



# LAWC BARKER CELL SITE

2001 MOODIE ROAD  
LAWRENCE, KS 66046  
DOUGLAS COUNTY

LOCATION No: 273487  
PROJECT No: 20130934055

## PROPOSED MONOPOLE WITH COMMUNICATIONS EQUIPMENT

SIGNATURE	PRINTED NAME	DATE
LESSOR / LICENSOR: PLEASE CHECK THE APPROPRIATE BOX BELOW		
<input type="checkbox"/> NO CHANGES <input type="checkbox"/> CHANGES NEEDED. SEE COMMENTS ON PLANS		
LESSOR / LICENSOR APPROVAL		

RF ENGINEER:	_____	_____
OPERATIONS MANAGER:	_____	_____
CONSTRUCTION ENGINEER:	_____	_____
CONSTRUCTION MANAGER:	_____	_____
REAL ESTATE MANAGER:	_____	_____
	SIGNATURE	DATE

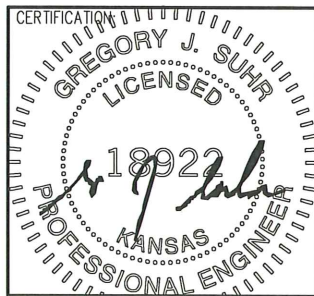
APPROVED BY

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- LS-2 LAND SURVEY
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**MAGTECH  
MIDWEST INC.**  
AN AFFILIATE OF FORTUNE WIRELESS INC.  
1715 MAGNAVOK WAY, FORT WAYNE, INDIANA 46804  
(260) 436-2668 • (260) 436-2402 FAX



DATE	REVISION
03-24-15	ZONING EXHIBIT
05-15-15	CONSTRUCTION DWGS - REV A
06-30-15	ZONING EXHIBIT
07-07-15	CONSTRUCTION DWGS - REV B
08-20-15	CONSTRUCTION DWGS - REV C
08-27-15	CONSTRUCTION DWGS - REV D
09-01-15	CONST. DWGS - ZONING/PERMIT
09-09-15	CONST. DWGS - ZONING/PERMIT

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DRAWN BY: JLM  
CHECKED BY: DJH

SITE NAME:

## LAWC BARKER CELL SITE

SITE ADDRESS:

2001 MOODIE ROAD  
LAWRENCE, KS 66046

SHEET TITLE:

## PROJECT INFORMATION, LOCATION MAPS, AND DRAWING INDEX

A&E PROJECT NO.:

001-1507

SHEET NO.:

T-1

**APPLICANT**  
VERIZON WIRELESS  
MANAGER-NETWORK REAL ESTATE  
PHONE: (913) 244-2800

**SITE ACQUISITION**  
KGI  
PHONE: (417) 848-7584

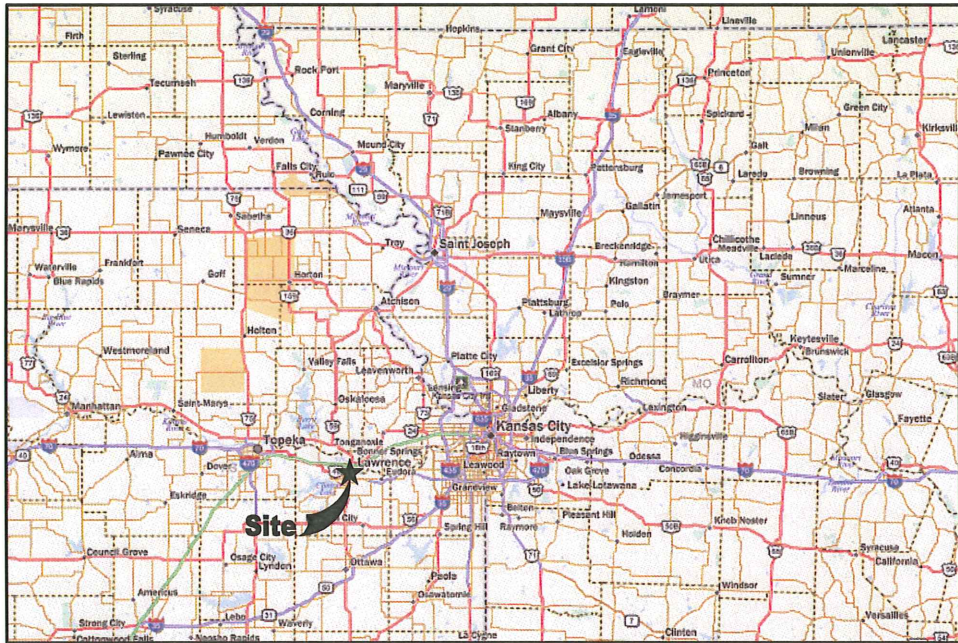
**SURVEYOR**  
ANDERSON ENGINEERING  
PHONE: (417) 782-7399

**ARCHITECTURAL AND ENGINEERING FIRM**  
MAGTECH MIDWEST, INC.  
PHONE: (260) 436-2668

**POLICE DEPARTMENT**  
LAWRENCE POLICE DEPT.  
111 EAST STREET  
LAWRENCE, KS 66044  
PHONE: (785) 830-7400

**FIRE DEPARTMENT**  
LAWRENCE FIRE DEPARTMENT  
1911 STEWART AVENUE  
LAWRENCE, KS 66046  
PHONE: (785) 830-7000

**PROPERTY OWNER**  
OTTAWA COOPERATIVE  
ASSOC.  
KANSAS ONE-CALL SYSTEM  
811 OR 1-800-DIG SAFE



VICINITY MAP      MAPS PROVIDED BY DeLORME STREET ATLAS USA



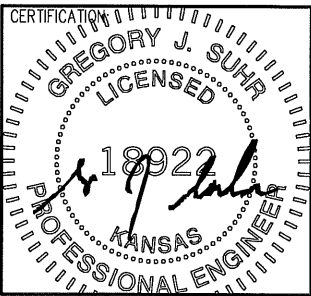
LOCATION MAP      AERIAL MAP PROVIDED BY GOOGLE

**THE PROJECT INCLUDES:**  
INSTALLATION OF PANEL ANTENNA, ASSOCIATED COAX AND OTHER EQUIPMENT IN NEW 120' MONOPOLE TOWER.  
INSTALLATION OF A 12'x6' CONCRETE EQUIPMENT PAD AND OUTDOOR EQUIPMENT.  
NEW ELECTRIC AND TELEPHONE/FIBER SERVICE TO SITE AND EQUIPMENT SHELTER. NO WATER SUPPLY OR SEWAGE TO/FROM THE SITE.

**SITE LAT/LON ELEV.**  
LATITUDE - N38° 56' 54.02"  
LONGITUDE - W95° 13' 33.25"  
GRD ELEV. - ±874' AMSL

**STRUCTURE HEIGHTS**  
OVERALL STRUCTURE HT: 130'  
STRUCTURE HT: 120'  
ANTENNA CL: 120'

## PROJECT DESCRIPTION



RELEASE DATE	DESCRIPTION
03-24-15	ZONING EXHIBIT
05-15-15	CONSTRUCTION DWGS - REV A
06-30-15	ZONING EXHIBIT
07-07-15	CONSTRUCTION DWGS - REV B
08-20-15	CONSTRUCTION DWGS - REV C
08-27-15	CONSTRUCTION DWGS - REV D
09-01-15	CONST. DWGS - ZONING/PERMIT
09-09-15	CONST. DWGS - ZONING/PERMIT

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DRAWN BY: JLM  
CHECKED BY: DJH

SITE NAME:  
**LAWC BARKER CELL SITE**

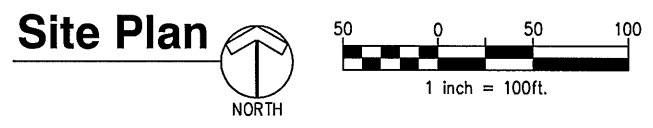
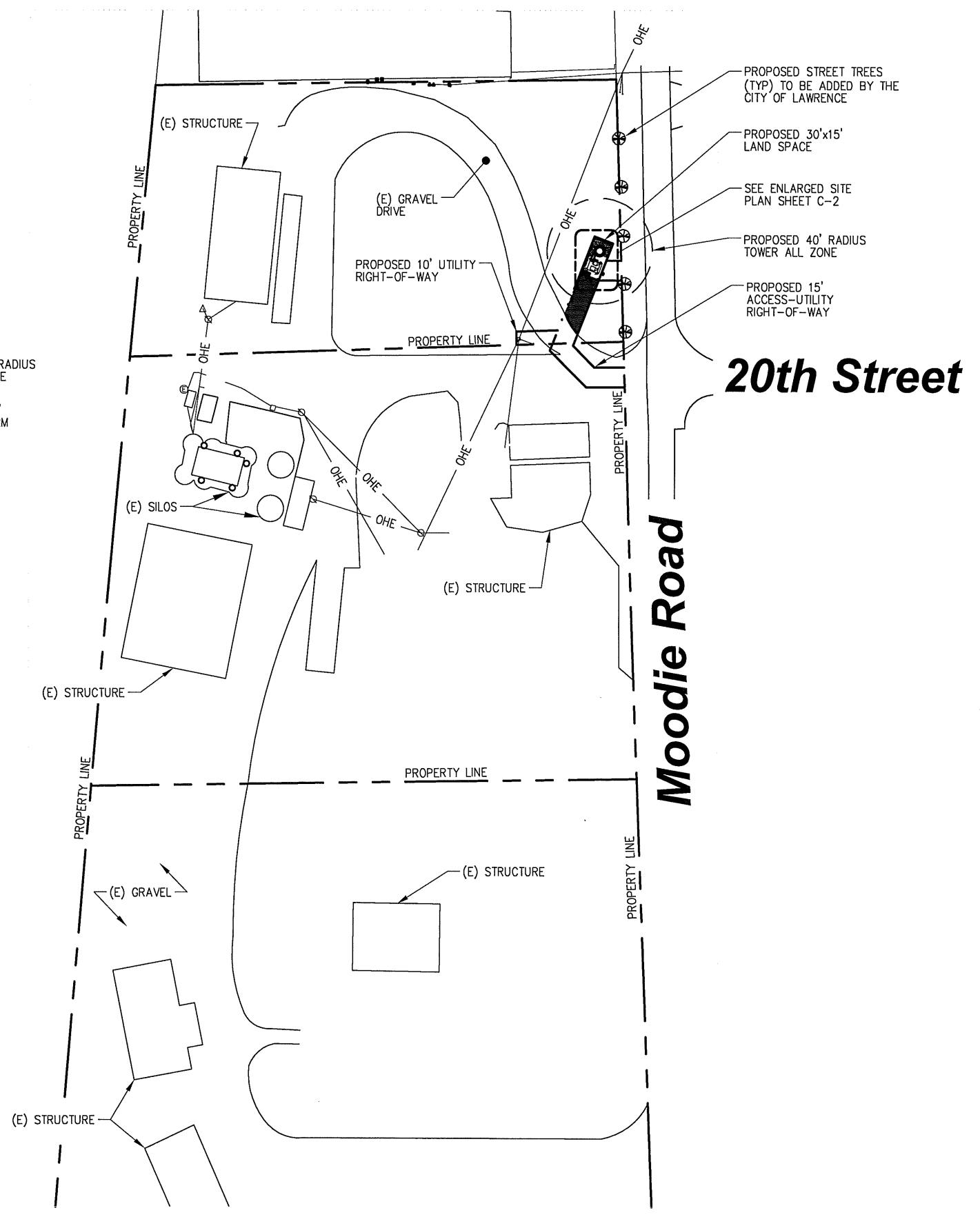
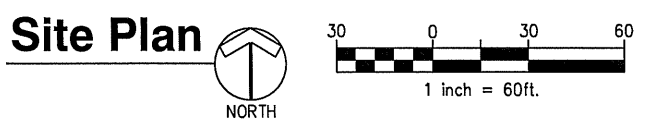
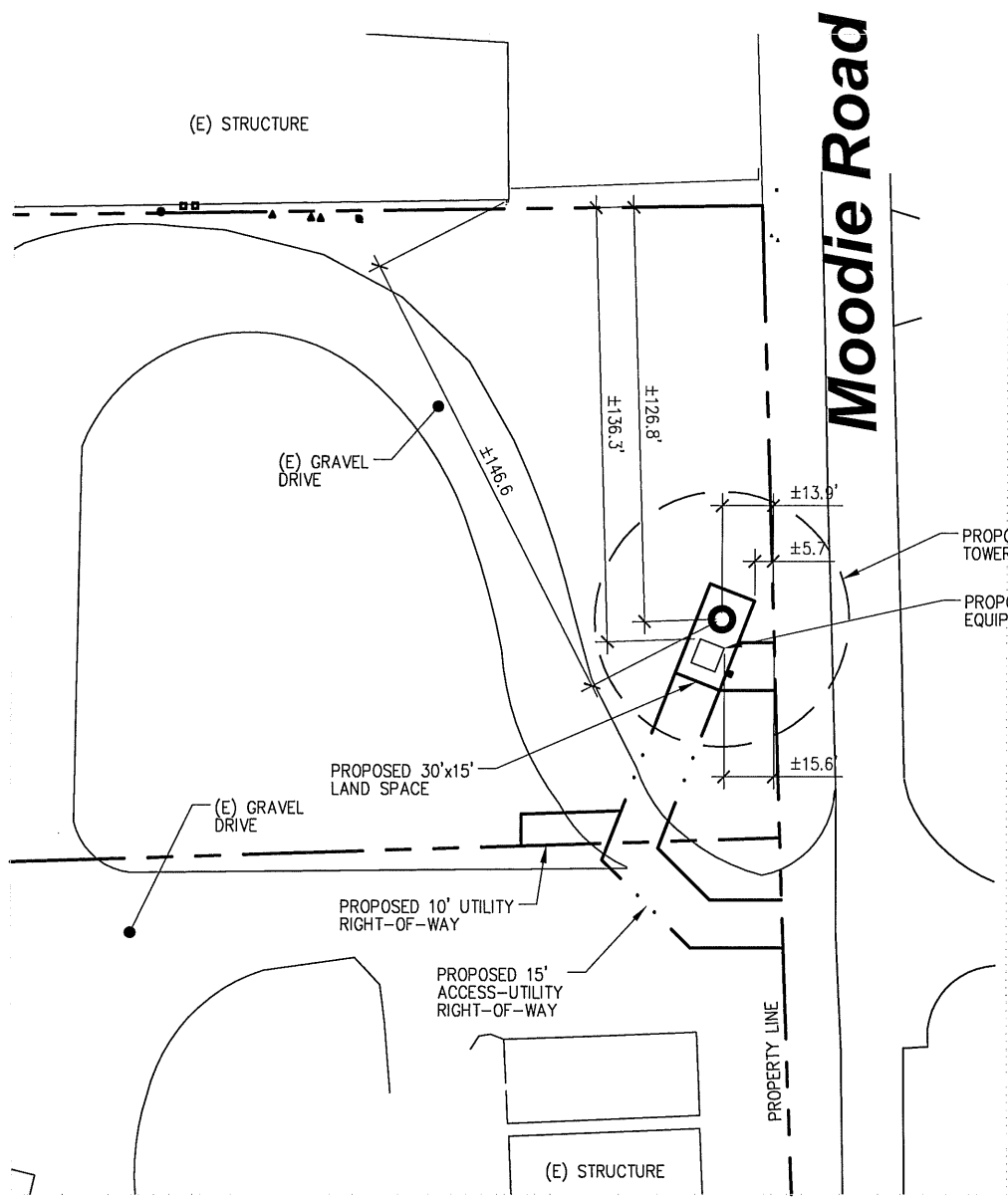
SITE ADDRESS:  
**2001 MOODIE ROAD  
LAWRENCE, KS 66046**

SHEET TITLE:  
**OVERALL SITE PLAN**

A&E PROJECT NO.:  
**001-1507**

SHEET NO.:

**C-0**

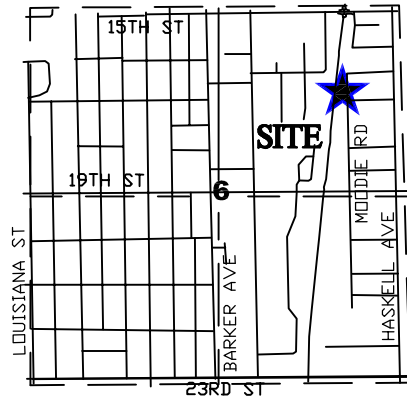


**20th Street**

**Moodie Road**

**PARENT PARCEL DESCRIPTION:**

PROPERTY LOCATED IN LAWRENCE, KS  
 LOTS 1 AND 2, IN FARMERS COOP SUBDIVISION NUMBER 2, A SUBDIVISION  
 AND A REPLAT OF EAST VIEW SUBDIVISION NUMBER 2, IN THE CITY OF  
 LAWRENCE, DOUGLAS COUNTY, KANSAS.  
 AND  
 LOT 3A, AS SHOWN BY THE PLAT OF SURVEY OF THE LOT SPLIT OF LOTS 3  
 AND 4, IN FARMERS COOP SUBDIVISION NUMBER 2, FILED IN PLAT BOOK P15  
 AT PAGE 415, IN THE OFFICE OF THE REGISTER OF DEEDS OF DOUGLAS  
 COUNTY, KANSAS.



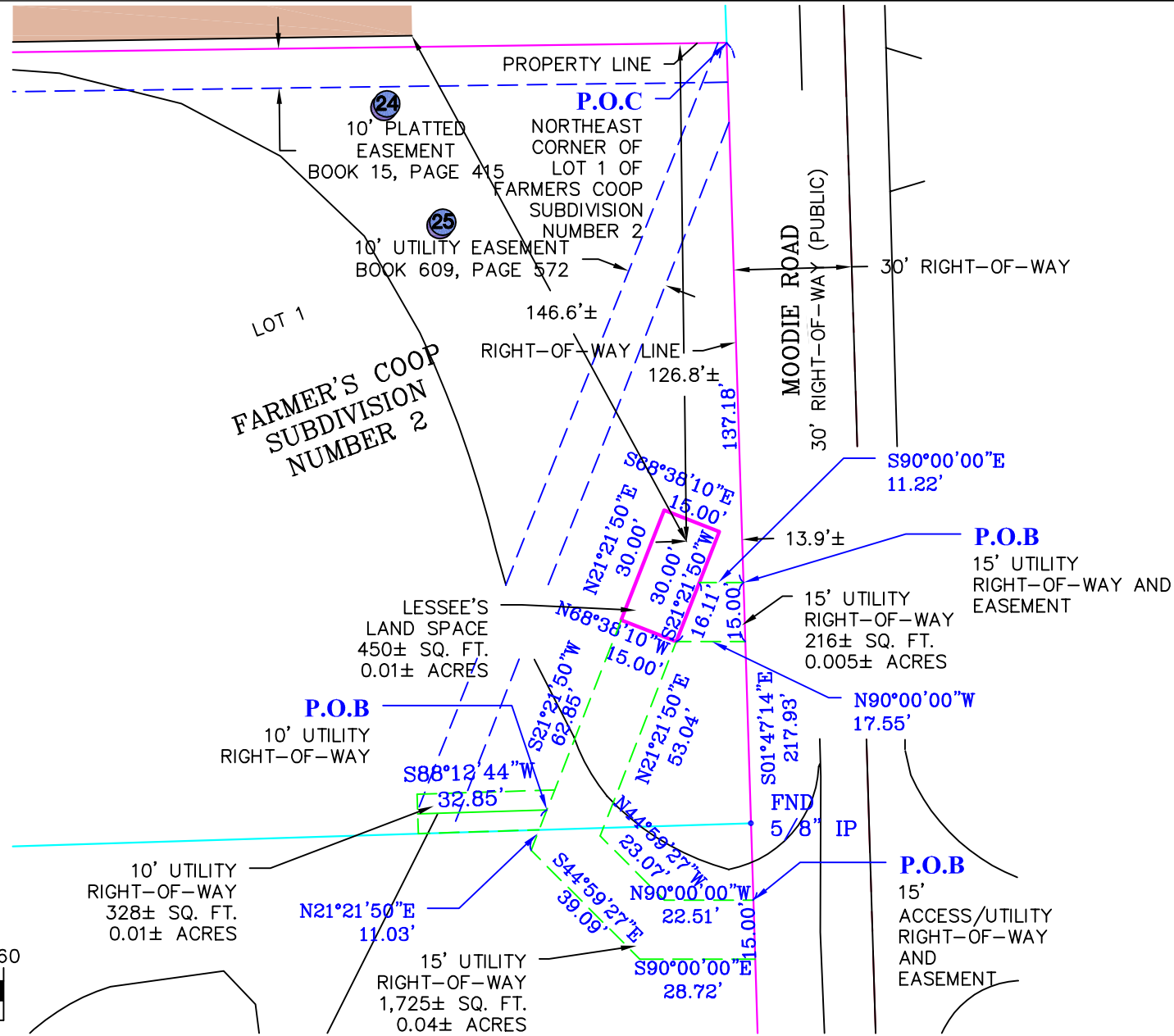
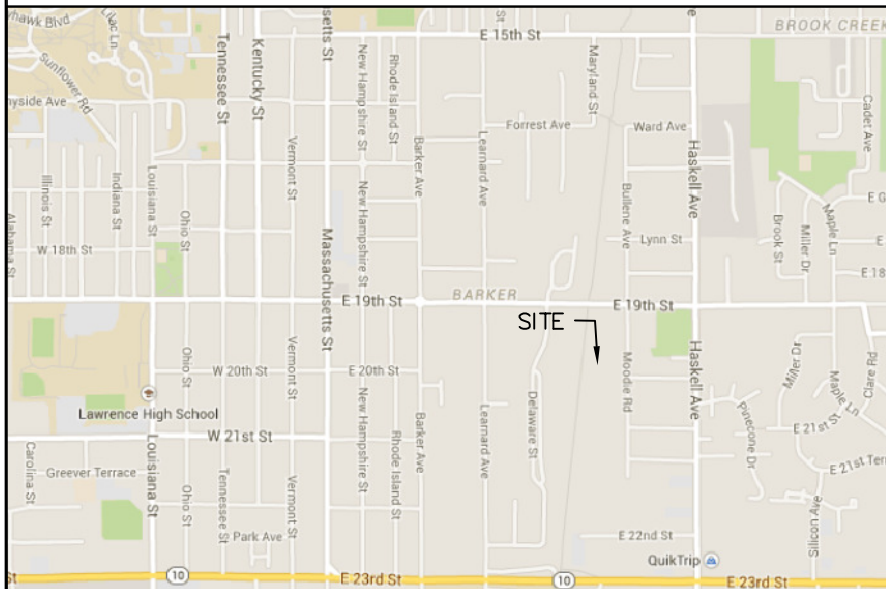
**T. 13 N, R. 20 W  
 PARENT PARCEL  
 DETAIL**

**GRAPHIC SCALE**



( IN FEET )  
 1 inch = 40 ft.

**VICINITY MAP**



**LAND SPACE & R.O.W. DETAIL**

Scale: 1"=30'

**SURVEYOR'S DECLARATION**

I, THE UNDERSIGNED, DO HEREBY DECLARE THAT THE BOUNDARY AND TOPOGRAPHIC SURVEY SHOWN HEREON WAS MADE UNDER MY SUPERVISION AND TO THE BEST OF MY KNOWLEDGE THE INFORMATION IS AS SHOWN AND IN ACCORDANCE WITH THE CURRENT KANSAS MINIMUM STANDARDS FOR URBAN SURVEYS.  
 LAST REVISION DATE SEPTEMBER 4, 2015  
 ANDERSON ENGINEERING, INC. C OF A#17  
 BY: (RENEWAL DATE DECEMBER 31, 2016)

**SURVEYORS NOTES**

- 1.) ALL BEARINGS BASED ON KANSAS STATE PLANE COORDINATE SYSTEM, NORTH ZONE. (NAD-83)
- 2.) NOT INTENDED TO REPRESENT A SURVEY FOR THE ENTIRE PARENT PARCEL.
- 3.) A UTILITY LOCATE WAS REQUESTED ON 1-19-2015, TICKET NO. 15018801. THE MARKINGS OF SAID LOCATE ARE AS SHOWN.

ZONING INFORMATION: IG

FLOOD INFORMATION:  
 PROPERTY FALLS WITHIN A ZONE "X"  
 AS DETERMINED BY FEMA FLOOD  
 RATE MAP NO. 20045C0178D  
 EFFECTIVE 8-5-10 (ZONE "X" AREAS  
 DETERMINED TO BE OUTSIDE THE  
 0.2% ANNUAL CHANCE FLOODPLAIN.)

JERROD L. HOGAN, P.L.S. 1449

9-4-15  
 DATE

Prepared for:

Prepared for:

**MAGTECH  
 MIDWEST**

Surveyed By:

**ANDERSON  
 ENGINEERING, INC.**  
 ENGINEERS · SURVEYORS · LABORATORIES  
 DRILLING  
 811 E. 3RD STREET  
 JOPLIN, MISSOURI 64801  
 PHONE (417) 782-7399

CHECKED BY:

APPROVED BY:

#	DATE	DESCRIPTION	INT.
1			
2			
3			
4			
5			

SITE NAME:  
**LAWC  
 BARKER**

SITE NUMBER:

SITE ADDRESS:  
 2001 MOODIE ROAD  
 LAWRENCE, KS 66046

SHEET NAME:  
**LAND SURVEY**

SHEET NUMBER:  
**LS-1**

**LESSEE'S LAND SPACE DESCRIPTION:**

COMMENCING AT THE NORTHEAST CORNER OF LOT 1 OF FARMS COOP SUBDIVISION NUMBER 2, SAID POINT ALSO LYING ON THE WEST RIGHT-OF-WAY OF MOODIE ROAD; THENCE ALONG SAID WEST RIGHT-OF-WAY, SOUTH 01°47'14" EAST, 152.19 FEET; THENCE LEAVING SAID RIGHT-OF-WAY, NORTH 90°00'00" WEST, 17.55 FEET, TO THE POINT OF BEGINNING; THENCE NORTH 68°38'10" WEST, 15.00 FEET; THENCE NORTH 21°21'50" EAST, 30.00 FEET; THENCE SOUTH 68°38'10" EAST, 15.00 FEET; THENCE SOUTH 21°21'50" WEST, 30.00 FEET, TO THE POINT OF BEGINNING; ALL LYING IN LOT 1 OF FARMS COOP SUBDIVISION NUMBER 2, AND THE NORTHEAST QUARTER OF SECTION 6, TOWNSHIP 13 NORTH, RANGE 30 WEST, DOUGLAS COUNTY, KANSAS. CONTAINING 0.01 ACRES, MORE OR LESS. BEARINGS BASED ON GRID NORTH OF THE KANSAS COORDINATE SYSTEM OF 1983, NORTH ZONE.

**LESSEE'S 15' UTILITY RIGHT-OF-WAY DESCRIPTION:**

COMMENCING AT THE NORTHEAST CORNER OF LOT 1 OF FARMS COOP SUBDIVISION NUMBER 2, SAID POINT ALSO LYING ON THE WEST RIGHT-OF-WAY OF MOODIE ROAD; THENCE ALONG SAID WEST RIGHT-OF-WAY, SOUTH 01°47'14" EAST, 137.18 FEET, TO THE POINT OF BEGINNING; THENCE LEAVING SAID RIGHT-OF-WAY, NORTH 90°00'00" WEST, 11.22 FEET; THENCE SOUTH 21°21'50" WEST, 16.11 FEET; THENCE SOUTH 90°00'00" EAST, 17.55 FEET, TO THE AFOREMENTIONED WEST RIGHT-OF-WAY; THENCE ALONG SAID RIGHT-OF-WAY, NORTH 01°47'14" WEST, 15.00 FEET, TO THE POINT OF BEGINNING; ALL LYING IN LOT 1 OF FARMS COOP SUBDIVISION NUMBER 2, AND THE NORTHEAST QUARTER OF SECTION 6, TOWNSHIP 13 NORTH, RANGE 30 WEST, DOUGLAS COUNTY, KANSAS. CONTAINING 0.005 ACRES, MORE OR LESS. BEARINGS BASED ON GRID NORTH OF THE KANSAS COORDINATE SYSTEM OF 1983, NORTH ZONE.

**LESSEE'S 15' ACCESS/UTILITY RIGHT-OF-WAY DESCRIPTION:**

COMMENCING AT THE NORTHEAST CORNER OF LOT 1 OF FARMS COOP SUBDIVISION NUMBER 2, SAID POINT ALSO LYING ON THE WEST RIGHT-OF-WAY OF MOODIE ROAD; THENCE ALONG SAID WEST RIGHT-OF-WAY, SOUTH 01°47'14" EAST, 217.93 FEET, TO THE POINT OF BEGINNING; THENCE LEAVING SAID RIGHT-OF-WAY, NORTH 90°00'00" WEST, 22.51 FEET; THENCE NORTH 44°59'27" WEST, 23.07 FEET; THENCE NORTH 21°21'50" EAST, 53.04 FEET; NORTH 68°38'10" WEST, 15.00 FEET; THENCE SOUTH 21°21'50" WEST, 62.85 FEET; THENCE SOUTH 44°59'27" EAST, 39.09 FEET; THENCE SOUTH 90°00'00" EAST, 28.72 FEET, TO THE AFOREMENTIONED WEST RIGHT-OF-WAY; THENCE ALONG SAID RIGHT-OF-WAY, NORTH 01°47'14" WEST, 15.00 FEET, TO THE POINT OF BEGINNING; ALL LYING IN LOT 1 OF FARMS COOP SUBDIVISION NUMBER 2, AND THE NORTHEAST QUARTER OF SECTION 6, TOWNSHIP 13 NORTH, RANGE 30 WEST, DOUGLAS COUNTY, KANSAS. CONTAINING 0.04 ACRES, MORE OR LESS. BEARINGS BASED ON GRID NORTH OF THE KANSAS COORDINATE SYSTEM OF 1983, NORTH ZONE.

**LESSEE'S 10' UTILITY RIGHT-OF-WAY DESCRIPTION:**

COMMENCING AT THE NORTHEAST CORNER OF LOT 1 OF FARMS COOP SUBDIVISION NUMBER 2, SAID POINT ALSO LYING ON THE WEST RIGHT-OF-WAY OF MOODIE ROAD; THENCE ALONG SAID WEST RIGHT-OF-WAY, SOUTH 01°47'14" EAST, 232.93 FEET; THENCE LEAVING SAID RIGHT-OF-WAY, NORTH 90°00'00" WEST, 28.72 FEET; THENCE NORTH 44°59'27" WEST, 39.09 FEET; THENCE NORTH 21°21'50" EAST, 11.03 FEET, TO THE POINT OF BEGINNING; THENCE ALONG A 10.00 FOOT WIDE UTILITY RIGHT-OF-WAY LYING 5.00 FEET ON BOTH SIDES OF THE FOLLOWING DESCRIBED CENTERLINE DESCRIPTION; THENCE SOUTH 88°12'44" WEST, A DISTANCE OF 32.85 FEET, TO THE POINT OF TERMINATION; ALL LYING IN LOT 1 OF FARMS COOP SUBDIVISION NUMBER 2, AND THE NORTHEAST QUARTER OF SECTION 6, TOWNSHIP 13 NORTH, RANGE 30 WEST, DOUGLAS COUNTY, KANSAS. CONTAINING 0.01 ACRES, MORE OR LESS. BEARINGS BASED ON GRID NORTH OF THE KANSAS COORDINATE SYSTEM OF 1983, NORTH ZONE.

**INFORMATIONAL REPORT:**

TITLE COMMITMENT PROVIDED BY FIRST AMERICAN TITLE INSURANCE COMPANY COMMITMENT NUMBER NCS-72741-KCTY WITH AN EFFECTIVE DATE OF APRIL 14, 2015 AT 7:30AM.

NOTE: THE OTTAWA COOPERATIVE ASSOCIATION OWNS MULTIPLE PARCELS AS LISTED IN THIS TITLE WORK. THE LAND SPACE AREA AND ACCESS/UTILITY RIGHT OF WAY LIE ENTIRELY IN LOT 1 OF FARMERS COOP SUBDIVISION NUMBER 2. MANY OF THE EXCEPTIONS ON THE TITLE COMMITMENT AFFECT PORTIONS OF THE OTTAWA COOP PROPERTY BUT ARE NOT SHOWN ON THIS SURVEY. THOSE WILL BE NOTED "DOES NOT AFFECT LOT 1" WHICH ALSO MEANS IT DOES NOT AFFECT THE LAND SPACE AREA OR THE ACCESS/UTILITY RIGHT OF WAY.

- 8 AN AGREEMENT BETWEEN THE CITY OF LAWRENCE AND FARMERS COOP ASSOCIATION, RECORDED JULY 13, 1990, DOCUMENT NO. 6213 IN BOOK 446, PAGE 1411. DOES NOT AFFECT LOT 1.
- 9 AN AGREEMENT BETWEEN THE CITY OF LAWRENCE AND FARMERS COOP ASSOCIATION, RECORDED JULY 12, 1993, DOCUMENT NO. 50674 IN BOOK 495, PAGE 2011. AFFECTS ENTIRE PARCEL. SUBJECT TO TERMS AND CONDITIONS WITHIN.
- 14 AN EASEMENT FOR UTILITIES IN THE DOCUMENT RECORDED FEBRUARY 25, 1996 IN BOOK 243, PAGE 144 OF OFFICIAL RECORDS. DOES NOT AFFECT LOT 1.
- 16 AN EASEMENT FOR ROADWAY IN DOCUMENT RECORDED AUGUST 17, 1990 IN BOOK 448, PAGE 310 OF OFFICIAL RECORDS. DOES NOT AFFECT LOT 1
- 17 AN EASEMENT FOR UTILITIES IN THE DOCUMENT RECORDED OCTOBER 5, 1990 IN BOOK 449, PAGE 2031 OF OFFICIAL RECORDS. DOES NOT AFFECT LOT 1.
- 20 AN EASEMENT FOR UTILITIES AND ACCESS IN THE DOCUMENT RECORDED APRIL 15, 1998 IN BOOK 606, PAGE 526 OF OFFICIAL RECORDS. DOES NOT AFFECT LOT 1.
- 21 AN EASEMENT FOR SANITARY SEWER IN THE DOCUMENT RECORDED JULY 21, 2009 IN BOOK 1052, PAGE 1472 OF OFFICIAL RECORDS. DOES NOT AFFECT LOT 1.
- 22 TERMS AND PROVISIONS OF AN UNRECORDED LEASE DATED OCTOBER 30, 1977, BY AND BETWEEN THE FARMERS COOPERATIVE ASSOCIATION OF LAWRENCE, KANSAS AS LESSOR AND NEXTEL WEST CORP., INC., D/B/A NEXTEL COMMUNICATIONS AS LESSEE, AS DISCLOSED BY A MEMORANDUM OF AGREEMENT RECORDED JULY 9, 1998 IN BOOK 615, PAGE 353 OF OFFICIAL RECORDS. DOES NOT AFFECT LOT 1.
- 23 TERMS AND PROVISIONS OF AN UNRECORDED LEASE DATED OCTOBER 23, 2001, BY AND BETWEEN ACORN EAST LLC AS LESSOR AND NEXTEL WEST CORP., INC., D/B/A NEXTEL COMMUNICATIONS AS LESSEE, AS DISCLOSED BY A MEMORANDUM OF AGREEMENT RECORDED JULY 5, 2002 IN BOOK 776, PAGE 701 OF OFFICIAL RECORDS. DOES NOT AFFECT LOT 1.
- 24 EASEMENTS, RESTRICTIONS AND SETBACK LINES AS PER PLAT, RECORDED IN PLAT BOOK 12, PAGE 13 AND AS AMENDED BY LOT SPLIT IN BOOK 15, PAGE 415. AS SHOWN.
- 25 SURVEY OF UTILITY EASEMENT RECORDED MAY 15, 1998 IN BOOK 609, PAGE 572. AS SHOWN.
- 29 AN EASEMENT FOR CONSTRUCTION AND MAINTENANCE OF UTILITIES IN THE DOCUMENT RECORDED FEBRUARY 25, 1966 AS BOOK 243, PAGE 143 OF OFFICIAL RECORDS. DOES NOT AFFECT LOT 1.
- 30 AN EASEMENT FOR CONSTRUCTION AND MAINTENANCE OF UTILITIES IN THE DOCUMENT RECORDED FEBRUARY 25, 1966 AS BOOK 243, PAGE 145 OF OFFICIAL RECORDS. DOES NOT AFFECT LOT 1.

Prepared for:



CHECKED BY:			
APPROVED BY:			
#	DATE	DESCRIPTION	INT.
1			
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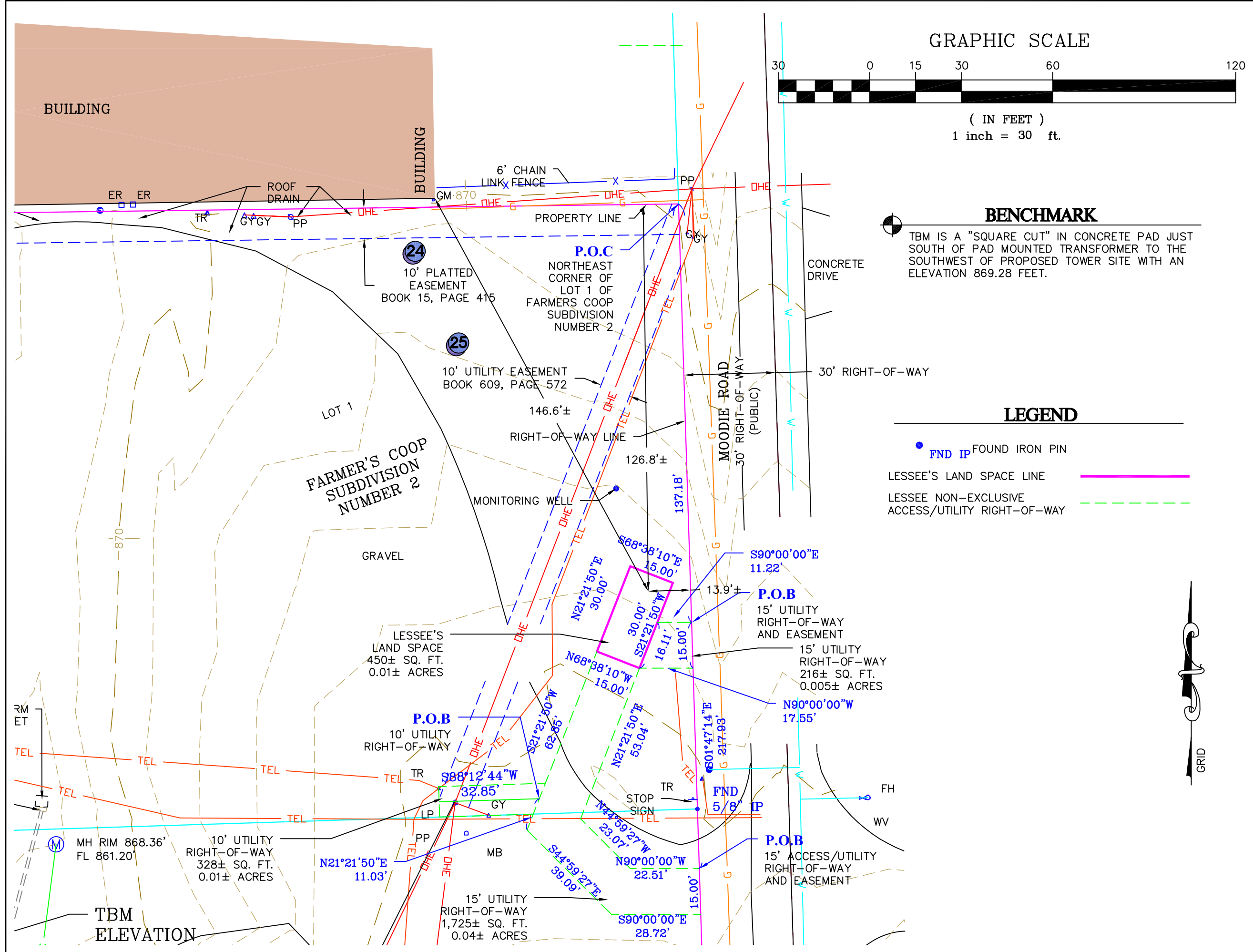
SITE NAME:  
LAWC  
BARKER

SITE NUMBER:

SITE ADDRESS:  
2001 MOODIE ROAD  
LAWRENCE, KS 66046

SHEET NAME:  
LAND SURVEY

SHEET NUMBER:  
LS-2



**GRAPHIC SCALE**



( IN FEET )  
1 inch = 30 ft.

**BENCHMARK**

TBM IS A "SQUARE CUT" IN CONCRETE PAD JUST SOUTH OF PAD MOUNTED TRANSFORMER TO THE SOUTHWEST OF PROPOSED TOWER SITE WITH AN ELEVATION 869.28 FEET.

**LEGEND**

- FND IP FOUND IRON PIN
- LESSEE'S LAND SPACE LINE
- - - LESSEE NON-EXCLUSIVE ACCESS/UTILITY RIGHT-OF-WAY

Prepared for:

Prepared for:



**MAGTECH  
MIDWEST**

Surveyed By:

**ANDERSON ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • LABORATORIES  
DRILLING  
811 E. 3RD STREET  
JOPLIN, MISSOURI 64801  
PHONE (417) 782-7399

CHECKED BY:

APPROVED BY:

#	DATE	DESCRIPTION	INT.
1			
2			
3			
4			
5			

SITE NAME:

LAWC  
BARKER

SITE NUMBER:

SITE ADDRESS:

2001 MOODIE ROAD  
LAWRENCE, KS 66046

SHEET NAME:

LAND SURVEY

SHEET NUMBER:

LS-3

## Schedule of Erosion and Sediment Control Measures:

THE FOLLOWING SEQUENCE OF EVENTS AND EROSION CONTROL MEASURES SHALL BE INCORPORATED INTO THE CONSTRUCTION SCHEDULE FOR THIS PROJECT AND SHALL APPLY TO ALL CONSTRUCTION ACTIVITIES WITHIN THE PROJECT LIMITS:

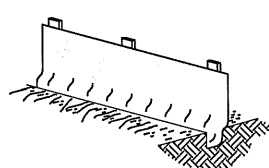
1. ALL STORM WATER MANAGEMENT FACILITIES INCLUDING EROSION CONTROL ARE TO BE INSTALLED AND MADE OPERATIONAL AS A FIRST STEP BEFORE THE START OF CLEARING AND GRUBBING OPERATIONS.
2. ALL UNPAVED AREAS AND/ OR AREAS DISTURBED BY CONSTRUCTION SHALL BE TOP SOILED AND SEEDED.
3. ALL DISTURBED AREAS WHICH ARE NOT DESIGNATED FOR PAVING, UTILITY OR STRUCTURAL USES OR AREAS THAT HAVE BEEN DENUDED & HAVE FINAL GRADE ESTABLISHED, SHALL HAVE PERMANENT SOIL STABILIZATION APPLIED WITHIN SEVEN (7) DAYS THEREAFTER. ALL DENUDED AREAS THAT DO NOT HAVE FINAL GRADE ESTABLISHED, SHALL HAVE TEMPORARY SOIL STABILIZATION APPLIED WITHIN SEVEN (7) DAYS THEREAFTER, SEE SPEC'S.
4. INLET PROTECTION SHALL BE INSTALLED AT ALL STORM WATER STRUCTURES (WHEN PRESENT) TO PREVENT SEDIMENT FROM ENTERING THE CITY'S SYSTEM.
5. PERIODIC INSPECTIONS AND REQUIRED MAINTENANCE MUST BE PROVIDED.

## Erosion and Sediment Control Maintenance:

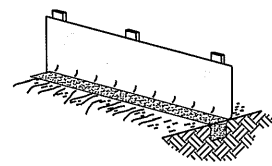
IN GENERAL, ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED AFTER EACH RAINFALL OR WEEKLY, WHICHEVER IS MOST FREQUENT, AND SHOULD BE CLEANED AND REPAIRED ACCORDING TO THE FOLLOWING SCHEDULE:

1. SILT FENCES SHALL BE CHECKED AFTER EVERY RAINFALL AND AT LEAST DAILY DURING PROLONGED PERIODS OF RAIN. SEDIMENTS MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY 1/2 THE HEIGHT OF THE SILT FENCE.
2. STRAW BALE BARRIERS WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE BALES.
3. ALL SEEDED AREAS WILL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RESEEDED AS NEEDED.
4. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE DISPOSED OF WITHIN 30 DAYS FOLLOWING FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.

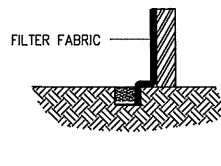
1. ATTACH THE FILTER FABRIC TO POST AND EXTEND IT INTO THE TRENCH



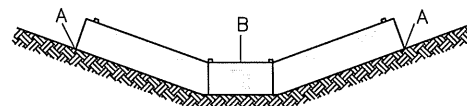
2. BACKFILL AND COMPACT THE EXCAVATED SOIL



3. EXTENSION OF FABRIC INTO THE TRENCH



CONSTRUCTION OF A SILT FENCE



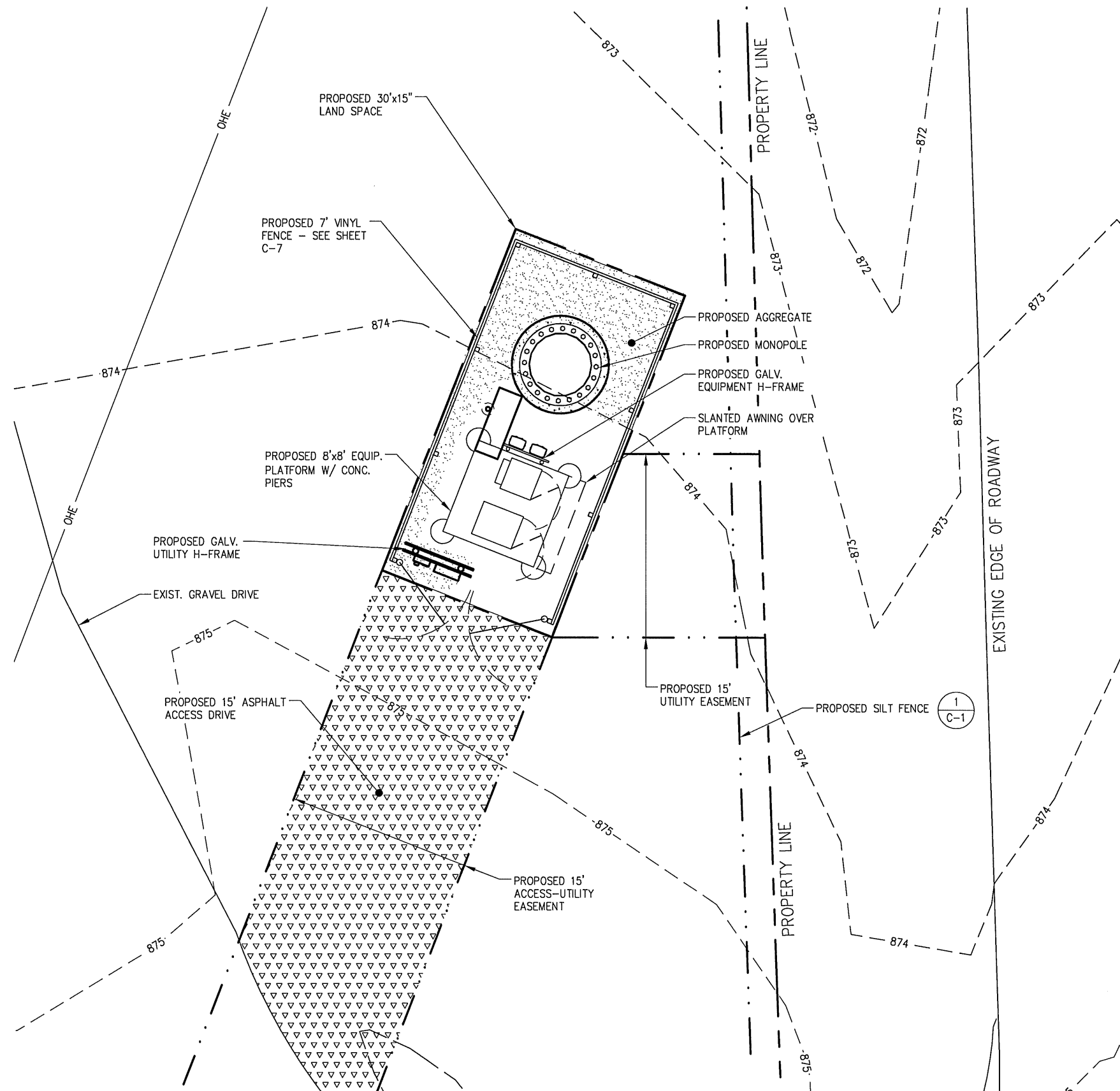
POINTS A SHOULD BE HIGHER THAN POINT B

PROPER PLACEMENT OF FILTER BARRIER IN DRAINAGE WAY

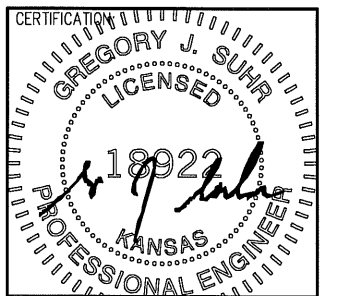
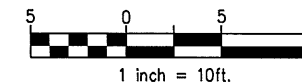
NOTE:  
SILT FENCE TO BE ENVIRO FENCE 100X  
BY MIRAFI, INC (OR APPROVED EQUAL)

## 1 Silt Fence Barrier Detail

NO SCALE



## Site Grading Plan



RELEASE	
DATE	
03-24-15	ZONING EXHIBIT
05-15-15	CONSTRUCTION DWGS - REV A
06-30-15	ZONING EXHIBIT
07-07-15	CONSTRUCTION DWGS - REV B
08-20-15	CONSTRUCTION DWGS - REV C
08-27-15	CONSTRUCTION DWGS - REV D
09-01-15	CONST. DWGS - ZONING/PERMIT
09-09-15	CONST. DWGS - ZONING/PERMIT

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DRAWN BY: JLM  
CHECKED BY: DJH

SITE NAME:

**LAWC BARKER  
CELL SITE**

SITE ADDRESS:

**2001 MOODIE ROAD  
LAWRENCE, KS 66046**

SHEET TITLE:

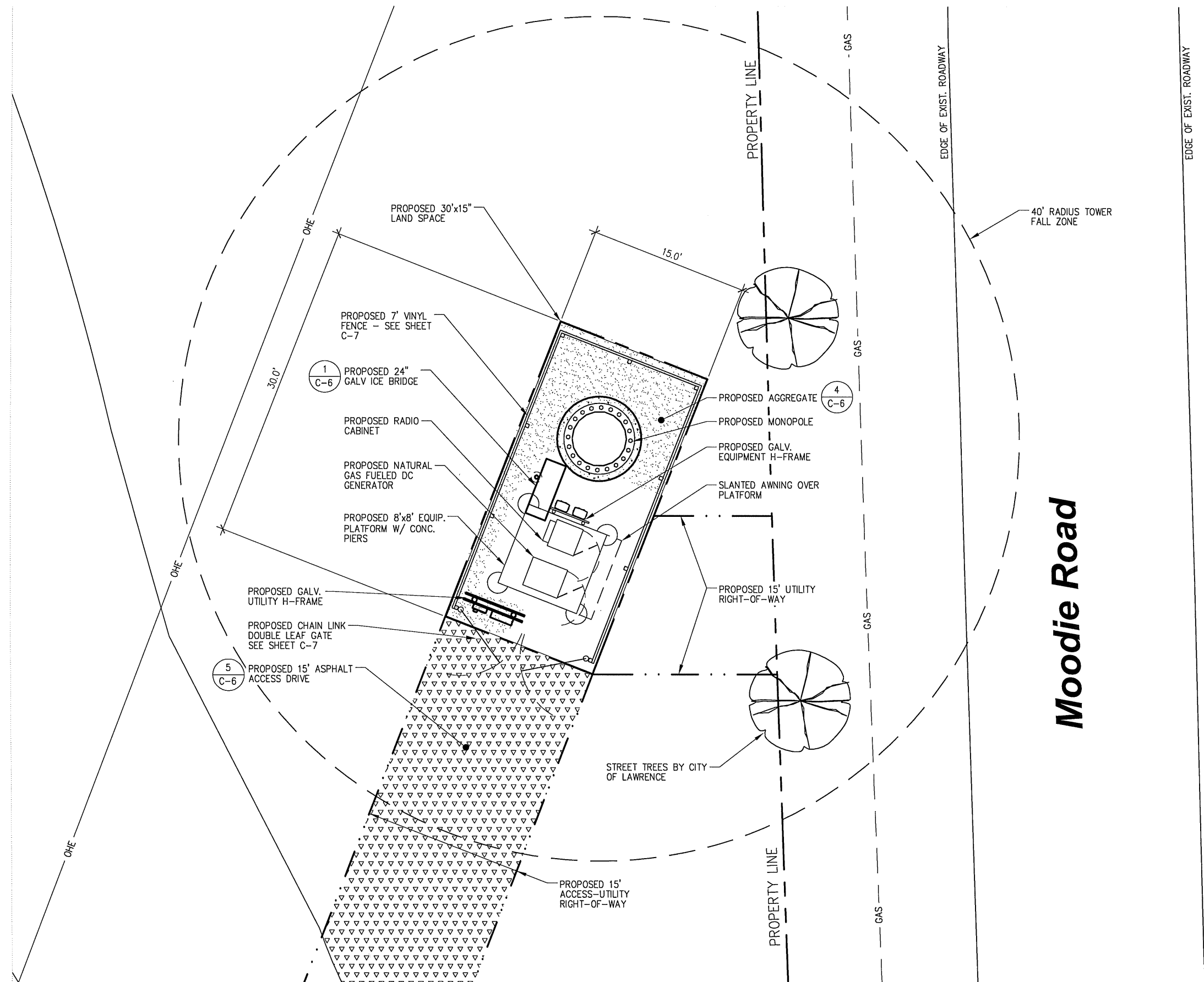
**SITE GRADING AND  
EROSION CONTROL PLAN**

A&E PROJECT NO.:

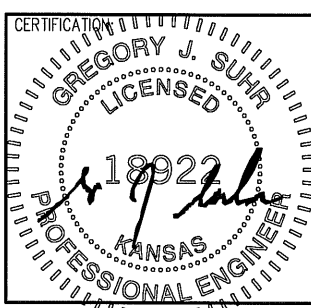
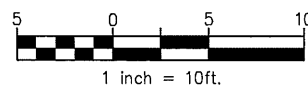
**001-1507**

SHEET NO.:

**C-1**



**Enlarged Site Plan**



RELEASE	
DATE	
03-24-15	ZONING EXHIBIT
05-15-15	CONSTRUCTION DWGS - REV A
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08-20-15	CONSTRUCTION DWGS - REV C
08-27-15	CONSTRUCTION DWGS - REV D
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09-09-15	CONST. DWGS - ZONING/PERMIT

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CHECKED BY: DJH

SITE NAME:

**LAWC BARKER  
CELL SITE**

SITE ADDRESS:

**2001 MOODIE ROAD  
LAWRENCE, KS 66046**

SHEET TITLE:

**ENLARGED SITE PLAN**

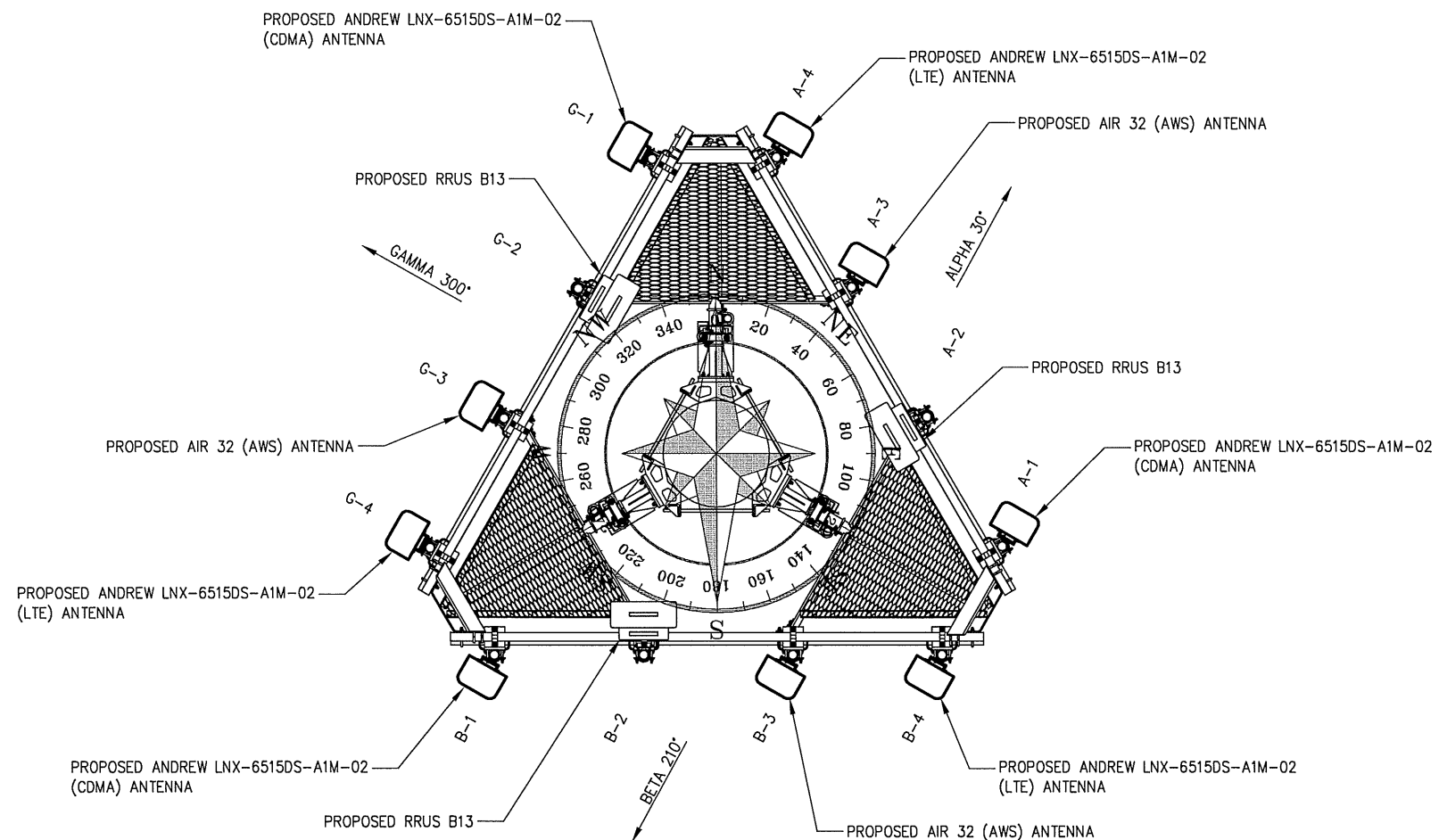
A&E PROJECT NO.:

**001-1507**

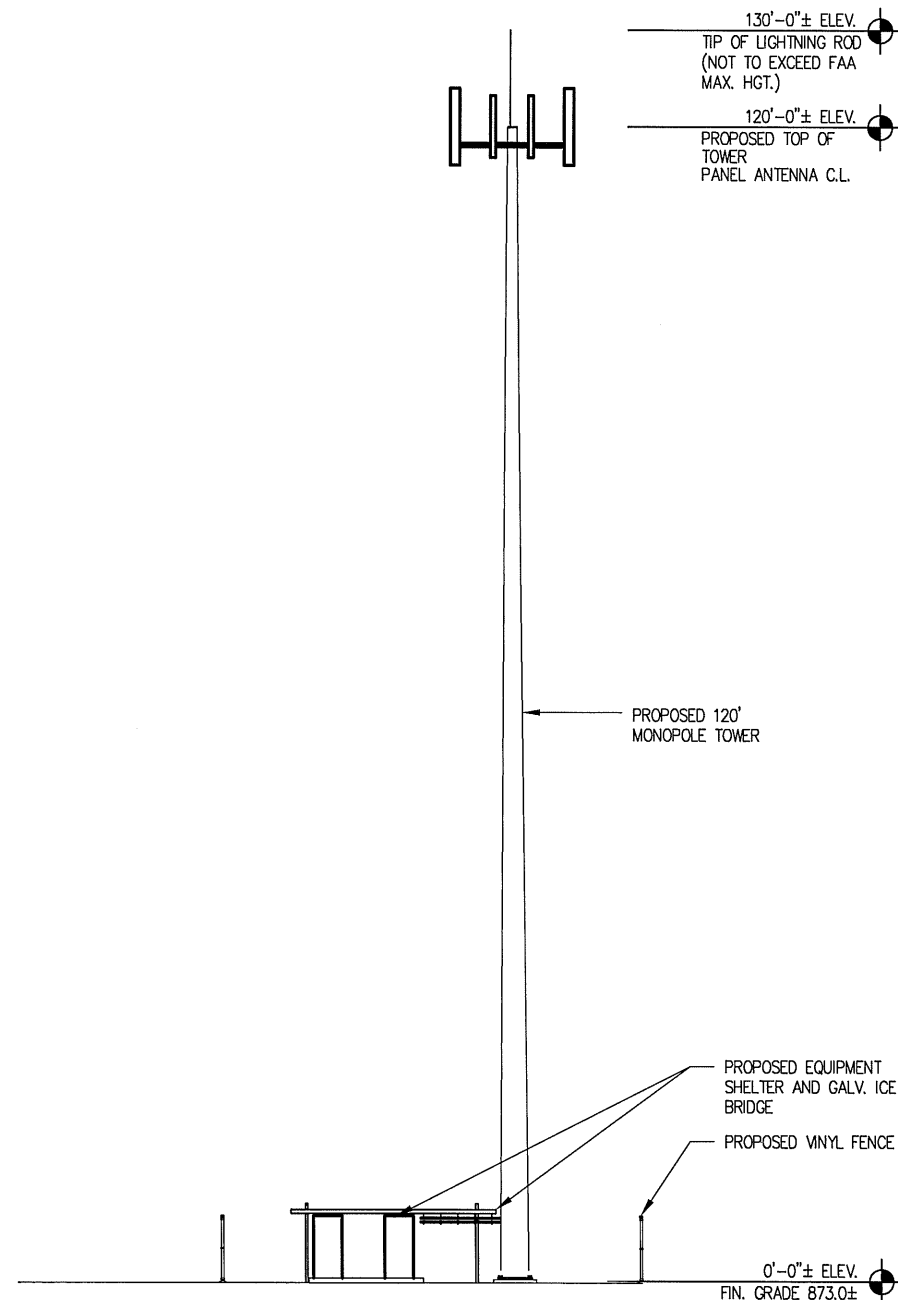
SHEET NO.:

**C-2**

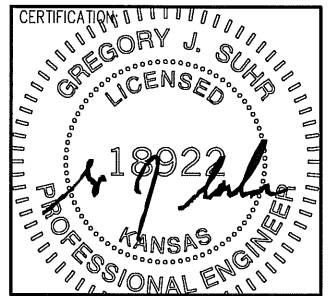
MONOPOLE TO BE DESIGNED BY OTHERS  
 ACCORDING TO ANSI/EIA/TIA-222-REV G  
 STANDARDS: 90 MPH BASIC WINDS, NO ICE



**2 Antenna Layout**  
 SCALE: 1/4" = 1'-0"



**1 Tower Elevation**  
 SCALE: 1" = 20'-0"



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 CHECKED BY: DJH

SITE NAME:

**LAWC BARKER CELL SITE**

SITE ADDRESS:

**2001 MOODIE ROAD  
 LAWRENCE, KS 66046**

SHEET TITLE:

**TOWER ELEVATION AND DETAILS**

A&E PROJECT NO.:

**001-1507**

SHEET NO.:

**C-3**





CERTIFICATION:

FOR REFERENCE ONLY

RELEASE DATE	ZONING EXHIBIT
03-24-15	ZONING EXHIBIT
05-15-15	CONSTRUCTION DWGS -- REV A
06-30-15	ZONING EXHIBIT
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09-01-15	CONST. DWGS -- ZONING/PERMIT
09-09-15	CONST. DWGS -- ZONING/PERMIT

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CHECKED BY: DJH

SITE NAME:

**LAWC BARKER CELL SITE**

SITE ADDRESS:

2001 MOODIE ROAD  
LAWRENCE, KS 66046

SHEET TITLE:

ANTENNA INFORMATION

A&E PROJECT NO.:

001-1507

SHEET NO.:

**C-4**

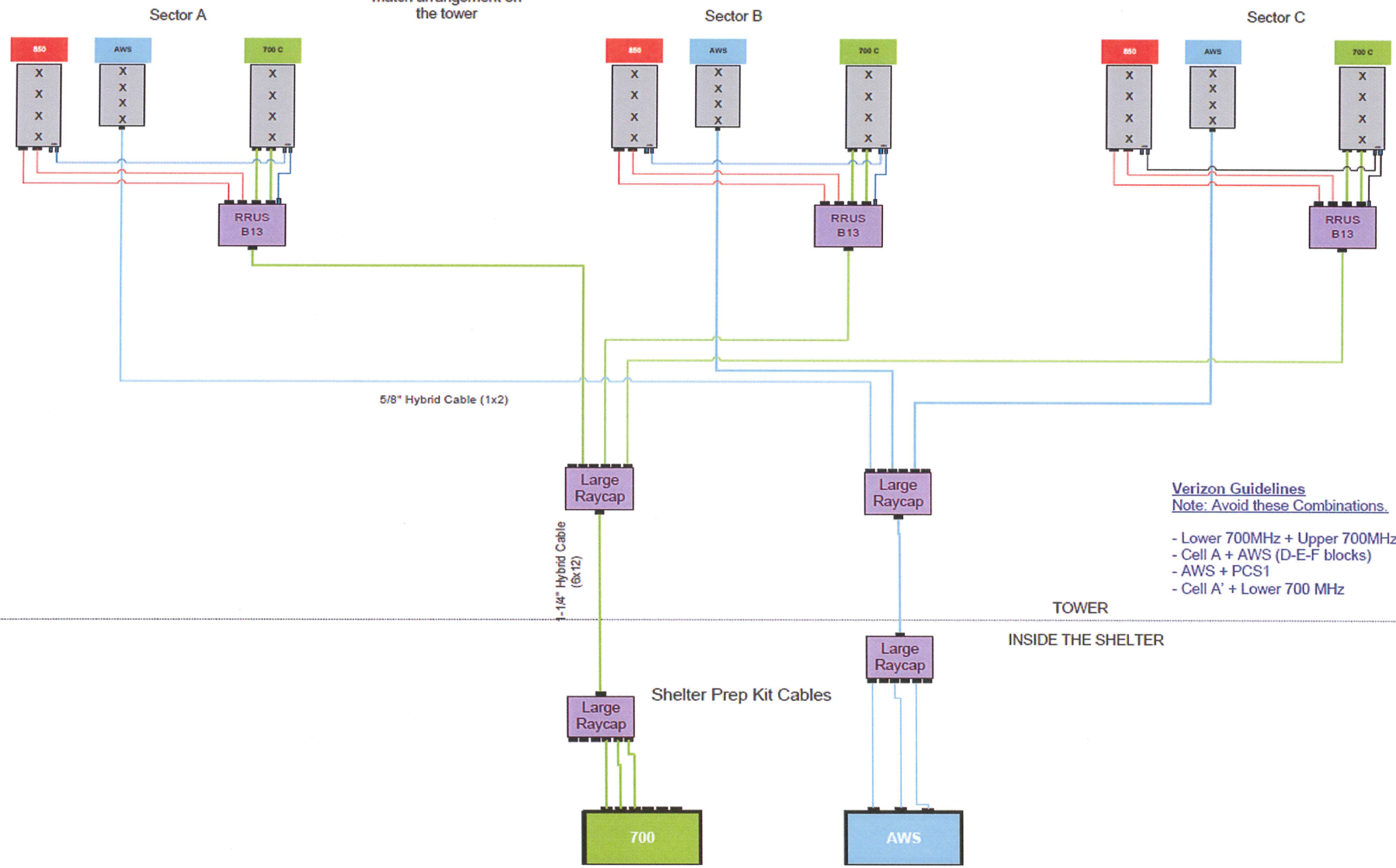
**PROPOSED ANTENNA KEY**

	Position	Status	Antenna Centerline (ft AGL)	Antenna Make / Model	Antenna Count	Height (in)	Width (in)	Depth (in)	Weight (lbs)	Azimuth	Mech Downtilt	Electrical Downtilt	RRU Make/Model	RRU Count	Distribution Box Make/Model	Raycap Count	Hybrid Cable Make/Model	Hybrid Cable Count	Hybrid Cable Size	Hybrid Cable Length	Jumper Count		
Mainline Cable & Distribution													RRUS B13	3	RFS DB-B1-6C-12AB-0Z	4(2 on tower, 2 in shelter)	RFS Hybriflex HBF058-08U152-14F	6	5/8"				
																	RFS Hybriflex HBF114-13U6512-150F	2	1-1/4"				
																				15 ft	1/2"	12	
Alpha Sector	A	proposed	120	Andrew LNX-6515DS-A1M-02(CDMA)	1	96.4	11.9	7.1	49.8	30	2	0											
	B																						
	C	proposed	120	Air - 32(AWS)	1	57	12	8	99	30	0	0											
	D	proposed	120	Andrew LNX-6515DS-A1M-02(LTE)	1	96.4	11.9	7.1	49.8	30	2	0											
Beta Sector	E	proposed	120	Andrew LNX-6515DS-A1M-02(CDMA)	1	96.4	11.9	7.1	49.8	210	0	0											
	F																						
	G	proposed	120	Air - 32(AWS)	1	57	12	8	99	210	0	0											
	H	proposed	120	Andrew LNX-6515DS-A1M-02(LTE)	1	96.4	11.9	7.1	49.8	210	0	0											
Gamma Sector	I	proposed	120	Andrew LNX-6515DS-A1M-02(CDMA)	1	96.4	11.9	7.1	49.8	300	0	0											
	J																						
	K	proposed	120	Air - 32(AWS)	1	57	12	8	99	300	0	0											
	L	proposed	120	Andrew LNX-6515DS-A1M-02(LTE)	1	96.4	11.9	7.1	49.8	300	0	0											
<b>Antenna Total</b>					<b>9</b>											<b>RRU Total</b>	<b>3</b>	<b>Distro Box Total</b>	<b>2</b>	<b>Hybrid Cable Total</b>	<b>8</b>	<b>Jumper Total</b>	<b>12</b>

**1 Proposed Antenna Schedule**  
SCALE: N.T.S.

Arrangement of Antennas may not match arrangement on the tower

700 LTE/ AWS LTE / 850 CDMA and PCS LTE



**Verizon Guidelines**  
**Note: Avoid these Combinations.**

- Lower 700MHz + Upper 700MHz
- Cell A + AWS (D-E-F blocks)
- AWS + PCS1
- Cell A' + Lower 700 MHz

**1 Plumbing Diagram**  
 SCALE: NTS



CERTIFICATION:

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 CHECKED BY: DJH

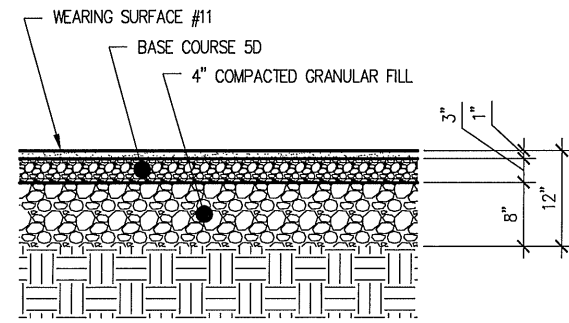
SITE NAME:  
**LAWC BARKER CELL SITE**

SITE ADDRESS:  
 2001 MOODIE ROAD  
 LAWRENCE, KS 66046

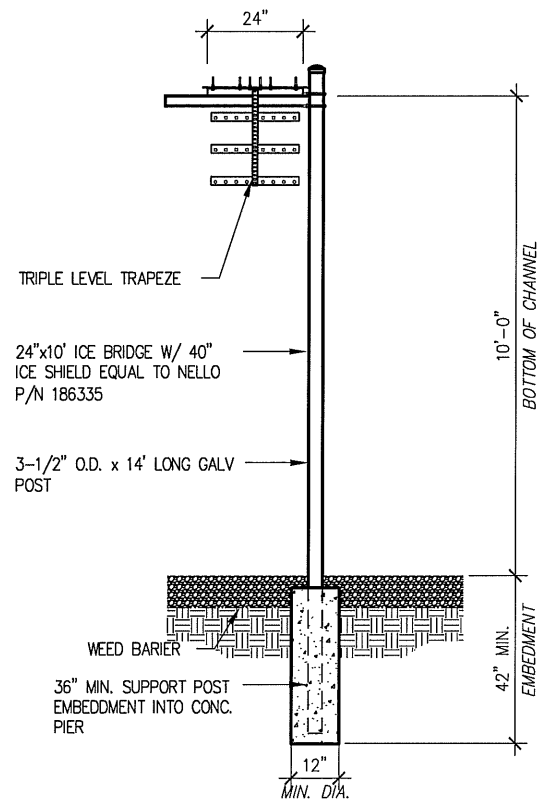
SHEET TITLE:  
**PLUMBING DIAGRAM**

A&E PROJECT NO.:  
 001-1507

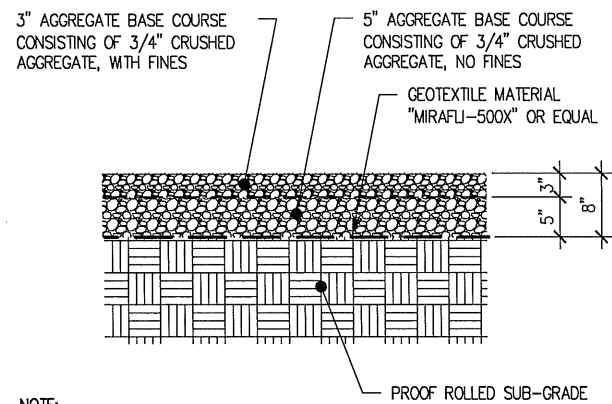
SHEET NO.:



**5 Asphalt Drive**  
SCALE: 1/2" = 1'-0"

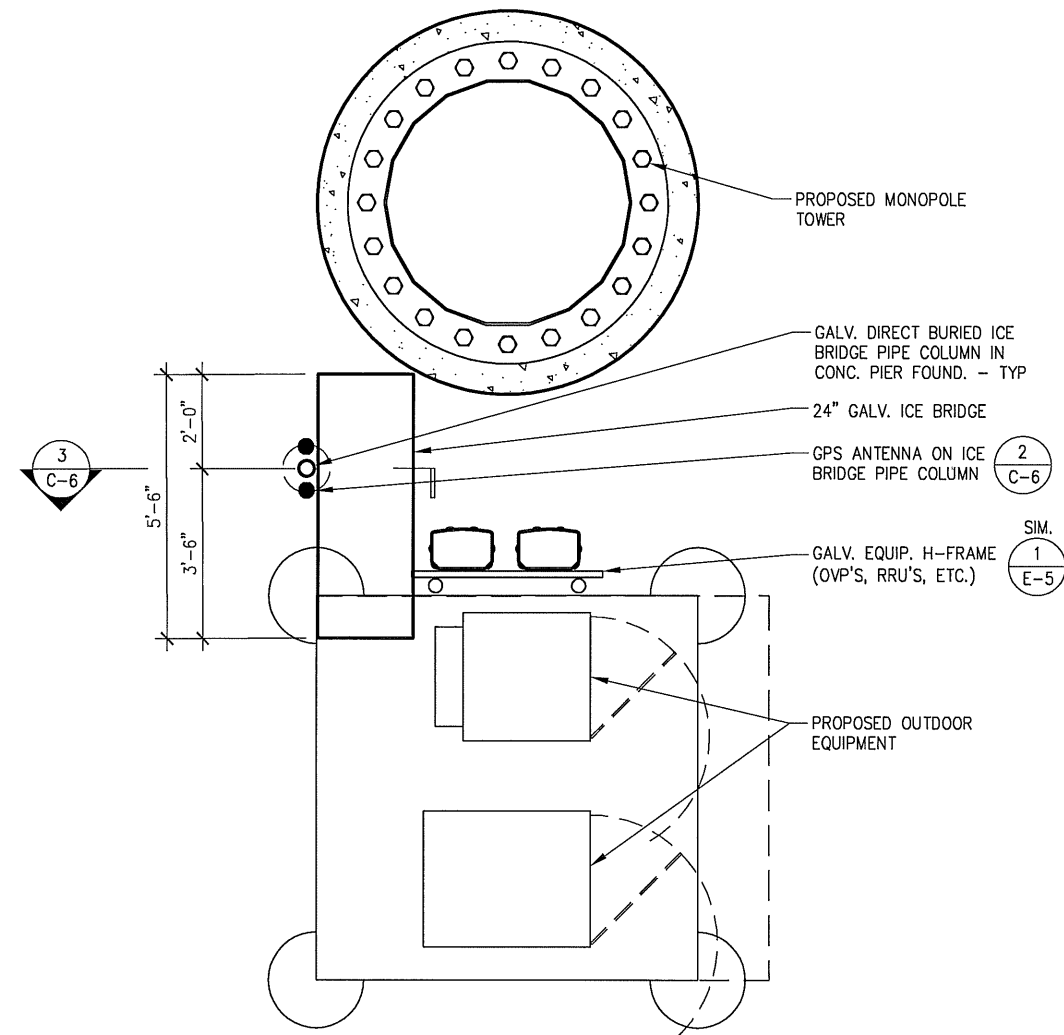


**3 Ice Bridge Section**  
SCALE: 1/4" = 1'-0"

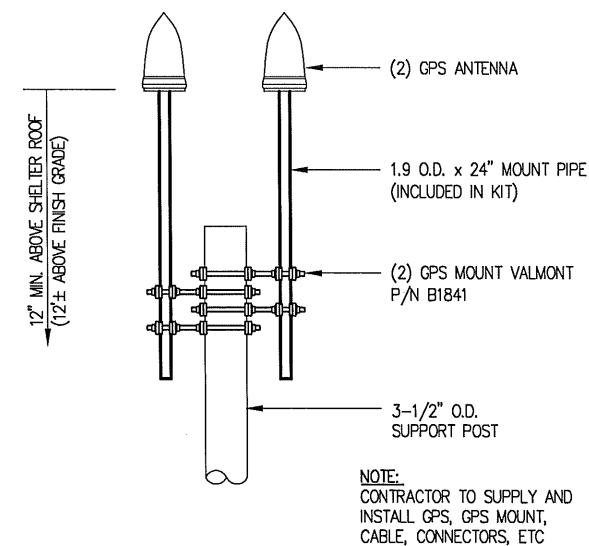


NOTE:  
IT IS THE RESPONSIBILITY OF THE G.C. TO  
VERIFY THE LIMESTONE IS UNIFORMLY  
WHITE IN COLOR AFTER PLACEMENT

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

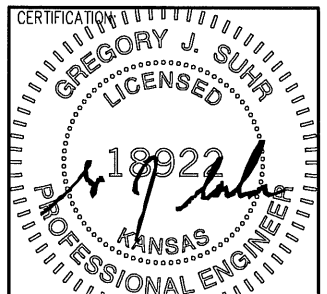


**1 Ice Bridge Plan**  
SCALE: 1/4" = 1'-0"



NOTE:  
CONTRACTOR TO SUPPLY AND  
INSTALL GPS, GPS MOUNT,  
CABLE, CONNECTORS, ETC

**2 GPS Mount Detail**  
SCALE: 3/4" = 1'-0"



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DRAWN BY: JLM  
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SITE NAME:

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CELL SITE**

SITE ADDRESS:

**2001 MOODIE ROAD  
LAWRENCE, KS 66046**

SHEET TITLE:

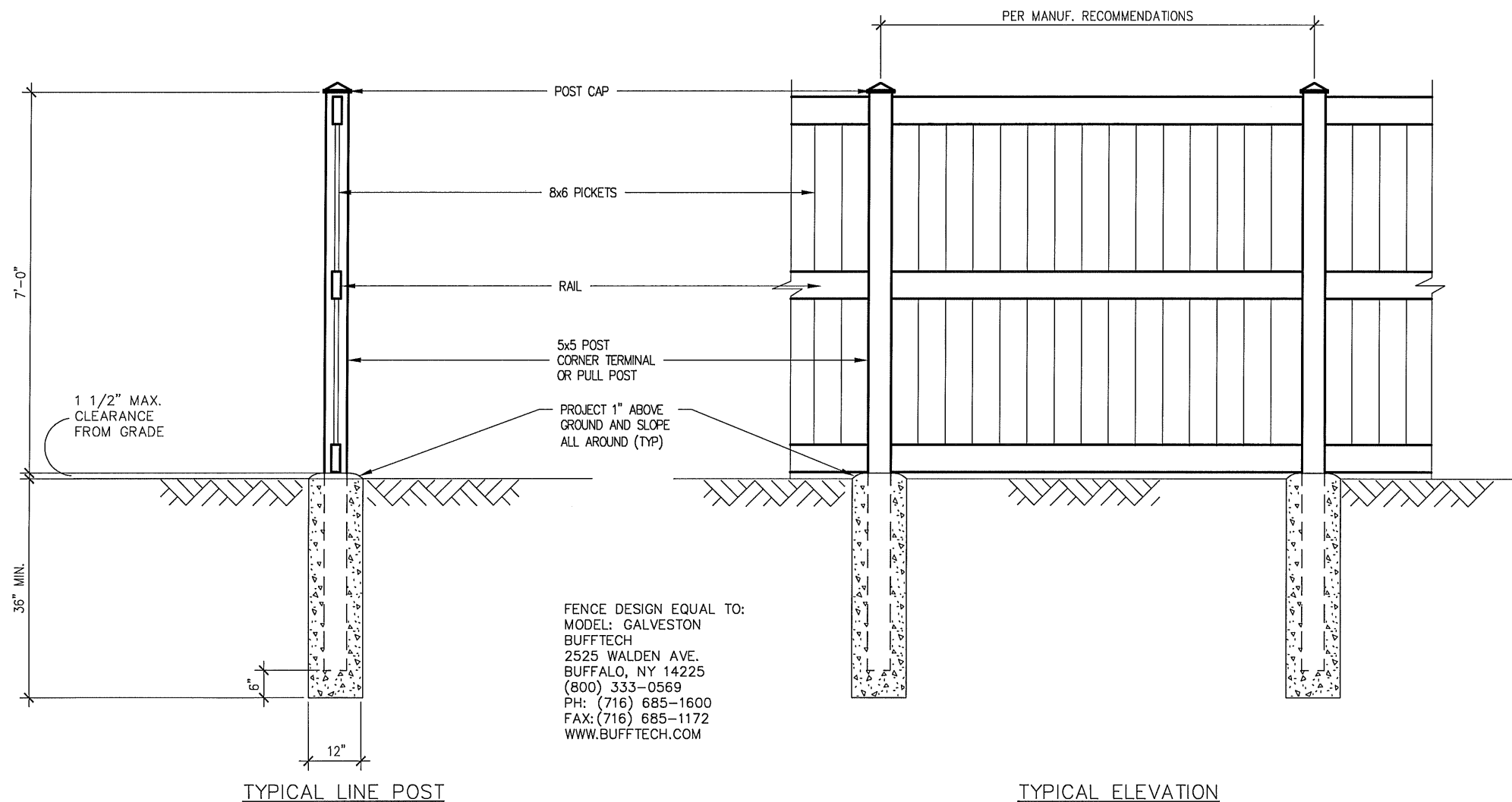
CIVIL DETAILS

A&E PROJECT NO.:

**001-1507**

SHEET NO.:

**C-6**

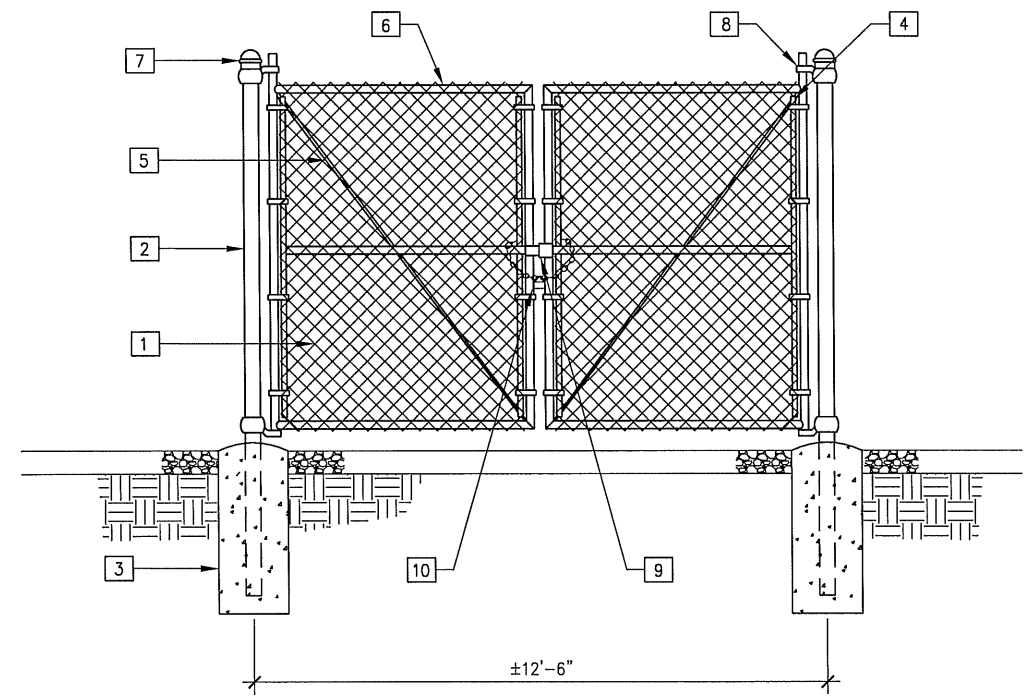


FENCE DESIGN EQUAL TO:  
 MODEL: GALVESTON  
 BUFFTECH  
 2525 WALDEN AVE.  
 BUFFALO, NY 14225  
 (800) 333-0569  
 PH: (716) 685-1600  
 FAX: (716) 685-1172  
 WWW.BUFFTECH.COM

TYPICAL LINE POST

TYPICAL ELEVATION

**1 Typical Fence Detail**  
 SCALE: 3/8" = 1'-0"



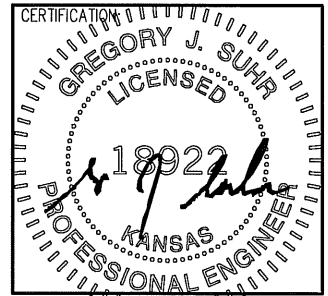
**2 Typical Gate Elevation**  
 SCALE: 1/4" = 1'-0"

**Keynote Legend**

- 1 FABRIC: 9 GAUGE, 2" MESH, ASTM A392 (SEE FENCE SECTION FOR HEIGHT).
- 2 GATE POSTS: 4"Ø PIPE SCH. 40 (GALV.) ASTM F1083
- 3 CONCRETE FOUNDATION: 48"x12"Ø (3000 PSI)
- 4 TENSION BARS: 3/16"x3/4", FULL HEIGHT OF FABRIC, FINISH TO MATCH FENCE FRAMEWORK.
- 5 TENSION ROD: 3/8"Ø WITH ADJ. TIGHTNER, FINISH TO MATCH FENCE FRAMEWORK.
- 6 GATE FRAME: 2"Ø SCH. 40 (GALV.) ASTM F1083
- 7 POST CAPS: PER POST DIAMETER.
- 8 GATE HINGES: NON-LIFT-OFF TYPE, OFFSET TO PERMIT 180 DEGREE SWING.
- 9 DOUBLE GATE LATCH: COMMERCIAL STRONG ARM EQUAL TO: DAC INDUSTRIES 615-C ELEVENTH STREET, GRAND RAPIDS, MI 49504
- 10 LOCK CHAIN: 3/8" SIZE, 36" LONG HOT DIP GALVANIZED ZINC COATED. W/ MARINE-GRADE PROGRAMMABLE FOUR DIGIT PADLOCK (SESAME BRAND OR APPROVED EQUAL)

**NOTES:**

- 1. REFER TO PROJECT SPECIFICATIONS FOR INFORMATION NOT SHOWN IN THE DRAWING.
- 2. FENCE FABRIC SHALL COMFORM TO CHAIN LINK FENCE MANUFACTURERS INSTITUTE (CLFMI) PRODUCT MANUAL.
- 3. INSTALL FENCE IN COMPLIANCE WITH ASTM F 567.
- 4. INSTALL SWING GATES IN COMPLIANCE WITH ASTM F 900.
- 5. DO NOT BEGIN INSTALLATION AND ERECTION BEFORE FINAL GRADING IS COMPLETED, UNLESS OTHERWISE PERMITTED. INSTALL FENCING ON BOUNDARY LINES INSIDE OF PROPERTY LINE ESTABLISHED BY SURVEY.
- 6. DRILL OR HAND-EXCAVATE (USING POST - HOLE DIGGER) HOLES FOR POSTS TO DIAMETERS AND SPACINGS INDICATED, IN FIRM, UNDISTURBED OR COMPACTED SOIL. IF NOT INDICATED ON DRAWINGS, EXCAVATE HOLES FOR EACH POST TO MINIMUM DIAMETER RECOMMENDED BY FENCE MANUFACTURER, BUT NOT LESS THAN (4) TIMES LARGEST GROSS-SECTION OF POST.
- 7. REMOVE POST HOLE SPOILS FROM SITE. DO NOT SET SPOILS ON AGGREGATE WITHOUT ADEQUATE PROTECTION.
- 8. PROTECT PORTION OF POSTS ABOVE GROUND FROM CONCRETE SPLATTER. PLACE CONCRETE AROUND POSTS AND VIBRATE OR TAMP FOR CONSOLIDATION. CHECK EACH POST FOR VERTICAL AND TOP ALIGNMENT AND HOLD IN POSITION DURING PLACEMENT AND FINISHING OPERATIONS, UNLESS OTHERWISE SHOWN, EXTEND CONCRETE FOOTING 1 INCH ABOVE GRADE AND TROWEL TO A CROWN TO SHED WATER.
- 9. INSTALL BARBED WIRE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- 10. APPLY FABRIC TO OUTSIDE OF FRAMEWORK.



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DRAWN BY: JLM  
 CHECKED BY: DJH

SITE NAME:

**LAWC BARKER CELL SITE**

SITE ADDRESS:

**2001 MOODIE ROAD  
 LAWRENCE, KS 66046**

SHEET TITLE:

**FENCE DETAILS**

A&E PROJECT NO.:

**001-1507**

SHEET NO.:

## GENERAL NOTES

- ALL REFERENCED STANDARDS REFERRED TO BE ENFORCED AT THE TIME THESE PLANS AND SPECIFICATIONS ARE ISSUED FOR BID.
- WORK NOT INDICATED ON A PART OF THE DRAWINGS BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES SHALL BE REPEATED AND INCLUDED IN THE PROJECT.
- IN THE CASE OF CONFLICTS BETWEEN THE NOTES, DETAILS AND SPECIFICATIONS, THE MOST RIGID REQUIREMENTS SHALL GOVERN.
- THE CONTRACTOR SHALL NOT MAKE DEVIATIONS FROM THE DESIGN DRAWINGS WITHOUT WRITTEN APPROVAL OF THE ENGINEER.
- THE CONTRACTOR SHALL TAKE ALL THE NECESSARY PRECAUTIONS/MEASURES TO PROTECT EXISTING FACILITIES, STRUCTURES AND UTILITY LINES FROM DAMAGES. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY DAMAGES THAT MAY OCCUR DURING CONSTRUCTION.
- THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS REQUIRED BY HIM TO PERFORM HIS WORK BEFORE STARTING CONSTRUCTION.
- REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS AND DIMENSIONS OF CHASES, INSERTS, OPENINGS, SLEEVES, DRIPS, REVEALS, FINISHES, DEPRESSIONS, DOORS, EXPANSION JOINT MATERIAL AND OTHER PROJECT REQUIREMENTS NOT SHOWN ON STRUCTURAL DRAWINGS.
- STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTIONS WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, CIVIL AND ALL OTHER CONTRACT DRAWINGS RELATED TO OTHER TRADES. THE CONTRACTOR IS RESPONSIBLE TO CHECK AND COORDINATE DIMENSIONS, CLEARANCES, ETC., WITH THE WORK OF OTHER TRADES.
- JOB SAFETY, CONSTRUCTION PROCEDURES AND CONSTRUCTION MEANS AND METHODS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- COMPLETE SHOP DRAWINGS FOR CONSTRUCTION OF ALL APPLICABLE SPECIALTY ITEMS INCLUDING BUT NOT LIMITED TO CURTAINWALL GLAZING SYSTEMS AND LIGHTGAUGE STEEL FRAMING SHALL BE SEALED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF KANSAS AND SHALL BE AVAILABLE AT THE JOB SITE DURING THE TIMES OF INSPECTION.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE ENGINEER.

## FOUNDATION

- THE ALLOWABLE BEARING PRESSURE USED IN DESIGN OF SHALLOW FOUNDATION IS ASSUMED TO BE 1,500 PSF.
- CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SUBSURFACE AND EXISTING CONDITIONS BEFORE COMMENCING WORK.
- ALL CONCRETE SHALL BE CONTROLLED CONCRETE AND ALL CONCRETING PRACTICES SHALL CONFORM WITH ACI-318-05, "AMERICAN CONCRETE INSTITUTE, BUILDING CODE FOR REINFORCED CONCRETE." CONCRETE DETAILS SHALL BE IN ACCORDANCE WITH ACI-135, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" UNLESS OTHERWISE NOTED ON THE DRAWINGS. CONCRETE TESTS FOR THE PRELIMINARY DESIGN MIX PREPARED BY AN APPROVED LABORATORY MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. THE CONTRACTOR SHALL PLACE NO CONCRETE WITHOUT THE APPROVED DESIGN MIX.
- A RIGID TEMPLATE SHALL BE USED TO INSTALL ALL ANCHOR BOLTS.
- UNLESS OTHERWISE NOTED ON PLAN, ALL CONCRETE SHALL BE NORMAL WEIGHT WITH 28 DAYS COMPRESSIVE STRENGTH AS FOLLOWS:
 

A. FOOTINGS	3000 PSI
B. CONCRETE SLAB ON GRADE	3000 PSI
- ALL REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60 ( $f_y=60,000$  PSI) ALL REINFORCING TO BE WELDED SHALL CONFORM TO ASTM A-706. THE REINFORCING BARS SUPPLIER SHALL PROVIDE THE ENGINEER WITH AN AFFIDAVIT OF THE PRODUCER OF STEEL CERTIFYING THAT THE STEEL MEETS THE REQUIREMENTS OF THE ASTM.
- ALL REINFORCEMENT SHALL BE SECURELY HELD IN PLACE WHILE PLACING CONCRETE. IF REQUIRED, THE CONTRACTOR SHALL PROVIDE ADDITIONAL BARS OR STIRRUPS NECESSARY TO SUPPORT ALL BARS AS REQUIRED TO COMPLETE HIS WORK.
- UNLESS OTHERWISE NOTED ON STRUCTURAL DRAWINGS, PROVIDE MINIMUM CONCRETE COVER FOR REINFORCING BARS AS FOLLOWS:
 

CAST AGAINST EARTH	3"
EXPOSED TO EARTH OR WEATHER	
#5 AND SMALLER	1 1/2"
#6 AND LARGER	2"
NOT EXPOSED TO EARTH OR WEATHER	
SLAB AND WALL	
#11 AND SMALLER	3/4"
- GROUT SHALL BE NON-METALLIC NO SHRINK WITH A MINIMUM STRENGTH OF 5,000 PSI AT 28 DAYS.

## STRUCTURAL STEEL

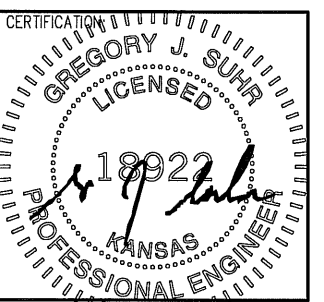
- FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATIONS. STRUCTURAL FABRICATOR SHALL BE AISC CERTIFIED.
- STRUCTURAL STEEL SHALL BE AS SPECIFIED BELOW, UNLESS OTHERWISE NOTED:
  - CHANNELS, ANGLES AND PLATES : ASTM A36 WITH MIN. YIELD STRENGTH OF 36 KSI OR ASTM A572 GRADE 50 WITH MIN. YIELD STRENGTH OF 50 KSI.
- THE FRAME SHALL BE CARRIED UP TRUE AND PLUMB AND TEMPORARY BRACING SHALL BE INTRODUCED WHEREVER NECESSARY TO ACCOUNT FOR ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED, INCLUDING EQUIPMENT AND OPERATION OF SAME. SUCH BRACING SHALL BE THE RESPONSIBILITY OF THE STEEL CONTRACTOR AND SHALL BE LEFT IN PLACE AS LONG AS REQUIRED FOR SAFETY.
- ALL BOLTS SHALL CONFORM TO THE FOLLOWING ASTM. DESIGNATION, LATEST EDITION: HIGH STRENGTH BOLTS A325-N, U.O.N.
- ALL BOLTS SHALL BE 3/4" DIAMETER MINIMUM UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
- ALL SHOP OR FIELD CONNECTIONS SHALL BE HIGH STRENGTH BOLTED OR WELDED. BOLTED CONNECTIONS SHALL BE ASSEMBLED AND INSPECTED IN ACCORDANCE WITH RCSC-2000 (SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR ASTM A490 BOLTS). ALL STRUCTURAL WELDED JOINTS SHALL CONFORM TO THE PROVISIONS OF AWS D1.1, STRUCTURAL WELDING CODE BY AMERICAN WELDING SOCIETY.
- PROVISIONS SHALL BE MADE FOR CONNECTIONS OF OTHER TRADES INCLUDING CUTTING AND PUNCHING OF STRUCTURAL MEMBERS, WHERE REQUIRED BY THE DRAWING OR FOR WHICH INFORMATION IS FURNISHED PRIOR TO FABRICATION.
- OVERSIZED OR SLOTTED HOLES SHALL NOT BE USED FOR ANY CONNECTIONS UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS OR APPROVED IN WRITING BY THE ENGINEER.
- THE USE OF A CUTTING TORCH IN THE FIELD WILL NOT BE PERMITTED.
- WELDING ELECTRODES SHALL BE CONFORM TO E70XX ELECTRODES, AND SHALL HAVE COMPATIBLE CHARY-V-NOTCH WHEN WELDING TO THE BASE METAL WITH CHARY-V-NOTCH REQUIREMENT.
- PROOF OF WELDER CERTIFICATION SHALL BE AVAILABLE AT THE JOB SITE DURING TIMES OF INSPECTION.
- ALL STRUCTURAL STEEL NOT RECEIVING SPRAY-ON FIREPROOFING SHALL BE PRIME PAINTED. STRUCTURAL STEEL SHALL RECEIVE ONE COAT OF PAINT, ZINC OR BITUMINOUS COATING OR EQUIVALENT METAL PROTECTION BEFORE ERECTION AS SPECIFIED. PARTS OF STRUCTURAL STEEL LEFT UNPAINTED BECAUSE OF WELDING, OR BOLTING SHALL RECEIVE A FIELD APPLICATION OF METAL PROTECTION.
- STRUCTURAL STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE.
- DESIGN OF SPECIAL CONNECTIONS BETWEEN STEEL FRAMING COMPONENTS BY OTHER THAN THE PROJECT STRUCTURAL ENGINEER-OF-RECORD SHALL BE PERFORMED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF KANSAS INCLUDING BUT NOT LIMITED TO BRACE END CONNECTIONS, MOMENT-RESISTING CONNECTIONS, MODIFIED BEAM SEAT CONNECTIONS, AND MEMBER SPLICE CONNECTIONS.
- ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
- ALL BOLTS, ANCHORS, AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
- DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.

### DESIGN STANDARD

- ASCE 7-05 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
- MANUAL OF STEEL CONSTRUCTION AISC LRFD 3rd EDITION
- MANUAL OF STEEL CONSTRUCTION AISC ASD 9th EDITION
- MANUAL OF CONCRETE PRACTICE ACI 318-05

### DESIGN LOADS

TOTAL SHELTER WEIGHT = 76,000 LBS  
WIND LOAD = 12.8 PSF ( $v = 90$  MPH)



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09-01-15	CONST. DWGS - ZONING/PERMIT
09-09-15	CONST. DWGS - ZONING/PERMIT

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DRAWN BY: JLM  
CHECKED BY: DJH

SITE NAME:

**LAWC BARKER  
CELL SITE**

SITE ADDRESS:

**2001 MOODIE ROAD  
LAWRENCE, KS 66046**

SHEET TITLE:

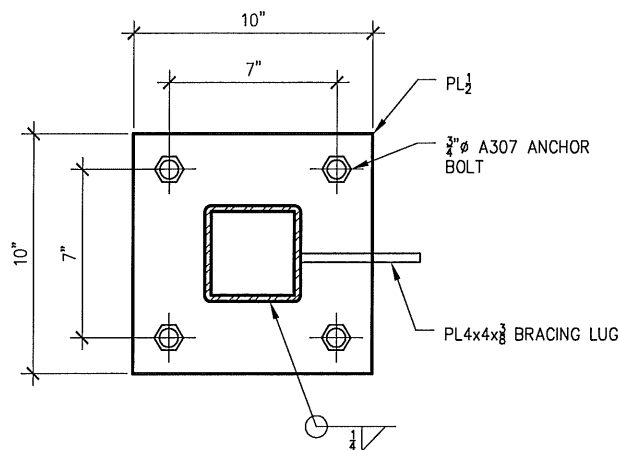
**STRUCTURAL NOTES**

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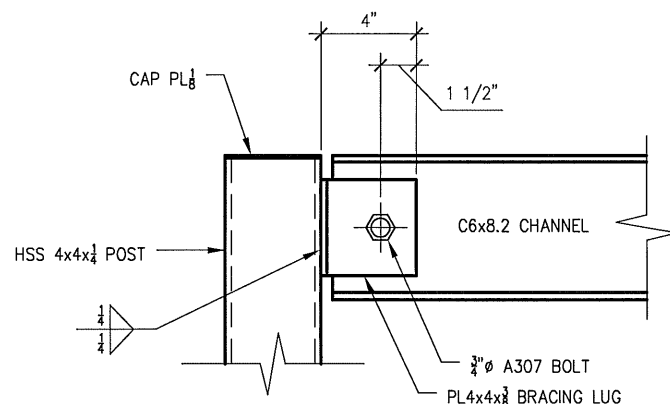
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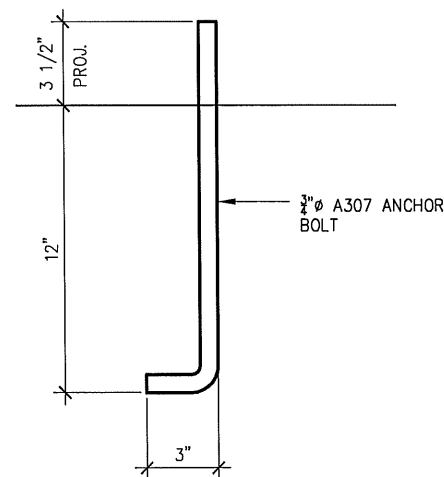
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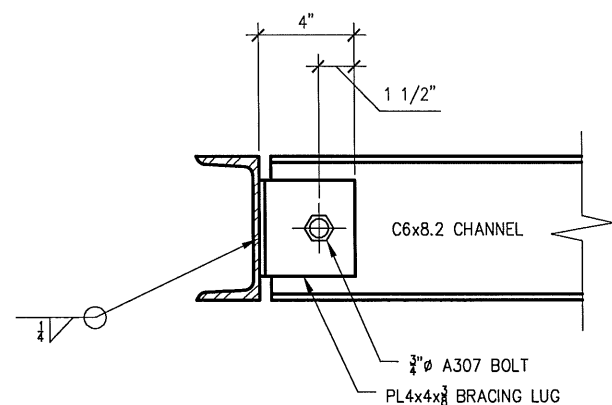
**HSS4x4x $\frac{1}{4}$  POST**  
**3 Base Plate Detail**  
 SCALE: 1-1/2" = 1'-0"



**4 Typical Beam To Column Connection**  
 SCALE: 1-1/2" = 1'-0"

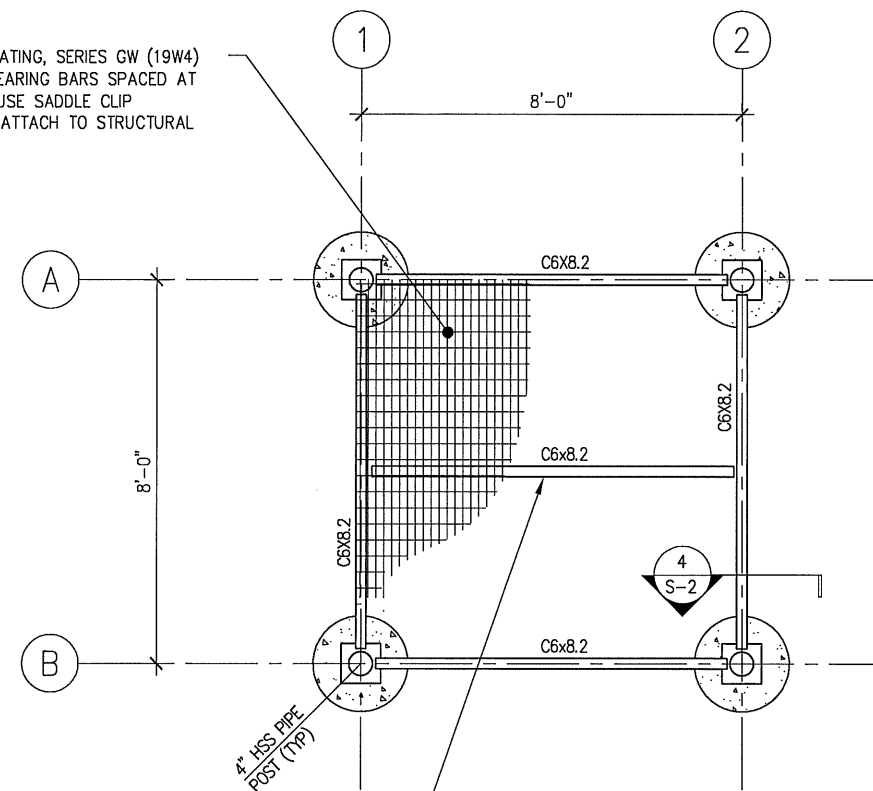


**6 Anchor Bolt Detail**  
 SCALE: 1-1/2" = 1'-0"



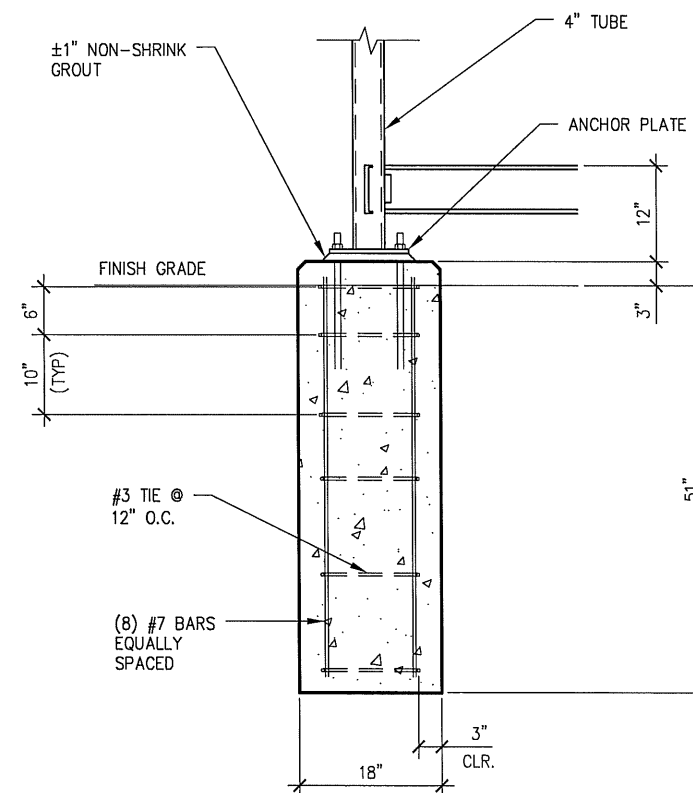
**5 Typical Beam To Beam Connection**  
 SCALE: 1-1/2" = 1'-0"

GALV STEEL GRATING, SERIES GW (19W4)  
 1"x3/16" W/ BEARING BARS SPACED AT  
 1-3/16" C/C. USE SADDLE CLIP  
 FASTENERS TO ATTACH TO STRUCTURAL  
 STEEL

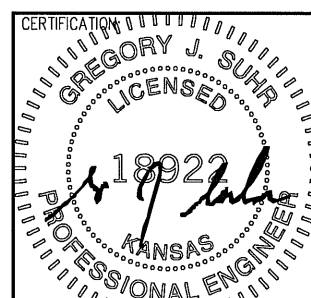


C6x8.2 TO BE INSTALLED BELOW  
 EQUIPMENT CABINET (STEEL MEMBER  
 NEEDS TO BE BELOW ALL FOUR (4)  
 OF EQUIPMENT CABINET)

**1 Platform Framing Plan**  
 SCALE: 1/4" = 1'-0"



**2 Drilled Pier Foundation**  
 SCALE: 1/2" = 1'-0"



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SITE NAME:

**LAWC BARKER CELL SITE**

SITE ADDRESS:

2001 MOODIE ROAD  
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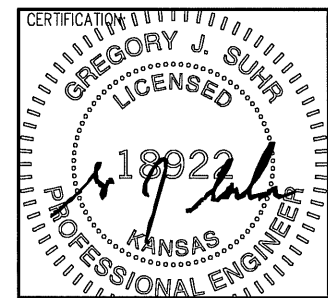
SHEET TITLE:

**PLATFORM FRAMING DETAILS**

A&E PROJECT NO.:

001-1507

SHEET NO.:



RELEASE	
DATE	
03-24-15	ZONING EXHIBIT
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DRAWN BY: JLM  
CHECKED BY: D.JH

SITE NAME:

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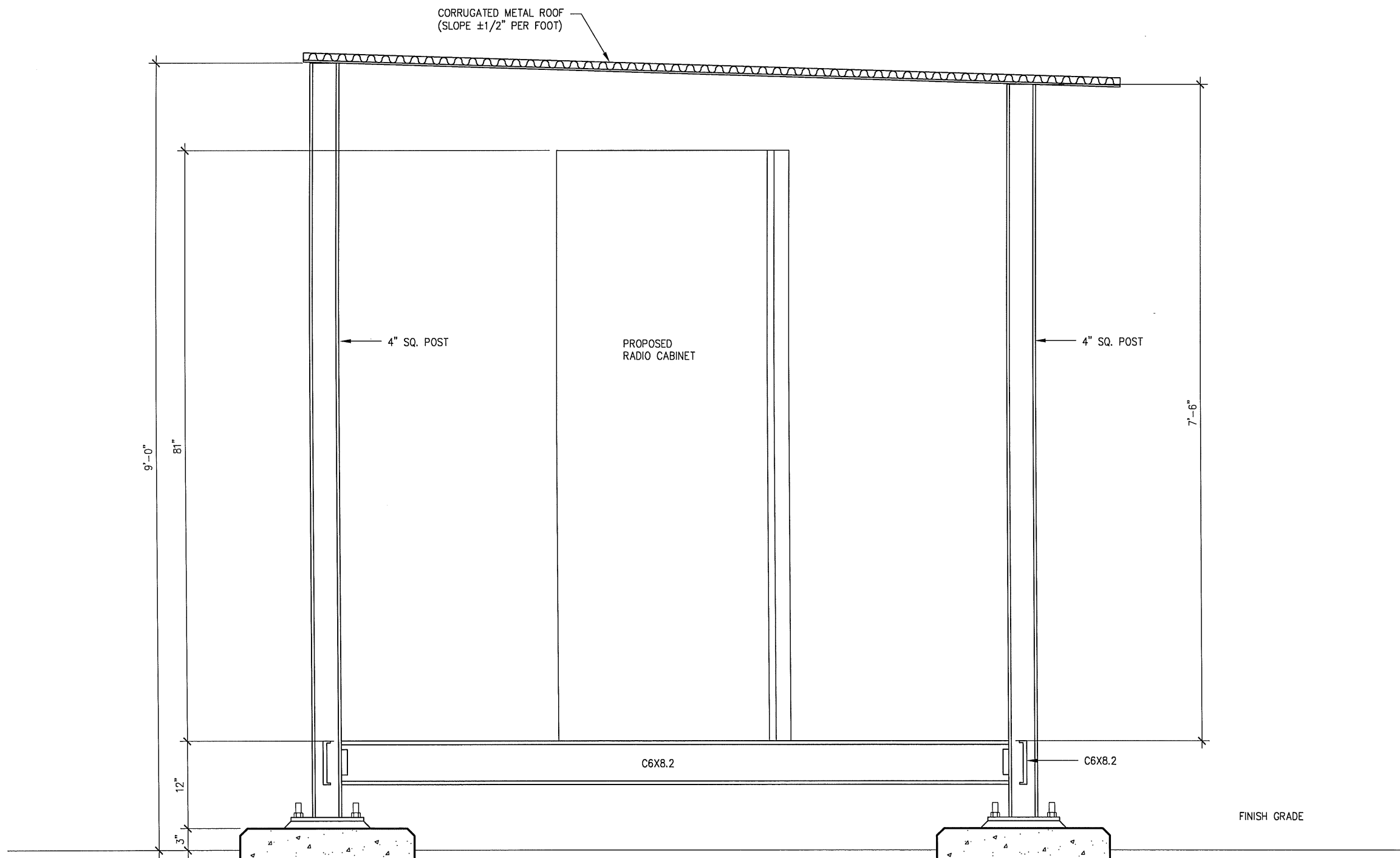
**EQUIPMENT CANOPY  
ELEVATION**

A&E PROJECT NO.:

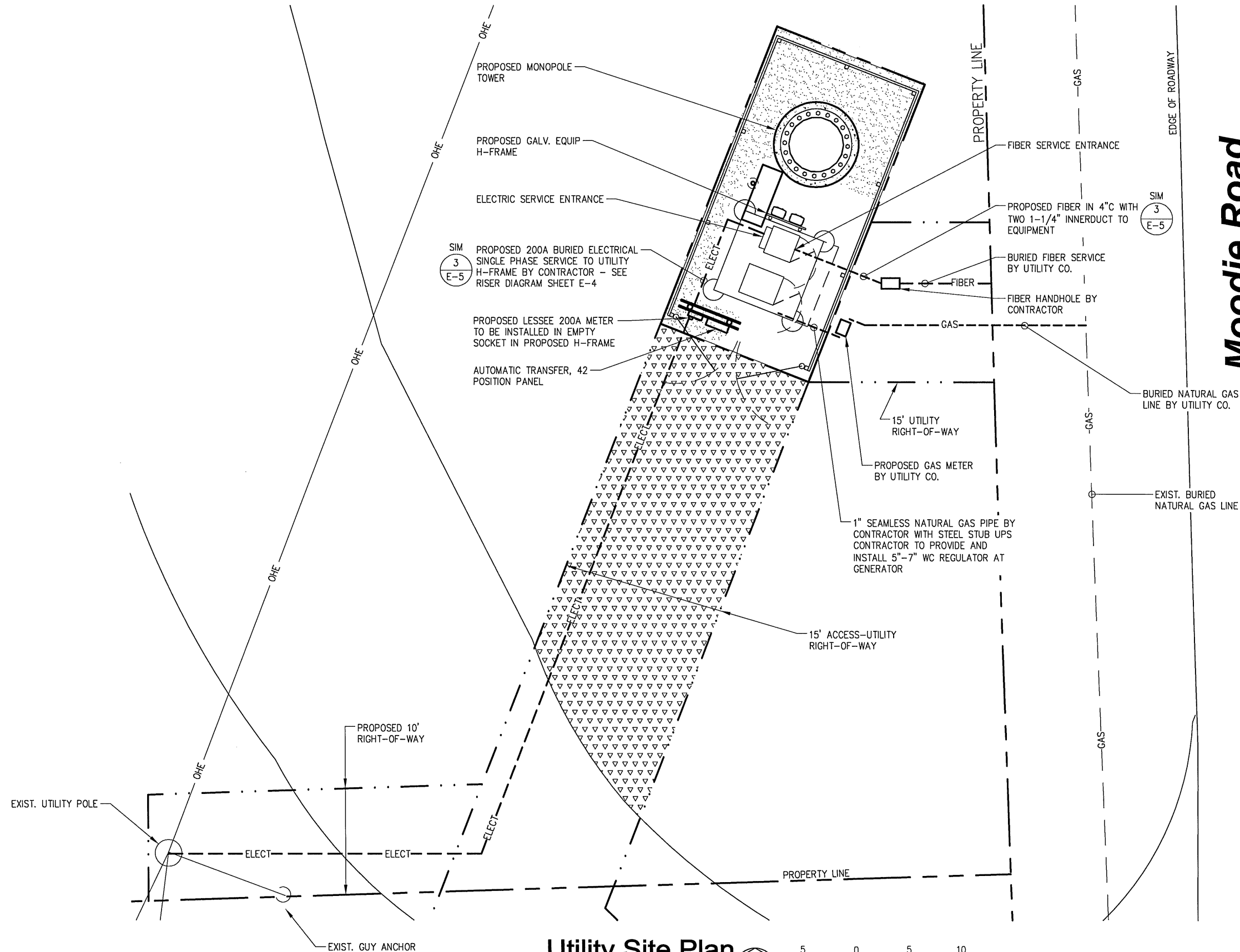
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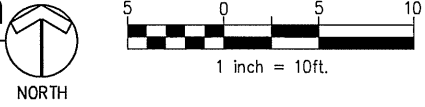
**S-2**



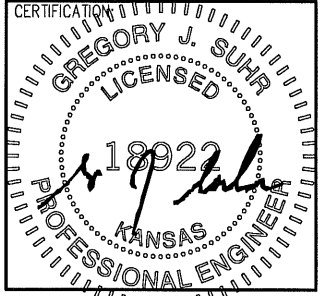
**1 Platform Framing Elevation**  
SCALE: 3/4" = 1'-0"



**Utility Site Plan**



**Moodie Road**



RELEASE	
DATE	
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CHECKED BY: DJH

**LAWC BARKER CELL SITE**

2001 MOODIE ROAD  
LAWRENCE, KS 66046

**UTILITY SITE PLAN**

A&E PROJECT NO.:  
**001-1507**

SHEET NO.:

**E-0**

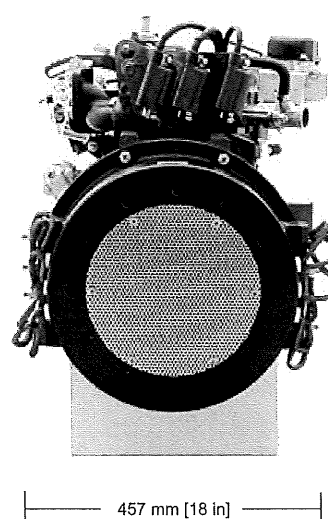
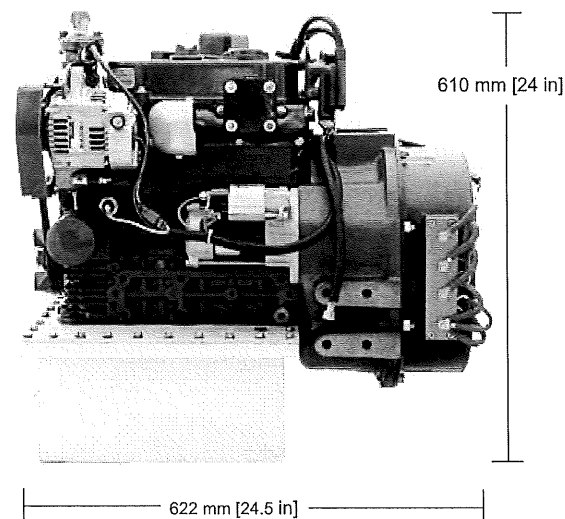
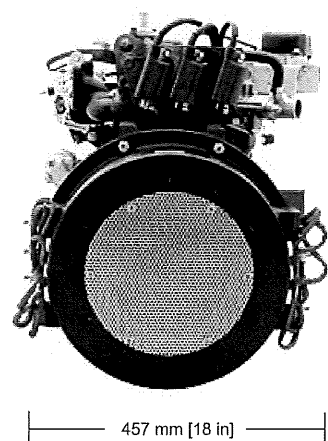
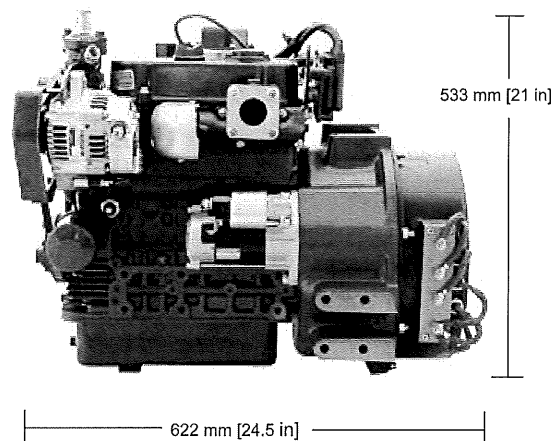




# 8220K-972

10 kW DC Generator

### Engine Dimensions



Polar Power  
22520 Avalon Blvd  
Carson, CA 90745 USA  
Tel: (310) 830 - 9153  
Fax: (310) 830 - 9825

www.polarpowerinc.com



# 8220K-972

10 kW DC Generator

### Engine Specifications

8220K-972	
Ratings kW (continuous)	10 kW @ 2600 rpm
Output DC voltage	24 - 500
Engine	Kubota 972
Cylinders	3 in-line
Cylinder Volume	.972 Liter
Weight - 3.7 Liter Oil (dry)	126 kg [277 lb]
Weight - 16 Liter Oil (dry)	137 kg [302 lb]
Coolant Capacity	1.8 Liter
Oil Capacity	3.7 Liter (optional 16 Liter)
Operating Temperature (Ambient/Compartment)	-40C° to 72°C
Fuel Consumption, (apprx)	396g/kWhr
Dimensions - 3.7 Liter Oil	Length: 622 mm [24.5 in] Width: 457 mm [18 in] Height: 533 mm [21 in]
Dimensions - 16 Liter Oil	Length: 622 mm [24.5 in] Width: 457 mm [18 in] Height: 610 mm [24 in]

Polar Power  
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Carson, CA 90745 USA  
Tel: (310) 830 - 9153  
Fax: (310) 830 - 9825

www.polarpowerinc.com



**MAGTECH  
MIDWEST INC.**  
AN AFFILIATE OF FORTUNE WIRELESS INC.  
1715 MAGNAVOX WAY, FORT WAYNE, INDIANA 46804  
(260) 436-2658 • (260) 436-2402 FAX

CERTIFICATION:

FOR REFERENCE  
ONLY

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CHECKED BY: DJH

SITE NAME:

**LAWC BARKER  
CELL SITE**

SITE ADDRESS:

**2001 MOODIE ROAD  
LAWRENCE, KS 66046**

SHEET TITLE:

**GENERATOR DATA**

A&E PROJECT NO.:

**001-1507**

SHEET NO.:

**E-1**



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FOR REFERENCE ONLY

RELEASE	
DATE	
03-24-15	ZONING EXHIBIT
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SITE NAME:

**LAWC BARKER CELL SITE**

SITE ADDRESS:

**2001 MOODIE ROAD  
LAWRENCE, KS 66046**

SHEET TITLE:

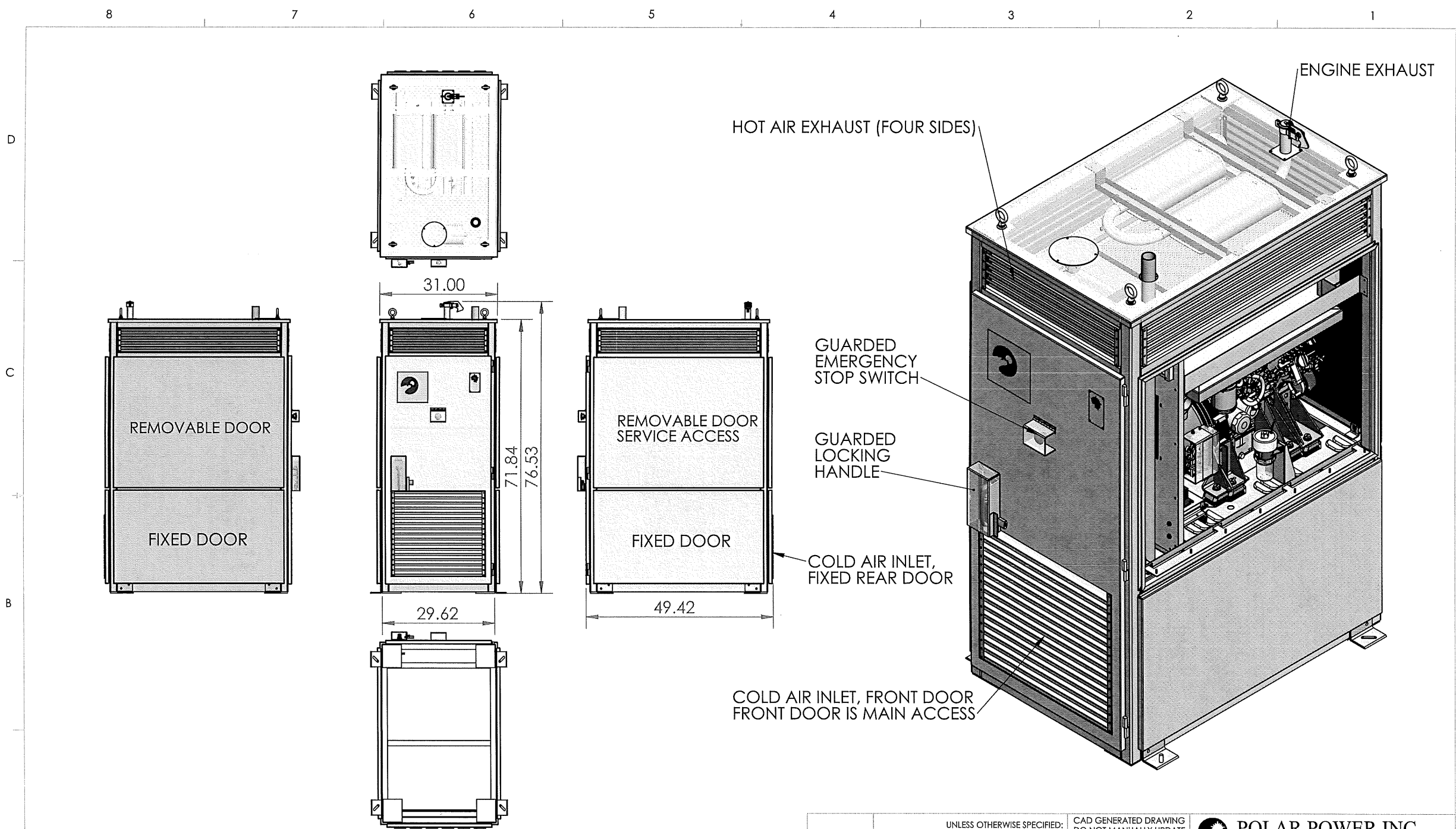
**GENERATOR DETAILS**

A&E PROJECT NO.:

**001-1507**

SHEET NO.:

**E-2**



REV	DESCRIPTION	ECO#	BY	DATE
INITIAL RELEASE				

COMMENTS:

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APPROVALS	DATE
DRAWN GLEESON	1/22/2015
CHECKED	
ENG APPR.	
MFG APPR.	
Q.A.	

**POLAR POWER INC.**  
22520 AVALON BLVD, CARSON, CA 90745

TITLE: **ALUMINUM VERTICAL ENCLOSURE, 72 IN**

SIZE: **B** DWG. NO. **88-25-0603** REV

SCALE: 1:24 WEIGHT: SHEET 1 OF 2

8 7 6 5 4 3 2 1



CERTIFICATION:  
**FOR REFERENCE ONLY**

RELEASE DATE	DESCRIPTION
03-24-15	ZONING EXHIBIT
05-15-15	CONSTRUCTION DWGS - REV A
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SITE NAME:

**LAWC BARKER CELL SITE**

SITE ADDRESS:

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LAWRENCE, KS 66046**

SHEET TITLE:

**GENERATOR DETAILS**

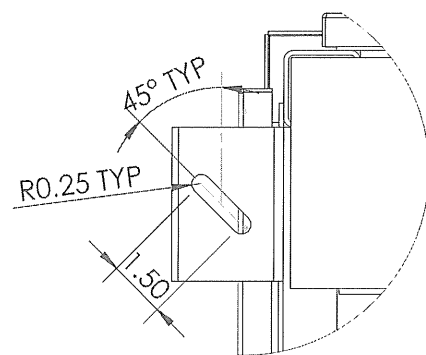
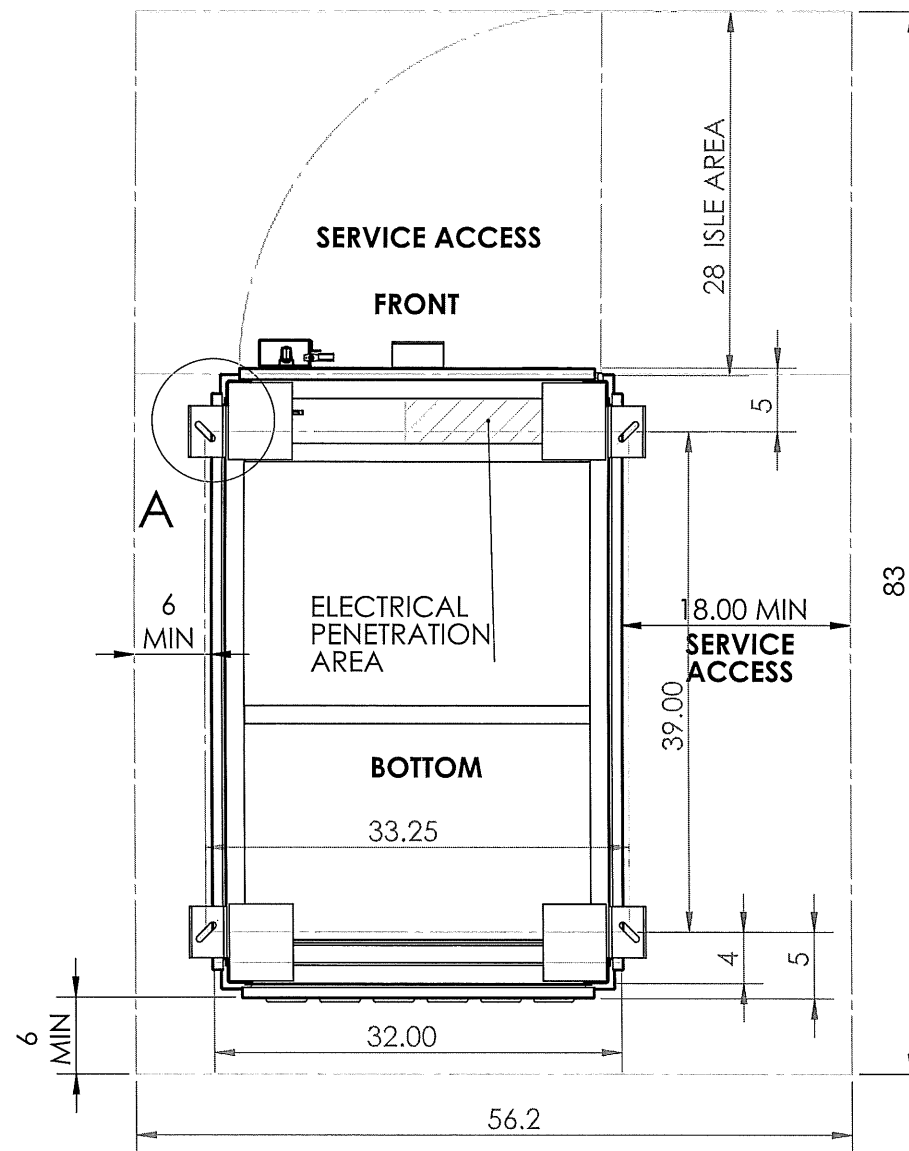
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**001-1507**

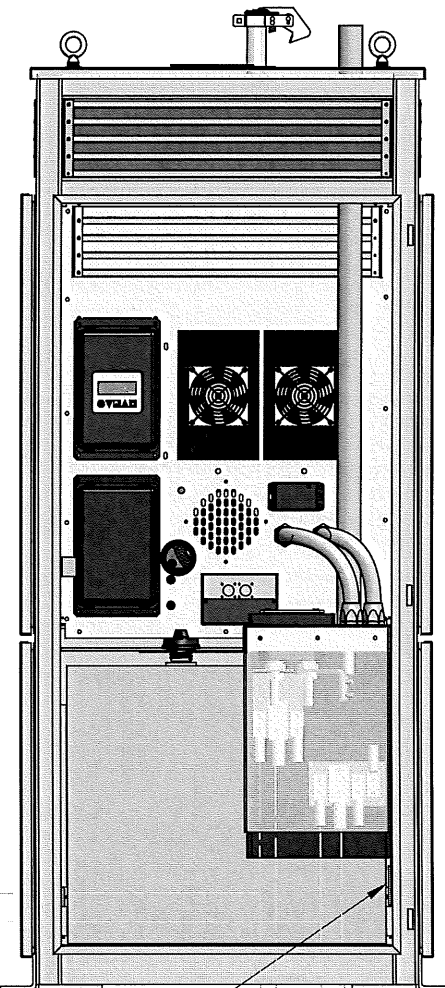
SHEET NO.:

**E-3**

### INSTALLATION FOOTPRINT



**DETAIL A**  
SCALE 1:4



**FRONT DOOR REMOVED FOR CLARITY**

REV	DESCRIPTION	ECO#	BY	DATE	COMMENTS:
8	INITIAL RELEASE	--			

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DIMENSIONS ARE IN INCHES  
TOLERANCES ARE:

FRACTIONS DECIMALS ANGLES  
±1/32" X.XX±0.1" ±1/2°

MATERIAL FINISH

APPLICATION DO NOT SCALE DRAWING

CAD GENERATED DRAWING  
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APPROVALS DATE

DRAWN GLEESON 1/22/2015

CHECKED

ENG APPR.

MFG APPR.

Q.A.



**POLAR POWER INC.**  
22520 AVALON BLVD, CARSON, CA 90745

TITLE: **ALUMINUM VERTICAL ENCLOSURE, 72 IN**

SIZE DWG. NO. REV  
**B 88-25-0603**

SCALE: 1:24 WEIGHT: SHEET 2 OF 2

# General Notes

## WORK INCLUDES

THESE NOTES AND ACCOMPANYING DRAWINGS COMPLEMENT THE PROVISIONS AND INSTALLATIONS BY THE ELECTRICAL CONTRACTOR, OF ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO INSTALL THE ELECTRICAL WORK COMPLETE IN CONNECTION WITH THIS LESSEE SITE AND SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

1. THE PROVISIONS, INSTALLATION, AND CONNECTION OF A GROUNDING ELECTRODE SYSTEM COMPLETE WITH A BUILDING AND SECONDARY GROUNDING, CELLULAR TELEPHONE COMMUNICATIONS TOWER AND CONNECTIONS TO THE INCOMING ELECTRICAL DISTRIBUTION EQUIPMENT.
2. THE PROVISION AND INSTALLATION OF AN OVERHEAD ELECTRICAL SERVICE OR UNDERGROUND ELECTRICAL SERVICE AND ALL ASSOCIATED WIRE AND CONDUIT AS REQUIRED AND/OR INDICATED ON PLANS.
3. THE PROVISION, INSTALLATION OF CONDUIT AND CONNECTIONS FOR LOCAL TELEPHONE SERVICE.
4. THE FURNISHING AND INSTALLATION OF THE ELECTRICAL SERVICE ENTRANCE CONDUCTORS, CONDUITS, METER SOCKET, AND CONNECTIONS TO THE SERVICE EQUIPMENT WITHIN THE ENCLOSURE.
5. TWO INCH (2") AND THREE INCH (3") DIAMETER PVC CONDUITS SCHEDULE 40.
6. ALL PVC CONDUITS SHOULD BE LEFT WITH NYLON PULL CORD FOR FUTURE USE.
7. EXCAVATION, TRENCHING, AND BACKFILLING FOR CONDUIT(S), CABLE(S), AND EXTERNAL GROUNDING SYSTEM.

## CODES, PERMITS, AND FEES

1. ALL REQUIRED PERMITS, LICENSES, INSPECTIONS AND APPROVALS SHALL BE SECURED AND ALL FEES FOR SAME PAID BY CONTRACTOR.
2. THE INSTALLATION SHALL COMPLY WITH ALL APPLICABLE CODES: STATE, LOCAL AND NATIONAL, AND THE DESIGN, PERFORMANCE CHARACTERISTICS AND METHODS OF CONSTRUCTION OF ALL ITEMS AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST ISSUE OF THE VARIOUS APPLICABLE STANDARD SPECIFICATIONS OF THE FOLLOWING AUTHORITIES:

N.E.C.	NATIONAL ELECTRIC CODE
A.N.S.I.	AMERICAN NATIONAL STANDARDS INSTITUTE
I.E.E.E.	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
A.S.T.M.	AMERICAN SOCIETY FOR TESTING MATERIALS
N.E.M.A.	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
U.L.	UNDERWRITERS LABORATORIES, INC.
N.F.P.A.	NATIONAL FIRE PROTECTION ASSOCIATION

## GROUNDING ELECTRODE SYSTEM

1. CONNECTIONS  
ALL GROUNDING CONNECTIONS SHALL BE MADE BY THE "CADWELD" PROCESS CONNECTIONS SHALL INCLUDE ALL CABLE TO CABLE, SPLICES, ETC. ALL CABLE TO GROUND RODS, GROUND RODS SPLICES AND LIGHTNING PROTECTION SYSTEM AS INDICATED. GROUND FOUNDATION ONLY AS INDICATED BY PM. ALL MATERIALS USED (MOLDS, WELDING, METAL, TOOLS, ETC.) SHALL BE BY "CADWELD" PROCESS AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS AND PROCEDURES. GROUND CONDUCTOR SHALL HAVE A MINIMUM 24" BENDING RADIUS.
2. ALL CADWELD CONNECTIONS ON GALVANIZED SURFACES SHALL BE CLEANED THOROUGHLY AND COLORED TO MATCH SURFACE WITH (2) TWO COATS OF SHERWIN-WILLIAMS GALVITE (WHITE) PAINT B50W3 (OR EQUAL) OR SHERWIN-WILLIAMS SILVERBRITE (ALUMINUM) B59S11 (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 TOWER AS INDICATED ON DRAWINGS. GROUND EACH GATE POST AND CORNER POST. GROUND CONNECTIONS TO FENCE POSTS SHALL BE MADE BY THE "CADWELD" PROCESS AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES. ALL OTHER CONNECTIONS FOR THE GROUND GRID SYSTEM SHALL BE MADE BY THE "CADWELD" PROCESS, AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES.
5. 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 THE COST IN THE BID.

6. GROUND TEST:  
GROUND TESTS SHALL BE PERFORMED AS REQUIRED BY LESSEE STANDARD PROCEDURES. GROUND GRID RESISTANCE SHALL NOT EXCEED 5 OHMS. 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

## RACEWAYS AND WIRING

1. WIRING OF EVERY KIND MUST BE INSTALLED IN CONDUIT, UNLESS NOTED OTHERWISE, OR AS APPROVED BY THE ENGINEER.
2. UNLESS OTHERWISE SPECIFIED, ALL WIRING SHALL BE COPPER (CU) TYPE THWN, SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
3. RACEWAYS SHALL BE GALVANIZED STEEL, SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, UNLESS OTHERWISE NOTED. ALL RACEWAYS SHALL BE APPROVED FOR THE INSTALLATION.
4. PULL OR JUNCTION BOXES SHALL BE PROVIDED AS REQUIRED TO FACILITATE INSTALLATION OF RACEWAYS AND WIRING. PROVIDE JUNCTION AND PULLBOXES FOR CONDUIT RUNS WITH MORE THAN (360) DEGREES OF BENDS.
5. PROVIDE A COMPLETE RACEWAY AND WIRING INSTALLATION, PERMANENTLY AND EFFECTIVELY GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE AND LOCAL CODES.
6. ELECTRICAL PANEL BOARD SHALL BE FURNISHED AND INSTALLED BY OTHERS. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION.
7. ALL STEEL CONDUIT SHALL BE BONDED AT BOTH ENDS WITH GROUNDING BUSHING.

IT IS RECOMMENDED THAT THE ELECTRICAL CONTRACTOR VISIT THE JOB SITE TO REVIEW THE SCOPE OF WORK AND VERIFY ALL EXISTING CONDITIONS PRIOR TO BID SUBMITTAL. ANY DISCREPANCIES OR CONFLICTS SHALL BE REPORTED TO LESSEE BEFORE PROCEEDING WITH THE WORK.

ALL ELECTRICAL WORK SHALL CONFIRM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, LESSEE ELECTRIC STANDARDS AND LOCAL JURISDICTION CODES.

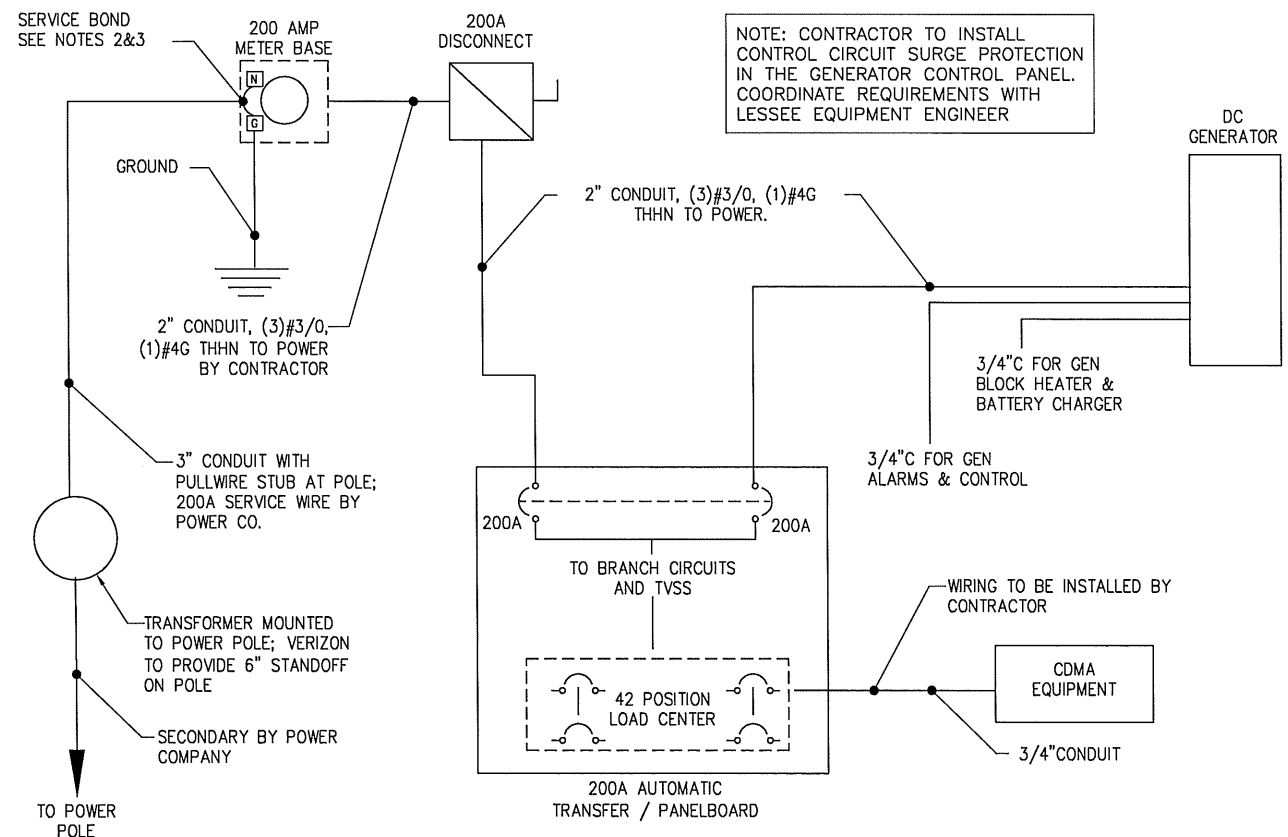
## GENERAL NOTES:

SEE DETAILS AND SCHEDULES ON DRAWINGS AND SPECIFICATIONS FOR MEANING OF ABBREVIATIONS AND ADDITIONAL REQUIREMENTS AND INFORMATION. CHECK ARCHITECTURAL, STRUCTURAL AND OTHER MECHANICAL AND ELECTRICAL DRAWINGS FOR SCALE, SPACE LIMITATIONS, COORDINATION, AND ADDITIONAL INFORMATION, ETC. REPORT ANY DISCREPANCIES, CONFLICTS, ETC. TO ENGINEER BEFORE SUBMITTING BID. ALL EQUIPMENT FURNISHED BY OTHERS (FBO) SHALL BE PROVIDED WITH PROPER MOTOR STARTERS, DISCONNECTS, CONTROLS, ETC. BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE. THE ELECTRICAL CONTRACTOR SHALL INSTALL AND COMPLETELY WIRE ALL ASSOCIATED EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S WIRE DIAGRAMS AND AS REQUIRED FOR A COMPLETE OPERATING INSTALLATION. ELECTRICAL CONTRACTOR SHALL VERIFY AND COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF (FBO) EQUIPMENT PRIOR TO ROUGH-IN OF CONDUIT AND WIRING TO AVOID CONFLICTS.

## COORDINATION WITH UTILITY COMPANY

THE ELECTRICAL CONTRACTOR SHALL COORDINATE COMPLETE ELECTRICAL SERVICE WITH LOCAL UTILITY COMPANY FOR A COMPLETE OPERATIONS SYSTEM, INCLUDING TRANSFORMER CONNECTIONS, CONCRETE TRANSFORMER PADS, IF REQUIRED, METER SOCKETS, PRIMARY CABLE RACEWAY REQUIREMENTS, SECONDARY SERVICE, ETC. PRIOR TO SUBMITTING BID TO INCLUDE ALL LABOR AND MATERIALS. THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN THE BID ANY OPTIONAL OR EXCESS FACILITY CHARGES ASSOCIATED WITH PROVIDING ELECTRICAL SERVICE FROM LOCAL UTILITY COMPANY. VERIFY BEFORE BIDDING TO INCLUDE ALL COSTS.

THE ELECTRICAL CONTRACTOR SHALL VERIFY THE AVAILABLE FAULT CURRENT WITH THE LOCAL UTILITY COMPANY PRIOR TO SUBMITTING BID. ADJUST A.I.C. RATINGS OF ALL OVERCURRENT PROTECTION DEVICES IN DISTRIBUTION EQUIPMENT AS REQUIRED TO COORDINATE WITH AVAILABLE FAULT CURRENT FROM LOCAL UTILITY COMPANY. ALL GROUNDING RODS PROVIDED BY THE POWER OR TELEPHONE UTILITY COMPANIES MUST BE TIED INTO THE MAIN EXTERNAL GROUND RING.

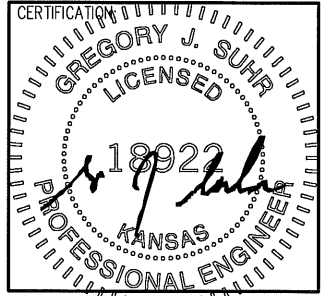


**PRIOR TO ELECTRICAL INSPECTION, IF REQUIRED, CONTRACTOR SHALL COORDINATE TRANSFER SWITCH MODIFICATION WITH LESSEE CONSTRUCTION ENGINEER AND SWITCH VENDOR.**

## GENERAL NOTES:

1. ALL CIRCUIT BREAKERS ARE 10,000 A.I.C. TYPICALLY. A.I.C. RATING MAY CHANGE AS ELECTRICAL SUPPLY DEMANDS CHANGE.
2. SERVICE BOND IS TO BE MADE BY DEVICES (STRAPS, SCREWS, ETC.) SUPPLIED BY EQUIPMENT MANUFACTURER. IF NO SUCH DEVICE IS SUPPLIED, BOND IS TO BE MADE WITH A MINIMUM OF #1/0 AWG FOR 400 AMP SERVICE, #2 AWG FOR 300 AMP SERVICE, #4 AWG GREEN FOR 200 SERVICE, AND #8 AWG GREEN FOR 100 AMP SERVICE.
3. WHEN SERVICE OVERCURRENT DISCONNECT IS FIELD INSTALLED, A TEMPORARY SERVICE BOND WILL BE INSTALLED FOR SAFETY PURPOSE.
4. CONDUCTOR OVERCURRENT PROTECTION DEVICES ARE SELECTED IN ACCORDANCE WITH 2002 NEC (ARTICLE 240-3).
5. CONDUCTOR SIZING IS SELECTED FROM 2002 NEC (ARTICLE 220-10b).
6. #4 AWG GREEN FROM MASTER GROUND BAR TIES TO GROUND IN PANEL BOARD.

**1 Electrical Single Line Diagram**  
SCALE: N.T.S.



RELEASE	
DATE	
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08-20-15	CONSTRUCTION DWGS - REV C
08-27-15	CONSTRUCTION DWGS - REV D
09-01-15	CONST. DWGS - ZONING/PERMIT
09-09-15	CONST. DWGS - ZONING/PERMIT

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SHEET TITLE:

**ELECTRICAL RISER DIAGRAM**

A&E PROJECT NO.:

**001-1507**

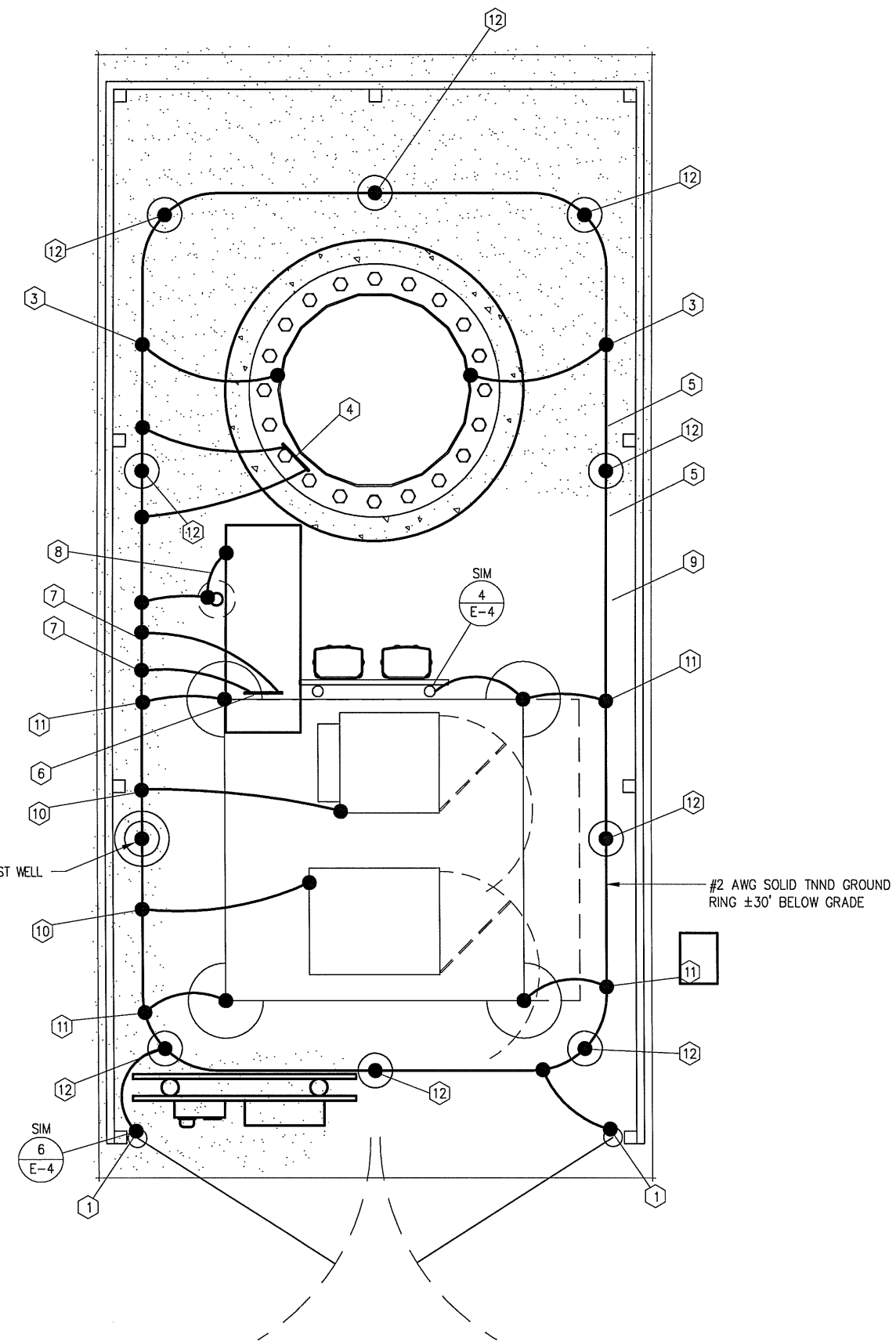
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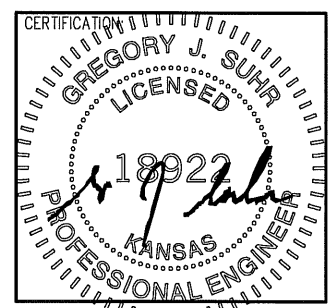
- ① FENCE GROUND: E.C. TO FURNISH AND INSTALL #2 AWG BARE SOLID T1/2ND COPPER GROUND WIRE AT FENCE POST. GROUND WIRE TO BE ROUTED ALONG FENCE POST AND CADWELDED FOUR (4) PLACES, TOP RAIL, TOP AND BOTTOM OF CORNER POST, AND GROUND RING.
- ② GATE GROUND: SIMILAR TO FENCE GROUND (FG), E.C. SHALL ALSO FURNISH AND INSTALL #2 BRAIDED GATE JUMPER WIRE BETWEEN THE GATE FRAME AND THE GATE POST. CONNECTIONS AT GATE FRAME AND GATE POST TO BE CADWELDED.
- ③ TOWER GROUND: E.C. TO FURNISH AND INSTALL TWO (2) #2 AWG BARE SOLID T1/2ND COPPER GROUND WIRES FROM BASE OF TOWER OR TOWER LEGS TO TOWER GROUND RING. ALL CONNECTIONS TO BE CADWELDED.
- ④ TOWER GROUND BAR: E.C. TO FURNISH AND INSTALL TWO (2) 20"x4"x1/4" T1/2ND COPPER GROUND BARS ON THE TOWER. 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).
- ⑤ TOWER COAX GROUND: E.C. TO FURNISH AND INSTALL TWO (2) #2 AWG BARE SOLID T1/2ND COPPER GROUND WIRES FROM TOWER GROUND BAR (TGB) TO GROUND RING. ALL CONNECTIONS TO BE CADWELDED.
- ⑥ EXTERIOR GROUND BAR: SHELTER MANUFACTURER FURNISHED AND INSTALLED 24"x4"x1/4" T1/2ND COPPER GROUND BAR ON EXTERIOR SIDEWALL OF SHELTER BELOW COAX BUILDING ENTRY.
- ⑦ EXTERIOR GROUND BAR GROUND: E.C. TO FURNISH AND INSTALL TWO (2) #2 AWG BARE SOLID T1/2ND COPPER GROUND WIRES FROM THE EXTERIOR GROUND BAR (EGB) TO GROUND RING. ALL CONNECTIONS TO BE CADWELDED.
- ⑧ ICE BRIDGE CHANNEL GROUND: E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID T1/2ND COPPER GROUND JUMPER WIRE FROM ICE BRIDGE CHANNEL TO ICE BRIDGE SUPPORT POST. ALL CONNECTIONS TO BE CADWELDED.
- ⑨ ICE BRIDGE SUPPORT GROUND: E.C. TO FURNISH AND INSTALL ONE (1) #2 AWG BARE SOLID T1/2ND COPPER GROUND WIRE FROM ICE BRIDGE SUPPORT POST TO GROUND RING. ALL CONNECTIONS TO BE CADWELDED.
- ⑩ EQUIPMENT GROUND: CONTRACTOR SHALL PROVIDE AND INSTALL #2 AWG BARE SOLID T1/2ND COPPER GROUND WIRE FROM EQUIPMENT CABINET (OR INTERNAL EQUIPMENT FRAME) PER MANUFACTURERS RECOMMENDATIONS. CONNECTION AT EQUIPMENT CABINET TO BE MECHANICAL, CONNECTION AT GROUND RING TO BE CADWELDED.
- ⑪ PLATFORM STEEL GROUND: CONTRACTOR SHALL PROVIDE AND INSTALL #2 AWG BARE SOLID T1/2ND COPPER GROUND WIRE FROM EQUIPMENT PLATFORM STEEL SUPPORT TUBE TO GROUND RING. CONTRACTOR SHALL ALSO BOND ALL STEEL HORIZONTAL MEMBERS TOGETHER WITH #2 AWG GROUND WIRE. ALL CONNECTIONS AT PLATFORM STEEL AND GROUND RING TO BE CADWELDED.
- ⑫ 5/8" DIA. x 10' LONG T1/2ND COPPER CLAD STEEL GROUND ROD DRIVEN VERTICAL TOP OF ROD 30" MIN. BELOW GRADE. SPACING OF GROUND RODS 10' MAX. ALL CONNECTIONS TO BE CADWELDED.

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.

③  
E-4  
GROUND INSPECTION TEST WELL



**1 Site Grounding Plan**  
SCALE: 1/4" = 1'-0"



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05-15-15	CONSTRUCTION DWGS - REV A
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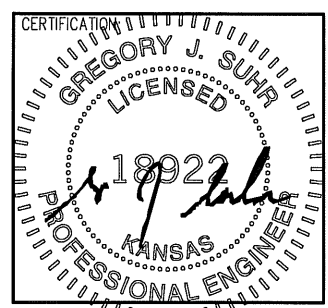
SHEET TITLE:

**GROUNDING PLAN AND NOTES**

A&E PROJECT NO.:

001-1507

SHEET NO.:



RELEASE	
DATE	
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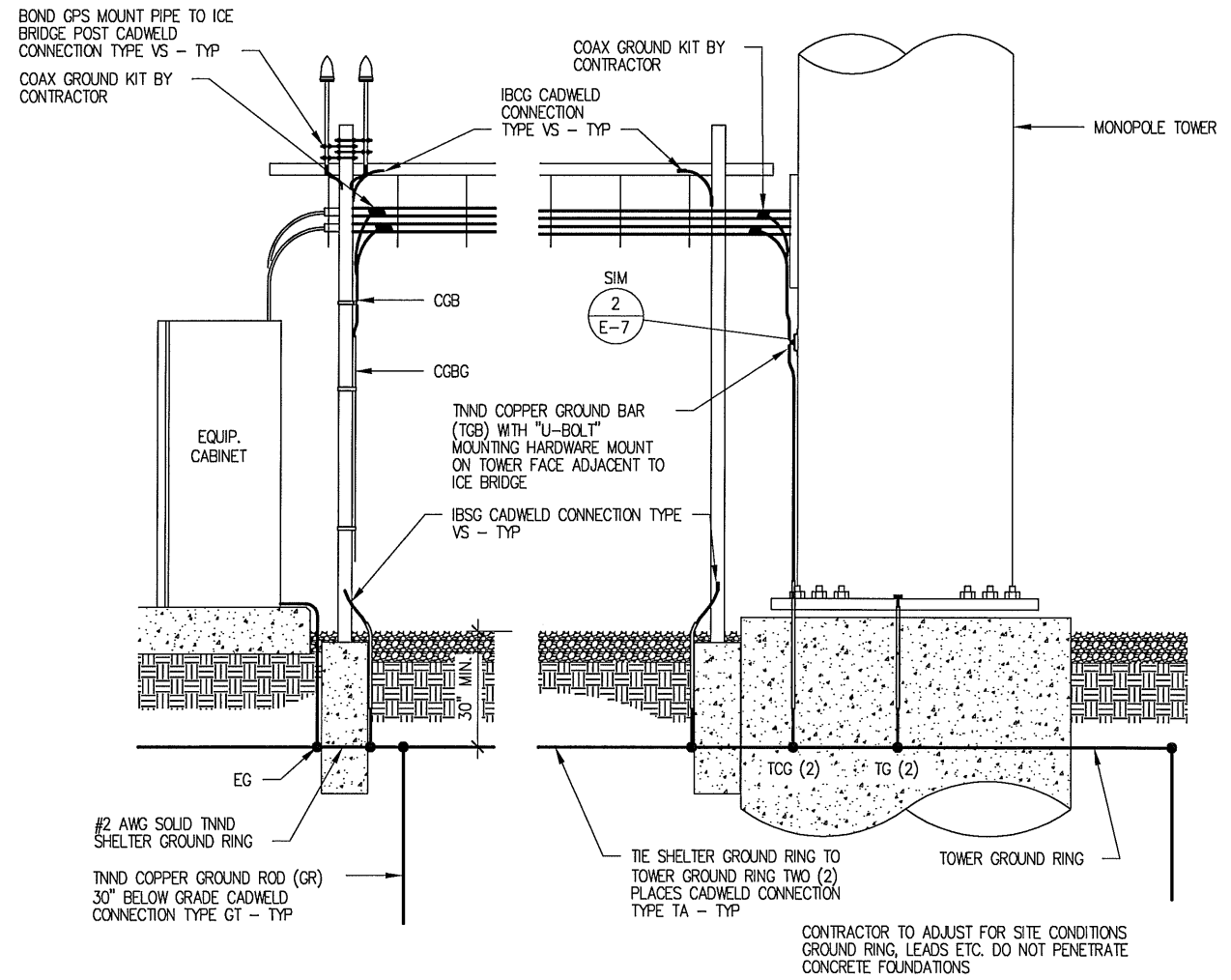
**GROUNDING DETAILS**

A&E PROJECT NO.:

001-1507

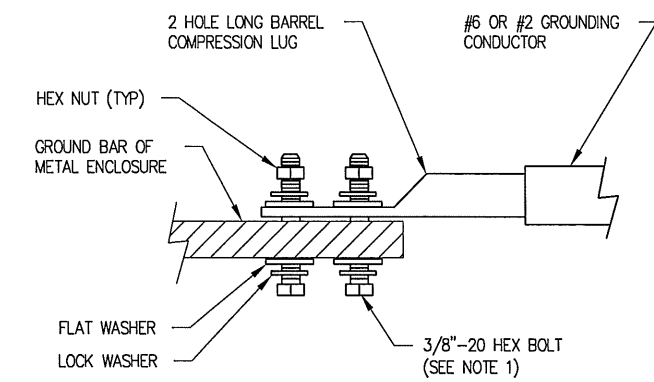
SHEET NO.:

**E-6**



### Equipment and Tower Grounding Elevation Schematic

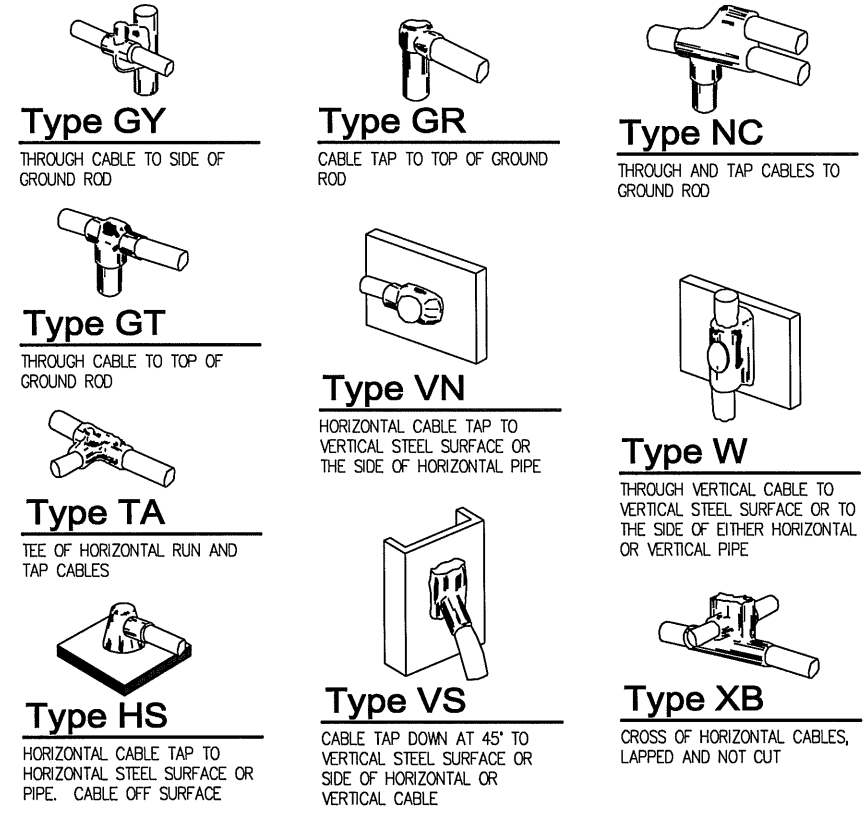
1 SCALE: 1/4" = 1'-0"



- INSTALLATION NOTES:
1. SELECT BOLT LENGTH TO PROVIDE A MINIMUM OF TWO EXPOSED THREADS.
  2. BURNISH MOUNTING SURFACE TO REMOVE PAINT IN THE AREA OF THE LUG.
  3. APPLY ANTI-OXIDANT COMPOUND TO MATING SURFACE OF LUG AND WIPE CLEAN EXCESS COMPOUND.

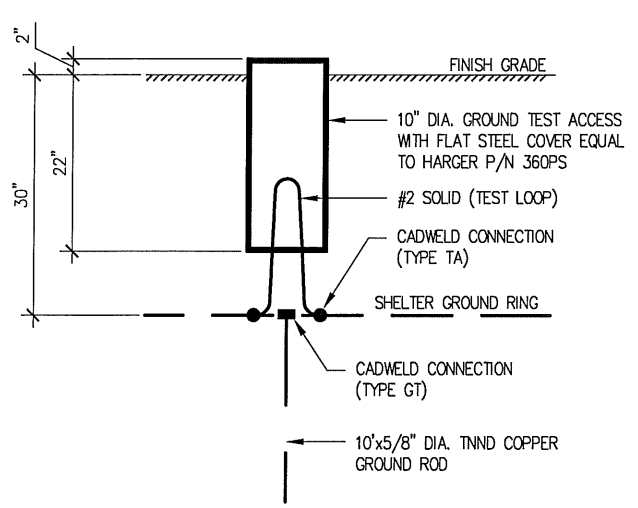
### 2 Mechanical Ground Connection

NO SCALE



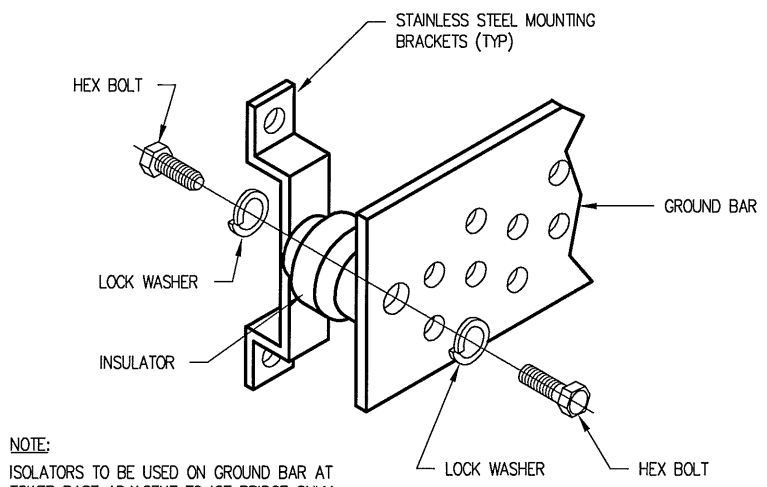
### 3 Exothermic (Cadweld) Details

NO SCALE



**3** Grounding Inspection Test Well

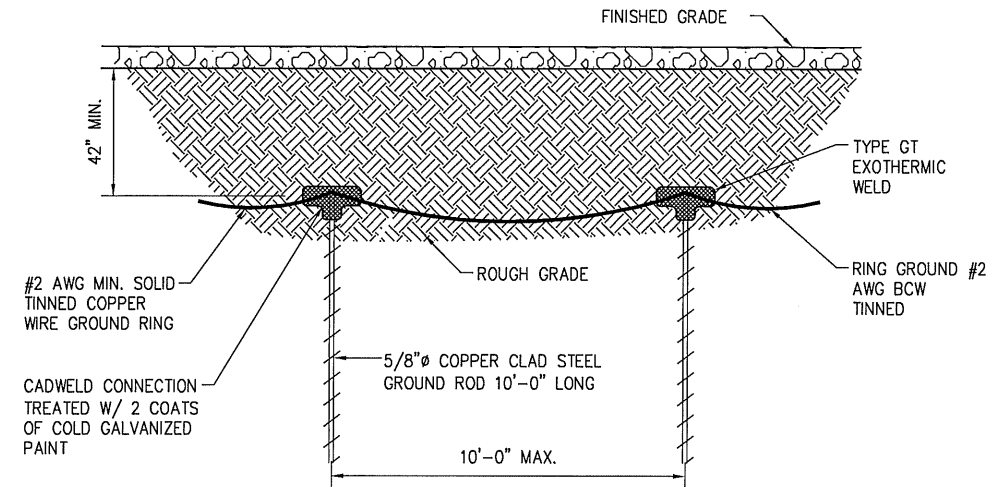
SCALE: 1/2" = 1'-0"



NOTE:  
ISOLATORS TO BE USED ON GROUND BAR AT TOWER BASE ADJACENT TO ICE BRIDGE ONLY. GROUND BAR AT ANTENNA ELEVATION TO BE ATTACHED DIRECTLY TO TOWER STEEL.

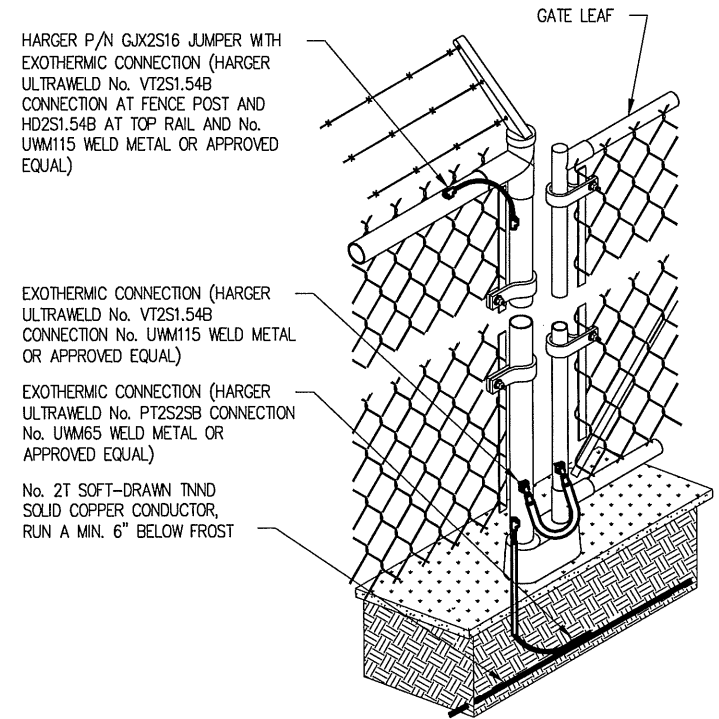
**2** Ground Bar Installation

SCALE: 3" = 1'-0"



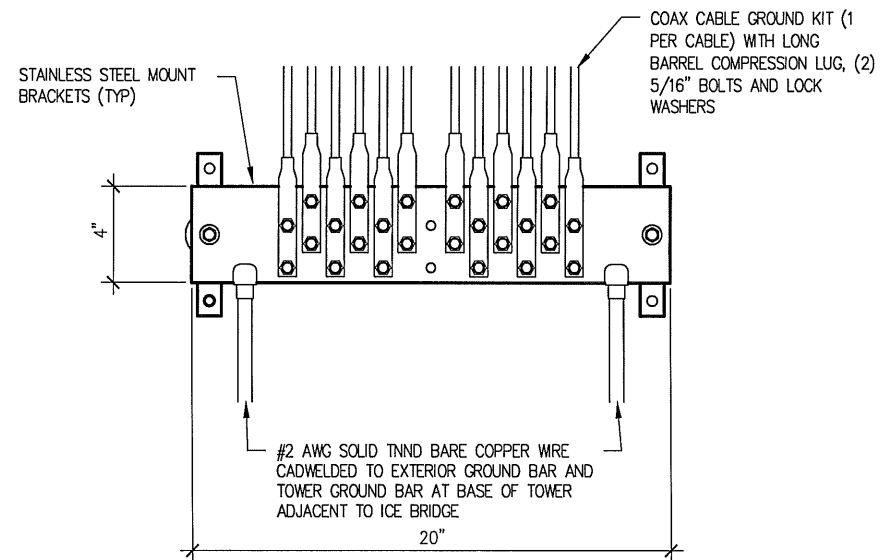
**1** Grounding Rod Detail

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



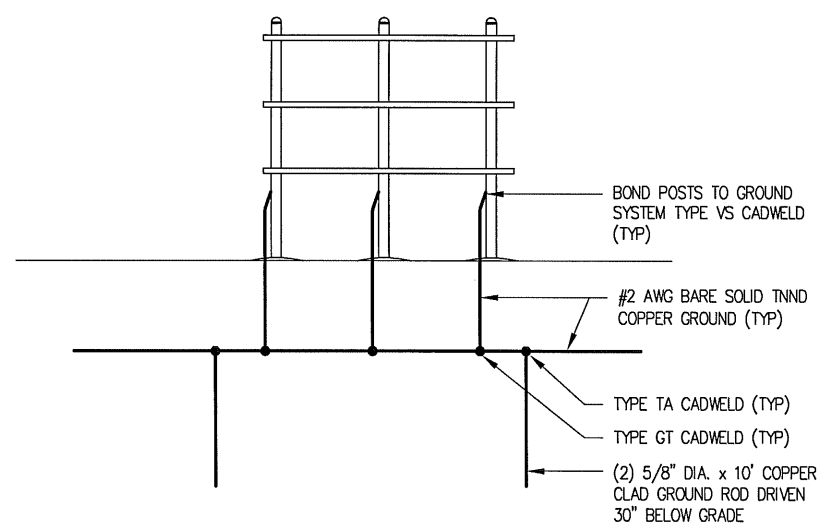
**6** Fence and Gate Grounding

NO SCALE



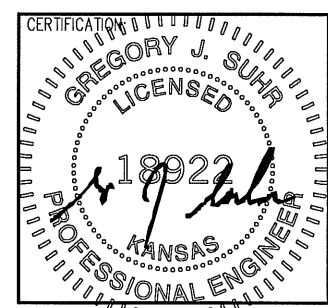
**5** Tower Ground Bar (TGB)

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



**4** H-Frame Grounding Detail

SCALE: 3/16" = 1'-0"



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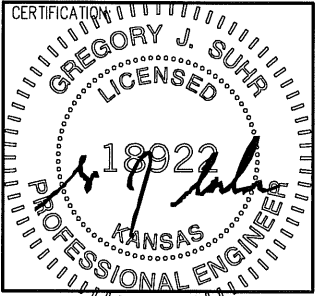
SHEET TITLE:

**GROUNDING DETAILS**

A&E PROJECT NO.:

001-1507

SHEET NO.:



RELEASE	
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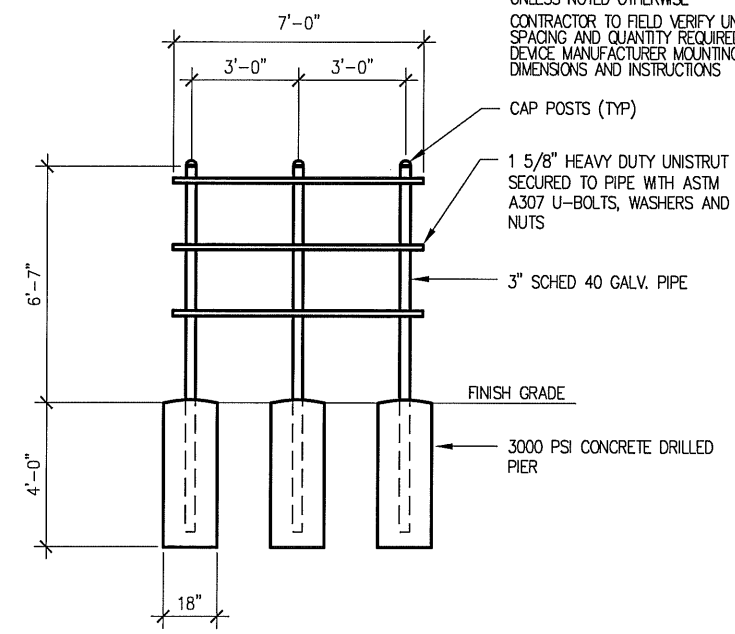
**H-FRAME DETAILS**

A&E PROJECT NO.: \_\_\_\_\_

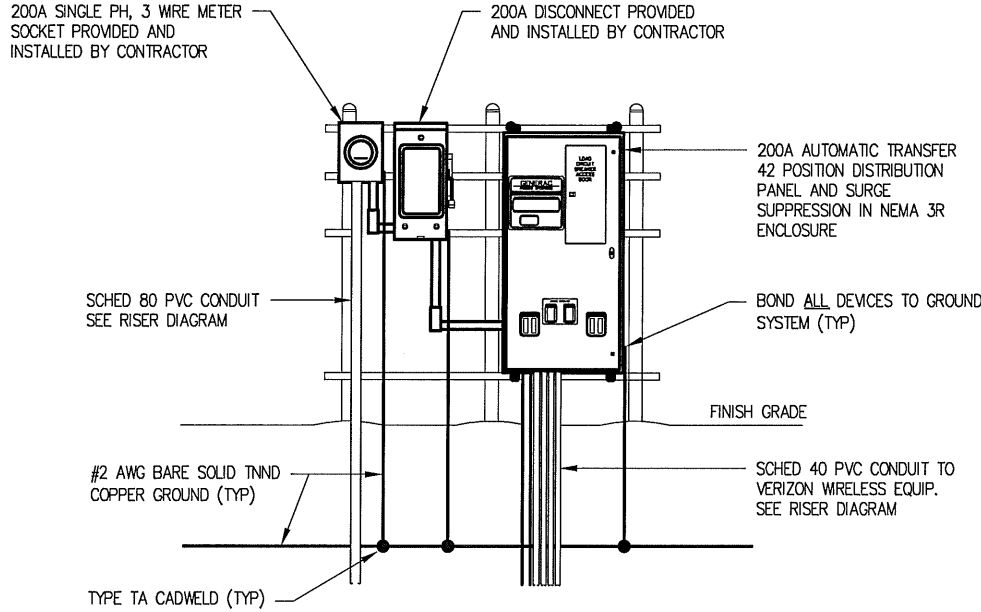
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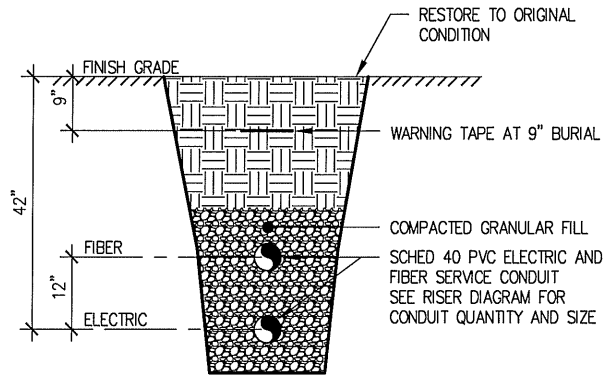
**NOTES:**  
ALL MATERIAL TO BE GALVANIZED UNLESS NOTED OTHERWISE  
CONTRACTOR TO FIELD VERIFY UNISTRUT SPACING AND QUANTITY REQUIRED WITH DEVICE MANUFACTURER MOUNTING DIMENSIONS AND INSTRUCTIONS



**1 Utility H-Frame Unistrut**  
SCALE: 3/16" = 1'-0"



**2 Utility H-Frame - Electrical**  
SCALE: 3/16" = 1'-0"



**3 Buried Utility**  
SCALE: 3/8" = 1'-0"