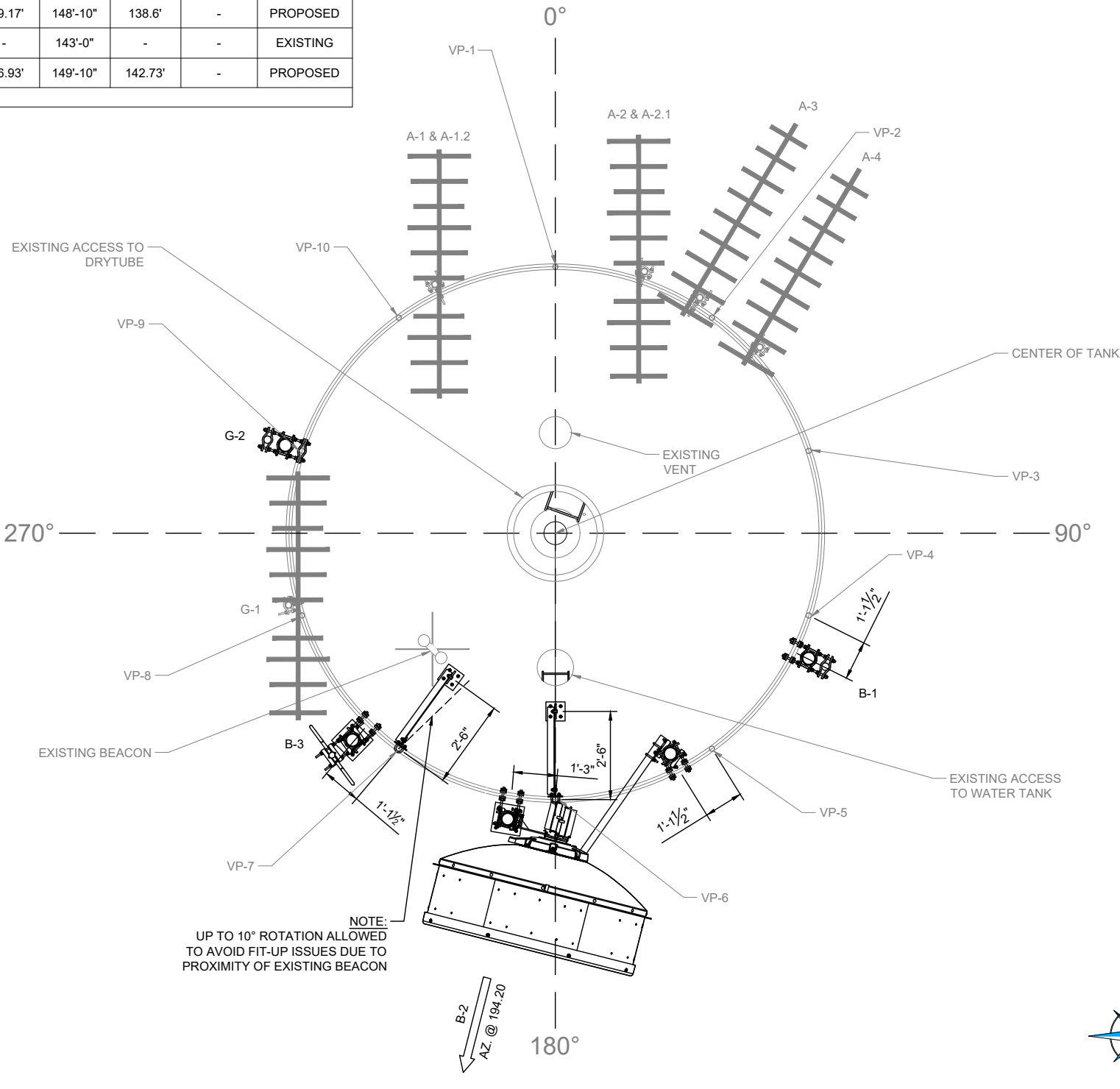
HILLCREST WT
909 E HILLCREST AVE
INDIANOLA, IA 50125
EXISTING 137'-3"
WATER TANK

SHEET TITLE
TOWER
MODIFICATION
SCHEDULE

SHEET NUMBER	REVISION
S-1	0

ANTENNA KEY

POS.	QTY.	MANUFACTURER	MODEL	TYPE	FUNCTION	VERTICAL POST	LENGTH	TIP HEIGHT	RAD CENTER	BOTTOM HEIGHT	AZIMUTH	STATUS
A-1	1	WADE ANTENNA	J-275-D	YAGI	-	-	-	-	144'-0"	-	-	EXISTING
A-1.2	1	WADE ANTENNA	J-105-HI	YAGI	-	-	-	-	144'-0"	-	-	EXISTING
A-2	1	WADE ANTENNA	J-275-D	YAGI	-	-	-	-	144'-0"	-	-	EXISTING
A-2.2	1	WADE ANTENNA	J-105-HI	YAGI	-	-	-	-	144'-0"	-	-	EXISTING
A-3	2	WADE ANTENNA	J-275-D	YAGI	-	-	-	-	144'-0"	-	-	EXISTING
A-4	2	WADE ANTENNA	J-275-D	YAGI	-	-	-	-	144'-0"	-	-	EXISTING
B-1	1	RFI	CC807-06	OMNI	Rx	VP-7	114"	151.0'	146'-3"	141.5'	-	PROPOSED
B-2	1	RFS	SB6-W60 C	MW	MW	VP-6	74.8"	144.71'	141'-8"	138.48'	194.20°	PROPOSED
B-3	1	RFI	BA80-41-DIN	DIPOLE	VHF	VP-4	248"	159.17'	148'-10"	138.6'	-	PROPOSED
G-1	1	WADE ANTENNA	J-55-LO	YAGI	-	-	-	-	143'-0"	-	-	EXISTING
G-2	1	DBSPECTRA INC	DS7C09P36U-D	OMNI	Tx	VP-9	14.2'	156.93'	149'-10"	142.73'	-	PROPOSED



SGS

10834 OLD MILL RD, SUITE 8
OMAHA, NE 68154
(402)575-8885
SGS# : 2002913.2

LICENSED PROFESSIONAL ENGINEER
NICHOLAS J. SCHMITT
22299
IOWA

7/28/20

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

REVISIONS			
REV.	DATE	DESCRIPTION	BY
0	05/18/20	CLIENT REVISIONS	ITM
0	07/17/20	CLIENT REVISIONS	ITM

HILLCREST WT

909 E HILLCREST AVE
INDIANOLA, IA 50125

EXISTING 137'-3"
WATER TANK

SHEET TITLE

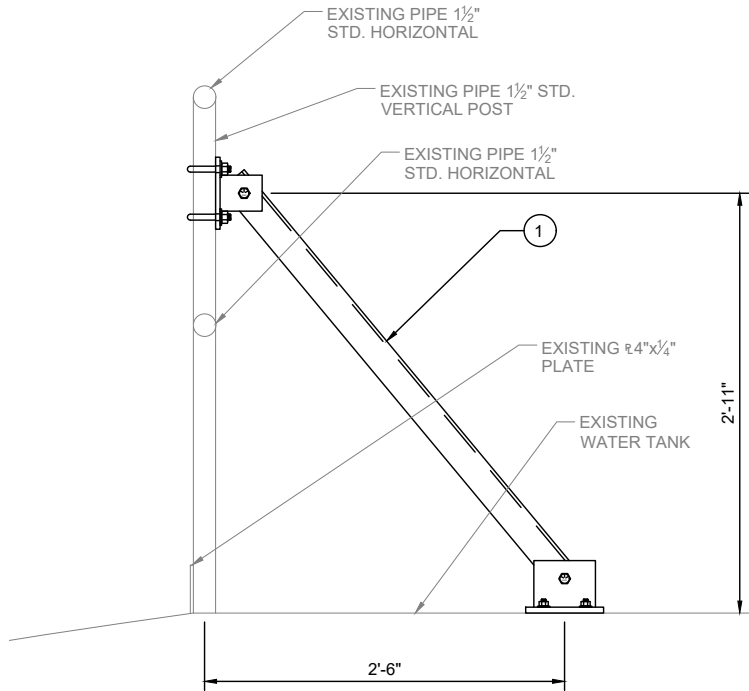
CONFIGURATION
PLAN VIEW

SHEET NUMBER
S-2

REVISION
0

PROPOSED MOUNT CONFIGURATION - PLAN VIEW @ ELEV. 143'-0"

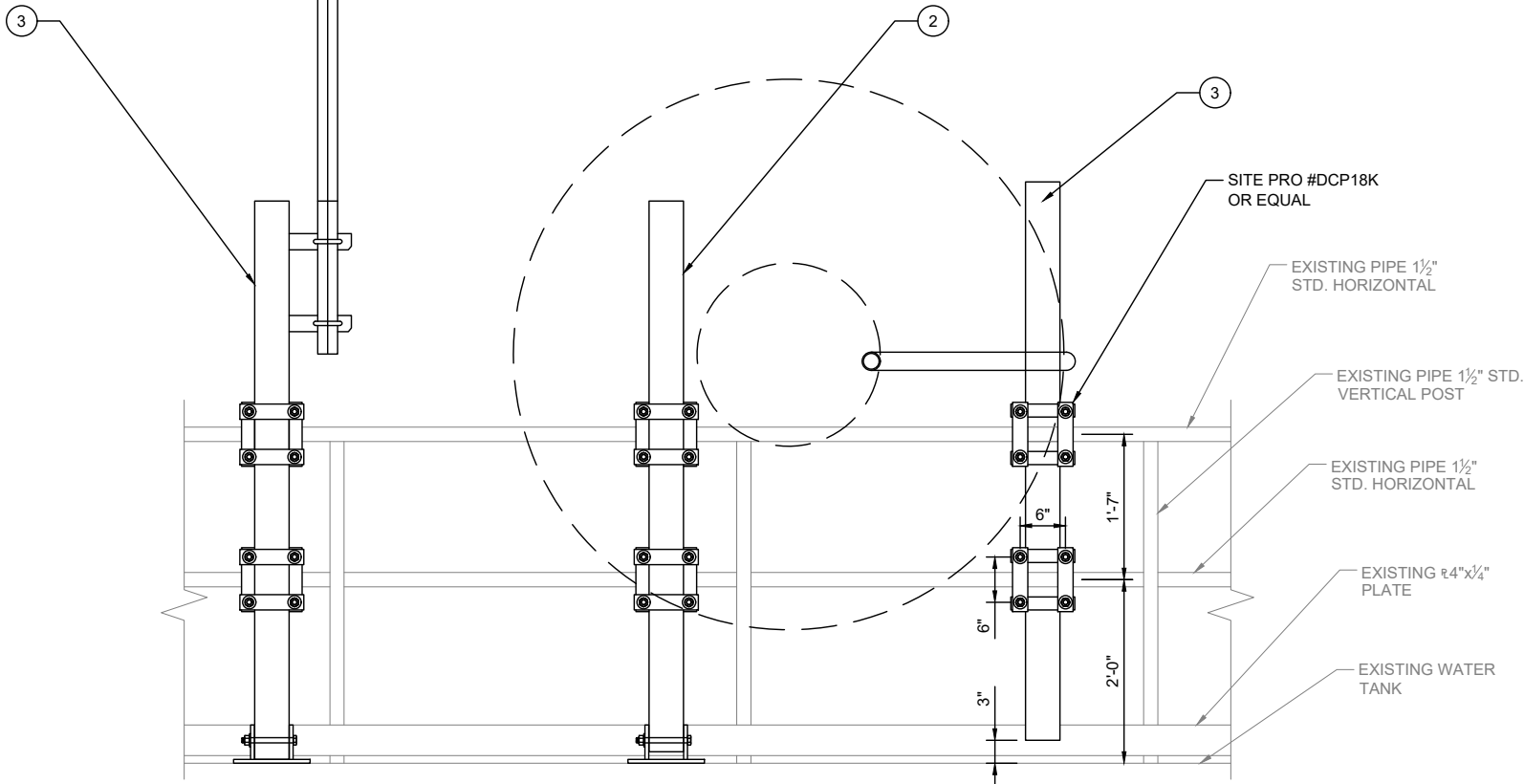
SCALE: 1/4" = 1'-0" (11x17)



SECTION DETAIL

SCALE: 3/4" = 1'-0" (11x17)

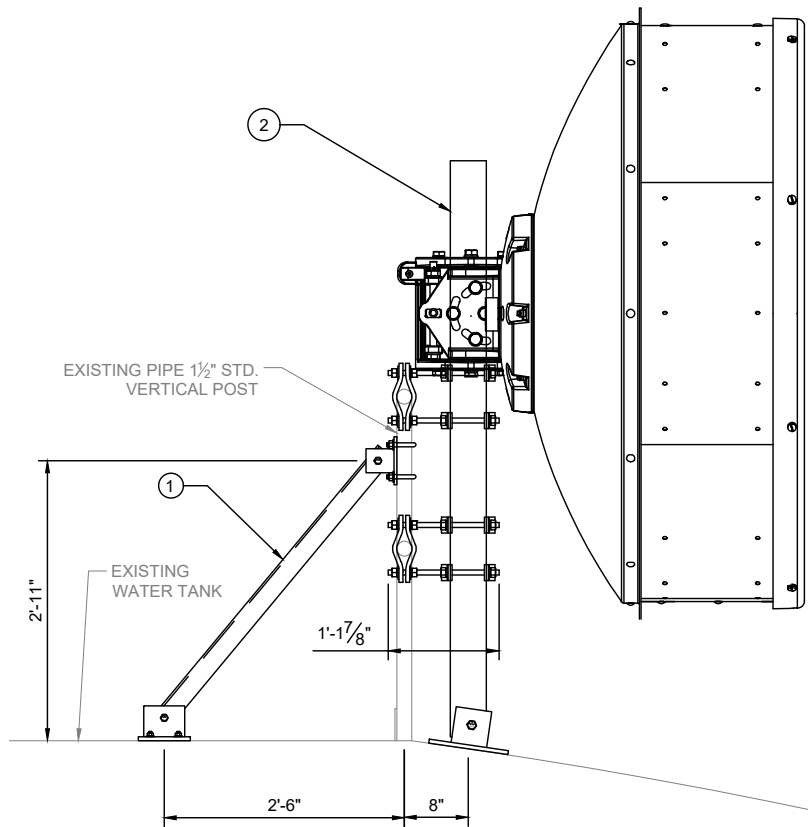
1



SECTION DETAIL

SCALE: 3" = 1'-0" (11x17)

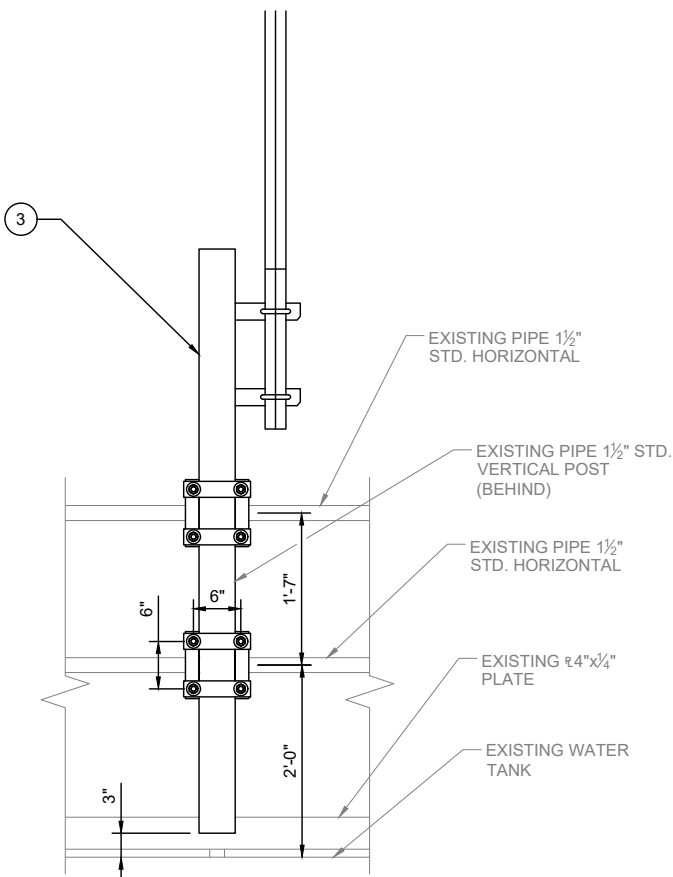
2



SECTION DETAIL

SCALE: 1/2" = 1'-0" (11x17)

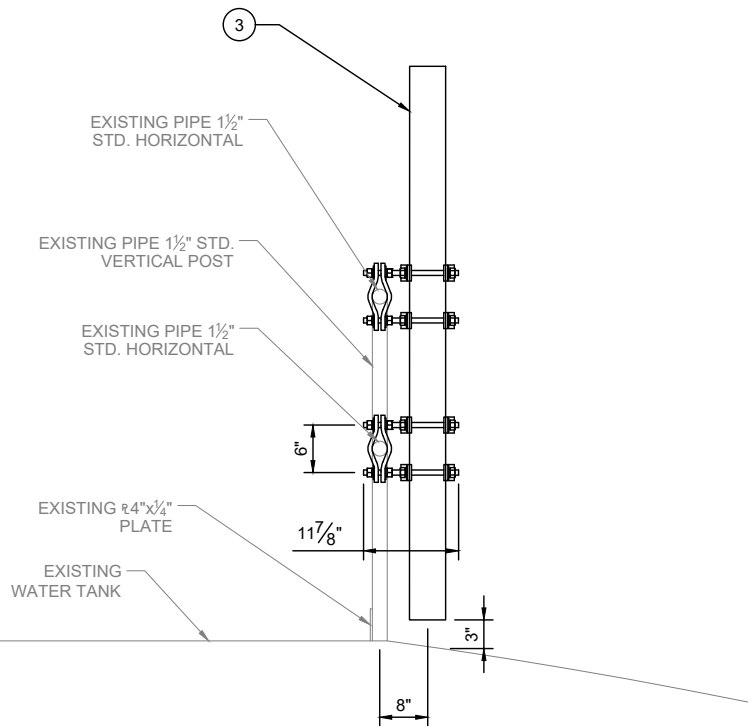
3



SECTION DETAIL

SCALE: 1/2" = 1'-0" (11x17)

4



SECTION DETAIL

SCALE: 1/2" = 1'-0" (11x17)

5

REVISIONS

REV.	DATE	DESCRIPTION	BY
0	05/18/20	CLIENT REVISIONS	ITM
0	07/17/20	CLIENT REVISIONS	ITM

HILLCREST WT

909 E HILLCREST AVE
INDIANOLA, IA 50125

EXISTING 137'-3"
WATER TANK

SHEET TITLE

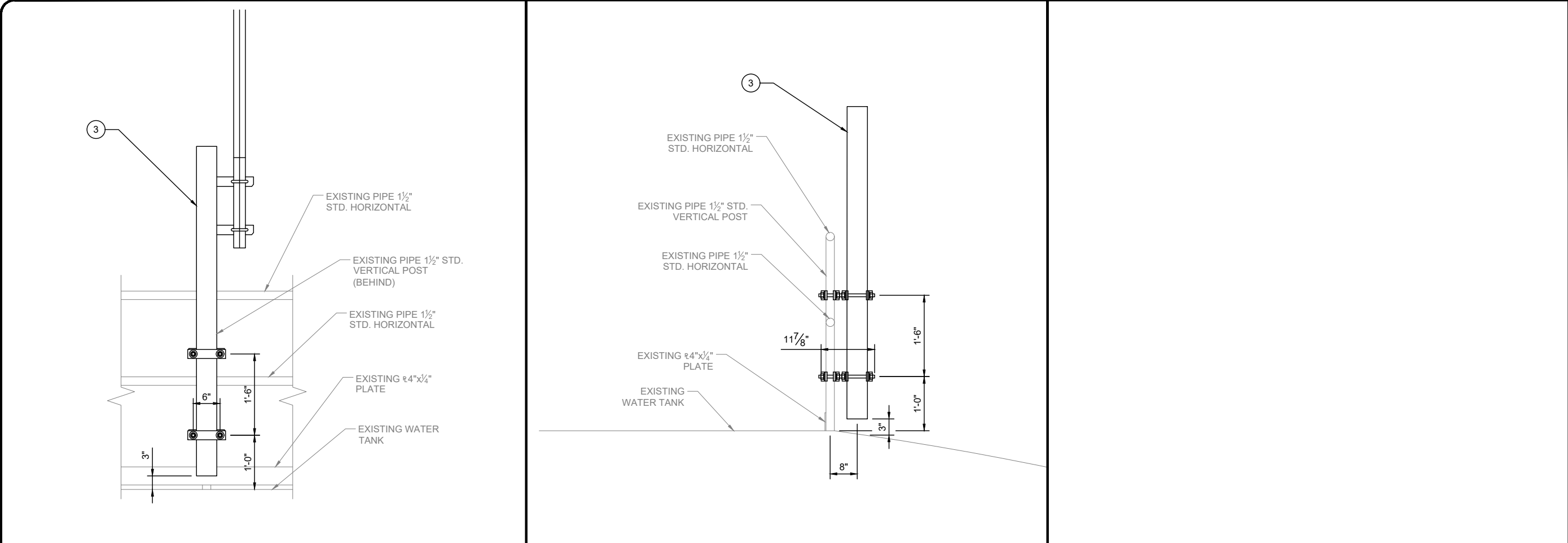
SECTION
DETAILS

SHEET NUMBER

S-3

REVISION

0



SECTION DETAIL	SCALE: 1/2" = 1'-0" (11x17)	1	SECTION DETAIL	SCALE: 1/2" = 1'-0" (11x17)	2	NOT USED	3
----------------	-----------------------------	---	----------------	-----------------------------	---	----------	---

NOT USED		4	NOT USED		5	NOT USED		6



10834 OLD MILL RD, SUITE 8
OMAHA, NE 68154
(402)575-8885
SGS# : 2002913.2

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA

REVISIONS			
REV.	DATE	DESCRIPTION	BY
0	05/18/20	CLIENT REVISIONS	ITM
0	07/17/20	CLIENT REVISIONS	ITM

HILLCREST WT

909 E HILLCREST AVE
INDIANOLA, IA 50125

EXISTING 137'-3"
WATER TANK

SHEET TITLE

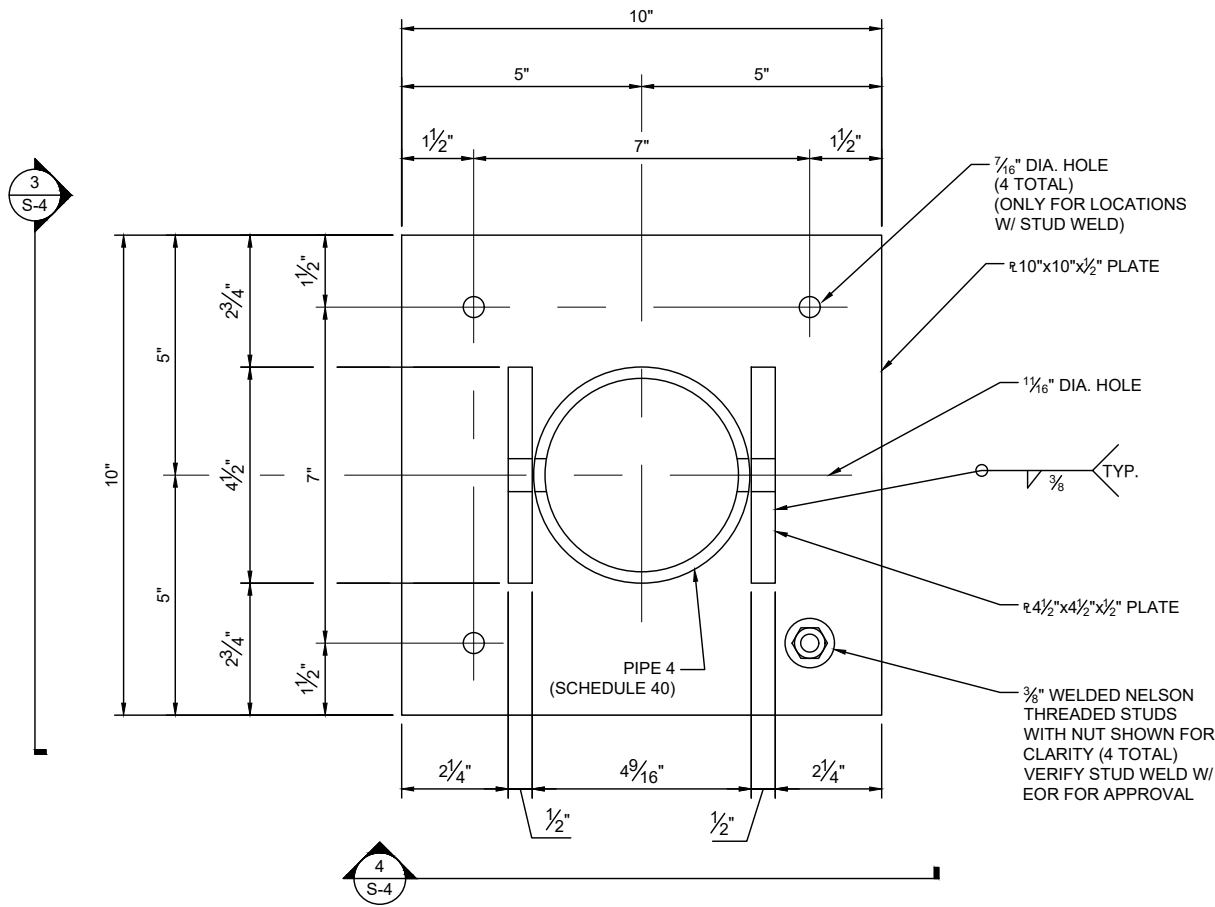
SECTION
DETAILS

SHEET NUMBER

S-4

REVISION

0



NOTE

ALL MAST PIPES REQUIRE BEARING PLATES (SEE BASE PLATE DETAIL, SHEET S-4). THE DISH+BA80-41 ARE THE ONLY BEARING PLATES THAT ALSO NEED TO BE STUD WELDED (PLACE 1/8" NEOPRENE RUBBER BETWEEN ALL STEEL IN CONTACT WITH THE TANK). ALL OTHER BEARING PLATES MAY REST ON 1/2" RUBBER MAT WITHOUT STUD WELDS.

BASE PLATE DETAIL

SCALE: 3" = 1'-0" (11x17)

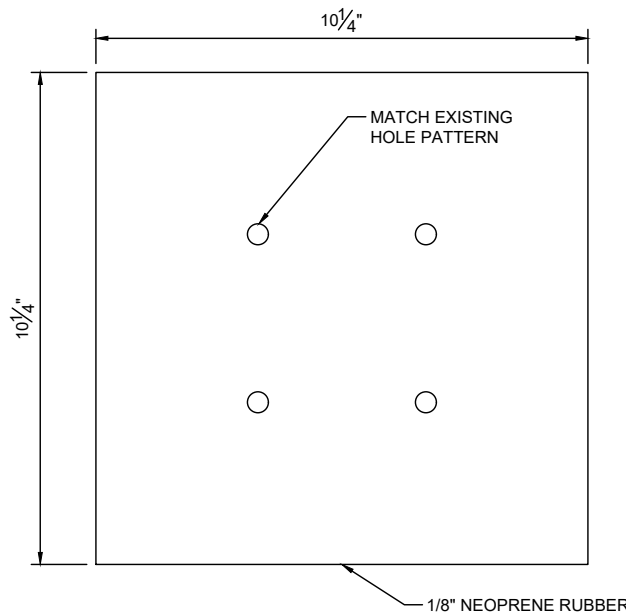
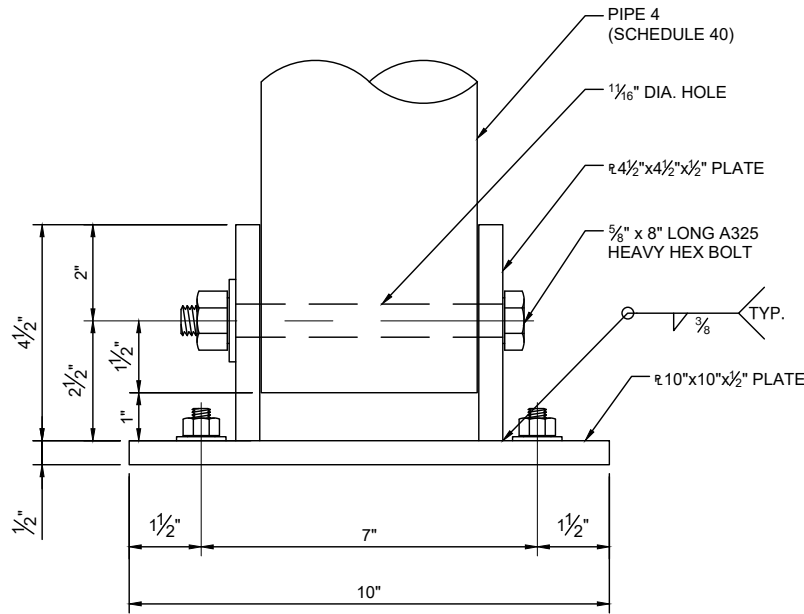
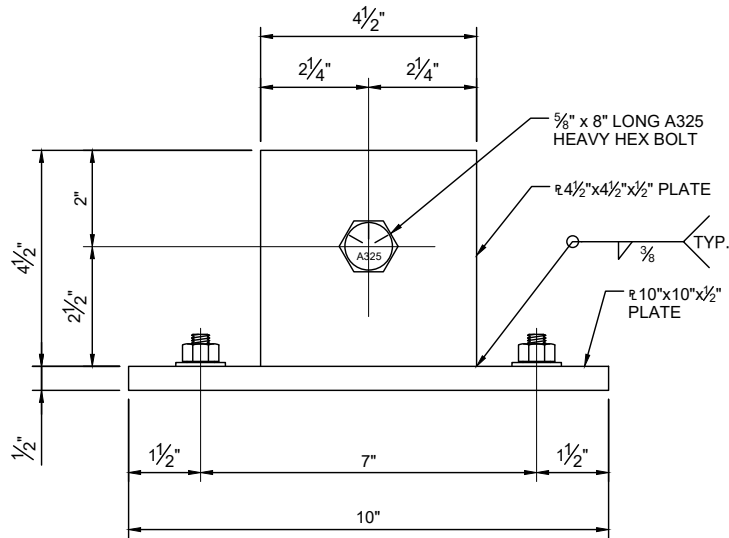
1

NOTES

2

NOTE

ALL STEEL IN CONTACT WITH THE WATER TOWER SHALL BE BACKED WITH 1/8" NEOPRENE RUBBER (OR AN APPROVED PROTECTANT) AND SEALED/PAINTED (REFERENCE GN-1, 'STRUCTURAL STEEL NOTES').



SECTION DETAIL

SCALE: 3" = 1'-0" (11x17)

3

SECTION DETAIL

SCALE: 3" = 1'-0" (11x17)

4

NEOPRENE RUBBER BACKER

5

REVISIONS

REV.	DATE	DESCRIPTION	BY
0	05/18/20	CLIENT REVISIONS	ITM
0	07/17/20	CLIENT REVISIONS	ITM

HILLCREST WT

909 E HILLCREST AVE
INDIANOLA, IA 50125

EXISTING 137'-3"
WATER TANK

SHEET TITLE

**BASE PLATE
DETAILS**

SHEET NUMBER

S-5

REVISION

0

PYRAMID
Network Services, LLC

SGS

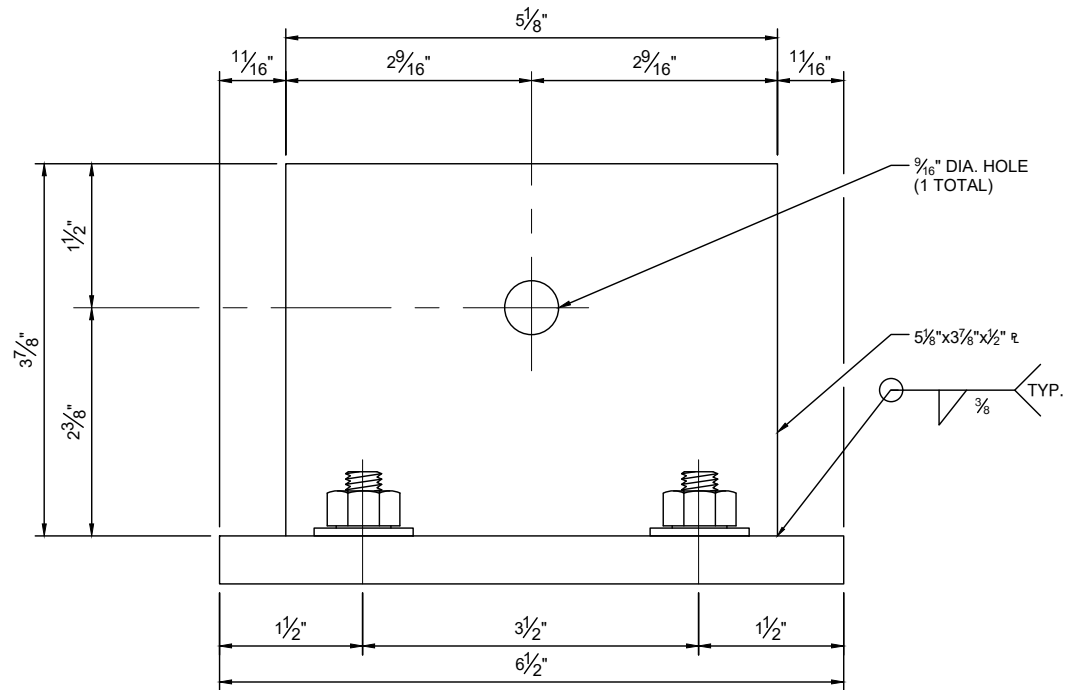
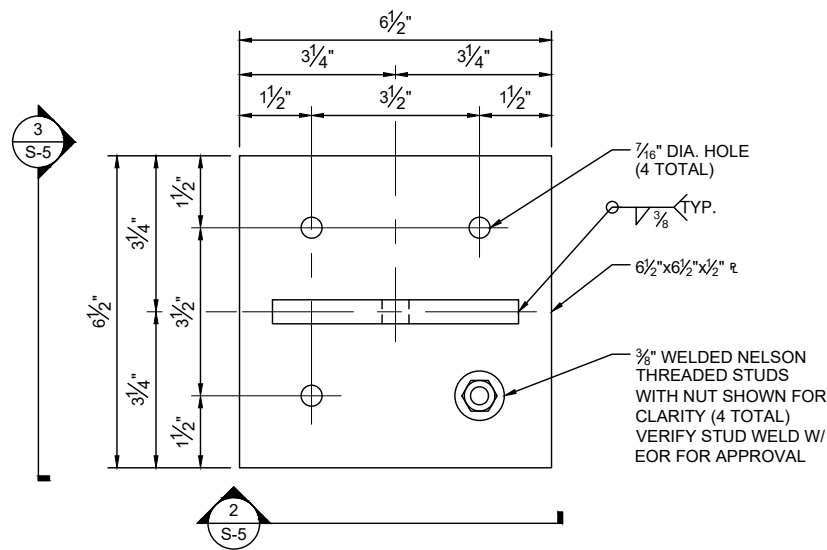
10834 OLD MILL RD, SUITE 8
OMAHA, NE 68154
(402)575-8885
SGS# : 2002913.2

NICHOLAS J. SCHMITT
22299
IOWA

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

NOTE

SGS RECOMMENDS USING THE BASE PLATE AS A TEMPLATE FOR STUD WELD PLACEMENT. ENSURE THAT STUD WELDS ARE INSPECTED PRIOR TO FULLY INSTALLING BASE PLATE.



KICKER ANGLE BASE PLATE DETAIL

SCALE: 3" = 1'-0" (11x17)

1

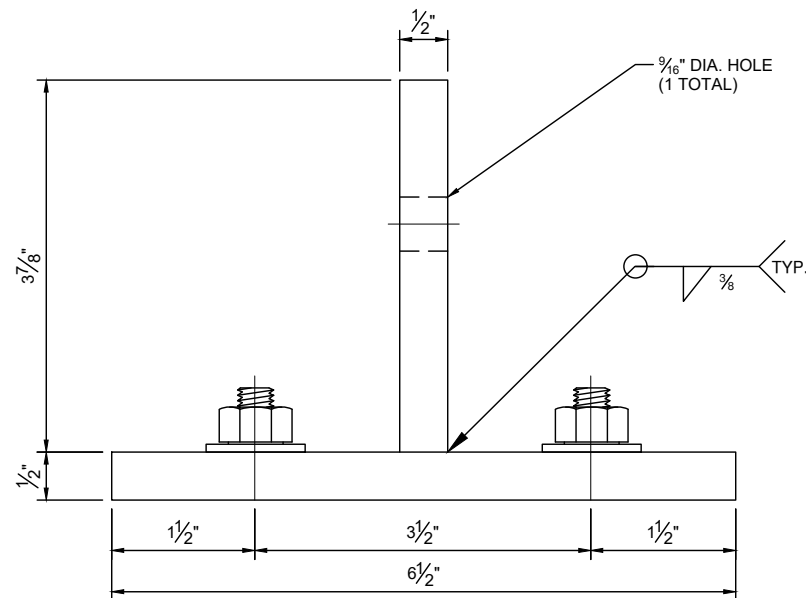
SECTION DETAIL

SCALE: 6" = 1'-0" (11x17)

2

NOTE

ALL STEEL IN CONTACT WITH THE WATER TOWER SHALL BE BACKED WITH 1/8" NEOPRENE RUBBER (OR AN APPROVED PROTECTANT) AND SEALED/PAINTED (REFERENCE GN-1, 'STRUCTURAL STEEL NOTES').

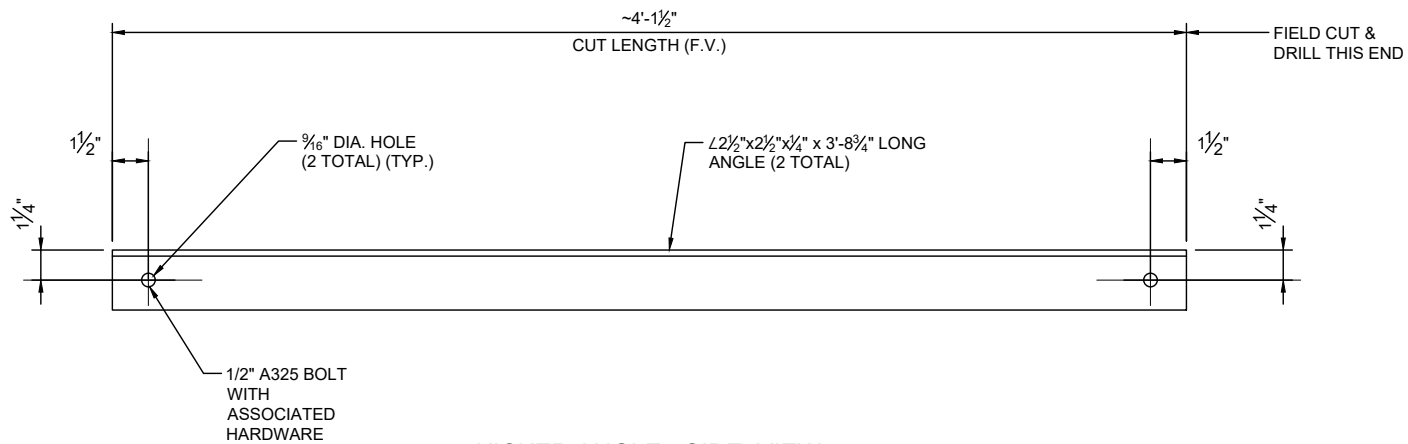


SECTION DETAIL

SCALE: 6" = 1'-0" (11x17)

3

ANGLE DETAILS



KICKER ANGLE - SIDE VIEW

SCALE: 1 1/2" = 1'-0" (11x17)

5

PYRAMID
Network Services, LLC

SGS

10834 OLD MILL RD, SUITE 8
OMAHA, NE 68154
(402)575-8885
SGS# : 2002913.2

NICHOLAS J. SCHMITT
LICENSED PROFESSIONAL ENGINEER
22299
IOWA

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

REVISIONS

REV.	DATE	DESCRIPTION	BY
0	05/18/20	CLIENT REVISIONS	ITM
0	07/17/20	CLIENT REVISIONS	ITM

HILLCREST WT

909 E HILLCREST AVE
INDIANOLA, IA 50125

EXISTING 137'-3"
WATER TANK

SHEET TITLE

KICKER BASE
PLATE DEALS

SHEET NUMBER

S-6

REVISION

0

REVISIONS

REV.	DATE	DESCRIPTION	BY
0	05/18/20	CLIENT REVISIONS	ITM
0	07/17/20	CLIENT REVISIONS	ITM

HILLCREST WT

909 E HILLCREST AVE
 INDIANOLA, IA 50125

EXISTING 137'-3"
 WATER TANK

SHEET TITLE

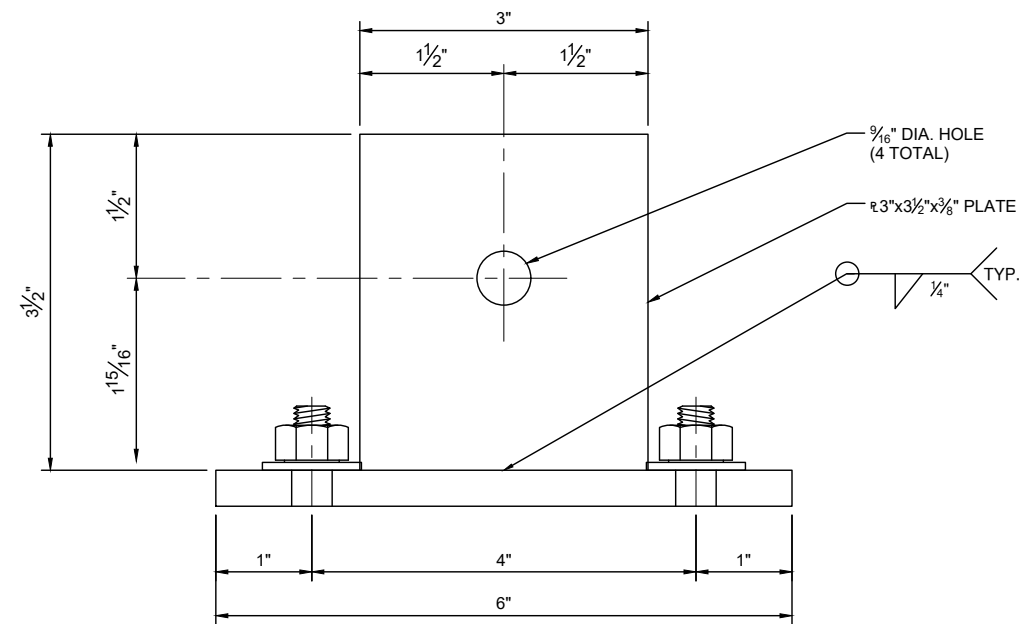
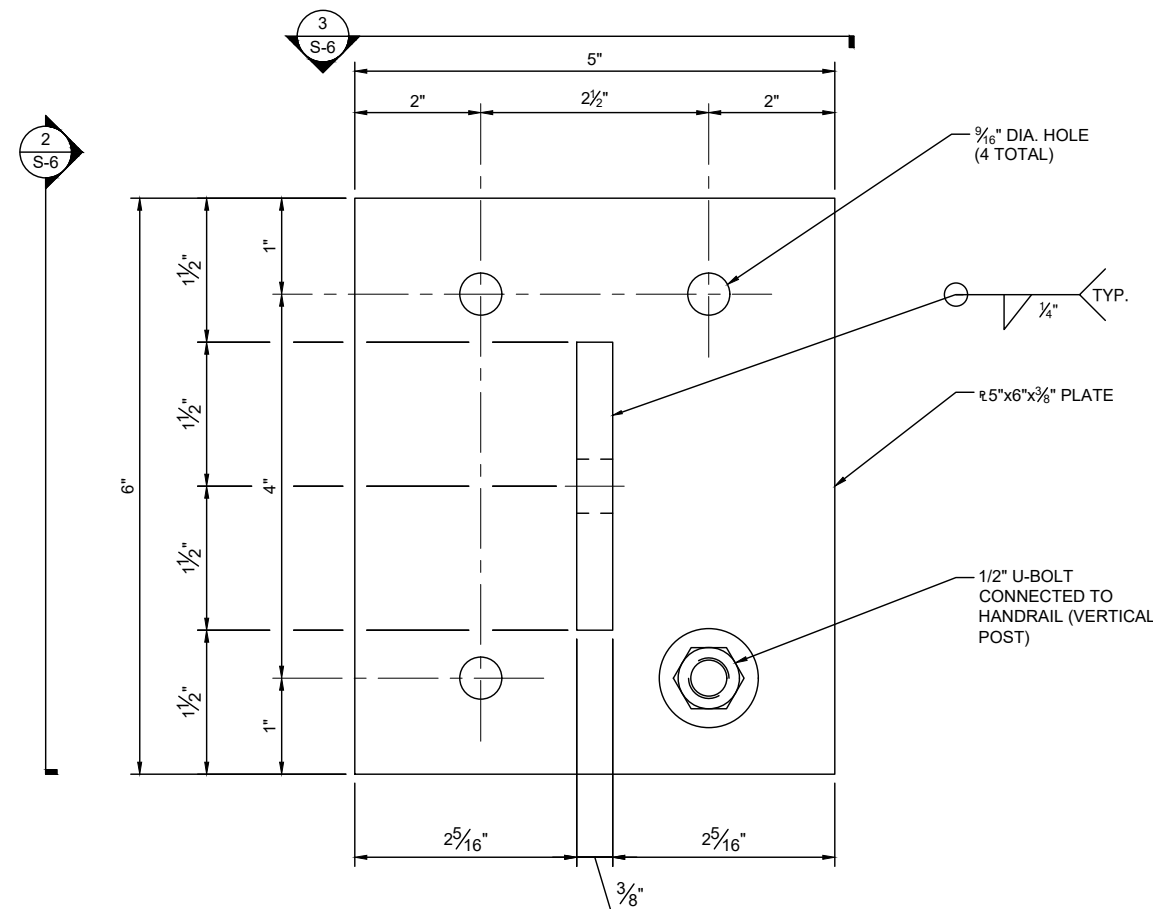
MOUNTING
 BRACKET DETAILS

SHEET NUMBER

S-7

REVISION

0



MOUNTING BRACKET DETAIL

SCALE: 6" = 1'-0" (11x17)

1

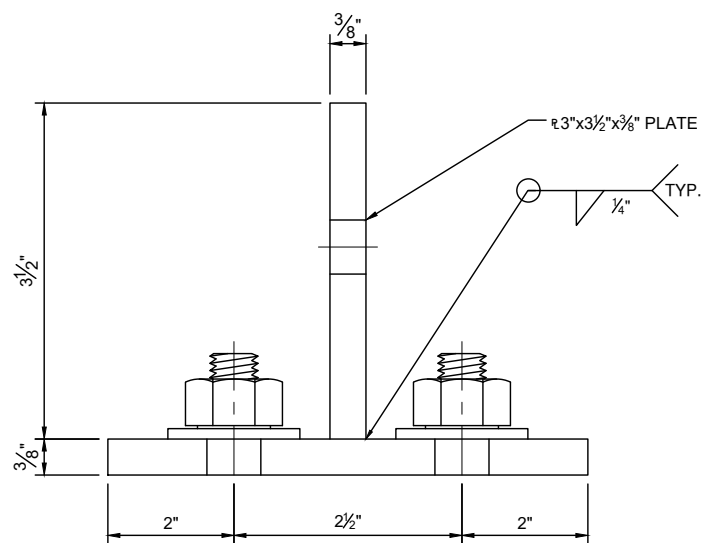
SECTION DETAIL

SCALE: 6" = 1'-0" (11x17)

2

NOTE

ALL STEEL IN CONTACT WITH THE WATER TOWER SHALL BE BACKED WITH 1/8" NEOPRENE RUBBER (OR AN APPROVED PROTECTANT) AND SEALED/PAINTED (REFERENCE GN-1, 'STRUCTURAL STEEL NOTES').



SECTION DETAIL

SCALE: 6" = 1'-0" (11x17)

3

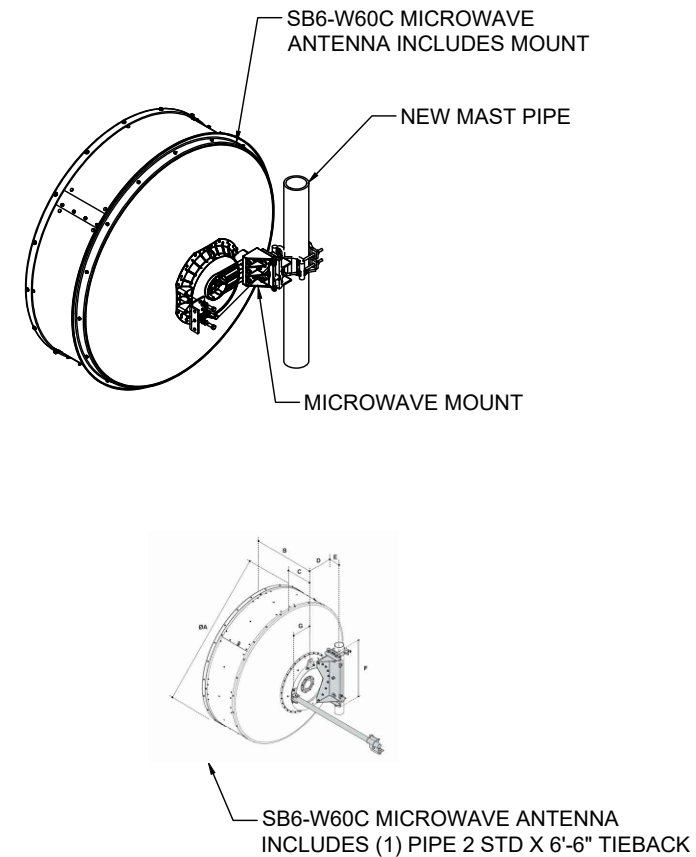
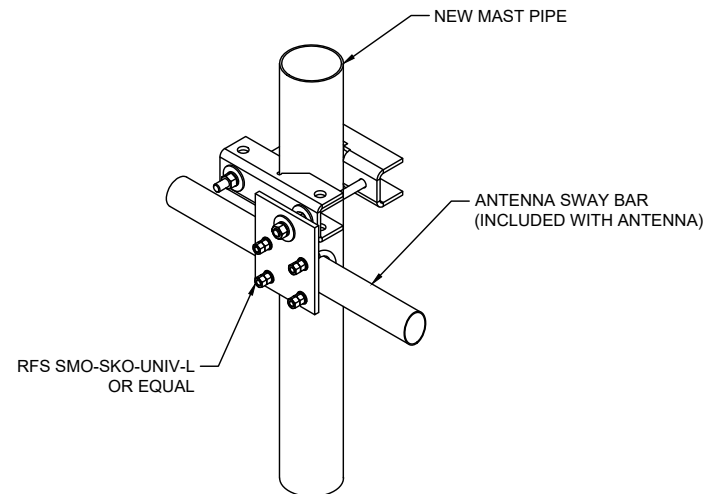
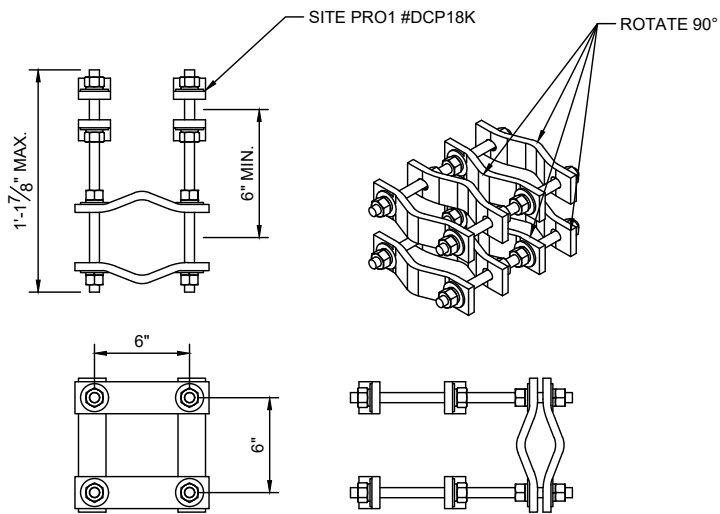
MATERIAL LIST

MATERIAL LIST

QTY	DESCRIPTION	CUT LENGTH	DETAIL	MATERIAL
2	MOUNTING BRACKET	-	S-7	5"x6"x3/8"
2	KICKER ANGLE BASE PLATE	-	S-5	6 1/2"x6 1/2"x1/2"
2	KICKER ANGLE	4'-1 1/2"	S-5	L 2 1/2"x2 1/2"x1/4"
2	BASE PLATE	-	S-4	10"x10"x1/2"
9	SITE PRO1 DCP18K	-	S-7	-
4	1/2" DIA. U-BOLT	-	-	-
4	1/2" DIA. A325 BOLTS	-	-	-
2	5/8" DIA. A325 BOLTS	-	-	-
16	3/8" DIA. NELSON STUDS	-	-	-
5	6'-0" PIPE	6'-0"	-	PIPE 4 STD
2	NEOPRENE RUBBER BACKER	-	S-5	10 1/4"x10 1/4"x1/8"

NOTES:

- ALL MATERIAL TO BE HOT DIPPED GALVANIZED
- ALL CUT LENGTHS ARE FOR BIDDING PURPOSES ONLY
- ALL MATERIAL LENGTHS, DIMENSIONS, AND QUANTITIES SHALL BE VERIFIED BY THE FABRICATOR PRIOR TO STEEL FABRICATION
- PROVIDE NUT AND LOCK WASHERS WITH ALL HARDWARE U.N.O
- SGS TOWERS RECOMMENDS CUTTING MEMBERS TO THE CUT LENGTH SHOWN, SHOP PUNCHING THE HOLES IN ONE END AND THEN PUNCHING THE OTHER END AND PERFORMING THE FINAL CUT IN THE FIELD.
- CONTRACTOR MAY CHOOSE TO SHOP FABRICATE ALL MEMBERS, BUT SGS TOWERS RECOMMENDS VERIFYING THE DIMENSIONS IN THE FIELD PRIOR TO FABRICATION.



SITE PRO1 DCP18K DETAIL

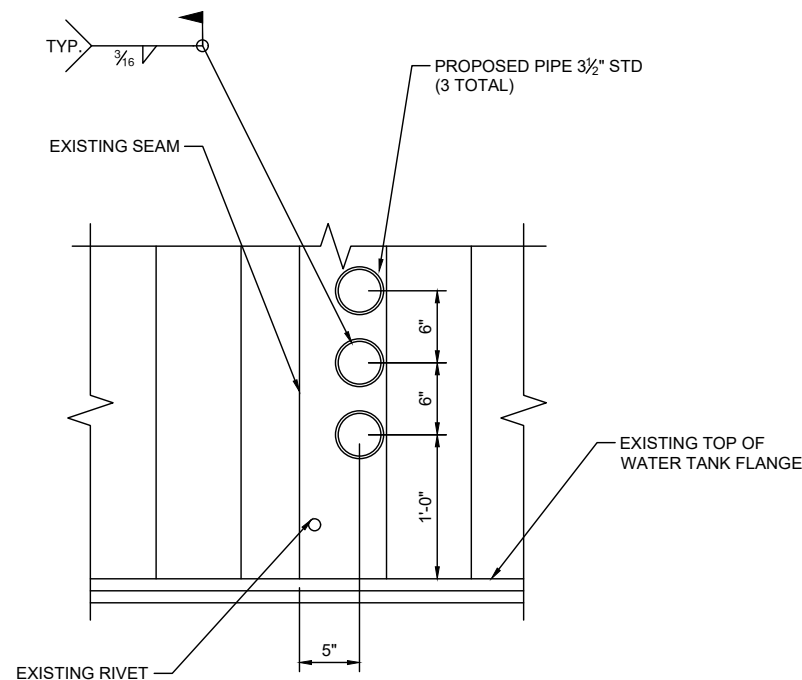
1

RFS SMO-SKO-UNIV-L DETAIL

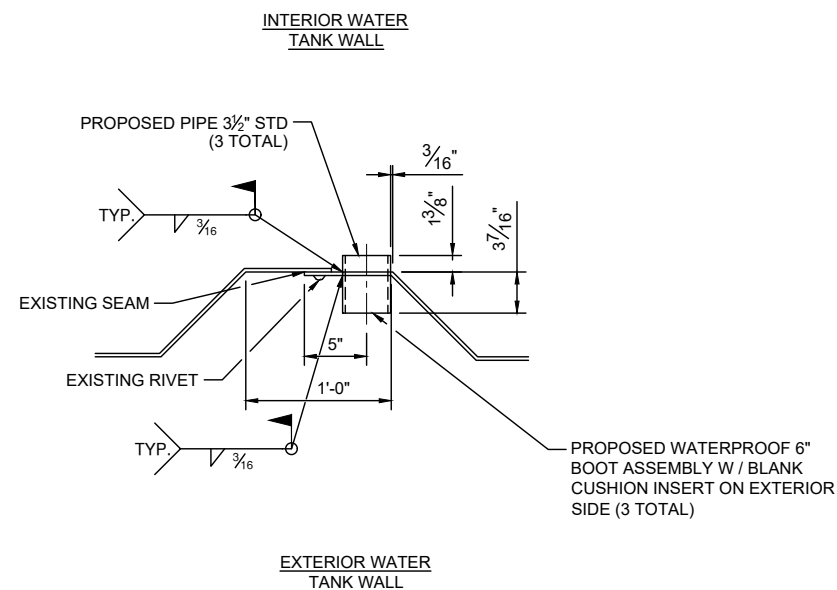
2

DISH INSTALLATION DETAILS

3



NOTE
CONTRACTOR SHALL APPLY 2 COATS OF PAINT ON ALL MODIFICATIONS. FIELD VERIFY EXISTING PAINT WITH THE LANDLORD.



PORTHOLE PENETRATION - ELEVATION VIEW

SCALE: 3/4" = 1'-0" (11x17)

4

PORTHOLE PENETRATION - PLAN VIEW

SCALE: 3/4" = 1'-0" (11x17)

5

NOT USED

6



SGS
10834 OLD MILL RD, SUITE 8
OMAHA, NE 68154
(402)575-8885
SGS# : 2002913.2



I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

REVISIONS			
REV.	DATE	DESCRIPTION	BY
0	05/18/20	CLIENT REVISIONS	ITM
0	07/17/20	CLIENT REVISIONS	ITM

HILLCREST WT
909 E HILLCREST AVE
INDIANOLA, IA 50125
EXISTING 137'-3"
WATER TANK

SHEET TITLE
MOUNT DETAILS

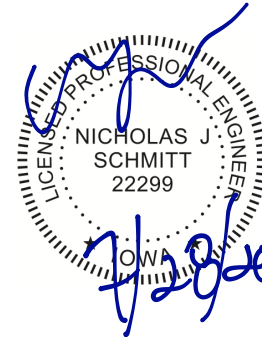
SHEET NUMBER
S-8

REVISION
0





10834 OLD MILL RD, SUITE 8
OMAHA, NE 68154
(402)575-8885
SGS# : 2002913.2



NICHOLAS J.
SCHMITT
22299
IOWA
7/20/20

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

EXISTING GUYED TOWER & GUY WIRE (TO BE REMOVED)

1

EXISTING GUYED TOWER (TO BE REMOVED)

2

EXISTING CABINET (TO BE REMOVED)

3



RELOCATE EXISTING EQUIPMENT

PROPOSED LOCATION OF EXISTING EQUIPMENT

RELOCATE EXISTING EQUIPMENT

4

NOT USED

5

NOT USED

6

REVISIONS			
REV.	DATE	DESCRIPTION	BY
0	05/18/20	CLIENT REVISIONS	ITM
0	07/17/20	CLIENT REVISIONS	ITM

HILLCREST WT

909 E HILLCREST AVE
INDIANOLA, IA 50125

EXISTING 137'-3"
WATER TANK

SHEET TITLE

SITE PHOTOS

SHEET NUMBER

S-9

REVISION

0