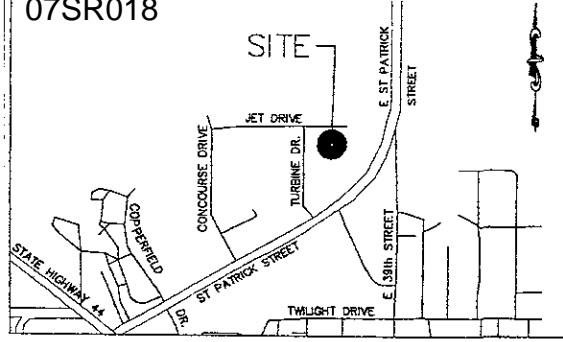


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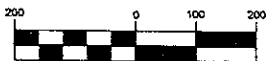
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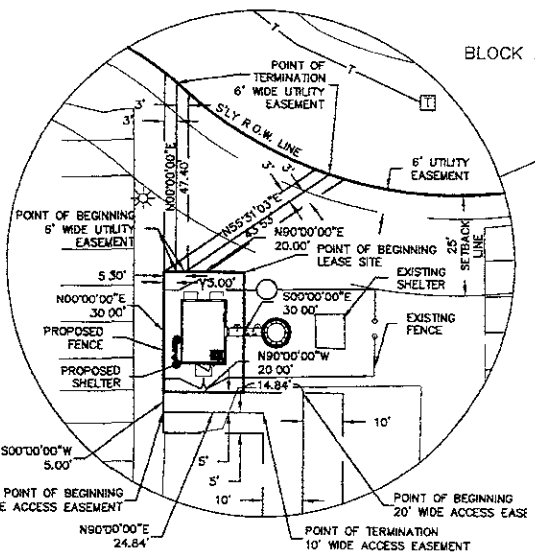
VICINITY MAP

NO SCALE

GRAPHIC SCALE



1 inch = 200 ft. (11 x 17)
1 inch = 100 ft. (24 x 36)



LEASE SITE DETAIL

1 inch = 30ft.

LEGEND

- (M) MEASURED DISTANCE
- (P) PLATTED DISTANCE
- (R) RECORDED DISTANCE
- FOUND CORNER
- SET CORNER
- PROPERTY LINE
- - - CENTERLINE
- ⊕ BENCH MARK
- ⊕ SECTION CORNER
- FENCE - WOOD
- ⊕ ELECTRIC BOX
- ⊕ TELEPHONE BOX
- ⊕ POWER POLE
- ⊕ LIGHT POST
- ⊕ HYDRANT
- ⊕ SIGN
- ⊕ TREE - DECIDUOUS
- FENCE - CHAIN LINK

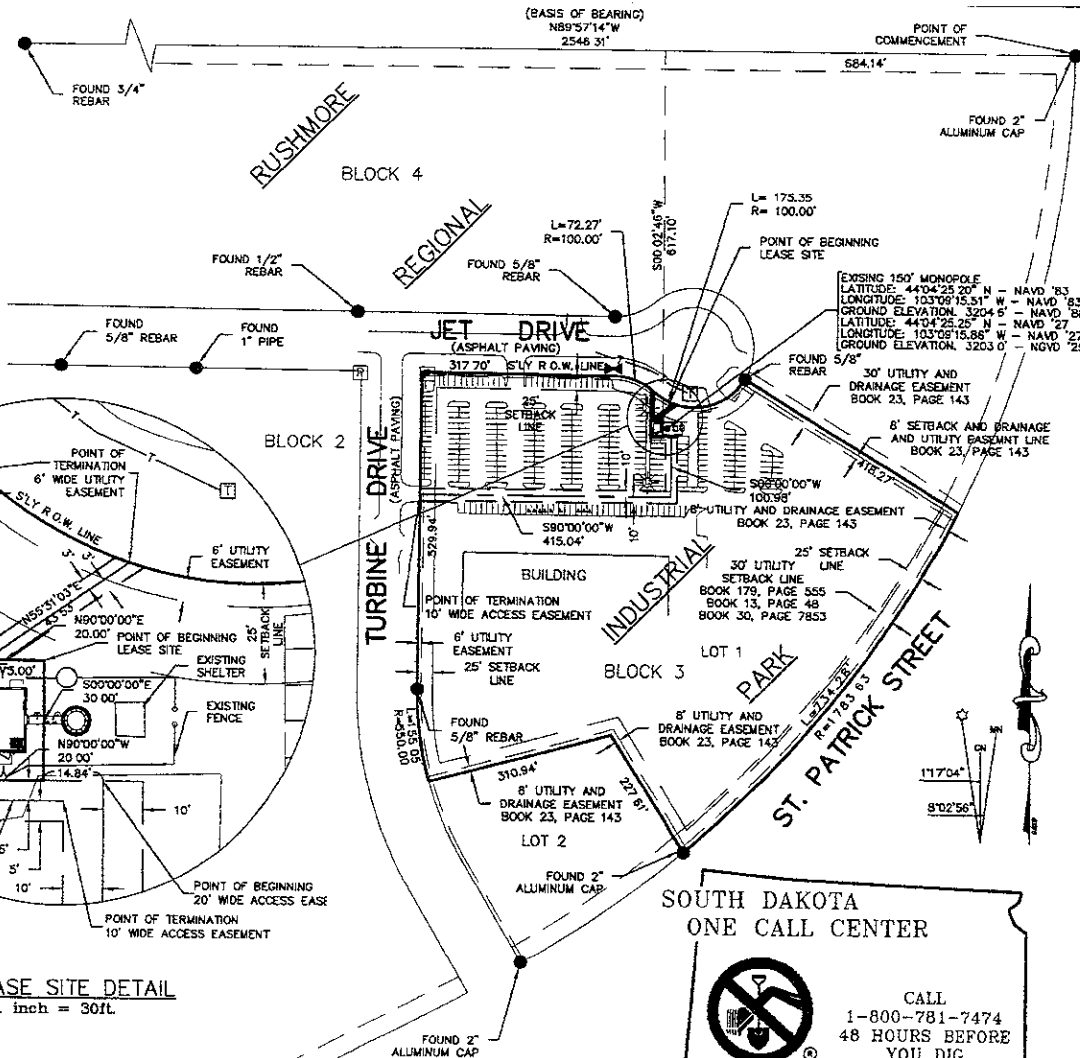
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MAR 07 2007

UTILITY NOTICE

THE UTILITIES AS SHOWN ON THIS DRAWING WERE DEVELOPED FROM THE INFORMATION AVAILABLE THIS IS NOT IMPLIED NOR INTENDED TO BE THE COMPLETE INVENTORY OF UTILITIES IN THIS AREA. IT IS THE CLIENTS/CONTRACTORS RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE.

(BASIS OF BEARING)
N89°57'14"W
2548.31'



SOUTH DAKOTA ONE CALL CENTER



CALL
1-800-781-7474
48 HOURS BEFORE
YOU DIG

ASSOCIATED ENG. & SURVEYING
3900 S 6TH STREET SUITE 10
LINCOLN, NE 68502
PHONE (402)441-5790
FAX (402)289-5045
AEAS PROJECT #1607



SIGNED: 07/31/2007

APPLICANT/OWNER
alltel
COMMUNICATIONS, INC.
18300 EAST 71ST AVENUE
SUITE 120
DENVER, CO 80249-7370

DRAWN BY: CHK BY: APV BY:
BH/KH NK/DHF TM

APPROVALS
ALLTEL PROJECT ENGINEER
ALLTEL PROPERTY SPECIALIST
OWNER

ALLTEL SITE NAME

SDRC HIGHWAY 44

ALLTEL SITE NUMBER

SUBMITTALS

REV	DATE	DESCRIPTION
0	01/05/07	FINAL
0	11/20/06	REVISE EASMENT
0	09/29/06	ZONING

DRAWING TITLE

SITE SURVEY

DRAWING NUMBER

SS-1 OF 2

PROJECT NUMBER

EASEMENTS, CONVENANTS, CONDITIONS AND RESTRICTIONS

TITLE COMMITMENT PROVIDED BY STEWART TITLE GUARANTY COMPANY ORDER NUMBER. 48285, DATED 08/25/2006. SCHEDULE B - SECTION 2 - SPECIAL EXCEPTIONS

- ITEMS 1 THROUGH 2 - N/A
- ITEM 3 SHOWN ON DRAWING SS-1
- ITEM 4 SHOWN ON DRAWING SS-1
- ITEM 5 BLANKET IN NATURE AND NOT SHOWN ON DRAWINGS
- ITEM 6 BLANKET IN NATURE AND NOT SHOWN ON DRAWINGS
- ITEM 7 SHOWN ON DRAWING SS-1
- ITEM 8 SHOWN ON DRAWING SS-1
- ITEM 9 BLANKET IN NATURE AND NOT SHOWN ON DRAWINGS
- ITEM 10. BLANKET IN NATURE AND NOT SHOWN ON DRAWINGS.

PARENT PARCEL DESCRIPTION

LOT 1 OF BLOCK 3 OF RUSHMORE REGIONAL INDUSTRIAL PARK LOCATED IN THE E1/2 OF SECTION 4, T1N, R8E, B1M, IN THE CITY OF RAPID CITY, PENNINGTON COUNTY, SOUTH DAKOTA.

LEASE SITE DESCRIPTION

PART OF LOT 1 OF BLOCK 3 OF RUSHMORE REGIONAL INDUSTRIAL PARK LOCATED IN THE E1/2 OF SECTION 4, T1N, R8E, B1M, IN THE CITY OF RAPID CITY, PENNINGTON COUNTY, SOUTH DAKOTA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS

COMMENCING AT A 2 INCH ALUMINUM CAP FOUND AT THE NORTHEAST CORNER OF BLOCK 4 OF RUSHMORE REGIONAL INDUSTRIAL PARK; THENCE N89°57'14"W ALONG THE NORTH LINE OF SAID BLOCK 4 A DISTANCE OF 684.14 FEET THENCE S00°00'00"E A DISTANCE OF 617.10 FEET TO THE POINT OF BEGINNING; THENCE S00°00'00"E, A DISTANCE OF 30.00 FEET; THENCE N90°00'00"W, A DISTANCE OF 20.00 FEET; THENCE N00°00'00"E, A DISTANCE OF 30.00 FEET; THENCE N90°00'00"W, A DISTANCE OF 20.00 FEET TO THE POINT OF BEGINNING, CONTAINING 600 SQUARE FEET, MORE OR LESS

20 FOOT WIDE ACCESS EASEMENT DESCRIPTION

AN ACCESS EASEMENT 20 FEET IN WIDTH LOCATED IN LOT 1 OF BLOCK 3 OF RUSHMORE REGIONAL INDUSTRIAL PARK LOCATED IN THE E1/2 OF SECTION 4, T1N, R8E, B1M, IN THE CITY OF RAPID CITY, PENNINGTON COUNTY, SOUTH DAKOTA, CENTERLINE BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS

COMMENCING AT THE SOUTHEAST CORNER OF SAID LEASE SITE, THENCE N90°00'00"E, A DISTANCE OF 14.84 FEET TO THE POINT OF BEGINNING; THENCE S00°00'00"W, A DISTANCE OF 100.98 FEET; THENCE S90°00'00"W, A DISTANCE OF 415.04 FEET TO THE POINT OF TERMINATION.

10 FOOT WIDE ACCESS EASEMENT DESCRIPTION

AN ACCESS EASEMENT 10 FEET IN WIDTH LOCATED IN LOT 1 OF BLOCK 3 OF RUSHMORE REGIONAL INDUSTRIAL PARK LOCATED IN THE E1/2 OF SECTION 4, T1N, R8E, B1M, IN THE CITY OF RAPID CITY, PENNINGTON COUNTY, SOUTH DAKOTA, CENTERLINE BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS

COMMENCING AT THE SOUTHWEST CORNER OF SAID LEASE SITE, THENCE S00°00'00"W, A DISTANCE OF 5.00 FEET TO THE POINT OF BEGINNING; THENCE N90°00'00"E, A DISTANCE OF 24.84 FEET TO THE POINT OF TERMINATION

6 FOOT WIDE UTILITY EASEMENT DESCRIPTION

A UTILITY EASEMENT 6 FEET IN WIDTH LOCATED IN LOT 1 OF BLOCK 3 OF RUSHMORE REGIONAL INDUSTRIAL PARK LOCATED IN THE E1/2 OF SECTION 4, T1N, R8E, B1M, IN THE CITY OF RAPID CITY, PENNINGTON COUNTY, SOUTH DAKOTA, CENTERLINE BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS

COMMENCING AT THE NORTHWEST CORNER OF SAID LEASE SITE, THENCE N90°00'00"E, A DISTANCE OF 3.00 FEET TO THE POINT OF BEGINNING; THENCE N00°00'00"E, A DISTANCE OF 47.40 FEET TO A POINT ON THE SOUTHERLY RIGHT OF WAY LINE OF JET DRIVE FOR THE POINT OF TERMINATION.

ALSO COMMENCING AT THE NORTHWEST CORNER OF SAID LEASE SITE, THENCE N90°00'00"E, A DISTANCE OF 5.30 FEET TO THE POINT OF BEGINNING; THENCE N55°11'03"E, A DISTANCE OF 43.53 FEET TO A POINT ON THE SOUTHERLY RIGHT OF WAY LINE OF JET DRIVE AND THE POINT OF TERMINATION.

SURVEY NOTES

- SITE BEHOLD MARK: TOP OF CONCRETE BASE OF THE TOWER. ELEVATION 3203.5 FEET - NAVD '88.
- DATUM BENCH MARK BRASS CAP IN CONCRETE MONUMENT, NORTH SIDE OF SAINT PATRICK STREET, APPROXIMATELY 2860 FEET SOUTHWEST OF CELLULAR TOWER. ELEVATION: 3171.10 FEET - NAVD '88
- BASES OF BEARINGS BEING N89°57'14"W BETWEEN A 2 INCH ALUMINUM CAP FOUND AT THE NORTHEAST CORNER OF BLOCK 4 OF RUSHMORE REGIONAL INDUSTRIAL PARK AND A 3/4 INCH REBAR FOUND AT THE NORTHWEST CORNER OF BLOCK 1 OF SAID RUSHMORE REGIONAL INDUSTRIAL PARK.
- ALL BEARINGS SHOWN ARE GRID BEARINGS BASED ON 1983 SOUTH DAKOTA STATE PLANE COORDINATES, SOUTH ZONE, US FOOT.
- ALL HORIZONTAL DATUM IS IN NAD '83, ALL VERTICAL DATUM IS IN NAVD '88
- SUBJECT PROPERTY IS PRESENTLY FALLS IN THE CONFINES OF A ZONE "X", AS DETERMINED BY THE FEMA FLOOD RATE MAP 465420 0009 G, CITY OF RAPID CITY, PENNINGTON COUNTY, SOUTH DAKOTA, EFFECTIVE 02/16/1998

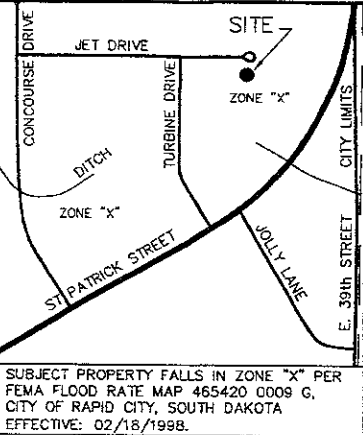
DEFINITION OF ZONE "X" PER FEMA:
 ZONES "B", "C", AND "X" ARE THE FLOOD INSURANCE RATE ZONES THAT CORRESPOND TO AREAS OUTSIDE THE 1-PERCENT ANNUAL CHANCE FLOODPLAIN, AREAS OF 1-PERCENT ANNUAL CHANCE SHEET FLOOD FLOODING WHERE AVERAGE DEPTHS ARE LESS THAN 1 FOOT, AREAS OF 1-PERCENT ANNUAL CHANCE STREAM FLOODING WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 1 SQUARE MILE, OR AREAS PROTECTED FROM THE 1-PERCENT ANNUAL CHANCE FLOOD BY LEVEES, NO BASE FLOOD ELEVATIONS OR DEPTHS ARE SHOWN WITHIN THIS ZONE. INSURANCE PURCHASE IS NOT REQUIRED IN THESE ZONES

UTILITY NOTICE

THE UTILITIES AS SHOWN ON THIS DRAWING WERE DEVELOPED FROM THE RECORD DRAWINGS OF THE CITY OF RAPID CITY. THIS IS NOT INTENDED TO BE THE COMPLETE INVENTORY OF UTILITIES IN THIS AREA. IT IS THE CLIENTS/CONTRACTORS RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE.

ZONING

INDUSTRIAL TRACTS FRONT 25' REAR 8'



FLOOD MAP DETAIL

NOT TO SCALE (SEE SURVEY NOTE 5)

SOUTH DAKOTA ONE CALL CENTER

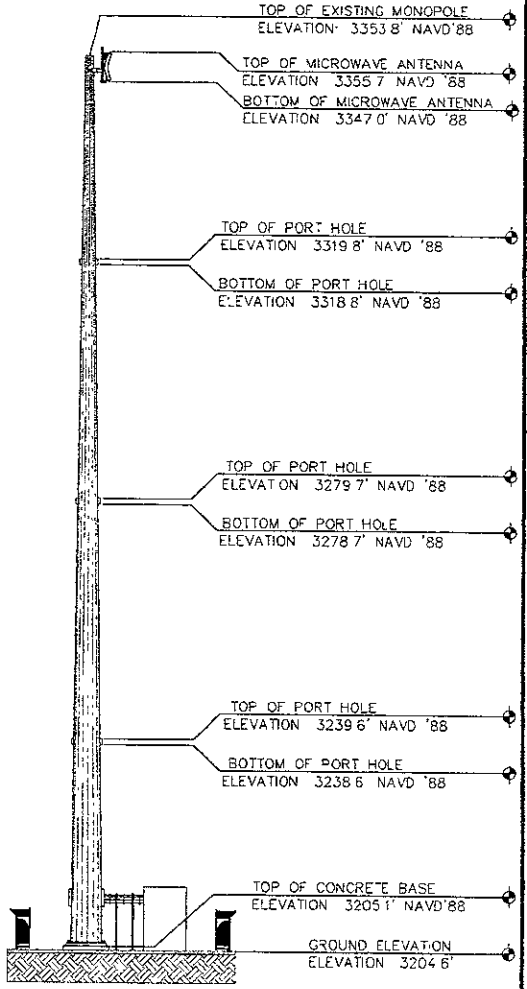
CALL 1-800-781-7474 48 HOURS BEFORE YOU DIG



SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THIS LAND SURVEYING DOCUMENT WAS REVIEWED BY ME AND THAT I AM A DULY LICENSED LAND SURVEYOR UNDER THE LAWS OF THE STATE OF SOUTH DAKOTA. THIS SEAL AND SIGNATURE COVERS SHEETS SS-1 OF 2 AND SS-2 OF 2

Bryan Wiegert 01/05/2007
 BRYAN WIEGERT LICENSE #6849 DATE



TOWER PROFILE

NOT TO SCALE

PRE-CONSTRUCTION ONLY

THIS DRAWING IS FOR SURVEY PURPOSES ONLY AND IS NOT INTENDED AS A CONSTRUCTION DOCUMENT.

ASSOCIATED ENG. & SURVEYING
 3900 S 6TH STREET SUITE 10
 LINCOLN, NE 68502
 PHONE: (402)441-5750
 FAX (402)289-5045
 AEGS PROJECT #1607



SIGNED: 07/31/2007
 EXP. 07/31/2007

elltel COMMUNICATIONS, INC.
 1440 M STREET
 3RD FLOOR
 LINCOLN, NE - 68508

DRAWN BY CHK BY APV BY
 JSG BKW TW

APPROVALS

ALLTEL PROJECT ENGINEER

ALLTEL PROPERTY SPECIALIST

OWNER

ALLTEL SITE NAME
SDRC HIGHWAY 44

ALLTEL SITE NUMBER

SUBMITTALS

REV	DATE	DESCRIPTION
0	01/05/07	REVISION
0	11/20/06	FINAL EASMENT
0	09/29/06	ZONING

DRAWING TITLE

SITE SURVEY

DRAWING NUMBER

SS-2 OF 2

PROJECT NUMBER

MAR 07 2007

MATERIAL INDEX

MATERIAL	SUPPLIED BY:	INSTALLED BY:
SHELTER	ALLTEL COMMUNICATIONS, INC	CONTRACTOR
MINI PPC CABINETS	ALLTEL COMMUNICATIONS, INC.	CONTRACTOR
ANTENNAS	ALLTEL COMMUNICATIONS, INC	CONTRACTOR
ANTENNA MOUNTING BRACKETS	ALLTEL COMMUNICATIONS, INC	CONTRACTOR
ANTENNA SECTOR MOUNTS	ALLTEL COMMUNICATIONS, INC	CONTRACTOR
GPS ANTENNA	ALLTEL COMMUNICATIONS, INC.	CONTRACTOR
COAX	ALLTEL COMMUNICATIONS, INC.	CONTRACTOR
COAX ICE BRIDGE	ALLTEL COMMUNICATIONS, INC.	CONTRACTOR
JUMPERS AND CONNECTORS	ALLTEL COMMUNICATIONS, INC	CONTRACTOR
FENCE, GATE AND LATCH	CONTRACTOR	CONTRACTOR
GROUNDING, ELECTRICAL & TELCO CONDUIT/WIRING	CONTRACTOR	CONTRACTOR
CONCRETE, WIRE MESH AND REBAR	CONTRACTOR	CONTRACTOR
ANCILLARY COAX CONNECTORS	CONTRACTOR	CONTRACTOR
CRUSHED ROCK	CONTRACTOR	CONTRACTOR



COMMUNICATIONS, INC.

ALLTEL SITE NUMBER:
ALLTEL SITE NAME: SDRC HIGHWAY 44
ADDRESS (NON E911): 1400 TURBINE DRIVE
 RAPID CITY, SD 57703
LATITUDE: 44°04'25.20" N (NAD 83)
LONGITUDE: 103°09'15.51" W (NAD 83)
ELEVATION: 3203.0' (NAVD 88)
STRUCTURE: EXISTING 155'-0" MONOPOLE

PROJECT CONTACTS

APPLICANT/ SITE ACQUISITION:	ALLTEL COMMUNICATIONS 1620 M STREET LINCOLN, NE 68508 CONTACT: BETHANY WILSON PHONE: (402) 827-6112
PROPERTY OWNER:	CONSEGO FINANCE SERVICES CORP 1400 TURBINE DRIVE RAPID CITY, SD 57703 CONTACT: DAVID BERTOCCHI TITLE: GENERAL MANAGER PHONE (605) 355-7030
ENGINEERING CONSULTANT:	ASSOCIATED ENGINEERING, INC. 157 NORTH MAIN STREET ELKHORN, NE 68022 CONTACT: TOM MEDHI PHONE: (402) 289-5040 FAX: (402) 289-5045
SURVEYOR:	ASSOCIATED ENGINEERING & SURVEYING 3900 SOUTH 6TH STREET, SUITE 10 LINCOLN, NE 68502 PHONE (402) 441-5790 FAX: (402) 289-5045
PROJECT ENGINEER	ALLTEL COMMUNICATIONS 18300 EAST 71ST AVE., SUITE # 120 DENVER, CO 80249 CONTACT: MICHAEL FRISHMAN PHONE: (303) 373-3402 CELL: (719) 589-4711
RF ENGINEER	ALLTEL COMMUNICATIONS 3650 131ST AVENUE SE #400 BELLLEVUE, WA 98006 CONTACT: HOWARD BLAIR PHONE: (425) 586-8707
ZONING JURISDICTION:	PENNINGTON COUNTY 315 ST. JOSEPH STREET RAPID CITY, SD 57701 CONTACT: DAN JENNISSON TITLE: PLANNING DIRECTOR PHONE: (605) 394-2186
ELECTRIC COMPANY:	BLACK HILLS ELECTRIC BOX 792 CUSTER, SD 57730-0792 CONTACT: BOBBI PHONE: (605) 393-1500
TELEPHONE COMPANY:	PRAIRIE WAVE COMMUNICATIONS 5100 SOUTH BROADBAND LANE SIOUX FALLS, SD 57108 PHONE: (605) 721-2000

ASSOCIATED ENGINEERING, INC.
 157 NORTH MAIN ST.
 ELKHORN, NE 68022
 PH: (402) 289-5040
 FAX: (402) 289-5045
 AEPIC PROJECT #1607

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

Tom Medhi 01/05/07
 Date
 MY LICENSE NUMBER, DATE IS DEC. 31, 2008



APPLICANT/OWNER:

Alltel COMMUNICATIONS, INC.
 18300 EAST 71ST AVENUE
 SUITE 120
 DENVER, CO 80249-7370

DRAWN BY: CHK BY: APV BY:

NK/DHF	NK	TH
--------	----	----

APPROVALS:

ALLTEL PROJECT ENGINEER
ALLTEL PROPERTY SPECIALIST
OWNER

ALLTEL SITE NAME:
SDRC HWY 44

ALLTEL SITE NUMBER

SUBMITTALS

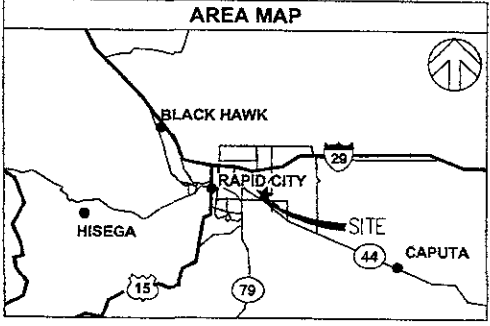
REV	DATE	DESCRIPTION
0	01/05/07	100% CONST. DWGS
0	11/20/06	90% CONST. DWGS

DRAWING TITLE:
TITLE SHEET

DRAWING NUMBER:
T-1

PROJECT NUMBER:

VICINITY MAP



DRIVING DIRECTIONS

- START: SIOUX FALLS REGIONAL AIRPORT
- STARTING ON JAYVEE LANE SOUTH, TURN LEFT (NORTH) ONTO SR-115/N MINNESOTA AVENUE.
 - KEEP STRAIGHT ONTO NORTH MINNESOTA AVENUE 1.0 MILE.
 - TURN LEFT (WEST) ONTO WEST 60TH STREET NORTH.
 - TAKE RAMP (RIGHT) ONTO 1-29.
 - AT EXIT 84B, TAKE RAMP (RIGHT) ONTO I-90 FOR ABOUT 3.54 MILES.
 - AT EXIT 81, TURN RIGHT ONTO RAMP.
 - BEAR LEFT (SOUTH) ONTO ELK CREEK ROAD.
 - ROAD NAME CHANGES TO ST. PATRICK STREET
 - TURN RIGHT (NORTH-WEST) ONTO TURBINE DRIVE
 - TURN RIGHT (EAST) ONTO JET DRIVE.
- END: SITE IS LOCATED 50 YARDS SOUTH OF JET DRIVE.

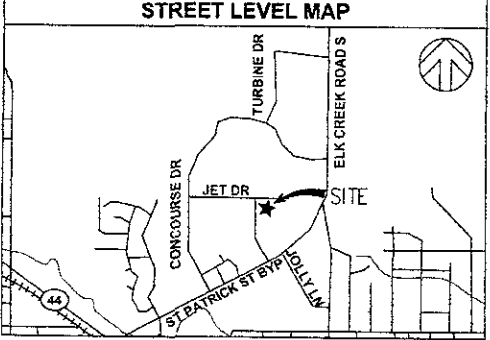
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 DOCUMENTS PRINTED IN 11X17 SIZE SHEET ARE REDUCED TO HALF THE ORIGINAL SCALE

SOUTH DAKOTA ONE CALL CENTER

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SHEET INDEX

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SS-1	SITE SURVEY 1 OF 2
SS-2	SITE SURVEY 2 OF 2
GN-1	GENERAL NOTES
C-1	SITE PLAN
C-2	ENLARGED SITE PLAN
C-3	ELEVATION VIEWS
C-4	ANTENNA SCHEDULE AND DETAILS
C-5	FENCE AND SITE DETAILS
E-1	UTILITY PLAN
E-2	UTILITY DETAILS
E-3	UTILITY DETAILS
E-4	UTILITY DETAILS
G-1	GROUNDING PLAN AND NOTES
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS
G-4	GROUNDING DETAILS
G-5	GROUNDING DETAILS
G-6	GROUNDING DETAILS
G-7	GROUNDING DETAILS
STD-1	ALLTEL STANDARD DETAILS
STD-2	ALLTEL STANDARD DETAILS
STD-3	ALLTEL STANDARD DETAILS
S-1	FOUNDATION PLAN AND DETAILS
S-2	WAVEGUIDE BRIDGE DETAILS
SP-1	STRUCTURAL SPECIFICATIONS



RECEIVED

MAR 07 2007

GENERAL NOTES:

- THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.
- ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND STIPULATED IN THE DESIGN AND CONSTRUCTION SPECIFICATIONS.
- IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE EQUIPMENT AND TOWER AREAS.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.
- THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE BUILDING OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, FERTILIZED, SEEDED, AND COVERED WITH MULCH AS SPECIFIED IN THE SPECIFICATION FOR LANDSCAPE WORK.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- EXCAVATE MINIMUM NECESSARY TO GRUB SITE.
- USE APPROVED MATERIAL FROM FOUNDATION EXCAVATION TO FILL AND GRADE SITE WITH CROWN AS INDICATED; COMPACT TO 90% OR, ENGINEERED FILL.
- WHERE NECESSARY DUE TO SOIL SITE CONDITIONS; REMOVE UNSUITABLE MATERIAL AND REPLACE WITH 4"-6" OF 1/2" CRUSHED ROCK COMPACTED TO 90% OR ENGINEERED FILL. REVIEW WITH PROJECT MANAGER PRIOR TO PROCEEDING.
- GRADE AROUND SHELTER AS REQUIRED, SLOPE TO ALL EDGES OF SITE PERIMETER AT 2.5% MINIMUM.
- FINISH SITE AROUND PERIMETER OF STRUCTURE WITH 4" OF 3/8" X 3/8" CLEAN, CRUSHED ROCK WITH NO FINES, APPLY OVER GRADED, COMPACTED SOIL.

ABBREVIATIONS

(E)	EXISTING	ISCW	INSULATED STRANDED COPPER WIRE
(M)	MEASURED DISTANCE	LG	LONG
(P)	PLAT DISTANCE	MAX	MAXIMUM
(D)	DEED DISTANCE	MECH	MECHANICAL
(R)	RECORDED DISTANCE	MFR	MANUFACTURE
ADJ	ADJUSTABLE	MGB	MASTER GROUND BAR
AIC	AMPS INTERRUPTING CAPACITY	MIN	MINIMUM
APPROX	APPROXIMATE	MTL	METAL
AWG	AMERICAN WIRE GAUGE	NIC	NOT IN CONTRACT
BCW	BARE COPPER WIRE	NO	NUMBER
BSCW	BARE STRANDED COPPER WIRE	NTS	NOT TO SCALE
BTS	BASE TRANSMISSION SYSTEM	OC	ON CENTER
C	CONDUIT	O/H	OVERHEAD
CAB	CABINET	OPP	OPPOSITE
CJ	CONSTRUCTION JOINT	PCS	PERSONAL COMMUNICATION SYSTEM
CLG	CEILING	PPC	POWER PROTECTION CABINET
CLR	CLEARANCE	RSS	RIGID GALVANIZED STEEL
CONC	CONCRETE	SF	SQUARE FOOT
CONT	CONTINUOUS	SHT	SHEET
DIA	DIAMETER	SIM	SIMILAR
DISC	DISCONNECT SWITCH	SS	STAINLESS STEEL
DWG	DRAWING	STL	STEEL
EA	EACH	TOC	TOP OF CONCRETE
EGB	EQUIPMENT GROUND BAR	TOM	TOP OF MASONRY
EL	ELEVATION	TYP	TYPICAL
ELEC	ELECTRICAL	VF	VERIFY IN FIELD
EMT	ELECTRICAL METALLIC TUBING	UON	UNLESS OTHERWISE NOTED
EQ	EQUAL	WWF	WELDED WIRE FABRIC
EQUIP	EQUIPMENT	w/	WITH
EXT	EXTERIOR		
FF	FINISHED FLOOR		
GC	GENERAL CONTRACTOR		
GALV	GALVANIZED		
GEN	GENERATOR		
GND	GROUND		
GPS	GLOBAL POSITIONING SYSTEM		

CODES AND STANDARDS

ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
UBC	UNIFORM BUILDING CODE
UL	UNDERWRITERS LABORATORIES, INC

SYMBOLS AND MATERIALS

●	FOUND CORNER
○	SET CORNER
—○—	PROPOSED CHAIN LINK FENCE
—x—	EXISTING FENCE
— —	CENTER LINE
—→	GUY WIRE
-ORD	LIGHT POLE
□	POWER BOX
⚡	POWER POLE
—OP—	OVERHEAD POWER
☎	TELEPHONE BOX
☎	TELE. FIBER OPTICS BOX
☼	EXISTING LANDSCAPING
—UE—	UTILITY ELECTRIC
—UT—	UTILITY TELCO
—	PROPERTY LINE
- - -	LEASE AREA
~1200~	CONTOUR LINES

ASSOCIATED ENGINEERING, INC
 157 NORTH MAIN ST
 ELKHORN NE 68022
 PH: (402) 289-5040
 FAX: (402) 289-5045
 AEPG PROJECT #1607

I HEREBY CERTIFY THAT THE ENGINEERING DOCUMENT HAS BEEN PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF SOUTH DAKOTA.

Tom Medhi 01/05/07
 Tom Medhi Date
 MY LICENSE RENEWAL DATE IS DEC. 31, 2008



APPLICANT/OWNER

elltel
COMMUNICATIONS, INC.
 18300 EAST 71ST AVENUE
 SUITE 120
 DENVER, CO 80249-7370

DRAWN BY: CHK BY: APV BY:

NK/CHF NK TM

APPROVALS:

ALLTEL PROJECT ENGINEER

ALLTEL PROPERTY SPECIALIST

OWNER

ALLTEL SITE NAME:

SDRC HWY 44

ALLTEL SITE NUMBER:

SUBMITTALS

REV	DATE	DESCRIPTION
0	01/05/07	100% CONST. DWGS.
0	11/20/08	90% CONST. DWGS.

DRAWING TITLE:

GENERAL NOTES

DRAWING NUMBER:

GN-1

PROJECT NUMBER:

ANTENNA #	ANTENNA SECTOR	ANTENNA MODEL	ANTENNA VENDOR	AZIMUTH		DOWNTILT		ANTENNA TYPE	MOUNT HEIGHT	MOUNT AZIMUTH	RAD CENTER	COAX		COLOR CODE	BRASS TAG INFO
				TRUE NORTH	MAGNETIC NORTH	ELEC.	MECH.					TYPE	DIAMETER		
1	1	BXA-80063/B-5 FP	ANTEL	0°	351°	5°	0°	PANEL	1.36±	0°	136±	1 1/4"ø	ANDREW HELIAX LDF6-50A	RED	1, TX/RX, CDMA 800, 136, 0°
												1 1/4"ø	ANDREW HELIAX LDF6-50A	RED-RED	1, RX, CDMA 800, 136, 0°
2	2	BXA-80063/B-5 FP	ANTEL	120°	111°	5°	4°	PANEL	1.36±	120°	136±	1 1/4"ø	ANDREW HELIAX LDF6-50A	WHITE	2, TX/RX, CDMA 800, 136, 120°
												1 1/4"ø	ANDREW HELIAX LDF6-50A	WHITE-WHITE	2, RX, CDMA 800, 136, 120°
3	3	BXA-80063/B-5 FP	ANTEL	240°	231°	5°	0°	PANEL	1.36±	240°	136±	1 1/4"ø	ANDREW HELIAX LDF6-50A	BLUE	3, TX/RX, CDMA 800, 136, 240°
												1 1/4"ø	ANDREW HELIAX LDF6-50A	BLUE-BLUE	3, RX, CDMA 800, 136, 240°

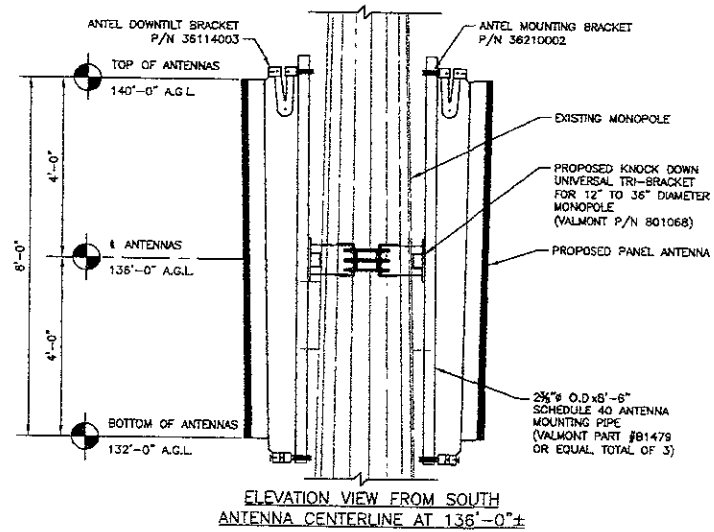
1 ANTENNA SCHEDULE

NOTE:
ANTENNA SCHEDULE INFORMATION IS FROM RF DOCUMENT DATED 11/22/2006

ANTENNA NOTES

1. VERIFY AZIMUTH, TYPE & QUANTITY OF EACH ANTENNA PER RF DESIGN
2. FIELD VERIFY EXACT LOCATION OF (1) G.P.S. ANTENNA
3. SECTOR IDENTIFICATION - NORMALLY A SITE WILL HAVE UP TO THREE SECTORS, NUMBERING EACH IN A CLOCKWISE MANNER SHALL DESIGNATE SECTORS, THE FIRST SECTOR IS THE ONE CLOSEST TO ZERO DEGREES (NORTH) THE SECOND AND THIRD FOLLOW CLOCKWISE IN SEQUENCE.
4. SECTOR COLOR CODE IDENTIFICATION:
SECTOR #1 (ALPHA) RED
SECTOR #2 (BETA) BLUE
SECTOR #3 (GAMMA) WHITE
5. OMNI IDENTIFICATION - IDENTIFY THE OMNI ANTENNA LOCATION RELATIVE TO THE CARDINAL DIRECTIONS.
6. COLOR CODE LOCATIONS, COLOR CODES UTILIZING COLORED ELECTRICAL TAPE TO FORM BANDS ON THE COAX SHALL BE LOCATED AT THE FOLLOWING LOCATIONS USING 1" WIDE WEATHERPROOF COLORED VINYL TAPE, AS FOLLOWS.
A. ON THE COAX AT THE CONNECTOR NEAREST THE ANTENNA (WHERE THE COAX AND JUMPER ARE CONNECTED).
B. ON THE COAX OUTSIDE THE COAX PORT AT THE BASE OF THE TOWER
C. ON THE COAX JUST INSIDE THE COAX PORT AND BEFORE THE JUMPER TO THE EQUIPMENT
D. ON THE END OF THE JUMPER NEAREST THE COAX PORT
E. ON THE JUMPER AT A POINT OUTSIDE JUST THE EQUIPMENT CABINET AND PRIOR TO MGB.

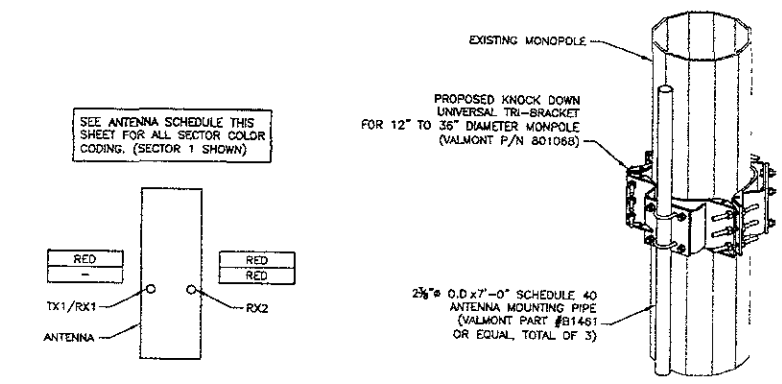
1. CONTRACTOR TO PROVIDE COMPLETE SHDP DRAWINGS FOR REVIEW PRIOR TO FABRICATION
2. CONTRACTOR TO NOTIFY PROJECT MANAGER OF ANY DISCREPANCIES WITH THE PROPOSED LAYOUT PRIOR TO PROCEEDING.
3. ALL PIPES, BRACKETS, PLATES AND MISC. HARDWARE TO BE GALVANIZED UNLESS OTHERWISE NOTED
4. ALL ANTENNA AND COAXIAL ANTENNA CABLE TO BE FURNISHED BY LESSEE/OPERATOR AND INSTALLED BY CONTRACTOR.
5. ALL HARDWARE AND CONNECTORS TO BE GALVANIZED UNLESS OTHERWISE NOTED.
6. ANTENNA MOUNT DETAILS SHOWN IN THIS DRAWING SET ARE FOR INFORMATION AND LAYOUT ONLY DESIGN AND ANALYSIS BY OTHERS



ELEVATION VIEW FROM SOUTH
ANTENNA CENTERLINE AT 136°-0'±

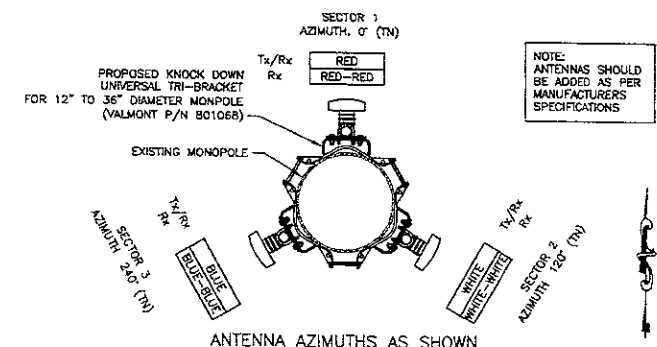
2 ANTENNA NOTES

SCALE: NTS



4 FLUSH MOUNT DETAIL

SCALE: NTS



5 ANTENNA MOUNT DETAIL

SCALE: NTS

3 DUAL POLE ANTENNA COAX CONNECTION

SCALE: NTS

ASSOCIATED ENGINEERING, INC
157 NORTH MAIN ST
ELKHORN, NE 68022
PH: (402) 288-5040
FAX: (402) 288-5045
AEPIC PROJECT #1607

I HEREBY CERTIFY THAT THE ENGINEERING DOCUMENTS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF NEBRASKA.
Tom Medhi Date: 01/05/07
MY LICENSE EXPIRES DATE IS DEC. 31, 2008

REGISTERED PROFESSIONAL ENGINEER
NEB. NO. 8498
TOM MEDHI
SOUTH DAKOTA

APPLICANT/OWNER:
alltel COMMUNICATIONS, INC.
18300 EAST 71ST AVENUE
SUITE 102
DENVER, CO 80248-7370

DRAWN BY: CHIK BY: APV
NK/DHF NK TM

APPROVALS:
ALLTEL PROJECT ENGINEER
ALLTEL PROPERTY SPECIALIST
OWNER

ALLTEL SITE NAME:
SDRC HWY 44

ALLTEL SITE NUMBER

SUBMITTALS:

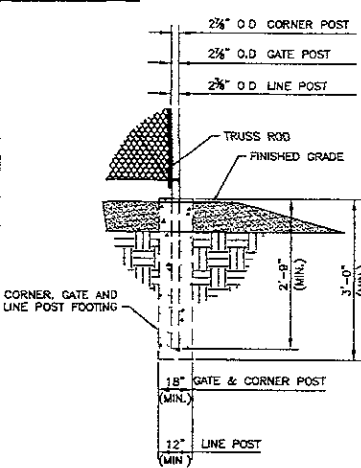
REV	DATE	DESCRIPTION
0	01/05/07	100% CONST DWGS
0	11/20/06	90% CONST. DWGS

DRAWING TITLE:
ANTENNA SCHEDULE AND DETAILS

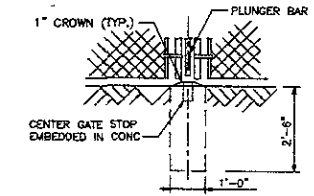
DRAWING NUMBER:

C-4

PROJECT NUMBER:



1 **DETAIL POST FOOTING**
SCALE NTS

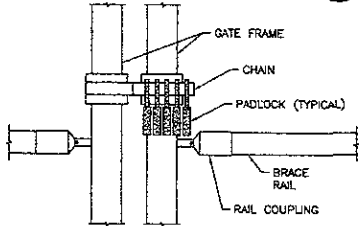


2 **DETAIL POST (END, CORNER & PULL)**
SCALE NTS

SUPPLIED AND INSTALLED BY CONTRACTOR:
TAYHOPE 5 PADLOCK TUBULAR MULTI-LOCK,
MODEL #65-TK. (www.tayhope.com)

5 **DETAIL - MUSHROOM CAP**
SCALE NTS

NOTES:
1) ALL FABRIC & STEEL FRAMEWORK SHALL BE GALVANIZED.
2) SEE FENCING NOTES FOR ALL SIZES AND TYPES OF PARTS.

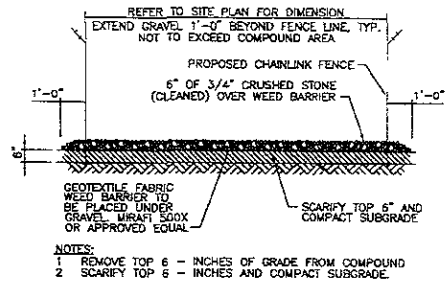


6 **DETAIL - CHAIN AND PADLOCK**
SCALE NTS

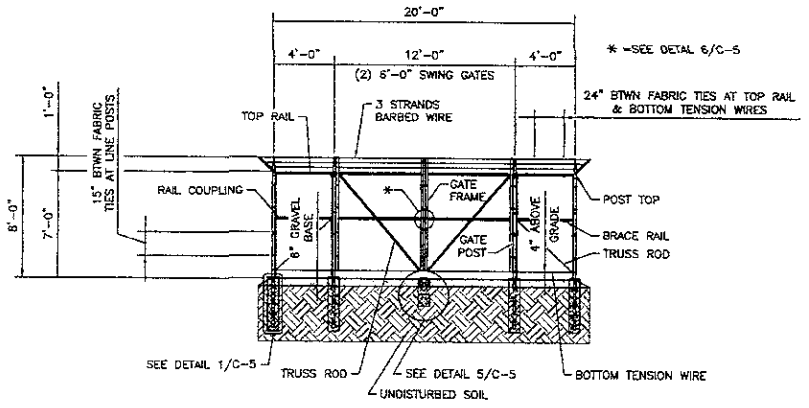
TYPICAL WOVEN WIRE FENCING NOTES:

- (INSTALL FENCING PER ASTM F-567, SWING GATES PER ASTM F-900)
- GATE POST, CORNER TERMINAL OR PULL POST 2" DIA. SCH. 40 FOR GATE WIDTHS UP THRU 6 FEET OR 12 FEET FOR DOUBLE SWING GATE PER ASTM-F1083.
 - LINE POST 2 1/4" DIA. (SCHEDULE 40) PIPE PER ASTM-F1083.
 - GATE FRAME 1 1/2" DIA. (SCHEDULE 40) PIPE PER ASTM-F1083.
 - TOP RAIL & BRACE RAIL: 1" DIA. (SCHEDULE 40) PIPE PER ASTM-F1083.
 - FABRIC #9-GAUGE, 2" MESH; GALVANIZED CONFORMING TO ASTM-A392, CLASS 2, TWISTED SELVAGE ON TOP, KNUCKLED SELVAGE ON BOTTOM.
 - THE WIRE: MINIMUM 9 GA. GALVANIZED STEEL AT POSTS AND RAILS A SINGLE WRAP OF FABRIC TIE AND AT TENSION WIRE BY HOG RINGS SPACED MAX. 24" INTERVALS.
 - TENSION WIRE, 9 GA. GALVANIZED COIL SPRING WIRE.
 - BARBED WIRE: GALVANIZED, ASTM A121 CLASS 3, (3) 14 GAUGE MIN. STEEL WIRES w/4 PT ROUND 14 GA. BARBS SPACED ON 4" CENTERS
 - GATE LOCK: VERIFY TYPE WITH CONSTRUCTION MANAGER FOR APPROVAL
 - LOCAL ORDINANCE OF BARBED WIRE PERMIT REQUIREMENT SHALL BE COMPILED IF REQUIRED
 - TOTAL HEIGHT, 7'-0" VERTICAL + 1'-0" BARBED WIRE = 8'-0" VERTICAL DIMENSION

3 **NOTES**



4 **SITE COMPOUND GRAVEL DETAIL**
SCALE NTS



NORTH AND SOUTH ELEVATION
(LOOKING SOUTH OR NORTH)

8 **WOVEN WIRE FENCE & SWING GATE DETAIL**
SCALE NTS

ASSOCIATED ENGINEERING, INC.
157 NORTH MAIN ST
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AEPIC PROJECT #1607

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Tom Medhi 01/05/07
Tom Medhi Date
MY LICENSE RENEWAL DATE IS DEC. 31, 2008

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 5498
TOM MEDHI
REGISTERED PROFESSIONAL ENGINEER
SOUTH DAKOTA

APPLICANT/OWNER:
alltel COMMUNICATIONS, INC.
18300 EAST 71ST AVENUE
SUITE 126
DENVER, CO 80248-7370

DRAWN BY: CHK BY: APV BY:

NK/DHF NK TM

APPROVALS:

ALLTEL PROJECT ENGINEER

ALLTEL PROPERTY SPECIALIST

OWNER

ALLTEL SITE NAME: **SDRC HWY 44**

ALLTEL SITE NUMBER: _____

SUBMITTALS:

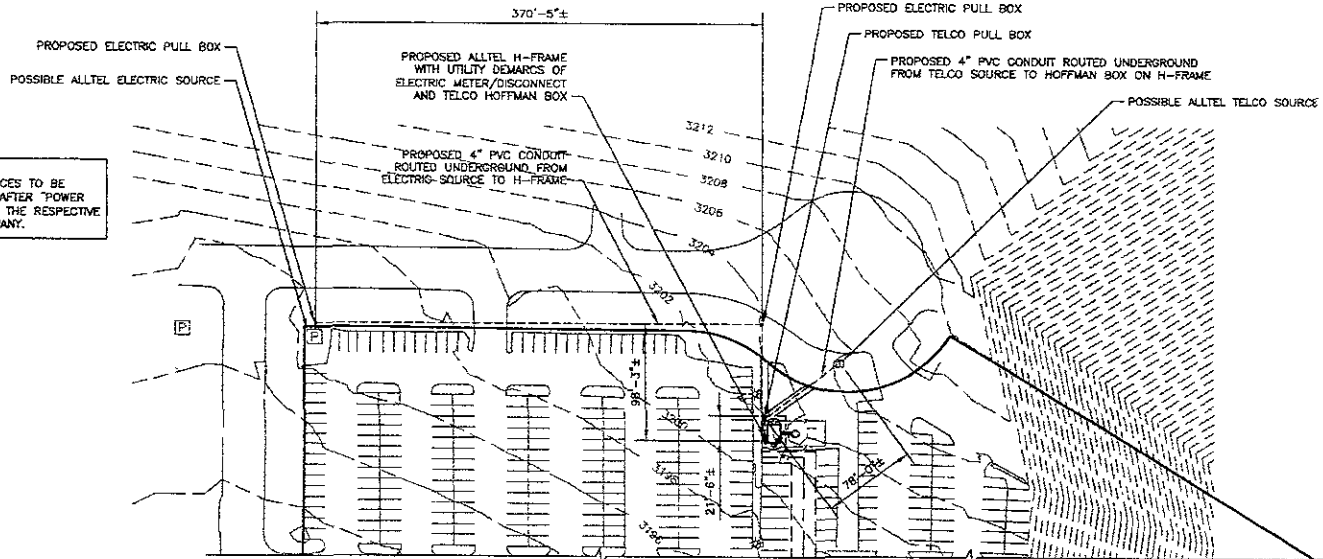
REV	DATE	DESCRIPTION
0	01/05/07	100% CONST DWGS.
0	11/20/08	90% CONST DWGS

DRAWING TITLE: **FENCE AND SITE DETAILS**

DRAWING NUMBER: _____

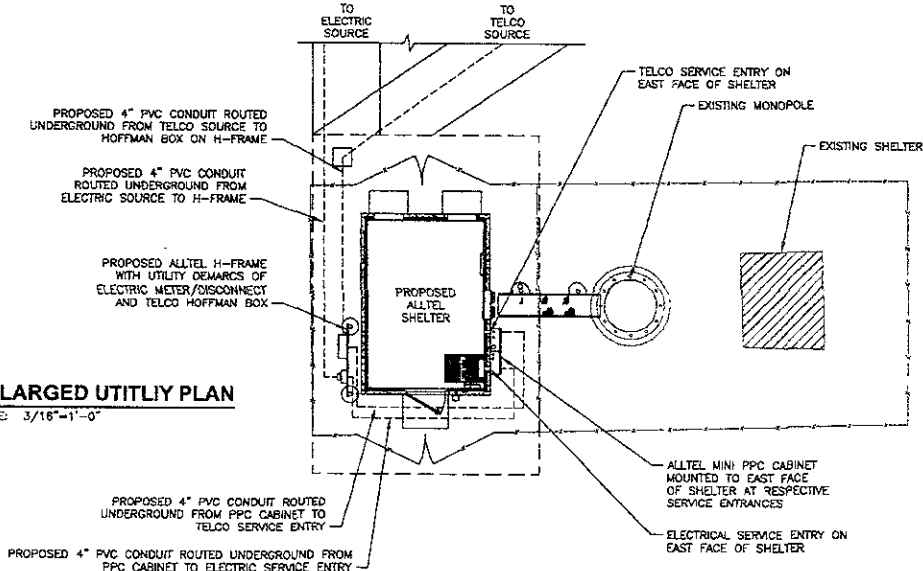
C-5

PROJECT NUMBER: _____



NOTE:
UTILITY SOURCES TO BE
DETERMINED AFTER "POWER
WALKS" WITH THE RESPECTIVE
UTILITY COMPANY.

1 OVERALL UTILITY PLAN
SCALE: 1"=50'-0"



2 ENLARGED UTILITY PLAN
SCALE: 3/16"=1'-0"

UNDERGROUND UTILITY NOTE:

**UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1-800-781-7474**

THREE WORKING DAYS BEFORE YOU DIG

THE UTILITIES AS SHOWN ON THE DRAWING SET WERE DEVELOPED FROM THE INFORMATION AVAILABLE. THIS IS NOT IMPLIED NOR INTENDED TO BE THE COMPLETE INVENTORY OF UTILITIES IN THIS AREA. IT IS THE CLIENTS/CONTRACTORS RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE.

ASSOCIATED ENGINEERING, INC.
157 NORTH MAIN ST.
ELKHORN, NE 68022
PH: (402) 289-5040
FAX: (402) 289-5045
AEPG PROJECT #1607

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Tom Medhi 01/05/07
Tom Medhi Date
MY LICENSE EXPIRES DATE 5 DEC 31, 2008

APPLICANT/OWNER:

elltel
COMMUNICATIONS, INC.
18300 EAST 71ST AVENUE
SUITE 128
DENVER, CO 80248-7370

DRAWN BY: CHK BY: APV BY:
NK/DEF NK TM

APPROVALS:

ALLTEL PROJECT ENGINEER _____
ALLTEL PROPERTY SPECIALIST _____
OWNER _____

ALLTEL SITE NAME: _____
SDRC HWY 44

ALLTEL SITE NUMBER _____

SUBMITTALS:

REV.	DATE	DESCRIPTION
0	01/05/07	100% CONST DWGS.
0	11/20/06	90% CONST DWGS.

DRAWING TITLE: _____

UTILITY PLAN

DRAWING NUMBER: _____

E-1

PROJECT NUMBER: _____

NOTES

ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT NATIONAL ELECTRICAL CODES AND ALL LOCAL AND STATE CODE, LAWS AND ORDINANCES PROVIDE ALL COMPONENTS AND WIRING SIZES AS REQUIRED TO MEET NEC

CONTRACTOR SHALL COORDINATE WITH LOCAL POWER COMPANY FOR REQUIREMENTS OF POWER SERVICE LINE TO THE METER BASE. POWER SERVICE REQUIREMENT IS COMMERCIAL AC NOMINAL 120/208 VOLT OR 120/240 VOLT, SINGLE PHASE WITH 200 AMP RATING. SERVICE TO MATCH EXISTING SPRINT SERVICE VOLTAGE.

CONTRACTOR SHALL COORDINATE WITH LOCAL TELEPHONE COMPANY FOR REQUIREMENTS OF "T1" SERVICE LINE TO TERMINATE AT THE TELCO DEMARC.

CONTRACTOR SHALL FURNISH AND INSTALL ELECTRIC METER BASE AND 200A DISCONNECT SWITCH PER SITE PLAN AND DETAIL DRAWINGS. THE METER BASE SHOULD BE LOCATED IN A MANNER WHERE ACCESSIBLE BY THE LOCAL POWER COMPANY.

LOCAL POWER COMPANY SHALL PROVIDE 200 AMP ELECTRIC METER. CONTRACTOR SHALL COORDINATE INSTALLATION OF METER WITH LOCAL POWER COMPANY.

UNDERGROUND POWER AND TELCO SERVICE SERVICE LINES SHALL BE ROUTED IN A COMMON TRENCH. ALL UNDERGROUND CONDUITS SHALL BE PVC SCHEDULE 40. CONDUIT EXPOSED ABOVE GROUND SHALL BE RIGID GALVANIZED STEEL UNLESS OTHERWISE INDICATED. POWER CONDUIT LINES SHALL BE SIZED AS REQUIRED FOR CABLE FILL AND NEC REQUIREMENTS.

THE TELCO CONDUIT FROM THE PPC SHALL BE ROUTED AND TERMINATED AT DESIGNATED TELCO DEMARCATION OR 2'-FEET OUTSIDE FENCED AREA, NEAR UTILITY POLE (IN FENCED AREA), OR END CAP OFF AND PROVIDE MARKER STAKE PAINTED BRIGHT ORANGE WITH DESIGNATION FOR TELCO SERVICE.

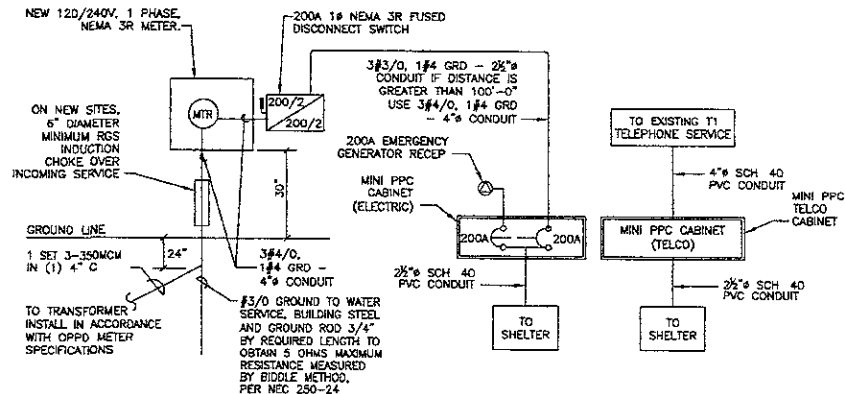
CONDUITS INSTALLED AT CELLULAR EQUIPMENT ENDS PRIOR TO THE EQUIPMENT INSTALLATION SHALL BE STUBBED AND CAPPED AT 6" ABOVE GRADE OR PLATFORM. IF SERVICE LINES CAN'T BE INSTALLED INITIALLY, PROVIDE NYLON PULL CORD IN CONDUITS.

LOCATION OF ELECTRIC METER AND DISCONNECT SWITCH TO BE DETERMINED BY ELECTRICAL CONTRACTOR, ALLTEL FIELD CONSTRUCTION MANAGER AND UTILITY COMPANY.

ALL STUP-UP CONDUITS SHALL HAVE INSTALLED 1/4" DIAMETER PULL CORD

1 UTILITY NOTES

SCALE: N.T.S



ELECTRIC	PROPOSED	TELCO	PROPOSED
	4" PVC CONDUIT ROUTED UNDERGROUND FROM SOURCE TO SERVICE METER WITH DISCONNECT MOUNTED ON SOUTH FACE OF SHELTER THEN ROUTED UNDERGROUND IN 4" PVC CONDUIT TO ALLTEL MINI PPC CABINET MOUNTED ON SOUTH FACE OF SHELTER THEN ROUTED IN 2 1/2" PVC CONDUIT TO SERVICE ENTRY ON EAST SIDE OF SHELTER TO LOAD CENTER IN CABINET		2 1/2" PVC CONDUIT ROUTED UNDERGROUND FROM SOURCE TO ALLTEL MINI PPC CABINET MOUNTED ON WEST FACE OF SHELTER THEN ROUTED IN 2 1/2" PVC CONDUIT TO TELCO SERVICE ENTRY ON WEST FACE OF SHELTER TO LOAD CENTER IN CABINET.

3 POWER/TELCO ONE-LINE DIAGRAM

SCALE: N.T.S

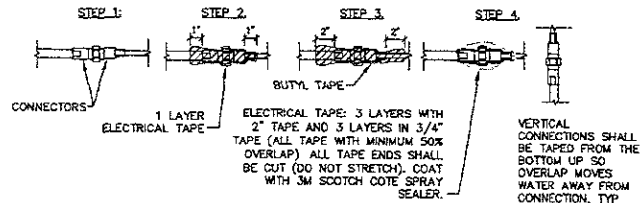
UNDERGROUND UTILITY NOTE:



UNDERGROUND SERVICE ALERT
CALL TOLL FREE
1-800-781-7474

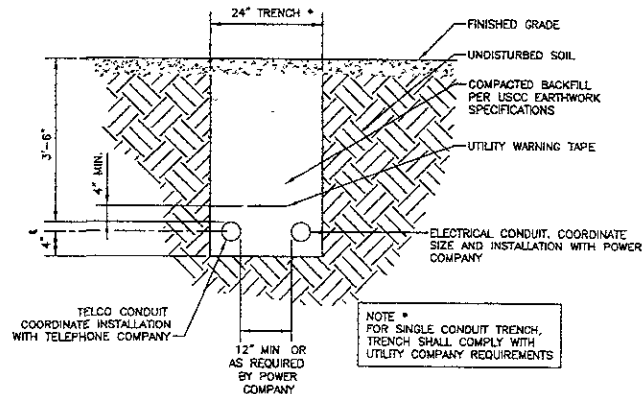
THREE WORKING DAYS BEFORE YOU DIG

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2 CABLE CONNECTOR WATERPROOFING

SCALE: N.T.S



4 SHARED TRENCH DETAIL

SCALE: N.T.S

ASSOCIATED ENGINEERING, INC.
157 NORTH MAIN ST.
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PH. (402) 289-5040
FAX: (402) 289-5045
AEPG PROJECT #1607

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Tom Medhi 01/05/07
Tom Medhi Date
47 LICENSE NUMBER DATE 5 SEP 31, 2006

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8498
TOM MEDHI
SOUTH DAKOTA

APPLICANT/OWNER:

alltel
COMMUNICATIONS, INC.
18300 EAST 71ST AVENUE
SUITE 120
DENVER, CO 80249-7370

DRAWN BY: CHX BY: APV BY:

NK/DHF NK TM

APPROVALS

ALLTEL PROJECT ENGINEER

ALLTEL PROPERTY SPECIALIST

OWNER

ALLTEL SITE NAME:

SDRC HWY 44

ALLTEL SITE NUMBER:

SUBMITTALS:

REV	DATE	DESCRIPTION
0	01/05/07	100% CONST. DWGS
0	11/20/06	90% CONST. DWGS.

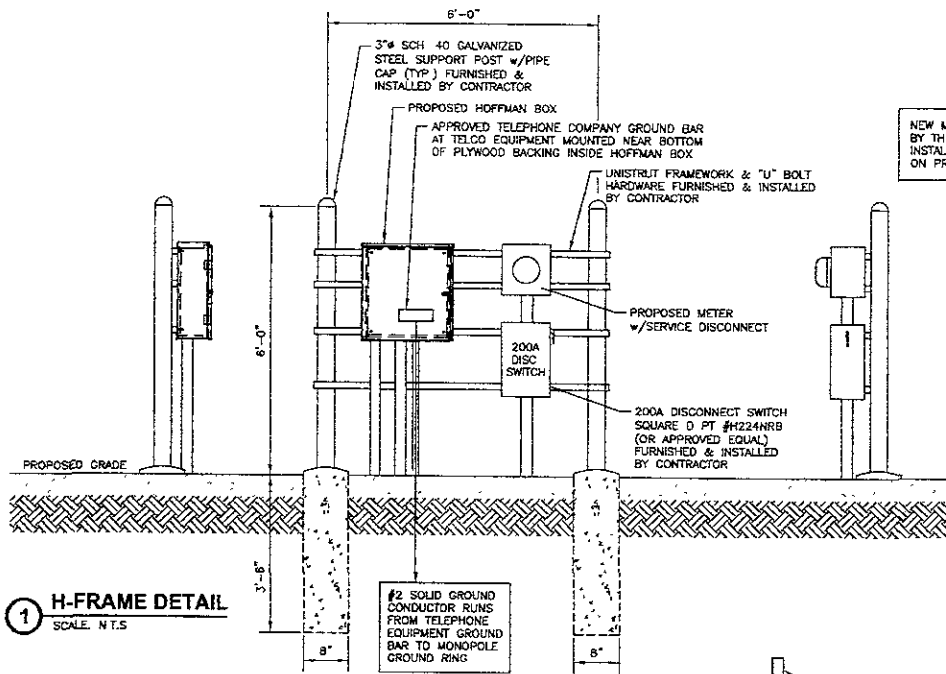
DRAWING TITLE:

UTILITY DETAILS

DRAWING NUMBER:

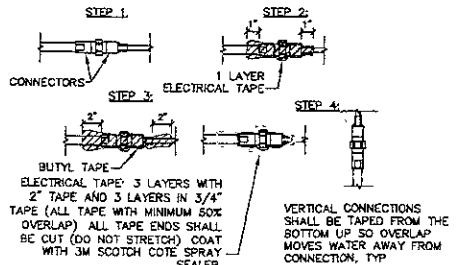
E-2

PROJECT NUMBER:

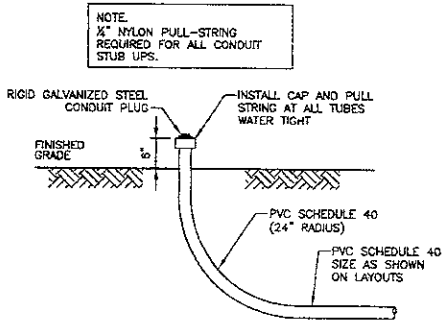


NEW METER FURNISHED BY THE UTILITY COMPANY & INSTALLED BY CONTRACTOR ON PROPOSED H-FRAME.

1 H-FRAME DETAIL
SCALE: N.T.S.

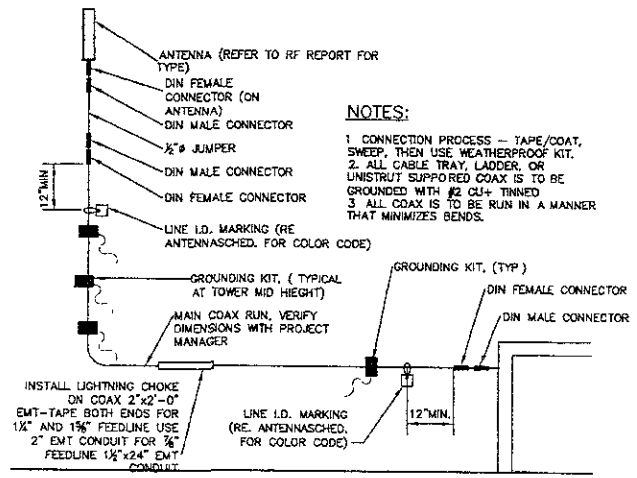


2 CABLE CONNECTOR WATERPROOFING
SCALE: N.T.S.



NOTES:
1 SEE E-1 FOR CONDUIT SIZES
2 CONTRACTOR TO GROUND ALL METALLIC CONDUIT STUB-UPS PER NEC

3 CONDUIT STUB UP DETAIL
SCALE: N.T.S.



4 TYPICAL ANTENNA/COAX SCHEMATIC
SCALE: N.T.S.

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Tom Medhi 01/05/07
Tom Medhi Date
NE LICENSE NUMBER DATE IS REC. 31, 2008



APPLICANT/OWNER:

alltel
COMMUNICATIONS, INC.
18300 EAST 71ST AVENUE
SUITE 120
DENVER, CO 80249-7370

DRAWN BY: CHK BY: APV BY:

NK/DHF NK TM

APPROVALS:

ALLTEL PROJECT ENGINEER

ALLTEL PROPERTY SPECIALIST

OWNER

ALLTEL SITE NAME

SDRC HWY 44

ALLTEL SITE NUMBER

SUBMITTALS

REV.	DATE	DESCRIPTION
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0	11/20/06	90% CONST DWGS

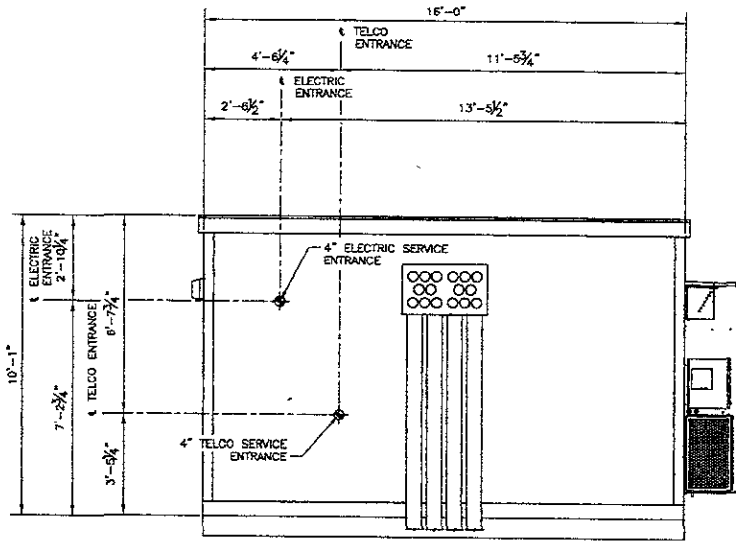
DRAWING TITLE:

UTILITY DETAILS

DRAWING NUMBER:

E-3

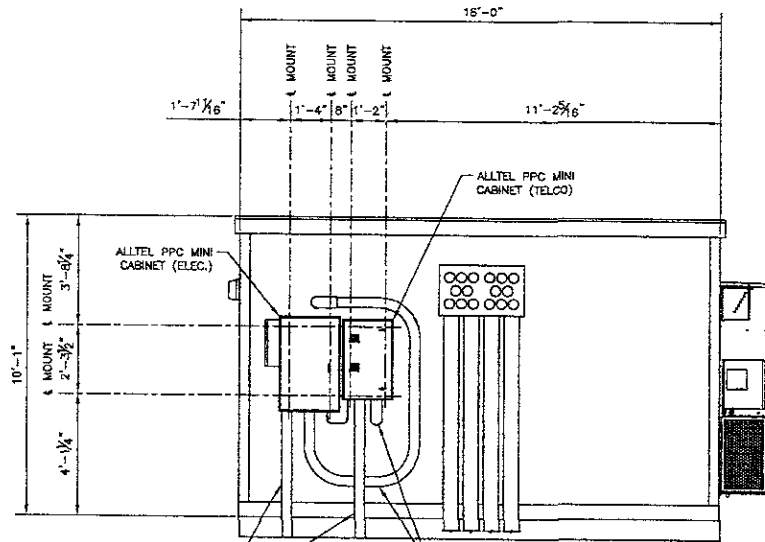
PROJECT NUMBER:



EAST ELEVATION
(LOOKING WEST)

1 SHELTER UTILITY ENTRANCE DETAIL

SCALE: N.T.S.



EAST ELEVATION
(LOOKING WEST)

2 SHELTER PPC MOUNTING DETAIL

SCALE: N.T.S.

4" CONDUIT ROUTED FROM ALLTEL H-FRAME TO PPC MINI CABINET (TELCO AND ELECTRIC) MOUNTED AT SHELTER

4" CONDUIT ROUTED FROM PPC MINI CABINET (TELCO AND ELECTRIC) TO SERVICE ENTRY AT SHELTER

ASSOCIATED ENGINEERING, INC.
157 NORTH MAIN ST.
ELKHORN, NE 68022
PH. (402) 289-5040
FAX: (402) 289-5045
AEPIC PROJECT #1607

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Tom Medhi 01/05/07
Tom Medhi Date
MY LICENSE RENEWAL DATE IS DEC. 31, 2008



APPLICANT/OWNER:

alltel
COMMUNICATIONS, INC.
18300 EAST 71ST AVENUE
SUITE 120
DENVER, CO 80249-7370

DRAWN BY: DFK BY: APV BY:

NK/DHF NK TM

APPROVALS:

ALLTEL PROJECT ENGINEER
ALLTEL PROPERTY SPECIALIST
OWNER

ALLTEL SITE NAME:

SDRC HWY 44

ALLTEL SITE NUMBER

SUBMITTALS:

REV.	DATE	DESCRIPTION
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0	11/20/06	90% CONST. DWGS

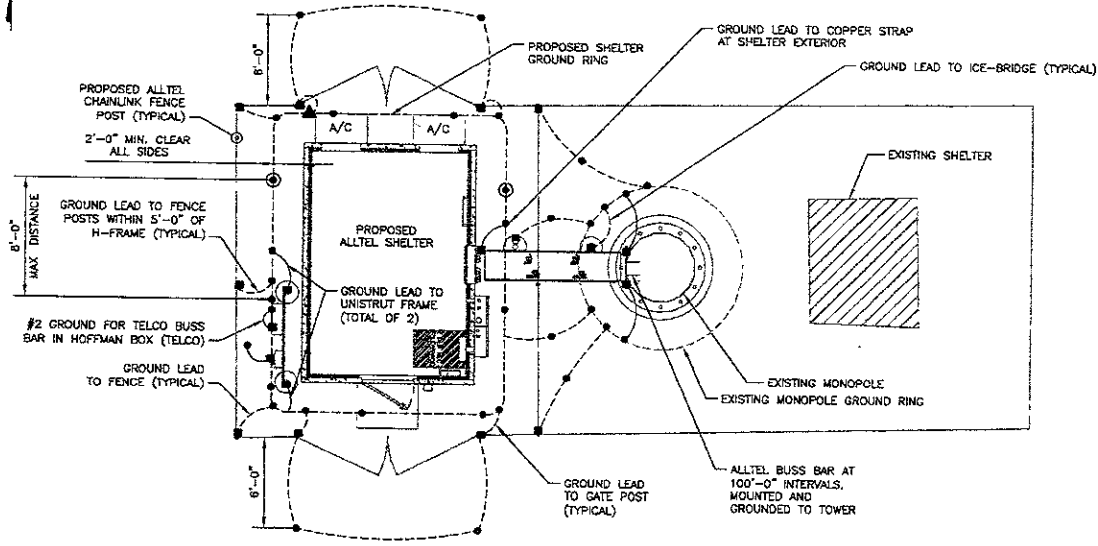
DRAWING TITLE:

UTILITY DETAILS

DRAWING NUMBER:

E-4

PROJECT NUMBER:



1 GROUNDING PLAN
SCALE: NTS

GROUNDING LEGEND

SYMBOL	DESCRIPTION
●	5/8" DIAMETER x 8'-0" STEEL GROUND ROD, CLAD WITH A PURE COPPER JACKET OF NOT LESS THAN 0.010 INCHES THICK
○	GROUND TEST WELL
---	WIRE ROUTED UNDERGROUND
---	WIRE ROUTED ABOVE GROUND
▲	EXOTHERMIC TYPE CONNECTION (CADWELD)
■	MECHANICAL TYPE CONNECTION

NOTES

- EARTH GROUND TESTING:**
A PRE-RESISTIVITY TEST SHALL BE PERFORMED PRIOR TO BREAKING GROUND AT A SITE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRE-RESISTIVITY TEST PRIOR TO INSTALLATION OF EARTH GROUND SYSTEM.
- CONTRACTOR TO FORWARD PRE-RESISTIVITY TEST DATA TO ALLTEL'S PROJECT ENGINEER TO DETERMINE FINAL DESIGN OF EARTH GROUND SYSTEM
- CONTRACTOR TO SUBMIT BID FOR STANDARD EARTH GROUND SYSTEM
- IF A CHEMICAL GROUND ROD SYSTEM IS REQUIRED, AN ADDENDA WILL BE MADE TO THE ORIGINAL SCOPE OF WORK AND BID ACCORDINGLY.
- THE PRE-RESISTIVITY TEST DATA WILL BE UTILIZED TO DETERMINE THE TYPE OF GROUND FIELD TO BE INSTALLED.
- TESTING SHALL BE PERFORMED USING AN APPROPRIATE FOUR POLE EARTH GROUND TESTER OR VIA SOIL SAMPLES
- PRE-RESISTIVITY READINGS LESS THAN 15,000 OHM-CM:**
PRE-RESISTIVITY READINGS LESS THAN 15,000 OHM-CM (USUALLY GOOD CLAY SOIL) THEN INSTALL THE GROUND SYSTEM AS SHOWN IN ALLTEL WIRELESS GROUNDING & BONDING SPECIFICATION'S DRAWING 40
- PRE-RESISTIVITY READINGS 15,000-30,000 OHM-CM:**
IF THE RESISTIVITY IS GREATER THAN 15,000 OHM-CM, AND LESS THAN 30,000 OHM-CM THEN INSTALL THE GROUND SYSTEM AS SHOWN IN ALLTEL WIRELESS GROUNDING & BONDING SPECIFICATION'S DRAWING 40 SEE SECTION 10 OF THE SPECIFICATION BOOK FOR METHODS THAT MAY BE UTILIZED TO DECREASE THE OVERALL SOIL RESISTANCE.
- PRE-RESISTIVITY READINGS GREATER THAN 30,000 OHM-CM:**
SOME LOCATIONS MAY ENCOUNTER SOLID ROCK, SAND OR VERY HIGH PRE-RESISTIVITY READINGS.
- THERE ARE SEVERAL ALTERNATIVES THAT MAY LOWER THE OVERALL SITE RESISTIVITY. THE TYPE OF SOIL AND THE CONDITION OF THE SOIL DETERMINES THE EARTH GROUNDING SYSTEM THAT MAY BE REQUIRED.
- AN APPROVED AND QUALIFIED GROUNDING SPECIALIST MAY BE REQUIRED TO DESIGN THE SITE EARTH GROUND SYSTEM IF THESE CONDITIONS ARE PRESENT
- SEE SECTION 10 OF THIS SPECIFICATION FOR METHODS THAT MAY BE UTILIZED TO DECREASE THE OVERALL SOIL RESISTANCE.

ASSOCIATED ENGINEERING, INC.
157 NORTH MAIN ST.
ELKHORN, NE 68022
PH (402) 289-5040
FAX (402) 289-5045
AEPC PROJECT #1607

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

Tom Medhi 01/05/07
Tom Medhi Date
MY LICENSE RENEWAL DATE IS DEC. 31 2008



APPLICANT/OWNER

alltel COMMUNICATIONS, INC.
18300 EAST 71ST AVENUE
SUITE 128
DENVER, CO 80249-7370

DRAWN BY: CHK BY: APV BY:
NK/DHF NK TM

APPROVALS:

ALLTEL PROJECT ENGINEER
ALLTEL PROPERTY SPECIALIST
OWNER

ALLTEL SITE NAME:

SDRC HWY 44

ALLTEL SITE NUMBER

SUBMITTALS:

REV.	DATE	DESCRIPTION
0	01/05/07	100% CONST. DWGS.
0	11/20/06	90% CONST. DWGS.

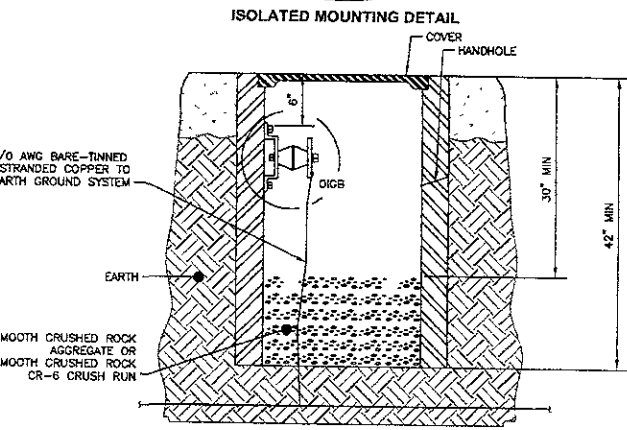
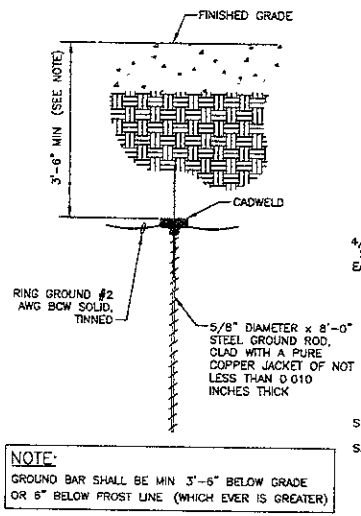
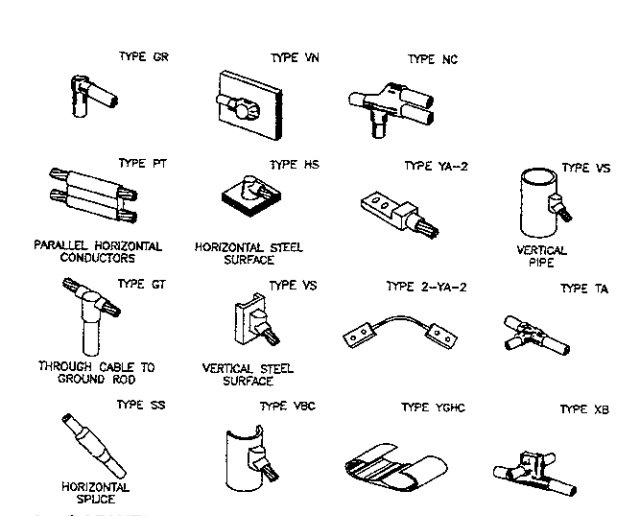
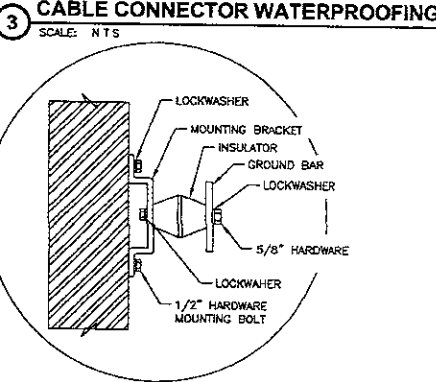
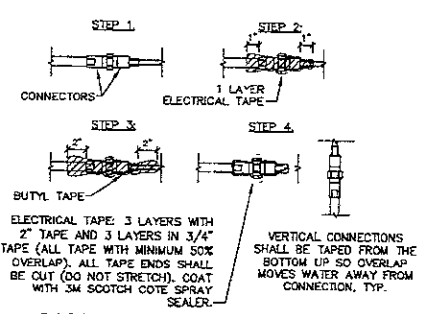
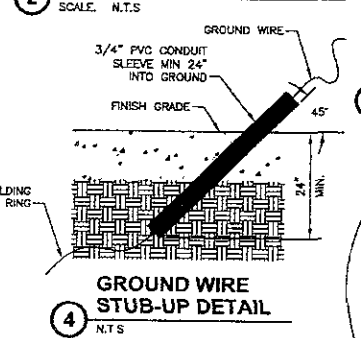
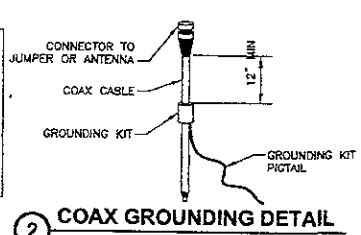
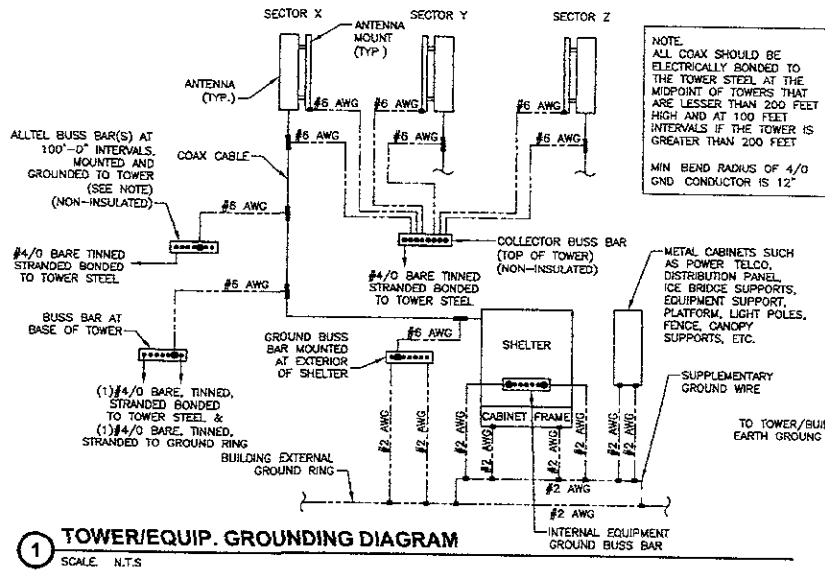
DRAWING TITLE

GROUNDING PLAN AND NOTES

DRAWING NUMBER:

G-1

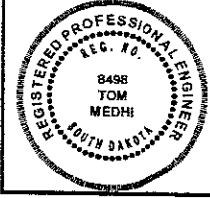
PROJECT NUMBER:



ASSOCIATED ENGINEERING, INC.
157 NORTH MAIN ST
ELKHORN, NE 68022
PH: (402) 289-5040
FAX: (402) 289-5045
AEPIC PROJECT #1507

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Tom Medhi 010587
Tom Medhi Date
My LICENSE EXPIRES ON 05 DEC 31 2008



APPLICANT/OWNER:
elltel
COMMUNICATIONS, INC.
18300 EAST 71ST AVENUE
SUITE 120
DENVER, CO 80249-7370

DRAWN BY: CHK BY: APV BY:
NK/DPH NK TM

APPROVALS:
ALLTEL PROJECT ENGINEER
ALLTEL PROPERTY SPECIALIST
OWNER

ALLTEL SITE NAME:
SDRC HWY 44

ALLTEL SITE NUMBER

SUBMITTALS

REV.	DATE	DESCRIPTION
0	01/05/07	100% CONST. DWGS
0	11/20/06	80% CONST. DWGS

DRAWING TITLE:
GROUNDING DETAILS

DRAWING NUMBER:
G-2

PROJECT NUMBER:

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF NEBRASKA.
 Tom Medhi Date 01.05.07
 My License Expiration Date is Dec. 31, 2008



APPLICANT/OWNER:

elltel
COMMUNICATIONS, INC.
 18300 EAST 71ST AVENUE
 SUITE 120
 DENVER, CO 80248-7370

DRAWN BY: CHK BY: APV BY:
 NK/DHF NK TM

APPROVALS:
 ALLTEL PROJECT ENGINEER
 ALLTEL PROPERTY SPECIALIST
 OWNER

ALLTEL SITE NAME:

SDRC HWY 44

ALLTEL SITE NUMBER

REV. DATE DESCRIPTION

REV.	DATE	DESCRIPTION
0	01/05/07	100% CONST. DWGS
0	11/20/06	90% CONST. DWGS

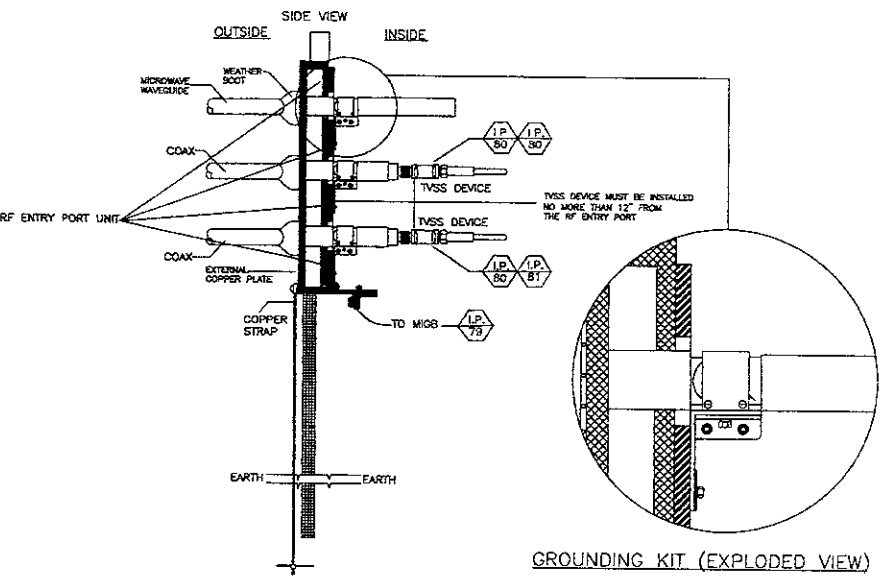
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GROUNDING DETAILS

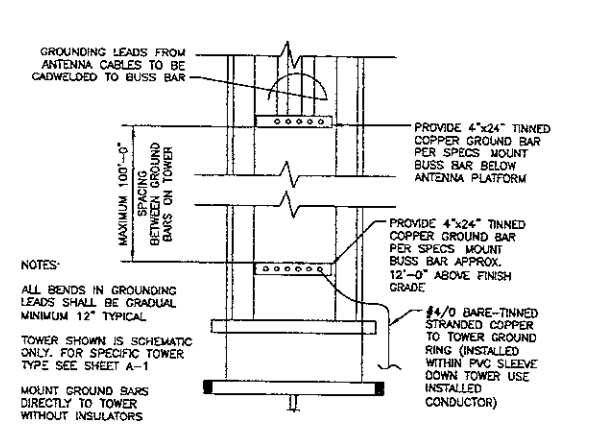
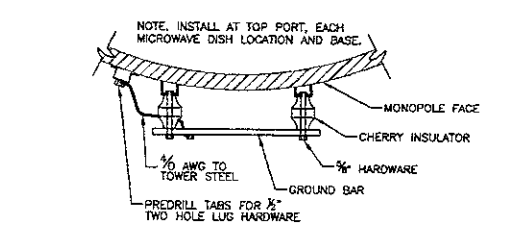
DRAWING NUMBER:

G-3

PROJECT NUMBER:

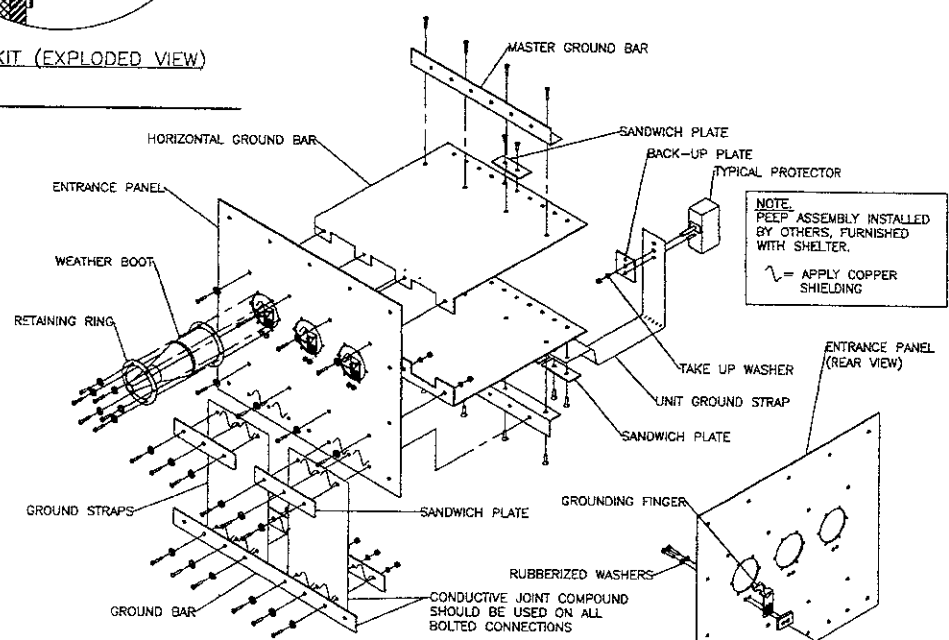


- NOTES:
1. ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE A.I.S.C. MANUAL OF STEEL CONSTRUCTION (LATEST EDITION)
 2. ALL STEEL SHALL MEET THE REQUIREMENTS OF ASTM-A36 EXCEPT STEEL PIPE WHICH SHALL MEET THE REQUIREMENTS OF ASTM-A53, GRADE B
 3. ALL STEEL SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM-123 OR A-153
 4. HARDWARE SHALL BE GALVANIZED UNLESS NOTED OTHERWISE.
 5. BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A325, U.N.O.
 6. FIELD CUTS OR FIELD DRILLED HOLES SHALL BE SPRAYED WITH GALVALUME ZINC-RICH PAINT OR EQUAL.
 7. FIELD MODIFICATIONS SHALL NOT BE MADE WITHOUT APPROVAL OF ALLTEL'S FIELD CONSTRUCTION MANAGER
 8. COAX TROUGH SHOULD HAVE RAW EDGES TREATED WITH A MATERIAL TO RESTORE THE EDGES TO THE ORIGINAL CHANNEL OR EQUIVALENT, FINISH
 9. CONTRACTOR SHALL VERIFY COAX ROUTING

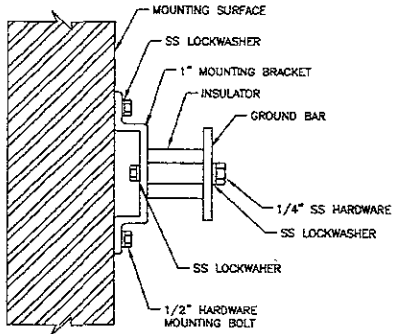


NOTES:

- ALL BENDS IN GROUNDING LEADS SHALL BE GRADUAL MINIMUM 12" TYPICAL
- TOWER SHOWN IS SCHEMATIC ONLY. FOR SPECIFIC TOWER TYPE SEE SHEET A-1
- MOUNT GROUND BARS DIRECTLY TO TOWER WITHOUT INSULATORS

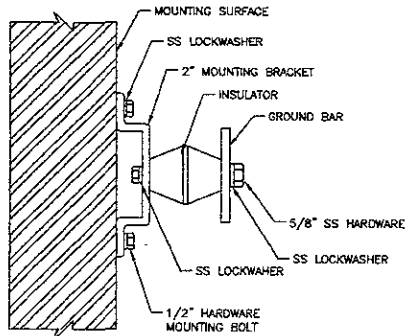


NOTE:
 PEEP ASSEMBLY INSTALLED BY OTHERS, FURNISHED WITH SHELTER.
 ~ = APPLY COPPER SHIELDING



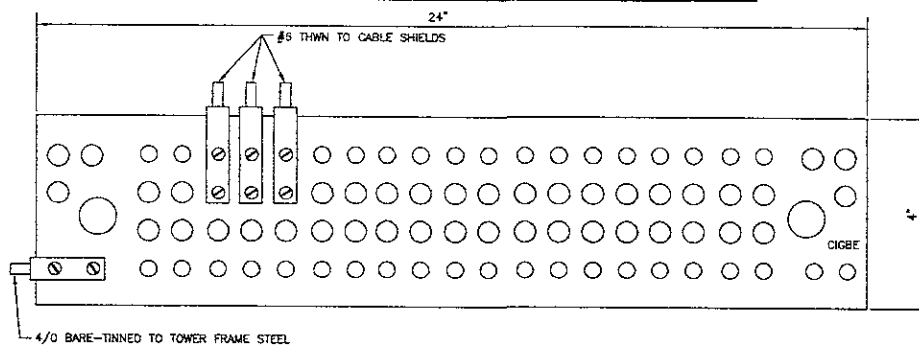
TIGB - TELCO GROUND BAR MOUNTING DETAIL G5

1 SCALE: N.T.S.



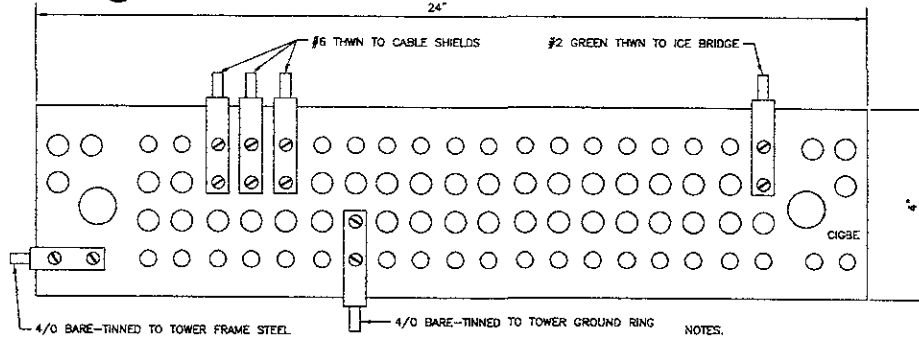
MIGB - MASTER ISOLATED GROUND BAR MOUNTING DETAIL G6

4 SCALE: N.T.S.



CIGBE - COAX ISOLATED GROUND BAR EXTERNAL CIGBE LAYOUT - TOP & INTERMEDIATE INTERVALS OF TOWER

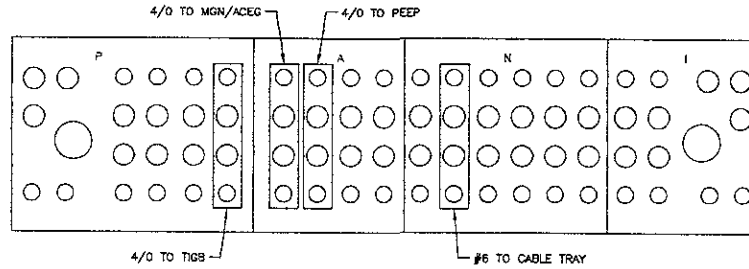
2 SCALE: N.T.S.



CIGBE - COAX ISOLATED GROUND BAR EXTERNAL CIGBE LAYOUT - BOTTOM OF TOWER

3 SCALE: N.T.S.

NOTES:
1. EXTERIOR GROUND BAR TO BE TINNED



MIGB - MASTER ISOLATED GROUND BAR DETAIL

5 SCALE: N.T.S.

ASSOCIATED ENGINEERING, INC.
157 NORTH MAIN ST.
ELKHORN, NE 68022
PH: (402) 289-5040
FAX: (402) 289-5045
AEPIC PROJECT #1607

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

Tom Medhi 0105067
Tom Medhi Date
MY LICENSE RENEWAL DATE IS DEC. 31, 2008

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8498
TOM MEDHI
SOUTH DAKOTA

APPLICANT/OWNER:

alltel
COMMUNICATIONS, INC.
18300 EAST 71ST AVENUE
SUITE 120
DENVER, CO 80248-7370

DRAWN BY: DHK BY: APV BY:

NK/DHF NK TM

APPROVALS:

ALLTEL PROJECT ENGINEER
ALLTEL PROPERTY SPECIALIST
OWNER

ALLTEL SITE NAME
SDRC HWY 44

ALLTEL SITE NUMBER:

SUBMITTALS:

REV	DATE	DESCRIPTION
0	01/05/07	100% CONST. DWGS
0	11/20/06	90% CONST. DWGS

DRAWING TITLE:
GROUNDING DETAILS

DRAWING NUMBER:
G-4

PROJECT NUMBER:

I HEREBY CERTIFY THAT THE ENGINEERING DOCUMENTS PROVIDED BY ME OR UNDER MY DIRECT SUPERVISION AND SEAL ARE A TRULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF NEBRASKA.

Tom Medhi
 Tom Medhi Date 01/05/07
 MY LICENSE EXPIRES DATE IS DEC. 31, 2008



APPLICANT/OWNER:
elltel COMMUNICATIONS, INC.
 18300 EAST 71ST AVENUE
 SUITE 120
 DENVER, CO 80240-7370

DRAWN BY: CNK BY: APV BY:
 NK/DH NK TM

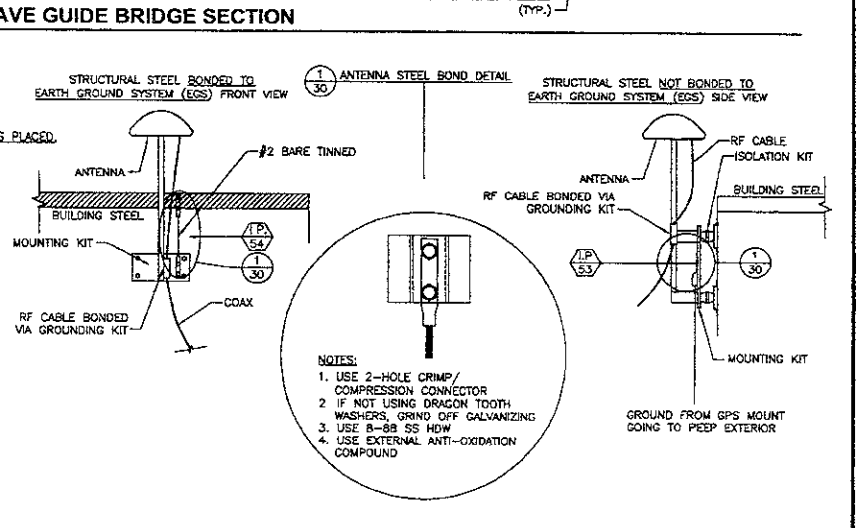
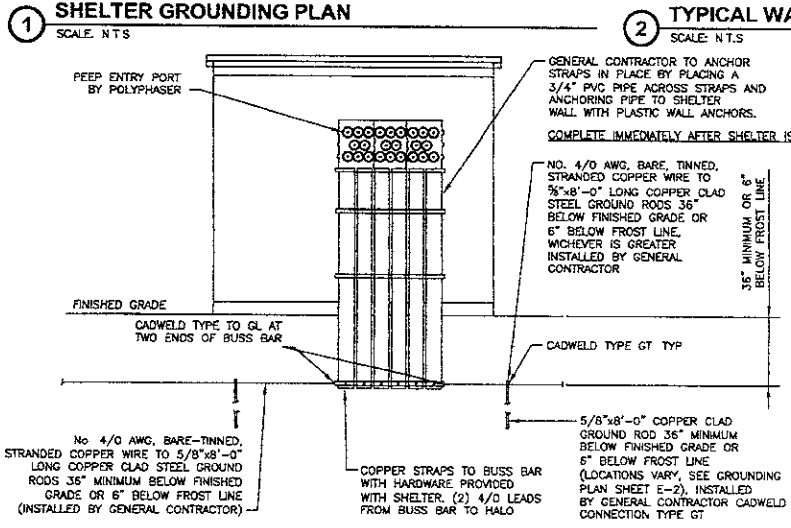
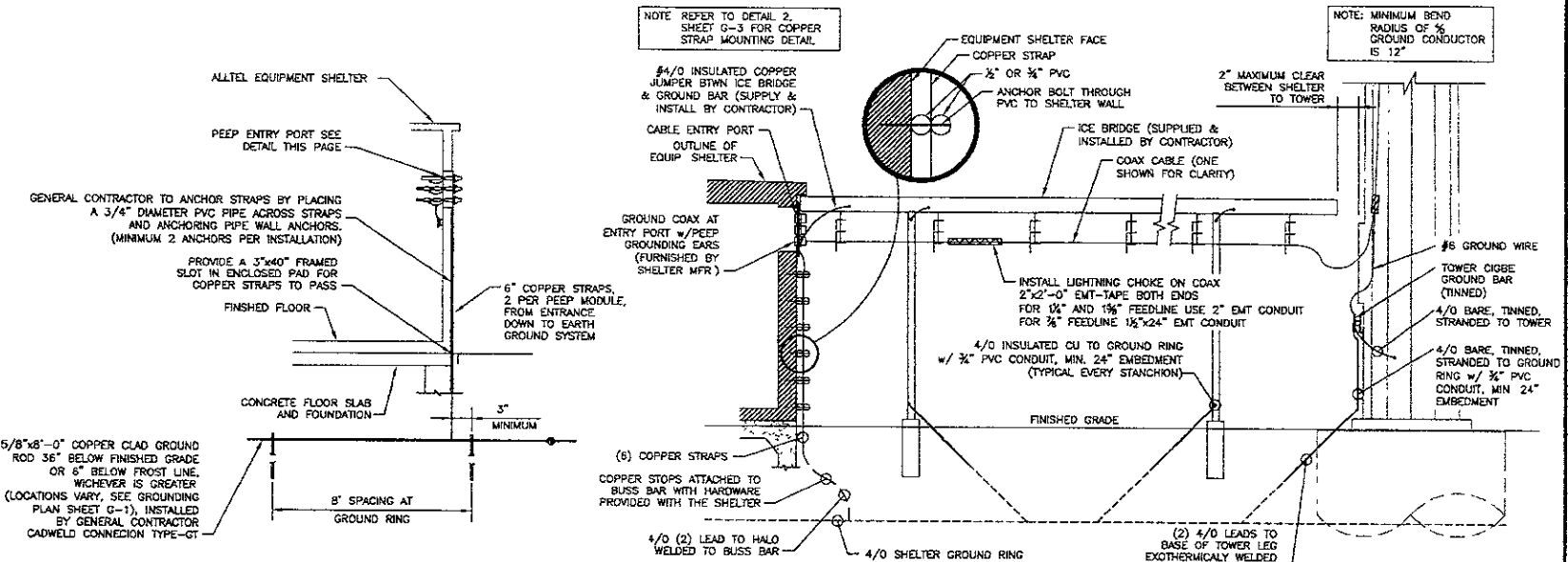
APPROVALS:
 ALLTEL PROJECT ENGINEER
 ALLTEL PROPERTY SPECIALIST
 OWNER

ALLTEL SITE NAME: **SORC HWY 44**
 ALLTEL SITE NUMBER:

SUBMITTALS:

REV	DATE	DESCRIPTION
0	01/05/07	100% CONST DWGS
0	11/20/06	90% CONST DWGS

DRAWING TITLE: **GROUNDING DETAILS**
 DRAWING NUMBER:
G-5
 PROJECT NUMBER:



GENERAL CONTRACTOR TO ANCHOR STRAPS BY PLACING A 3/4" DIAMETER PVC PIPE ACROSS STRAPS AND ANCHORING PIPE TO SHELTER WALL WITH PLASTIC WALL ANCHORS. (MINIMUM 2 ANCHORS PER INSTALLATION)

PROVIDE A 3"x40" FRAMED SLOT IN ENCLOSED PAD FOR COPPER STRAPS TO PASS

FINISHED FLOOR

6" COPPER STRAPS, 2 PER PEEP MODULE, FROM ENTRANCE DOWN TO EARTH GROUND SYSTEM

CONCRETE FLOOR SLAB AND FOUNDATION

3" MINIMUM

5/8"x8"-0" COPPER CLAD GROUND ROD 36" BELOW FINISHED GRADE OR 6" BELOW FROST LINE, WHICHEVER IS GREATER (LOCATIONS VARY, SEE GROUNDING PLAN SHEET G-1), INSTALLED BY GENERAL CONTRACTOR CADWELD CONNECTION TYPE-GT

8" SPACING AT GROUND RING

4/0 INSULATED COPPER JUMPER BTWN ICE BRIDGE & GROUND BAR (SUPPLY & INSTALL BY CONTRACTOR)

CABLE ENTRY PORT OUTLINE OF EQUIP SHELTER

EQUIPMENT SHELTER FACE

COPPER STRAP

1/2" OR 3/4" PVC

ANCHOR BOLT THROUGH PVC TO SHELTER WALL

2" MAXIMUM CLEAR BETWEEN SHELTER TO TOWER

ICE BRIDGE (SUPPLIED & INSTALLED BY CONTRACTOR)

COAX CABLE (ONE SHOWN FOR CLARITY)

2" MAXIMUM CLEAR BETWEEN SHELTER TO TOWER

GROUND COAX AT ENTRY PORT w/PEEP GROUNDING EARS (FURNISHED BY SHELTER MFR)

INSTALL LIGHTNING CHOKE ON COAX 2"x2"-0" EMT-TAPE BOTH ENDS FOR 1/4" AND 1/2" FEEDLINE USE 2" EMT CONDUIT FOR 3/4" FEEDLINE 1 1/2"x24" EMT CONDUIT

4/0 INSULATED CU TO GROUND RING w/ 3/4" PVC CONDUIT, MIN. 24" EMBEDMENT (TYPICAL EVERY STANCHION)

FINISHED GRADE

6" COPPER STRAPS

COPPER STOPS ATTACHED TO BUSS BAR WITH HARDWARE PROVIDED WITH THE SHELTER

4/0 (2) LEAD TO HALO WELDED TO BUSS BAR

4/0 SHELTER GROUND RING

(2) 4/0 LEADS TO BASE OF TOWER LEG EXOTHERMICALLY WELDED (TYP.)

PEEP ENTRY PORT SEE DETAIL THIS PAGE

STRUCTURAL STEEL BONDED TO EARTH GROUND SYSTEM (EGS) FRONT VIEW

ANTENNA

#2 BARE TINNED

MOUNTING KIT

RF CABLE BONDED VIA GROUNDING KIT

COAX

NOTES:
 1. USE 2-HOLE CRIMP/COMPRESSION CONNECTOR
 2. IF NOT USING DRAGON TOOTH WASHERS, GRIND DIFF GALVANIZING
 3. USE 8-88 SS HDW
 4. USE EXTERNAL ANTI-OXIDATION COMPOUND

STRUCTURAL STEEL NOT BONDED TO EARTH GROUND SYSTEM (EGS) SIDE VIEW

RF CABLE ISOLATION KIT

ANTENNA

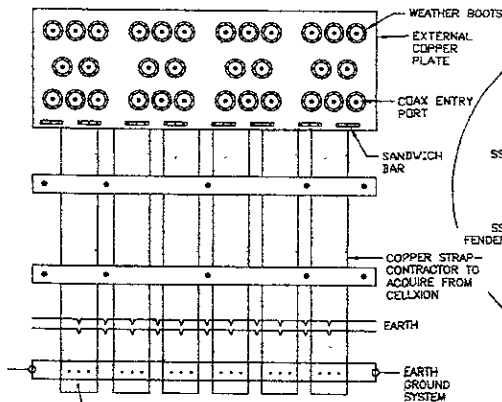
RF CABLE BONDED VIA GROUNDING KIT

BUILDING STEEL

MOUNTING KIT

GROUND FROM GPS MOUNT GOING TO PEEP EXTERIOR

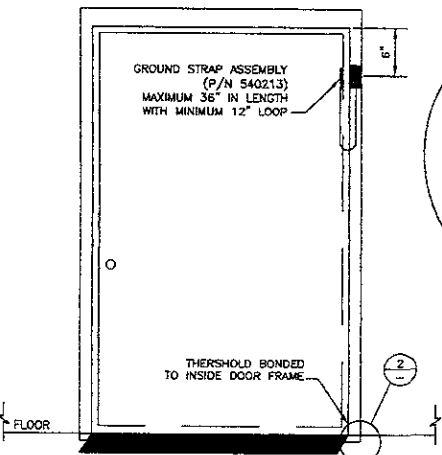
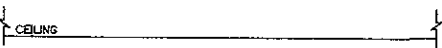
OUTSIDE VIEW (24-PORT EXTRANCE SYSTEM SHOWN)



COPPER STRAPS ARE MECHANICALLY CONNECTED/BONDED TO A 1" GROUND BAR AND BONDED DIRECTLY TO EARTH GROUND SYSTEM EXOTHERMIC WELDS OR BURNDY HYGROUND SYSTEM

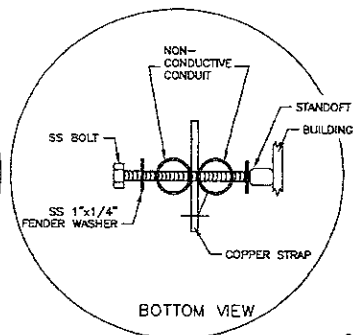
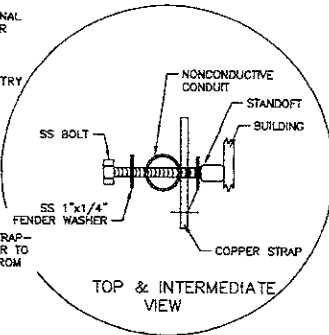
1 RF ENTRY PORT EXTERNAL GROUNDING DETAIL

SCALE: N.T.S.



5 DOOR FRAME BONDING DETAIL G2

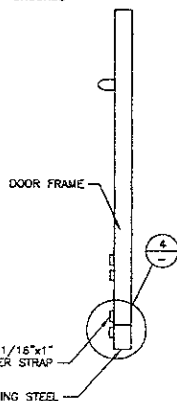
SCALE: N.T.S.



COPPER STRAP BOND TO BUILDING
SIDE VIEWS

NOTES

1. CHOOSE BOLT LENGTH TO ALLOW A MIN. OF TWO THREADS EXPOSED
2. APPLY ANTI-OXIDANT COMPOUND TO MATING SURFACE OF CONNECTOR AND WIPE OFF ACCESS COMPOUND
3. APPLY CLEAR HEAT SHRINK OVER ENTIRE LENGTH OF LABEL FOR PROTECTION
4. HEAT SHRINK BOTH ENDS OF BUILDING, STEEL AND PEEP GROUNDS

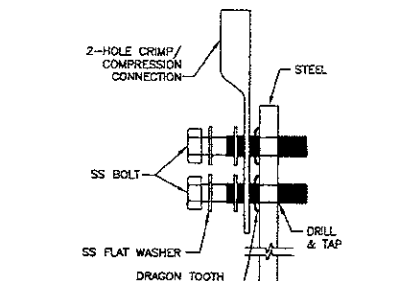


- NOTES:
1. USE 2-HOLE CRIMP/COMPRESSION CONNECTOR
 2. USE 8-88 SS HOW.
 3. USE EXTERIOR ANTI-OXIDATION COMPOUND

3 BONDING DETAIL

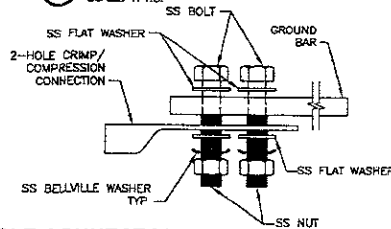
6 OUTSIDE DOOR AWNING AND FRAME BONDING DETAIL G4

SCALE: N.T.S.



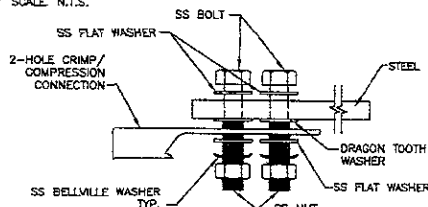
2 SINGLE CONNECTOR DETAIL G3

SCALE: N.T.S.



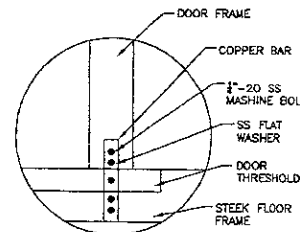
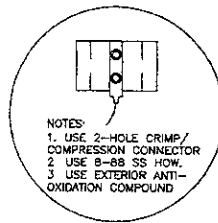
3 SINGLE CONNECTOR AT GROUND BARS/PEEPS

SCALE: N.T.S.



4 SINGLE CONNECTOR AT STEEL OBJECTS

SCALE: N.T.S.



4 DOOR FRAME STEEL BOND DETAIL

ASSOCIATED ENGINEERING, INC.
157 NORTH MAIN ST.
ELKHORN, NE 68022
PH: (402) 289-5040
FAX: (402) 289-5045
AEPG PROJECT #1607

I HEREBY CERTIFY THAT THE ENGINEERING DOCUMENT HAS BEEN PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A duly LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF SOUTH DAKOTA.

Tom Medhi 01/05/07
Tom Medhi Date
BY LICENSE RENEWAL DATE IS REC. 31, 2008

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 8498
TOM MEDHI
SOUTH DAKOTA

APPLICANT/OWNER:

elltel
COMMUNICATIONS, INC.
18300 EAST 71ST AVENUE
SUITE 120
DENVER, CO 80249-7370

DRAWN BY: CHK BY: APV

NK/DHF NK TM

APPROVALS:

ALLTEL PROJECT ENGINEER

ALLTEL PROPERTY SPECIALIST

OWNER

ALLTEL SITE NAME:

SDRC HWY 44

ALLTEL SITE NUMBER:

SUBMITTALS:

REV	DATE	DESCRIPTION
0	01/05/07	100% CONST. DWGS.
0	11/20/08	90% CONST. DWGS.

DRAWING TITLE:

GROUNDING DETAILS

DRAWING NUMBER:

G-6

PROJECT NUMBER:

I HEREBY CERTIFY THAT THE ENGINEERING SCHEMATIC WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF SOUTH DAKOTA.

Tom Medhi 01/05/07
 Tom Medhi Date
 MY LICENSE RENEWAL DATE IS DEC. 31, 2008



APPLICANT/OWNER

elltel
COMMUNICATIONS, INC.
 18300 EAST 71ST AVENUE
 SUITE 120
 DENVER, CO 80249-7370

DRAWN BY: CHK BY: APV BY:

NR/DHF NK TM

APPROVALS:

ALLTEL PROJECT ENGINEER
 ALLTEL PROPERTY SPECIALIST
 OWNER

ALLTEL SITE NAME

SDRC HWY 44

ALLTEL SITE NUMBER:

SUBMITTALS:

REV	DATE	DESCRIPTION
0	01/05/07	100% CONST. DWGS
0	11/20/08	90% CONST. DWGS

DRAWING TITLE

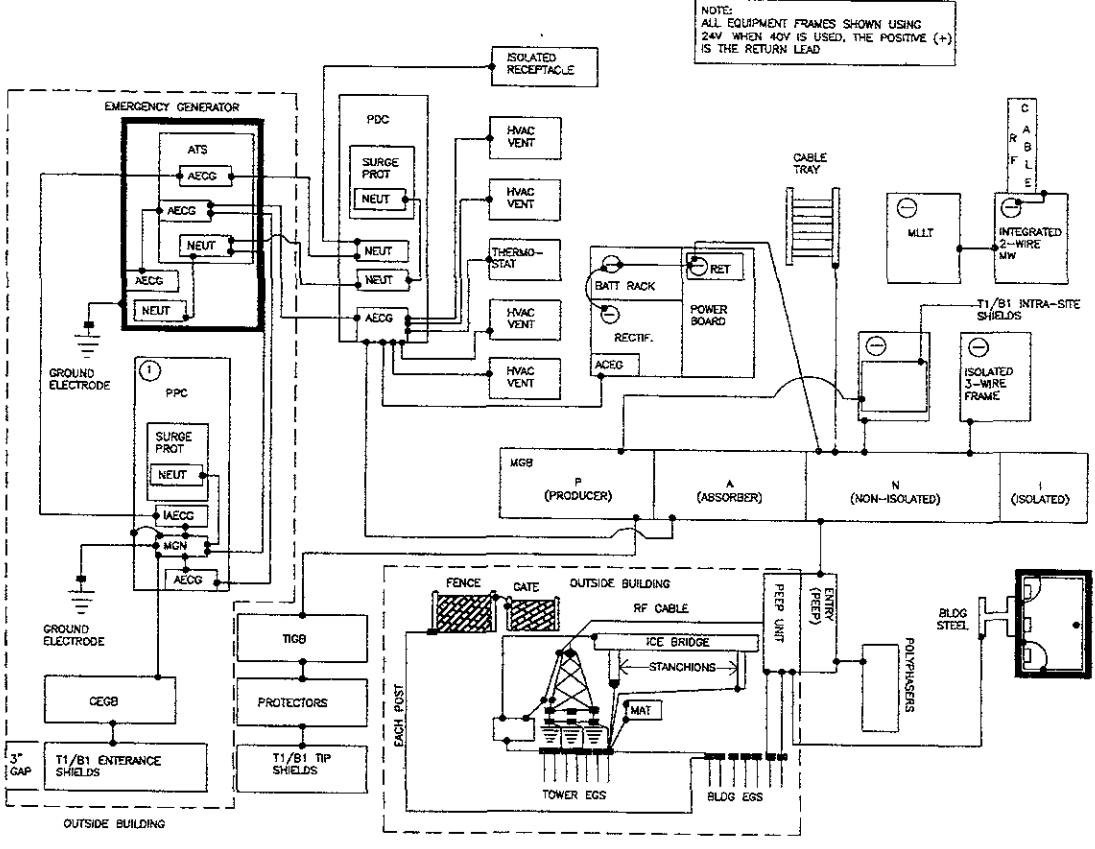
GROUNDING DETAILS

DRAWING NUMBER:

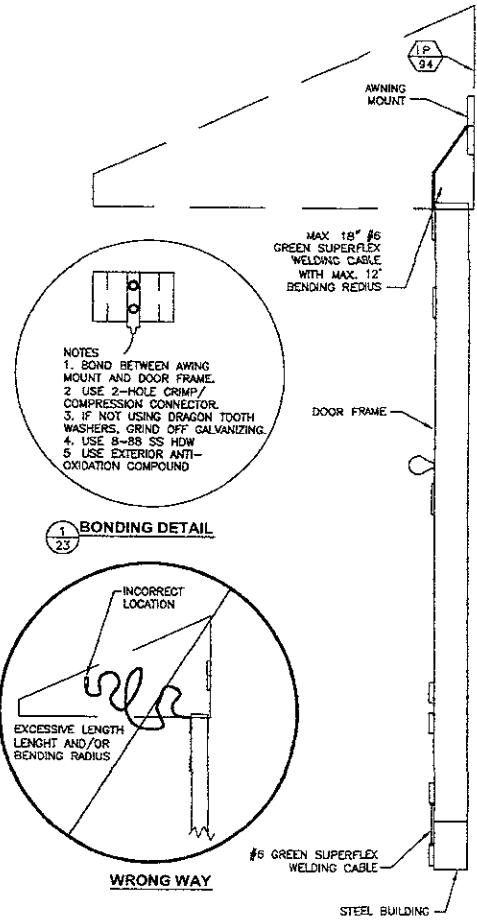
G-7

PROJECT NUMBER:

NOTE:
 ALL EQUIPMENT FRAMES SHOWN USING 24V WHEN 40V IS USED, THE POSITIVE (+) IS THE RETURN LEAD



NOTE:
 THIS IS A CONCEPTUAL GROUNDING SCHEMATIC REFER TO DRAWINGS FOR TOWER TYPE, FENCE LOCATION, ETC. GROUND TO BUILDING STEEL IS ONLY APPLICABLE ON SOME ROOFTOP INSTALLATIONS



2 DOOR AWNING OUTSIDE AND FRAME BONDING DETAIL
 SCALE: N.T.S.

1 WIRELESS SITE GROUNDING SYSTEM
 SCALE: N.T.S.

NOTES:

- CONDUCTOR COLORS ARE AS FOLLOWING:
 120/240 SINGLE PHASE
 PHASE "A" = BLACK
 PHASE "B" = RED
 NEUTRAL = WHITE
 120/208 THREE PHASE
 PHASE "A" = BLACK
 PHASE "B" = RED
 PHASE "C" = BLUE
 NEUTRAL = WHITE
 277/480 THREE PHASE
 PHASE "A" = YELLOW
 PHASE "B" = BROWN
 PHASE "C" = ORANGE
 NEUTRAL = GRAY

ALL ELECTRICAL GROUND = GREEN
 ALL ISOLATED GROUND = GREEN/YELLOW STRIPE
 ALL SWITCHED = VIOLET

- ALL CONDUCTORS (UNLESS OTHERWISE NOTED) TO BE STRANDED THIN, THIN OR THW.

- ALL CONDUIT TO BE 3/4" EMT UNLESS OTHERWISE NOTED

- ALL CONDUCTOR AMPACITIES ARE BASED ON TABLE 310-16 NATIONAL ELECTRICAL CODE

- CONDUIT FILL BASED ON CHAPTER 9 - NATIONAL ELECTRICAL CODE

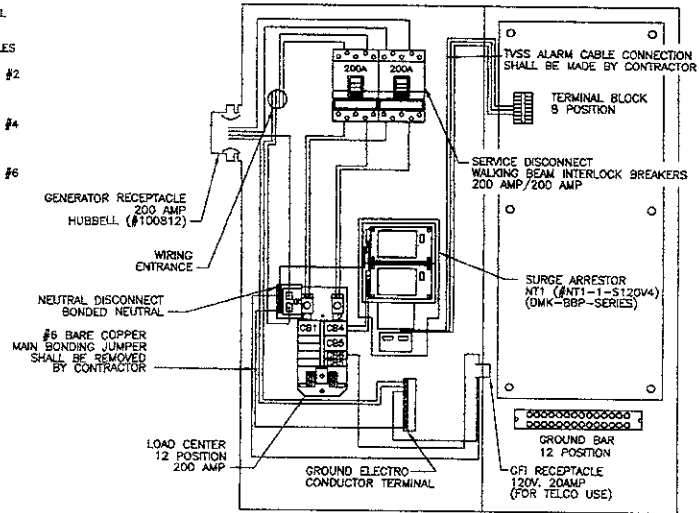
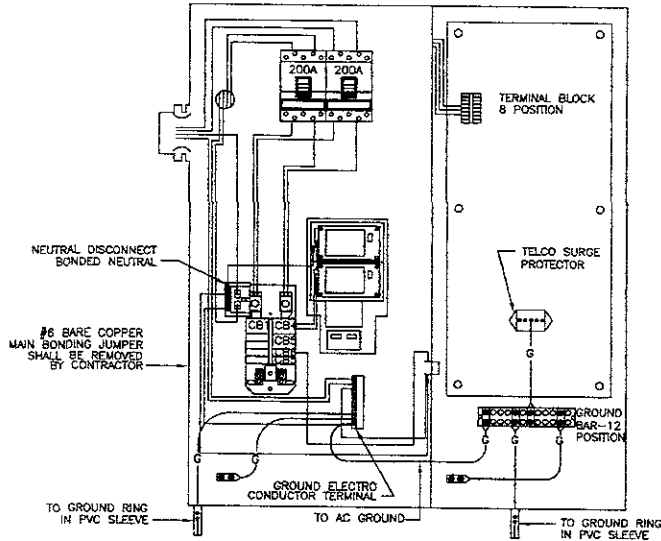
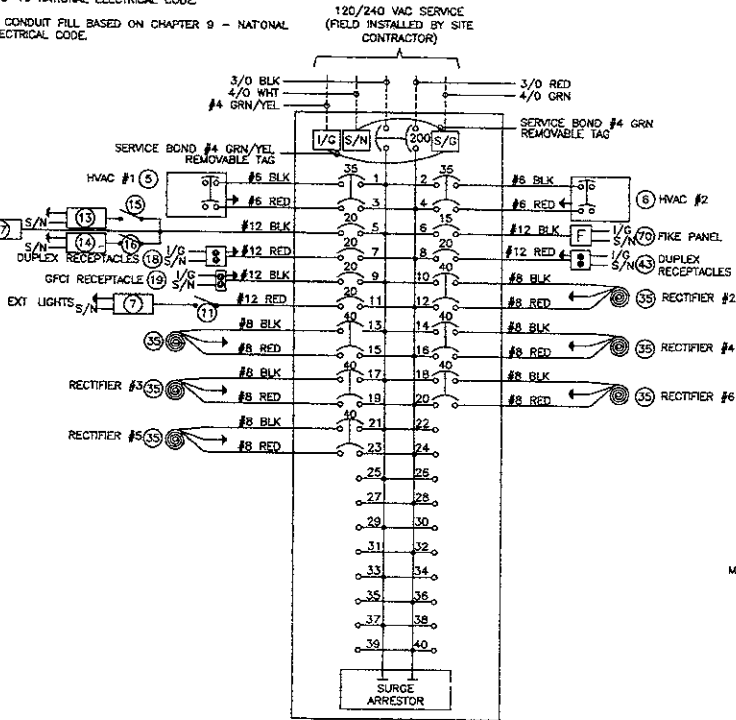
- PLACEMENT OF ELECTRICAL COMPONENTS TO BE DETERMINED BY THE AVAILABILITY OF PRE-MADE KNOCKOUTS AND/OR PENETRATION REQUIREMENTS.

- DASHED LINES (---) DENOTE FIELD WORK

- ALL CIRCUITS ON 25 AMP THROUGH 60 AMP BREAKER MUST USE #10 GROUND CONDUCTOR PER NEC TABLE 1996 250-95; 1989 250-122; 2002 250.122

- CONDUCTORS SMALLER THAN 4 AWG MUST HAVE CORRECT COLOR INSULATION CONDUCTORS 4 AWG AND LARGER MAY BE RE-IDENTIFIED BY COLORED TAPE. BLACK INSULATED CONDUCTOR SHALL BE THE ONLY COLOR TO BE RE-IDENTIFIED. IF CONDUCTORS ARE RE-IDENTIFIED, IDENTIFICATION MUST BE APPLIED IN THREE INCH (3") WRAPS, MINIMUM EVERY THREE FEET (3'-0") RE-IDENTIFICATION SHALL BE VISIBLE BY OPENING ANY ENCLOSURE. WHITE, GRAY AND GREEN CONDUCTORS SHALL NOT BE RE-IDENTIFIED.

- RECTIFIERS 1, 2, 3 IN FIRST RUN OF CONDUIT, AND RECTIFIERS 4, 5, 6 IN OTHER RUN OF CONDUIT.



LL	L2	DESCRIPTION	REV	DATE	BY	DESCRIPTION
1.1	1.1	100A (BY CONTRACTOR)	1	7	CB4	AC SURGE PROTECTION
1.1	1.2	200A	2	6	CB5	60A
1.1	1.2	20A	3	3	CB5	60A
1.1	1.2	20A	4	10	CB8	60A
1.1	1.2	20A	5	11	CB8	20A
1.1	1.2	20A	6	12	NA	TELCO GFI

ASSOCIATED ENGINEERING, INC.
 157 NORTH MAIN ST
 SLU-GHORN, NE 68022
 PH. (402) 289-5040
 FAX. (402) 289-5045
 AEP-PC PROJECT #1607

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

Tom Medhi 01/05/07
 10th Month Date
 MY LICENSE EXPIRES DATE IS DEC. 31, 2008

REGISTERED PROFESSIONAL ENGINEER
 REG. NO. 8498
TOM MEDHI
 SOUTH DAKOTA

APPLICANT/OWNER
Elltel COMMUNICATIONS, INC.
 18300 EAST 71ST AVENUE
 SUITE 120
 DENVER, CO 80249-7370

DRAWN BY: CHK BY: APV BY:
 NK/DHF NK TM

APPROVALS:
 ALLTEL PROJECT ENGINEER
 ALLTEL PROPERTY SPECIALIST
 OWNER

ALLTEL SITE NAME:
SDRC HWY 44

ALLTEL SITE NUMBER:

SUBMITTALS:

REV	DATE	DESCRIPTION
0	01/05/07	100% CONST. DWGS.
0	11/20/06	90% CONST. DWGS.

DRAWING TITLE:
ALLTEL STANDARD DETAILS

DRAWING NUMBER:
STD-1

PROJECT NUMBER:

1 STANDARD SERVICE ONE LINE
 SCALE: NTS

2 STANDARD PPC CABINET ONE LINE DIAGRAM
 SCALE: NTS

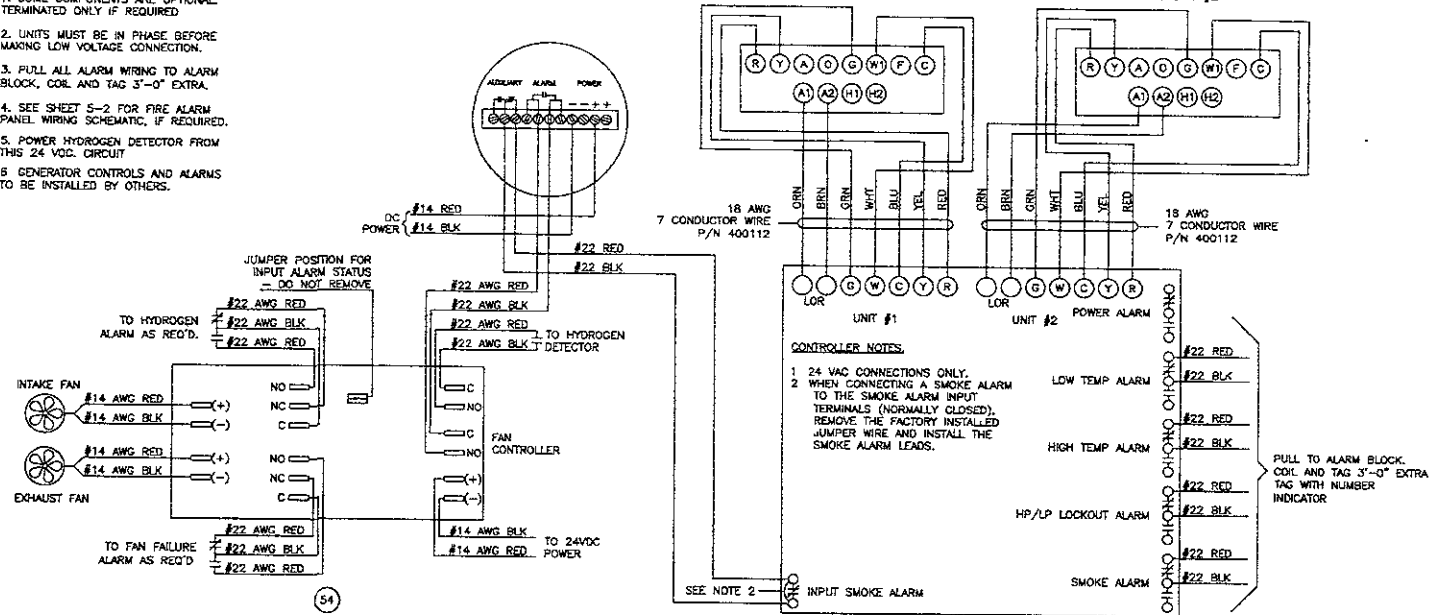
NOTES.

1. SOME COMPONENTS ARE OPTIONAL TERMINATED ONLY IF REQUIRED
2. UNITS MUST BE IN PHASE BEFORE MAKING LOW VOLTAGE CONNECTION.
3. PULL ALL ALARM WIRING TO ALARM BLOCK, COIL AND TAG 3"-0" EXTRA.
4. SEE SHEET 5-2 FOR FIRE ALARM PANEL WIRING SCHEMATIC, IF REQUIRED.
5. POWER HYDROGEN DETECTOR FROM THIS 24 VDC CIRCUIT
6. GENERATOR CONTROLS AND ALARMS TO BE INSTALLED BY OTHERS.

22 24V SMOKE DETECTOR

5 HVAC UNIT #1

6 HVAC UNIT #2



CONTROLLER NOTES

- 1 24 VAC CONNECTIONS ONLY.
- 2 WHEN CONNECTING A SMOKE ALARM TO THE SMOKE ALARM INPUT TERMINALS (NORMALLY CLOSED), REMOVE THE FACTORY INSTALLED JUMPER WIRE AND INSTALL THE SMOKE ALARM LEADS.

PULL TO ALARM BLOCK, COIL AND TAG 3"-0" EXTRA TAG WITH NUMBER INDICATOR

CHONG CHONG CHONG CHONG CHONG CHONG CHONG CHONG

INPUT SMOKE ALARM

POWER ALARM

LOW TEMP ALARM

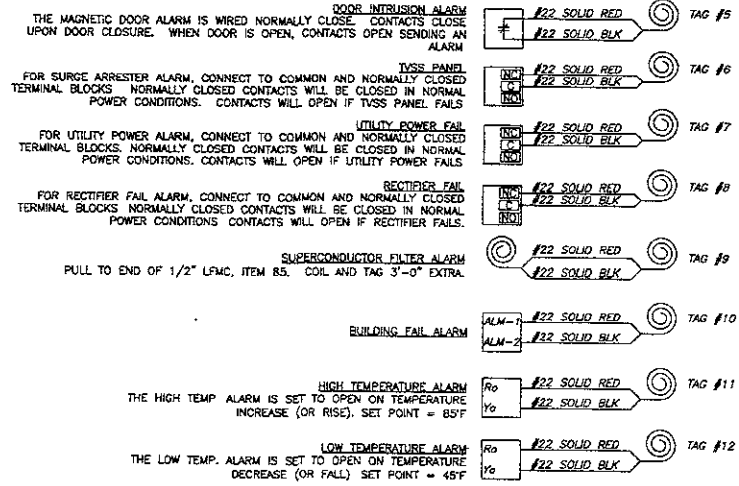
HIGH TEMP ALARM

HP/LP LOCKOUT ALARM

SMOKE ALARM

54 DC FAN SYSTEM (IF REQ'D.)

25 LEAD/LAG CONTROLLER



PULL TO ALARM BLOCK, COIL AND TAG 3"-0" EXTRA TAG WITH NUMBER INDICATOR

1 STANDARD SERVICE ONE LINE SCALE: NTS

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 AEPG PROJECT #1807

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Tom Medhi Date: 01/05/07
 Tom Medhi Date: 01/05/07
 MY LICENSE NUMBER: 08838

REGISTERED PROFESSIONAL ENGINEER
 REG. NO. 8498
 TOM MEDHI
 SOUTH DAKOTA

APPLICANT/OWNER

elltel
COMMUNICATIONS, INC.
 18300 EAST 71ST AVENUE
 SUITE 120
 DENVER, CO 80249-7370

DRAWN BY: CHK BY: APV BY:

NK/DHF NK TN

APPROVALS:

ALLTEL PROJECT ENGINEER

ALLTEL PROPERTY SPECIALIST

OWNER

ALLTEL SITE NAME:

SDRC HWY 44

ALLTEL SITE NUMBER:

SUBMITTALS

REV	DATE	DESCRIPTION
0	01/05/07	100% CONST. DWGS.
0	11/20/06	90% CONST. DWGS

DRAWING TITLE:

ALLTEL STANDARD DETAILS

DRAWING NUMBER:

STD-2

PROJECT NUMBER:

ELECTRICAL NOTES

GENERAL

A. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, ETC. FOR A COMPLETE AND PROPERLY OPERATING SYSTEM ENERGIZED THROUGHOUT AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.

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

C. CONTRACTOR SHALL OBTAIN ALL NECESSARY BUILDING PERMITS, INSPECTIONS AND APPROVALS, AND PAY ALL REQUIRED FEES PURSUANT TO THE WORK.

D. ALL WORK SHALL BE IN STRICT ACCORDANCE WITH THE LATEST VERSION OF THE NATIONAL ELECTRICAL CODE AND ANY APPLICABLE NATIONAL, STATE AND LOCAL CODES ALL COMPONENTS SHALL BE U.L. APPROVED.

E. CONTRACTOR SHALL BEFORE SUBMITTING HIS BID, VISIT THE SITE OF THE PROJECT AND BECOME FAMILIAR WITH THE CONDITIONS. NO ALLOWANCE WILL BE MADE FOR EXISTING CONDITIONS OR FAILURE OF THE CONTRACTOR TO OBSERVE THEM.

F. EXACT LOCATION OF ALL EQUIPMENT SHALL BE COORDINATED WITH OWNER AND OTHER TRADES.

G. CONTRACTOR SHALL PROVIDE ALL VERIFICATION OBSERVATION TESTS AND EXAMINE ALL WORK PRIOR TO ORDERING THE ELECTRICAL EQUIPMENT AND THE ACTUAL CONSTRUCTION CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE ARCHITECT/ENGINEER LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.

H. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN SAFE CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT (SEE NOTE G FOR EXCEPTIONS) MATERIALS SHALL MEET WITH APPROVAL OF THE DIVISION OF INDUSTRIAL SAFETY AND ALL GOVERNING BODIES HAVING JURISDICTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA, NBFU AND "UL" LISTED.

I. WHERE EQUIPMENT IS SPECIFIED BY MANUFACTURER AND TYPE, SUBSTITUTION SHALL ONLY BE MADE WITH THE APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL SUBMIT DETAILS OF PROPOSED MATERIALS, REASON FOR CHANGE AND CHANGE IN CONTRACT AMOUNT.

J. EACH CONDUCTOR OF EVERY SYSTEM SHALL BE PERMANENTLY LABELED WITH ENGRAVED PLASTIC LABELS FOR EACH PANEL BOARD, PULL BOX, J-BOX, SWITCH BOX, ETC. IN COMPLIANCE WITH OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA).

K. THESE PLANS ARE DIAGRAMMATIC ONLY AND ARE TO BE FOLLOWED AS CLOSELY AS POSSIBLE.

L. THE NEUTRAL IS TO BE GROUNDED AT THE METER MAIN PEDESTAL LOCATION ONLY. AT ALL OTHER POINTS IN THE DISTRIBUTION SYSTEM, IT IS TO REMAIN INSULATED FROM ALL OTHER GROUNDS UNLESS OTHERWISE INDICATED ON DRAWING.

M. THE TEMPERATURE RATING ASSOCIATED WITH THE AMPACITY OF A CONDUCTOR SHALL BE SO SELECTED AND COORDINATED AS TO NOT EXCEED THE LOWEST TEMPERATURE RATING OF ANY CONNECTED TERMINATION, CONDUCTOR, OR DEVICE, REFER TO TABLE A.

N. ALL ENCLOSURES CONTAINING THE SERVICE CONDUCTORS--SERVICE RACEWAY, CABLE ARMOR, BOXES, FITTINGS, CABINETS MUST BE EFFECTIVELY BONDED TOGETHER.

MATERIALS, ELECTRICAL WIRING AND RACEWAYS

A. ALL CIRCUIT BREAKERS, FUSES, CONDUCTORS AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING SHORT CIRCUIT TO WHICH THEY MAY BE SUBJECTED AND A MINIMUM OF 10,000 AIC RATING UNLESS SPECIFIED OTHERWISE.

B. PLASTIC PLATES FOR ALL SWITCHES, RECEPTACLES, TELEPHONE AND BLANKED OUTLETS SHALL HAVE ENGRAVED LETTERING WHERE INDICATED ON THE DRAWINGS. WEATHERPROOF RECEPTACLES SHALL HAVE SIERRA "WPD B" LIFT COVER PLATES.

C. METER SOCKET AMPERAGE, VOLTAGE AND NUMBER OF PHASES SHALL BE AS NOTED ON THE DRAWING AND MANUFACTURED BY SQUARE "D" COMPANY OR AN APPROVED EQUAL.

D. INSTALLATION OF RIGID METAL CONDUIT SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF ARTICLES 300 & 348--NEC SHALL BE U.L. APPROVED.

E. INSTALLATION OF ELECTRICAL METALLIC TUBING (EMT) SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF ARTICLES 300 & 348--NEC SHALL BE U.L. APPROVED.

F. INSTALLATION OF INTERMEDIATE METAL CONDUIT (IMC) SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF ARTICLES 300 & 348--NEC SHALL BE U.L. APPROVED.

G. PLASTIC CONDUIT SHALL BE SCHEDULE 40, HIGH IMPACT, POLYVINYL CHLORIDE AND SHALL BE USED WITH UNTHREADED SOLVENT CEMENT PLASTIC CONDUIT FITTINGS. COUPLINGS SHALL HAVE A CENTER STOP TO TYPE ENSURE PROPER SEATING. CONDUIT SHALL BE MANUFACTURED BY CARLON OR ACCEPTABLE EQUAL SHALL BE IN COMPLIANCE WITH ART 300 & 347--NEC, U.L. APPROVED. 90 DEGREE BENDS AND ELBOWS INSTALLED UNDERGROUND TO BE RIGID GALVANIZED STEEL.

H. ALL WIRING OF ALL KINDS MUST BE INSTALLED IN CONDUIT, UNLESS OTHERWISE NOTED OR APPROVED BY THE ELECTRICAL ENGINEER.

I. ALL WIRING SHALL BE COPPER TYPE TINNED AND IN ACCORDANCE WITH THE (NEC) NATIONAL ELECTRICAL CODE OR AS INDICATED ON PLANS.

J. RACEWAYS SHALL BE STEEL GALVANIZED, WITH SIZE AS SPECIFIED AND IN ACCORDANCE WITH THE (NEC) NATIONAL ELECTRICAL CODE UNLESS OTHERWISE NOTED ON PLANS. ALL RACEWAYS SHALL BE APPROVED PRIOR TO INSTALLATION.

K. JUNCTION BOXES OR PULL BOXES SHALL MEET (NEC) NATIONAL ELECTRICAL CODE STANDARDS AND AS APPROVED FOR INSTALLATION OF RACEWAYS AND WIRING.

L. THE RACEWAY AND WIRING INSTALLATION SHALL BE GROUNDED PERMANENTLY AND EFFECTIVELY IN ACCORDANCE WITH ARTICLE 250 OF THE (NEC) NATIONAL ELECTRICAL CODE.

M. THE CONTRACTOR SHALL BE AWARE THAT ALL STATE AND LOCAL CODES SHALL APPLY TO THIS INSTALLATION AND MUST BE ADHERED TO.

SCOPE OF WORK

THE CONTRACTOR SHALL PROVIDE ALL ELECTRICAL WIRING AND EQUIPMENT UNLESS OTHERWISE INDICATED. MAIN COMPONENTS ARE AS FOLLOWS:

A. ONE SET OF COMPLETE ELECTRICAL "AS INSTALLED" OR "AS BUILT" DRAWINGS AT THE COMPLETION OF THE JOB SHOWING ACTUAL DIMENSIONS, ROUTINGS, AND CIRCUITS SHALL BE PROVIDED TO CLIENT. ALL BROCHURES, OPERATING MANUALS, CATALOGS, SHOP DRAWINGS, ETC. SHALL BE TURNED OVER TO CLIENT AT JOB COMPLETION.

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

C. UPON COMPLETION OF WORK, CONDUIT CONTINUITY, SHORT CIRCUIT, AND GROUNDING TEST WILL BE MADE FOR APPROVAL. SUBMIT TEST REPORTS TO CLIENT CLEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE IN A COMPLETE AND UNDAMAGED CONDITION.

D. THE COMPLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF SITE ACCEPTANCE BY CLIENT. ANY WORK MATERIAL OR EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AND AT THE EXPENSE OF THE CONTRACTOR.

E. THE ELECTRICAL CONTRACTOR SHALL VERIFY THE ELECTRICAL EQUIPMENT PROVIDED BY CLIENT'S SUPPLIERS.

	TERMINATION RATING		CONDUCTOR INSULATION RATINGS	
	60 DEGREES C		75 DEGREES C	90 DEGREES C
60 DEGREES C	OK	AT 60 DEGREES C AMPACITY	OK	AT 60 DEGREES C AMPACITY
75 DEGREES C	NO		OK	AT 75 DEGREES C AMPACITY
60/75 DEGREES C	OK	AT 60 DEGREES C OR 75 DEGREES C AMPACITY	OK	AT 60 DEGREES C OR 75 DEGREES C AMPACITY
90 DEGREES C	NO		OK	ONLY IF EQUIP. HAS 90 DEGREES C RATING

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AEPD PROJECT #1607

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Tom Medhi 01/05/07
Tom Medhi Date
BY LICENSE NUMBER DATE IS DEC. 31, 2008



APPLICANT/OWNER:

alltel
COMMUNICATIONS, INC.
18300 EAST 71ST AVENUE
SUITE 120
DENVER, CO 80249-7370

DRAWN BY: CHK BY: APV BY:

NK/DHF NK TM

APPROVALS:

ALLTEL PROJECT ENGINEER

ALLTEL PROPERTY SPECIALIST

OWNER

ALLTEL SITE NAME:

SDRC HWY 44

ALLTEL SITE NUMBER

SUBMITTALS

REV	DATE	DESCRIPTION
0	01/05/07	100% CONST DWGS
0	11/20/06	90% CONST DWGS

DRAWING TITLE:

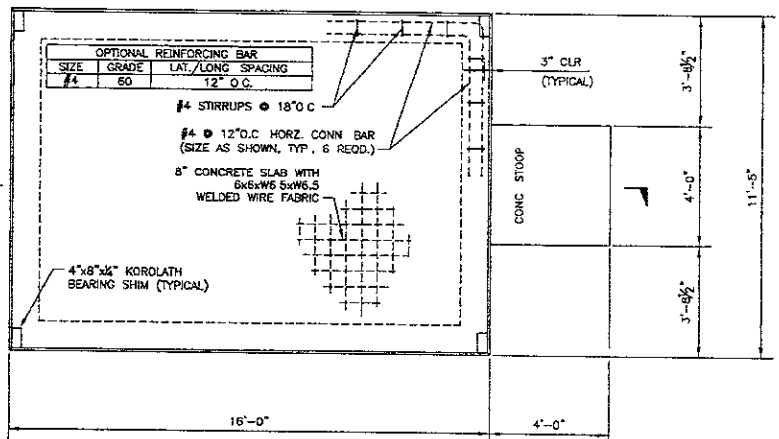
ALLTEL STANDARD DETAILS

DRAWING NUMBER:

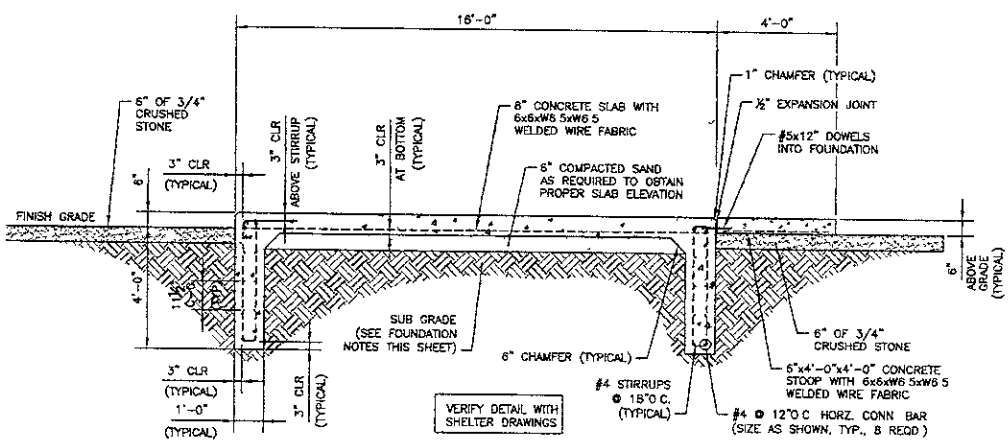
STD-3

PROJECT NUMBER:

VERIFY DETAIL WITH SHELTER DRAWINGS



1 SHELTER FOUNDATION-PLAN
SCALE: 1/2"=1'-0"



2 SHELTER FOUNDATION-ELEVATION
SCALE: 1/2"=1'-0"

GENERAL:

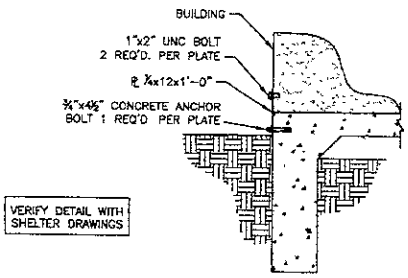
- ALL WORK SHALL BE IN ACCORDANCE WITH THE APPLICABLE MODEL CODE LATEST EDITION AS WELL AS LOCAL REGULATIONS
- IF ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS AND OR CONDITIONS SPECIFIED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY WORK THAT WOULD BE AFFECTED
- ALL REINFORCING BARS SHALL BE TIED WITH THE WIRE AT ALL REINFORCING BAR INTERSECTIONS, THE CONTRACTOR SHALL SUPPORT THE REINFORCING BAR MAT WITH CONTINUOUS STEEL CHAIRS SPACED NO MORE THAN FOUR FEET O.C

FOUNDATION NOTES:

- THE CONTRACTOR SHALL EXCAVATE TO VIRGIN SOIL UNDER THE PROPOSED LOCATION OF THE NEW FOUNDATION.
- ALL WATER SHALL BE REMOVED FROM THE BOTTOM OF THE EXCAVATION BEFORE COMPACTING FILL AND PLACING CONCRETE.
- THE REINFORCED CONCRETE SLAB SHALL BE PLACED ON A 6 MIL THICK POLYETHYLENE VAPOR BARRIER OVER A LAYER OF SAND OR SUB-BASE AS RECOMMENDED BY GEOTECHNICAL REPORT ALL UNSUITABLE MATERIAL (BRICK FRAGMENTS, ASPHALT, CONCRETE BOULDERS, ETC.) WITHIN THE SLAB AREA AND EXCAVATION SHALL BE REMOVED FROM THE SITE.
- THE CONTRACTOR SHALL EMPLOY ALL NECESSARY MEASURES TO SAFEGUARD THE STRUCTURAL INTEGRITY OF ADJACENT STRUCTURES DURING EXCAVATION AND CONSTRUCTION OF FOUNDATIONS
- ADDITIONAL ENGINEERING REVIEW IS REQUIRED IF THE SHELTER FOUNDATION IS PLACED ON SOIL WITH A BEARING CAPACITY LESS THAN 2000 P.S.F.

CONCRETE NOTES:

- ALL DETAILING, FABRICATION AND PLACING OF REINFORCING BARS SHALL BE IN ACCORDANCE WITH THE ACI DETAILING MANUAL SP-88 (LATEST REVISION).
- CONCRETE CONSTRUCTION SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, ACI 318-02"
- CAST-IN-PLACE CONCRETE SHALL BE NORMAL WEIGHT AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS
- REINFORCING BARS SHALL BE GRADE 60 DEFORMED BARS CONFORMING TO ASTM SPECIFICATION A615 USE CLASS B LAP SPLICES.
- THE CONCRETE SLAB SHALL BE POURED LEVEL WITH A TOLERANCE OF 1/8" OVER 10' IN ALL DIRECTIONS



3 CONNECTION DETAIL
SCALE: N.T.S

ASSOCIATED ENGINEERING, INC
157 NORTH MAIN ST
ELKHORN, NE 68022
PH: (402) 289-5040
FAX (402) 289-5045
AERC PROJECT #1607

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Tom Medhi 07/05/07
Tom Medhi Date
MY LICENSE NUMBER, DATE IS DEC. 31, 2008



APPLICANT/OWNER:

elltel
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15300 EAST 71ST AVENUE
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DENVER, CO 80249-7370

DRAWN BY: CHK BY: APV BY:
NK/DHF NK TM

APPROVALS:

ALLTEL PROJECT ENGINEER
ALLTEL PROPERTY SPECIALIST
OWNER

ALLTEL SITE NAME:
SDRC HWY 44

ALLTEL SITE NUMBER:

SUBMITTALS

REV.	DATE	DESCRIPTION
0	01/05/07	100% CONST DWGS
0	11/20/06	90% CONST DWGS

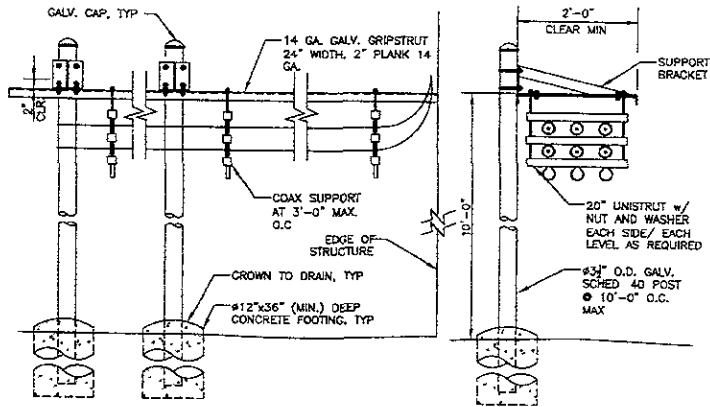
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FOUNDATION PLAN AND DETAILS

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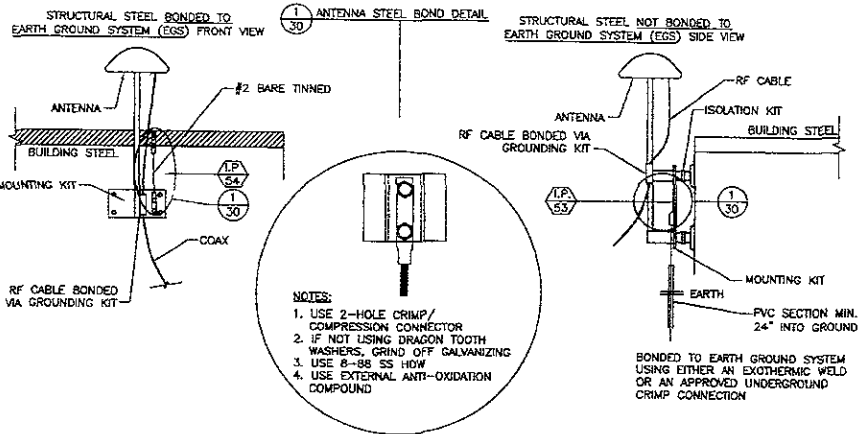
S-1

PROJECT NUMBER:



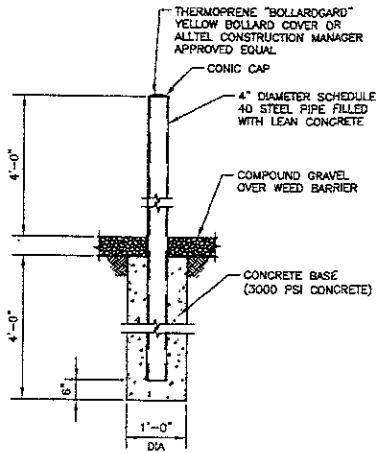
1 TYPICAL WAVEGUIDE BRIDGE SECTION

SCALE: NTS



2 ANTENNA MOUNTED ON EXTERIOR WIRELESS SHELTER GROUNDING

SCALE: NTS



THERMOPRENE CONTACT INFORMATION
 10175 QUEENS WAY
 CHAGRIN FALLS, OH 44023
 PHONE (440) 543-8660
 FAX: (440) 543-9661
 EMAIL: customerservice@thermoprene.com

3 TYPICAL BOLLARD DETAIL

SCALE: NTS

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 ELKHORN, NE 68022
 PH: (402) 289-5040
 FAX: (402) 289-5045
 AEPIC PROJECT #1607

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 Tom Medhi Date: 01/05/07
 MY LICENSE RENEWAL DATE IS DEC. 31, 2008



APPLICANT/OWNER
alltel
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 DENVER, CO 80249-7370

DRAWN BY: DCHK BY: APV BY:
 NK/DHF NK TM

APPROVALS:
 ALLTEL PROJECT ENGINEER
 ALLTEL PROPERTY SPECIALIST
 OWNER
 ALLTEL SITE NAME:

SDRC HWY 44
 ALLTEL SITE NUMBER:

SUBMITTALS:

REV.	DATE	DESCRIPTION
0	01/05/07	100% CONST DWGS
0	11/20/08	90% CONST. DWGS

DRAWING TITLE
WAVEGUIDE BRIDGE DETAILS

DRAWING NUMBER:
S-2
 PROJECT NUMBER:

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.01 DESCRIPTION

WORK INCLUDES CONSTRUCTION OF CAST-IN-PLACE CONCRETE FOUNDATIONS, INCLUDING FURNISHING AND INSTALLING READY-MIX CONCRETE, REINFORCING, FORM WORK, AND ACCESSORY MATERIALS AS SHOWN ON THE DRAWINGS. CAST-IN-PLACE CONCRETE INCLUDES ALL SITE CONCRETE, INCLUDING FOUNDATIONS, SLABS ON GRADE, EQUIPMENT PADS, AND POST FOUNDATIONS.

1.02 RELATED WORK

A. COORDINATE UNDER SLAB CONDUITS

B. COORDINATE WITH GROUNDING

1.03 QUALITY ASSURANCE

CONCRETE MATERIALS AND OPERATIONS SHALL BE TESTED AND INSPECTED BY A TESTING AGENCY OR AS DIRECTED BY THE CONSTRUCTION MANAGER.

1.04 TESTS

CONCRETE MATERIALS AND OPERATIONS SHALL BE TESTED AND INSPECTED BY THE ENGINEER OR QUALIFIED TESTING AGENCY AS THE WORK PROGRESSES. FAILURE TO DETECT ANY DEFECTIVE WORK OR MATERIAL SHALL NOT IN ANY WAY PREVENT LATER MATERIAL REJECTION WHEN SUCH DEFECT IS DISCOVERED NOR SHALL IT OBLIGATE THE ENGINEER FOR FINAL ACCEPTANCE.

A. 5 CONCRETE TEST CYLINDERS SHALL BE TAKEN OF THE TOWER AND PIER FOUNDATION, 2 SHALL BE TEST AT 3 DAYS, 2 AT 28 DAYS THE FIFTH CYLINDER SHALL BE KEPT SEPARATELY, FOR FUTURE TESTING IF REQUIRED.

B. 1 ADDITIONAL TEST CYLINDER SHALL BE TAKEN DURING COLD WEATHER AND CURED ON SITE UNDER SAME CONDITIONS AS THE CONCRETE IT REPRESENTS

PART 2 - PRODUCT

2.01 CONCRETE MATERIALS

CONCRETE SHALL BE COMPOSED OF PORTLAND CEMENT, WATER, FINE AND COARSE AGGREGATES, AND ADMIXTURES AS SPECIFIED BELOW ALL WELL MIXED AND BROUGHT TO PROPER CONSISTENCY.

A. CEMENT: CEMENT SHALL BE TYPE 2, GRAY COLOR, LOW ALKALI PORTLAND CEMENT CONFORMING TO ASTM C150.

B. FINE AND COARSE AGGREGATES. AGGREGATES FOR USE IN CONCRETE SHALL COMPLY WITH ASTM C33.

C. WATER: WATER FOR MIXING AND CURING CONCRETE SHALL BE FREE FROM SEWAGE, OIL, ACID, ALKALI, AND SALTS AND SHALL BE FREE FROM OBJECTIONABLE QUANTITIES OF SILT, AND OTHER DELETERIOUS SUBSTANCES

2.02 ADMIXTURES

A. AIR ENTRAINMENT. AIR ENTRAINING AGENT SHALL CONFORM TO ASTM C280 THE ADMIXTURE SHALL BE ADDED AS PART OF THE COMPUTED MIXING WATER REQUIREMENTS AGENTS PREPARED IN SOLUTION SHALL BE MAINTAINED AT A UNIFORM STRENGTH AND SHALL BE BATCHED BY MEANS OF RELIABLE MECHANICAL DISPENSERS.

B. CHEMICAL ADMIXTURES ASTM 494, TYPE A WATER REDUCING AND RETARDING

2.03 CURING COMPOUND

ASTM C309, TYPE 1, CLASS B; TRANSLUCENT.

2.04 ACCESSORIES

A. NONSHRINK GROUT: PREMIXED COMPOUND CONSISTING OF NONMETALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTICIZING AGENTS CAPABLE OF DEVELOPING MINIMUM COMPRESSIVE STRENGTH OF 7,000 PSI IN 28 DAYS.

B. JOINT FILLERS BITUMINOUS TYPE: ASTM D1751 OR NON-BITUMINOUS TYPE, ASTM D1752.

C. ANCHOR BOLTS: MATERIAL CONFORMING TO ASTM A307 HOT-DIPPED GALVANIZED, ASTM A153

2.05 CONCRETE MIX

A. CONCRETE SHALL BE PROPORTIONED FOR WORKABILITY, MAXIMUM DENSITY, STRENGTH, AND DURABILITY REQUIREMENTS IN ACCORDANCE WITH ACI 301. THE 28-DAY DESIGN COMPRESSIVE STRENGTH OF CONCRETE SHALL BE AS SPECIFIED ON THE DRAWINGS CONCRETE FURNISHED MAY BE A COMMERCIAL READY-MIX PROVIDED THAT DELIVERY TO THE PLACING LOCATION IS SATISFACTORILY ESTABLISHED AS OCCURRING NOT LATER THAN 45 MINUTES AFTER ADDITION OF WATER TO THE MIX. SLUMP OF DELIVERED CONCRETE SHALL NOT EXCEED 5".

B. THE FOLLOWING DESIGN COMPRESSIVE STRENGTHS SHALL BE USED (UNLESS NOTED OTHERWISE IN THE DRAWINGS)

1. FENCE POST FOUNDATIONS: 2,000 PSI AT 28 DAYS

2. EQUIPMENT FOUNDATIONS: 3,000 PSI AT 28 DAYS

3. ALL OTHER CONCRETE NOT SPECIFIED: 3,000 PSI AT 28 DAYS

4. TOWER FOUNDATION CONFORM TO TOWER MFG.'S SPECIFICATIONS

C. USE ACCELERATING ADMIXTURES IN COLD WEATHER ONLY WHEN APPROVED BY THE ENGINEER. USE OF ADMIXTURES WILL NOT RELAX COLD WEATHER PLACEMENT REQUIREMENTS.

D. USE SET-RETARDING ADMIXTURES DURING HOT WEATHER ONLY WHEN APPROVED BY THE ENGINEER

E. ADD AIR ENTRAINING AGENT TO CONCRETE MIX FOR CONCRETE WORK SUBJECT TO OR EXPOSED TO EXTERIOR.

PART 3 - EXECUTION

3.01 INSPECTION

THE CONTRACTOR SHALL VERIFY ANCHORS, SEATS, PENETRATIONS, PLATES, REINFORCEMENT, AND OTHER ITEMS TO BE CAST INTO CONCRETE ARE ACCURATELY PLACED HELD SECURELY, AND SHALL NOT CAUSE HARDSHIP IN PLACING CONCRETE.

3.02 PREPARATION

A. THE CONTRACTOR SHALL PREPARE PREVIOUSLY PLACED CONCRETE (TO BE CAST AGAINST) BY CLEANING WITH STEEL BRUSH AND APPLYING BONDING AGENT APPLY BONDING AGENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS

3.03 PLACING CONCRETE

A. CONCRETE SHALL NOT BE PLACED UNTIL ALL FORM WORK, EMBEDDED PARTS, STEEL REINFORCEMENT, FOUNDATION SURFACES, AND JOINTS INVOLVED IN THE PLACING HAVE BEEN APPROVED, AND UNTIL FACILITIES ACCEPTABLE TO THE CONSTRUCTION MANAGER HAVE BEEN APPROVED AND MADE READY FOR ACCOMPLISHMENT OF THE WORK AS SPECIFIED CONCRETE MAY NOT BE ORDERED FOR PLACEMENT UNTIL ALL ITEMS HAVE BEEN APPROVED AND CONSTRUCTION MANAGER HAS PERFORMED A FINAL INSPECTION AND GIVEN APPROVAL TO START PLACEMENT

B. PLACEMENT OF CONCRETE SHALL BE IN ACCORDANCE WITH ACI 301

C. THE CONTRACTOR SHALL ENSURE THAT REINFORCEMENT, INSERTS, EMBEDDED PARTS, FORMED JOINTS, AND VAPOR BARRIERS ARE NOT DISTURBED DURING CONCRETE PLACEMENT.

3.04 SURFACE FINISHES

A. SURFACES AGAINST WHICH BACK FILL OR CONCRETE SHALL BE PLACED REQUIRE NO TREATMENT EXCEPT REPAIR OF DEFECTIVE AREAS.

B. SURFACES THAT WILL BE PERMANENTLY EXPOSED SHALL PRESENT A UNIFORM FINISH PROVIDED BY THE REMOVAL OF FINIS AND THE FILLING HOLES AND OTHER IRREGULARITIES WITH DRY PACK GROUT, OR BY SACKING WITH UTILITY OR ORDINARY GROUT

C. SURFACES THAT WOULD NORMALLY BE LEVEL AND WHICH WILL BE PERMANENTLY EXPOSED TO THE WEATHER SHALL BE SLOPED FOR DRAINAGE, UNLESS ENGINEER'S DESIGN DRAWING SPECIFIES A HORIZONTAL SURFACE OR SURFACES SUCH AS STAIR TREADS, WALLS, CURBS, AND PARAPET WALL SHALL BE SLOPED APPROXIMATELY 1/4" PER FOOT.

D. SURFACES THAT WILL BE COVERED BY BACKFILL OR CONCRETE SHALL BE SMOOTH SCREENED

3.05 PATCHING

THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER IMMEDIATELY UPON REMOVAL OF THE FORMS TO OBSERVE CONCRETE SURFACE CONDITIONS. IMPERFECTIONS SHALL BE PATCHED ACCORDING TO THE CONSTRUCTION MANAGER'S DIRECTION.

3.06 DEFECTIVE CONCRETE

THE CONTRACTOR SHALL NOTIFY OR REPLACE CONCRETE NOT CONFORMING TO REQUIRED LEVELS AND LINES, DETAILS AND ELEVATIONS AS SPECIFIED IN ACI 301.

3.07 PROTECTION

A. IMMEDIATELY AFTER PLACEMENT, THE CONTRACTOR SHALL PROTECT THE CONCRETE FORM PREMATURE DRYING, EXCESSIVELY HOT OR COLD TEMPERATURES, AND MECHANICAL INJURY.

B. CONCRETE SHALL BE MAINTAINED WITH MINIMAL MOISTURE LOSS AT RELATIVELY CONSTANT TEMPERATURE FOR A PERIOD NECESSARY FOR HYDRATION OF CEMENT AND HARDENING OF CONCRETE.

C. ALL CONCRETE SHALL BE WATER CURED BY CONTINUOUS FINE MIST SPRAYING OR SPRINKLING ALL EXPOSED SURFACES WATER SHALL BE CLEAN AND FREE FROM ACID, ALKALI, SALTS, OIL, SEDIMENT, OR ORGANIC MATTER.

STRUCTURAL STEEL

PART 1 - GENERAL

1.01 WORK INCLUDED

A. THE WORK CONSISTS OF THE FABRICATION AND INSTALLATION OF ALL STRUCTURAL STEEL TO BE FURNISHED

1. STEEL FRAMING INCLUDING COMPONENTS

2. WELDING AND BOLTING OF ATTACHMENTS.

1.02 REFERENCE STANDARDS

A. THE WORK SHALL CONFORM TO THE CODES AND STANDARDS OF THE FOLLOWING AGENCIES:

1. ASTM, AMERICAN SOCIETY FOR TESTING AND MATERIALS

2. AISC, AMERICAN INSTITUTE OF STEEL CONSTRUCTION, "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."

3. AWS, AMERICAN WELDING SOCIETY

PART 2 - PRODUCTS

2.01 MATERIALS

A. STRUCTURAL STEEL SHALL COMPLY WITH THE REQUIREMENTS OF ASTM A36 EXCEPT STEEL PIPE WHICH SHALL MEET THE REQUIREMENTS OF ASTM A53, GRADE B. THIS SECTION DOES NOT GOVERN THE TOWER STEEL (PROPERTIES FOR TOWER STEEL TO BE DETERMINED BY TOWER SUPPLIER)

2.02 WELDING

A. ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS CERTIFICATION DOCUMENTS SHALL BE MADE AVAILABLE UPON REQUEST.

B. WELDING ELECTRODES SHALL BE E70 SERIES

C. FIELD WELDING SHALL BE DONE AS PER AWS D1.1 REQUIREMENTS, VISUAL INSPECTION IS ACCEPTABLE.

2.03 BOLTING

A. BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A325, AND SHALL BE HOT-DIPPED GALVANIZED (UNLESS NOTED OTHERWISE). NUTS SHALL BE HEAVY HEX TYPE (U.N.O.)

B. ALL BOLTS IN SLIP CRITICAL CONNECTIONS SHALL BE INSTALLED CONFORMING TO THE AISC METHOD, CONFORMING TO THE 1/4 TURN METHOD

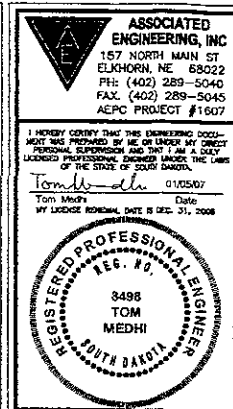
2.04 FABRICATION

A. FABRICATION OF STEEL SHALL CONFORM TO THE AISC AND AWS STANDARDS AND CODES.

2.05 FINISH

A. STRUCTURAL STEEL EXPOSED TO WEATHER SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM-123 OR A-153.

B. UPON COMPLETION OF ERECTION, INSPECT ALL GALVANIZED STEEL AND PAINT ANY FIELD CUTS, WELD OR GALVANIZED BREAKS WITH (2) COATS OF ZINC-RICH COLD GALVALUME PAINT.



APPLICANT/OWNER:



DRAWN BY: CHK BY: APV BY:

NK/DHF NK TM

APPROVALS:

ALLTEL PROJECT ENGINEER

ALLTEL PROPERTY SPECIALIST

OWNER

ALLTEL SITE NAME:

SDRC HWY 44

ALLTEL SITE NUMBER

SUBMITTALS:

REV	DATE	DESCRIPTION
0	01/05/07	100% CONST DWGS.
0	11/20/06	90% CONST DWGS.

DRAWING TITLE

STRUCTURAL SPECIFICATIONS

DRAWING NUMBER

SP-1

PROJECT NUMBER: