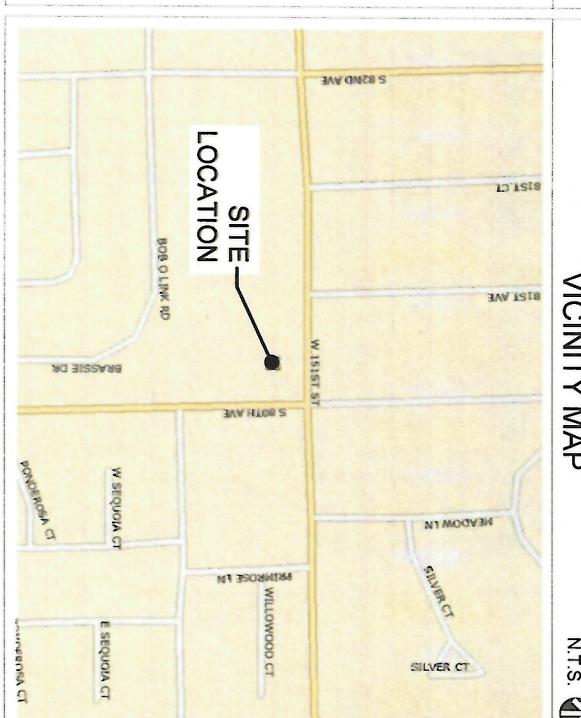


CONSULTANT TEAM		PROJECT TYPE		VICINITY MAP		REGIONAL MAP																					
PROJECT CONSULTANT: TERRA CONSULTING GROUP, LTD. 600 BUSSE HIGHWAY PARK RIDGE, IL 60068 (847) 698-6400	SURVEYOR: ASM CONSULTANTS, INC. P.O. BOX 7 PLANO, IL 60545 (630) 273-2500	PROPOSED LESSEE ANTENNAS MOUNTED ON A NEW MONOPOLE TOWER WITH PROPOSED 9'4" X 16'-0" EQUIPMENT PLATFORM AT BASE.		<p>APPROVALS</p> <p>REAL ESTATE: _____</p> <p>RF: _____</p> <p>CONSTRUCTION: _____</p> <p>EQUIPMENT ENGINEERING: _____</p> <p>OPERATIONS: _____</p>		<p>SITE COORDINATES: LATITUDE: 41° 36' 58.54" N (1A CERTIFICATION) LONGITUDE: 87° 46' 55.39" W (1A CERTIFICATION) ELEVATION: ±704' (1A)</p> <p>DRIVING DIRECTIONS: FROM LESSEE OFFICE: START OUT GOING EAST ON E WOODFIELD RD TOWARD MALL DR. TURN RIGHT ONTO W FRONTAGE RD. MERGE ONTO I-290 E VIA THE RAMP ON THE LEFT. KEEP RIGHT TO TAKE I-290 E TOWARD CHICAGO. MERGE ONTO I-94 S/T RI STATE TOLLWAY S VIA EXIT 15A TOWARD INDIANA (PORTIONS TOLL). MERGE ONTO I-55 N/WADIAE STEVENSON EXPY N TOWARD CHICAGO. MERGE ONTO US-45 S/S LA GRANGE RD VIA EXIT 279A. TURN LEFT ONTO W 151ST ST. DESTINATION WILL BE ON THE RIGHT.</p>  																					
<h1>CHICAGO SMSA</h1> <h2>limited partnership</h2>		<p>CHICAGO SMSA LIMITED PARTNERSHIP d/b/a VERIZON WIRELESS 1515 WOODFIELD ROAD, SUITE 1400 SCHAUMBURG, ILLINOIS 60173 PHONE: (847) 619-5397 FAX: (847) 706-7415</p> <p>TOWER TO BE BUILT AND OWNED BY DRA PROPERTIES LLC.</p> <p>DATE: <u>10-19-2018</u></p>		<p>GENERATOR TYPE: NATURAL GAS MAKE: GENERAC MODEL: SGNG-35-EV-1P 35KWW NAT GAS 120/240 1-PH OUTDOOR STANDARD CONFIGURATION</p>		<p>PROJECT INFORMATION</p> <table border="1"> <tr> <td>P.I.N. #:</td> <td>27-14-201-010-0000</td> </tr> <tr> <td>ADDRESS:</td> <td>1500 S 80TH AVE ORLAND PARK, IL 60462</td> </tr> <tr> <td>UTILITIES:</td> <td>POWER: COMED LEONARD ANDERSON (708) 235-2346</td> </tr> <tr> <td>OCCUPANCY:</td> <td>VILLAGE OF ORLAND PARK UNINHABITED</td> </tr> <tr> <td>CONSTRUCTION TYPE:</td> <td>COMMERCIAL/RESIDENTIAL</td> </tr> <tr> <td>PROPERTY OWNER:</td> <td>RAWLAND ORLAND FIRE DISTRICT 15100 SOUTH 80TH AVE ORLAND PARK, IL 60462</td> </tr> <tr> <td>TOWER OWNER:</td> <td>VILLAGE OF ORLAND PARK MARK WILLIAMS (847) 273-0488</td> </tr> <tr> <td>CONTACT PERSON:</td> <td>CHRISTOPHER B. BURKE ENGINEERING LTD. BY: <u>Christopher B. Burke</u></td> </tr> <tr> <td>CONSTRUCTION MANAGER:</td> <td>CHICAGO SMSA 1515 WOODFIELD ROAD SCHAUMBURG, IL 60173 RONALD PAULY (836) 534-4094</td> </tr> <tr> <td>REAL ESTATE MANAGER:</td> <td>RAWLAND DANNY PEREZ (847) 706-1765</td> </tr> </table>		P.I.N. #:	27-14-201-010-0000	ADDRESS:	1500 S 80TH AVE ORLAND PARK, IL 60462	UTILITIES:	POWER: COMED LEONARD ANDERSON (708) 235-2346	OCCUPANCY:	VILLAGE OF ORLAND PARK UNINHABITED	CONSTRUCTION TYPE:	COMMERCIAL/RESIDENTIAL	PROPERTY OWNER:	RAWLAND ORLAND FIRE DISTRICT 15100 SOUTH 80TH AVE ORLAND PARK, IL 60462	TOWER OWNER:	VILLAGE OF ORLAND PARK MARK WILLIAMS (847) 273-0488	CONTACT PERSON:	CHRISTOPHER B. BURKE ENGINEERING LTD. BY: <u>Christopher B. Burke</u>	CONSTRUCTION MANAGER:	CHICAGO SMSA 1515 WOODFIELD ROAD SCHAUMBURG, IL 60173 RONALD PAULY (836) 534-4094	REAL ESTATE MANAGER:	RAWLAND DANNY PEREZ (847) 706-1765
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<p>ATTACHMENTS</p>		<p>EX-1 GENERATOR CUT-SHEET L-1,2 SITE SURVEY L-1 LANDSCAPE PLAN</p>		<p>ATTACHMENTS</p>		<p>ATTACHMENTS</p>																					

REVISIONS			
NO.	DESCRIPTION	DATE	BY
5	UPDATE WITH NEW LAYOUT	09/08/17	DMS
6	FINALS WITH FIBER	10/20/17	RA
7	ADDITION OF LANDSCAPING PLAN	12/29/17	JTM
8	UPDATE PER GAS COORDINATION	01/31/18	DMS
9	REVISED LANDSCAPE PLAN PER VILLAGE	04/05/18	JTM
10	UPDATE SITE WITH THICKENED EDGE SLAB DESIGN	05/29/18	TJS
11	UPDATE WITH NEW ECR	06/27/18	TJS

CHICAGO SMSA
limited partnership
d/b/a VERIZON WIRELESS

TERRA
TERRA CONSULTING GROUP, LTD.
600 BUSSE HIGHWAY
PARK RIDGE, IL 60068
PH: 847-698-6400
FAX: 847-698-6401

ATTACHMENTS

SHEET NUMBER: **T-1**
RECEIVED

DOLAN REALTY SITE #: DRA IL-1014

LOCATION NUMBER: 311466

SITE NAME: W 151st ST & S 80th AVE

15100 S 80TH AVE
ORLAND PARK, IL 60462

STATE OF ILLINOIS
LICENSED PROFESSIONAL ENGINEER
CHRISTOPHER B. BURKE
CHRISTOPHER BURKE ENGINEERING LTD.
THOMAS A. ZIMMERMANN
062-0533210
6/27/18

Call Before Dig

OPERATES 24 HOURS
A DAY 365 DAYS A YEAR

PROPOSED (1) 4" Ø CONDUIT W/ (2) 1-1/4" INNERDUCTS W/PULL ROPE FROM FIBER MEETPOINT TO LESSEE HANDHOLE (BY FIBER PROVIDER) (15±L.F.)

Northern Illinois Gas Company easement by doc. 2307757
PREVIOUSLY DEDICATED BY DEC 96497922



SCALE 1" = 20'

151st STREET

PROPOSED FIBER HANDHOLE
(BY FIBER PROVIDER)

PROPOSED LESSEE FIBER HANDHOLE
"MEE POINT" (BY G.C.)

FLAGPOLE SIGN

PROPOSED 8' WIDE
UTILITY EASEMENT

PROPOSED GAS
METER, BY NICOR

ASPHALT

CATCH BASIN

SANITARY
MANHOLE

CATCH
BASIN

CHARLES
PEDESTAL

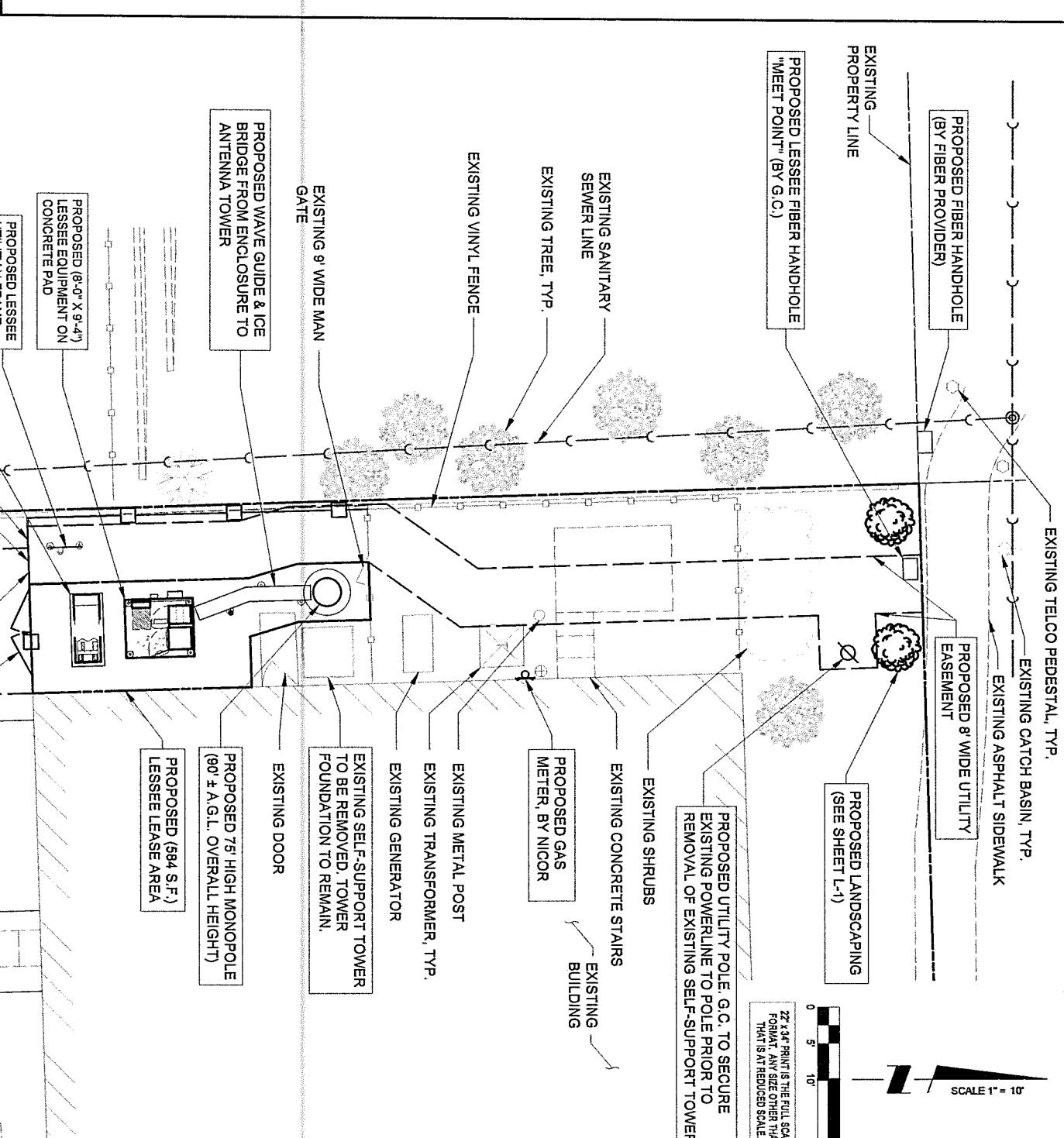
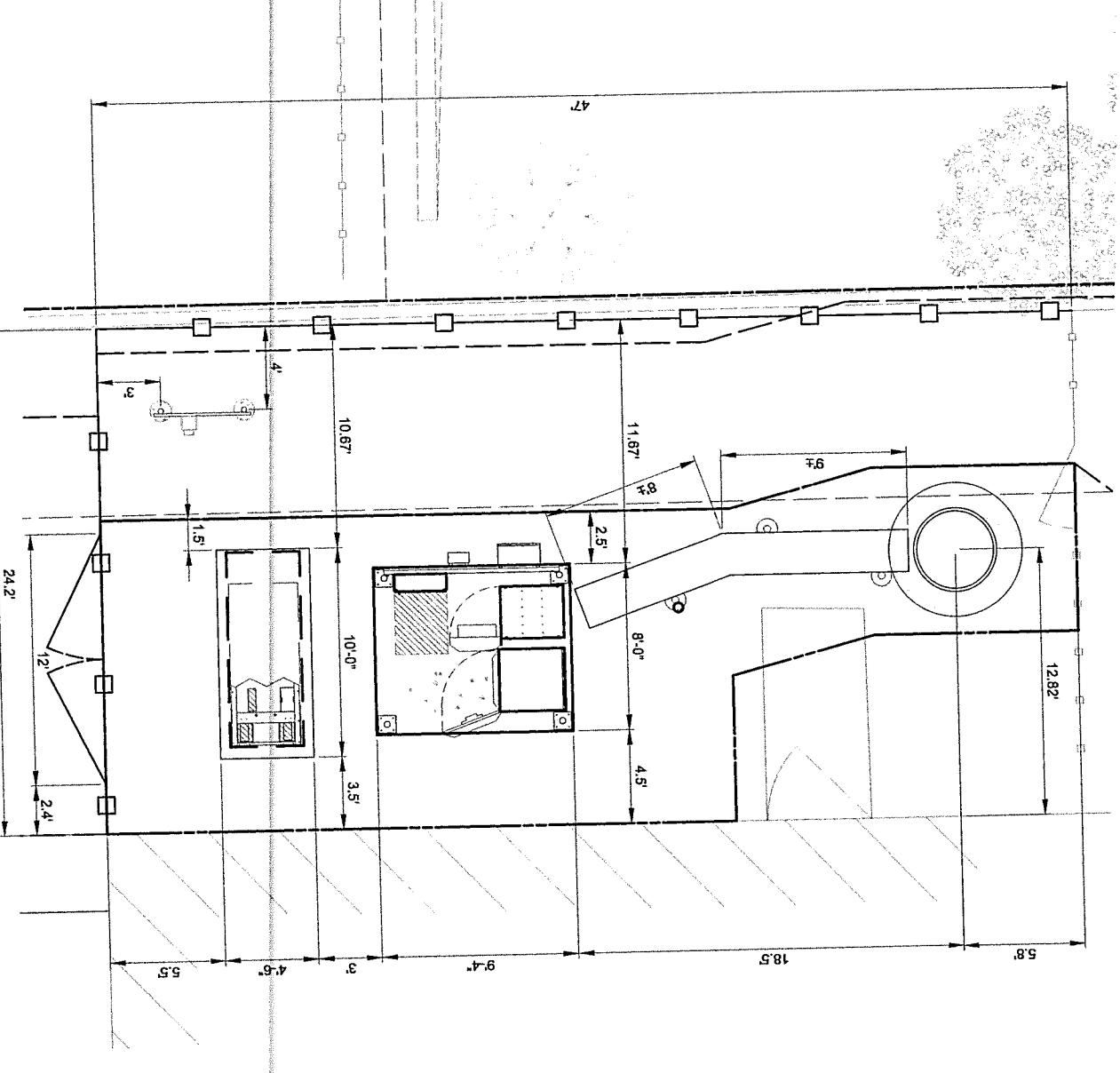
CATCH
BASIN

MANHOLE
RIM=702.44

CATCH
BASIN
RIM=702.29

MANHOLE
RIM=701.91

MANHOLE
RIM=702.44



REVISIONS			
NO.	DESCRIPTION	DATE	BY
5	UPDATE WITH NEW LAYOUT	09/08/17	DMS
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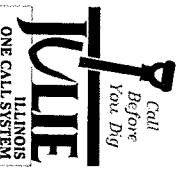
LEASE SITE	50 S.Y.
<input type="checkbox"/> 8" COMPACTED AGGREGATE BASE COURSE, WITH 3/4" CRUSHED AGGREGATE, NO FINE, OR APPROVED EQUAL. MIRAFI 500X 71 L.F. OF FENCING	
THE CONTRACTOR SHALL INCLUDE AS PART OF THE BID, THE COST OF REMOVAL OF ANY SURFACE VEGETATION AND ORGANIC SOILS OR OTHER DELETERIOUS MATERIALS AND THE REPLACEMENT WITH ENGINEERED BACKFILL FOR THE AGGREGATE ACCESS DRIVE AND LEASE SITE, IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT.	

DRA PROPERTIES LLC TO INSTALL: TOWER, TOWER FOUNDATION & TOWER GROUND FENCE & GATE H-FRAME AND GROUNDING ELECTRIC CONDUITS AND CONDUCTOR FROM METER TO COMED DEMARC FIBER CONDUITS WITH PULL ROPE FROM FIBER HANDHOLE IN THE R.O.W. TO THE COMPOUND	
---	--

Advanced Surveying & Mapping

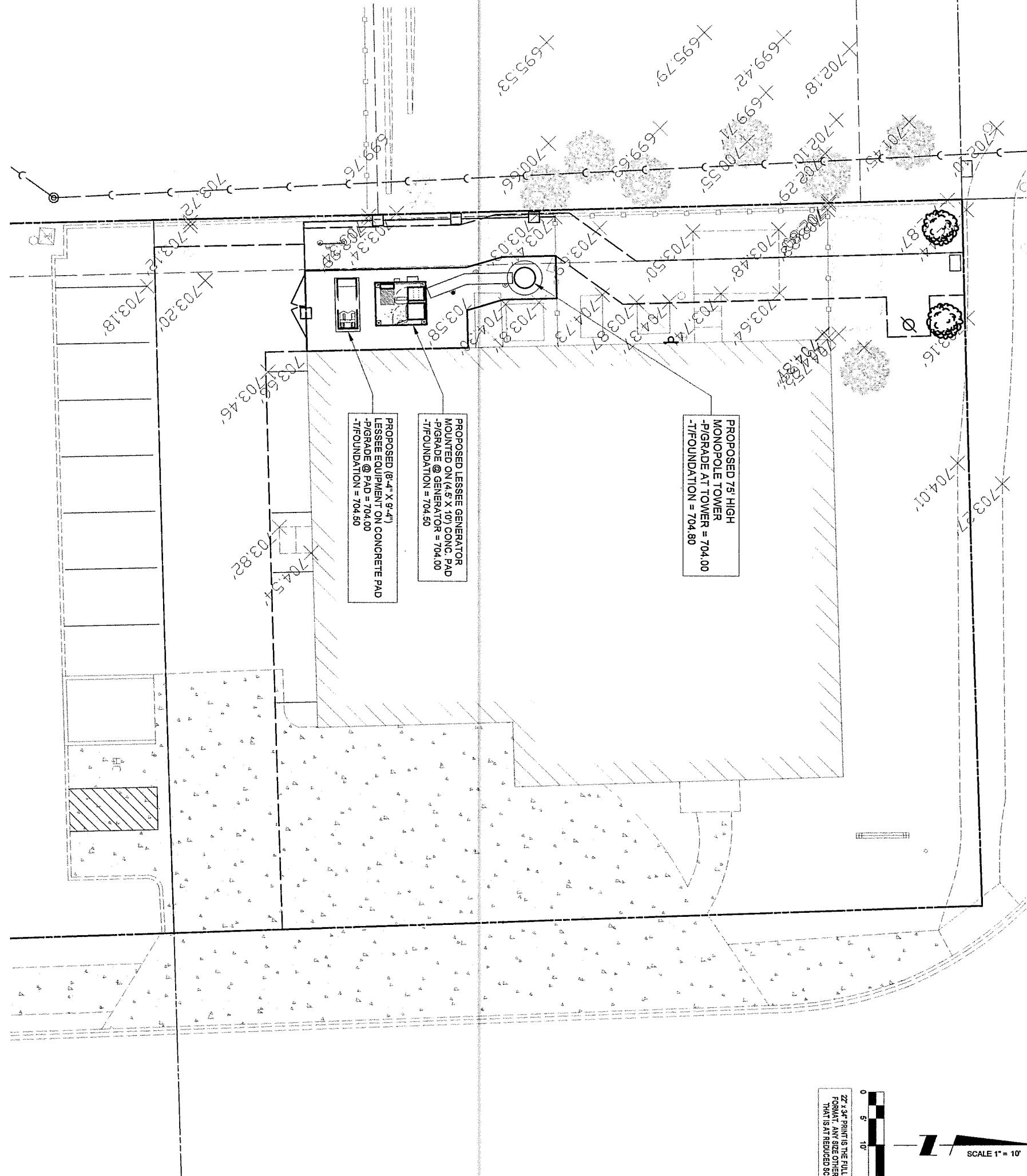
Telephone (630) 273-2500
Fax (630) 273-2600
E-MAIL: asmc@advct.com





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DOLAN REALTY
SITE #
DRA IL-1014
LOC. # 311466
W 151st ST
& S 80th AVE
15100 S 80TH AVE
ORLAND PARK, IL 60462

REVISIONS			
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DRAWN BY: PP
CHECKED BY: TR2
DATE: 07/23/15
PROJECT #: 33-1466
SHEET TITLE
SITE GRADING PLAN
(SHEET 1 OF 1)
SHEET NUMBER

TERRA
CONSULTING GROUP, LTD.
600 BUSSE HIGHWAY
PARK RIDGE, IL 60068
PH: 847-698-6400
FAX: 847-698-6401

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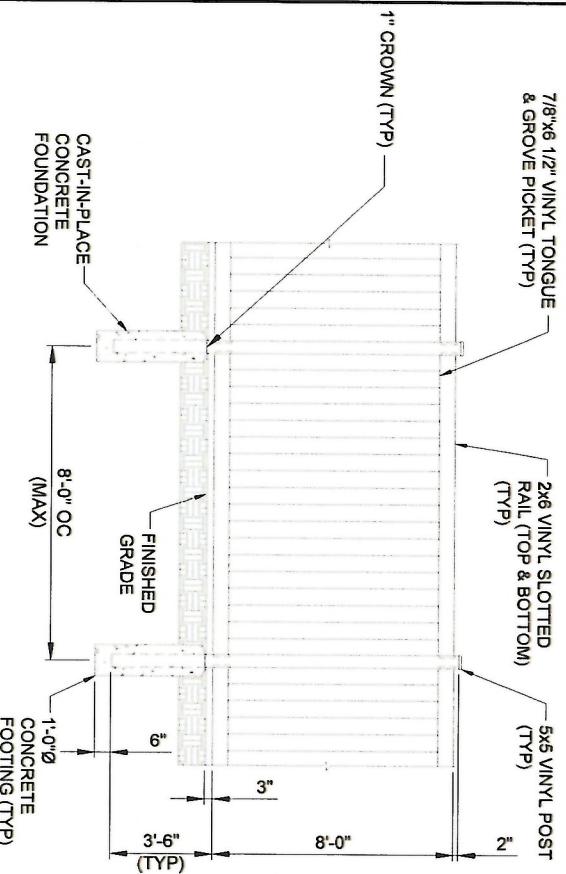
C-2

NOTES:
WOOD GRAIN STYLE TONGUE & GROVE VINYL PRIVACY FENCE. INSTALL
FENCING PER MANUFACTURER'S RECOMMENDATIONS.
CONCRETE FOOTINGS SHALL BE 3000 PSI.

7/8"x6 1/2" VINYL TONGUE
& GROVE PICKET (TYP)
GATE POST, 6"x6"
(NOMINAL)
2x6 VINYL SLOTTED
RAIL (TOP & BOTTOM)
(TYP)
5x5 VINYL POST
7/8"x6 1/2" VINYL TONGUE
& GROVE PICKET (TYP)
2x6 VINYL SLOTTED
RAIL (TOP & BOTTOM)
(TYP)
4" GALVANIZED PLATES
WITH 1/2" CARRIAGE BOLTS
WITH HEX NUT, WASHER
AND LOCK WASHER
SECURITY LATCH (WITH
LOCK (SEE SECURITY
LATCH DETAIL))

7/8"x6 1/2" VINYL TONGUE
& GROVE PICKET (TYP)
8" ZINC COATED 270 DEGREE
Hinge (W/ 2 1/2" x 1/4" FLAT
HEAD SCREWS (Hinges
Attached on the Inside of
Fence))
GATE POST, 6"x6"
(NOMINAL)
CAST-IN-PLACE
CONCRETE
FOUNDATION
2x6 VINYL SLOTTED
RAIL (TOP & BOTTOM)
(TYP)
PVC CORNER POST
6x6" (NOMINAL)
2x6 VINYL SLOTTED
RAIL (TOP & BOTTOM)
(TYP)

CONTRACTOR TO PROVIDE A 12"x12"
CUT-OUT IN THE VINYL FENCING
OPPOSITE THE METER LOCATION FOR
METER READING FRAME OUT THE
CUT-OUT WITH VINYL 2x6's ON INSIDE OF
FENCE PRIOR TO MAKING PENETRATION.



1

PVC POST

NTS

2

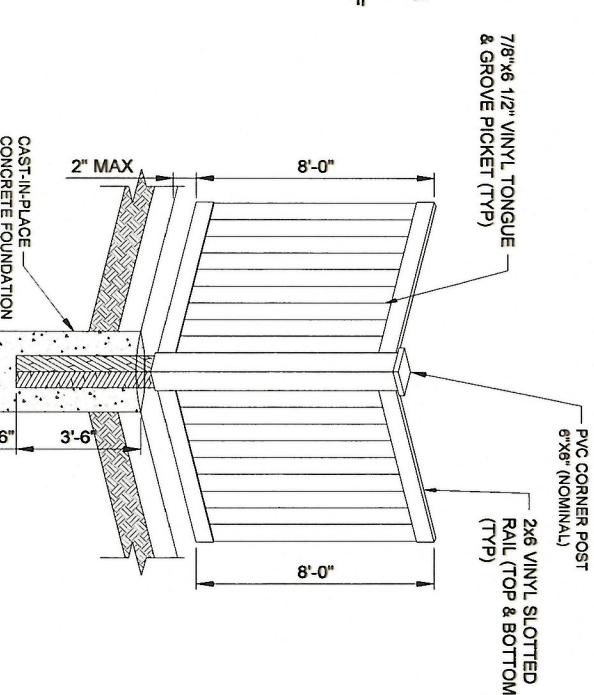
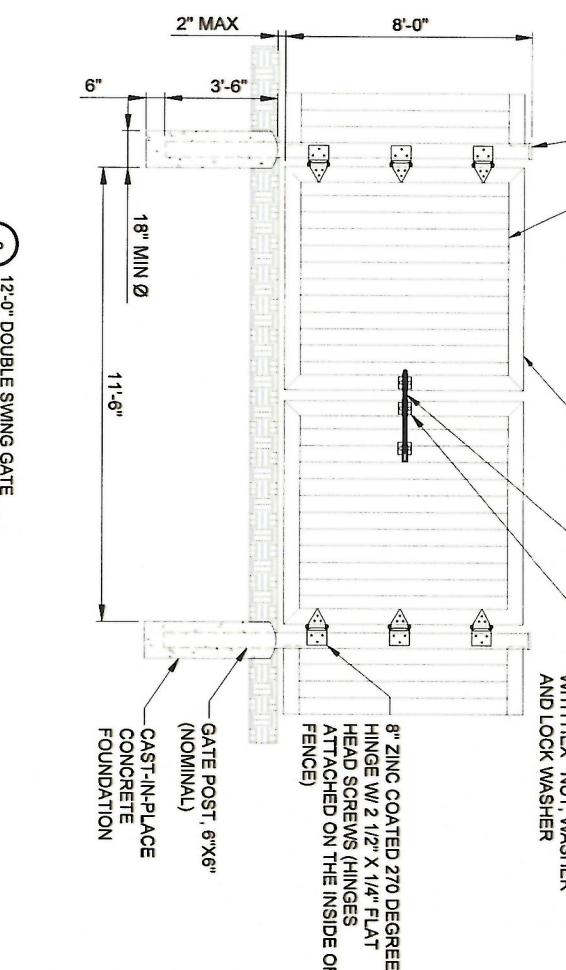
12'-0" DOUBLE SWING GATE

NTS

3

CORNER POST

NTS



GENERAL NOTES

- 1) REFER TO THE PROJECT MANUAL FOR ADDITIONAL INFORMATION AND REQUIREMENTS RELATED TO CONSTRUCTION.
- 2) THE OWNER HAS CAUSED A GEOTECHNICAL EXPLORATION TO BE PERFORMED AT THE SITE.
- 3) THE CONTRACTOR SHALL NOTIFY THE CLIENT'S GEOTECHNICAL ENGINEER TO COORDINATE HAVING A FIELD REPRESENTATIVE ON SITE FOR TESTING AND INSPECTION.

COPIES OF THE REPORT ARE ISSUED TO THE CONTRACTOR FOR CONVENIENCE ONLY. THE REPORT IS NOT A PART OF THE CONTRACT DOCUMENTS. NEITHER THE OWNER NOR THE ENGINEER/ARCHITECT GUARANTEE THE ACCURACY OR VALIDITY OF THE DATA CONTAINED THEREIN, NOR DO THEY ASSUME ANY RESPONSIBILITY FOR THE CONTRACTOR'S USE OR INTERPRETATION OF THE DATA CONTAINED THEREIN.

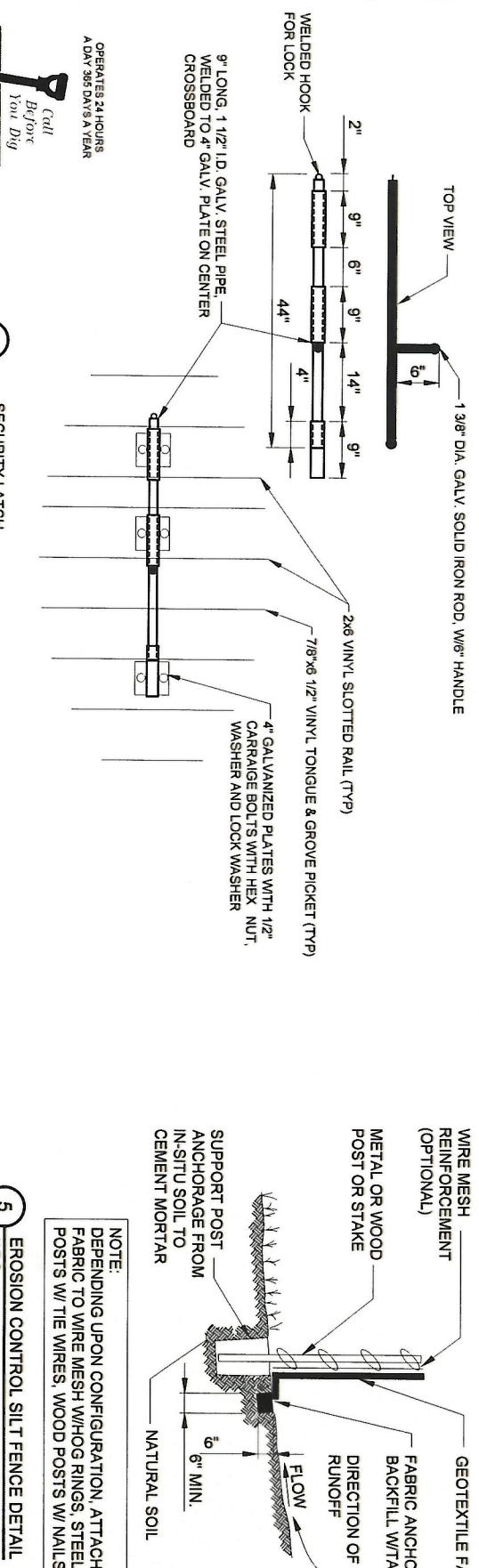
GEOTEXTILE PARAMETERS

PROPERTY	MINIMUM VALUE (a)	TEST METHOD
GRAB STRENGTH ^b	180 LBS.	ASTM D-4632-91
PUNCTURE STRENGTH	75 LBS.	ASTM D-4833-98
BURST STRENGTH	290 LBS.	ASTM D-3786
TRAPEZOIDAL TEAR	50 LBS.	ASTM D-4571-97

(a) ALL VALUES REPRESENT MINIMUM ROLL VALUES

NOTES:

THE FABRIC SHOULD BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. INTERSECTIONS OR SHEETS MUST BE SEWN OR SOUFFICIENTLY OVERLAPPED (AT LEAST 24 INCHES) OR THE MANUFACTURER. THE GEOTEXTILE SHEETS SHOULD ALSO BE PLACED TAUT TO REDUCE WRINKLES OR FOLDS. CARE MUST BE EXERCISED TO PREVENT PHYSICAL DAMAGE OF THE GEOTEXTILE PRIOR TO, DURING AND AFTER INSTALLATION. UTILITIES SHOULD BE INSTALLED BEFORE PLACING THE FABRIC.



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SECURITY LATCH

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5

EROSION CONTROL SILT FENCE DETAIL

NTS

DOLAN REALTY
SITE #
DRA IL-1014
LOC. # 311466
W 151st ST
& S 80th AVE

15100 S 80th AVE
ORLAND PARK, IL 60462

REVISIONS		
NO.	DESCRIPTION	DATE
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PARK RIDGE, IL 60068
PH: 847-698-6400
FAX: 847-698-6401

CHICAGO SMSA
limited partnership
d/b/a VERIZON WIRELESS

SHEET TITLE
FENCE DETAIL

SHEET NUMBER

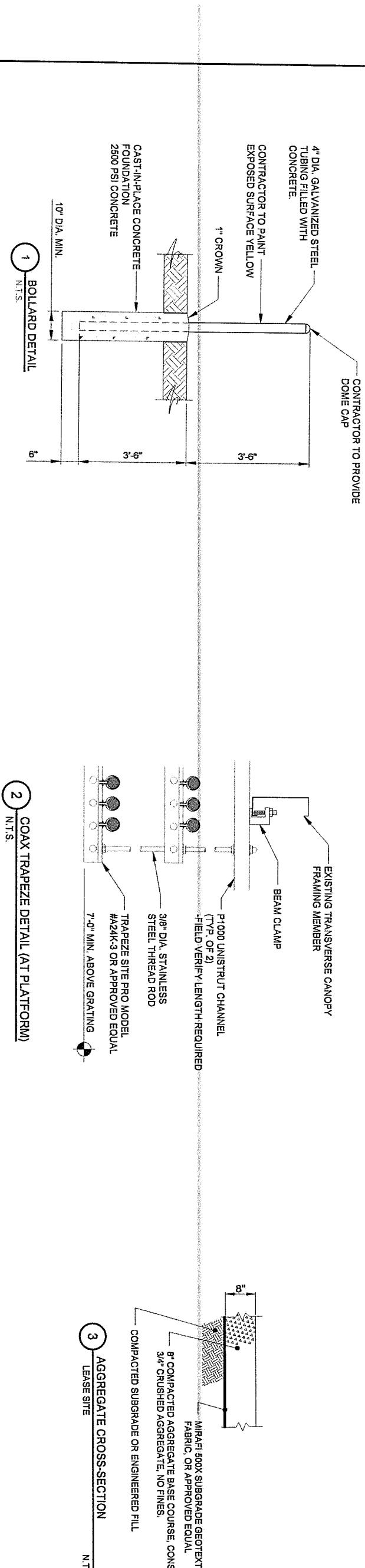
C-3



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DOLAN REALTY
SITE #

DRAIL-1014
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15100 S 80TH AVE
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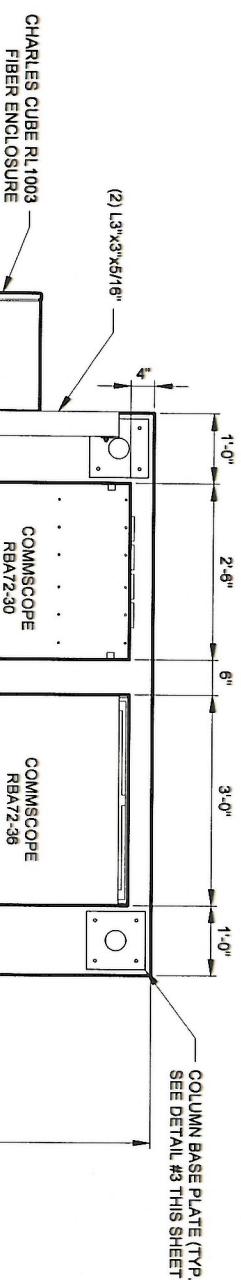


**CHICAGO
SMSA**

4

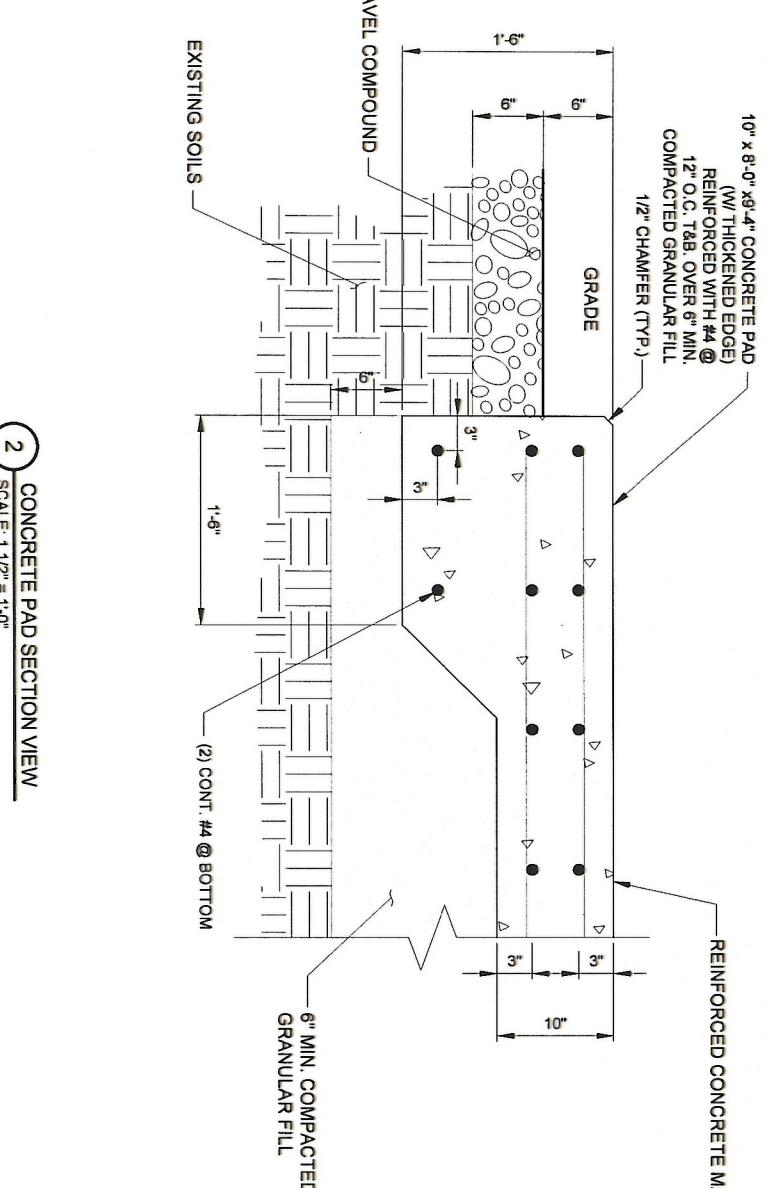
SHEET NUMBER

SITE DETAILS



10' x 8'-0" x 4"-4" CONCRETE PAD
REINFORCED WITH #4 @
12" O.C. T&B OVER 6" MIN.
COMPACTED GRANULAR FILL

1 EQUIPMENT PAD - LAYOUT PLAN
SCALE: 3/4" = 1'-0"



2 CONCRETE PAD SECTION VIEW
SCALE: 1 1/2" = 1'-0"

CONCRETE NOTES:

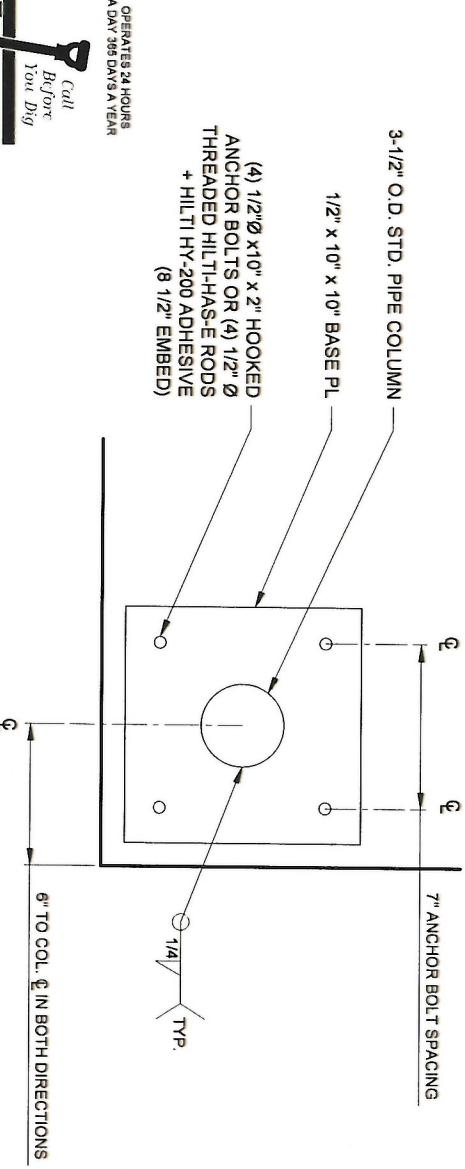
1. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 318 AND ACI 301, LATEST EDITION. THESE DOCUMENTS SHALL BE AVAILABLE IN THE FIELD OFFICE.

2. EXCEPT WHERE OTHERWISE INDICATED, CONCRETE SHALL BE NORMAL WEIGHT AND WITH MINIMUM 28-DAY COMPRESSIVE STRENGTHS OF F_c = 4000 PSI. ALL EXTERIOR EXPOSED CONCRETE SHALL BE AIR ENTRAINED WITH 6% AIR CONTENT.

3. REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60. ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.

5. CONCRETE MIX DESIGN SHALL BE SUBMITTED TO ARCHITECT / ENGINEER FOR REVIEW.

NOTE:
LOCALIZED AREAS OF SOFT OR LOOSE MATERIALS MAY BE ENCOUNTERED AT THE PROPOSED BEARING ELEVATION. THE SOILS MAY REQUIRE COMPACTION USING A PLATE COMPACTOR IN THE FOOTING TRENCH IF FIELD CONDITIONS INDICATE LOOSE GRANULAR SOILS. THE SOILS MAY REQUIRE REMOVAL AND REPLACEMENT WITH AN APPROVED ENGINEERED FILL. FOUNDATION DEPTH AND OVER DIG REQUIREMENTS SHALL BE VERIFIED WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT AND INCLUDED IN THE BID BEFORE CONSTRUCTION. THE EVALUATION OF THE SUB GRADE AND SELECTION OF FILL MATERIALS SHALL BE MONITORED AND TESTED BY A QUALIFIED REPRESENTATIVE OF THE SOILS ENGINEER.



3 COLUMN BASE PLATE DETAILS
SCALE: 3/4" = 1'-0"

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DOLAN REALTY
SITE #
DRA IL-1014
LOC. # 311466

**W 151st ST
& S 80th AVE**

15100 S 80TH AVE
ORLAND PARK, IL 60462

DRAWN BY: P.P.
CHECKED BY: T.R.
DATE: 07/23/15
PROJECT #: 33-1466

SHEET TITLE
EQUIPMENT PAD
FOUNDATION PLAN

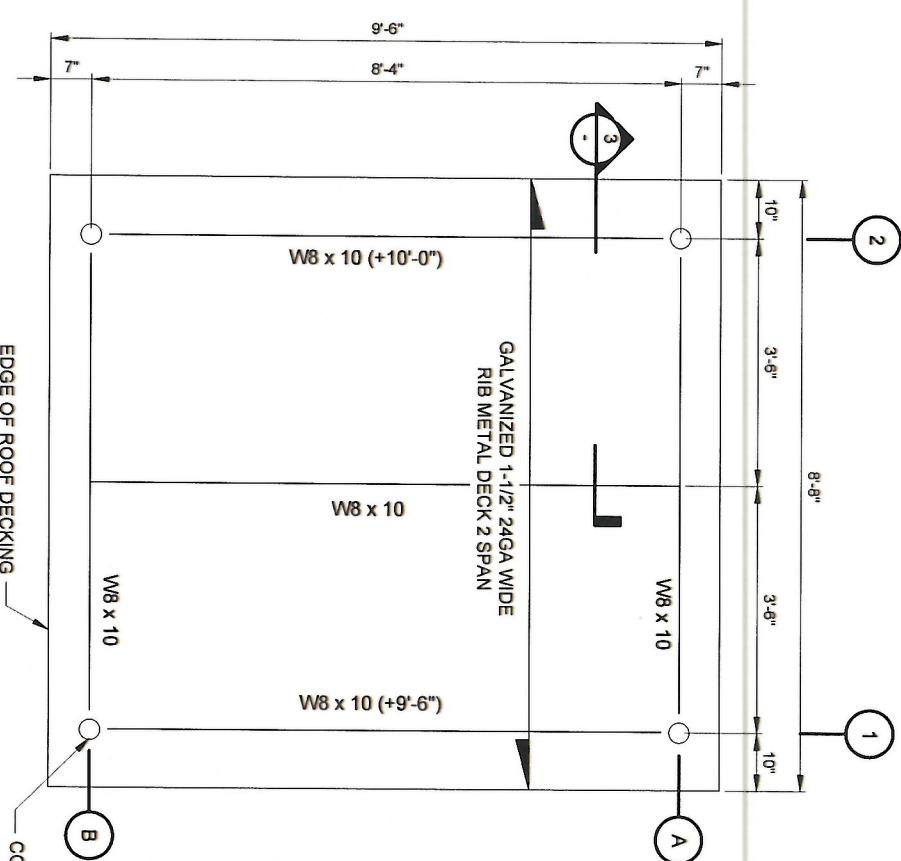
SHEET NUMBER

C-5

REVISIONS			
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PH: 847-698-6400
FAX: 847-698-6401

CHICAGO SMSA
limited partnership
d/b/a VERIZON WIRELESS



METAL DECK NOTES:

1. METAL ROOF DECK SHALL BE GALVANIZED. GALVANIZED SHEET STEEL SHALL CONFORM TO ASTM A446 GRADE A AND ASTM A525 WITH A MINIMUM G30 COATING UNLESS OTHERWISE NOTED.
2. METAL DECK SECTION PROPERTIES SHALL BE COMPUTED IN ACCORDANCE WITH AISI "SPECIFICATION FOR THE DESIGN OF COLD-FORMED METAL STRUCTURAL MEMBERS". THE MINIMUM THICKNESS OF ROOF DECK SHALL BE 27 GAUGE.

3. FASTENING OF METAL DECK TO THE STRUCTURAL STEEL. THE FOLLOWING LIMITS SHALL NOT BE EXCEEDED:
 - A.) ALL METAL DECKING SHALL BE FASTENED AT 12" (6') AT THE PERIMETER; MAXIMUM ON CENTER TO THE SUPPORTING STEEL WITH #12 TEK SCREWS.
 - B.) #12 GALVANIZED TEK SCREWS IN 36/4 PATTERN.
 - C.) SEE PLAN FOR ADDITIONAL PLAN FASTENING REQUIREMENTS.

2 ALTERNATE DE TAIL INSTEAD OF ROTATING
HIGH AND LOW WB8X10 BEAMS
SCALE: N.T.S

SCALE: N.T.S

Technical drawing showing a structural connection between a W8 x 10 wide flange beam and a 3 1/2" O.D. galvanized steel pipe. The connection uses 1/4" thick shear plates and A325 bolts. The pipe is supported by a 1/4" thick wide rib metal deck. A 1/2" setback is shown at the top right.

W8 x 10

1/4" CAP PLATE (TYP.)

3/8" x 6" SHEAR PLATE @ BEAM W/ PLATE @ BEAM W/ (2) 1" Ø A325 BOLT SHEAR PLATE TO BE ROTATED SO BEING SITS FLAT ON BEAM

1/4"

1/4"

1/2" SETBACK

1/4"

1/4"

SLOPE

W8 x 10

1 1/2"

3"

1 1/2"

1 1/2"

3 1/2" O.D.

1/4"

1/4"

W8 x 10

W8 x 10

GALVANIZED 1-1/2" 24GA WIDE RIB METAL DECK

242000

REVISIONS			
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7	ADDITION OF LANDSCAPING PLAN	12/29/17	JTM
8	UPDATE PER GAS COORDINATION	01/31/18	DMS
9	REVISED LANDSCAPE PLAN PER VILLAGE	04/05/18	JTM
10	UPDATE SITE WITH THICKENED EDGE SLAB DESIGN	05/29/18	TJS
11	UPDATE WITH NEW HEAD	06/27/18	TJS

DOLAN REALTY
SITE #
DRA IL-1014
LOC. #311466

**CHICAGO
SMSA**
limited partnership
d/b/a **VERIZON WIRELESS**

1 EQUIPMENT PAD - ROOF FRAMING PLAN
SCALE: 3/4" = 1'-0"

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

EDGE OF ROOF DEC

N (TYP.)

4. NO LOADS EXCEEDING 100 POUNDS PER LINEAR FOOT ARE TO BE HUNG FROM ANY METAL DECKING. ALL HANGERS FOR DUCTWORK, PIPING, ETC. SHALL BE HUNG DIRECTLY FROM STRUCTURAL STEEL WORK OR SUPPLEMENTARY MEMBERS OR ANCHORS EMBEDDED IN THE CONCRETE. ALL HANGING LOADS DETAILS SHALL BE SUBMITTED FOR REVIEW.

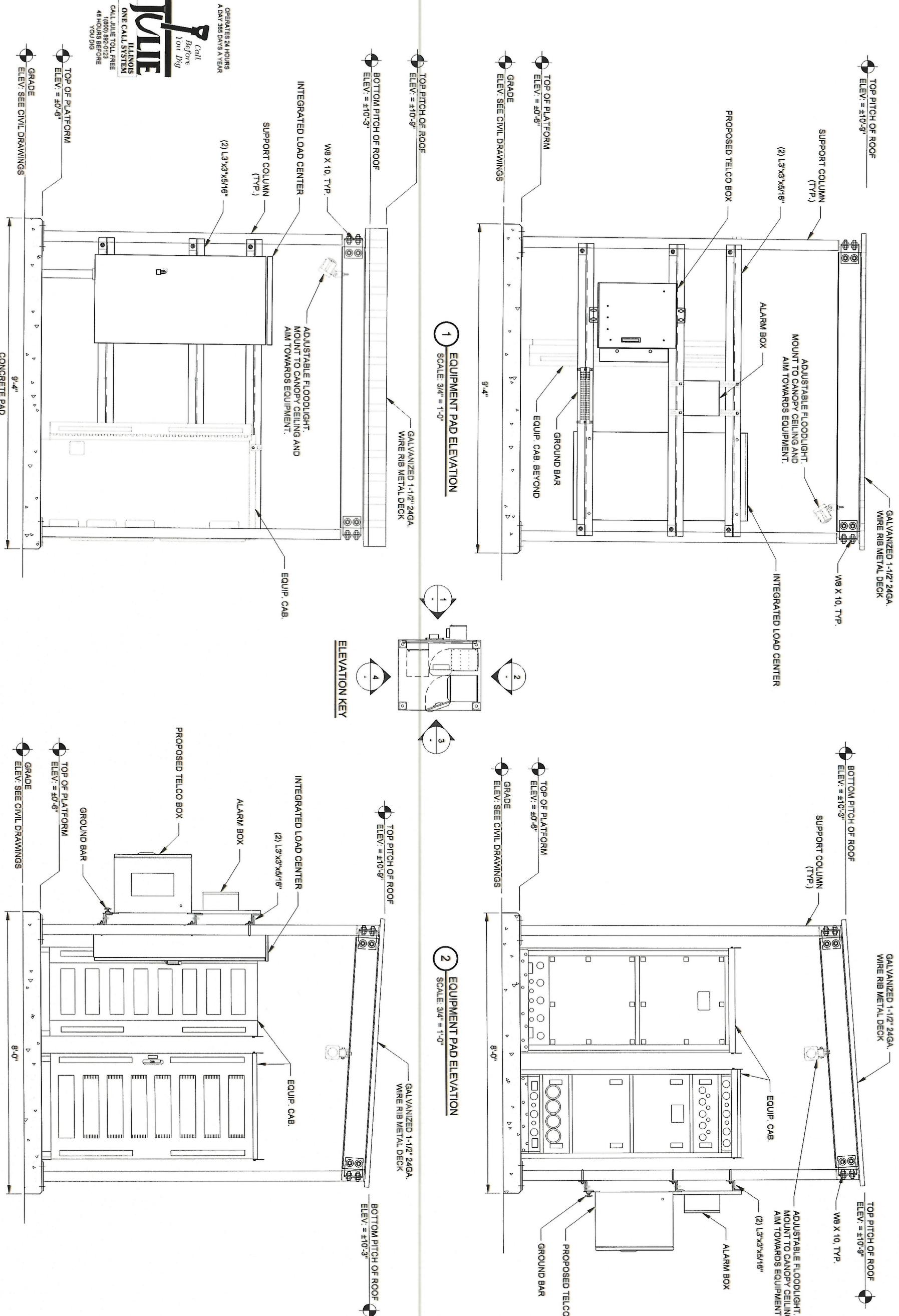
6. THE CONTRACTOR SHALL OBSERVE ALL SAFETY RULES DICTATED BY CODE AND GOOD PRACTICE.

7. SHOULD UNFORESEEN CONDITIONS OR OTHER CAUSE NECESSITATE THE CONSTRUCTION DETAILS TO BE MODIFIED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER BEFORE PERFORMING THESE CHANGES.

2. ALL STRUCTURAL STEEL W SHAPES SHALL CONFORM TO THE ASTM A572 OR A992 GRADE 50. ALL OTHER STRUCTURAL STEEL SHAPES, PLATES, AND BARS SHALL CONFORM TO ASTM A560 GRADE B. PIPES SHALL CONFORM TO ASTM A53 TYPE E OR S. ANCHOR BOLTS SHALL CONFORM TO ASTM F1554 GRADE 36 AND BE COMPATIBLE WITH E70XX ELECTRODES.
3. ALL WELDING SHALL BE DONE BY QUALIFIED WELDERS AND SHALL CONFORM TO AWS D1.1 "STRUCTURAL WELDING CODE", LATEST EDITION. ALL WELDING ELECTRODES SHALL BE E70X.
4. THE CONTRACTOR SHALL FIELD VERIFY ALL MEASUREMENTS AND EXISTING CONDITIONS.
5. IF CONDITIONS VARY FROM THOSE ON THE DRAWINGS, THE ENGINEER SHALL BE

SHEET TITLE
**EQUIPMENT PAD
ROOF FRAMING PLAT**

9



REVISIONS			
NO.	DESCRIPTION	DATE	BY
5	UPDATE WITH NEW LAYOUT	06/09/17	DMS
6	FINALS WITH FIBER	10/20/17	RA
7	ADDITION OF LANDSCAPING PLAN	12/29/17	JTM
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11	UPDATE WITH NEW ECR	06/27/18	TJS



**CHICAGO
SMSA**
limited partnership
d/b/a **VERIZON WIRELESS**

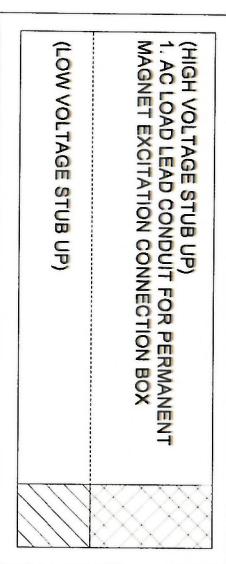
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DATE: 07/23/11
PROJECT #: 33-1446
SHEET TITLE EQUIPMENT PAD ELEVATIONS

**RECOMMENDED ELECTRICAL STUB-UPS
(SEE DETAILED VIEW & TOP VIEW)**

(HIGH VOLTAGE STUB UP)
1. AC LOAD LEAD CONDUIT FOR PERMANENT
MAGNET EXCITATION CONNECTION BOX

(LOW VOLTAGE STUB UP)



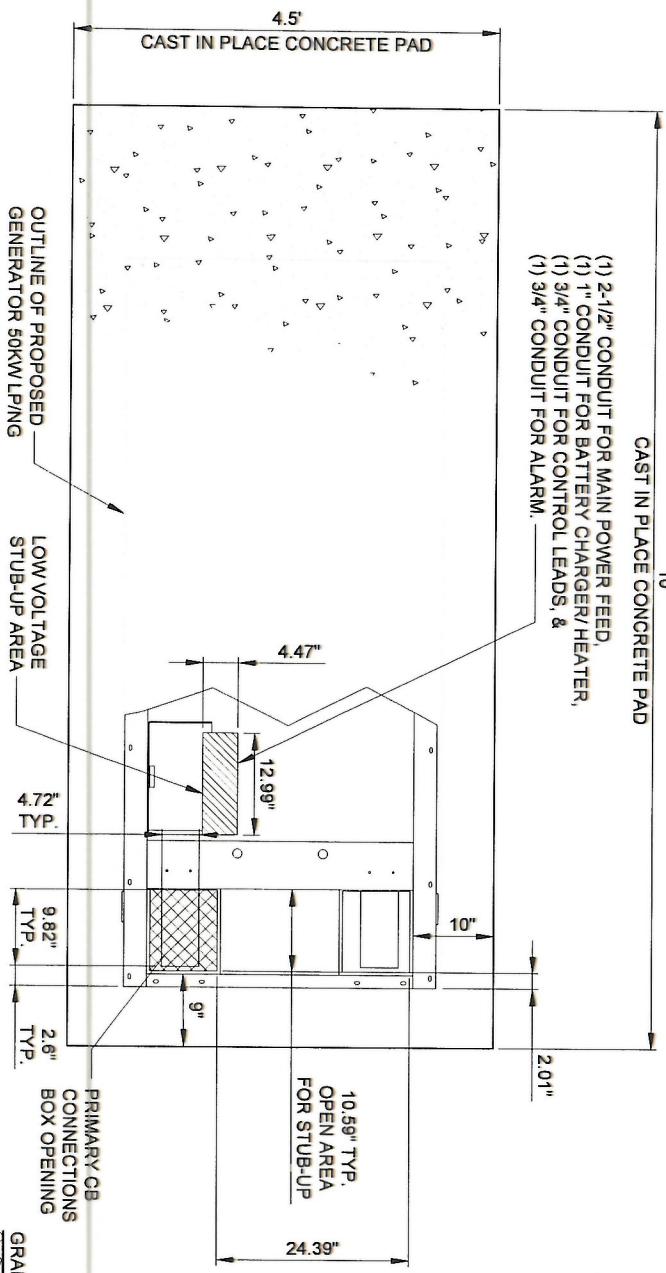
CAST IN PLACE CONCRETE PAD

10'
2.01"

9.31'

PROPOSED GENERATOR
50kW LIQUID PROPYANE/NG

NATURAL GAS/LP VAPOR INLET
FUEL INLET NG/LPV = 1-1/4" NPT COUPLING
FUEL INLET LPL = 1/4" NPT COUPLING



1 TYPICAL GENERAC FOUNDATION DETAIL

SCALE: 1" = 1'

OPERATES 24 HOURS
A DAY 365 DAYS A YEAR

ILLINOIS
ONE CALL SYSTEM
CALL 1-800-892-0123
48 HOURS BEFORE
YOU DIG

FRONT SIDE VIEW

8" GRANULAR FILL PER
EARTHWORK SPECIFICATIONS
COMPACTED TO 95%
MODIFIED PROCTOR

WWF 6x6 - W4.0xW4.0
WIRE MESH

E.C. TO SET ANCHOR
BOLTS AS REQUIRED
PER GENERATOR
SPECIFICATIONS.

GRADE

OIL DRAIN

GENERATOR STAND

OUTLINE OF STUB-UP AREA FOR

(1) 2-1/2" CONDUIT FOR MAIN POWER FEED,

(1) 1" CONDUIT FOR BATTERY CHARGER/HEATER,

(1) 3/4" CONDUIT FOR CONTROL LEADS, &

(1) 3/4" CONDUIT FOR ALARM.

1" CHAMFER (TYP.)

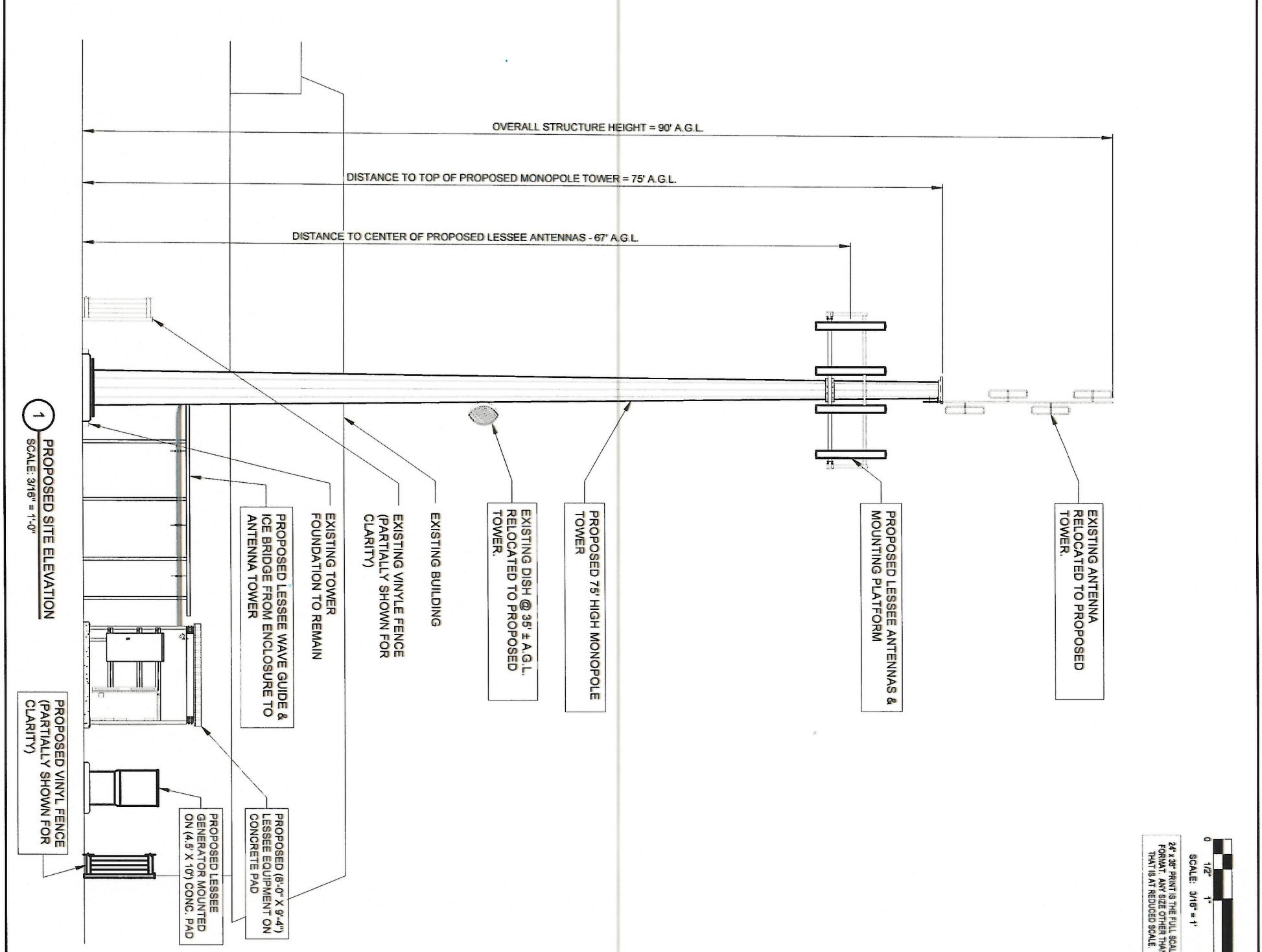
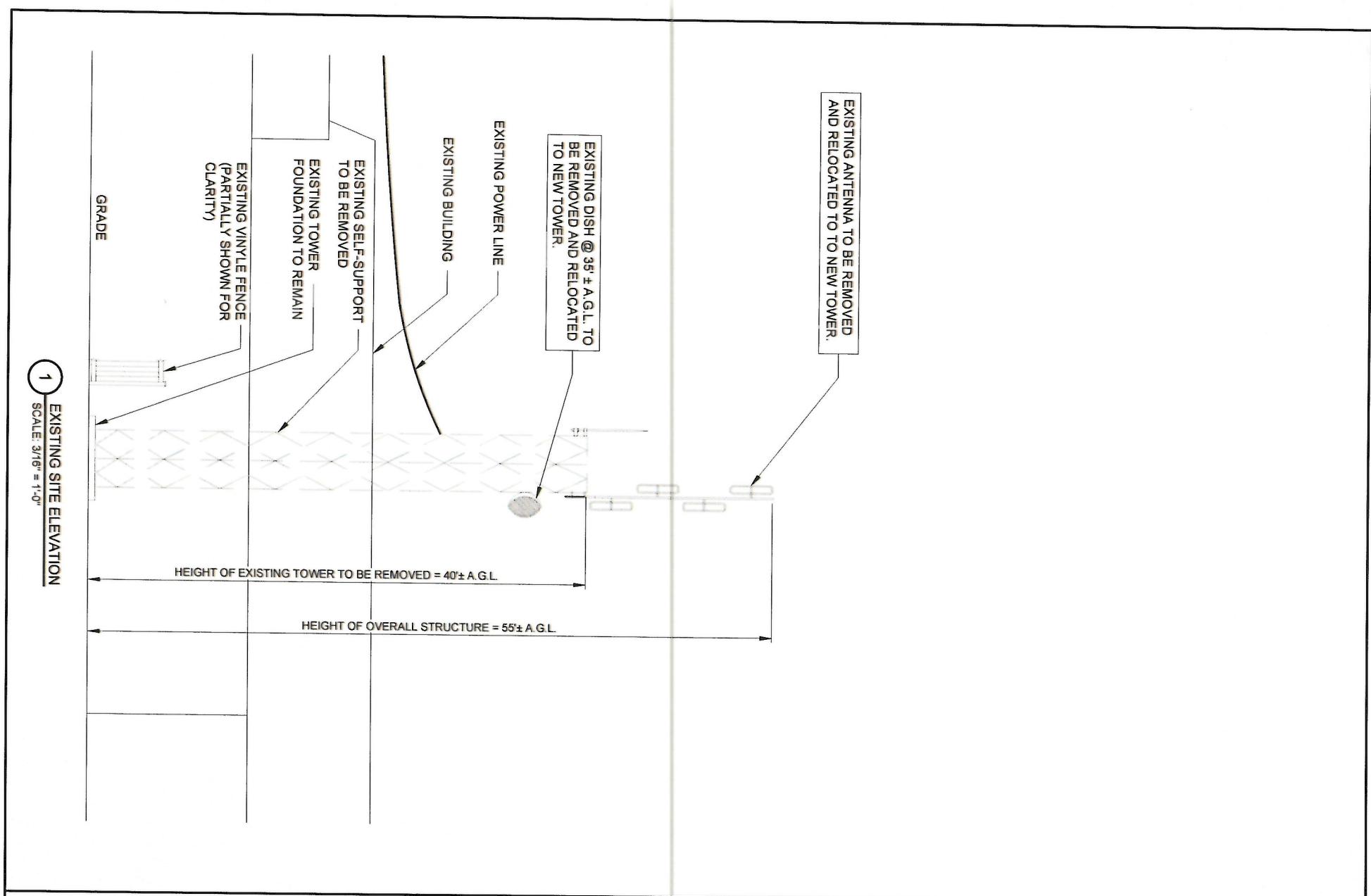
(2) #5 REBAR CONTINUES

3" COVER ALL SIDES (TYP.)

EXISTING GRAVEL

MINIMUM 12" BELOW GRADE

<p



0 1/12" 1" 2"

24" x 36" PRINT IS THE FULL SCALE FORMAT. ANY SIZE OTHER THAN THAT IS AT REDUCED SCALE.

REVISIONS			
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11	UPDATE WITH NEW ECR	06/27/18	TJS



CHICAGO SMSA
limited partnership
d/b/a **VERIZON WIRELESS**

ANT-1

SHEET NUMBER

SHEET TITLE
SITE ELEVATION

DATE: 07/23/15
DRAWN BY: PP
CHECKED BY: TJS
PROJECT #: 33-1466

15100 S 80TH AVE
ORLAND PARK, IL 60462

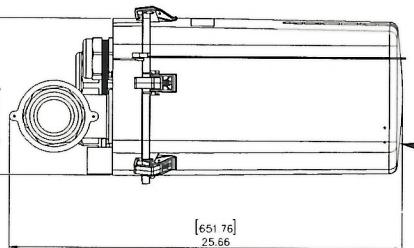
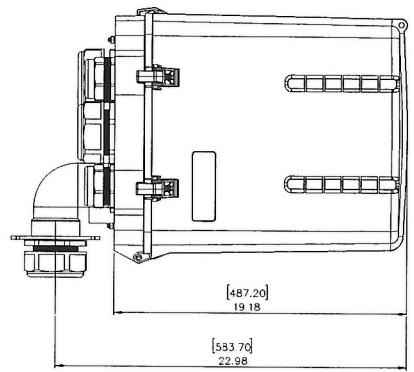
DOLAN REALTY
SITE #
DRA IL-1014
LOC. # 311466
W 151st ST
& S 80th AVE

EQUIPMENT CHANGE REQUEST FORM- ECR						
Cell Name	W 151st ST & S 80th Ave	Cell ID				
Location Number	RF Engineer	Address	35100 S 80th St			
Date of Request	Market	City/State/Zip	Orland Park IL 60462			
PROPOSED CONFIGURATION		Configuration	Option-A2			
Antenna		Antenna Manufacturer	Antenna Model	Antenna Serial Number	Centerline Azimuth	Vertical Tilt
Sector	Port	RF Path				
A1	L1 (+45)	700/850 - Rx/Tx			1	
	H1 (+45)	700/850 - Rx/Tx			25	0
	H2 (+45)	PCS - Rx/Tx			0	0
	H3 (+45)	PCS - Rx/Tx				
Alpha		COMMSCOPE	NHH-65B-R2B	67	25	0
A2	L1 (+45)	Unused at this time				
	H1 (+45)	Unused at this time				
	H2 (+45)	Unused at this time				
	H3 (+45)	Unused at this time				
A3						
A4	H1 (+45)	Unused at this time				
	H2 (+45)	Unused at this time				
	H3 (+45)	Unused at this time				
	H4 (+45)	Unused at this time				
B1		COMMSCOPE	NHH-65B-R2B	67	25	0
B2	L1 (+45)	700/850 - Rx/Tx			1	
	H1 (+45)	Unused at this time			0	0
	H2 (+45)	AVS - Rx/Tx				
	H3 (+45)	AVS - Rx/Tx				
B3		COMMSCOPE	NHH-65B-R2B	67	25	0
B4	L1 (+45)	700/850 - Rx/Tx			1	
	H1 (+45)	Unused at this time			0	0
	H2 (+45)	AVS - Rx/Tx				
	H3 (+45)	AVS - Rx/Tx				
C1		COMMSCOPE	NHH-65B-R2B	67	140	0
C2						
C3						
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C112						

SPECIFICATIONS DC SURGE PROTECTION FOR RRU/INTEGRATED ANTENNA RADIO HEAD
APPLICATION: TOWER / BASE / ROOFTOP / ROOFTOP DISTRIBUTION MODELS
WEIGHT: 32LBS (14.51 KG)

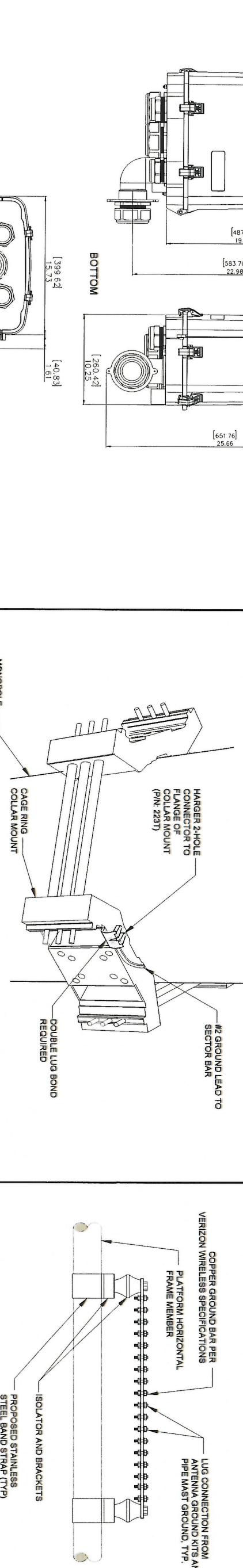
PROPOSED RAYCAP JUNCTION
 BOX MODEL# RCMDC-3315-PF-48
 [mm]
 INCHES

FRONT



SIDE

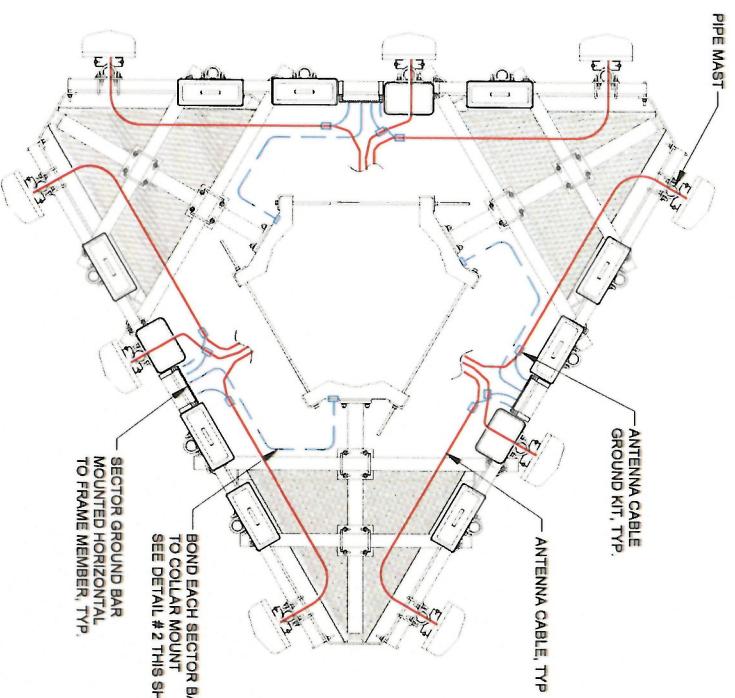
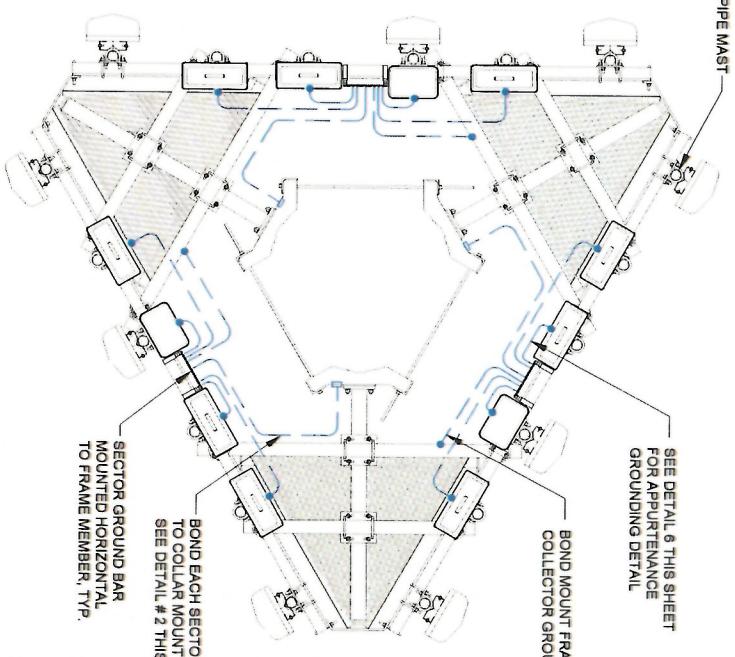
NOTE: EACH SECTOR BAR TO HAVE TO HAVE
 SEPARATE GROUND LEAD TO COLLAR MOUNT



1 RAYCAP JUNCTION BOX DETAIL
 SCALE: N.T.S.

2 MONPOLE GROUND AT ANTENNA LEVEL
 SCALE: N.T.S.

3 GROUND BAR AT SECTOR
 N.T.S.



THIS DETAIL IS CONCEPTUAL TO
 DEMONSTRATE GROUNDING AT THE
 ANTENNA LEVEL. VERIFY EQUIPMENT,
 MOUNTING FRAME, AND AZIMUTH WITH
 ANT-1 SHEET & ECR.

#2 AWG INSULATED GROUND
 WIRE FROM SECTOR GROUND
 BAR TO COLLAR MOUNT,
 SEE NOTES

APPROVED UL LISTED GROUND CLAMPS	
APPLICATION	UL LISTED HANGER PART #
METAL FLANGE	213-213T, 213TP
PIPE MEMBER	CPC SERIES (SIZED TO FIT DIAMETER OF PIPE)
LARGER PIPE MEMBER	UPC SERIES (UNIVERSAL PIPE CLAMP) SIZED TO FIT DIAMETER OF PIPE
TO COLLAR MOUNT	233T

- NOTES:
1. THE BOND BETWEEN THE SECTOR BAR AND THE TOWER IS TO BE MECHANICALLY BONDED TO BE A UL APPROVED MECHANICAL CONNECTION CLAMP.
 2. GROUND CONNECTIONS MUST BE DOUBLE HOLE CONNECTION, SPECIAL EXCEPTION ONLY TO EQUIPMENT THAT WILL NOT ALLOW FOR A DOUBLE HOLE CONNECTION.

4 EQUIPMENT GROUNDING AT ANTENNA ELEVATION
 N.T.S.

5 ANTENNA CABLE GROUNDING AT ANTENNA ELEVATION
 N.T.S.

6 TYPICAL APPURTENANCE GROUNDING AT ANTENNA LEVEL
 N.T.S.

REVISIONS

NO	DESCRIPTION	DATE	BY
5	UPDATE WITH NEW LAYOUT	09/08/17	DMS
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7	ADDITION OF LANDSCAPING PLAN	12/29/17	JTM
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10	UPDATE SITE WITH THICKENED EDGE SLAB DESIGN	05/29/18	TJS
11	UPDATE WITH NEW ECR	06/27/18	TJS

 **TERRA**
 CONSULTING GROUP, LTD.
 600 BUSSE HIGHWAY
 PARK RIDGE, IL 60068
 PH: 847-696-6400
 FAX: 847-696-6401

CHICAGO SMSA
limited partnership
 d/b/a **VERIZON WIRELESS**

ANT-3

SHEET NUMBER

SITE DETAILS

SHEET TITLE

PROJECT #:

DATE:

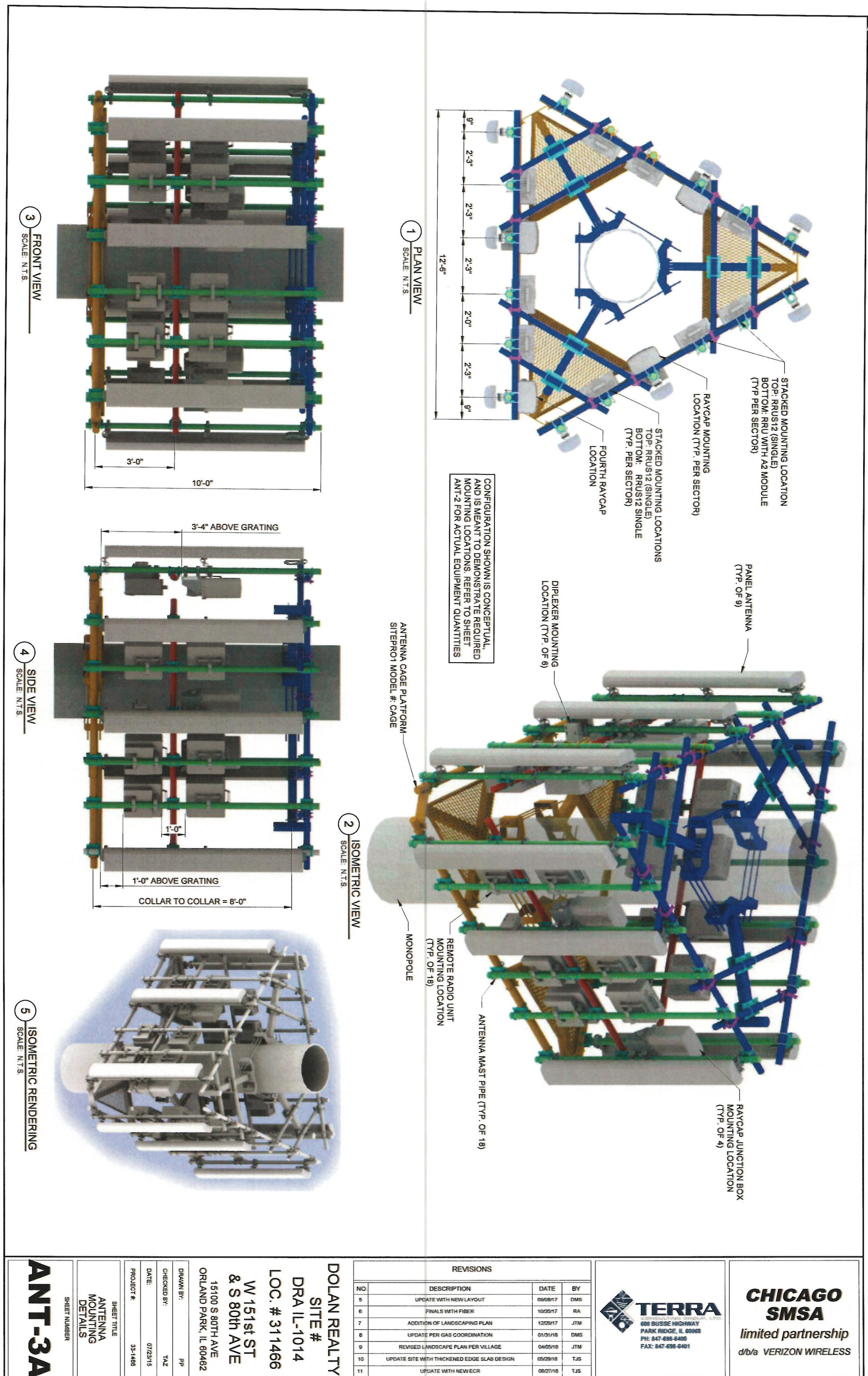
PP

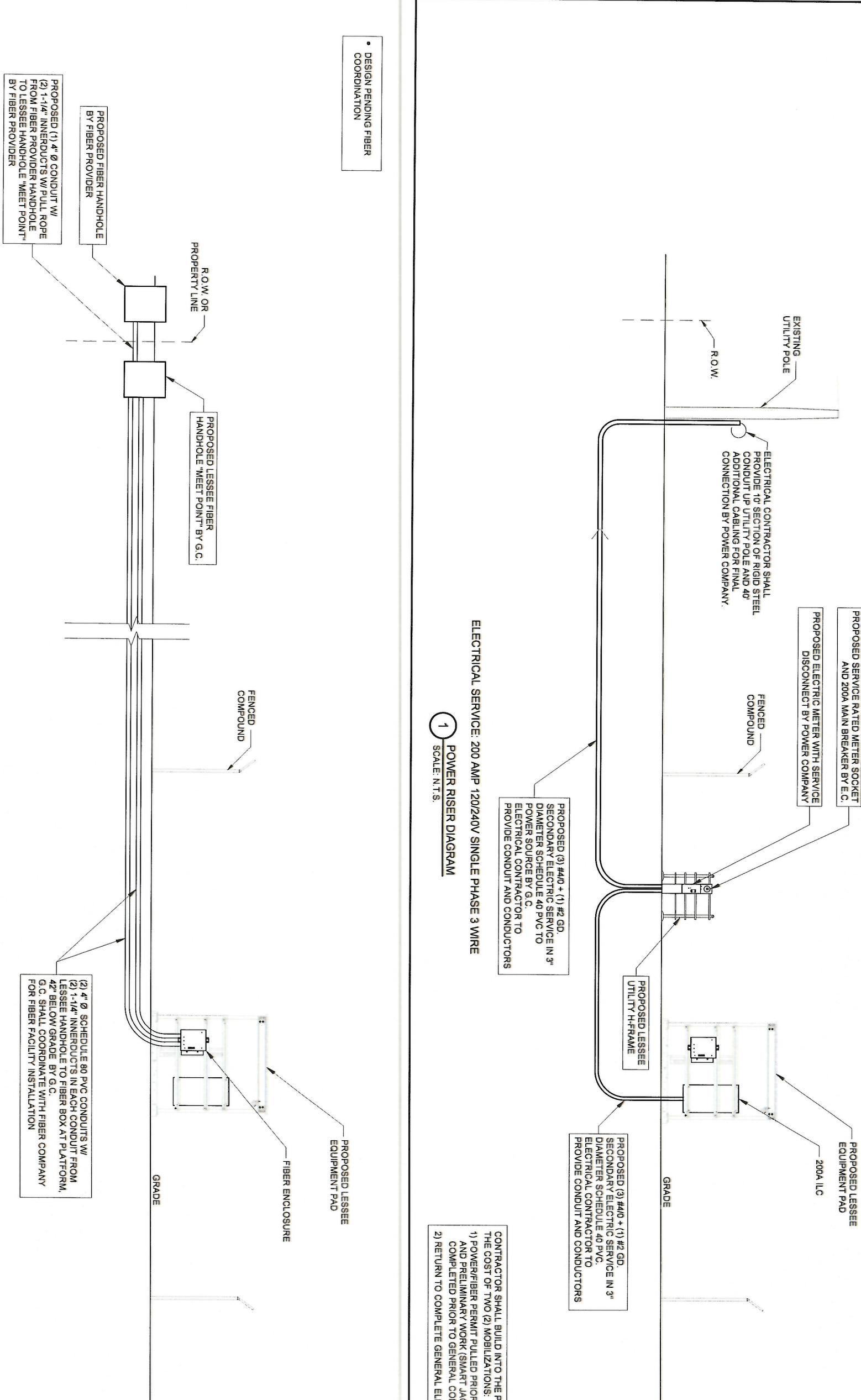
CHECKED BY:

TrZ

07/23/15

33-1486





REVISIONS			
NO	DESCRIPTION	DATE	BY
5	UPDATE WITH NEW LAYOUT	09/08/17	DMS
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11	UPDATE WITH NEW FIBER	07/10/18	TJS



**CHICAGO
SMSA**
limited partnership
d/b/a **VERIZON WIRELESS**

DRAWN BY:	PIP
CHECKED BY:	TAZ
DATE:	07/23/15
PROJECT #:	33-1400
SHEET TITLE	
UTILITY RISER DIAGRAMS	

NOTE: VERIFY FIBER ROUTING REQUIREMENTS WITH FIBER COMPANY

2 FIBER RISER DIAGRAM
SCALE: N.T.S.

E-1A

NOTES:

- 1) EXISTING MANUAL TRANSFER SWITCH TO BE REMOVED BY THE ELECTRICAL CONTRACTOR (E.C.) AND TURNED OVER TO LESSEE. REMOVED EXTERNAL GROUND TERMINATION AND RECONNECT TO NEW TRANSFER SWITCH USING EXISTING GROUND LUG.
- 2) ALL UNDERGROUND GROUND TERMINATIONS AND TERMINATIONS TO EXISTING BUILDING GROUND GRID TO BE HEAVY DUTY EXOTHERMIC (CAD WELD).
- 3) NEW AUTOMATIC TRANSFER SWITCH, INSTALLED AND WIRED BY E.C. CONNECT EXTERNAL GROUND LUG AND GROUNDING CONDUCTOR THAT WAS REMOVED FROM MANUAL TRANSFER SWITCH.

- 4) EXISTING BUILDING GROUND GRID IS INDICATED ON THE NEW PLAN. HOWEVER, EXACT LOCATION IS NOT KNOWN. E.C. MUST LOCATE THIS GROUND GRID TO PROVIDE THE ATTACHMENT OF THE GENERATOR GROUND GRID ALSO TO THE UNDERGROUND CONDUITS FROM THE GENERATOR TO THE BUILDING WILL CROSS OVER THIS GROUND GRID. CARE MUST BE TAKEN NOT TO DAMAGE THE GROUND GRID. IF ANY DAMAGE OCCURS IT MUST BE REPAIRED SO THAT THE COMPLETE GRID SYSTEM REMAINS INTACT.
- 5) E.C. TO EXTEND #42 TINNED SOLID COPPER GROUND CONDUCTORS FROM (2) LOCATIONS ON GENERATOR FRAME (SEE MANUFACTURERS RECOMMENDATIONS) PROVIDE GROUND LUGS ON GENERATOR AS REQUIRED. EXTEND #10 STRANDED GROUND CONDUCTOR AND CONNECT TO COPPER CLAD GROUND RODS VIA HEAVY DUTY EXOTHERMIC TERMINATIONS AND THEN EXTEND AND ATTACH TO BUILDING GROUND GRID VIA EXOTHERMIC TERMINATIONS.
- 6) NEW GENERATOR FURNISHED BY LESSEE. INSTALLED AND WIRED BY E.C. DELIVERED AND SET BY CONTRACTOR.

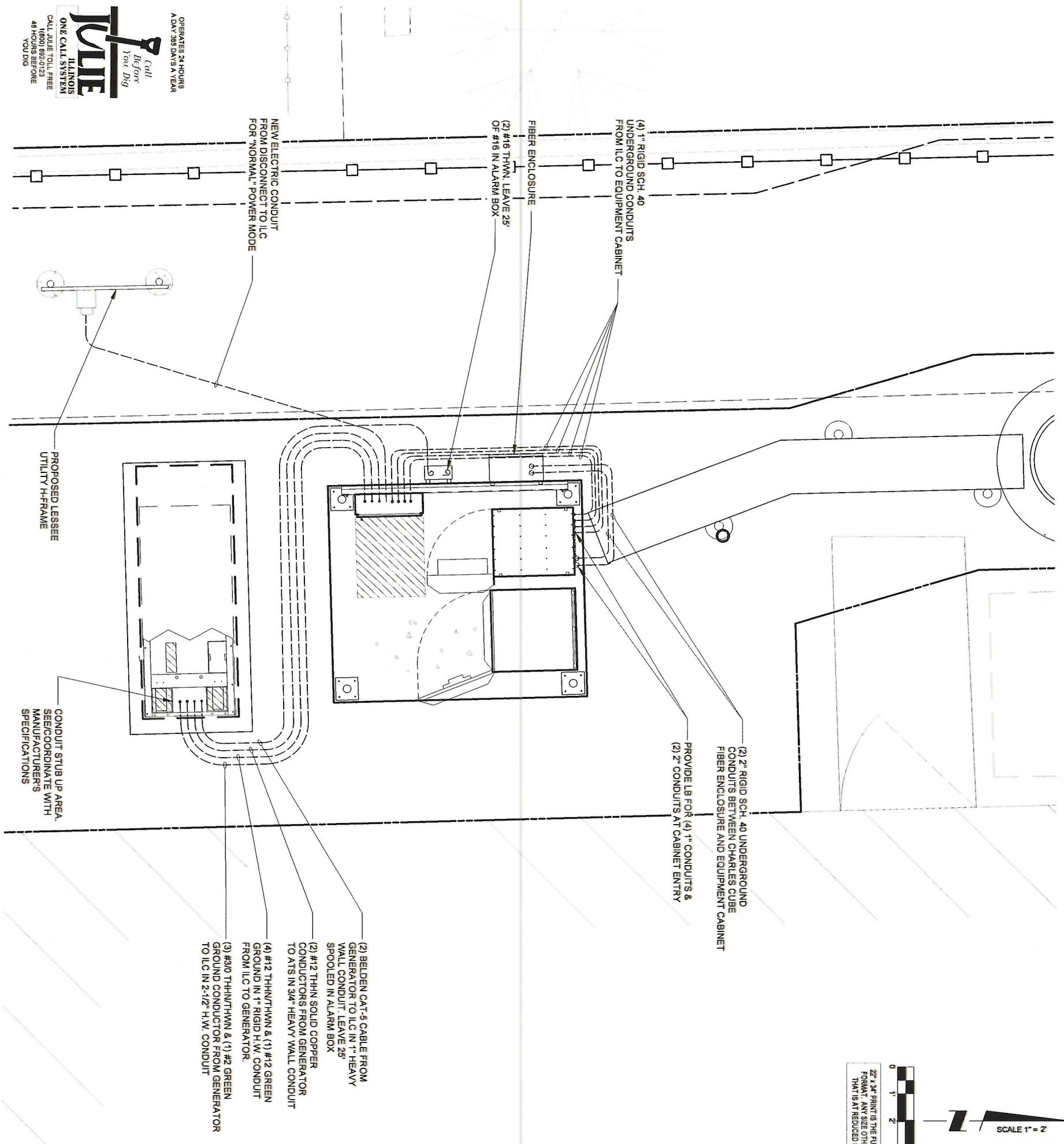
- 7) EXISTING PANEL BOARD - E.C. TO PROVIDE (2) IP20A BREAKERS AND EXTEND CIRCUITS OUT TO GENERATOR LOCATIONS FOR WIRING OF 1800 WATT WATER JACKET HEATER, AND BATTERY CHARGER. PROVIDE RECEPTACLES OR TERMINATIONS AS REQUIRED. VERIFY EXACT LOCATIONS WITH GENERAC.
- 8) E.C. MUST MONITOR DC POWER WHEN ON BATTERY BACK-UP DURING PORTIONS OF CONSTRUCTION, IF LEVEL FALLS BELOW RECOMMENDED LEVEL 2256 DC, E.C. MUST TURN ON THE MAIN POWER. THE CELL SITE CANNOT GO OFF LINE AT ANYTIME.

NOTE:
CONTRACTOR TO VERIFY ROUTES
WITH LOCAL UTILITY COMPANY
PRIOR TO INSTALLATION.

OPERATES 24 HOURS
A DAY 365 DAYS A YEAR

JULIE
ILLINOIS
ONE CALL SYSTEM
Call Before
You Dig

CALL JU 699-6400
48 HOURS BEFORE
YOU DIG



E-1B

**W 151st ST
& S 80th AVE**
15100 S 80th AVE
ORLAND PARK, IL 60462

REVISIONS
DRAWN BY: PP
CHECKED BY: TAZ
DATE: 07/23/15
PROJECT #: 33-1466

**GENERATOR
UTILITY ROUTING PLAN**

SHEET NUMBER

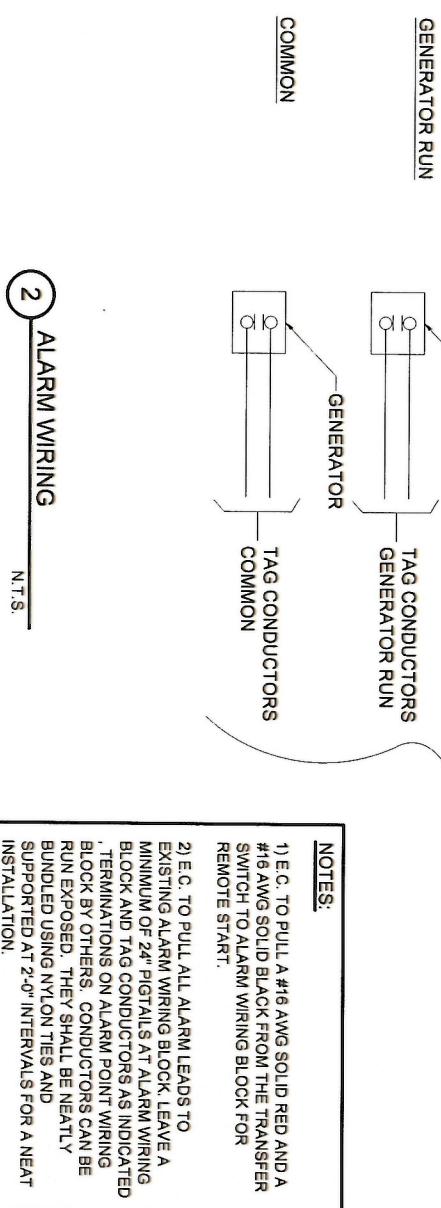
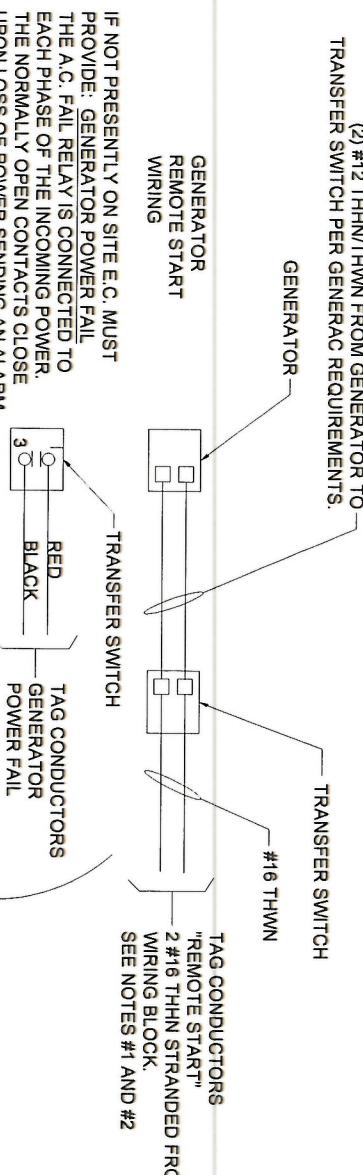
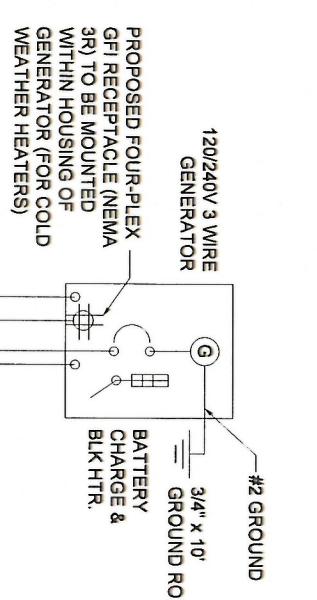
TERRA
CONSULTING GROUP, LTD.
600 BUSSE HIGHWAY
PARK RIDGE, IL 60068
PH: 847-698-6400
FAX: 847-698-6401

**CHICAGO
SMSA**
limited partnership
d/b/a **VERIZON WIRELESS**

KEY		
①	(3) #4/0 & (1) #2 GND IN 3" C	
②	(4) #12 & (1) #12 GND IN 1" C	
③	(2) CAT-5 BELDEN IN 1" C FROM GENERATOR TO ALARM BOX. LEAVE 25' SPOOLED IN ALARM BOX	(SEE NOTE)
④	(2) #12 THHN IN 3/4" C	
⑤	(2) #16 THHN IN 3/4" C #16 IN ALARM BOX	

NOTE:
E.C. TO PROVIDE (2) 20A
1-POLE CIRCUIT BREAKERS
FOR BATTERY CHARGER
AND JACKET HEATER

- 1 PHASE 3 WIRE
- 120/240V 3 WIRE
GENERATOR
- PROPOSED FOUR-PLEX
GFI RECEPTACLE (NEMA
3R) TO BE MOUNTED
WITHIN HOUSING OF
GENERATOR (FOR COLD
WEATHER HEATERS)
- 2 #16 THHN STRANDED FROM
WIRING BLOCK.
- SEE NOTES #1 AND #2



① ALARM WIRING
N.T.S.

② NEW SINGLE LINE DIAGRAM
N.T.S.

DOLAN REALTY
SITE #
DRA IL-1014
LOC. # 311466

W 151st ST
& S 80th AVE
ORLAND PARK, IL 60462

SH. TITLE
GENERATOR SINGLE
LINE DIAGRAM &
ALARM WIRING

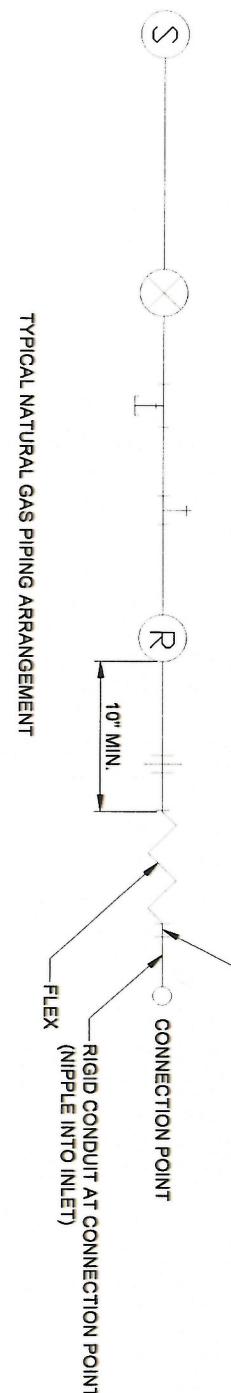
SHEET NUMBER

E-1C

REVISIONS			
NO.	DESCRIPTION	DATE	BY
5	UPDATE WITH NEW LAYOUT	09/08/17	DMS
6	FINALS WITH FIBER	10/20/17	RA
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600 BUSSE HIGHWAY
PARK RIDGE, IL 60068
PH: 847-698-6400
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CHICAGO SMSA
limited partnership
d/b/a VERIZON WIRELESS



1 PIPING SCHEMATIC
N.T.S.

PIPE SIZING & REGULATOR MODEL CHART		
GENERATOR MODEL	PIPE SIZE	REGULATOR MODEL
SG335 (35kW)	1-1/4"	SENSUS MODEL 143-80-2 W/ GREEN SPRING & 1/2" ORIFICE AT 10 DEGREES
SG350 (50kW)	1-1/4"	SENSUS MODEL 143-80-2 W/ GREEN SPRING & 1/2" ORIFICE AT 10 DEGREES

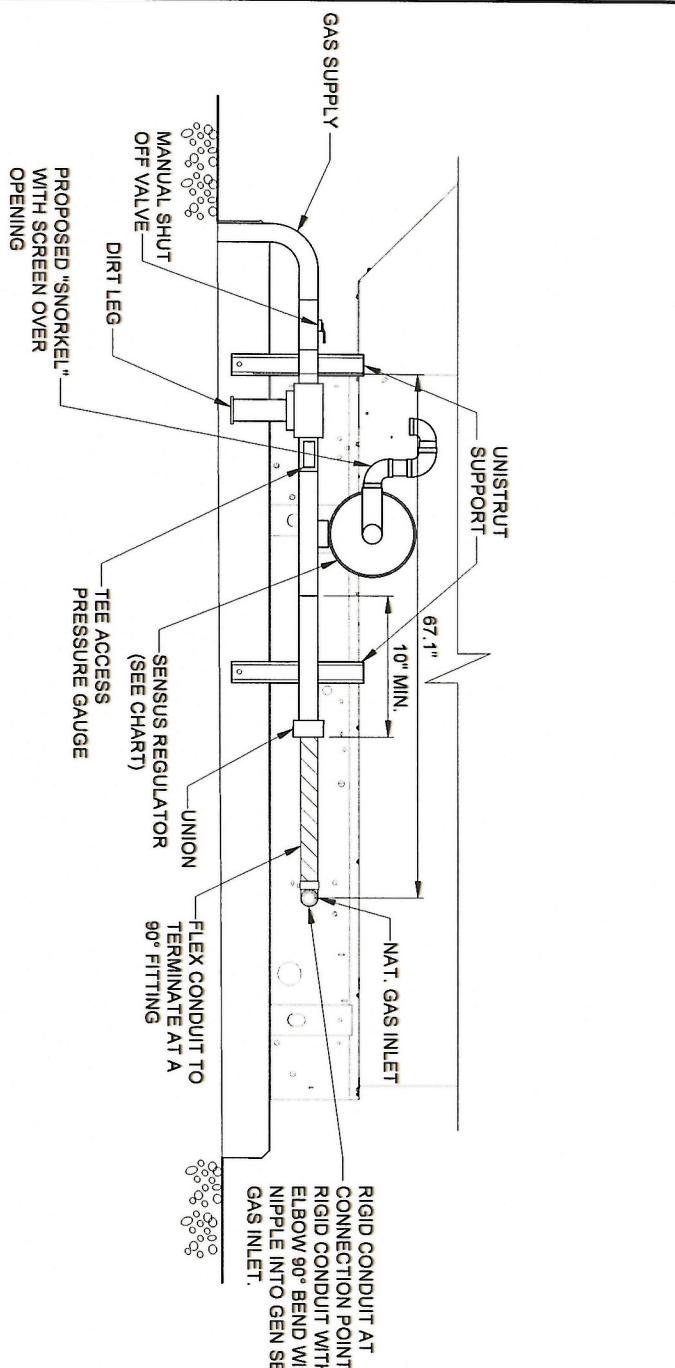
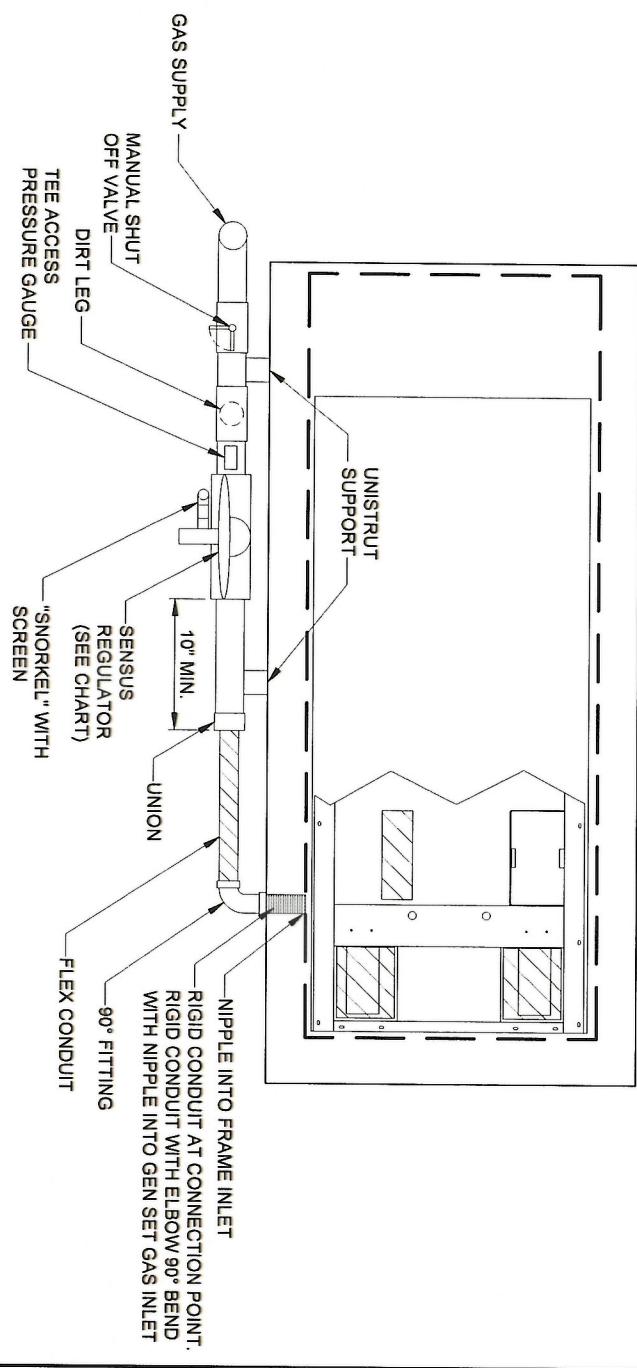
SENSUS MODEL 243-12-2 W/ GREEN SPRING & 3/4" ORIFICE AT 10 DEGREES

SENSUS MODEL 243-12-2 W/ GREEN SPRING & 1/2" ORIFICE AT 10 DEGREES

*FOR 400A SITES

NOTE:
1. ALL PIPING SHALL BE 1-1/4" BLACK PIPE SCHEDULE 40 (UNLESS OTHERWISE SPECIFIED).
2. ALL FITTING SHALL BE 1-1/4" BLACK MALLEABLE IRON (UNLESS OTHERWISE SPECIFIED).

THE GENERAL CONTRACTOR IS TO VERIFY REGULATOR SIZE BASED ON THE SIZE OF THE GENERATOR. THIS IS BASED ON HAVING A 2 PSIG GAS (INLET) PRESSURE SUPPLY FROM THE GAS METER TO THE SENSUS REGULATOR & GENERATOR OUTLET PRESSURE OF 11"-14" W.C.



DOLAN REALTY
SITE #
DRA IL-1014
LOC. # 311466
W 151st ST
& S 80th AVE
15100 S 80th AVE
ORLAND PARK, IL 60462

REVISIONS

NO.	DESCRIPTION	DATE	BY
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CHICAGO SMSA
limited partnership
d/b/a VERIZON WIRELESS

SHEET NUMBER
E-1D

SHEET TITLE
GAS PIPING DETAILS

PROJECT #: 33-1486

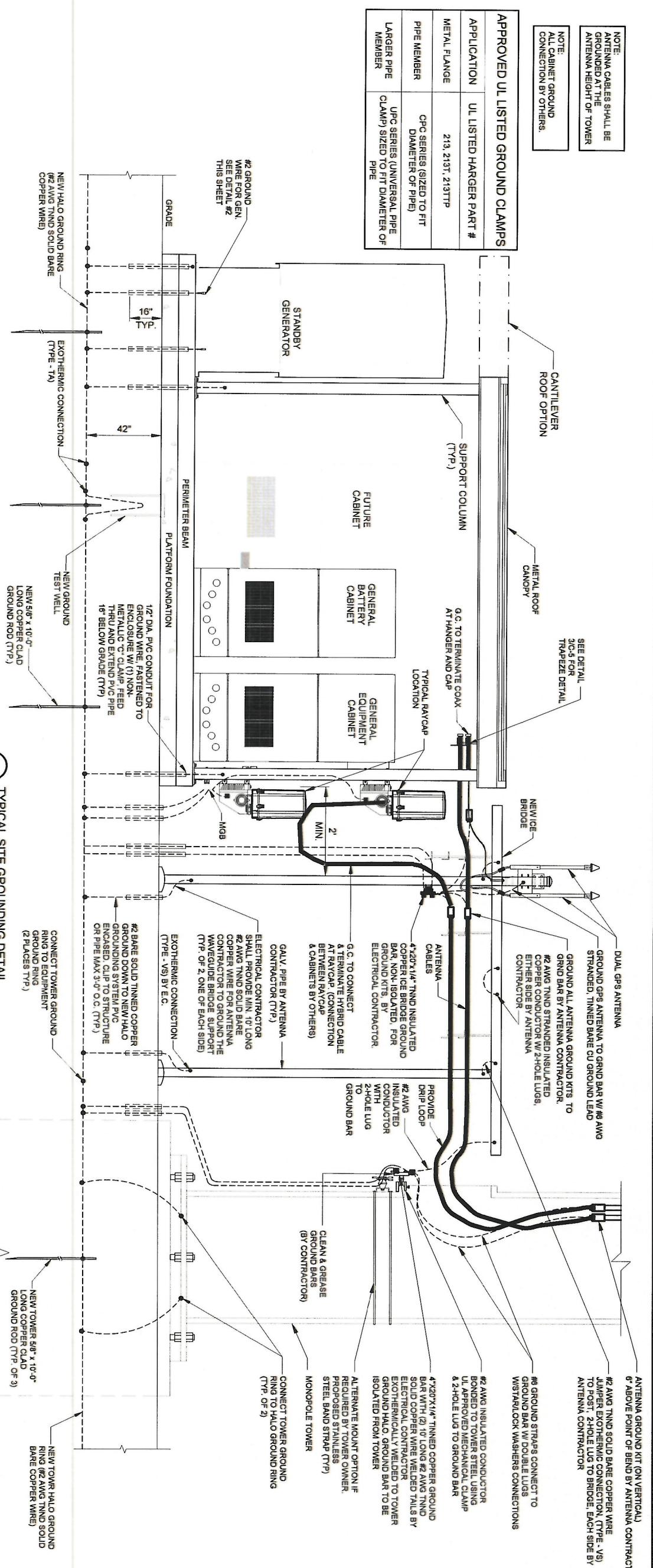
DRAWN BY: PP

CHECKED BY: TAZ

DATE: 07/23/15

2 GAS PIPING PLAN AT GENERATOR
N.T.S.

3 GAS PIPING PROFILE AT GENERATOR
N.T.S.



DOLAN REALTY

REVISIONS			
NO.	DESCRIPTION	DATE	BY
5	UPDATE WITH NEW LAYOUT	09/08/17	DMS
6	FINALS WITH FIBER	10/20/17	RA
7	ADDITION OF LANDSCAPING PLAN	12/29/17	JTM
8	UPDATE PER GAS COORDINATION	01/31/18	DMS
9	REVISED LANDSCAPE PLAN PER VILLAGE	04/05/18	JTM
10	UPDATE SITE WITH THICKENED EDGE SLAB DESIGN	05/29/18	TJS
11	UPDATE WITH NEW SCC	05/27/18	TJS



**CHICAGO
SMSA**
limited partnership
d/b/a **VERIZON WIRELESS**

NOTE:
SET TEST WELL COVER 1" BELOW
TOP OF GRAVEL LEASE AREA

GRADE

EXOTHERMIC WELD (TYPE GT)

RING GROUND #2 AWG BCW SOLID, TINNED SBTC

EXISTING GRAVEL

EXOTHERMIC WELD

CUT SLOTS FOR LEAD #1

FROST LINE

3' 6" FROST DEPTH

4" HOLD

EXISTING SOILS

#2 SBTC LOOP

#2 AWG SOLID TINNED COPPER GROUND RING

10''x42'' GROUND TEST WELL W/ HDPE COVER.

NOTE: GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL

NOTE:
GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT
TO EXCEED 45 DEGREES FROM THE VERTICAL.
2 GROUND ROD DETAIL
SCALE: N.T.S.

TEST WELL DETAIL

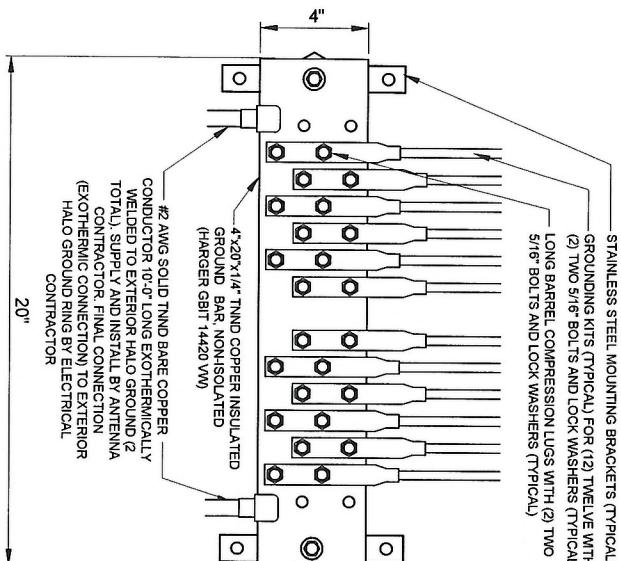
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GROUNDING ELECTRODE SYSTEM NOTES:

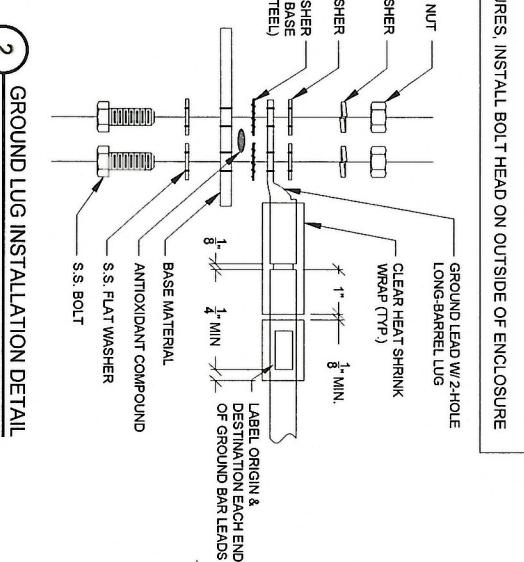
1. ALL GROUNDING CONNECTIONS SHALL BE MADE BY THE EXOTHERMIC PROCESS. CONNECTORS SHALL INCLUDE ALL CABLE TO CABLE, SPICES, ETC. ALL CABLE TO GROUND RODS, GROUND RODS, GROUND FOUNDATION ONLY AS INDICATED BY PM. ALL MATERIALS USED (MOLDS, WELDING METAL, TOOLS, ETC.) SHALL BE BY EXOTHERMIC PROCESS AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES.
2. ALL EXOTHERMIC CONNECTIONS OF GALVANIZED SURFACES SHALL BE COATED THOROUGHLY AND COATED TO THE SURFACE WITH (2) TWO COATS OF SHERWIN WILLIAMS GALVITE (WHITE) PAINT BROWN (OR EQUAL) OR SHERWIN WILLIAMS SILVERBRITE (ALUMINUM) BS611 (OR EQUAL).
3. ALL ELECTRICAL & MECHANICAL GROUND CONNECTIONS SHALL HAVE ANTI-OXIDANT COMPOUND APPLIED TO CONNECTION

4. FENCE/GATE: GROUND FENCE POSTS WITHIN 6 FEET OF ENCLOSURE, AND 25 FEET OF GROUND CONNECTIONS TO FENCE POSTS SHALL BE MADE BY THE EXOTHERMIC PROCESS AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES. ALL OTHER CONNECTIONS FOR THE GROUND GRID SYSTEM SHALL BE MADE BY THE EXOTHERMIC PROCESS AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES.

5. AFTER INSTALLATION OF THE CANOPY AT THE DOOR, SPEC/CS IS TO BOND THE CANOPY TO THE SURFACE TO MATCH AFTER INSTALLATION.
6. UTILITY COMPANY COORDINATION: ELECTRICAL CONTRACTOR SHALL CONFIRM THAT ALL WORK IS IN ACCORDANCE WITH THE RULES OF THE LOCAL UTILITY COMPANY BEFORE SUBMITTING THE BID. THE CONTRACTOR SHALL CHECK WITH THE UTILITY COMPANIES SUPPLYING SERVICE TO THIS PROJECT AND SHALL DETERMINE FROM THEM ALL EQUIPMENT AND CHARGES WHICH THEY WILL REQUIRE AND SHALL INCLUDE THESE COST IN THE BID.
7. GROUND TEST: GROUND TESTS SHALL BE PERFORMED AS REQUIRED BY LESSOR STANDARD PROCEDURES. GROUND GRID RESISTANCE SHALL NOT EXCEED 5 OHMS.
8. CONTRACTOR SHALL SUBMIT THE GROUND RESISTANCE TEST REPORT AS FOLLOWS:
 1. ONE (1) COPY TO OWNER REPRESENTATIVE
 2. ONE (1) COPY TO ENGINEER
 3. ONE (1) COPY TO KEEP INSIDE EQUIPMENT ENCLOSURE



1 EXTERIOR GROUND BAR DETAIL
N.T.S.



2 GROUND LUG INSTALLATION DETAIL
N.T.S.

NOTES:
1. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING BELLEVILLE'S.
COAT ALL SURFACES WITH KOPR-SHIELD BEFORE MATING.

2. FOR GROUND BOND TO STEEL ONLY, INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH KOPR-SHIELD.

3. GROUND BARS, INSTALL BOLT HEAD TOWARD WALL.

4. ENCLOSURES, INSTALL BOLT HEAD ON OUTSIDE OF ENCLOSURE



CHICAGO SMSA
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REVISIONS

NO.	DESCRIPTION	DATE	BY
5	UPDATE WITH NEW LAYOUT	08/08/17	DMS
6	FINALS W/TH FIBER	10/20/17	RA
7	ADDITION OF LANDSCAPING PLAN	12/01/17	JTM
8	UPDATE PER GAS COORDINATION	01/31/18	DMS
9	REVISED LANDSCAPE PLAN PER VILLAGE	04/09/18	JTM
10	UPDATE SITE WITH THICKENED EDGE SLAB DESIGN	05/29/18	TJS
11	UPDATE WITH NEW CCR	06/27/18	TJS

DOLAN REALTY
SITE #
DRA IL-1014

LOC. # 311466

W 151st ST
& S 80th AVE
15100 S 80TH AVE
ORLAND PARK, IL 60462

DRAWN BY: PP

CHECKED BY: Taz

DATE: 07/23/15

PROJECT #: 33-1486

SHEET TITLE: GROUNDING DETAILS

SHEET NUMBER:

GENERAL
THE CONSTRUCTION DOCUMENT DRAWINGS ARE INTERRELATED. WHEN PERFORMING THE WORK, EACH CONTRACTOR MUST REFER TO ALL DRAWINGS. COORDINATION IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

SECTION 01700 - GENERAL REQUIREMENTS

SECTION 01700 - PROJECT CLOSEOUT

PART 1 - GENERAL

A. OBTAIN AND SUBMIT RELEASES ENABLING THE OWNER UNRESTRICTED USE OF THE WORK AND ACCESS TO SERVICES AND UTILITIES; INCLUDE OCCUPANCY PERMITS, OPERATING CERTIFICATES AND SIMILAR RELEASES.

B. SUBMIT RECORD DRAWINGS, DAMAGE OR SETTLEMENT SURVEY, PROPERTY SURVEY, AND SIMILAR FINAL RECORD INFORMATION.

PART 2 - FINAL CLEANING

1. COMPLETE THE FOLLOWING CLEANING OPERATIONS BEFORE REQUESTING INSPECTION FOR CERTIFICATION OF COMPLETION.

a. CLEAN THE PROJECT SITE, YARD AND GROUNDS, IN AREAS DISTURBED BY CONSTRUCTION ACTIVITIES, INCLUDING LANDSCAPE DEVELOPMENT AREAS, RUBBISH, WASTE MATERIALS, LITTER AND FOREIGN SUBSTANCES. SWEEP, PAVED AREAS, BROOM, CLEAN, REMOVE PETRO-CHEMICAL SPILLS, STAINS AND OTHER FOREIGN DEPOSITS, RAKE GROUNDS THAT ARE NEITHER PLANTED NOR PAVED, TO A SMOOTH EVEN-TEXTURED SURFACE.

b. REMOVE TOOLS, CONSTRUCTION EQUIPMENT, MACHINERY AND SURPLUS MATERIAL FROM THE SITE.

c. REMOVE SNOW AND ICE TO PROVIDE SAFE ACCESS TO THE SITE AND EQUIPMENT ENCLOSURE.

d. CLEAN EXPOSED EXTERIOR AND INTERIOR HARD-SURFACED FINISHES TO A DIRT-FREE CONDITION, FREE OF STAINS, FILMS AND SIMILAR SUBSTANCES. AVOID DISTURBING NATURAL WEATHERING OF EXTERIOR SURFACES.

e. REMOVE DEBRIS FROM LIMITED ACCESS SPACES, INCLUDING ROOFS, EQUIPMENT ENCLOSURE, MANHOLES, AND SIMILAR SPACES.

f. TOUCH-UP AND OTHERWISE REPAIR AND RESTORE MARRED EXPOSED FINISHES AND SURFACES. REPLACE FINISHERS AND SURFACES THAT CAN NOT BE SATISFACTORILY REPAIRED OR RESTORED, OR THAT SHOW EVIDENCE OF REPAIR OR RESTORATION. DO NOT PAINT OVER "UL" AND SIMILAR LABELS, INCLUDING ELECTRICAL NAME PLATES.

g. LEAVE THE PROJECT CLEAN AND READY FOR OCCUPANCY.

2. REMOVAL OF PROTECTION: REMOVE TEMPORARY PROTECTION AND FACILITIES INSTALLED DURING CONSTRUCTION TO PROTECT PREVIOUSLY COMPLETED INSTALLATIONS DURING THE REMAINDER OF THE CONSTRUCTION PERIOD.

DIVISION 2: SITE WORK

SECTION 02200 - EARTHWORK AND DRAINAGE

PART 1 - GENERAL

1. WORK INCLUDED: SEE SITE PLAN.

2. SEQUENCING
a. CONSTRUCT TEMPORARY CONSTRUCTION AREA ALONG EAST FENCE LINE.
b. GRADE, SEED, FERTILIZE, AND MULCH ALL AREAS DISTURBED BY CONSTRUCTION (INCLUDING UNDERGROUND UTILITY EASEMENTS) IMMEDIATELY AFTER BRINGING LEASE AREA AND ACCESS DRIVE W/ TURNDOWN TO BASE COURSE ELEVATION, WATER TO ENSURE GROWTH

PART 2 - EXECUTION

1. INSPECTIONS: LOCAL BUILDING INSPECTORS SHALL BE NOTIFIED NO LESS THAN 48 HOURS IN ADVANCE OF CONCRETE POURS, UNLESS OTHERWISE SPECIFIED BY JURISDICTION.

2. PREPARATION
a. CLEAR TREES, BRUSH AND DEBRIS FROM SITE AS REQUIRED.
b. PRIOR TO OTHER EXCAVATION AND CONSTRUCTION, GRUB ORGANIC MATERIAL TO A MINIMUM OF SIX INCHES (6") BELOW GRADE.
c. UNLESS OTHERWISE INSTRUCTED BY OWNER, TRANSPORT ALL REMOVED TREES, BRUSH AND DEBRIS FROM THE PROPERTY TO AN AUTHORIZED LANDFILL.

PART 3 - CONSTRUCTION

1. INSPECTIONS: LOCAL BUILDING INSPECTORS SHALL BE NOTIFIED NO LESS THAN 48 HOURS IN ADVANCE OF CONCRETE POURS, UNLESS OTHERWISE SPECIFIED BY JURISDICTION.

PART 4 - COMPLETION

1. COMPLETE THE FOLLOWING CLEANING OPERATIONS BEFORE REQUESTING INSPECTION FOR CERTIFICATION OF COMPLETION.

2. REMOVE TOOLS, CONSTRUCTION EQUIPMENT, MACHINERY AND SURPLUS MATERIAL FROM THE SITE.

3. REMOVE SNOW AND ICE TO PROVIDE SAFE ACCESS TO THE SITE AND EQUIPMENT ENCLOSURE.

4. LEAVE THE PROJECT CLEAN AND READY FOR OCCUPANCY.

DIVISION 3: CONCRETE

SECTION 03000 - BASIC CONCRETE MATERIALS AND METHODS

PART 1 - GENERAL

1. WORK INCLUDED: SEE SITE PLAN.

2. INSPECTIONS
a. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING BUILDING DEPARTMENT INSPECTIONS REQUIRED FOR HIS SCOPE OF WORK.

3. INSTALLATION
a. GRADE, OR FILL THE SITE AS REQUIRED IN ORDER THAT UPON DISTRIBUTION OF SOILS, RESULTING FROM EXCAVATIONS, THE RESULTING GRADE WILL CORRESPOND WITH SAID SUB-BASE COURSE ELEVATIONS AS TO BE CALCULATED FROM BENCHMARK, FINISHED GRADES, OR INDICATED SLOPES.

b. CLEAR EXCESS SOILS, IF ANY, FROM JOB SITE AND DO NOT SPREAD BEYOND THE LIMITS OF PROJECT AREA UNLESS AUTHORIZED BY PROJECT MANAGER AND AGREED TO BY LANDOWNER.

c. AVOID CREATING DEPRESSIONS WHERE WATER MAY POND.

d. THE CONTRACT SHALL INCLUDE GRADING, BANKING, AND DITCHING, UNLESS OTHERWISE INDICATED.

e. PLACE FILL OR STONE IN SIX INCH (6") MAXIMUM LIFTS, AND COMPACT BEFORE PLACING NEXT LIFT.

f. THE TOP SURFACE COURSE SHALL EXTEND A MINIMUM OF ONE FOOT (1') BEYOND THE SITE FENCE (UNLESS OTHERWISE NOTED) AND SHALL COVER THE AREA AS INDICATED.

g. APPLY SEED, FERTILIZER, AND STRAW COVER TO ALL OTHER DISTURBED AREAS, DITCHES, AND DRAINAGE SWALES, NOT OTHERWISE INSTRUCTED.

h. UNDER NO CIRCUMSTANCES WILL DITCHES, SWALES, OR CULVERTS BE PLACED SO THAT THEY DIRECT WATER TOWARDS, OR PERMIT STANDING WATER IMMEDIATELY ADJACENT TO SHELTER OR EQUIPMENT. IF DESIGNS OR ELEVATIONS ARE IN CONFLICT WITH THIS, ADVISE CONSTRUCTION MANAGER IMMEDIATELY.

i. APPLY SEED, FERTILIZER, AND STRAW COVER TO ALL OTHER DISTURBED AREAS, DITCHES, AND DRAINAGE SWALES, NOT OTHERWISE INSTRUCTED.

j. UNDER NO CIRCUMSTANCES WILL DITCHES, SWALES, OR CULVERTS BE PLACED SO THAT THEY DIRECT WATER TOWARDS, OR PERMIT STANDING WATER IMMEDIATELY ADJACENT TO SHELTER OR EQUIPMENT. IF DESIGNS OR ELEVATIONS ARE IN CONFLICT WITH THIS, ADVISE CONSTRUCTION MANAGER IMMEDIATELY.

k. IN DITCHES WITH SLOPES GREATER THAN 10% MOUND DIVERSIONARY HEADWALLS IN THE DITCH AT CULVERT ENTRANCES. POSITION THE HEADWALL AT AN ANGLE NO GREATER THAN 60° OFF THE DITCH LINE. RIPRAP THE UPSTREAM SIDE OF THE HEADWALL AS WELL AS THE DITCH FOR SIX FEET (6') ABOVE THE CULVERT ENTRANCE.

l. APPLY SEED AND FERTILIZER TO SURFACE CONDITIONS WHICH WILL ENCOURAGE SPROUTING. RAKE AREAS TO BE SEEDED TO EVEN THE SURFACE AND LOOSEN THE SOIL.

m. SOW SEED IN TWO DIRECTIONS IN TWICE THE QUANTITY REQUIRED. USE OF EROSION CONTROL MESH OR MULCH NET WILL BE AN ACCEPTABLE ALTERNATIVE.

n. ENSURE GROWTH OF SEDED AND LANDSCAPED AREAS. BY WATERING UP TO THE POINT OF RELEASE FROM THE CONTRACT, CONTINUE TO REWORK THE SEDED AREAS UNTIL COMPLETE COVERAGE IS OBTAINED.

o. FIELD QUALITY CONTROL: COMPACT SOILS TO MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D-355. AREAS OF SETTLEMENT WILL BE EXCAVATED AND REFILLED AT CONTRACTOR'S EXPENSE. INDICATE PERCENTAGE OF COMPACTION ACHIEVED ON AS-BUILT DRAWINGS.

5. PROTECTION

a. PROTECT SEDED AREAS FROM EROSION BY SPREADING STRAW TO A UNIFORM LOOSE DEPTH OF 1-2 INCHES. STAKE AND TIE DOWN AS REQUIRED. USE OF EROSION CONTROL MESH OR MULCH NET WILL BE AN ACCEPTABLE ALTERNATIVE.

b. PROTECT ALL EXPOSED AREAS AGAINST WASHOUTS AND SOIL EROSION. PLACE STRAW BALES AT THE INLET APPROACH TO ALL NEW OR EXISTING CULVERTS, WHERE THE SITE OR ROAD AREAS HAVE BEEN ELEVATED IMMEDIATELY ADJACENT TO THE RAIL LINE. STAKE EROSION CONTROL FABRIC FULL LENGTH IN THE SWALE TO PREVENT CONTAMINATION OF THE RAIL BALLAST. ALL EROSION CONTROL METHODS SHALL CONFORM TO APPLICABLE BUILDING CODE REQUIREMENTS.

SECTION 02030 - FENCING AND GATE(S)

PART 1 - GENERAL

1. WORK INCLUDED - SEE PLAN FOR SITE AND LOCATION OF FENCE

2. QUALITY ASSURANCE

a. ALL STEEL MATERIALS UTILIZED IN CONJUNCTION WITH THIS SPECIFICATION WILL BE GALVANIZED OR STAINLESS STEEL. WEIGHT OF ZINC COATING ON THE FABRIC SHALL NOT BE LESS THAN 12 OUNCE PER SQUARE FOOT OF MATERIAL COVERED. POSTS SHALL BE HOT-DIPPED IN GRADE "E" ZINC, 18 OUNCES PER SQUARE FOOT.

3. SEQUENCING

a. IF THE SITE AREA HAS BEEN BROUGHT UP TO SURFACE COURSE ELEVATION (PRIOR TO THE FENCE CONSTRUCTION), FENCE POST EXCAVATION SOILS MUST BE CONTROLLED TO PRECLUDE CONTAMINATION OF SAID SURFACE COURSE.

4. SUBMITTALS

a. MANUFACTURER'S DESCRIPTIVE LITERATURE.
b. CERTIFICATE OR STATEMENT OF COMPLIANCE WITH THE SPECIFICATIONS.

5. FENCE MATERIAL

a. ALL FABRIC, WIRE RAILS, HARDWARE, AND OTHER STEEL MATERIALS SHALL BE HOT-DIPPED GALVANIZED.

b. FABRIC SHALL BE SEVEN-FOOT (7') HIGH OR TO MATCH EXISTING FENCE TWO-INCH CHAIN LINK MESH OR NO. 9 GAUGE (0.148") WIRE. THE FABRIC SHALL HAVE A KNUCKLED FINISH FOR THE TOP SELVAGES. FABRIC SHALL CONFORM TO THE SPECIFICATIONS OF ASTM A-392 CLASS 1.

c. ALL POSTS SHALL BE SCHEDULE 40 MECHANICAL SERVICE PIPE AND SHALL BE TYPE 1 ASTM A-128 AND ONE OF THE FOLLOWING DIAMETER

a. HOT-DIPPED GALVANIZED.

b. FABRIC SHALL HAVE A KNUCKLED FINISH FOR THE TOP SELVAGES. FABRIC SHALL CONFORM TO THE SPECIFICATIONS OF ASTM A-392 CLASS 1.

c. ALL POSTS SHALL BE SCHEDULE 40 MECHANICAL SERVICE PIPE AND SHALL BE TYPE 1 ASTM A-128 AND ONE OF THE FOLLOWING DIAMETER

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c. ALL POSTS SHALL BE SCHEDULE 40 MECHANICAL SERVICE PIPE AND SHALL BE TYPE 1 ASTM A-128 AND ONE OF THE FOLLOWING DIAMETER

a. HOT-DIPPED GALVANIZED.

6. FIELD QUALITY CONTROL

a. SUBMIT THREE (3) CONCRETE TEST CYLINDERS - TAKEN FOR EVERY 15 CUBIC YARD OR LESS. SUBMIT CONCRETE TESTS TO THE PROJECT MANAGER IN ACCORDANCE WITH ASTM C-31 AND C-39.

b. PROVIDE HAND RUBBED SMOOTH FINISH TO ALL EXPOSED VERTICAL FORMED CONCRETE SURFACES.

7. REINFORCEMENT

a. AFTER PLACEMENT, PROTECT CONCRETE FROM PREMATURE DRYING.
b. MAINTAIN CONCRETE WITH MINIMAL MOISTURE LOSS AT RELATIVELY CONSTANT TEMPERATURE FOR A PERIOD NECESSARY FOR HYDRATION OF CEMENT AND HARDENING OF CONCRETE.

8. CONCRETE REINFORCEMENT

a. SUBMIT ONE (1) ADDITIONAL TEST CYLINDER - TAKEN DURING COLD WEATHER POURS, AND CURED ON JOB SITE UNDER SAME CONDITIONS AS CONCRETE IT REPRESENTS.

b. SUBMIT ONE (1) SLUMP TEST - TAKEN FOR EACH SET OF TEST CYLINDERS TAKEN.

c. SUBMIT ONE (1) SLUMP TEST - TAKEN FOR EACH SET OF TEST CYLINDERS TAKEN.

9. DEFECTIVE CONCRETE: MODIFY OR REPLACE CONCRETE NOT CONFORMING TO REQUIRED LINES, DETAILS OR ELEVATIONS AT COST OF GC, AS DIRECTED BY ARCHITECT/ENGINEER.

REVISIONS

NO	5	6	7	8	9	10	11
DESCRIPTION	UPDATE WITH NEW LAYOUT						
	FINALS WITH FIBER						
	ADDITION OF LANDSCAPING PLAN						
	UPDATE PER GAS COORDINATION						
	REVISED LANDSCAPE PLAN PER VILLAGE						
	UPDATE SITE WITH THICKENED EDGE SLAB DESIGN						
	UPDATE WITH NEW ECR						



CHICAGO SMSA
limited partnership
d/b/a VERIZON WIRELESS

600 BUSSE HIGHWAY
PARK RIDGE, IL 60068
PH: 847-696-6400
FAX: 847-696-6401

DOLAN REALTY
SITE # DRA IL-1014
LOC. # 311466
15100 S 80TH AVE
ORLAND PARK, IL 60462

DRAWN BY: PP
CHECKED BY: TA2
DATE: 07/23/15

PROJECT #: 33-1466
SHEET TITLE: SPECIFICATIONS

SHEET NUMBER: SP-1

SP-1

DIVISION 5: METALS

PART 11-GENERAL

1. SECTION INCLUDES:
STRUCTURAL STEEL FRAMING MEMBERS, BASE PLATES, PLATES, BARS, AND GROUTING UNDER BASE PLATES.
2. ALL CHEMICAL GROUND RODS SHALL BE "U" APPROVED.
3. METER SOCKET AMPERES, VOLTAGE, NUMBER OF PHASES SHALL BE AS NOTED ON THE DRAWINGS. MANUFACTURED BY MILBANK OR APPROVED EQUAL, AND SHALL BE UTILITY COMPANY APPROVED.
4. CONDUIT:
A. RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH GALVANIZED ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING HUMPS WRAP PROCESS NO. 3.
B. ELECTRICAL METALIC TUBING SHALL HAVE U.L. LABEL, FITTING SHALL BE GLAND RING WITH COMPRESSSION TYPE.
5. CONTRACTOR TO COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS ARE TO BE PAID BY THE CONTRACTOR.
6. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS WITH WHITE OR BLUE BACKGROUND LETTERING (MINIMUM LETTER HEIGHT SHALL BE ONE FORTY-EIGHT (48) HOURS PRIOR TO DIGGING.
7. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL POTENTIAL GROUNDING TESTS BY AN INDEPENDENT TESTING SERVICE ENGAGED BY THE CONTRACTOR SHALL BE PROVIDED FOR APPROVAL OF TEST REPORT TO PROJECT MANAGER. STAINLESS STEEL SCREWS, NOT ADHESIVE, OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION.
8. GROUNDING ELECTRODE SYSTEM
 - A. PREPARATION
 1. SURFACE PREPARATION:
ALL CONNECTIONS SHALL BE MADE TO BARE METAL. ALL PAINTS SURFACES SHALL BE HELD INSPECTED AND MODIFIED TO ENSURE PROPER CONTACT. NO WASHERS ARE ALLOWED BETWEEN THE ITEM BEING GROUNDED. ALL CONNECTIONS ARE TO HAVE A NO-OXIDIZING GENT APPLIED PRIOR TO INSTALLATION.
 2. GROUND BAR PREPARATION
 - A. ALL COPPER GROUND BARS SHALL BE CLEANED, POLISHED AND A NON-OXIDIZING AGENT APPLIED. NO FINGERPRINTS OR DISCOLORED COPPER WILL BE PERMITTED.
 - B. SLEEVES:
ALL GROUNDING CONDUCTORS SHALL RUN THROUGH PVC SLEEVES WHEREVER CONDUCTORS RUN THROUGH WALLS, FLOORS, OR CEILINGS. IF CONDUCTORS MUST RUN THROUGH EMT, BOTH ENDS OF CONDUIT SHALL BE GROUNDED. SEAL BOTH ENDS OF CONDUIT WITH SILICONE CAULK.
 3. GROUND BARS
 - A. ALL GROUND BARS SHALL BE ONE FORTH INCH (1/4") THICK TINNED COPPER PLATE AND OF AND OF SIZE INDICATED ON DRAWINGS.
 - B. FIELD WELD COMPONENTS INDICATED ON SHOP DRAWINGS.
 - C. DO NOT FIELD CUT OR ALTER STRUCTURAL MEMBERS WITHOUT APPROVAL OF THE ARCHITECT/ENGINEER.
 - D. ALLOW FOR ERECTION LOADS. PROVIDE TEMPORARY BRACING TO MAINTAIN FRAMING IN ALIGNMENT UNTIL COMPLETION OF ERECTION AND INSTALLATION OF PERMANENT BRIDGING AND BRACING.
3. FIELD QUALITY CONTROL:
FIELD INSPECTION OF MEMBERS, CONNECTIONS, WELDS, AND TORQUING

DIVISION 16: ELECTRICAL

SECTION 16050 - BASIC ELECTRICAL MATERIALS AND METHODS

1. CONTRACTOR SHALL REVIEW THE CONTRACT DOCUMENTS PRIOR TO ORDERING THE ELECTRICAL EQUIPMENT AND STARTING THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE ARCHITECT LISTING ANY DISCREPANCIES OR CONFLICTING INFORMATION.
2. ELECTRICAL PLANS, DETAILS AND DIAGRAMS ARE DIAGRAMMATIC ONLY. VERIFY EXACT STANDARDS ESTABLISHED BY ANSI, NEVA, NBCC, AND UL LISTED.
3. ALL CONDUIT SHALL HAVE A FULL CORD.
4. PROVIDE PROJECT MANAGER WITH ONE SET OF COMPLETE ELECTRICAL "AS INSTALLED" DRAWINGS AT THE COMPLETION OF THE JOB, SHOWING ACTUAL DIMENSIONS, ROUTINGS, AND CIRCUITS.
5. ALL CIRCUIT BREAKERS, FUSES, AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING CURRENT TO WHICH THEY MAY BE SUBJECTED, AND A MINIMUM OF 10,000 A.I.C. APPLICABLE. MATERIALS SHALL MEET WITH APPROVAL OF ALL GOVERNING BODIES HAVING JURISDICTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEVA, NBCC, AND UL LISTED.
6. ALL CONDUIT SHALL HAVE A FULL CORD.
7. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY UBC, NEC AND ALL APPLICABLE CODES.
8. THE ENTIRE ELECTRICAL INSTALLATION SHALL HAVE AN INTERRUPTING CURRENT TO WHICH THEY MAY BE SUBJECTED, AND A MINIMUM OF 10,000 A.I.C. APPLICABLE. MATERIALS SHALL MEET WITH APPROVAL OF ALL GOVERNING BODIES HAVING JURISDICTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEVA, NBCC, AND UL LISTED.
9. PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK.
10. PLASTIC PLATES FOR ALL SWITCHES, RECEPTACLES, TELEPHONE AND BLANKED OUTLETS SHALL HAVE ENGRAVED LETTERING WHERE INDICATED ON THE DRAWINGS. WEATHERPROOF RECEPTACLES SHALL HAVE SIERRA AMP-8 LIFT COVERS.

SECTION 16040 - SERVICE AND DISTRIBUTION

1. WIRE AND CABLE CONDUCTORS SHALL BE COPPER. 600V, TYPE THHN OR THWN, WITH A MIN. SIZE OF #12 AWG, COLOR CODED. ALL RECTIFIER DROPS SHALL BE STRANDED TO ACCEPT CRIMP CONNECTORS.
2. ALL CHEMICAL GROUND RODS SHALL BE "U" APPROVED.
3. METER SOCKET AMPERES, VOLTAGE, NUMBER OF PHASES SHALL BE AS NOTED ON THE DRAWINGS. MANUFACTURED BY MILBANK OR APPROVED EQUAL, AND SHALL BE UTILITY COMPANY APPROVED.
4. CONDUIT:
A. RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH GALVANIZED ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING HUMPS WRAP PROCESS NO. 3.
B. ELECTRICAL METALIC TUBING SHALL HAVE U.L. LABEL, FITTING SHALL BE GLAND RING WITH COMPRESSSION TYPE.
5. CONTRACTOR TO COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS ARE TO BE PAID BY THE CONTRACTOR.
6. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS WITH WHITE OR BLUE BACKGROUND LETTERING (MINIMUM LETTER HEIGHT SHALL BE ONE FORTY-EIGHT (48) HOURS PRIOR TO DIGGING.
7. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL POTENTIAL GROUNDING TESTS BY AN INDEPENDENT TESTING SERVICE ENGAGED BY THE CONTRACTOR SHALL BE PROVIDED FOR APPROVAL OF TEST REPORT TO PROJECT MANAGER. STAINLESS STEEL SCREWS, NOT ADHESIVE, OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION.
8. GROUNDING ELECTRODE SYSTEM
 - A. PREPARATION
 1. SURFACE PREPARATION:
ALL CONNECTIONS SHALL BE MADE TO BARE METAL. ALL PAINTS SURFACES SHALL BE HELD INSPECTED AND MODIFIED TO ENSURE PROPER CONTACT. NO WASHERS ARE ALLOWED BETWEEN THE ITEM BEING GROUNDED. ALL CONNECTIONS ARE TO HAVE A NO-OXIDIZING GENT APPLIED PRIOR TO INSTALLATION.
 2. GROUND BAR PREPARATION
 - A. ALL COPPER GROUND BARS SHALL BE CLEANED, POLISHED AND A NON-OXIDIZING AGENT APPLIED. NO FINGERPRINTS OR DISCOLORED COPPER WILL BE PERMITTED.
 - B. SLEEVES:
ALL GROUNDING CONDUCTORS SHALL RUN THROUGH PVC SLEEVES WHEREVER CONDUCTORS RUN THROUGH WALLS, FLOORS, OR CEILINGS. IF CONDUCTORS MUST RUN THROUGH EMT, BOTH ENDS OF CONDUIT SHALL BE GROUNDED. SEAL BOTH ENDS OF CONDUIT WITH SILICONE CAULK.
 3. GROUND BARS
 - A. ALL GROUND BARS SHALL BE ONE FORTH INCH (1/4") THICK TINNED COPPER PLATE AND OF AND OF SIZE INDICATED ON DRAWINGS.
 - B. FIELD WELD COMPONENTS INDICATED ON SHOP DRAWINGS.
 - C. DO NOT FIELD CUT OR ALTER STRUCTURAL MEMBERS WITHOUT APPROVAL OF THE ARCHITECT/ENGINEER.
 - D. ALLOW FOR ERECTION LOADS. PROVIDE TEMPORARY BRACING TO MAINTAIN FRAMING IN ALIGNMENT UNTIL COMPLETION OF ERECTION AND INSTALLATION OF PERMANENT BRIDGING AND BRACING.
3. FIELD QUALITY CONTROL:
FIELD INSPECTION OF MEMBERS, CONNECTIONS, WELDS, AND TORQUING

SECTION 16045 - WHEN THE DIRECTION OF THE CONDUCTOR MUST CHANGE, IT SHALL BE DONE GRADUALLY. THE CURVATURE OF THE TURN SHALL BE DONE IN ACCORDANCE WITH THE FOLLOWING CHART:

GROUNDING CONDUCTOR SIZE	MINIMUM BENDING RADIUS TO INSIDE EDGE
6 AWG TO NO 4 AWG	6 INCHES
8 AWG TO 1/0 AWG	8 INCHES
12 INCHES	12 INCHES
24 INCHES	24 INCHES

SECTION 16745 - TELECOMMUNICATIONS WIRING COMPONENT (COAXIAL ANTENNA CABLE)

GENERAL
A. ALL MATERIALS, PRODUCTS OR PROCEDURES INCORPORATED INTO WORK SHALL BE NEW AND OF STANDARD COMMERCIAL QUALITY.
B. CERTAIN MATERIALS AND PRODUCTS WILL BE SUPPLIED BY THE OWNER (REFER TO GENERAL CONDITIONS FOR THE LIST OF OWNER-FURNISHED EQUIPMENT, MATERIALS AND SUPPLIES FOR THESE ITEMS). THE CONTRACTOR IS RESPONSIBLE FOR PICKUP AND DELIVERY OF ALL SUCH MATERIALS.
C. ALL OTHER MATERIALS AND PRODUCTS SPECIFIED IN THE CONTRACT DOCUMENTS SHALL BE SUPPLIED BY THE CONTRACTOR.



600 BUSSE HIGHWAY
PARK RIDGE, IL 60068
PH: 847-698-6400
FAX: 847-698-6401

CHICAGO SMSA
limited partnership
d/b/a VERIZON WIRELESS

REVISIONS	
NO.	DATE
5	08/08/17
6	10/20/17
7	10/23/17
8	01/31/18
9	04/05/18
10	05/29/18
11	06/27/18

DOLAN REALTY
SITE #
DRA IL-1014
LOC. # 311466

15100 S 80TH AVE
ORLAND PARK, IL 60462

DRAWN BY: PP
CHECKED BY: TAZ
DATE: 07/23/15
PROJECT #: 33-1466

SHEET TITLE
SPECIFICATIONS

SHEET NUMBER

9. PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK.

10. PLASTIC PLATES FOR ALL SWITCHES, RECEPTACLES, TELEPHONE AND BLANKED OUTLETS SHALL HAVE ENGRAVED LETTERING WHERE INDICATED ON THE DRAWINGS. WEATHERPROOF RECEPTACLES SHALL HAVE SIERRA AMP-8 LIFT COVERS.

1. WIRE AND CABLE CONDUCTORS SHALL BE COPPER. 600V, TYPE THHN OR THWN, WITH A MIN. SIZE OF #12 AWG, COLOR CODED. ALL RECTIFIER DROPS SHALL BE STRANDED TO ACCEPT CRIMP CONNECTORS.

2. ALL CHEMICAL GROUND RODS SHALL BE "U" APPROVED.

3. METER SOCKET AMPERES, VOLTAGE, NUMBER OF PHASES SHALL BE AS NOTED ON THE DRAWINGS. MANUFACTURED BY MILBANK OR APPROVED EQUAL, AND SHALL BE UTILITY COMPANY APPROVED.

4. CONDUIT:
A. RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH GALVANIZED ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING HUMPS WRAP PROCESS NO. 3.
B. ELECTRICAL METALIC TUBING SHALL HAVE U.L. LABEL, FITTING SHALL BE GLAND RING WITH COMPRESSSION TYPE.

5. CONTRACTOR TO COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS ARE TO BE PAID BY THE CONTRACTOR.

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2. ALL CHEMICAL GROUND RODS SHALL BE "U" APPROVED.



8 EXISTING TOWER FOUNDATION
SCALE: N.T.S.



9 EXISTING TOWER TAG
SCALE: N.T.S.



DOLAN REALTY
SITE #
DRA IL-1014
LOC. # 311466
W 151st ST
& S 80th AVE
ORLAND PARK, IL 60462

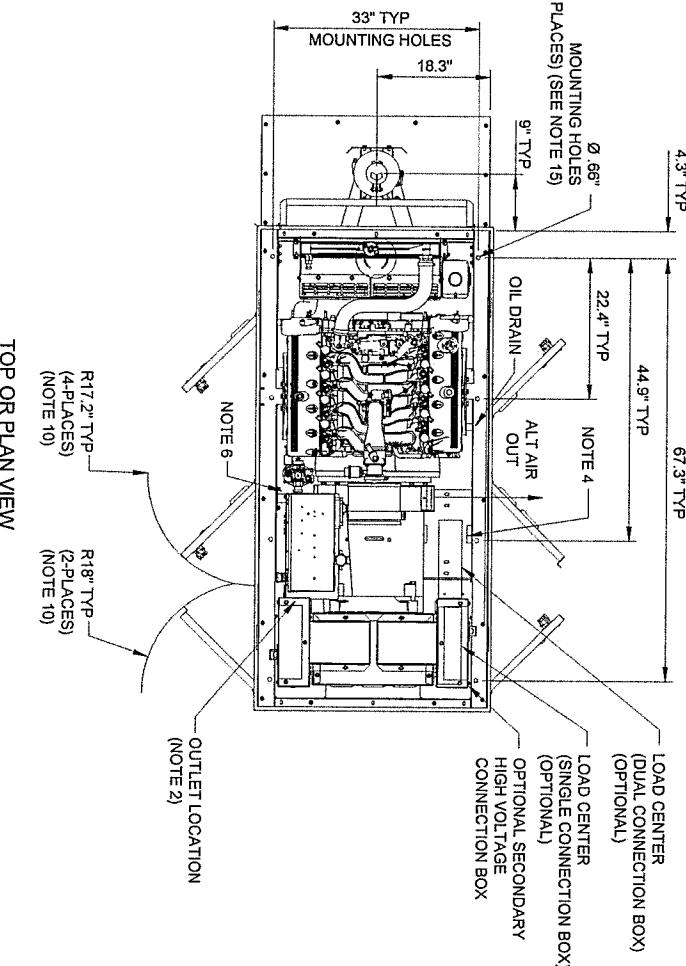
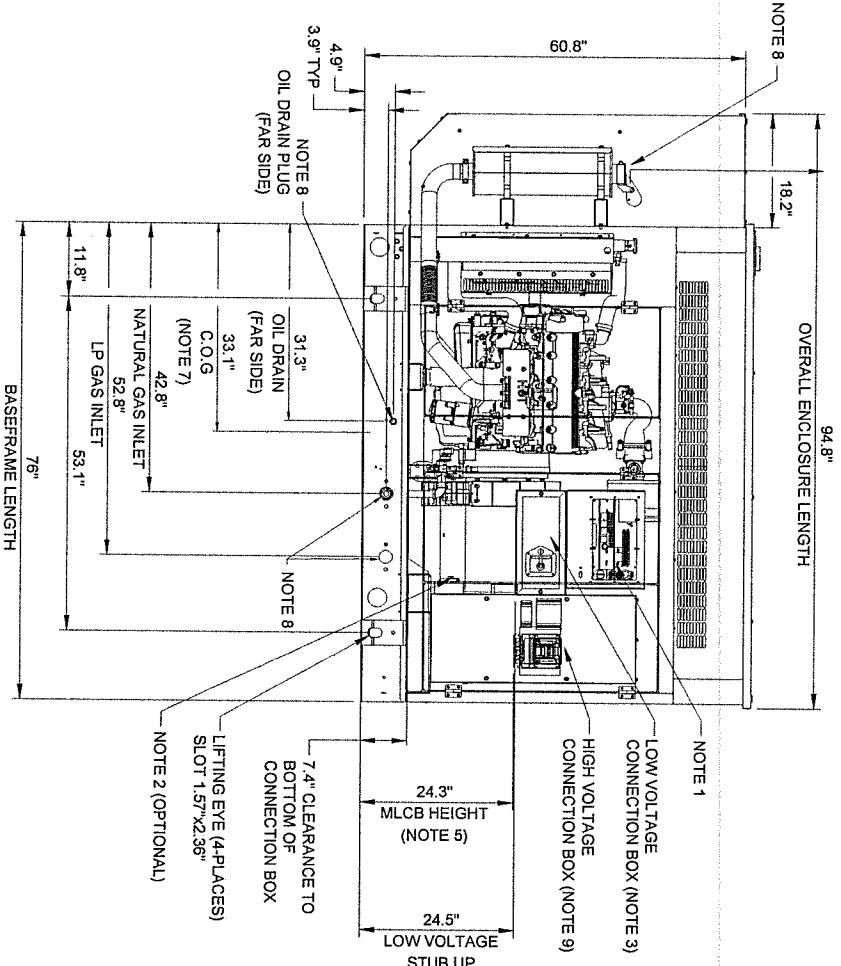
REVISIONS		
NO.	DESCRIPTION	DATE
5	UPDATE WITH NEW LAYOUT	09/08/17
6	FINALS WITH FIBER	10/20/17
7	ADDITION OF LANDSCAPING PLAN	12/29/17
8	UPDATE PER GAS COORDINATION	01/31/18
9	REVISED LANDSCAPE PLAN PER VILLAGE	04/05/18
10	UPDATE SITE WITH THICKENED EDGE SLAB DESIGN	05/29/18
11	UPDATE WITH NEW ECI	06/27/18

DRAWN BY:	
PP	
CHECKED BY:	
TAZ	
DATE:	07/23/15
PROJECT #:	33-1466
SHEET TITLE	
EXISTING SITE PHOTOS	
SHEET NUMBER	

P-1

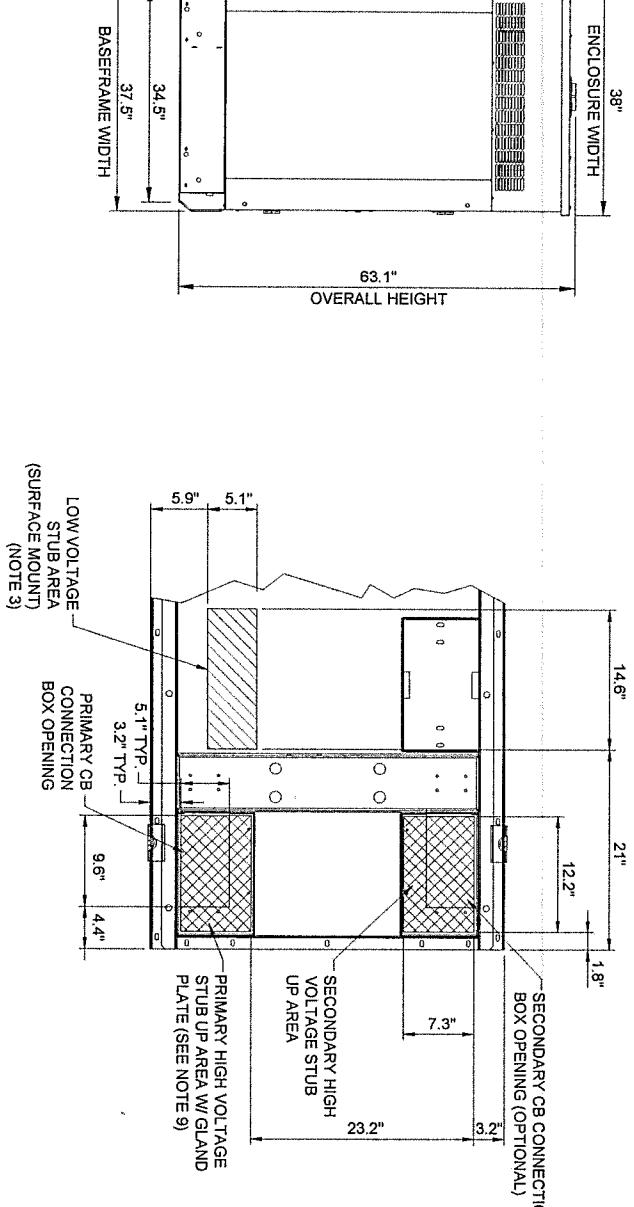


CHICAGO SMSA
limited partnership
d/b/a **VERIZON WIRELESS**



RECOMMENDED ELECTRICAL STUBUPS (SEE DETAILED VIEW & TOP VIEW)	
NOTES	
1.	CONTROL PANEL, (OPTIONAL CHARGER INSIDE).
2.	120V, 20A GFCI & 220V, 15A OUTLET (OPTIONAL).
3.	CONNECTION POINTS FOR CONTROL WIRES PROVIDED IN THE LOW VOLTAGE CONNECTION BOX (USE LOW VOLTAGE STUB UP AREA).
4.	BATTERY (12 VOLT NEGATIVE GROUND SYSTEM).
5.	MAIN LINE CIRCUIT BREAKER (MCB), AC LOAD LEADS CONNECT DIRECTLY TO MCB. (MCB HEIGHT MAY VARY WITH CB SELECTION).
6.	BLOCK HEATER.
7.	CENTER OF GRAVITY AND WEIGHT MAY SHIFT SLIGHTLY DUE TO UNIT OPTIONS.
8.	ENGINE SERVICE CONNECTIONS:
	FUEL INLET UP GAS = 1-1/4" NPT FEMALE COUPLING
	FUEL INLET NATURAL GAS = 1-1/4" NPT FEMALE COUPLING
	OIL DRAIN = 1/2" NPT FEMALE COUPLING
	EXHAUST OUTLET = 3" OD. MUFFLER
9.	AUXILIARY AC CONNECTIONS FOR UNIT OPTIONS ARE LOCATED IN HIGH VOLTAGE CONNECTION BOX, UNLESS AN OPTIONAL LOAD CENTER IS INSTALLED.
10.	DOORS MUST BE ABLE TO OPEN AT LEAST 90° TO BE REMOVED.
11.	BOTTOM OF GENERATOR SET MUST BE CLOSED TO PREVENT PEST INTRUSION AND RECIRCULATION OF DISCHARGE AIR AND/OR IMPROPER COOLING AIR FLOW.
12.	GENERATOR SET MUST BE INSTALLED SUCH THAT FRESH COOLING AIR IS AVAILABLE AND THAT DISCHARGE AIR FROM THE RADIATOR IS RECIRCULATED.
13.	CIRCUIT BREAKER
	- AC LOAD LEADS CONNECT DIRECTLY TO BOTTOM BREAKER
	- REFER TO LUG SIZING CHART AVAILABLE ON GEN CONNECT
14.	EPA AIR QUALITY REGULATION REQUIRE THE CATALYST TO REMAIN MOUNTED WITHIN THE SPECIFIED MOUNTING POSITION DETAILED ON THIS DRAWING.
15.	MOUNTING BOLTS OR STUDS TO MOUNTING SURFACE SHALL BE 5/8-11 GRADE 5. (USE STANDARD SAE TORQUE SPECS.)

RECOMMENDED ELECTRICAL STUBUPS (SEE DETAILED VIEW & TOP VIEW)	
NOTES	
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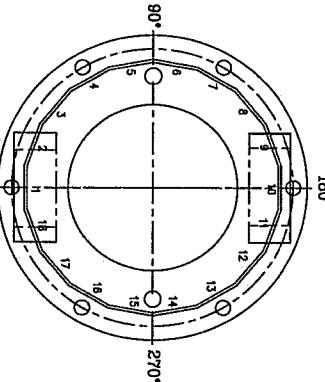
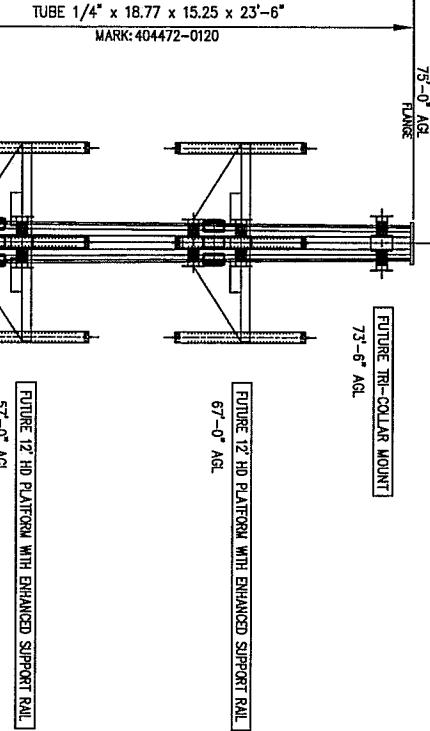


NOTICE: ALL PARTS ARE TO BE INVENTORIED AND ANY SHORTAGES REPORTED WITHIN 48 HOURS OF DELIVERY. SHORTAGES REPORTED AFTER THIS TIME PERIOD WILL BE CHARGED TO THE CONTRACTOR.

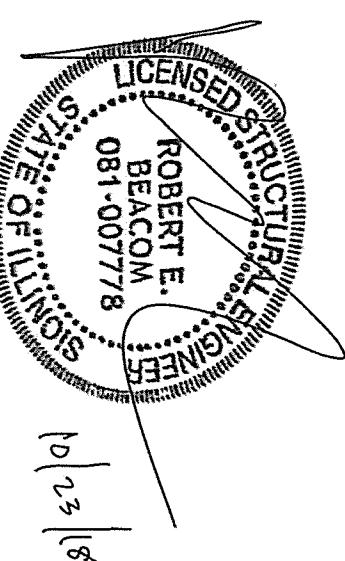
CALL 800/369-6690 ASK FOR THE CONTRACTS DEPARTMENT

DRAWING LIST

MONPOLE ERECTION	404472-MM
MONPOLE FOUNDATION(S)	404472-F1
MONPOLE FABRICATION	404472-01
LIGHTNING-ROD-EXTENSION-KIT 2 7/8" X 15'	C30108011
LIGHTNING-ROD CCS 5/8" X 6' & STIFFENER	C30986



ACCESS PORT @ 3'-0"
ORIENT POLE IN THE FIELD TO SUIT



License Expires: 11-30-18

ANCHOR ROD INSTALLATION DETAIL

ALL ANCHOR ROD NUTS (TOP & LEVELING NUTS) SHALL BE TIGHTENED TO A SNUG TIGHT CONDITION. TOP NUTS SHALL BE ROTATED, WITH THE LEVELING NUT SECURED AN ADDITIONAL 1/3 TURN FOR ANCHOR RODS 1.5 INCHES OR LESS IN DIAMETER & AN ADDITIONAL 1/6 TURN FOR ANCHOR ROD DIAMETERS GREATER THAN 1.5 INCHES.

BOLT INSTALLATION DETAILS

1. INSTALLATION OF BOLTS: BOLTS FOR TOWERS AND ANTENNAS SHALL BE INSTALLED WITH THE NUTS FACING TO THE OUTSIDE AND/OR TO THE TOP OF THE TOWER, UNLESS PROHIBITED BY LACK OF CLEARANCE.
2. TIGHTENING OF BOLTS: ALL HIGH STRENGTH BOLTS SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION, AS DEFINED BY AISC.
3. NUT LOCKING DEVICE: ALL NUTS SHALL BE EQUIPPED WITH SOME TYPE OF NUT LOCKING DEVICE. SEE THE INDIVIDUAL DRAWINGS FOR THE TYPE OF NUT LOCKING DEVICE TO BE USED FOR EACH INDIVIDUAL APPLICATION.

DOLAN REALTY ADVISORS LLC
W 151ST & S 80TH, IL
#311466

Sabre Industries
Towers and Poles

75.00' / 85.00' MONPOLE

ALL DIMENSIONS INCLUDE
FINISHES AND ARE IN INCHES
TOLERANCES: FRACTIONS $\pm 1/16$ "
ANGLES $\pm 1/2$ DEG. TOLERANCES DO NOT
DECIMALS $\pm .010$ " APPLY TO RAW MATERIAL

CONFIDENTIAL
This document and the information
contained herein is the confidential trade
secret property of Sabre Communications
Corporation ("Sabre") and must not be
reproduced, copied or used, in whole or in
part, for any purpose without the
prior written consent of Sabre.

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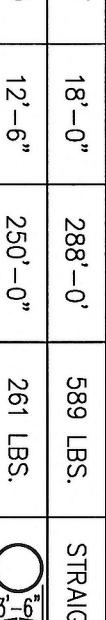
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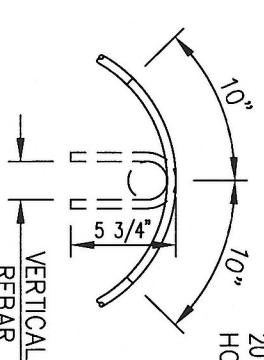
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(6) - ANCHOR BOLTS $2 \frac{1}{4}'' \times 7'-0''$ (#18J A615 GR. 75 OR EQUAL) W/(5) GALV. HHN & (2) GALV. FW. EACH AT TOP

(6) - ANCHOR BOLTS $2 \frac{1}{4}'' \times 7'-0''$ (#18J A615 GR. 75 OR EQUAL) ON A $31.5'' \phi$ B.C.

REINFORCING STEEL SCHEDULE							
LOCATION	NO REQ'D.	BAR SPC'G.	SIZE	CUT LGTH.	TOTAL LGTH.	TOTAL WT.	SHAPE
PIER VERTICAL REINFORCING	16	NOTED ON DWG.	#7	18'-0"	288'-0"	589 LBS.	STRAIGHT
PIER TIES	20	NOTED ON DWG.	#5	12'-6"	250'-0"	261 LBS.	

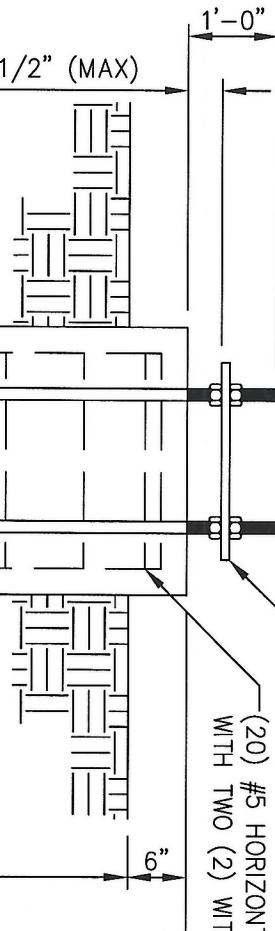
PIER TIES TO HAVE 20" OVERLAP OR 5 3/4" HOOK AS SHOWN



PIER TIE HOOK DETAIL

GENERAL NOTES:

- ALL ANCHOR BOLTS AND VERTICAL REINFORCING BARS ARE TO BE SECURELY TIED BEFORE CONCRETE IS PLACED SO THEY WILL REMAIN PARALLEL TO THE CENTERLINE OF THE PIER.
- THE GROUND ELEVATION SHALL BE A MAXIMUM OF 6" BELOW THE TOP OF THE PIER.
- ALL EXPOSED CONCRETE CORNERS ARE TO BE CHAMFERED $3/4$ INCH.
- ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60 DEFORMED BARS.
- CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4500 PSI, IN ACCORDANCE WITH ACI 318-11.
- REINFORCING STEEL TO HAVE A 3" MINIMUM CONCRETE COVER.
- FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL REPORT BY G2, PROJECT NO. 162457, DATED 12/21/16.
- ANCHOR BOLTS $2 \frac{1}{4}'' \times 7'-0''$ (#18J A615 GR. 75 OR EQUAL) ON A $31.5'' \phi$ BOLT CIRCLE (6 REQ'D).
- CONCRETE REQUIRED 8.61 CUBIC YARDS.
- SEE THE GEOTECHNICAL REPORT FOR DRILLED PIER INSTALLATION REQUIREMENTS, IF SPECIFIED.
- THE FOUNDATION IS BASED ON THE FOLLOWING FACTORED LOADS:
AXIAL (KIPS) = 18.03
SHEAR (KIPS) = 10.93
- DISTANCE BETWEEN CENTER OF ANCHOR BOLT CAGE & THE CENTER OF PIER NOT TO EXCEED $1/2''$ WITHOUT APPROVAL FROM ENGINEER OF RECORD.

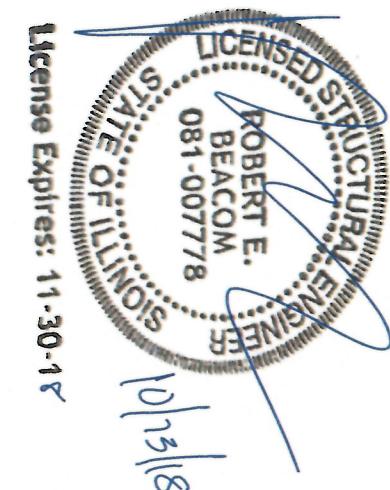


PLAN VIEW

TEMPLATE

(20) #5 HORIZONTAL TIES @ 12" C/C
WITH TWO (2) WITHIN TOP 5" OF CONCRETE

(16) #7 VERTICAL REBAR EVENLY SPACED



License Expires: 11-30-18

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS INCLUDE FINISHES AND ARE IN INCHES	MATERIAL: TOLERANCES: FRACTIONS $\pm 1/16$ " ANGLES $\pm 1/2$ DEG. DECIMALS $\pm .010$ " TO RAW MATERIAL	Sabre Industries TM Towers and Poles
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DOLAN REALTY ADVISORS LLC
W 151ST & S 80TH, IL

75.00/85.00 MONOPOLE

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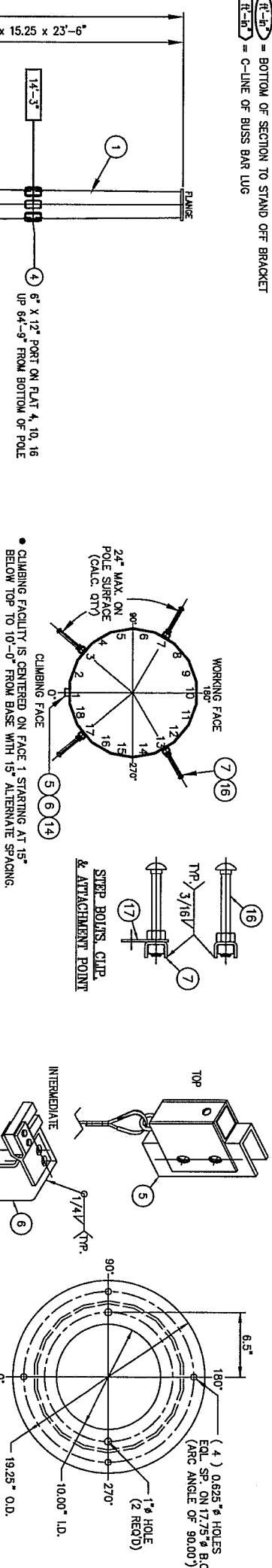
ELEVATION VIEW

REV DATE DRW/CHK

DESCRIPTION

JOB NO. 404472 SIZE DRAWING NO. REV
DATE 10/11/18 B 404472-F1 0
DRAWN BY JKW
CHECKED BY WJ SCALE None PAGE
1 OF 1

ft^2 = BOTTOM OF SECTION TO STAND OFF BRACKET
 ft^2 = C-LINE OF BUSS BAR LUG



- CLIMBING FACILITY IS CENTERED ON FACE 1 STARTING AT 15° BELOW TOP TO 10-0" FROM BASE WITH 15° ALTERNATE SPACING.
- WORKING STEP CLIPS ARE PLACED AT THE NEAREST CLIMBING STEP LEVEL DOWN 72' FROM THE APPURTENANCE CENTER LINE SPACED ON THE CIRCUMFERENCE AT A DISTANCE NOT TO EXCEED 24" ON CENTER.
- SAFETY CLIMB SYSTEM IS CENTERED ON FACE 1.
- TOP STAND OFF BRACKET IS 12' FROM THE TOP. STAND OFF BRACKETS ARE SPACED AT 27' MAX.
- INTERMEDIATE STAND OFF BRACKETS ARE SPACED AT 10-0" FROM THE BASE.

CLIMBING AND SAFETY DETAILS

6" X 12" PORT ON FLAT 4, 10, 16
UP 64-8" FROM BOTTOM OF POLE
33° ± 10%

14'-3"

14'-3"

14'-3"

14'-3"

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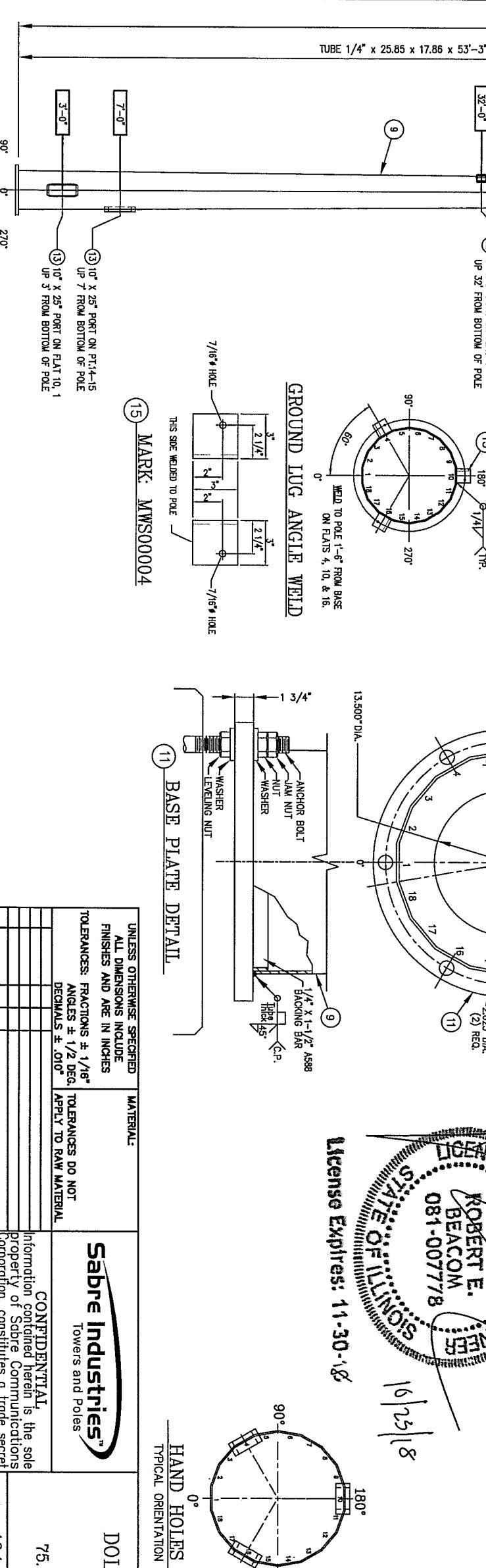
14'-3"

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14'-3"



⑯ MARK: MWS00004

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS INCLUDE
FINISHES AND ARE IN INCHES
TOLERANCES: FRACTIONS $\pm 1/16$ "
ANGLES $\pm 1/2$ DEG.
DECIMALS $\pm .010$ "
APPLY TO RAW MATERIAL

Sabre Industries™
Towers and Poles

DOLAN REALTY ADVISORS LLC
W 151ST & S 80TH, IL
#311466

NOTE:
REFER TO DRAWING 9028260 FOR
MONPOLE LONGSEAM WELD DETAILS.

NOTE:
SECTION ID TAG NUMBER TO MATCH TUBE MARK NO.

16 23 18

90°

0°

180°

270°

12

13

14

15

16

17

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19

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C30108011 LIGHTNING ROD EXTENSION ASSEMBLY					
ITEM	QTY.	PART. NO.	DESCRIPTION	WEIGHT	
1.	1	CW00124	WELDMENT, TOP MOUNT	124.0#	
2.	1	CS01162	ANGLE, LIGHTNING ROD SUPPORT	1.8#	
3.	1	C40034025	U-BOLT ASSEMBLY, 5/8"Ø W/NUT & LKW	1.8#	
4.	4	C40026046	BOLT ASSEMBLY, 3/4"Ø X 2 3/4" W/NUT & LKW	2.9#	
		TOTAL WEIGHT		130.5#	

ELEVATION

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS INCLUDE FINISHES AND ARE IN INCHES	MATERIAL: TOLERANCES: FRACTIONS $\pm 1/16$ " ANGLES $\pm 1/2$ DEG. DECIMALS $\pm .010$ " TO RAW MATERIAL	 Sabre Industries Towers and Poles
CONFIDENTIAL		

LIGHTNING ROD EXTENSION ASSEMBLY
(15 FT. EXTENSION)

NOTE:

1. SUPPORT ANGLE (ITEM #2) CAN BE MOVED UP & DOWN THE TOP MOUNT WELDMENT (ITEM #1) FOR ADJUSTING PLACEMENT OF LIGHTNING ROD IF SO DESIRED.
2. LIGHTNING ROD TO BE PURCHASED SEPARATELY.

DATE	10/16/03	SIZE	DRAWING NO.	REV
DRAWN BY	JKW		C30108011	1
CHECKED BY	MC	SCALE	PAGE	
		None	1	OF 1

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