

McBRAYER, McGINNIS, LESLIE & KIRKLAND, PLLC  
ATTORNEYS-AT-LAW

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RECEIVED  
APR 07 2009  
PUBLIC SERVICE  
COMMISSION

April 7, 2009

Mr. Jeff Derouen, Executive Director  
Public Service Commission  
211 Sower Blvd.  
Frankfort, KY 40602-0615

VIA HAND DELIVERY

RE: **Application of Powertel/Memphis, Inc. d/b/a T-Mobile, for Issuance of a Certificate of Public Convenience and Necessity to Construct an Additional Facility at 270 Midway Road, Murray, Calloway County, Kentucky ("Application")**  
**PSC Case No. 2009-00132**  
**(The "9LV0920/South Murray" Facility)**

Dear Mr. Derouen:

Please be advised that the undersigned represents Powertel/Memphis, Inc. in regard to the above-referenced Application which I am filing on its behalf today with the Commission.

Enclosed please find one original and five copies of the Application along with one set of project description drawings, signed and sealed by a licensed professional engineer in Kentucky.

Any comments or questions in regard to the application should be forwarded to the undersigned. Thank you for your assistance in this matter.

Sincerely,



W. Brent Rice  
Counsel for Powertel/Memphis, Inc.

WBR/dkw  
Enclosures

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF POWERTEL/MEMPHIS, INC. )  
d/b/a T-MOBILE FOR ISSUANCE OF A )  
CERTIFICATE OF PUBLIC CONVENIENCE AND )  
NECESSITY TO CONSTRUCT AN ADDITIONAL )  
CELL FACILITY AT 270 MIDWAY ROAD, MURRAY, )  
CALLOWAY COUNTY, KENTUCKY )  
 )  
**APPLICANT SITE NAME:** )  
**THE SOUTH MURRAY FACILITY** )  
 )  
**APPLICANT SITE NUMBER: 9LV0920** )

OFFICIAL

CASE NO. 2009-00132

RECEIVED

APR 07 2009

PUBLIC SERVICE  
COMMISSION

**APPLICATION**

Powertel/Memphis, Inc., a Delaware corporation d/b/a T-Mobile ("Applicant") applies for a Certificate of Public Convenience and Necessity to construct and operate an additional cell facility to serve the customers of its cellular radio telecommunications network in the Commonwealth of Kentucky. In support of this Application, Applicant, respectfully states that:

1. Its complete name, address and telephone number are: Powertel/Memphis, Inc., d/b/a T-Mobile, Four Concourse Parkway, Suite 300, Atlanta, Georgia 30328, having a local address of 11509 Commonwealth Drive, Louisville, Kentucky 40299. The local telephone number is (502)297-6202.

2. The Applicant is a Delaware general partnership. A copy of its Articles of Incorporation; Certificate of Amendment changing its name from Intercell Memphis MTA, Inc. to Powertel/Memphis, Inc.; and its applicable Federal Communications License for this market area is attached as **Exhibit A**.

3. The Applicant proposes to construct an additional cellular facility in

Calloway County, Kentucky (the "Cell Facility"). The Cell Facility will be comprised of a 250' self-supporting tower with attached antennas extending upward 10' for a total height of 260', and an equipment shelter. The equipment shelter will contain the transmitters and receivers required to connect the cell facility with cellular telephone users, which will link the Cell Facility with Applicant's other cells. The Cell Facility will be fenced with a secured access gate. Two sets of project drawings are being submitted with this Application. A detailed description of the manner in which the Cell Facility will be constructed is included in the drawings and on the Survey (scale: 1" = 200'). A copy of the Survey is attached as **Exhibit B**. The Survey is signed and sealed by Frank L. Sellinger, II, a professional registered surveyor in Kentucky and it depicts the proposed location of the tower and all easements and existing structures on the property on which the tower will be located. A vertical tower profile and its foundation, each signed and sealed by a professional engineer registered in Kentucky are attached as **Exhibit C**. The tower design plans include a description of the standard according to which the tower was designed.

4. A geotechnical investigation report performed by Asher, Inc., of Louisville, Kentucky, dated March 10, 2009 is attached as **Exhibit D**. The geotechnical investigation report is signed and sealed by Richard A. Linker, II, a professional engineer registered in Kentucky. The geotechnical investigation report includes boring logs, foundation design recommendations, and a finding as the proximity of the proposed site to flood hazard areas.

5. As noted on the Survey attached as a part of **Exhibit B**, the surveyor has determined that the site is not within any FIA flood hazard area.

6. The possibility of a strong ground shaking has been considered in the

design of this guyed tower. Formulas are given in codes for earthquake loading. The formulas are for lateral loads, and they take into account the seismic zone, ground motion and structure. The two most important components of the structure are its weight and shape. Applying all of the factors to the formula, the resultant earthquake load is less than the design wind load. Seismic loading has been considered in the design of this tower, although it is regarded as secondary to the wind loading.

Even if the tower would fall as result of an earthquake, it should not damage any occupied buildings. In the event of failure of the tower mast, all of the debris will most likely lie within a circle whose center is the tower base and whose radius is no more than 60% of the tower height.

7. Similarly, the possibility of a strong wind has been considered in the design of this tower. It has been designed and engineered by professional engineers using computer assistance and the same accepted codes and standards as are typically used for high-rise building construction. This tower has been designed in accordance with the Electronic Industries Association ("ETA") Standard RS-222E, which has been accepted and approved by ANSI and is a nationally recognized tower design standard. The ANSI/EIA standard utilizes a "stepped" wind loading in tower design. This means that a standardized wind speed (the "basic wind speed") is applied to the tower structure at the 33-foot level and then is "increased" with increments of tower height. In this case, the design wind speed is 90 mph. Using the appropriate wind speed for each antenna level, the thrust of the antenna and its corresponding waveguide load are applied to the tower structure for maximum member loads.

8. Personnel directly responsible for the design and construction of the proposed tower are qualified and experienced. The soil testing and part of the

foundation design was performed by Tower Innovations, Inc. under the supervision of W. Gray Hodge, P.E., a registered professional engineer in the Commonwealth of Kentucky. His specialty is geotechnical engineering which includes sub-surface exploration and foundation design. He has served as project and principal engineer on various projects similar to the applicant's. These projects include construction, tower crane foundations, and nexrad doppler radar towers, other mobile telephone towers and elevated water towers. Foundation types for these towers have included drilled piers, auger-cast piles, driven piles and spread footings. Design of the tower and foundation was performed by Tower Innovations, Inc. The Applicant uses qualified installation crews and site inspectors for construction of its towers. The tower drawings are signed and sealed by W. Gray Hodge, P.E., a professional engineer registered in Kentucky. The foundation drawings are signed and sealed by W. Gray Hodge, an engineer registered in Kentucky.

9. The public convenience and necessity require the construction of this additional Cell Facility. The additional Cell Facility is essential to improve service to Applicant's current customers in that transmission and reception "weak spots" within the area to be covered by the Cell Facility will be substantially reduced. The Cell Facility will also increase the system's capacity to meet the increasing demands for cellular service in Kentucky.

The process that was used in selecting the site for the proposed Cell Facility by the applicant's radio frequency engineers was consistent with the process used for selecting generally all other existing cell facilities within the licensed area. The engineers used computer programs to locate cell sites that will enable the cell facilities to serve the Federal Communications Commission certificated territory without

extending beyond its approved boundary and to meet other mandates of the Commission. The engineers select the optimum site in terms of elevation and location to provide the best quality service to customers in the service area. A map of the area in which the tower is proposed to be located, that is drawn to scale and that clearly depicts the necessary search area within which a site should be located as determined by the Applicant's Radio Frequency Engineers is attached as **Exhibit E**.

It is imperative that the proposed Cell Facility be constructed to allow Applicant to meet its licensing requirements as mandated by the Federal Communications Commission and to further meet the increasing demands for cellular service in the licensed area.

10. The Cell Facility will serve an area totally within Applicant's current service area in the licensed area.

11. Since the proposed Cell Facility will serve only the licensed area, no further approvals by the Federal Communications Commission ("FCC") are required. See 47 C.F.R. §24.11(b), "[b]lanket licenses are granted for each market and frequency block. Applications for individual sites are not required and will not be accepted."

12. The Federal Aviation Administration ("FAA") determined on March 23, 2009 that the proposed construction would not exceed FAA obstruction standards and would not be a hazard to air navigation. The determination from the FAA is attached as **Exhibit F**. An Application to the Kentucky Airport Zoning Commission ("KAZC") was filed on February 9, 2009, a copy of which is attached as **Exhibit G**. Upon receiving a determination from the KAZC, the Applicant will forward a copy of such determination as a supplement to this Application.

13. The proposed location of the tower is not within a jurisdiction that has

adopted planning and zoning regulations in accordance with KRS Chapter 100. The Applicant has notified the Calloway County Judge Executive, by certified mail, return receipt requested, of the proposed construction. The Applicant included in the notice the Commission docket number under which the application will be processed and informed said person of his right to request intervention. A copy of the notice is attached as **Exhibit H**.

14. The Cell Facility will be located on 270 Midway Road, Murray, Calloway County, Kentucky. Appropriate notices 2' X 4' with the word "TOWER" in letters at least four inches high, have been posted in a visible location on the proposed site and on the nearest public road and shall remain posted for at least two (2) weeks after the Application is filed. The location of the proposed facility has been published in a newspaper of general circulation in Calloway County, Kentucky. The Cell Facility's coordinates are: Latitude: 36° 33' 11"; Longitude: 88° 19' 47".

15. Clear directions to the proposed site from the county seat are:

From Murray, Kentucky take Hwy. 641 South to Midway Road. Turn right onto Midway Road and turn right onto Heron Road, the Site is on the right.

The telephone number for the person preparing the directions is 205-655-1427 and the individual's name is Timothy Hardy. The Survey identifies every structure within 500' of the proposed tower, and all easements and existing structures within 200' of the access drive, including the intersection with the Public Street System, drawn to a scale no less than one (1) inch equals 200'.

16. Applicant has notified every person who is contiguous or within 500' of the proposed tower by certified mail, return receipt requested, of the proposed construction. Applicant included in said notice the Commission docket number under which the

Application will be processed and informed each person of his or her right to request intervention. A list of the property owners and copies of the certified letters sent to the referenced property owners are attached as **Exhibit I**. Copies of the return receipts will be filed with the Commission when received.

17. The site for the proposed Facility is located outside the incorporated limits of the City of Murray and is not zoned. The area is rural in nature with vacant land and few residences. The proposed facility will improve coverage along Hwy. 641, and surrounding areas, and will provide 911 emergency coverage in order to meet the continuing demands of location services.

18. Applicant has considered the likely effects of the installation on nearby land uses and values and has concluded that there is no more suitable location reasonably available from which adequate service can be provided. Applicant attempted to collocate on existing towers or structures, however, there are no such existing towers or structures in the vicinity of the proposed site.

19. The site for the Cell Facility is to be leased from Ronnie and Deborah Ray. A copy of the Site Lease with Option is attached as **Exhibit J**.

20. The names of all public utilities, corporations, or persons with whom the proposed new construction is likely to compete is Sprint PCS, AT&T Wireless and Verizon Wireless.

21. Applicant plans to finance the construction of the Cell Facility through the use of working capital. If sufficient funds are not available from this source, the company will obtain funds through short-term loans payable within two years.

22. Any customer complaints may be reported by dialing 611 on the customer's cellular phone.



WHEREFORE, Applicant requests that the Commission, pursuant to KRS278.020, grant a Certificate of Public Convenience and Necessity to Applicant for construction and operation of the proposed Cell Facility and providing for such other relief as is necessary and appropriate.

Respectfully submitted,



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W. Brent Rice  
McBRAYER, McGINNIS, LESLIE &  
KIRKLAND, PLLC  
201 East Main Street, Suite 1000  
Lexington, KY 40507  
Phone: 859/231-8780  
COUNSEL FOR POWERTEL/MEMPHIS, INC.  
d/b/a T-MOBILE

## LIST OF EXHIBITS

- |           |  |
|-----------|--|
| Exhibit A | Applicant Adoption Notices               |
| Exhibit B | Site Plan and Survey                     |
| Exhibit C | Tower and Foundation Profile             |
| Exhibit D | Report of Geotechnical Exploration       |
| Exhibit E | Search Area Map                          |
| Exhibit F | FAA Filing                               |
| Exhibit G | KAZC Filing                              |
| Exhibit H | Correspondence to County Judge Executive |
| Exhibit I | Notice to Adjoining Property Owners      |
| Exhibit J | Site Lease with Option Agreement         |



**Federal Communications Commission  
Wireless Telecommunications Bureau**

**Radio Station Authorization (Reference Copy Only)**

This is not an official FCC license. It is a record of public information contained in the FCC's licensing database on the date that this reference copy was generated. In cases where FCC rules require the presentation, posting, or display of an FCC license, this document may not be used in place of an official FCC license.

Licensee: PowerTel Memphis Licenses, Inc.

ATTN Dan Menser  
PowerTel Memphis Licenses, Inc.  
12920 SE 38th Street  
Bellevue, WA 98006

<b>FCC Registration Number (FRN):</b> 0001832807	
<b>Call Sign:</b> KNLH399	<b>File Number:</b>
<b>Radio Service:</b> CW - PCS Broadband	

<b>Grant Date</b> 04/28/1997	<b>Effective Date</b> 01/09/2006	<b>Expiration Date</b> 04/28/2007	<b>Print Date</b> 01/20/2006
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<b>Market Number:</b> BTA252	<b>Channel Block:</b> E	<b>Sub-Market Designator:</b> 0
<b>Market Name:</b> Lexington, KY		

<b>1st Build-out Date</b>	<b>2nd Build-out Date</b>	<b>3rd Build-out Date</b>	<b>4th Build-out Date</b>
04/28/2002			

Special Conditions or Waivers/Conditions

**Conditions**  
Pursuant to Section 309(h) of the Communications Act of 1934, as amended, 47 U.S.C. Section 309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. Section 310(d). This license is subject in terms to the right of use or control conferred by Section 706 of the Communications Act of 1934, as amended. See 47 U.S.C. Section 706.

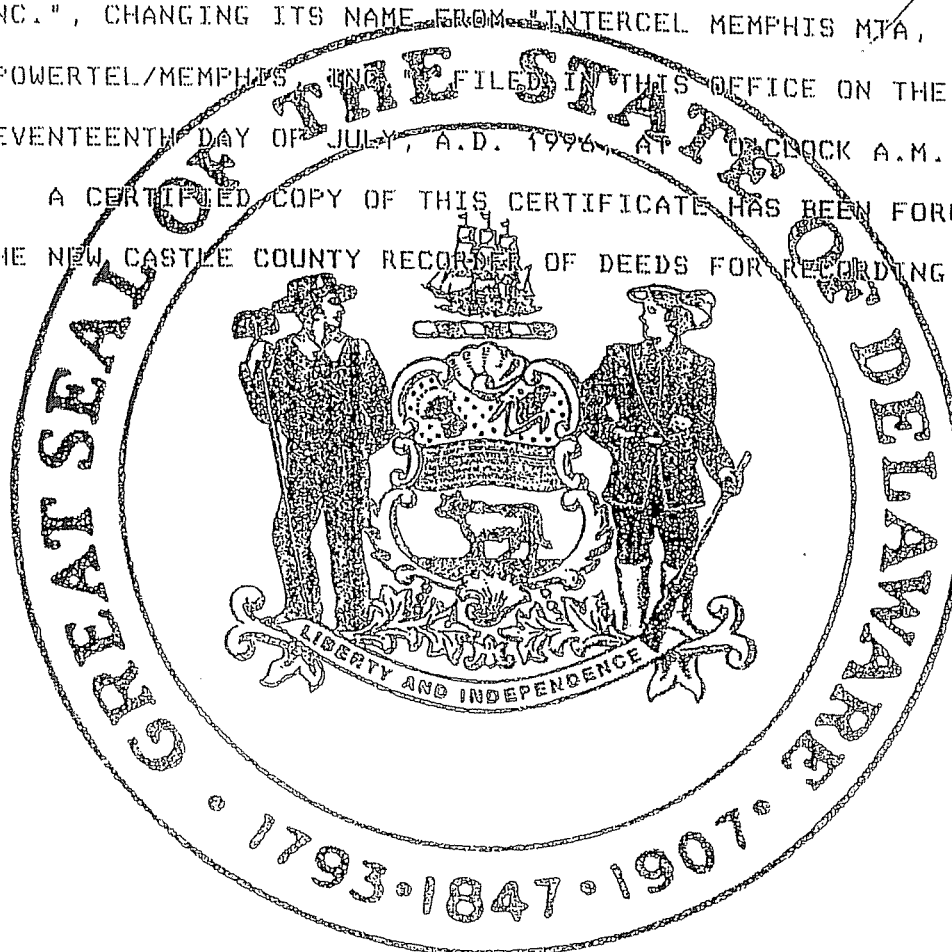
A graphical representation of the geographic area authorized to this call sign may be generated by selecting 'License Search' at the following web address: <http://www.fcc.gov/wtb/uls/>.

State of Delaware

Office of the Secretary of State

I, EDWARD J. FREEL, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "INTERCEL MEMPHIS MTA, INC.", CHANGING ITS NAME FROM "INTERCEL MEMPHIS MTA, INC." TO "POWERTEL/MEMPHIS, INC." FILED IN THIS OFFICE ON THE SEVENTEENTH DAY OF JULY, A.D. 1996, AT 02:00 CLOCK A.M.

A CERTIFIED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS FOR RECORDING.



*Edward J. Freel*

Edward J. Freel, Secretary of State



2447268 8100

960207691

AUTHENTICATION:

8030247

DATE:

07-17-96

CERTIFICATE OF AMENDMENT  
OF  
CERTIFICATE OF INCORPORATION  
OF  
INTERCEL MEMPHIS MTA, INC.

InterCel Memphis MTA, Inc. (the "Corporation"), a corporation organized and existing under the General Corporation Law of the State of Delaware, does hereby certify as follows:

FIRST: That in accordance with the requirements of Section 242 of the General Corporation Law of the State of Delaware, the Board of Directors of the Corporation, acting by written consent signed by all of the directors of the Corporation pursuant to Section 141(f) of the General Corporation Law of the State of Delaware, duly adopted resolutions: (1) proposing and declaring advisable the changing of the Corporation's name to "Powertel/Memphis, Inc.," (2) proposing and declaring advisable the amendment of the Certificate of Incorporation of the Corporation to reflect such change and (3) recommending that such name change and amendment be submitted to the sole stockholder of the Corporation for consideration, action and approval.

SECOND: That the amendment to the Certificate of Incorporation of the Corporation is as follows:

ARTICLE FIRST of the Certificate of Incorporation of the Corporation is hereby amended to read in its entirety as follows:

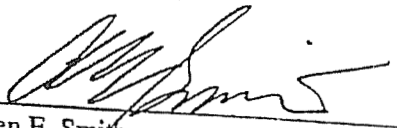
"FIRST. The name of the corporation is  
Powertel/Memphis, Inc. (the "Corporation")."

THIRD: That thereafter, pursuant to resolution of the Board of Directors, the sole stockholder of the Corporation, acting by written consent in accordance with Sections 228 and 229 of the General Corporation law of the State of Delaware, duly approved such name change and the aforesaid amendment to the Certificate of Incorporation of the Corporation to reflect such name change.

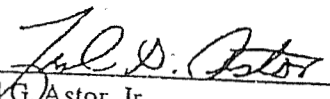
FOURTH: That the aforesaid amendment to the Certificate of Incorporation of the Corporation was duly adopted in accordance with the provisions of Sections 141(f), 228, 229 and 242 of the General Corporation Law of the State of Delaware.

FIFTH: That upon this Certificate of Amendment of Certificate of Incorporation becoming effective, the name of the Corporation shall be changed to "Powertel/Memphis, Inc."

IN WITNESS WHEREOF, InterCel Memphis MTA, Inc. has caused this Certificate of Amendment of Certificate of Incorporation to be signed by Allen E. Smith, its President, and attested by Fred G. Astor, Jr., its Secretary, on July 9, 1996.

By:   
Allen E. Smith  
President

Attest:

  
Fred G. Astor, Jr.  
Secretary



P16

Powertel/Kentucky, Inc. merges into  
Powertel/Memphis, Inc.



# Delaware

PAGE 1

*The First State*

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF MERGER, WHICH MERGES:

"POWERTEL/KENTUCKY, INC.", A DELAWARE CORPORATION,  
WITH AND INTO "POWERTEL/MEMPHIS, INC." UNDER THE NAME OF  
"POWERTEL/MEMPHIS, INC.", A CORPORATION ORGANIZED AND EXISTING  
UNDER THE LAWS OF THE STATE OF DELAWARE, AS RECEIVED AND FILED  
IN THIS OFFICE THE TWENTY-FIRST DAY OF DECEMBER, A.D. 2005, AT  
11:30 O'CLOCK A.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF  
THE AFORESAID CERTIFICATE OF MERGER IS THE FIRST DAY OF JANUARY,  
A.D. 2006, AT 12:30 O'CLOCK A.M.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE  
NEW CASTLE COUNTY RECORDER OF DEEDS.

2447268 8100M

051046113



*Harriet Smith Windsor*  
Harriet Smith Windsor, Secretary of State  
AUTHENTICATION: 4400474

DATE: 12-23-05

State of Delaware  
Secretary of State  
Division of Corporations  
Delivered 11:30 AM 12/21/2005  
FILED 11:30 AM 12/21/2005  
SRV 051045113 - 2447268 FILE

STATE OF DELAWARE  
CERTIFICATE OF MERGER OF  
DOMESTIC CORPORATIONS

Pursuant to Title 8, Section 251(c) of the Delaware General Corporation Law, the undersigned corporation executed the following Certificate of Merger:

FIRST: The name of the surviving corporation is PowerTel/Memphis, Inc.  
\_\_\_\_\_ and the name of the corporation being  
merged into this surviving corporation is PowerTel/Kentucky, Inc.  
\_\_\_\_\_

SECOND: The Agreement of Merger has been approved, adopted, certified, executed and acknowledged by each of the constituent corporations.

THIRD: The name of the surviving corporation is PowerTel/Memphis, Inc.  
\_\_\_\_\_ a Delaware corporation.

FOURTH: The Certificate of Incorporation of the surviving corporation shall be its Certificate of Incorporation.

FIFTH: The merger is to become effective on January 1, 2006 at 12:30 a.m.

SIXTH: The Agreement of Merger is on file at \_\_\_\_\_  
12920 SE 38th Street, Bellevue, WA 98006, the place of business  
of the surviving corporation.

SEVENTH: A copy of the Agreement of Merger will be furnished by the surviving corporation on request, without cost, to any stockholder of the constituent corporations.

IN WITNESS WHEREOF, said surviving corporation has caused this certificate to be signed by an authorized officer, the 15<sup>th</sup> day of December, A.D.,  
2005.

By: /s/ David A. Miller  
Authorized Officer

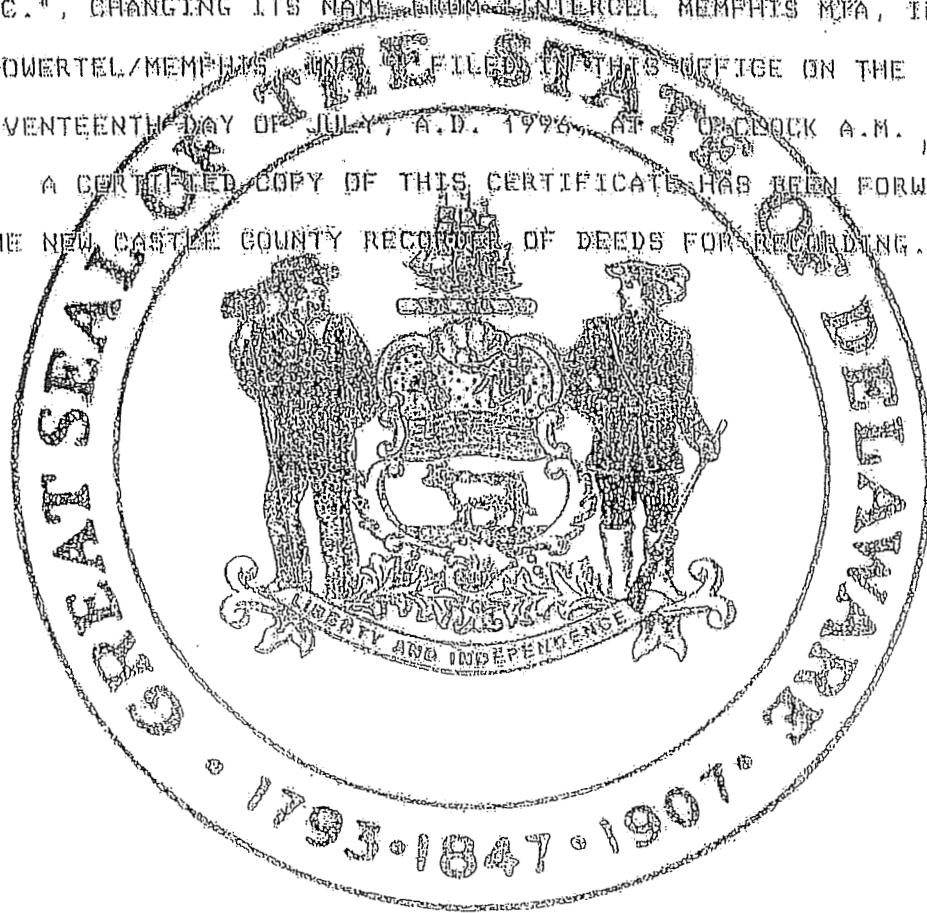
Name: David A. Miller  
Print or Type

Title: Senior Vice President

State of Delaware  
Office of the Secretary of State

I, EDWARD J. FREEL, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "INTERCEL MEMPHIS MTA, INC.", CHANGING ITS NAME FROM "INTERCEL MEMPHIS MTA, INC." TO "POWERTEL/MEMPHIS, INC." FILED IN THIS OFFICE ON THE SEVENTEENTH DAY OF JULY, A.D. 1996, AT 9 O'CLOCK A.M.,

A CERTIFIED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDS OF DEEDS FOR RECORDING.



*Edward J. Freel*

Edward J. Freel, Secretary of State



2447268 B100

960207691

AUTHENTICATION:

8030247

DATE:

07-17-96

CERTIFICATE OF AMENDMENT  
OF  
CERTIFICATE OF INCORPORATION  
OF  
INTERCEL MEMPHIS MTA, INC.

InterCel Memphis MTA, Inc. (the "Corporation"), a corporation organized and existing under the General Corporation Law of the State of Delaware, does hereby certify as follows:

FIRST: That in accordance with the requirements of Section 242 of the General Corporation Law of the State of Delaware, the Board of Directors of the Corporation, acting by written consent signed by all of the directors of the Corporation pursuant to Section 141(f) of the General Corporation Law of the State of Delaware, duly adopted resolutions: (1) proposing and declaring advisable the changing of the Corporation's name to "Powertel/Memphis, Inc.," (2) proposing and declaring advisable the amendment of the Certificate of Incorporation of the Corporation to reflect such change and (3) recommending that such name change and amendment be submitted to the sole stockholder of the Corporation for consideration, action and approval.

SECOND: That the amendment to the Certificate of Incorporation of the Corporation is as follows:

ARTICLE FIRST of the Certificate of Incorporation of the Corporation is hereby amended to read in its entirety as follows:


"FIRST. The name of the corporation is  
Powertel/Memphis, Inc. (the "Corporation")."

THIRD: That thereafter, pursuant to resolution of the Board of Directors, the sole stockholder of the Corporation, acting by written consent in accordance with Sections 228 and 229 of the General Corporation law of the State of Delaware, duly approved such name change and the aforesaid amendment to the Certificate of Incorporation of the Corporation to reflect such name change.

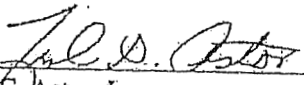
FOURTH: That the aforesaid amendment to the Certificate of Incorporation of the Corporation was duly adopted in accordance with the provisions of Sections 141(f), 228, 229 and 242 of the General Corporation Law of the State of Delaware.

FIFTH: That upon this Certificate of Amendment of Certificate of Incorporation becoming effective, the name of the Corporation shall be changed to "Powertel/Memphis, Inc."

IN WITNESS WHEREOF, InterCel Memphis MTA, Inc. has caused this Certificate of Amendment of Certificate of Incorporation to be signed by Allen E. Smith, its President, and attested by Fred G. Astor, Jr., its Secretary, on July 9, 1996.

By:   
Allen E. Smith  
President

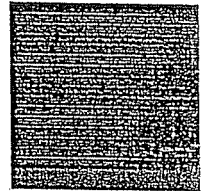
Attest:

  
Fred G. Astor, Jr.  
Secretary





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[Statement of Change of Reg. Agen./Office \(PDF\)](#)  
[Statement of Change of Principal Office \(PDF\)](#)

Printable Version of this page

**Organization Number** 0412295  
**Name** POWERTEL/MEMPHIS, INC.  
**Profit or Non-Profit** P - Profit  
**Company Type** FCO - Foreign Corporation  
**Status** A - Active  
**Standing** G - Good  
**State** DE  
**File Date** 2/23/1996  
**Authority Date** 2/23/1996  
**Last Annual Report** 2/16/2005  
**Principal Office** 12920 S. E. 38TH STREET  
 BELLEVUE, WA 98006  
**Registered Agent** CSC-LAWYERS INCORPORATING  
 SERVICE CO.  
 421 W. MAIN ST.  
 FRANKFORT, KY 40601

**Current Officers**

**President** Robert P. Dotson

**Vice President** David A Milelr

**Vice President** [Cregg B. Baumbaugh](#)  
**Secretary** [David A Miller](#)  
**Director** [Susan Swenson](#)  
**Director** [David A. Miller](#)  
**Director** [Brian Kirkpatrick](#)  
**Officer** [Lee A Tostevin](#)

<b>Assumed Names</b>	<b>Status</b>
<a href="#">T-MOBILE KENTUCKY</a>	Active
<a href="#">T-MOBILE MEMPHIS</a>	Active

**Previous Names**


**Certificates Available**

[Certificate of Authorization](#)

[Certificate of Registered Agent \(Domestic and Foreign\)](#)

Click on a certificate title to purchase it. Certificates are \$10.00, payable by credit card or prepaid account. They are stored and returned as PDF documents. You must have Adobe PDF Reader to print the document.

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

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[Liability Statement](#) | [Privacy / Security](#)



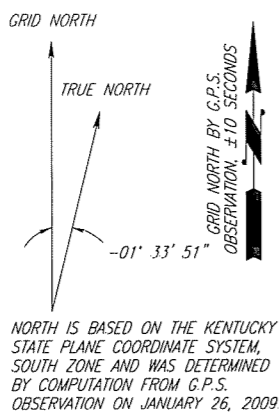


SHEET 1

-  - VICINITY AND 500' STRUCTURAL MAP
-  - ABUTTING PROPERTY OWNERS
-  - U.S.G.S. QUAD MAP

SHEET 2

-  - PROPOSED LEASE AREA
-  - LEGAL DESCRIPTIONS
-  - FLOOD ZONE DATA



**COORDINATE POINT LOCATION**

NAD 1983  
 LATITUDE: 36° 33' 09.68"  
 LONGITUDE: 88° 19' 46.30"  
 NAVD 1988  
 ELEVATION: 527' AMSL  
 KENTUCKY STATE PLANE COORDINATE SOUTH ZONE  
 (BLUE MARBLE GEOGRAPHIC CALCULATOR VERSION 5.0)  
 NORTHING: 1730625.707  
 EASTING: 882786.981
















**PROJECT POWER POLE**

UTILITY COMPANY: WEST KENTUCKY RURAL  
 IDENTIFICATION #: N/A

**PROJECT BENCHMARK**

NORTH: 1730662.879  
 EAST: 882829.622  
 ELEVATION: 526.612  
 LOCATION: BEING AN IPC SET AT THE NORTHEAST CORNER OF THE PROPOSED LEASE AREA

**SYMBOL LEGEND**

-  WOOD POWER POLE
-  LIGHT POLE
-  GUY POLE
-  TELEPHONE PEDESTAL
-  GUY ANCHOR
-  SANITARY SEWER MANHOLE
-  DRAIN SEWER MANHOLE
-  MANHOLE
-  WATER VALVE
-  WATER METER
-  FIRE HYDRANT
-  ELECTRIC BOX
-  F.P. FENCE POST
-  SET #5 REBAR (UNLESS OTHERWISE NOTED)
-  EXISTING #5 REBAR (UNLESS OTHERWISE NOTED)

**ABBREVIATIONS**

- EP EDGE OF PAVEMENT
- ROW RIGHT OF WAY
- ℄ CENTERLINE
- RCP REINFORCED CONCRETE PIPE
- CONC CONCRETE
- CMP CORRUGATED METAL PIPE
- ℄ SUBJECT PROPERTY LINE
- TC TOP OF CURB
- BC BOTTOM OF CURB
- POB POINT OF BEGINNING
- IPC IRON PIN CAPPED

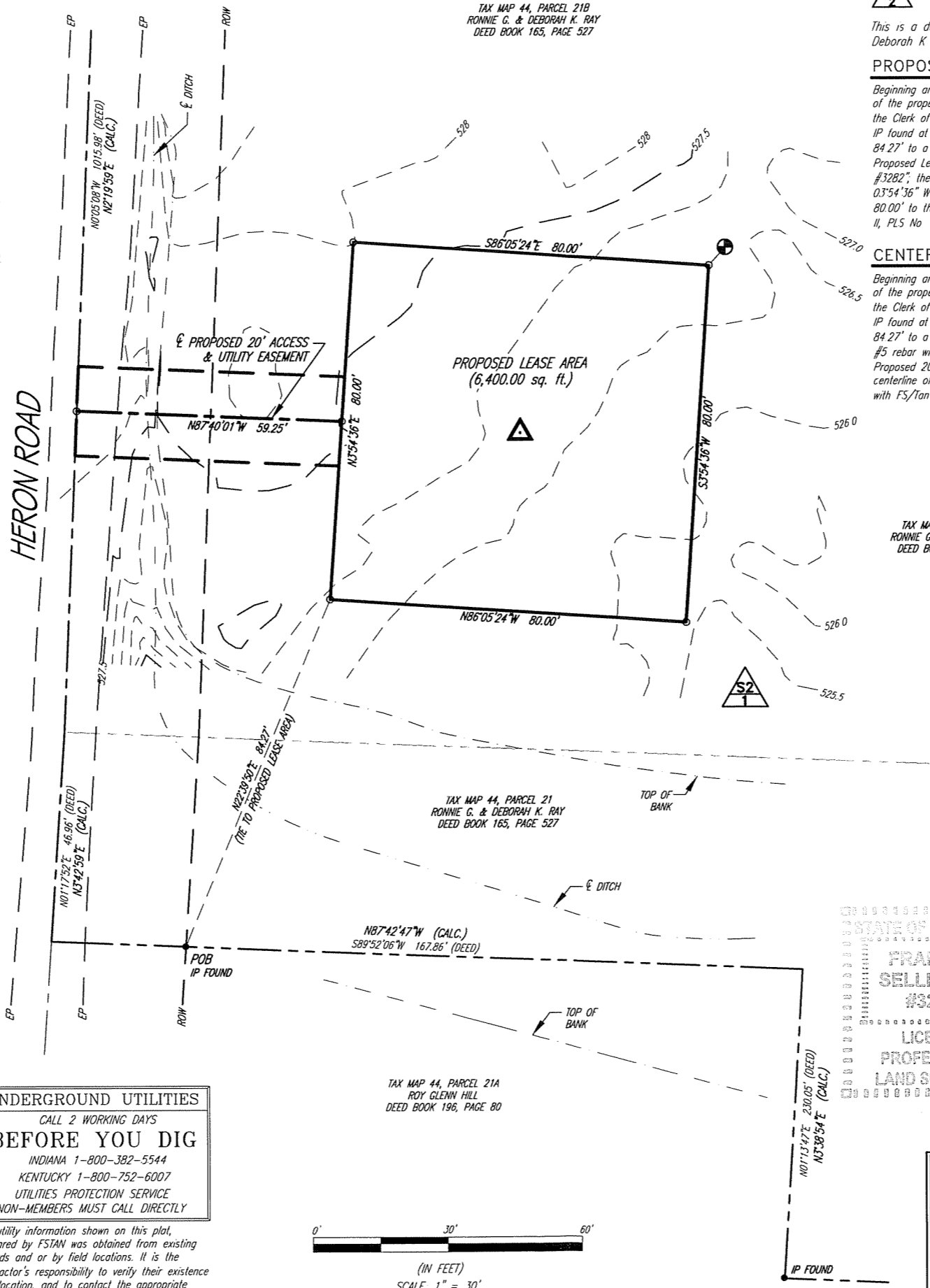
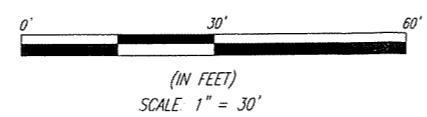
**LINE LEGEND**

- E—E—E— OVERHEAD ELECTRIC
- G—G—G— UNDERGROUND GAS LINE
- W—W—W— UNDERGROUND WATER LINE
- E/T—E/T—E/T— OVERHEAD ELECTRIC & TELEPHONE LINE
- T—T—T— OVERHEAD TELEPHONE LINE
- D—D—D— DRAINAGE/STORM SEWER LINE
- X—X—X— EXISTING FENCE
- XX—XX—XX— PROPOSED FENCE
- — — — — SUBJECT PROPERTY BOUNDARY
- — — — — RIGHT OF WAY CENTERLINE

NOTE: SYMBOLS, ABBREVIATIONS, OR LINESYLES DO NOT NECESSARILY APPEAR ON DRAWING(S) USE ONLY AS APPLICABLE

**UNDERGROUND UTILITIES**  
 CALL 2 WORKING DAYS  
**BEFORE YOU DIG**  
 INDIANA 1-800-382-5544  
 KENTUCKY 1-800-752-6007  
 UTILITIES PROTECTION SERVICE  
 NON-MEMBERS MUST CALL DIRECTLY

The utility information shown on this plat, prepared by FSTAN was obtained from existing records and/or by field locations. It is the contractor's responsibility to verify their existence and location, and to contact the appropriate utility company for field locations



**S2 2**

**LEGAL DESCRIPTIONS:**

This is a description for T-Mobile, of an area to be leased from the property of Ronnie G. & Deborah K Ray, which is further described as follows:

**PROPOSED LEASE AREA**

Beginning an an IP found on the East right of way of Heron Road at its intersection with the South line of the property conveyed to Ronnie G. & Deborah K Ray in Deed Book 165, Page 527 in the Office of the Clerk of Calloway County, said IP being N 03°38'54" E - 230.05', N 87°42'47" W - 137.86' from an IP found at the Southwest corner of said property, thence traversing said property N 22°39'50" E - 84.27' to a set #5 rebar with a cap stamped "FSTAN #3282" and the TRUE POINT OF BEGINNING of the Proposed Lease Area, thence N 03°54'36" E - 80.00' to a set #5 rebar with a cap stamped "FSTAN #3282", thence S 86°05'24" E - 80.00' to a set #5 rebar with a cap stamped "FSTAN #3282", thence S 03°54'36" W - 80.00' to a set #5 rebar with a cap stamped "FSTAN #3282"; thence N 86°05'24" W - 80.00' to the true point of beginning, containing 6,400.00 square feet as per survey by Frank L. Sellinger, II, PLS No 3282 with FS/Tan Land Surveyors & Consulting Engineers, dated February 4, 2009.

**CENTERLINE OF PROPOSED 20' ACCESS & UTILITY EASEMENT**

Beginning an an IP found on the East right of way of Heron Road at its intersection with the South line of the property conveyed to Ronnie G. & Deborah K Ray in Deed Book 165, Page 527 in the Office of the Clerk of Calloway County, said IP being N 03°38'54" E - 230.05', N 87°42'47" W - 137.86' from an IP found at the Southwest corner of said property, thence traversing said property N 22°39'50" E - 84.27' to a set #5 rebar with a cap stamped "FSTAN #3282"; thence N 03°54'36" E - 40.00' to a set #5 rebar with a cap stamped "FSTAN #3282" and the TRUE POINT OF BEGINNING of the Proposed 20' Access & Utility Easement, thence N 87°40'01" W - 59.25' to a "MAG" nail set in the centerline of Heron Road, and the end of the easement, per survey by Frank L. Sellinger, II, PLS No 3282 with FS/Tan Land Surveyors & Consulting Engineers, dated February 4, 2009.

TAX MAP 44, PARCEL 21B  
 RONNIE G. & DEBORAH K. RAY  
 DEED BOOK 165, PAGE 527

**SURVEYORS NOTES**

SOURCE OF BEARING IS A G.P.S. OBSERVATION ON JANUARY 26, 2009  
 SOURCE OF ROTATION BASED ON THE SOUTH PROPERTY LINE OF THE RAY PROPERTY HAVING THE BEARING OF S 89° 52' 06" W PER D.B. 165, PG. 527, AND THE CALCULATED BEARING OF N 87° 42' 47" W.  
 SITE SHOWN SUBJECT TO RIGHT OF WAYS AND EASEMENTS SHOWN HEREON OR NOT.  
 NO SEARCH OF PUBLIC RECORDS HAS BEEN PERFORMED BY THIS FIRM TO DETERMINE ANY DEFECTS AND/OR AMBIGUITIES IN THE TITLE OF THE PARENT TRACT.  
 THIS DRAWING DOES NOT REPRESENT A BOUNDARY SURVEY.  
 EXISTING CONTOURS ARE AT 1/2 FOOT INTERVALS.

**LAND SURVEYOR'S CERTIFICATE**

Type "A" Survey - Unadjusted linear traverse closure 1 in 37,100.  
 TO ALL PARTIES INTERESTED IN TITLE TO PREMISES SURVEYED I hereby certify that this plat and survey were made under my supervision, and that the angular and linear measurements, as witnessed by monuments shown hereon, are true and correct to the best of my knowledge and belief.  
 This survey and plat meets or exceeds the minimum standards of the governing authorities.  
 This property is subject to any recorded easements or right of ways not shown hereon.

*Frank L. Sellinger* 2-4-09  
 Frank L. Sellinger, II Ky. Reg. No. 3282



**REFERENCED AS "EXHIBIT C"**

OWNER APPROVAL \_\_\_\_\_ DATE: \_\_\_\_\_  
 T-MOBILE APPROVAL \_\_\_\_\_ DATE: \_\_\_\_\_

**S2 3**

I HAVE REVIEWED THE FLOOD INSURANCE RATE MAPS (FIRM) MAP NO. 2103130004A DATED 11.01.07 AND THE PROPOSED LEASE AREA DOES NOT APPEAR TO BE IN A FLOOD PRONE AREA THE PROPOSED LEASE AREA IS LOCATED IN ZONE X

**T-Mobile**

**FSTAN**  
 F.S. Land Company  
 T. Alan Neal Company  
 Land Surveyors and Consulting Engineers  
 PO Box 17246 2313/2315 Callender Drive  
 Louisville, KY 40217  
 Phone: (502) 635-5866 (502) 638-5111  
 Fax: (502) 638-5263




**"SITE SURVEY"**

SITE NUMBER:	9LV0920B
SITE NAME:	SOUTH MURRAY
SITE ADDRESS:	270 MIDWAY ROAD MURRAY, KY 42071
PROPOSED LEASE AREA:	6,400.00 sq. ft.
PROPERTY OWNER:	RONNIE G. & DEBORAH K RAY 270 MIDWAY ROAD MURRAY, KY 42071
TAX MAP NUMBER:	44
PARCEL NUMBER:	21B
SOURCE OF TITLE:	DEED BOOK 165, PAGE 527
DWG BY:	DJG
CHKD BY:	FSII
DATE:	02.04.09
FSTAN PROJECT NO.:	09-5849

**REVISIONS:**

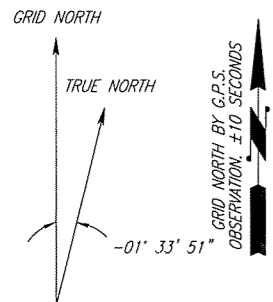

C2

SHEET 1

-  - VICINITY AND 500' STRUCTURAL MAP
-  - ABUTTING PROPERTY OWNERS
-  - U.S.G.S. QUAD MAP

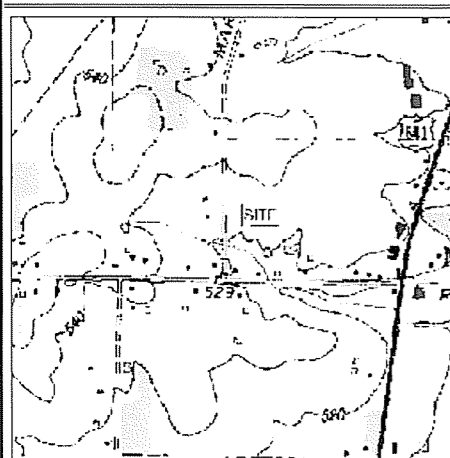
SHEET 2


-  - PROPOSED LEASE AREA
-  - LEGAL DESCRIPTIONS
-  - FLOOD ZONE DATA



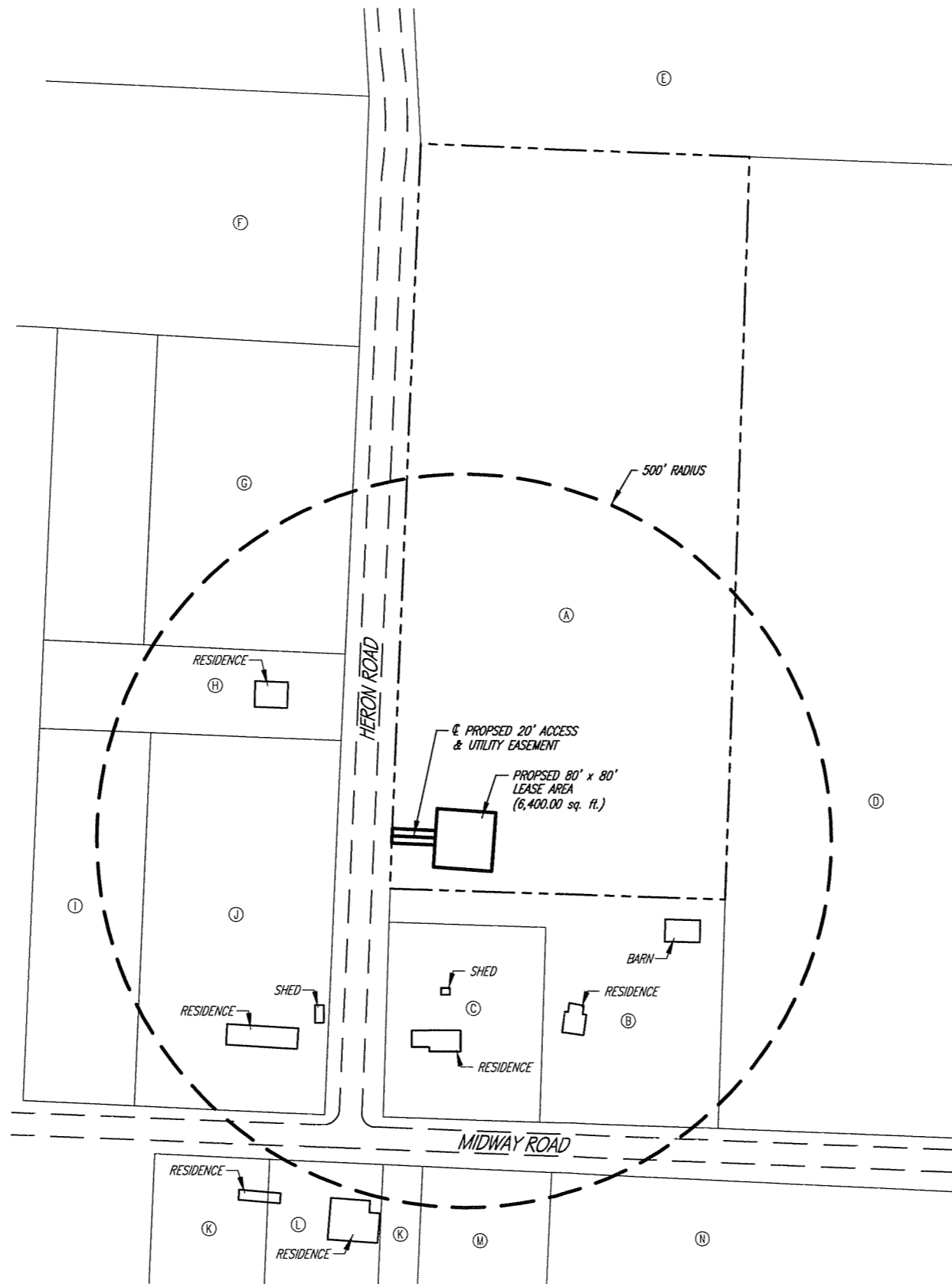
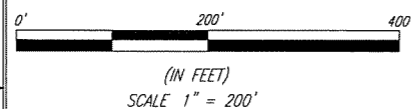
NORTH IS BASED ON THE KENTUCKY STATE PLANE COORDINATE SYSTEM, SOUTH ZONE AND WAS DETERMINED BY COMPUTATION FROM G.P.S. OBSERVATION ON JANUARY 26, 2009

\* ADJOINING LAND OWNERS LISTED ARE BASED ON PROPERTY VALUATION ADMINISTRATION ("PVA") RECORDS ISSUED BY A REPRESENTATIVE FROM CALLOWAY COUNTY, TO BE IN COMPLIANCE WITH ALL STATUTORY AND REGULATORY REQUIREMENTS BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION AND FOR TELECOMMUNICATION USE ONLY



 QUAD MAP SCALE: 1"=2000'

U.S.G.S 7 1/2 MINUTE QUAD MAP OF MURRAY, KENTUCKY



**A** MAP NO. 44, LOT 21B  
RAY, RONNIE G  
270 MIDWAY RD.  
MURRAY, KY 42071  
DEED BOOK 165, PAGE 527  
NO ZONING

**L** MAP NO. 44, LOT 12A  
BURKEEN, RONALD E  
329 MIDWAY RD.  
MURRAY, KY 42071  
DEED BOOK 152, PAGE 2184  
NO ZONING

**B** MAP NO. 44, LOT 21A  
HILL, RAY GLENN  
5995 SHOEMAKER RD.  
MURRAY, KY 42071  
DEED BOOK 196, PAGE 80  
NO ZONING

**M** MAP NO. 44, LOT 12B  
VAILES, SLAN & MARILYN  
299 MIDWAY ROAD  
MURRAY, KY 42071  
DEED BOOK 417, PAGE 813  
NO ZONING

**C** MAP NO. 44, LOT 21  
RAY, RONNIE G  
270 MIDWAY RD.  
MURRAY, KY 42071  
DEED BOOK 165, PAGE 527  
NO ZONING

**N** MAP NO. 44, LOT 24  
TIDWELL, CHARLES  
4298 US HWY 641 SOUTH  
HAZEL, KY 42049  
DEED BOOK XXX, PAGE XXX  
NO ZONING

**D** MAP NO. 44, LOT 22  
HILL, WALTER GLENN  
180 MIDWAY RD.  
MURRAY, KY 42071  
DEED BOOK 167, PAGE 2394  
NO ZONING

**E** MAP NO. 44, LOT 20  
JONES, WILLIAM & CONLEY  
622 HERON RD.  
MURRAY, KY 42071  
DEED BOOK 123, PAGE 372  
NO ZONING

**F** MAP NO. 44, LOT 18  
BRANDON, STEVE  
807 HERON RD.  
MURRAY, KY 42071  
DEED BOOK 259, PAGE 55  
NO ZONING

**G** MAP NO. 44, LOT 17  
KAISER, MARION  
11024 CHARLES DR.  
BYRON, MI 48418  
DEED BOOK 182, PAGE 8  
NO ZONING

**H** MAP NO. 44, LOT 17A  
PHILLIPS, JAMES F  
925 HERON RD.  
MURRAY, KY 42071  
DEED BOOK 606, PAGE 477  
NO ZONING

**I** MAP NO. 44, LOT 14  
BRANDON, KEN ORR  
396 MIDWAY ROAD  
MURRAY, KY 42071  
DEED BOOK 597, PAGE 244  
NO ZONING

**J** MAP NO. 44, LOT 16  
MCGINNIS, DENNIS C.  
344 MIDWAY RD.  
MURRAY, KY 42071  
DEED BOOK 194, PAGE 196  
NO ZONING

**K** MAP NO. 44, LOT 12  
BURKEEN, MAXINE  
329 MIDWAY RD.  
MURRAY, KY 42071  
NO DEED OF RECORD FOUND  
NO ZONING

T-Mobile

**FS&I**  
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T. Alan Neal Company  
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TAX MAP NUMBER:  
44

PARCEL NUMBER:  
21B

SOURCE OF TITLE:  
DEED BOOK 165, PAGE 527

DWG BY:  
KLH

CHKD BY:  
FSII

DATE:  
02.13.09

FSTAN PROJECT NO.  
09-5849

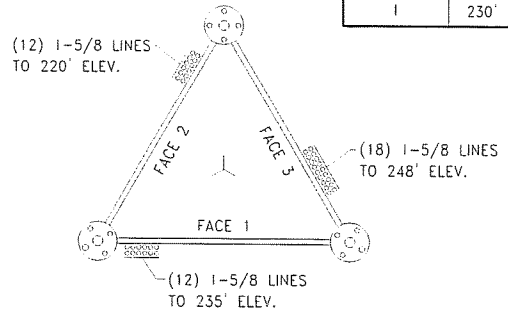
**REVISIONS:**


C1

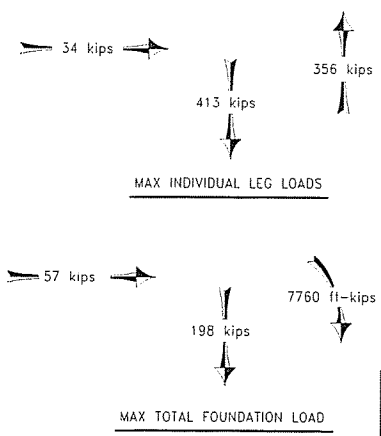


MEMBER CHART

SECTION	ELEVATION	FACE SIZE	LEGS	GIRTS			SECTION WEIGHT (lbs.)
				DIAGONALS	HORIZONTALS	CLIMBING	
A	0' - 30'	23.00' - 20.29'	4-1/4	L 4 x 4 x 1/4	N/A	NOTE: 7	8650
B	30' - 60'	20.29' - 17.57'	4-1/4	L 3-1/2 x 3-1/2 x 1/4	N/A	NOTE: 7	7700
C	60' - 90'	17.57' - 14.86'	4	L 3 x 3 x 1/4	N/A	NOTE: 7	6475
D	90' - 120'	14.86' - 12.14'	4	L 3 x 3 x 3/16	N/A	NOTE: 7	5750
E	120' - 150'	12.14' - 9.43'	3-3/4	L 2-1/2 x 2-1/2 x 3/16	N/A	NOTE: 7	4875
F	150' - 180'	9.43' - 6.71'	3-1/2	L 2 x 2 x 3/16	N/A	NOTE: 7	4100
G	180' - 210'	6.71' - 4.00'	3-1/4	L 2 x 2 x 3/16	N/A	NOTE: 7	3575
H	210' - 230'	4.00'	2-1/4	S.R. 7/8	S.R. 7/8	NOTE: 7	1875
I	230' - 250'	4.00'	1-3/4	S.R. 3/4	S.R. 3/4	NOTE: 7	1200



**FEEDLINE DISTRIBUTION INFORMATION**  
 THE TOWER STRUCTURE IS DESIGNED ACCORDING TO THE FEEDLINE DISTRIBUTION INFORMATION PROVIDED.



MATERIAL SPEC CHART

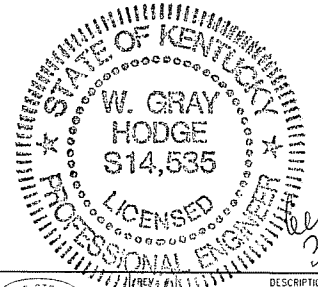
DESC.	MAT'L SPEC.	MIN. YIELD (ksi)
<b>WELDED SECTIONS</b>		
LEGS	A-572 GRADE 50	50
INNER MEM.	A-572 GRADE 50	50
FLANGE PL	A-572 GRADE 50	50
<b>BOLTED X-BRACED SECTIONS</b>		
LEGS	A-572 GRADE 50	58
INNER MEM.	A-36	36
FLANGE PL	A-572 GRADE 50	50
LEG PAD PL	A-36	36

ANTENNA INFORMATION

ANTENNA	ELEVATION	LINE
(12) TMBX-6517-R2M	@ 248'	(18) 1-5/8
(12) TMBX-6517-R2M	@ 235'	1-5/8
(12) TMBX-6517-R2M	@ 220'	1-5/8

DESIGN & DRAWING NOTES:

- 1) SOME DETAIL HAS BEEN OMITTED FOR CLARITY OF ILLUSTRATION.
- 2) TOWER DESIGNED FOR EXPOSURE C TO THE TIA-222-G STANDARD.
- 3) TOWER DESIGNED FOR A 90 MPH BASIC WIND IN ACCORDANCE WITH TIA-222-G STANDARD.
- 4) TOWER ALSO DESIGNED FOR A 30 MPH BASIC WIND WITH 1.00" ICE. ICE IS CONSIDERED TO INCREASE IN THICKNESS WITH HEIGHT.
- 5) DEFLECTIONS ARE BASED UPON A 60 MPH WIND.
- 6) STRUCTURE CLASS II, TOPOGRAPHIC CATEGORY I.
- 7) TOWER DESIGNED FOR STEP BOLTS UP ONE LEG.
- 8) TOWER DESIGNED FOR FEEDLINE TO BE MOUNTED IN TWO ROWS ON CLIP-ON.
- 9) SECTIONS A - G ARE 3-BAY X-BRACED. SECTIONS H - I ARE 6-BAY X-BRACED.



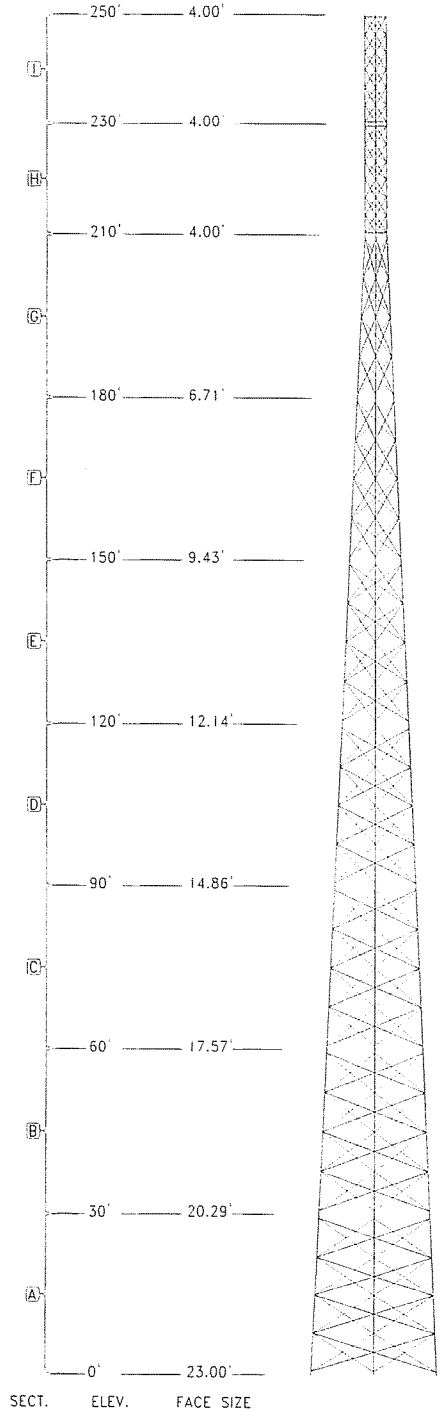
DESCRIPTION	DATE	APP.

SITE I.D.: <b>9LV0920</b>	DRAWN A.J.H. 3-13-09
CHECK A.W.L. 3-13-09	DATE
APPROVAL G.R.F.	3-13-09

PH# (812) 853-0595  
 FAX# (812) 853-6652  
 2855 HIGHWAY 261  
 NEWBURGH, IN. 47630

**Tower Innovations**  
 TITLE  
**Elevation View & Member Information**  
**SOUTH MURRAY, CALLOWAY CO., KY.**

DWG NO.  
**5300-T1 (21641)**  
 DO NOT SCALE DRAWING



PAD

REBAR SIZE	REBAR LENGTHS	# OF REBAR	TOTAL FT. REQ'D
#9 GRADE 60	35'	214	7490'

PIER (verts) (Total for 3 Piers)

REBAR SIZE	REBAR LENGTHS	# OF REBAR	TOTAL FT. REQ'D
#9 GRADE 60	7'-11"	45	356'-3"

PIER (ties) (Total for 3 Piers)

REBAR SIZE	REBAR LENGTHS	# OF REBAR	TOTAL FT. REQ'D
#4 GRADE 60	30"∅	27	213'

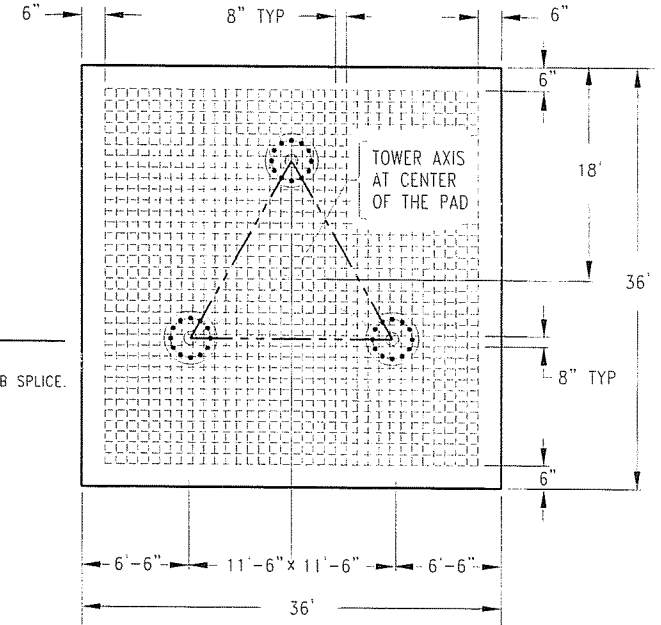
APPROXIMATE CONCRETE REQ'D = 87-3/4 yd<sup>3</sup>

REBAR SPLICING CHART

BAR SIZE	SPLICE LENGTH BOTTOM BARS	SPLICE LENGTH TOP BARS
#3	19"	25"
#4	25"	33"
#5	31"	41"
#6	37"	49"
#7	54"	71"
#8	62"	81"
#9	70"	91"
#10	78"	102"
#11	85"	111"

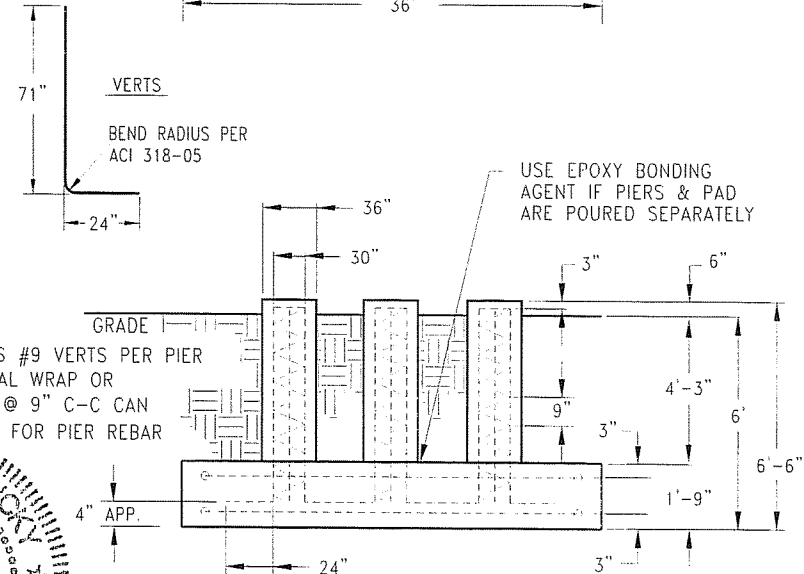
SPLICING NOTES:

- 1) STAGGER ALL SPLICES.
- 2) SPLICE CHART IS BASED ON 4000 PSI CONCRETE AND CLASS B SPLICE.
- 3) SPLICE REBAR ONLY WHEN NECESSARY.

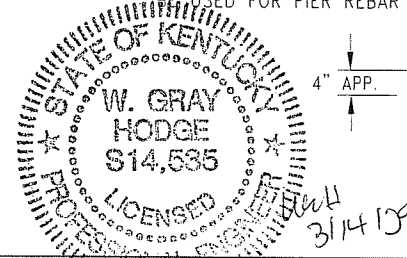



NOTES:

- 1) ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF ACI 301 AND ACI318.
- 2) THIS FOUNDATION IS DESIGNED TO CONFORM ACI 318-05 AND TIA-222-G STANDARDS UTILIZING THE SOILS REPORT PREPARED BY Asher, Inc. PROJ. NO. 009-022, DATED 3-10-09. A COPY SHALL BE PROVIDED TO THE FOUNDATION CONTRACTOR. SOIL CONDITIONS THAT DIFFER FROM THOSE DESCRIBED IN THE REPORT SHALL BE BROUGHT TO THE ATTENTION OF THE RESIDENT ENGINEER/INSPECTOR. ALL COMMENTS OR RECOMMENDATIONS REGARDING CONSTRUCTION TESTING OR CONSTRUCTION MONITORING SHALL BE STRICTLY FOLLOWED.
- 3) ALL CONCRETE SHALL BE 4000 PSI AT 28 DAYS. CYLINDERS SHALL BE PROPERLY CAST WITH COPIES OF THE TEST REPORTS GOING TO THE RESIDENT ENGINEER/INSPECTOR.
- 4) ALL ADMIXTURES MUST BE ADDED SEPARATELY INTO FRESH CONCRETE AND SUFFICIENTLY MIXED. A NON-CORROSIVE CONCRETE SET ACCELERATE MAY BE UTILIZED IN COMPLIANCE WITH ASTM 494 TYPE C. A WATER REDUCING ADMIXTURE MAY BE UTILIZED IN COMPLIANCE WITH ASTM 494 TYPE A.
- 5) ALL BACKFILL SHALL BE PLACED IN 9 INCH LIFTS AND COMPACTED TO A MINIMUM OF 95 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY AS MEASURED BY ASTM D-698 UNLESS MORE STRINGENT COMPACTION IS REQUIRED BY THE SOIL REPORT.
- 6) MINIMUM CONCRETE COVER SHALL BE 3 INCHES UNLESS OTHERWISE NOTED.
- 7) CROWN TOP OF PIER FOR DRAINAGE AND CHAMFER ALL EXPOSED CONCRETE EDGES 1 INCH.
- 8) SEE TEMPLATE DRAWING & TEMPLATE DESIGN CHART FOR TOWER LAYOUT DIMENSIONS, USE OF TEMPLATE IS REQUIRED TO INSURE PROPER LOCATION AND ORIENTATION OF ANCHOR BOLTS.

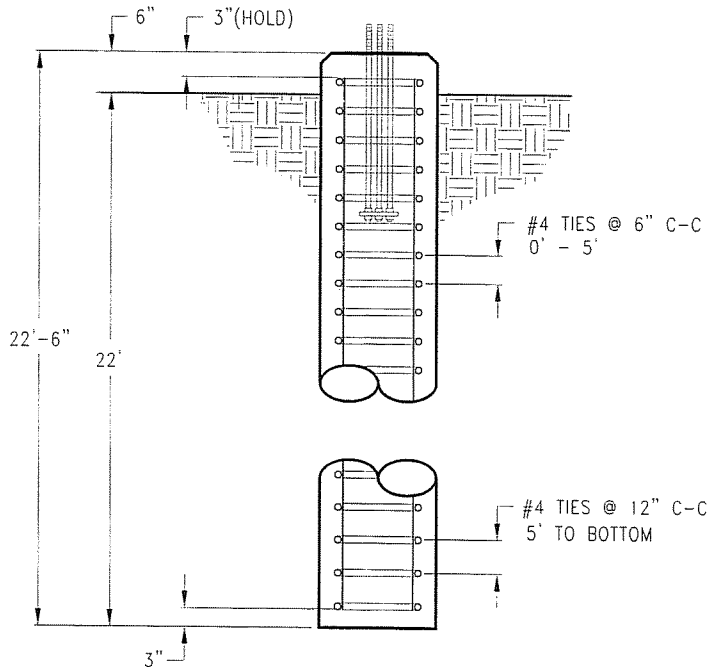
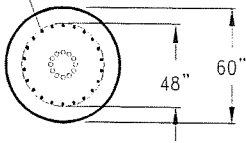


(15) PCS #9 VERTS PER PIER  
#3 SPIRAL WRAP OR  
#4 TIES @ 9" C-C CAN  
BE USED FOR PIER REBAR



	REV. NO. _____ DESCRIPTION _____ DATE _____ APP. _____	DRAWN: A.J.H. DATE: 3-13-09 CHECK: A.W.L. DATE: 3-13-09 APPROVAL: G.R.F. DATE: 3-13-09	SITE I.D.: 9LV0920 Tower Innovations PH# (812) 853-0595 FAX# (812) 853-6652 2855 HIGHWAY 261 NEWBURGH, IN. 47630
	THIRD ANGLE PROJECTION COMPANY CONFIDENTIAL INFORMATION CONTAINED HEREIN IS CONFIDENTIAL AND IS TO BE USED SOLELY FOR THE PURPOSE PROVIDED AND IT IS NOT TO BE DISCLOSED TO OTHERS WITHOUT THE PRIOR WRITTEN CONSENT OF TOWER INNOVATIONS.	TOLERANCES .X± 5/32" ANGLES± 2' .XX± 3/32" DRILLED HOLES #1/32" .XXX± 1/16" BURNED HOLES #1/16"	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: INCHES

VERTICAL REBAR EQUALLY SPACED  
SEE REBAR CHART FOR VERTICAL  
REBAR REQUIRED.



REBAR SPlicing CHART

BAR SIZE	SPLICE LENGTH
3	25"
4	33"
5	41"
6	49"
7	71"
8	81"
9	91"
10	102"
11	111"

SPLICING NOTES:

- 1) STAGGER ALL SPLICES.
- 2) SPLICE CHART IS BASED ON 4000 PSI CONCRETE AND CLASS B SPLICE.
- 3) SPLICE REBAR ONLY WHEN NECESSARY.

REBAR CHART (1)-CAISSON

REBAR	REBAR SIZE	REBAR LENGTHS	REBAR DIA.	pcs. OF REBAR	TOTAL FT.
VERTS	#9 GRADE 60	22'	N/A	20	440'
TIES	#4 GRADE 60	N/A	48" $\phi$	27	340'

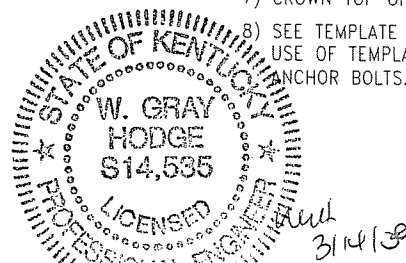
REBAR CHART (3)-CAISSONS

REBAR	REBAR SIZE	REBAR LENGTHS	REBAR DIA.	pcs. OF REBAR	TOTAL FT.
VERTS	#9 GRADE 60	22'	N/A	60	1320'
TIES	#4 GRADE 60	N/A	48" $\phi$	81	1020'

APPROXIMATE CONCRETE REQ'D PER CAISSON = 16 YD<sup>3</sup>  
TOTAL CONCRETE = 48 YD<sup>3</sup>

NOTES:

- 1) ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF ACI 301 AND ACI318.
- 2) THIS FOUNDATION IS DESIGNED TO CONFORM ACI 318-05 AND TIA-222-G STANDARDS UTILIZING THE SOILS REPORT PREPARED BY Asher, Inc. PROJ. NO. 009-022 DATED 3-10-09. A COPY SHALL BE PROVIDED TO THE FOUNDATION CONTRACTOR. SOIL CONDITIONS THAT DIFFER FROM THOSE DESCRIBED IN THE REPORT SHALL BE BROUGHT TO THE ATTENTION OF THE RESIDENT ENGINEER/INSPECTOR. ALL COMMENTS OR RECOMMENDATIONS REGARDING CONSTRUCTION TESTING OR CONSTRUCTION MONITORING SHALL BE STRICTLY FOLLOWED.
- 3) ALL CONCRETE SHALL BE 4000 PSI AT 28 DAYS. CYLINDERS SHALL BE PROPERLY CAST WITH COPIES OF THE TEST REPORTS GOING TO THE RESIDENT ENGINEER/INSPECTOR.
- 4) ALL ADMIXTURES MUST BE ADDED SEPARATELY INTO FRESH CONCRETE AND SUFFICIENTLY MIXED. A NON-CORROSIVE CONCRETE SET ACCELERATE MAY BE UTILIZED IN COMPLIANCE WITH ASTM 494 TYPE C. A WATER REDUCING ADMIXTURE MAY BE UTILIZED IN COMPLIANCE WITH ASTM 494 TYPE A.
- 5) ALL BACKFILL SHALL BE PLACED IN 9 INCH LIFTS AND COMPACTED TO A MINIMUM OF 95 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY AS MEASURED BY ASTM D-698 UNLESS MORE STRINGENT COMPACTION IS REQUIRED BY THE SOIL REPORT.
- 6) MINIMUM CONCRETE COVER SHALL BE 3 INCHES UNLESS OTHERWISE NOTED.
- 7) CROWN TOP OF PIER FOR DRAINAGE AND CHAMFER ALL EXPOSED CONCRETE EDGES 1 INCH.
- 8) SEE TEMPLATE DRAWING & TEMPLATE DESIGN CHART FOR TOWER LAYOUT DIMENSIONS. USE OF TEMPLATE IS REQUIRED TO INSURE PROPER LOCATION AND ORIENTATION OF ANCHOR BOLTS.



REV.	DESCRIPTION	DATE	APP.	DRAWN	DATE	TITLE
				A.J.H.	3-13-09	CAISSON DESIGN (OPT #2) SOUTH MURRAY, CALLOWAY CO., KY.
				CHECK	DATE	
				A.W.L.	3-13-09	
				APPROVAL	DATE	
				G.R.F.	3-13-09	

THIRD ANGLE PROJECTION		COMPANY CONFIDENTIAL INFORMATION CONTAINED HEREIN IS CONFIDENTIAL. IT IS TO BE USED SOLELY FOR THE PURPOSE PROVIDED, AND IT IS NOT TO BE DISCLOSED TO OTHERS WITHOUT THE PRIOR WRITTEN CONSENT OF TOWER INNOVATIONS.	TOLERANCES .X± 3/32" ANGLES± 2" .XX± 3/32" DRILLED HOLES #1/32" .XXX± 1/16" BURNED HOLES #1/16"	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN: INCHES
------------------------	--	--	--	---

SITE I.D.:	9LV0920	PH# (812) 853-0595
DRAWN	A.J.H.	FAX# (812) 853-6652
CHECK	A.W.L.	2855 HIGHWAY 261
APPROVAL	G.R.F.	NEWBURGH, IN. 47630
DWG NO.:		5300-F2 (21641)
REV:		-

DO NOT SCALE DRAWING



**GEOTECHNICAL ENGINEERING STUDY**

**PROPOSED COMMUNICATIONS TOWER  
SOUTH MURRAY SITE  
MURRAY, KENTUCKY  
CALLOWAY COUNTY**

**ASHER PROJECT NO. 009-022**

**Prepared For:**

**Mr. Dean Davis  
T-Mobile South, LLC  
3800 Ezell Road, Suite 815  
Nashville, TN 37211**

**Prepared By:**

**Asher, Inc.  
1021 S. Floyd Street  
Louisville, Kentucky 40203**

**March 10, 2009**



# ASHER, INC.

---

*Environmental & Engineering Consulting*

March 10, 2009

Mr. Dean Davis  
T-Mobile South, LLC  
3800 Ezell Road, Suite 815  
Nashville, TN 37211

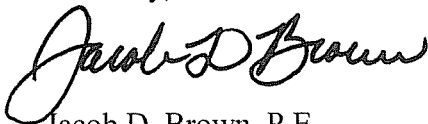
RE: Geotechnical Engineering Study  
Proposed Communications Tower  
South Murray Site  
Murray, Kentucky  
Calloway County

Dear Mr. Davis,

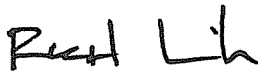
Asher, Inc. has completed a Geotechnical Engineering Study for the above referenced project. This report contains the findings of our subsurface exploration, geotechnical recommendations to aid design of foundations, and construction recommendations with regard to site work; fill placement, and foundation installation and inspection.

We appreciate the opportunity to be of service to you on this project. If we can be of further assistance, or if you have any questions regarding this report, please contact our office.

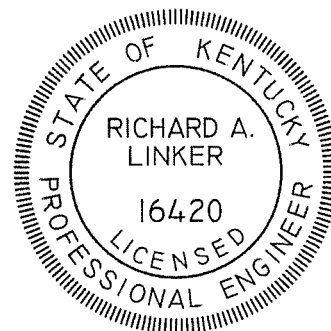
Sincerely,



Jacob D. Brown, P.E.  
Project Engineer



Richard A. Linker, P. E.  
President



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<b>2.0 SUBSURFACE EXPLORATION.....</b>	<b>1</b>
<b>3.0 DESIGN RECOMMENDATIONS .....</b>	<b>2-4</b>
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## APPENDICES

- Site Location Plan
- Aerial Photograph
- Geologic Map
- Geologic Map Legend
- Location of Test Borings
- Test Boring Logs

## **1.0 PROJECT INFORMATION**

The site is located to the north of the residence at 270 Midway Road (HWY 1828) in Murray, Ky. The proposed lease area is located in an open field to the rear of the residence directly to the east of Heron Road. The lease area is flat with a slight slope downhill to the southeast. No ponding water was observed at the time of our site visit. Proposed for construction is a 250 ft. lattice tower and access road. The tower is expected to have either mat foundations or drilled shafts. We assume that the equipment building/cabinets will be pre-fabricated structures supported on conventional shallow foundations.

## **2.0 SUBSURFACE EXPLORATION**

The subsurface conditions were explored by conducting two borings within the proposed lease area. The boring locations are shown on the plan included in the Appendix. The boring logs (also included in the Appendix) describe the materials and conditions encountered at each location.

A 6 to 12 in. surficial layer of topsoil was encountered in the borings. Beneath the topsoil, natural silty orange-brown and gray lean clay was encountered to a depth of about 8 ft. The lean clay was noted to be stiff to very stiff with Standard Penetration Test results (N-Values) ranging from 12 to 18 blows per ft. Very dense silty gravel with sand was encountered below the lean clay. Asher observed very difficult drilling through the silty gravel. Auger refusal was encountered in both borings at depths ranging from 20.3 to 20.9 ft.

### **3.0 DESIGN RECOMMENDATIONS**

The following design recommendations have been developed on the basis of the previously described project characteristics and subsurface conditions. Please notify our office if the project description included herein is incorrect, or if the location of the proposed tower is changed. Asher Inc. would then review the new project description to determine if revisions to our recommendations are necessary.

#### **3.1 Site Development and Foundations**

Based on the subsurface conditions encountered, the tower is expected to have either mat foundations or drilled shafts.

##### **SHALLOW FOUNDATIONS**

If mat foundations are used, the footings can be proportioned using a net allowable bearing capacity of 3,000 psf with the base bearing at a depth of at least 5 ft. below existing grades. Site Classification B can be used for seismic design. Based on the results of the field tests, it is estimated that the foundation settlements if mat foundations are used should not exceed about 1 in. Differential settlements should not exceed 3/4 in.

##### **DRILLED PIERS**

The drilled piers should be sized using a maximum allowable pressure of 40 kips per sq. ft. (20 tons per sq. ft.). The piers should be extended to a depth of at least 20 ft. from the existing ground surface. The maximum uplift capacity of the drilled piers extended to 20 ft. from the existing ground surface is 5 kips per sq. ft. (2.5 tons per sq.ft.). Site Classification B can be used for seismic design.

Total and differential settlements of the tower foundations, using the recommended bearing pressure would be less than 1/2 in.

## **Building Foundations**

The proposed equipment cabinet(s) can be supported on conventional shallow foundations. The footings can be proportioned using a net allowable bearing capacity of 3,000 psf. Site Classification B can be used for seismic design. Wall footings must be at least 16 in. wide and column footings must be at least 24 in. wide to provide an adequate factor of safety for bearing capacity. All exterior footings and footings in unheated areas must bear at least 30 inches below final exterior grade for frost protection. Interior footings in heated areas can bear at nominal depths below the floor (at least 12 inches). Upon approval of the subgrade, it is recommended that the cabinet floor slab be supported on a 4-in. layer of KY Dense Graded Aggregate (DGA) crushed limestone compacted to 100 percent of the standard Proctor.

### 3.2 Pavements

All pavement subgrade surfaces should be uniformly sloped to facilitate drainage and to avoid ponding of water beneath the pavement. Assuming proper subgrade preparation and drainage, a California Bearing Ratio (CBR) value of 2 is recommended.

This value applies for the soil subgrade that is stable under a proofroll inspection, and for soil that is recompacted to 95 percent of the standard Proctor maximum dry density.

In areas that would be limited to automobiles and light trucks, the following asphalt or granular pavement sections are recommended.

<i>Light Truck Areas</i>	4.0 in. KY DGA
	6.0 in. KY No. 3 Crushed Limestone
	6 oz. Nonwoven Filter Fabric

<i>Light Truck Areas</i>	2.0 in. asphalt concrete base
	8.0 in. KY DGA

All paving material should comply with the current Kentucky Department of Highway Specifications. The DGA granular base should be compacted to at least 98 percent of the standard Proctor maximum dry density (ASTM D-698). It should not be expected that the pavement would be maintenance free. However, the required maintenance work should be within normal limits.

## **4.0 CONSTRUCTION RECOMMENDATIONS**

Variations in subsurface conditions must be expected during construction. It is therefore recommended that the geotechnical engineer be retained to review the soils-related phases of the project and to correlate the subsurface data with the soil conditions that are encountered during construction.

### **4.1 Subgrade Preparation**

Prior to construction or the placement of new engineered fill, the exposed subgrade should be evaluated by the project geotechnical engineer. The evaluation should include proofrolling of the exposed subgrade with a loaded dump truck. If unsuitable material were disclosed, the geotechnical engineer would recommend an appropriate remedial measure at that time. The silty clay soils encountered just beneath the pavement surface will be sensitive to moisture and heavy construction equipment, and may require aeration and re-compaction or undercutting to reach firm subgrade. The severity of this potential problem depends to a great extent on the weather conditions prevailing during construction.

The contractor should exercise discretion when selecting equipment sizes and also control surface water while the subgrade soils are exposed. It may be necessary to undercut and stabilize the proposed pavement areas with crushed stone, or use a geotextile fabric to improve the subgrade, especially if the sitework is done during wet weather conditions.

### **4.2 Engineered Fill**

Engineered fill should be placed on a prepared subgrade that has been evaluated by the geotechnical engineer. Engineered fill should be compacted to at least 98 percent of the standard Proctor maximum dry density (ASTM D-698). The geotechnical engineer or his representative should monitor engineered fill placement and compaction operations.

Field density tests should be performed on each lift as necessary to insure that the specified compaction is being achieved. Fill should be placed in horizontal lifts and each lift should be compacted to the specified density. Lift thickness of 8 in. and 12 in. should be used for clayey soils and granular soils, respectively. The on site soils are suitable for use as engineered fill.

### **4.3 Foundation Excavations**

All concrete for foundations should be poured the same day the excavation is made. If this is not practical, the foundation excavation should be adequately protected. Soils exposed in the base of all excavations must be protected against rain and freezing. Surface water should be drained away from all excavations and not allowed to pond.

### **4.4 Construction Dewatering**

At the time of our field investigation, no groundwater was encountered in the depths explored by our borings. Therefore, the water level appeared to be below the expected maximum excavation depth at the site for the expected foundations. However, due to seasonal variations in rainfall, local groundwater levels could rise to above the bottom of the excavation. Recommendations for construction dewatering can be made during construction if needed.



## 5.0 QUALIFICATIONS

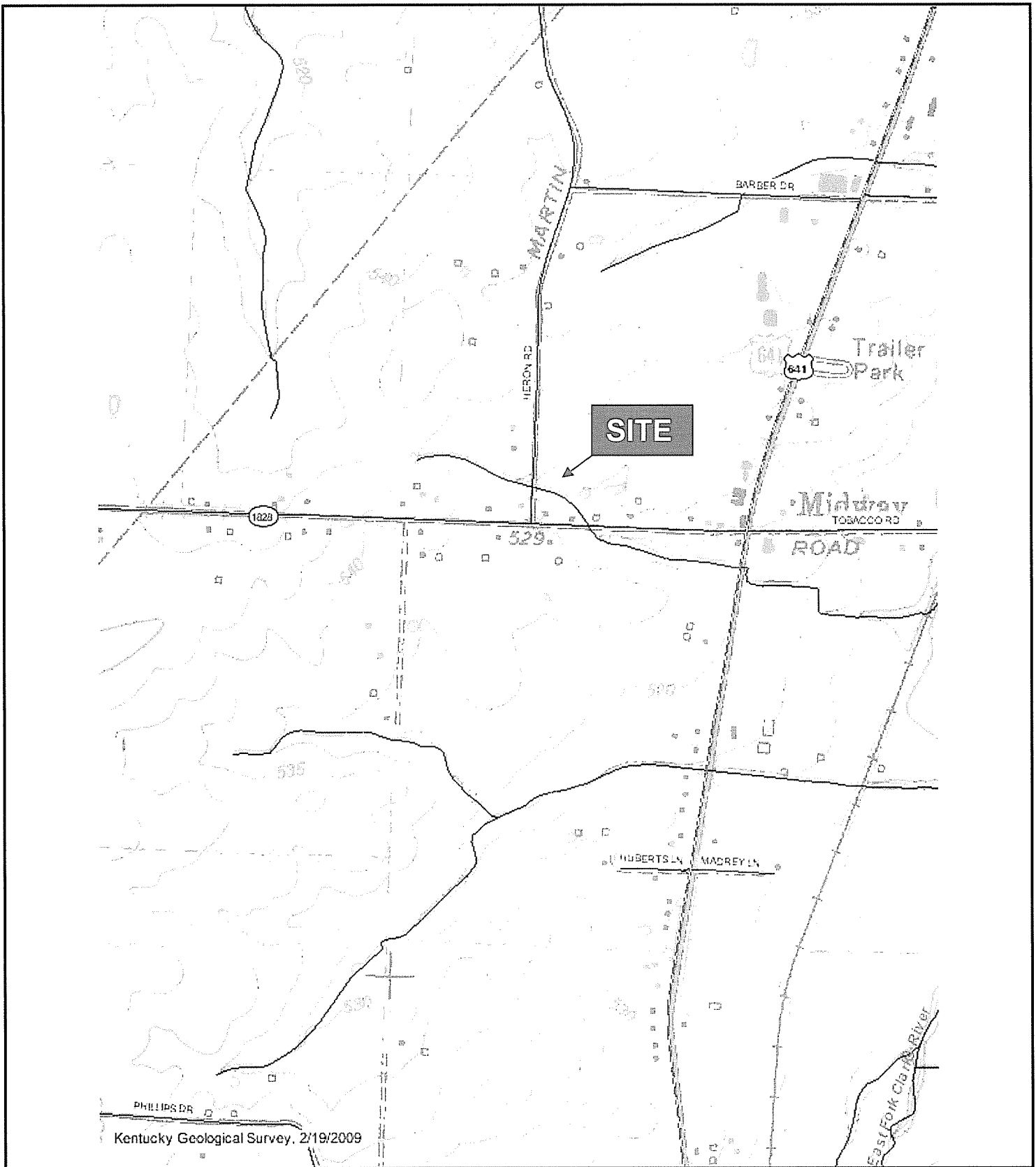
Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. This warranty is in lieu of all other warranties, either express or implied. Asher, Inc. is not responsible for the independent conclusion, opinions or recommendations made by others based on the field exploration and laboratory test data presented in this report.

The nature and extent of variation and change in the subsurface conditions at the site may not become evident until the course of construction. Construction monitoring by the geotechnical engineer or his representative is therefore considered necessary to verify the subsurface conditions and to check that the soil connected construction phases are properly carried out. If significant variations or changes are in evidence, it may then be necessary to reevaluate the recommendations of this report.

Furthermore, if the project characteristics are altered significantly from those discussed in this report, if the project information contained in this report is incorrect, or if additional information becomes available, a review must be made to determine if any modification in the recommendations will be required.

## **APPENDIX**

**Site Location Plan  
Aerial Photograph  
Geologic Map  
Geologic Map Legend  
Location of Test Borings  
Test Boring Logs**



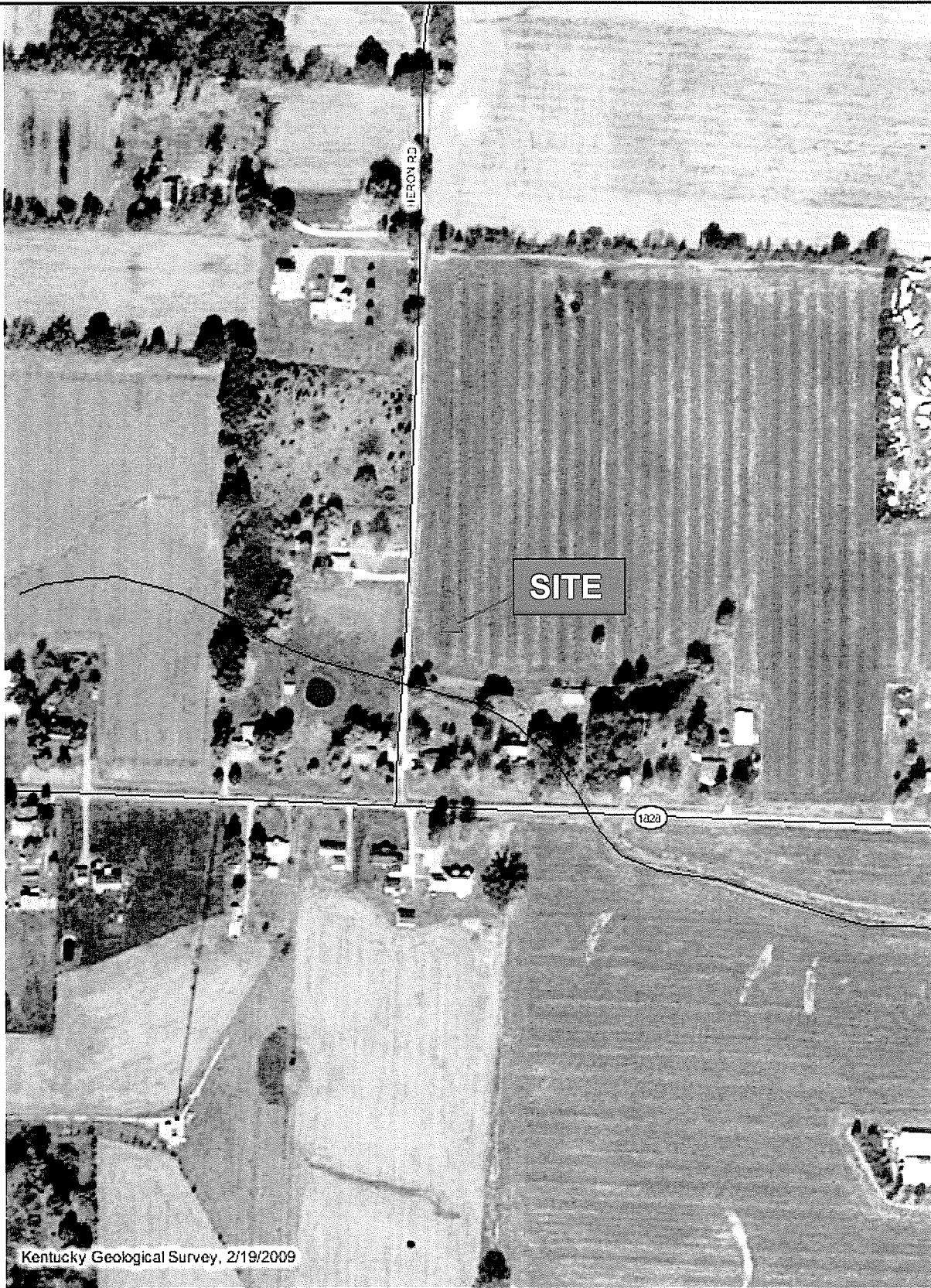
T-Mobile South, LLC

ASHER, INC.

**Figure 1 - Site Location Plan**

South Murray Tower Site  
 Murray, Kentucky  
 Calloway County

Asher Project Number: 009-022



T-Mobile South, LLC

ASHER, INC.

**Figure 2 – Aerial Photo**  
South Murray Tower Site  
Murray, Kentucky  
Calloway County  
Asher Project Number: 009-022



T-Mobile South, LLC

ASHER, INC.

**Figure 3 – Geologic Map**

South Murray Tower Site

Murray, Kentucky

Calloway County

Asher Project Number: 009-022

## Kentucky Geological Survey Geologic Information Service Map Legend

### Geologic Units In Current View:

1:24,000 scale data (detailed geology)


**Qal** **Alluvium**  
(Quaternary - Quaternary)


**Ql** **Loess**  
(Quaternary - Quaternary)

**QTc** **Continental deposits**  
(Tertiary - Quaternary)

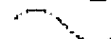
### Symbols:

#### - contacts / structural features:

 geologic contact

 contact - concealed


 contact - secondary

 contact - projected

 fault

 fault - concealed

 fault - secondary

 fault - projected



fossil location

**PRINT THIS PAGE**

**NOTE:** in order to print colors, make sure your browser is enabled to print background colors.

**Internet Explorer Instructions:** Go to Tools --> Internet Options --> Advanced --> Under the "Printing" header, click the "Print background colors and images" box.

**Firefox Instructions:** Go to File --> Page Setup --> Click the "Print Background (colors & images)" box.

## Kentucky Geological Survey Geologic Information Service

Geologic and feature descriptions for visible themes

- [Print This Page](#)

- [ID Location Info:](#)

**KY Single Zone (north,east):** 3371291.31605194, 4163577.00704651

**NAD-83 Decimal Degree (lat,lon):** 36.552990, -88.329354

**State:** Kentucky

**County:** Calloway

**Quadrangle (tile code):** Murray (V11)

**Elevation:** 530

- [Legend and descriptions for geologic units in the ID location:](#)

- [Hide Clipped Stratigraphic Column Images](#)
- **Note:** Economic descriptions in this report are historic in nature and may not reflect current conditions

**Description Source:**

Geologic map of the Hazel quadrangle, Kentucky

- [view stratigraphic column \(.pdf\) for this quadrangle: GQ-203](#)

QI	<p><b>Loess</b> (Quaternary - Quaternary) USGS Unit Info: not available</p>
----	---

[Mapped or described as these unit\(s\) on the original GQ:](#)

**LOESS**

USGS Unit Info: not available

**Primary Lithology:** Silt

Silt, brown, tan, and gray, in part clayey and sandy, unconsolidated, nonstratified; dark-brown iron oxide nodules generally present; unit irregularly variable in thickness, covers most of area; probably of eolian origin. Material mapped as loess on slopes and headwater valley bottoms is probably in part colluvium or alluvium. Thickness based on drill hole information.

**Loess (GQ-203):**

x	<p>image for Loess (GQ-203) - IF READING THIS ON A NORMAL PAGE DISPLAY, THE IMAGE FOR THIS UNIT IS NOT AVAILABLE</p>
---	--

- [Lithologic and landform descriptions from SITES in the ID location or area:](#)

- no descriptions from sites found

- [Database Features:](#)

(these are primarily the "Point overlay" features)

[Photo Information:](#)

\*\*no photo found at location

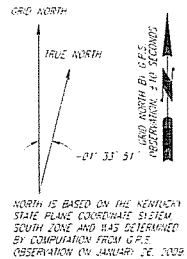
**PRINT THIS PAGE**

**SHEET 1**

- S1 - VICINITY AND 500' STRUCTURAL MAP
- S2 - ABUTTING PROPERTY OWNERS
- S3 - U.S.G.S. QUAD MAP

**SHEET 2**

- SZ1 - PROPOSED LEASE AREA
- SZ2 - LEGAL DESCRIPTIONS
- SZ3 - FLOOD ZONE DATA



NORTH IS BASED ON THE KENTUCKY STATE PLANE COORDINATE SYSTEM SOUTH ZONE AND HAS BEEN DETERMINED BY COMPUTATION FROM O.P.C. OBSERVATION ON JANUARY 26, 2009

TAX MAP 44, PARCEL 218  
ROOSE G. & DEBORAH K. RAY  
DEED BOOK 165, PAGE 527

**LEGAL DESCRIPTIONS:**

This is a description for T-Mobile, of an area to be leased from the property of Ronne G. & Deborah K. Ray, which is further described as follows:

**PROPOSED LEASE AREA**

Beginning on an IP found on the East right of way of Heron Road at its intersection with the South line of the property conveyed to Ronne G. & Deborah K. Ray in Deed Book 165, Page 527 in the Office of the Clerk of Callaway County, said IP being N 03°53'34" E - 230.05'; N 87°42'42" W - 137.86'; from an IP found at the Southeast corner of said property, thence traversing said property N 27°39'50" E - 34.27' to a set  $\frac{1}{2}$ " rebar with a cap stamped "TSTAN #3282" and the TRUE POINT OF BEGINNING of the Proposed Lease Area, thence N 03°54'36" E - 80.00' to a set  $\frac{1}{2}$ " rebar with a cap stamped "TSTAN #3282"; thence S 26°05'24" E - 20.00' to a set  $\frac{1}{2}$ " rebar with a cap stamped "TSTAN #3282"; thence S 03°54'36" W - 20.00' to a set  $\frac{1}{2}$ " rebar with a cap stamped "TSTAN #3282"; thence N 27°39'50" E - 39.00' to the true point of beginning, containing 2,000.00 square feet as per survey by Franck L. Sellinger, PLS No. 3282 with TS/Tan Land Surveys & Consulting Engineers, dated February 4, 2009.

**CENTERLINE OF PROPOSED 20' ACCESS & UTILITY EASEMENT**

Beginning on an IP found on the East right of way of Heron Road at its intersection with the South line of the property conveyed to Ronne G. & Deborah K. Ray in Deed Book 165, Page 527 in the Office of the Clerk of Callaway County, said IP being N 03°53'34" E - 230.05'; N 87°42'42" W - 137.86'; from an IP found at the Southeast corner of said property, thence traversing said property N 27°39'50" E - 34.27' to a set  $\frac{1}{2}$ " rebar with a cap stamped "TSTAN #3282" and the TRUE POINT OF BEGINNING of the Centerline of the Proposed 20' Access & Utility Easement, thence N 87°00'00" W - 59.25' to a "MAG" nail set in the centerline of Heron Road, and the end of the easement, per survey by Franck L. Sellinger, PLS No. 3282 with TS/Tan Land Surveys & Consulting Engineers, dated February 4, 2009.

**COORDINATE POINT LOCATION**

NAD 1983  
 LATITUDE: 36° 33' 09.88"  
 LONGITUDE: 88° 19' 46.30"  
 NAD 1983  
 ELEVATION: 527.716  
 KENTUCKY STATE PLANE COORDINATE SOUTH ZONE  
 (BLUE MARBLE GEOGRAPHIC CALCULATOR VERSION 5.0)  
 NORTING: 1730623.707  
 EASTING: 882786.931

**PROJECT POWER POLE**

UTILITY COMPANY: WEST KENTUCKY RURAL  
 IDENTIFICATION #: N/A

**PROJECT BENCHMARK**

NORTH: 1730623.709  
 EAST: 882789.827  
 ELEVATION: 526.612  
 LOCATION: BEING AN IPC SET AT THE NORTHEAST CORNER OF THE PROPOSED LEASE AREA

**SYMBOL LEGEND**

- WOOD PILE
- LIGHT POLE
- CUP POLE
- TELEPHONE PEDESTAL
- CUT ANCHOR
- SANITARY SEWER MANHOLE
- URBAN SEWER MANHOLE
- MANHOLE
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- ELECTRIC EOM
- FEHSE POST
- SET  $\frac{1}{2}$ " REBAR
- UNLESS OTHERWISE NOTED
- EXISTING  $\frac{1}{2}$ " REBAR
- UNLESS OTHERWISE NOTED

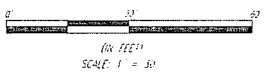
**ABBREVIATIONS**

- EP EDGE OF PAVEMENT
- ROW RIGHT OF WAY
- C CENTERLINE
- RCP REINFORCED CONCRETE PIPE
- CONC CONCRETE
- CMP CORRUGATED METAL PIPE
- IC SUBJECT PROPERTY LINE
- TC TOP OF CURB
- BC BOTTOM OF CURB
- PUB POINT OF BEGINNING
- IPC IRON PIN CHAPPED

**LINE LEGEND**

- OVERHEAD ELECTRIC
- UNDERGROUND GAS
- UNDERGROUND WATER
- OVERHEAD TELEPHONE
- OVERHEAD TELEPHONE
- DRAINAGE/STORM
- EXISTING FENCE
- PROPOSED FENCE
- SUBJECT PROPERTY
- RIGHT OF WAY CENTERLINE

South Murray Tower Site  
 Murray, Kentucky  
 T-Mobile South, LLC  
 Asher No. 009-022



**SURVEYOR'S NOTES**

SOURCE OF BEARING IS A O.P.C. OBSERVATION ON JANUARY 26, 2009

SOURCE OF BEARING BASED ON THE SOUTH PROPERTY LINE OF THE RAY PROPERTY HAVING THE BEARING OF S 89° 52' 06" W PER D.B. 165, PG. 527, AND THE CALCULATED BEARING OF N 87° 42' 42" W

SEE DRAWING SUBJECT TO RIGHT OF WAY AND EASEMENTS THOUGH HERON RD ROW.

NO SEARCH OF PUBLIC RECORDS HAS BEEN PERFORMED BY THIS FIRM TO DETERMINE ANY RECORDS AND/OR ANTIQUES IN THE TITLE OF THE FOREGOING TRACT.

THIS DRAWING DOES NOT REPRESENT A BOUNDARY SURVEY.

EXISTING CONTOURS ARE AT 1/2 FOOT INTERVALS

**LAND SURVEYOR'S CERTIFICATE**

Type "A" Survey - Unadjusted linear traverse closure; 1 in 37,100

TO ALL PARTIES INTERESTED IN TITLE TO PREMISES SURVEYED I hereby certify that this plot and survey were made under my supervision and that the angular and linear measurements, as witnessed by monuments shown herein, are true and correct to the best of my knowledge and belief.

This Survey and plot thereof do not exceed the minimum standards of the governing authorities.

This property is subject to any recorded easements or right of way not shown herein

Frank L. Sellinger, II PLS No. 3282

**REFERENCED AS "EXHIBIT C"**

OWNER APPROVAL: \_\_\_\_\_ DATE \_\_\_\_\_

T-MOBILE APPROVAL: \_\_\_\_\_ DATE \_\_\_\_\_

I HAVE REVIEWED THE FLOOD INSURANCE RATE MAP'S (FIRM) MAP NO. 210213000A DATED 11/01/07 AND THE PROPOSED LEASE AREA DOES NOT APPEAR TO BE IN A FLOOD PRONE AREA. THE PROPOSED LEASE AREA IS LOCATED IN ZONE 1.

recorded and/or by field locations. It is the contractor's responsibility to verify the existence and location, and to contact the appropriate utility company for field locations.

NOTE: SYMBOLS, ABBREVIATIONS, OR LIFESTYLES DO NOT NECESSARILY APPEAR ON DRAWINGS; USE ONLY AS APPLICABLE

**T-Mobile**

F.S. Land Company  
 T-Mobile South, LLC  
 Land Company and Engineering Firm, Inc.  
 808 E. 47th St., Ste. 210  
 Louisville, KY 40212  
 Phone: (502) 426-9868 (502) 426-9811  
 Fax: (502) 426-9853

**"SITE SURVEY"**

SITE NUMBER: 061402008

SITE NAME: SOUTH MURRAY

SITE ADDRESS: 370 MURRAY ROAD MURRAY, KY 42071

PROPOSED LEASE AREA: 6,400.00 sq. ft.

PROPERTY OWNER: RONNE G. & DEBORAH K. RAY 370 MURRAY ROAD MURRAY, KY 42071

TAX MAP NUMBER: 44

PARCEL NUMBER: 218

SOURCE OF TITLE: DEED BOOK 165, PAGE 527

DWG BY: DWG

CND BY: FSJ

DATE: 02/04/09

ESTIM. PROJECT COST: \$9,534.4

**REVISIONS:**

- C2

**BORING LOCATION PLAN (FIGURE 4)**



# BORING LOG

**ASHER, INC.**

P.O. Box 17534  
Louisville, KY 402017  
(502) 589-0073

Boring No.:     B-1    

ELEV.:     527.0    

Project:     South Murray Tower Site     Asher Project No.:     009-022    

Location:     Murray, KY    

Client:     T-Mobile South, LLC     Date:     March 9, 2009    

Elev (feet)	Depth (feet)	Sample Number	SPT Blows / 6"	N	Percent Moisture	Description of Material
		1	2-2-2	4		LEAN CLAY (CL), silty, SOFT to VERY STIFF, gray w/ tan and orange mottling, moist
		2	5-7-10	17		
	5	3	3-5-8	13		LEAN CLAY (CL), silty, w/ trace sand, STIFF, orangish brown w/ gray mottling, moist
		4	6-6-10	16		LEAN CLAY (CL), sandy, w/ few gravel, STIFF, orangish brown and tan, moist
	10	5	6-17-39	56		SILTY GRAVEL (GM), with sand, VERY DENSE, orangish brown and light gray, moist  Very difficult drilling 9.0'-20.3'
	15	6	50/4	50+		
	20	7	50/2	50+		
506.7						<b>AUGER REFUSAL AT 20.3 FT.</b>
	25					

**Notes:** No groundwater was encountered during drilling.  
Topsoil - 6 in.  
Elevations were interpolated from the supplied Topographic Survey performed by FS Tan.

# BORING LOG

**ASHER, INC.**

P.O. Box 17534  
Louisville, KY 402017  
(502) 589-0073

Boring No.:     B-2    

ELEV.:     526.5    

Project:     South Murray Tower Site     Asher Project No.:     009-022    

Location:     Murray, KY    

Client:     T-Mobile South, LLC     Date:     March 9, 2009    

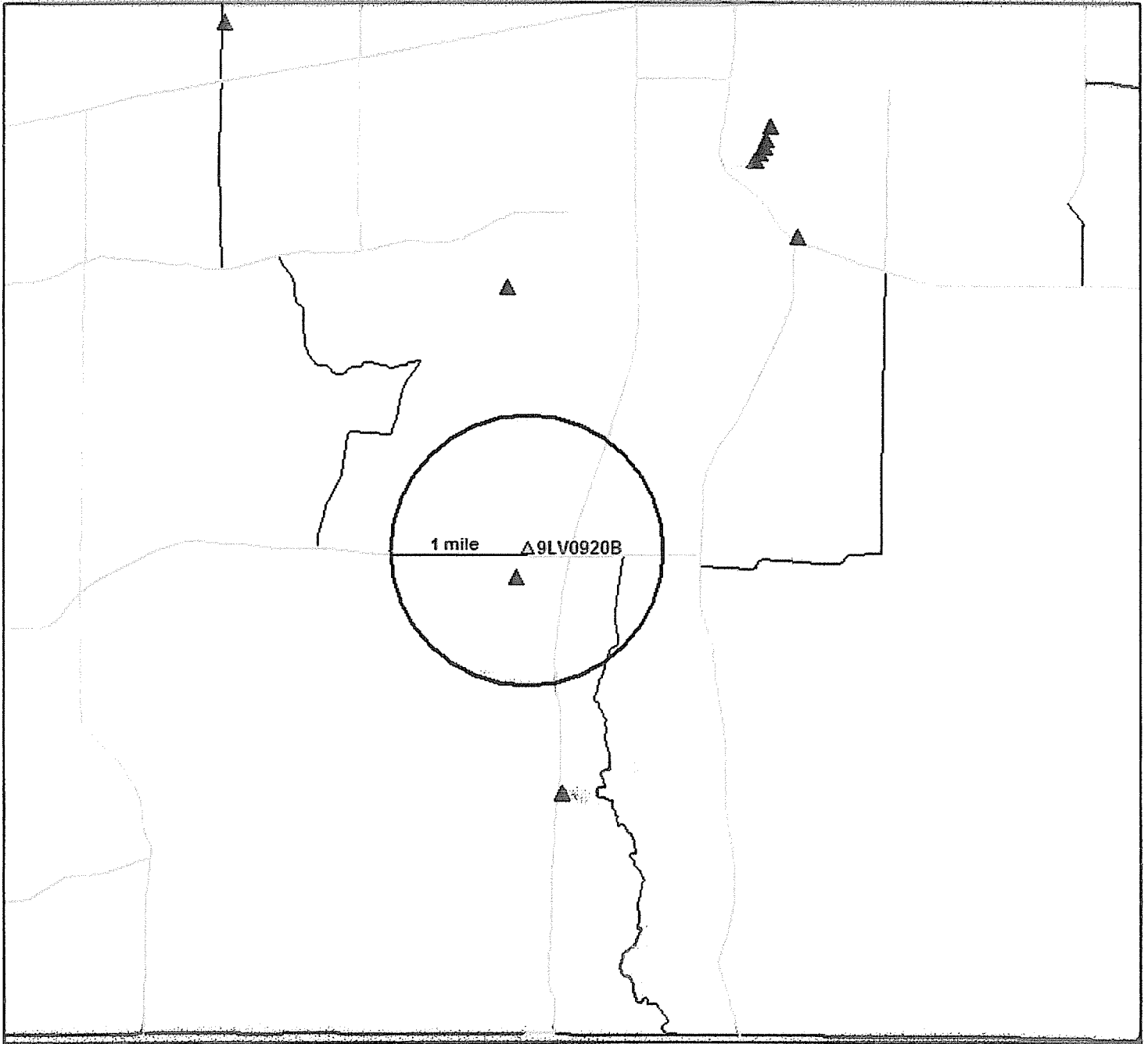
Elev (feet)	Depth (feet)	Sample Number	SPT Blows / 6"	N	Percent Moisture	Description of Material
	—	1	1-2-2	4		LEAN CLAY (CL), silty, SOFT to VERY STIFF, gray w/ tan and orange mottling, moist
	—	2	5-8-10	18		
	5 —	3	7-7-10	17		LEAN CLAY (CL), silty, w/ trace sand, VERY STIFF, orangish brown w/ gray mottling, moist
	—	4	3-5-7	13		LEAN CLAY (CL), sandy, w/ few gravel, STIFF, orangish brown and tan, moist
	10 —	5	11-22-30	52		SILTY GRAVEL (GM), with sand, VERY DENSE, orangish brown and light gray, moist
	—					Very difficult drilling 8.5'-20.9'
	15 —	6	50/.3	50+		
	—					
	20 —	7	50/.3	50+		
505.6	—					<b>AUGER REFUSAL AT 20.9 FT.</b>
	—					
	25 —					

**Notes:** No groundwater was encountered during drilling.  
Topsoil - 12 in.  
Elevations were interpolated from the supplied Topographic Survey performed by FS Tan.



# T-Mobile USA Site Map

## 9LV0920B - 1 Mile Radius



- △ T-Mobile Future Sites
- ▲ Existing Structures

F



Issued Date: 03/23/2009

Ken Bischoff  
 T-Mobile  
 11509 Commonwealth Drive, Suite 9  
 Louisville, KY 40299

**\*\* DETERMINATION OF NO HAZARD TO AIR NAVIGATION \*\***

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Antenna Tower 9LV0920B South Murray  
 Location: Hazel, KY  
 Latitude: 36-33-09.68N NAD 83  
 Longitude: 88-19-46.30W  
 Heights: 262 feet above ground level (AGL)  
 789 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked and/or lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, a med-dual system - Chapters 4,8(M-Dual),&12.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be completed and returned to this office any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part I)
- Within 5 days after the construction reaches its greatest height (7460-2, Part II)

This determination expires on 09/23/2010 unless:

- (a) extended, revised or terminated by the issuing office.
- (b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

**NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE POSTMARKED OR DELIVERED TO THIS OFFICE AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE.**

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission if the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (847) 294 8084. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2009-ASO-706-OE.

**Signature Control No: 618284-108763266**

( DNE )

Carole Bernacchi  
Technician

Attachment(s)  
Frequency Data

6



Kentucky Transportation Cabinet, Kentucky Airport Zoning Commission, 200 Mero Street, Frankfort, KY 40622 <b>APPLICATION FOR PERMIT TO CONSTRUCT OR ALTER A STRUCTURE</b> INSTRUCTIONS INCLUDED	Kentucky Aeronautical Study Number
---	------------------------------------

1. APPLICANT -- Name, Address, Telephone, Fax, etc. T-Mobile USA Attn:Ken Bischoff 11509 Commonwealth Drive Louisville, KY 40299	9. Latitude: <u>36</u> ° <u>33</u> ' <u>09</u> " <u>68</u> " 10. Longitude: <u>88</u> ° <u>19</u> ' <u>46</u> " <u>30</u> " 11. Datum: <input checked="" type="checkbox"/> NAD83 <input type="checkbox"/> NAD27 <input type="checkbox"/> Other _____ 12. Nearest Kentucky City: <u>Murray</u> County <u>Calloway</u> 13. Nearest Kentucky public use or Military airport: <u>CEY: Kyle-Oakley Field</u> 14. Distance from #13 to Structure: <u>42714</u> ft 15. Direction from #13 to Structure: <u>342.72</u> degrees 16. Site Elevation (AMSL): _____ <u>527.00</u> Feet 17. Total Structure Height (AGL): _____ <u>262.00</u> Feet 18. Overall Height (#16 + #17) (AMSL): _____ <u>789.00</u> Feet 19. Previous FAA and/or Kentucky Aeronautical Study Number(s): _____ 20. Description of Location: (Attach USGS 7.5 minute Quadrangle Map or an Airport layout Drawing with the precise site marked and any certified survey) Ronnie G. Ray 270 Midway Road, Murray, KY 42071
2. Representative of Applicant -- Name, Address, Telephone, Fax T-Mobile USA Attn:Kevin Blewitt 11509 Commonwealth Drive Louisville, KY 40299 Phone: (502) 297-6207, Fax (502) 297-6251	
3. Application for: <input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing 4. Duration: <input checked="" type="checkbox"/> Permanent <input type="checkbox"/> Temporary (Months _____ Days _____) 5. Work Schedule: Start <u>3/1/2009</u> End <u>8/31/2009</u> 6. Type: <input checked="" type="checkbox"/> Antenna Tower <input type="checkbox"/> Crane <input type="checkbox"/> Building <input type="checkbox"/> Power Line <input type="checkbox"/> Landfill <input type="checkbox"/> Water Tank <input type="checkbox"/> Other _____ 7. Marking/Painting and/or Lighting Preferred: <input type="checkbox"/> Red Lights and Paint <input checked="" type="checkbox"/> Dual - Red & Medium Intensity White <input type="checkbox"/> White - Medium Intensity <input type="checkbox"/> Dual - Red & High Intensity White <input type="checkbox"/> White - High Intensity <input type="checkbox"/> Other _____ 8. FAA Aeronautical Study Number <u>2009-ASO-706-OE</u>	

21. Description of Proposal:  
 Erection of a self support tower.

22. Has a "NOTICE OF CONSTRUCTION OR ALTERATION" (FAA Form 7460-1) been filed with the Federal Aviation Administration?  
 No  Yes, When February 09, 2009

**CERTIFICATION:** I hereby certify that all the above statements made by me are true, complete and correct to the best of my knowledge and belief.

Kevin Blewitt, Senior RF Engineer		2/9/2009
Printed Name and Title	Signature	Date

PENALTIES: Persons failing to comply with Kentucky Revised Statutes (KRS 183.861 through 183.990) and Kentucky Administrative Regulations (602 KAR 050:Series) are liable for fines and/or imprisonment as set forth in KRS 183.990(3). Non-compliance with Federal Aviation Administration Regulations may result in further penalties.

**Commission Action:**

Chairman, KAZC                       Administrator, KAZC

Approved

Disapproved \_\_\_\_\_ Date \_\_\_\_\_



McBRAYER, McGINNIS, LESLIE & KIRKLAND, PLLC  
ATTORNEYS-AT-LAW

---

W. BRENT RICE  
[brice@mmlk.com](mailto:brice@mmlk.com)

201 E. Main Street, Suite 1000  
Lexington, Kentucky 40507  
(859) 231-8780  
(859) 231-6518

April 7, 2009

VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Hon. Larry Elkins  
Calloway County Judge  
101 South Fifth Street  
County Courthouse  
Murray, KY 42071-2567

RE: **Public Notice – Public Service Commission of Kentucky  
Case No. 2009-00132 (The “9LV0920/South Murray” Facility)**

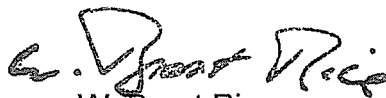
Dear Judge Elkins:

Powertel/Memphis, Inc. d/b/a T-Mobile has applied to the Public Service Commission of Kentucky for a Certificate of Public Convenience and Necessity to construct and operate an additional cell facility. The facility will be comprised of a 250' tower with a 10' lightning rod attached for a total height of 260', and an equipment shelter to be located at 270 Midway Road, Murray, Calloway County, Kentucky. The proposed facility will improve coverage in this area of Calloway County and will provide 911 emergency coverage. A map showing the location of the proposed new facility is enclosed.

The Commission invites your comments regarding the proposed construction. You also have the right to intervene in this matter. Your initial communication to the Commission must be received by the Commission within 20 days of the date of this letter as shown above.

Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission of Kentucky, P.O. Box 615, Frankfort, KY 40602. Please refer to **Case No. 2009-00132** in your correspondence. If I can be of assistance to you, please do not hesitate to call me.

Sincerely,



W. Brent Rice  
Counsel for Powertel/Memphis, Inc.

WBR/dkw  
Enclosure



**Powertel/Memphis, Inc. d/b/a T-Mobile**

**9LV0920/South Murray Site**

**Adjoining Property Owners**

Ken Orr Brandon  
396 Midway Road  
Murray, KY 42071

Marion Kaiser  
11024 Charles Dr.  
Byron, MI 48418

Steve Brandon  
807 Heron Road  
Murray, KY 42071

Dennis C. McGinnis  
344 Midway Road  
Murray, KY 42071

Ronald E. Burkeen  
329 Midway Road  
Murray, KY 42071

James F. Phillips  
925 Heron Road  
Murray, KY 42071

Maxine Burkeen  
329 Midway Road  
Murray, KY 42071

Ronnie G. Ray  
270 Midway Road  
Murray, KY 42071

Walter Glenn Hill  
180 Midway Road  
Murray, KY 42071

Charles Tidwell  
4298 US Hwy. 641 South  
Hazel, KY 42049

Ray Glenn Hill  
5995 Shoemaker Road  
Murray, KY 42071

Slan and Marilyn Vailes  
299 Midway Road  
Murray, KY 42071

William and Conley Jones  
622 Heron Road  
Murray, KY 42071

McBRAYER, MCGINNIS, LESLIE & KIRKLAND, PLLC  
ATTORNEYS-AT-LAW

---

W. BRENT RICE  
[brice@mmlk.com](mailto:brice@mmlk.com)

201 E. Main Street, Suite 1000  
Lexington, Kentucky 40507  
(859) 231-8780  
(859) 231-6518

April 7, 2009

VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Ronnie G. Ray  
270 Midway Road  
Murray, KY 42071

RE: **Public Notice – Public Service Commission of Kentucky  
Case No. 2009-00132 (The “9LV0920/South Murray” Facility)**

Dear Property Owner:

Powertel/Memphis, Inc. d/b/a T-Mobile has applied to the Public Service Commission of Kentucky for a Certificate of Public Convenience and Necessity to construct and operate an additional cell facility. The facility will be comprised of a 250' tower with a 10' lightning rod attached for a total height of 260', and an equipment shelter to be located at 270 Midway Road, Murray, Calloway County, Kentucky. The proposed facility will improve coverage in this area of Calloway County and provide 911 emergency coverage. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you own property within a 500' radius of the proposed facility or are a contiguous property owner.

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Counsel for Powertel/Memphis, Inc.

WBR/dkw  
Enclosure

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April 7, 2009

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Ray Glenn Hill  
5995 Shoemaker Road  
Murray, KY 42071

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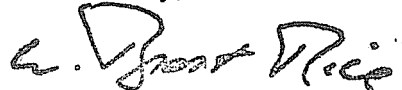
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WBR/dkw  
Enclosure

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[brice@mmlk.com](mailto:brice@mmlk.com)

201 E. Main Street, Suite 1000  
Lexington, Kentucky 40507  
(859) 231-8780  
(859) 231-6518

April 7, 2009

VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Walter Glenn Hill  
180 Midway Road  
Murray, KY 42071

RE: **Public Notice – Public Service Commission of Kentucky  
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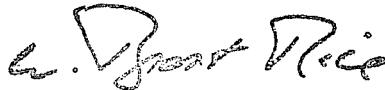
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April 7, 2009

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William and Conley Jones  
622 Heron Road  
Murray, KY 42071

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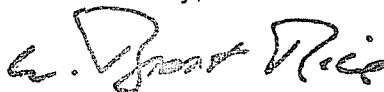
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April 7, 2009

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807 Heron Road  
Murray, KY 42071

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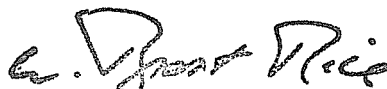
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201 E. Main Street, Suite 1000  
Lexington, Kentucky 40507  
(859) 231-8780  
(859) 231-6518

April 7, 2009

VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Marion Kaiser  
11024 Charles Dr.  
Byron, MI 48418

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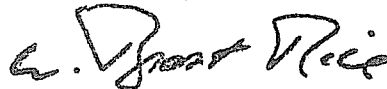
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Enclosure

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[brice@mmlk.com](mailto:brice@mmlk.com)

201 E. Main Street, Suite 1000  
Lexington, Kentucky 40507  
(859) 231-8780  
(859) 231-6518

April 7, 2009

VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED

James F. Phillips  
925 Heron Road  
Murray, KY 42071

RE: **Public Notice – Public Service Commission of Kentucky  
Case No. 2009-00132 (The “9LV0920/South Murray” Facility)**

Dear Property Owner:

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W. Brent Rice  
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April 7, 2009

VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Ken Orr Brandon  
396 Midway Road  
Murray, KY 42071

RE: **Public Notice – Public Service Commission of Kentucky  
Case No. 2009-00132 (The “9LV0920/South Murray” Facility)**

Dear Property Owner:

Powertel/Memphis, Inc. d/b/a T-Mobile has applied to the Public Service Commission of Kentucky for a Certificate of Public Convenience and Necessity to construct and operate an additional cell facility. The facility will be comprised of a 250' tower with a 10' lightning rod attached for a total height of 260', and an equipment shelter to be located at 270 Midway Road, Murray, Calloway County, Kentucky. The proposed facility will improve coverage in this area of Calloway County and provide 911 emergency coverage. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you own property within a 500' radius of the proposed facility or are a contiguous property owner.

The Commission invites your comments regarding the proposed construction. You also have the right to intervene in this matter. Your initial communication the Commission must be received by the Commission within 20 days of the date of this letter as shown above.

Your comments and request for intervention should be addressed to: Executive Director's Office, Public Service Commission of Kentucky, P.O. Box 615, Frankfort, KY 40602. Please refer to **Case No. 2009-00132** in your correspondence.

Sincerely,



W. Brent Rice  
Counsel for Powertel/Memphis, Inc.

WBR/dkw  
Enclosure

McBRAYER, MCGINNIS, LESLIE & KIRKLAND, <sup>PLLC</sup>  
ATTORNEYS-AT-LAW

---

W. BRENT RICE  
[brice@mmlk.com](mailto:brice@mmlk.com)

201 E. Main Street, Suite 1000  
Lexington, Kentucky 40507  
(859) 231-8780  
(859) 231-6518

April 7, 2009

VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Dennis C. McGinnis  
344 Midway Road  
Murray, KY 42071

RE: **Public Notice – Public Service Commission of Kentucky  
Case No. 2009-00132 (The “9LV0920/South Murray” Facility)**

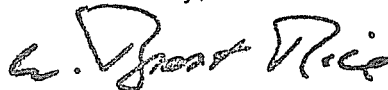
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Sincerely,



W. Brent Rice  
Counsel for Powertel/Memphis, Inc.

WBR/dkw  
Enclosure

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201 E. Main Street, Suite 1000  
Lexington, Kentucky 40507  
(859) 231-8780  
(859) 231-6518

April 7, 2009

VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Maxine Burkeen  
329 Midway Road  
Murray, KY 42071

RE: **Public Notice – Public Service Commission of Kentucky  
Case No. 2009-00132 (The “9LV0920/South Murray” Facility)**

Dear Property Owner:

Powertel/Memphis, Inc. d/b/a T-Mobile has applied to the Public Service Commission of Kentucky for a Certificate of Public Convenience and Necessity to construct and operate an additional cell facility. The facility will be comprised of a 250' tower with a 10' lightning rod attached for a total height of 260', and an equipment shelter to be located at 270 Midway Road, Murray, Calloway County, Kentucky. The proposed facility will improve coverage in this area of Calloway County and provide 911 emergency coverage. A map showing the location of the proposed new facility is enclosed. This notice is being sent to you because you own property within a 500' radius of the proposed facility or are a contiguous property owner.

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Sincerely,



W. Brent Rice  
Counsel for Powertel/Memphis, Inc.

WBR/dkw  
Enclosure

McBRAYER, McGINNIS, LESLIE & KIRKLAND, PLLC

ATTORNEYS-AT-LAW

W. BRENT RICE  
[brice@mmlk.com](mailto:brice@mmlk.com)

201 E. Main Street, Suite 1000  
Lexington, Kentucky 40507  
(859) 231-8780  
(859) 231-6518

April 7, 2009

VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Ronald E. Burkeen  
329 Midway Road  
Murray, KY 42071

RE: **Public Notice – Public Service Commission of Kentucky  
Case No. 2009-00132 (The “9LV0920/South Murray” Facility)**

Dear Property Owner:

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Sincerely,



W. Brent Rice  
Counsel for Powertel/Memphis, Inc.

WBR/dkw  
Enclosure



McBRAYER, McGINNIS, LESLIE & KIRKLAND, PLLC  
ATTORNEYS-AT-LAW

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[brice@mmlk.com](mailto:brice@mmlk.com)

201 E. Main Street, Suite 1000  
Lexington, Kentucky 40507  
(859) 231-8780  
(859) 231-6518

April 7, 2009

VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Slan and Marilyn Vailes  
299 Midway Road  
Murray, KY 42071

RE: **Public Notice – Public Service Commission of Kentucky  
Case No. 2009-00132 (The “9LV0920/South Murray” Facility)**

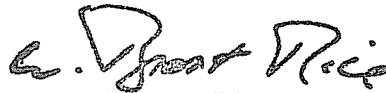
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Sincerely,



W. Brent Rice  
Counsel for Powertel/Memphis, Inc.

WBR/dkw  
Enclosure

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Lexington, Kentucky 40507  
(859) 231-8780  
(859) 231-6518

April 7, 2009

VIA CERTIFIED MAIL, RETURN RECEIPT REQUESTED

Charles Tidwell  
4298 US Hwy. 641 South  
Hazel, KY 42049

RE: **Public Notice – Public Service Commission of Kentucky  
Case No. 2009-00132 (The “9LV0920/South Murray” Facility)**

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Sincerely,



W. Brent Rice  
Counsel for Powertel/Memphis, Inc.

WBR/dkw  
Enclosure



## SITE LEASE WITH OPTION

THIS SITE LEASE WITH OPTION (this "Lease") is by and between Ronnie G. Ray and Deborah K. Ray, individuals ("Landlord") and Powertel/Memphis, Inc., a Delaware corporation ("Tenant").

### 1. Option to Lease.

(a) In consideration of the payment of ~~the sum of \$10,000.00 (Ten Thousand Dollars) and~~ "Option Fee") by Tenant to Landlord, Landlord hereby grants to Tenant an option to lease a portion of the real property described in the attached Exhibit A (the "Property"), on the terms and conditions set forth herein (the "Option"). The Option shall be for an initial term of twelve (12) months, commencing on the Effective Date (as defined below) (the "Option Period"). The Option Period may be extended by Tenant for an additional twelve (12) months upon written notice to Landlord and payment of the sum of ~~\$10,000.00 (Ten Thousand Dollars) and~~ "Option Fee") at any time prior to the end of the Option Period.

(b) ~~During the Option Period and any extension thereof, and during the Initial Term and any Renewal Term (as those terms are defined below) of this Lease, Landlord agrees to cooperate with Tenant in obtaining, at Tenant's expense, all licenses and permits or authorizations required for Tenant's use of the Premises (as defined below) from all applicable government and/or regulatory entities (including, without limitation, zoning and land use authorities, and the Federal Communications Commission ("FCC") ("Governmental Approvals"), including all land use and zoning permit applications, and Landlord agrees to cooperate with and to allow Tenant, at no cost to Landlord, to obtain a title report, zoning approvals and variances, land use permits. Landlord expressly grants to Tenant a right of access to the Property to perform any surveys, soil tests, and other engineering procedures or environmental investigations ("Tests") on the Property deemed necessary or appropriate by Tenant to evaluate the suitability of the Property for the uses contemplated under this Lease. During the Option Period and any extension thereof, and during the Initial Term or any Renewal Term of this Lease, Landlord agrees that it will not interfere with Tenant's efforts to secure other licenses and permits or authorizations that relate to other property. During the Option Period and any extension thereof, Tenant may exercise the Option by so notifying Landlord in writing, at Landlord's address in accordance with Section 12 hereof.~~

(c) ~~If Tenant exercises the Option, then Landlord hereby leases to Tenant that portion of the Property sufficient for placement of the Antenne Facilities (as defined below), together with all necessary space and easements for access and utilities, as generally described and depicted in the attached Exhibit B (collectively referred to hereinafter as the "Premises"). The Premises, located at Heron Rd, Murray, Calloway, KY-42071, comprises approximately 6,400 square feet.~~

2. ~~Term.~~ The initial term of this Lease shall be five (5) years commencing on the date of exercise of the Option (the "Commencement Date"), and terminating at midnight on the last day of the initial term (the "Initial Term").

3. ~~Renewal.~~ Tenant shall have the right to extend this Lease for five (5) additional and successive five-year terms (each a "Renewal Term") on the same terms and conditions as set forth herein. This Lease shall automatically renew for each successive Renewal Term unless Tenant notifies Landlord, in writing, of Tenant's intention not to renew this Lease, at least thirty (30) days prior to the expiration of the Initial Term or any Renewal Term. If Tenant shall remain in possession of the Premises at the expiration of this Lease or any Renewal Term without a written agreement, such tenancy shall be deemed a month-to-month tenancy under the same terms and conditions of this Lease.

### 4. Rent.

(a) From and after the Commencement Date, Tenant shall pay Landlord or designee, as rent, ~~the sum of \$10,000.00 (Ten Thousand Dollars) per month~~ ("Rent"). The first payment of Rent shall be due within twenty (20) days following the Commencement Date and shall be prorated based on the days remaining in the month following the Commencement Date, and thereafter Rent will be payable monthly in advance by the fifth day of each month to Landlord at the address specified in Section 12 below. If this Lease is terminated for any reason (other than a default by Tenant) at a time other than on the last day of a month, Rent shall be prorated as of the date of termination and all prepaid Rent shall be immediately refunded to Tenant. Landlord, its successors, assigns and/or designee, if any, will submit to Tenant any documents required by Tenant in connection with the payment of Rent, including, without limitation, an IRS Form W-9.

(b) During the Initial Term and any Renewal Terms, monthly Rent shall be adjusted, effective on the first day of each year of the Initial or Renewal Term, and on each such subsequent anniversary thereof, to an amount equal to ~~the sum of \$10,000.00 (Ten Thousand Dollars) per month~~ of the monthly Rent in effect immediately prior to the adjustment date.

5. Permitted Use. The Premises may be used by Tenant for the transmission and reception of radio communication signals and for the construction, installation, operation, maintenance, repair, removal or replacement of related facilities, including, without limitation, tower and base, antennas, microwave dishes, equipment shelters and/or cabinets and related activities.

6. Interference. Tenant shall not use the Premises in any way which interferes with the use of the Property by Landlord or lessees or licensees of Landlord with rights in the Property prior in time to Tenant's (subject to Tenant's rights under this Lease, including, without limitation, non-interference). Similarly, Landlord shall not use, nor shall Landlord permit its lessees, licensees, employees, invitees or agents to use, any portion of the Property in any way which interferes with the operations of Tenant. Such interference shall be deemed a material breach by the interfering party, who shall, upon written notice from the other, be responsible for terminating said interference. In the event any such interference

does not cease promptly, the parties acknowledge that continuing interference may cause irreparable injury and, therefore, the injured party shall have the right, in addition to any other rights that it may have at law or in equity, to bring a court action to enjoin such interference or to terminate this Lease immediately upon written notice.

#### 7. Improvements; Utilities; Access.

~~(a) Tenant shall have the right, at its expense, to erect and maintain on the Premises improvements, personal property and facilities necessary to operate its communications system, including, without limitation, radio transmitting and receiving antennas, microwave dishes, tower and base, equipment shelters and/or cabinets and related cables and utility lines and a location based system, as such location based system may be required by any county, state or federal agency/department, including, without limitation, additional antenna(s), coaxial cable, base units and other associated equipment (collectively, the "Antenna Facilities"). Tenant shall have the right to alter, replace, expand, enhance and upgrade the Antenna Facilities at any time during the term of this Lease. Tenant shall cause all construction to occur lien free and in compliance with all applicable laws and ordinances. Landlord acknowledges that it shall neither interfere with any aspects of construction nor attempt to direct construction personnel as to the location of or method of installation of the Antenna Facilities and the Easements (as defined below). The Antenna Facilities shall remain the exclusive property of Tenant and shall not be considered fixtures. Tenant shall have the right to remove the Antenna Facilities at any time during and upon the expiration or termination of this Lease.~~

(b) Tenant, at its expense, may use any and all appropriate means of restricting access to the Antenna Facilities, including, without limitation, the construction of a fence.

(c) Tenant shall, at Tenant's expense, keep and maintain the Antenna Facilities now or hereafter located on the Property in commercially reasonable condition and repair during the term of this Lease, normal wear and tear and casualty excepted. Upon termination or expiration of this Lease, the Premises shall be returned to Landlord in good, usable condition, normal wear and tear and casualty excepted.

(d) Tenant shall have the right to install utilities, at Tenant's expense, and to improve the present utilities on the Property (including, but not limited to, the installation of emergency power generators). Landlord agrees to use reasonable efforts in assisting Tenant to acquire necessary utility service. Tenant shall, wherever practicable, install separate meters for utilities used on the Property by Tenant. In the event separate meters are not installed, Tenant shall pay the periodic charges for all utilities attributable to Tenant's use, at the rate charged by the servicing utility. Landlord shall diligently correct any variation, interruption or failure of utility service.

~~(e) As partial consideration for Rent paid under this Lease, Landlord hereby grants Tenant easements on, under and across the Property for ingress, egress, utilities and access (including access for the purposes described in Section 1) to the Premises adequate to install and maintain utilities, including, but not limited to, the installation of power and telephone service cable, and to service the Premises and the Antenna Facilities at all times during the Initial Term of this Lease and any Renewal Term (collectively, the "Easements"). The Easements provided hereunder shall have the same term as this Lease.~~

(f) Tenant shall have 24-hours-a-day, 7-days-a-week access to the Premises at all times during the Initial Term of this Lease and any Renewal Term, at no charge to Tenant.

(g) Landlord shall maintain and repair all access roadways from the nearest public roadway to the Premises in a manner sufficient to allow vehicular and pedestrian access at all times, at its sole expense, except for any damage to such roadways caused by Tenant.

#### 8. Termination. Except as otherwise provided herein, this Lease may be terminated, without any penalty or further liability as follows:

(a) upon thirty (30) days' written notice by Landlord if Tenant fails to cure a default for payment of amounts due under this Lease within such thirty (30) day period;

(b) immediately upon written notice by Tenant if Tenant notifies Landlord of any unacceptable results of any Tests prior to Tenant's installation of the Antenna Facilities on the Premises, or if Tenant does not obtain, maintain, or otherwise forfeits or cancels any license (including, without limitation, an FCC license), permit or any Governmental Approval necessary to the installation and/or operation of the Antenna Facilities or Tenant's business;

(c) upon thirty (30) days' written notice by Tenant if Tenant determines that the Property or the Antenna Facilities are inappropriate or unnecessary for Tenant's operations for economic or technological reasons;

~~(d) immediately upon written notice by Tenant if the Premises or the Antenna Facilities are destroyed or damaged so as in Tenant's reasonable judgment to substantially and adversely affect the effective use of the Antenna Facilities. In such event, all rights and obligations of the parties shall cease as of the date of the damage or destruction, and Tenant shall be entitled to the reimbursement of any Rent prepaid by Tenant. If Tenant elects to continue this Lease, then all Rent shall abate until the Premises and/or the Antenna Facilities are restored to the condition existing immediately prior to such damage or destruction; or~~

(e) at the time title to the Property transfers to a condemning authority pursuant to a taking of all or a portion of the Property sufficient in Tenant's determination to render the Premises unsuitable for Tenant's use. Landlord and Tenant shall each be entitled to pursue their own separate

awards with respect to such taking. Sale of all or part of the Property to a purchaser with the power of eminent domain in the face of the exercise of the power shall be treated as a taking by condemnation.

9. Default and Right to Cure. Notwithstanding anything contained herein to the contrary and without waiving any other rights granted to it at law or in equity, each party shall have the right, but not the obligation, to terminate this Lease on written notice pursuant to Section 12 hereof, to take effect immediately, if the other party fails to perform any covenant or commits a material breach of this Lease and fails to diligently pursue a cure thereof to its completion after thirty (30) days' written notice specifying such failure of performance or default.

10. Taxes. Landlord shall pay when due all real property taxes for the Property, including the Premises. In the event that Landlord fails to pay any such real property taxes or other fees and assessments, Tenant shall have the right, but not the obligation, to pay such owed amounts and deduct them from Rent amounts due under this Lease. Notwithstanding the foregoing, Tenant shall pay any personal property tax, real property tax or any other tax or fee which is directly attributable to the presence or installation of Tenant's Antenna Facilities, only for so long as this Lease remains in effect. If Landlord receives notice of any personal property or real property tax assessment against Landlord, which may affect Tenant and is directly attributable to Tenant's installation, Landlord shall provide timely notice of the assessment to Tenant sufficient to allow Tenant to consent to or challenge such assessment, whether in a Court, administrative proceeding, or other venue, on behalf of Landlord and/or Tenant. Further, Landlord shall provide to Tenant any and all documentation associated with the assessment and shall execute any and all documents reasonably necessary to effectuate the intent of this Section 10. In the event real property taxes are assessed against Landlord or Tenant for the Premises or the Property, Tenant shall have the right, but not the obligation, to terminate this Lease without further liability after thirty (30) days' written notice to Landlord, provided Tenant pays any real property taxes assessed as provided herein.

11. Insurance and Subrogation and Indemnification.

(a) Tenant will maintain Commercial General Liability Insurance in amounts of One Million and no/100 Dollars (\$1,000,000.00) per occurrence and Two Million and no/100 Dollars (\$2,000,000.00) aggregate. Tenant may satisfy this requirement by obtaining the appropriate endorsement to any master policy of liability insurance Tenant may maintain.

(b) Landlord and Tenant hereby mutually release each other (and their successors or assigns) from liability and waive all right of recovery against the other for any loss or damage covered by their respective first party property insurance policies for all perils insured thereunder. In the event of such insured loss, neither party's insurance company shall have a subrogated claim against the other.

(c) Subject to the property insurance waivers set forth in subsection 11(b), Landlord and Tenant each agree to indemnify and hold harmless the other party from and against any and all claims, damages, costs and expenses, including reasonable attorney fees, to the extent caused by or arising out of the negligent acts or omissions or willful misconduct in the operations or activities on the Property by the indemnifying party or the employees, agents, contractors, licensees, tenants and/or subcontractors of the indemnifying party, or a breach of any obligation of the indemnifying party under this Lease. The indemnifying party's obligations under this section are contingent upon its receiving prompt written notice of any event giving rise to an obligation to indemnify the other party and the indemnified party's granting it the right to control the defense and settlement of the same.

(d) Notwithstanding anything to the contrary in this Lease, the parties hereby confirm that the provisions of this Section 11 shall survive the expiration or termination of this Lease.

(e) Tenant shall not be responsible to Landlord, or any third-party, for any claims, costs or damages (including, fines and penalties) attributable to any pre-existing violations of applicable codes, statutes or other regulations governing the Property.

12. Notices. All notices, requests, demands and other communications shall be in writing and are effective three (3) days after deposit in the U.S. mail, certified and postage paid, or upon receipt if personally delivered or sent by next-business-day delivery via a nationally recognized overnight courier to the addresses set forth below. Landlord or Tenant may from time to time designate any other address for this purpose by providing written notice to the other party.

If to Tenant, to:  
T-Mobile USA, Inc.  
12920 SE 38<sup>th</sup> Street  
Bellevue, WA 98006  
Attn: PCS Lease Administrator

With a copy to:  
Attn: Legal Dept.

And with a copy to:  
Powertel/Memphis, Inc.  
2001 Butterfield Road, Suite 1900  
Downers Grove, IL 60515  
Attn: Lease Administration Manager

With a copy to: Attn: Legal Dept.

If to Landlord, to:  
Ronnie G. Ray  
270 Midway Rd  
Murray, KY 42071

And with a copy to:

Send Rent payments to:  
Ronnie G. Ray and Deborah K. Ray  
270 Midway Rd  
Murray, KY 42071

13. Quiet Enjoyment, Title and Authority. As of the Effective Date and at all times during the Initial Term and any Renewal Terms of this Lease, Landlord covenants and warrants to Tenant that (i) Landlord has full right, power and authority to execute and perform this Lease; (ii) Landlord has good and unencumbered fee title to the Property free and clear of any liens or mortgages, except those heretofore disclosed in writing to Tenant and which will not interfere with Tenant's rights to or use of the Premises; (iii) execution and performance of this Lease will not violate any laws, ordinances, covenants, or the provisions of any mortgage, lease, or other agreement binding on Landlord; and (iv) Tenant's quiet enjoyment of the Premises or any part thereof shall not be disturbed as long as Tenant is not in default beyond any applicable grace or cure period.

14. Environmental Laws. Landlord represents that it has no knowledge of any substance, chemical or waste (collectively, "Hazardous Substance") on the Property that is identified as hazardous, toxic or dangerous in any applicable federal, state or local law or regulation. Landlord and Tenant shall not introduce or use any Hazardous Substance on the Property in violation of any applicable law. Landlord shall be responsible for, and shall promptly conduct any investigation and remediation as required by any applicable environmental laws, all spills or other releases of any Hazardous Substance not caused solely by Tenant, that have occurred or which may occur on the Property. Each party agrees to defend, indemnify and hold harmless the other from and against any and all administrative and judicial actions and rulings, claims, causes of action, demands and liability (collectively, "Claims") including, but not limited to, damages, costs, expenses, assessments, penalties, fines, losses, judgments and reasonable attorney fees that the indemnitee may suffer or incur due to the existence of any Hazardous Substances on the Property or the migration of any Hazardous Substance to other properties or the release of any Hazardous Substance into the environment (collectively, "Actions"), that relate to or arise from the indemnitor's activities on the Property. Landlord agrees to defend, indemnify and hold Tenant harmless from Claims resulting from Actions on the Property not caused by Landlord or Tenant prior to and during the Initial Term and any Renewal Term. The indemnifications in this section specifically include, without limitation, costs incurred in connection with any investigation of site conditions or any cleanup, remedial, removal or restoration work required by any governmental authority. This Section 14 shall survive the termination or expiration of this Lease.

15. Assignment and Subleasing. Tenant shall have the right to assign or otherwise transfer this Lease and the Easements (as defined above) granted herein upon written notice to Landlord. Upon such assignment, Tenant shall be relieved of all liabilities and obligations hereunder and Landlord shall look solely to the assignee for performance under this Lease and all obligations hereunder. Tenant may sublease the Premises, upon written notice to Landlord.

Landlord shall have the right to assign or otherwise transfer this Lease and the Easements granted herein, upon written notice to Tenant except for the following; any assignment or transfer of this Lease which is separate and distinct from a transfer of Landlord's entire right, title and interest in the Property, shall require the prior written consent of Tenant which may be withheld in Tenant's sole discretion. Upon Tenant's receipt of (i) an executed deed or assignment and (ii) an IRS Form W-9 from assignee, and subject to Tenant's consent, if required, Landlord shall be relieved of all liabilities and obligations hereunder and Tenant shall look solely to the assignee for performance under this Lease and all obligations hereunder.

Additionally, notwithstanding anything to the contrary above, Landlord or Tenant may, upon notice to the other, grant a security interest in this Lease (and as regards the Tenant, in the Antenna Facilities), and may collaterally assign this Lease (and as regards the Tenant, in the Antenna Facilities) to any mortgagees or holders of security interests, including their successors or assigns (collectively "Secured Parties"). In such event, Landlord or Tenant, as the case may be, shall execute such consent to leasehold financing as may reasonably be required by Secured Parties.

16. Successors and Assigns. This Lease and the Easements granted herein shall run with the land, and shall be binding upon and inure to the benefit of the parties, their respective successors, personal representatives and assigns.

17. Waiver of Landlord's Lien. Landlord hereby waives any and all lien rights it may have, statutory or otherwise, concerning the Antenna Facilities or any portion thereof, which shall be deemed personal property for the purposes of this Lease, whether or not the same is deemed real or personal property under applicable laws, and Landlord gives Tenant and Secured Parties the right to remove all or any portion of the same from time to time, whether before or after a default under this Lease, in Tenant's and/or Secured Party's sole discretion and without Landlord's consent.

#### 18. Miscellaneous.

(a) The prevailing party in any litigation arising hereunder shall be entitled to reimbursement from the other party of its reasonable attorneys' fees and court costs, including appeals, if any.

(b) This Lease constitutes the entire agreement and understanding of the parties, and supersedes all offers, negotiations and other agreements with respect to the subject matter and property covered by this Lease. Any amendments to this Lease must be in writing and executed by both parties.

(c) Landlord agrees to cooperate with Tenant in executing any documents necessary to protect Tenant's rights in its use of the Premises. A Memorandum of Lease in substantially the form attached hereto as Exhibit C may be recorded in place of this Lease by Tenant.

(d) In the event the Property is encumbered by a mortgage or deed of trust, Landlord agrees, upon request of Tenant, to obtain and furnish to Tenant a non-disturbance and attornment agreement for each such mortgage or deed of trust, in a form reasonably acceptable to Tenant.

(e) Tenant may obtain title insurance on its interest in the Premises. Landlord agrees to execute such documents as the title company may require in connection therewith.

(f) This Lease shall be construed in accordance with the laws of the state in which the Property is located, without regard to the conflicts of law principles of such state.

(g) If any term of this Lease is found to be void or invalid, the remaining terms of this Lease shall continue in full force and effect. Any questions of particular interpretation shall not be interpreted against the drafter, but rather in accordance with the fair meaning thereof. No provision of this Lease will be deemed waived by either party unless expressly waived in writing by the waiving party. No waiver shall be implied by delay or any other act or omission of either party. No waiver by either party of any provision of this Lease shall be deemed a waiver of such provision with respect to any subsequent matter relating to such provision.

(h) The persons who have executed this Lease represent and warrant that they are duly authorized to execute this Lease in their individual or representative capacities as indicated.

(i) This Lease may be executed in any number of counterparts, each of which shall be deemed an original, but all of which together shall constitute a single instrument.

(j) All Exhibits referred to herein and any Addenda are incorporated herein for all purposes. The parties understand and acknowledge that Exhibits A and B may be attached to this Lease and the Memorandum of Lease, in preliminary form. Accordingly, the parties agree that upon the preparation of final, more complete exhibits, Exhibits A and/or B, as the case may be, may be replaced by Tenant with such final, more complete exhibit(s).

(k) If either party is represented by any broker or any other leasing agent, such party is responsible for all commission fee or other payment to such agent, and agrees to indemnify and hold the other party harmless from all claims by such broker or anyone claiming through such broker.

The effective date of this Lease is the date of execution by the last party to sign (the "Effective Date").

LANDLORD: Ronnie G. Ray

By: Ronnie G. Ray  
Printed Name: RONNIE G. RAY  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

LANDLORD: Deborah K. Ray

By: Deborah K. Ray  
Printed Name: DEBORAH K. RAY  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

TENANT: Powertel/Memphis, Inc.

By: \_\_\_\_\_  
Printed Name: Kim Curtis  
Title: Regional Development Director  
Date: \_\_\_\_\_

T-Mobile Legal Approval



EXHIBIT A  
Legal Description

The Property is legally described as follows:

OLD DESCRIPTION:

"A part of the Northeast Quarter of Section 16, Township 1, Range 4 East, and beginning at the southeast corner of said Quarter; thence north with section line 80 poles; thence west 95 poles; thence north 23 poles, 3 feet and 10 inches and 10 inches; thence west 85 poles to Quarter Section 11; thence south with Quarter section line 39 poles; thence east 68 poles; thence south 6 feet, 54 poles to the south line of said Quarter Section; thence east 98 poles to the beginning containing 64 acres, more or less, EXCEPT 14 acres sold out of the southeast corner. ALSO conveys 10 acres in the Southeast Quarter of Section 16, Township 1, Range 4 East as bounded as follows: On the west by Boaz Gibbs place, on the north by R. H. Gunter, on the east by R. H. Gunter, on the south by Concord Road, EXCEPT 10 acres sold off of the east side to Elmer Wolkerson, being a part of the Northeast Quarter of Section 16, Township 1, Range 4 East, EXCEPT a 2 acre tract sold to the Gunter

Flat School District, after the above exceptions leaving a remainder to be conveyed in this tract 48 acres, more or less, EXCEPT a tract heretofore conveyed to Roy S. Hughes on March 27, 1948, Deed to same being recorded in Deed Book 25, Page 465, in the office of the Clerk of the Calloway County Courts, and EXCEPT a tract conveyed to Clarence Cole by Deed dated the 4th day of September, 1939 which is of record in the office of the Clerk aforesaid in Deed Book 26, Page 371; and EXCEPT a tract of land conveyed to Ruth Hughes by deed dated the 24th day of July, 1962, which is of record in the office of the Clerk aforesaid in Deed Book 118, Page 187.

ALSO: A part of the Northeast Quarter of Section 16, Township 1, Range 4 East, beginning at point north of the southeast corner of said Quarter, thence East 23 1/2 poles, thence North 18 2/3 poles, thence West 17 1/2 poles, thence South 18 2/3 poles to the beginning, being 1 acre heretofore deeded to Central Flat School District.

THE ABOVE DECRETION, DRAWING BY JOHN HOPKINS ENGINEER, DATED BY J. HOPKINS, DATED NOVEMBER 11, 1967, PREPARED BY J. HOPKINS, CONSULTING ENGINEER.

Legal description of a tract of land situated in the County of Calloway, State of Kentucky, which is a part of the Northeast Quarter of Section 16, Township 1, Range 4 East, being further described as follows:

Beginning at an iron pin 35' North of the centerline of Ky. Hwy. 1022 (New Co Road), said iron pin being 168.89' East of the centerline of the O'd Murray-Royal Road (in this a Chapel Road), and being the Southeast corner of the Ruth Hughes tract as described in Deed Book 118, Page 297; thence from said POINT OF BEGINNING and with Ruth Hughes East Line;

North 1° 13' 47" East 220.05'; thence with said Hughes North line: South 89° 32' 06" West 167.86'

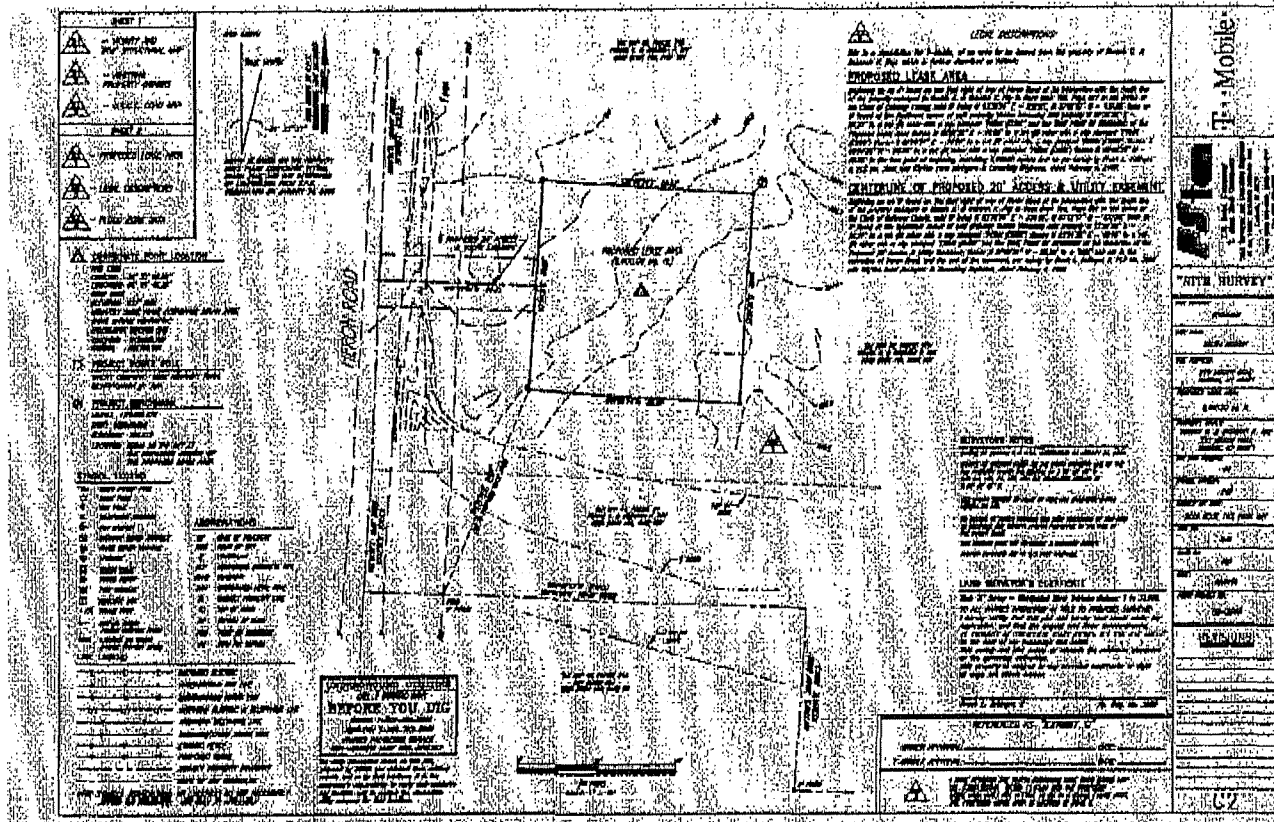
(passing thru a witness pin at 137.86') to a point in the centerline of the Old Murray-Hazel Road (Martin's Chapel Road); thence with the centerline of said (Martin's Chapel) road, North 1° 17' 52" East 46.96'; thence continuing with the centerline of said road, North 0° 05' 58" East 1015.98'; thence leaving said road, North 85° 39' 11" East 449.60' (passing thru a witness pin at 20.00') to an iron pin in a fence line, the Northwest corner of Hillman Coles 10-acre tract as recorded in Deed Book 67, Page 316; thence South 5° 17' 05" East 109.80' to an iron pin in the North 85° line of Kentucky Hwy. #1028; thence 100 feet and parallel to the centerline of said Ky. Hwy. #1028, North 85° 41' West 100 feet to the point of beginning, with tract containing 12.5318 acres. This is subject to any right-of-way in favor of Murray for the Old Murray-Hazel Road (Martin's Chapel Road) and all other roads and easements of record.

A plot of the above described property is attached hereto and is a true and correct copy of the same. The above described property is owned by the above described Thompson, individually and as a partner in the firm of Thompson, Sawyer and Associates, P.C., and is recorded on Deed Book 100, Page 1018, and the official copy of the same is on file in the office of the clerk of the Calloway County Court, by Deed Book 100, Page 1018, dated the 23rd day of November, 1987, and recorded on the 23rd day of November, 1987, in the office of the clerk of the Calloway County Court, and by Deed Book 100, Page 1018, dated the 23rd day of November, 1987, and recorded on the 23rd day of November, 1987, in the office of the clerk of the Calloway County Court.

EXHIBIT B

The location of the Premises within the Property (together with access and utilities) is more particularly described and depicted as follows:

[Enter Premises description here or on attachment(s).]



PROPOSED LEASE AREA

Beginning on an IP found on the East right of way of Heron Road at its intersection with the South line of the property conveyed to Ronnie G. & Deborah K. Ray in Deed Book 165, Page 527 in the Office of the Clerk of Calloway County, said IP being N 03°38'54" E - 230.05', N 87°42'47" W - 137.86' from an IP found at the Southwest corner of said property, thence traversing said property N 22°39'50" E - 84.27' to a set #5 rebar with a cap stamped "TSTAN #3282" and the TRUE POINT OF BEGINNING of the Proposed Lease Area, thence N 03°54'36" E - 80.00' to a set #5 rebar with a cap stamped "TSTAN #3282", thence S 85°05'24" E - 80.00' to a set #5 rebar with a cap stamped "TSTAN #3282", thence S 03°54'36" W - 80.00' to a set #5 rebar with a cap stamped "TSTAN #3282", thence N 85°05'24" W - 80.00' to the true point of beginning, containing 6,400.00 square feet as per survey by Frank L. Sellinger, PLS No. 3282 with FS/Tan Land Surveyors & Consulting Engineers, dated February 4, 2008.

CENTERLINE OF PROPOSED 20' ACCESS & UTILITY EASEMENT

Beginning on an IP found on the East right of way of Heron Road at its intersection with the South line of the property conveyed to Ronnie G. & Deborah K. Ray in Deed Book 165, Page 527 in the Office of the Clerk of Calloway County, said IP being N 03°38'54" E - 230.05', N 87°42'47" W - 137.86' from an IP found at the Southwest corner of said property, thence traversing said property N 22°39'50" E - 84.27' to a set #5 rebar with a cap stamped "TSTAN #3282", thence N 03°54'36" E - 40.00' to a set #5 rebar with a cap stamped "TSTAN #3282" and the TRUE POINT OF BEGINNING of the Centerline of the Proposed 20' Access & Utility Easement, thence N 87°40'01" W - 59.25' to a "MAG" nail set in the centerline of Heron Road, and the end of this easement, per survey by Frank L. Sellinger, PLS No. 3282 with FS/Tan Land Surveyors & Consulting Engineers, dated February 4, 2008.

EXHIBIT C

**Memorandum  
of  
Lease**

Return to address after recording:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Attn: Property Management

**MEMORANDUM OF LEASE**

Assessor's Parcel Number: Map#44-parcel 21B

Between Ronnie G. Ray and Deborah K. Ray ("Landlord") and Powertel/Memphis, Inc. ("Tenant")

A Site Lease with Option (the "Lease") by and between Ronnie G. Ray and Deborah K. Ray, individuals ("Landlord") and Powertel/Memphis, Inc., a Delaware corporation ("Tenant") was made regarding a portion of the following property:

See Attached Exhibit "A" incorporated herein for all purposes

The Option is for a term of twelve (12) months after the Effective Date of the Lease (as defined under the Lease), with up to one additional twelve (12) month renewal ("Optional Period").

The Lease is for a term of five (5) years and will commence on the date as set forth in the Lease (the "Commencement Date"). Tenant shall have the right to extend this Lease for five (5) additional and successive five-year terms.

IN WITNESS WHEREOF, the parties hereto have respectively executed this memorandum effective as of the date of the last party to sign.

LANDLORD: Ronnie G. Ray

By: \_\_\_\_\_  
Printed Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

LANDLORD: Deborah K. Ray

By: \_\_\_\_\_  
Printed Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

TENANT: Powertel/Memphis, Inc.

By: \_\_\_\_\_  
Printed Name: Kim Curtis  
Title: Regional Development Director  
Date: \_\_\_\_\_

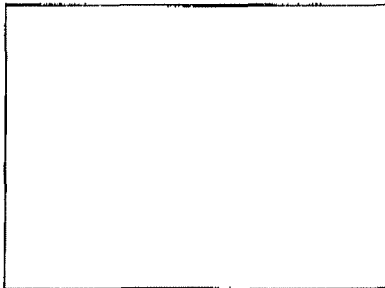
[Notary block for Landlord]

[Landlord Notary block for an Individual]

STATE OF \_\_\_\_\_ )  
 ) ss.  
COUNTY OF \_\_\_\_\_ )

This instrument was acknowledged before me on \_\_\_\_\_ by Ronnie G. Ray and Deborah K. Ray.

Dated: \_\_\_\_\_



(Use this space for notary stamp/seal)

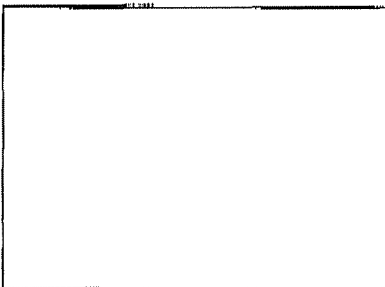
\_\_\_\_\_  
Notary Public  
Print Name \_\_\_\_\_  
My commission expires \_\_\_\_\_

[Notary block for Tenant]

STATE OF \_\_\_\_\_ )  
 ) ss.  
COUNTY OF \_\_\_\_\_ )

I certify that I know or have satisfactory evidence that Kim Curtis is the person who appeared before me, and said person acknowledged that she signed this instrument, on oath stated that she was authorized to execute the instrument and acknowledged it as the Regional Development Director of Powertel/Memphis, Inc., a Delaware corporation, to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

Dated: \_\_\_\_\_



(Use this space for notary stamp/seal)

\_\_\_\_\_  
Notary Public  
Print Name \_\_\_\_\_  
My commission expires \_\_\_\_\_

Memorandum of Lease Exhibit A  
Legal Description

The Property is legally described as follows:

OLD DESCRIPTION:

"A part of the Northeast Quarter of Section 15, Township 1, Range 4 East, and beginning at the southeast corner of said Quarter; thence north with section line 80 poles; thence west 95 poles; thence north 23 poles, 3 feet and 10 inches and 10 inches; thence west 65 poles to Quarter Section 11; thence south with Quarter section line 39 poles; thence west 65 poles; thence south 6 feet, 64 poles to the south line of said Quarter Section; thence east 95 poles to the beginning containing 64 acres, more or less, EXCEPT 14 acres sold out of the southeast corner. ALSO conveys 10 acres in the Southeast Quarter of Section 15, Township 1, Range 4 East as bounded as follows: On the west by Boaz Gibbs place, on the north by R. H. Gunter, on the east by R. H. Gunter, on the south by Concord Road, EXCEPT 10 acres sold off of the east side to Elmer Walkerson, being a part of the Northeast Quarter of Section 16, Township 1, Range 4 East, EXCEPT a 2 acre tract sold to the Gunter



Flat School District, after the above exceptions leaving a remainder to be conveyed in this tract 48 acres, more or less, EXCEPT a tract heretofore conveyed to Roy E. Hughes on March 27, 1948, Deed to same being recorded in Deed Book 85, Page 465, in the office of the Clerk of the Calloway County Courts and EXCEPT a tract conveyed to Clarence Coles by Deed dated the 4th day of September, 1939 which is of record in the office of the Clerk aforesaid in Deed Book 85, Page 171, and EXCEPT a tract of land conveyed to Ruth Hughes by deed dated the 31st day of July, 1962, which is of record in the office of the Clerk aforesaid in Deed Book 113, Page 107.

ALSO: A part of the Northeast Quarter of Section 16, Township 1, Range 2 East, beginning 64 poles north of the southeast corner of said quarter; thence east 29 1/2 poles; thence north 18 2/3 poles; thence east 27 1/2 poles; thence south 18 2/3 poles to the beginning, being a part heretofore deeded in Deed Book 113, Page 107.

THE ABOVE DESCRIBED REMAINDER IS MORE PARTICULARLY DESCRIBED BY A SURVEY AND RECORDED IN DEED BOOK 11, 1952, PART OF DEED OF J. W. HARRISON, CONSULTING ENGINEER.

Legal description of a tract of land situated in the County of Calloway, State of Kentucky, being a part of the Northeast Quarter of Section 16, Township 1, Range 2 East, being more particularly described as follows:

Beginning at an iron pin 34' north of the westerly line of Ky. Hwy. 4721, thence east, said iron pin being 164.88' east of the westerly line of the O'2 Murray-Hazel Road, in which Hazel Road, and being the southeast corner of the Ruth Hughes tract as described in Deed Book 113, Page 107, thence true line:

North 1° 13' 47" East 130.05'; thence with said Hughes North line: South 89° 52' 06" East 157.85'

(passing thru a witness pin at 137.86') to a point in the centerline of the Old Murray-Royal Road (Martin's Chapel Road); thence with the centerline of said (Martin's Chapel) road: North 1° 17' 52" East 46.96"; thence continuing with the centerline of said road: North 0° 02' 03" East 1015.92'; thence leaving said road: North 89° 39' 17" East 449.58' (passing thru a witness pin at 30.22') to an iron pin in a fence line, the Northwest corner of Hallman Coles 10-acre tract as recorded in deed No. 67, Page 515; thence South 8° 17' 05" East 1282.20' to an iron pin in the North 8th line of Kentucky Hwy. #1028; thence 17' East and parallel to the centerline of said Ky. Hwy. #1028: North 89° 42' West 380.28' to the point of beginning. This tract contains 12.6723 acres, and is subject to any right-of-way or easement, record for the Old Murray-Royal Road, and subject to any other road and easements of record.

A plat of the above described property is attached hereto and contains a description of the above described property by deed from said James and Mary Thompson, individually and as joint tenants, to Robert C. Thompson, et al., the date of which is 1870, and reported in deed book No. 11, page 23 in the office of the clerk of the Madison County Court; by deed from said Robert C. Thompson, et al., with day of February, 1883, and recorded on microfilm in deed book No. 13, page 230 in the office of the clerk of the Madison County Court; and by deed of corporation from Jay Allen Harmon, et al., dated the 20th day of December, 1885, and recorded on microfilm in deed book No. 13, page 230 in the office of the clerk of the Madison County Court.

**ADDENDUM TO SITE LEASE WITH OPTION**  
**[Additional Terms]**

In the event of conflict or inconsistency between the terms of this Addendum and this Lease, the terms of the Addendum shall govern and control. All capitalized terms shall have the same meaning as in this Lease.

Paragraph 1 (b) shall be deleted and replaced as follows:

(b) During the Option Period and any extension thereof, and during the Initial Term and any Renewal Term (as those terms are defined below) of this Lease, Landlord agrees to cooperate with Tenant in obtaining, at Tenant's expense, all licenses and permits or authorizations required for Tenant's use of the Premises (as defined below) from all applicable government and/or regulatory entities (including, without limitation, zoning and land use authorities, and the Federal Communications Commission ("FCC") ("Governmental Approvals"), including all land use and zoning permit applications, and Landlord agrees to cooperate with and to allow Tenant, at no cost to Landlord, to obtain a title report, zoning approvals and variances, land-use permits. Landlord expressly grants to Tenant a right of access to the Property to perform any surveys, soil tests, and other engineering procedures or environmental investigations ("Tests") on the Property deemed necessary or appropriate by Tenant to evaluate the suitability of the Property for the uses contemplated under this Lease, so long as Tenant leaves the Property in the same or similar condition as it was prior to Tenant's access. During the Option Period and any extension thereof, and during the Initial Term or any Renewal Term of this Lease, Landlord agrees that it will not interfere with Tenant's efforts to secure other licenses and permits or authorizations that relate to other property. During the Option Period and any extension thereof, Tenant may exercise the Option by so notifying Landlord in writing, at Landlord's address in accordance with Section 12 hereof.

Paragraph 1(c) shall be deleted and replaced as follows:

(c) If Tenant exercises the Option, then Landlord hereby leases to Tenant that portion of the Property sufficient for placement of the Antenna Facilities (as defined below), together with all necessary space and easements for access and utilities, as generally described and depicted in the attached Exhibit B (collectively referred to hereinafter as the "Premises"). Any easement granted in this Lease shall terminate on the date of termination or early expiration of this Lease. The Premises, located at Heron Rd, Murray, Calloway, KY 42071, comprises approximately 6,400 square feet.

Paragraph 2 shall be deleted and replaced as follows:

2. **Term.** The initial term of this Lease shall be five (5) years commencing on the date of exercise of the Option, which in no event shall be later than the date of commencement of construction of the Antenna Facilities as defined in paragraph 7 of this Lease (the "Commencement Date"), and terminating at midnight on the last day of the initial term (the "Initial Term").

Paragraph 7 (a) shall be deleted and replaced as follows:

(a) Tenant shall have the right, at its expense, to erect and maintain on the Premises improvements, personal property and facilities necessary to operate its communications system, including, without limitation, radio transmitting and receiving antennas, microwave dishes, tower and base, equipment shelters and/or cabinets and related cables and utility lines and a location based system, as such location based system may be required by any county, state or federal agency/department, including, without limitation, additional antenna(s), coaxial cable, base units and other associated equipment (collectively, the "Antenna Facilities"). Tenant shall not place any tower that requires guy wires or guy anchors. Tenant's tower shall be a self supporting tower. Tenant shall have the right to alter, replace, expand, enhance and upgrade the Antenna Facilities at any time during the term of this Lease. Tenant shall cause all construction to occur lien-free and in compliance with all applicable laws and ordinances. Landlord acknowledges that it shall neither interfere with any aspects of construction nor attempt to direct construction personnel as to the location or method of installation of the Antenna Facilities and the Easements (as defined below). The Antenna Facilities shall remain the exclusive property of Tenant and shall not be considered fixtures. Tenant shall have the right to remove the Antenna Facilities at any time during and upon the expiration or termination of this Lease. Tenant shall remove all above ground improvements of the Antenna Facilities and all below ground improvements of the Antenna Facilities to a depth of 24" within 120 days following expiration or early termination of this Lease. Tenant shall restore the Premises to the same or similar condition as existed prior to construction of the antenna Facilities, ordinary wear and tear and acts of nature excepted. All costs associated with the removal of the Antenna Facilities shall be the responsibility of Tenant. In the event Tenant fails to remove any of the foregoing described Antenna Facilities within 120 days following expiration or early termination of this Lease, Landlord shall be allowed to have same removed and disposed of at sole cost and expense of Tenant.

Paragraph 7 (c) shall be deleted and replaced as follows:

(c) As partial consideration for Rent paid under this Lease, Landlord hereby grants Tenant easements as depicted in Exhibit B for ingress, egress, utilities and access (including access for the purposes described in Section 1) to the Premises adequate to install and maintain utilities, including, but not limited to, the installation of power and telephone service cable, and to service the Premises and the Antenna Facilities at all times during the Initial Term of this Lease and any Renewal Term (collectively, the "Easements"). Access to the Premises for all utilities shall be

from Heron Road across the easement as shown on Exhibit B. The Easements provided hereunder shall have the same term as this Lease and shall terminate upon the termination or early expiration of this Lease.

Paragraph 8 (d) shall be deleted and replaced as follows:

(d) upon thirty days' written notice by Tenant if the Premises or the Antenna Facilities are destroyed or damaged so as in Tenant's reasonable judgment to substantially and adversely affect the effective use of the Antenna Facilities.

LANDLORD: Ronnie G. Ray

By: Ronnie G. Ray  
Printed Name: Ronnie G. Ray  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

LANDLORD: Deborah K. Ray

By: Deborah K. Ray  
Printed Name: DEBORAH K. RAY  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

TENANT: Powertel/Memphis, Inc.

By: \_\_\_\_\_  
Printed Name: Kim Curtis  
Title: Regional Development Director  
Date: \_\_\_\_\_

**GENERAL NOTES:**

1. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE COUNTY OF CALLAWAY REGULATIONS.
2. CONTRACTOR SHALL NOTIFY ALL UTILITIES AT LEAST 24 HOURS PRIOR TO START OF CONSTRUCTION TO VERIFY LOCATION OF ALL UTILITIES SHOWN OR NOT SHOWN.
3. ALL UTILITIES WITHIN ROADWAY SHALL BE BACKFILLED WITH STONE.
4. CONTRACTOR SHALL REPAIR AT HIS EXPENSE DAMAGE TO ANY EXISTING IMPROVEMENTS DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STRIPPING, CURBS, ETC.. REPAIRS SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL UNUSABLE MATERIALS FROM THE SITE.
6. CONTRACTOR SHALL COORDINATE WITH POWER COMPANY PROVIDING TEMPORARY SERVICE FOR CONSTRUCTION FACILITIES DURING CONSTRUCTION.
7. THE CONTRACTOR IS SPECIFICALLY CAUTIONED ABOUT THE LOCATION AND/OR ELEVATIONS OF EXISTING UTILITIES SHOWN ON THIS DRAWING. THEY ARE BASED UPON RECORDS FROM VARIOUS UTILITY COMPANIES, DEEDS, AND PLATS OF RECORD, AND WHERE POSSIBLE ACTUAL FIELD MEASUREMENTS. THIS INFORMATION IS NOT TO BE TAKEN EXACT OR COMPLETE.
8. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE EXACT LOCATION OF EXISTING UTILITIES WHICH MAY CONFLICT WITH PROPOSED IMPROVEMENTS.
9. THIS PROJECT WILL NOT REQUIRE WATER OR SEWER SERVICE.
10. CONTRACTOR SHALL REMOVE ANY DIRT OR MUD FROM ANY CONSTRUCTION VEHICLES PRIOR TO LEAVING SITE.
11. REFER TO BUILDING/TOWER PLANS FOR PROPOSED DIMENSIONS AND OTHER SPECIFICS WHICH ARE NOT SHOWN.
12. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING A PROPER TRAFFIC CONTROL PLAN FOR PUBLIC SAFETY ADJACENT TO CONSTRUCTION SITE. THE TRAFFIC CONTROL PLAN MUST BE IN ACCORDANCE WITH LATEST MUTCD EDITION.

# SITE DEVELOPMENT PLANS FOR POWERTEL / MEMPHIS, INC.

SITE #: 9LV0920B

SITE NAME: SOUTH MURRAY

SITE ADDRESS: MIDWAY ROAD AND HERON ROAD  
MURRAY, KENTUCKY 42071

**SIGNATURE AUTHORIZATIONS:**

RF ENGINEER APPROVAL:  
SIGNATURE \_\_\_\_\_ DATE: \_\_\_\_\_

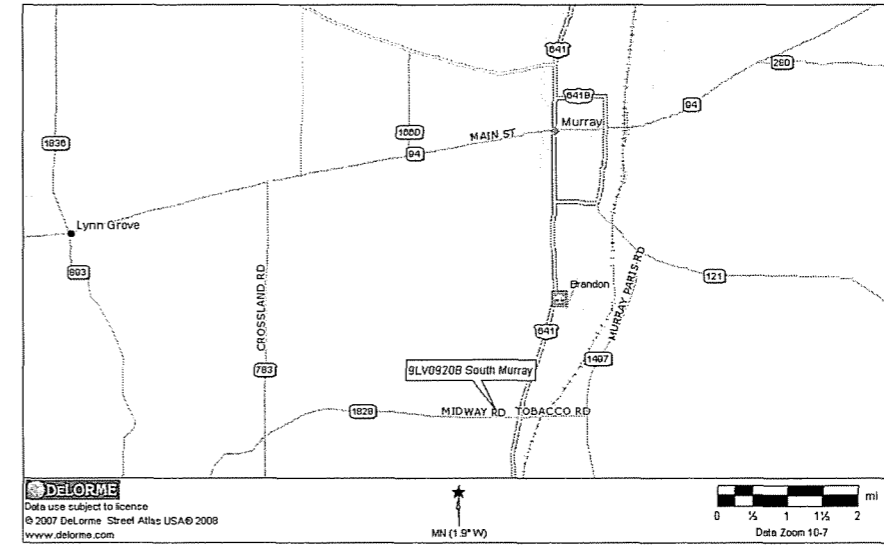
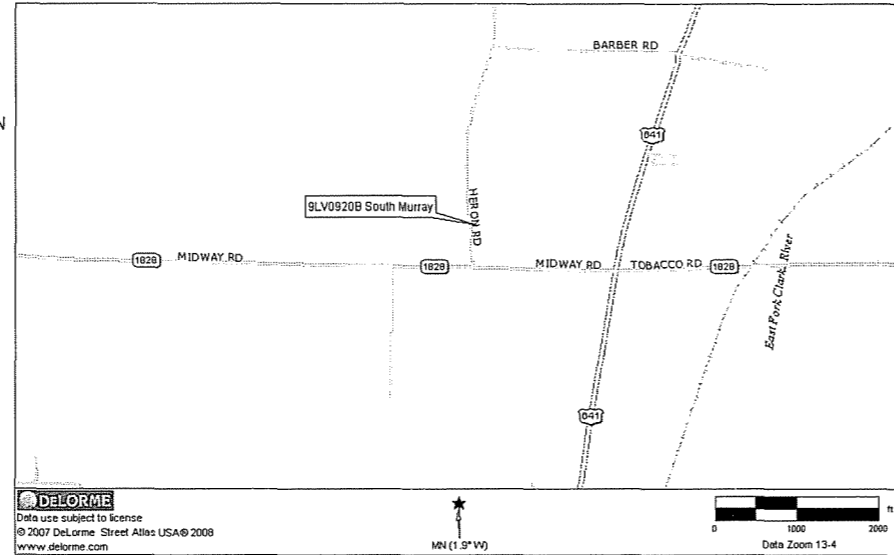
CONSTRUCTION MANAGER APPROVAL:  
SIGNATURE \_\_\_\_\_ DATE: \_\_\_\_\_

SITE ACQUISITION AGENT APPROVAL:  
SIGNATURE \_\_\_\_\_ DATE: \_\_\_\_\_

LAND OWNER APPROVAL:  
SIGNATURE \_\_\_\_\_ DATE: \_\_\_\_\_

OPS APPROVAL:  
SIGNATURE \_\_\_\_\_ DATE: \_\_\_\_\_

ZONING/PERMITTING APPROVAL:  
SIGNATURE \_\_\_\_\_ DATE: \_\_\_\_\_

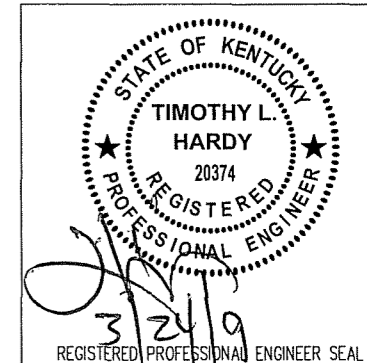


**VICINITY MAP**

NOT TO SCALE

**DIRECTIONS:**

FROM MURRAY, KENTUCKY TAKE HWY 641 SOUTH TO MIDWAY ROAD. TURN RIGHT ON TO MIDWAY ROAD AND TURN RIGHT ON TO HERON ROAD, THE SITE WILL BE ON THE RIGHT.



**ELECTRIC CO.:**

WEST KENTUCKY RECC  
1765 MAYFIELD HWY  
BENTON, KY 42025  
PHONE: (270) 527-3631

**TELEPHONE CO.:**

AT & T

**PERMIT JURISDICTION:**

CALLAWAY COUNTY

**LESSOR:**

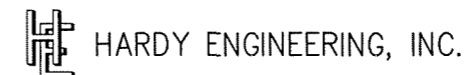
RONNIE G. RAY  
270 MIDWAY ROAD  
MURRAY, KY 42071  
PHONE: (270) 753-2507 (HOME)  
(270) 388-4804 (WORK)

**LESSEE:**



POWERTEL / MEMPHIS, INC.  
LOUISVILLE MARKET  
11509 COMMONWEALTH DRIVE,  
SUITE 9  
LOUISVILLE, KENTUCKY 40299  
CONTACT: REAL ESTATE

**ENGINEER:**



209 LINDEN STREET  
TRUSSVILLE, ALABAMA 35173  
CONTACT: TIM HARDY  
PHONE: (205) 655-1427  
MOBILE: (205) 222-7563

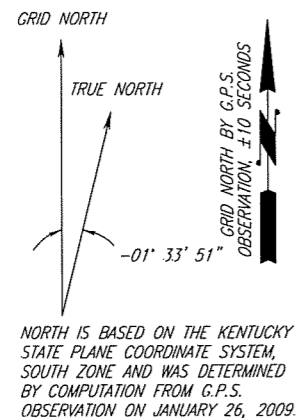
**"SURVEY" COORDINATES:**

LATITUDE: 36° 33' 09.68"  
LONGITUDE: -88° 19' 46.30"  
GROUND ELEV: 527.0' AMSL

**INDEX:**

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SHEET 1	
	- VICINITY AND 500' STRUCTURAL MAP
	- ABUTTING PROPERTY OWNERS
	- U.S.G.S. QUAD MAP
SHEET 2	
	- PROPOSED LEASE AREA
	- LEGAL DESCRIPTIONS
	- FLOOD ZONE DATA



NORTH IS BASED ON THE KENTUCKY STATE PLANE COORDINATE SYSTEM, SOUTH ZONE AND WAS DETERMINED BY COMPUTATION FROM G.P.S. OBSERVATION ON JANUARY 26, 2009.

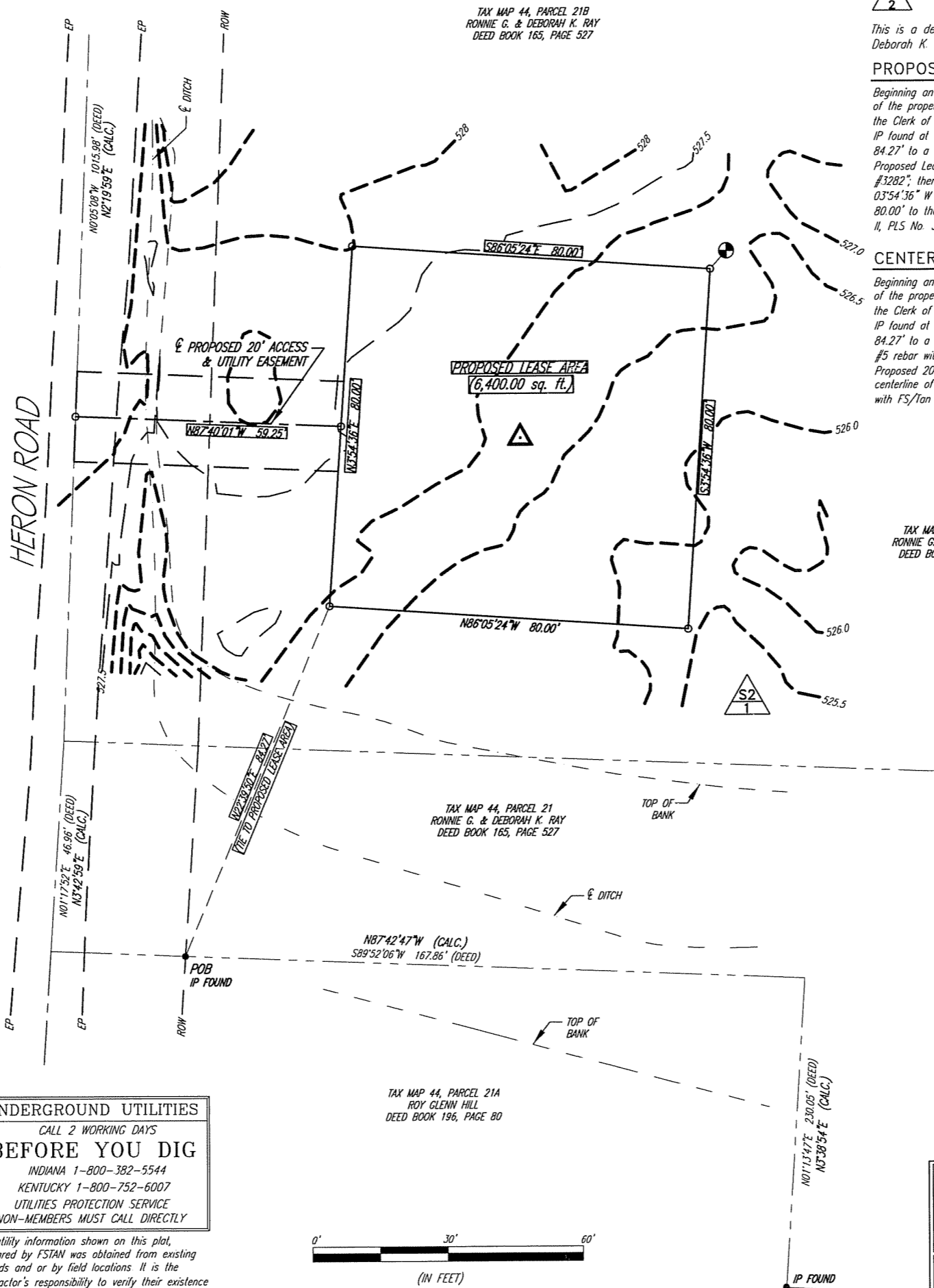
- COORDINATE POINT LOCATION**  
NAD 1983  
LATITUDE: 36° 33' 09.68"  
LONGITUDE: 88° 19' 46.30"  
NAVD 1988  
ELEVATION: 527' AMSL  
KENTUCKY STATE PLANE COORDINATE SOUTH ZONE (BLUE MARBLE GEOGRAPHIC CALCULATOR VERSION 5.0)  
NORTHING: 1730625.707  
EASTING: 882786.981
- PROJECT POWER POLE**  
UTILITY COMPANY: WEST KENTUCKY RURAL  
IDENTIFICATION # N/A
- PROJECT BENCHMARK**  
NORTH: 1730662.879  
EAST: 882829.622  
ELEVATION: 526.612  
LOCATION: BEING AN IPC SET AT THE NORTHEAST CORNER OF THE PROPOSED LEASE AREA

- SYMBOL LEGEND**
- WOOD POWER POLE
  - LIGHT POLE
  - GUY POLE
  - TELEPHONE PEDAESTAL
  - GUY ANCHOR
  - SANITARY SEWER MANHOLE
  - DRAIN SEWER MANHOLE
  - MANHOLE
  - WATER VALVE
  - WATER METER
  - FIRE HYDRANT
  - ELECTRIC BOX
  - F.P. FENCE POST
  - SET #5 REBAR (UNLESS OTHERWISE NOTED)
  - EXISTING #5 REBAR (UNLESS OTHERWISE NOTED)

- ABBREVIATIONS**
- EP EDGE OF PAVEMENT
  - ROW RIGHT OF WAY
  - ℄ CENTERLINE
  - RCP REINFORCED CONCRETE PIPE
  - CONC CONCRETE
  - CMP CORRUGATED METAL PIPE
  - R SUBJECT PROPERTY LINE
  - TC TOP OF CURB
  - BC BOTTOM OF CURB
  - POB POINT OF BEGINNING
  - IPC IRON PIN CAPPED

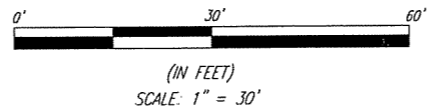
- LINE LEGEND**
- E—E—E— OVERHEAD ELECTRIC
  - G—G—G— UNDERGROUND GAS LINE
  - W—W—W— UNDERGROUND WATER LINE
  - E/T—E/T—E/T— OVERHEAD ELECTRIC & TELEPHONE LINE
  - T—T—T— OVERHEAD TELEPHONE LINE
  - D—D—D— DRAINAGE/STORM SEWER LINE
  - X—X—X— EXISTING FENCE
  - XX—XX—XX— PROPOSED FENCE
  - - - - - SUBJECT PROPERTY BOUNDARY
  - - - - - RIGHT OF WAY CENTERLINE

NOTE: SYMBOLS, ABBREVIATIONS, OR LINESYLES DO NOT NECESSARILY APPEAR ON DRAWING(S). USE ONLY AS APPLICABLE



**UNDERGROUND UTILITIES**  
CALL 2 WORKING DAYS  
**BEFORE YOU DIG**  
INDIANA 1-800-382-5544  
KENTUCKY 1-800-752-6007  
UTILITIES PROTECTION SERVICE  
NON-MEMBERS MUST CALL DIRECTLY

The utility information shown on this plat, prepared by FSTAN was obtained from existing records and or by field locations. It is the contractor's responsibility to verify their existence and location, and to contact the appropriate utility company for field locations.



TAX MAP 44, PARCEL 21B  
RONNIE G. & DEBORAH K. RAY  
DEED BOOK 165, PAGE 527

2

**LEGAL DESCRIPTIONS:**

This is a description for T-Mobile, of an area to be leased from the property of Ronnie G. & Deborah K. Ray, which is further described as follows:

**PROPOSED LEASE AREA**

Beginning on an IP found on the East right of way of Heron Road at its intersection with the South line of the property conveyed to Ronnie G. & Deborah K. Ray in Deed Book 165, Page 527 in the Office of the Clerk of Calloway County, said IP being N 03°38'54" E - 230.05'; N 87°42'47" W - 137.86' from an IP found at the Southwest corner of said property; thence traversing said property N 22°39'50" E - 84.27' to a set #5 rebar with a cap stamped "FSTAN #3282" and the TRUE POINT OF BEGINNING of the Proposed Lease Area, thence N 03°54'36" E - 80.00' to a set #5 rebar with a cap stamped "FSTAN #3282"; thence S 86°05'24" E - 80.00' to a set #5 rebar with a cap stamped "FSTAN #3282"; thence S 03°54'36" W - 80.00' to a set #5 rebar with a cap stamped "FSTAN #3282"; thence N 86°05'24" W - 80.00' to the true point of beginning, containing 6,400.00 square feet as per survey by Frank L. Sellinger, II, PLS No. 3282 with FS/Tan Land Surveyors & Consulting Engineers, dated February 4, 2009.

**CENTERLINE OF PROPOSED 20' ACCESS & UTILITY EASEMENT**

Beginning on an IP found on the East right of way of Heron Road at its intersection with the South line of the property conveyed to Ronnie G. & Deborah K. Ray in Deed Book 165, Page 527 in the Office of the Clerk of Calloway County, said IP being N 03°38'54" E - 230.05'; N 87°42'47" W - 137.86' from an IP found at the Southwest corner of said property; thence traversing said property N 22°39'50" E - 84.27' to a set #5 rebar with a cap stamped "FSTAN #3282"; thence N 03°54'36" E - 40.00' to a set #5 rebar with a cap stamped "FSTAN #3282" and the TRUE POINT OF BEGINNING of the Proposed 20' Access & Utility Easement, thence N 87°40'01" W - 59.25' to a "MAG" nail set in the centerline of Heron Road, and the end of the easement, per survey by Frank L. Sellinger, II, PLS No. 3282 with FS/Tan Land Surveyors & Consulting Engineers, dated February 4, 2009.

TAX MAP 44, PARCEL 21B  
RONNIE G. & DEBORAH K. RAY  
DEED BOOK 165, PAGE 527

TAX MAP 44, PARCEL 21  
RONNIE G. & DEBORAH K. RAY  
DEED BOOK 165, PAGE 527

TAX MAP 44, PARCEL 21A  
ROY GLENN HILL  
DEED BOOK 196, PAGE 80

**SURVEYORS NOTES**

SOURCE OF BEARING IS A G.P.S. OBSERVATION ON JANUARY 26, 2009.  
SOURCE OF ROTATION BASED ON THE SOUTH PROPERTY LINE OF THE RAY PROPERTY HAVING THE BEARING OF S 89° 52' 06" W PER D.B. 165, PG. 527, AND THE CALCULATED BEARING OF N 87° 42' 47" W.  
SITE SHOWN SUBJECT TO RIGHT OF WAYS AND EASEMENTS SHOWN HEREON OR NOT.  
NO SEARCH OF PUBLIC RECORDS HAS BEEN PERFORMED BY THIS FIRM TO DETERMINE ANY DEFECTS AND/OR AMBIGUITIES IN THE TITLE OF THE PARENT TRACT.  
THIS DRAWING DOES NOT REPRESENT A BOUNDARY SURVEY.  
EXISTING CONTOURS ARE AT 1/2 FOOT INTERVALS.

**LAND SURVEYOR'S CERTIFICATE**

Type "A" Survey - Unadjusted linear traverse closure 1 in 37,100.  
TO ALL PARTIES INTERESTED IN TITLE TO PREMISES SURVEYED I hereby certify that this plat and survey were made under my supervision, and that the angular and linear measurements, as witnessed by monuments shown hereon, are true and correct to the best of my knowledge and belief.  
This survey and plat meets or exceeds the minimum standards of the governing authorities.  
This property is subject to any recorded easements or right of ways not shown hereon.

Frank L. Sellinger, II Ky. Reg. No. 3282

**REFERENCED AS "EXHIBIT C"**

OWNER APPROVAL: \_\_\_\_\_ DATE: \_\_\_\_\_  
T-MOBILE APPROVAL: \_\_\_\_\_ DATE: \_\_\_\_\_

3

I HAVE REVIEWED THE FLOOD INSURANCE RATE MAPS (FIRM) MAP NO. 2103130004A DATED 11.01.07 AND THE PROPOSED LEASE AREA DOES NOT APPEAR TO BE IN A FLOOD PRONE AREA. THE PROPOSED LEASE AREA IS LOCATED IN ZONE X.

**FSTAN**

**F. S. Land Company**  
**T. Alan Neal Company**  
Land Surveyors and Consulting Engineers  
PO Box 17546 2313/2315 Crittenden Drive  
Louisville, KY 40217  
Phone: (502) 635-5866 (502) 636-5111  
Fax: (502) 636-5263

**"SITE SURVEY"**

SITE NUMBER: 9LV0920B

SITE NAME: SOUTH MURRAY

SITE ADDRESS: 270 MIDWAY ROAD  
MURRAY, KY 42071

PROPOSED LEASE AREA: 6,400.00 sq. ft.

PROPERTY OWNER: RONNIE G. & DEBORAH K. RAY  
270 MIDWAY ROAD  
MURRAY, KY 42071

TAX MAP NUMBER: 44

PARCEL NUMBER: 21B

SOURCE OF TITLE: DEED BOOK 165, PAGE 527

DWG BY: DJG

CHRD BY: FSII

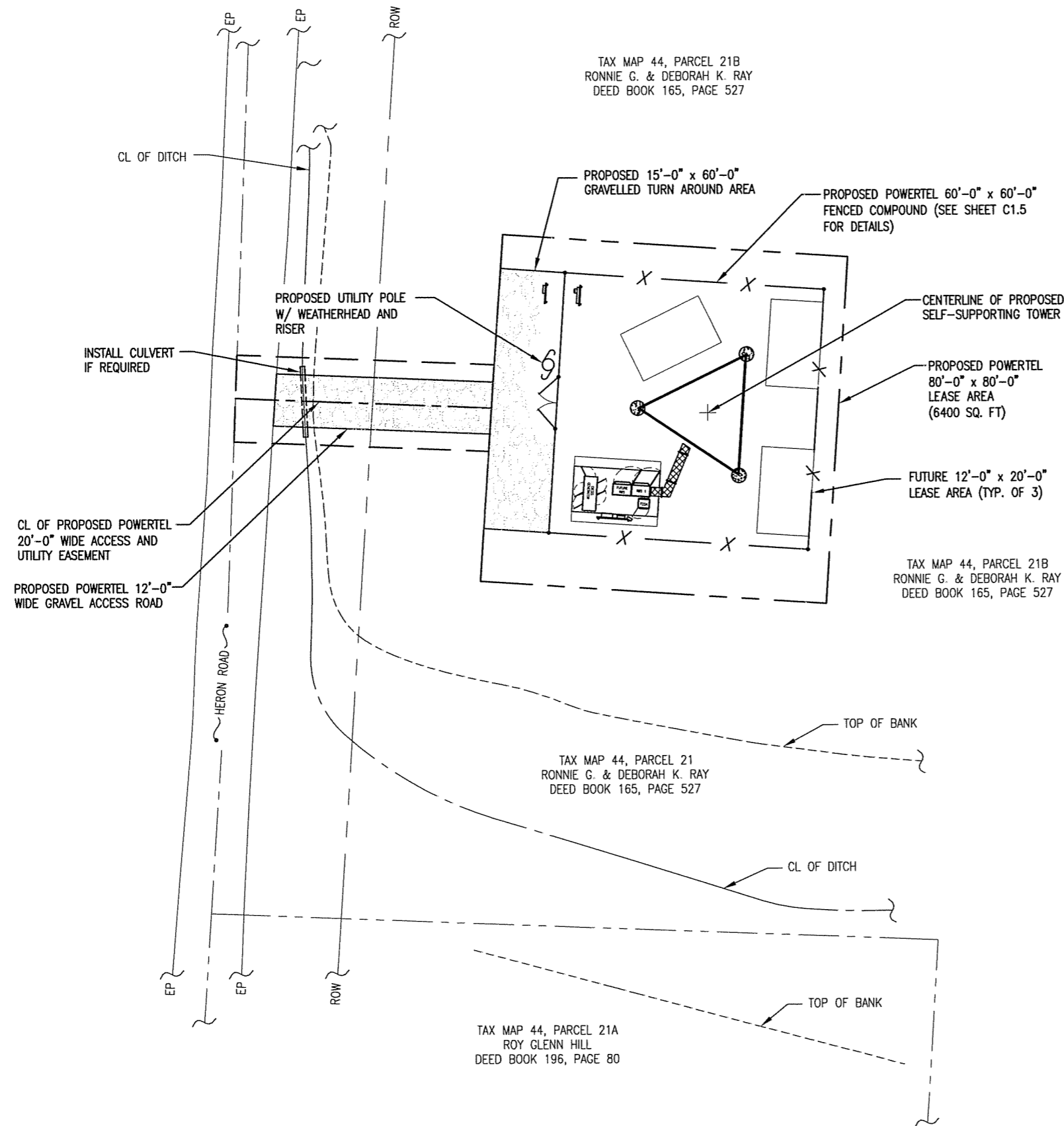
DATE: 02.04.09

FSTAN PROJECT NO.: 09-5849

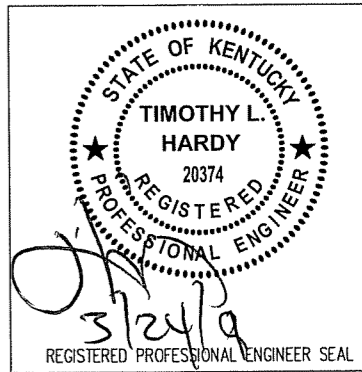
**REVISIONS:**

**C2**

TAX MAP 44, PARCEL 21B  
 RONNIE G. & DEBORAH K. RAY  
 DEED BOOK 165, PAGE 527



**OVERALL SITE LAYOUT**  
 (SCALE: 1" = 30'-0")



ITEM	REVISIONS	BY	CHK. BY	DATE

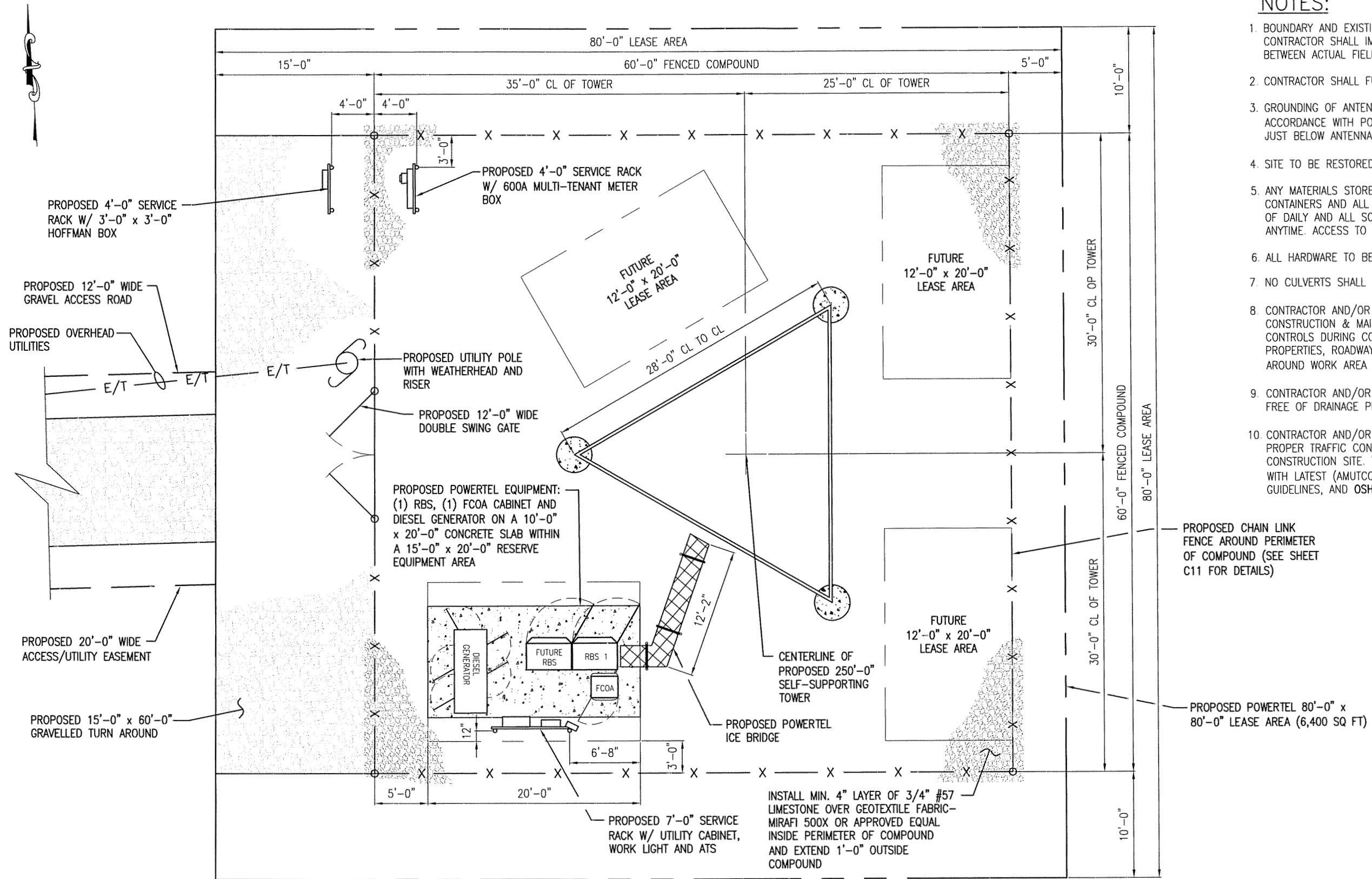

DRAWN BY:	DATE:
J.E. STEGER	3-04-09
CHECKED BY:	DATE:
T.L. HARDY	3-04-09
APPROVED BY:	DATE:

**HARDY ENGINEERING, INC.**  
 ENGINEERING AND CONSULTING  
 209 LINDEN STREET, P.O. BOX 708  
 TRUSSVILLE, AL 35173  
 PHONE: (205) 655-1427 FAX: (205) 661-9027

DWG. NAME:	OVERALL SITE LAYOUT
	9LV0920B SITE: SOUTH MURRAY MURRAY, KENTUCKY
	FOR POWERTEL / MEMPHIS, INC. LOUISVILLE, KENTUCKY
CAD No:	LV0920_C1
SCALE:	AS SHOWN
DWG. No:	C1

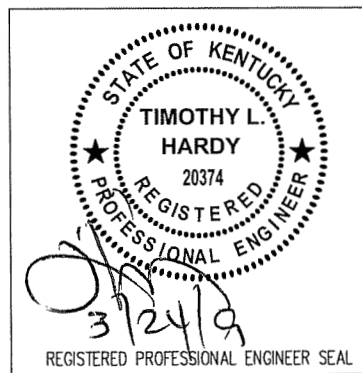
**NOTES:**

1. BOUNDARY AND EXISTING SITE FEATURES ARE BASED ON FIELD MEASUREMENTS. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THIS DRAWING.
2. CONTRACTOR SHALL FURNISH ALL MATERIALS FOR 600 AMP SERVICE.
3. GROUNDING OF ANTENNAS MOUNTS, COAX, AND EQUIPMENT SHALL BE IN ACCORDANCE WITH POWERTEL'S SPECIFICATIONS. COAX SHALL BE GROUNDED JUST BELOW ANTENNAS, AT MID-ELEVATION, AND AT BOTTOM OF TOWER.
4. SITE TO BE RESTORED BACK TO SITE OWNER'S SPECS.
5. ANY MATERIALS STORED ON SITE SHALL BE STORED IN CLOSED OR COVERED CONTAINERS AND ALL EXCESS WASTE MATERIALS WILL BE PROPERLY DISPOSED OF DAILY AND ALL SOILS REMOVED FROM SITE. NOTE NO BURNING ON SITE AT ANYTIME. ACCESS TO OTHER CUSTOMERS ON SITE MUST BE KEPT CLEAR.
6. ALL HARDWARE TO BE STAINLESS STEEL, NO PLATED METAL TO BE USED.
7. NO CULVERTS SHALL BE INSTALLED.
8. CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR CONSTRUCTION & MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS DURING CONSTRUCTION FOR PROTECTION OF ADJACENT PROPERTIES, ROADWAYS, AND WATERWAYS. SILT FENCE SHOULD BE INSTALLED AROUND WORK AREA TO STOP DAMAGE TO OTHER CUSTOMER'S EQUIPMENT.
9. CONTRACTOR AND/OR DEVELOPER ARE RESPONSIBLE FOR PROVIDING SITE FREE OF DRAINAGE PROBLEMS.
10. CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING A PROPER TRAFFIC CONTROL PLAN FOR PUBLIC SAFETY ADJACENT TO CONSTRUCTION SITE. THE TRAFFIC CONTROL PLAN MUST BE IN ACCORDANCE WITH LATEST (AMUTCO) EDITION. CONTRACTOR IS TO ADHERE TO ALL SAFETY GUIDELINES, AND OSHA SPECS WHILE ON WORK SITE.



**DETAILED SITE LAYOUT**

(SCALE: 1" = 10'-0")



ITEM	REVISIONS	BY	CHK. BY	DATE

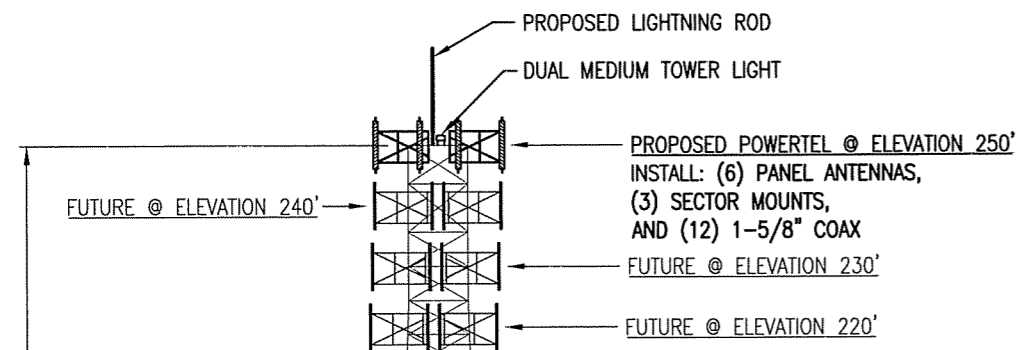
DRAWN BY:	DATE:
J.E. STEGER	3-04-09
CHECKED BY:	DATE:
T.L. HARDY	3-04-09
APPROVED BY:	DATE:

**HARDY ENGINEERING, INC.**

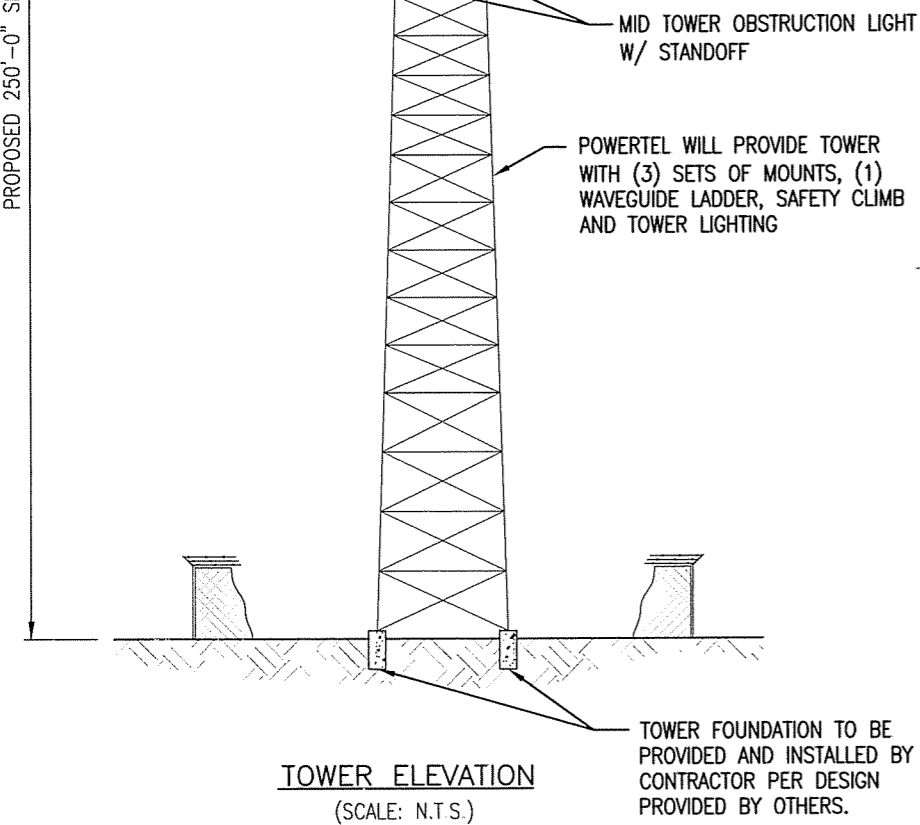
ENGINEERING AND CONSULTING  
209 LINDEN STREET, P.O. BOX 708  
TRUSSVILLE, AL 35173  
PHONE: (205) 655-1427 FAX: (205) 661-9027

DWG NAME:	SCALE:	DWG No:
<b>DETAILED SITE LAYOUT</b> 9LV0920B SITE: SOUTH MURRAY MURRAY, KENTUCKY FOR POWERTEL / MEMPHIS, INC. LOUISVILLE, KENTUCKY	AS SHOWN	C1.5
CAD No:	SCALE:	DWG No:
LV0920_C1.5	AS SHOWN	C1.5

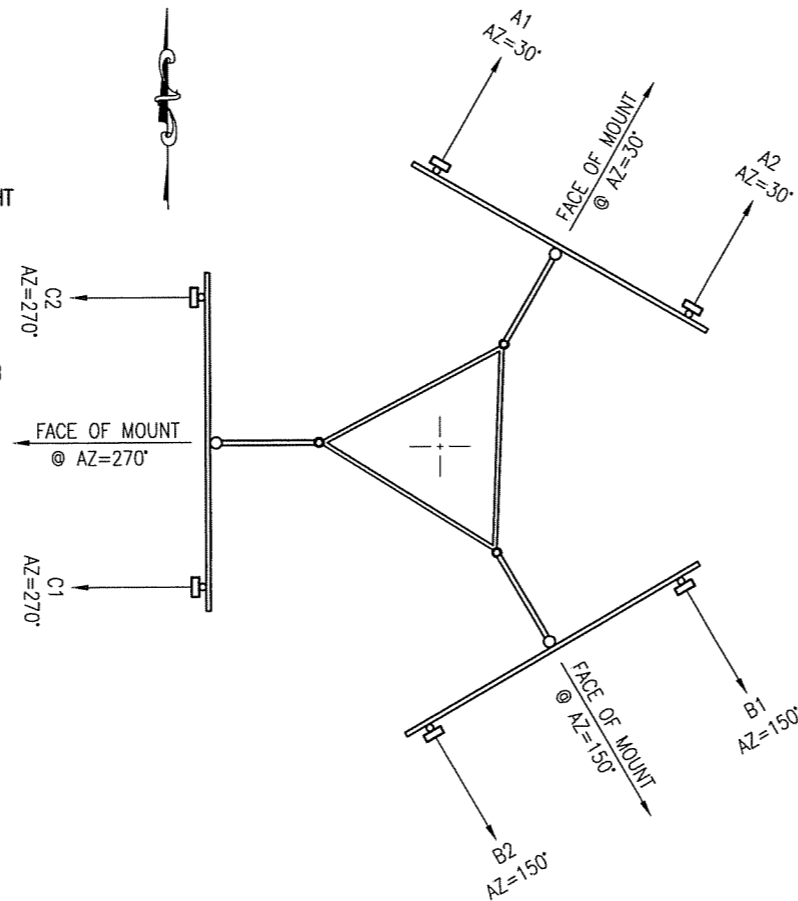




PROPOSED 250'-0" SELF SUPPORTING TOWER



TOWER ELEVATION  
(SCALE: N.T.S.)



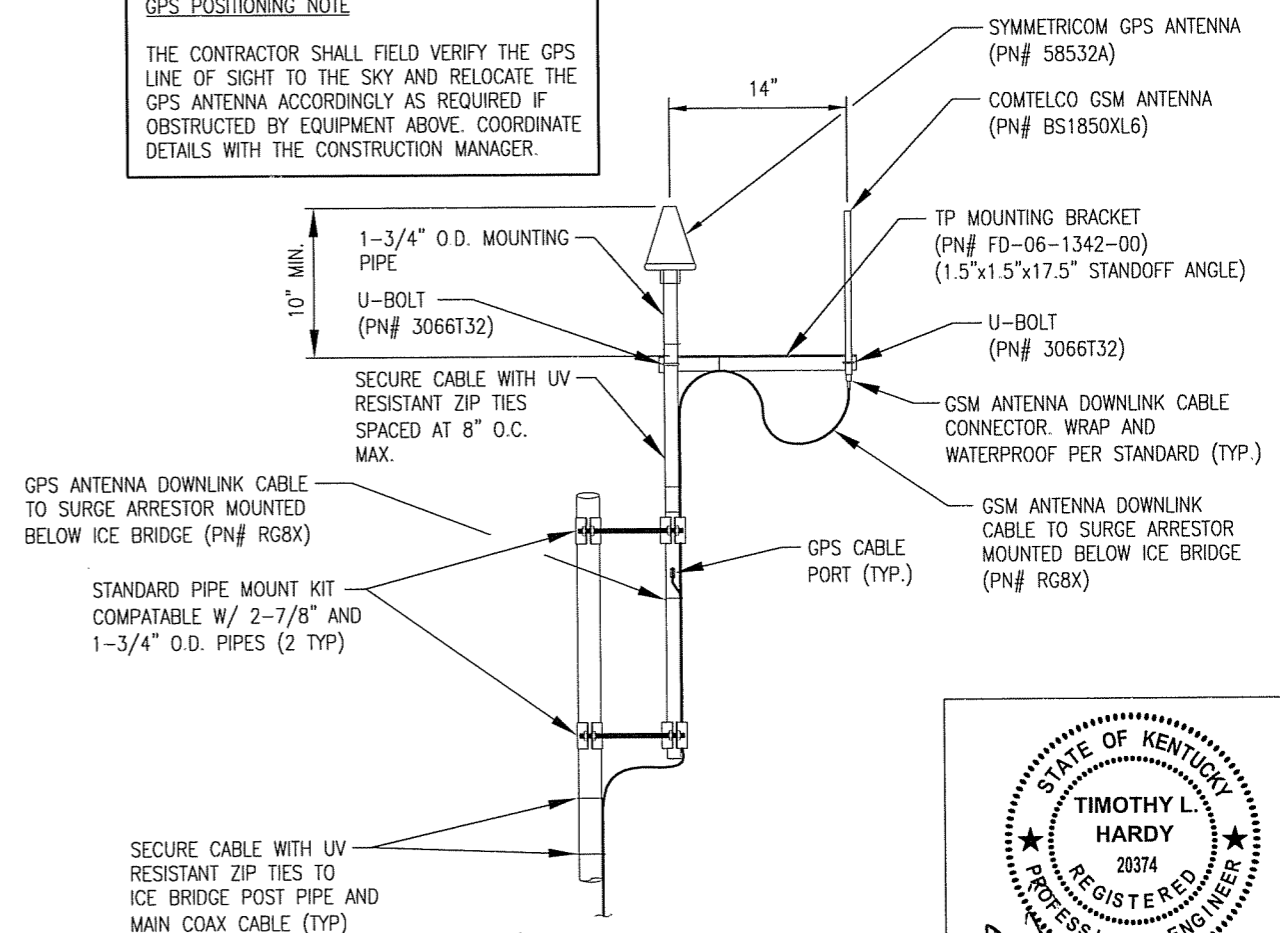
ANTENNA AZIMUTHS  
(SCALE: N.T.S.)

ANTENNA AND COAX SCHEDULE

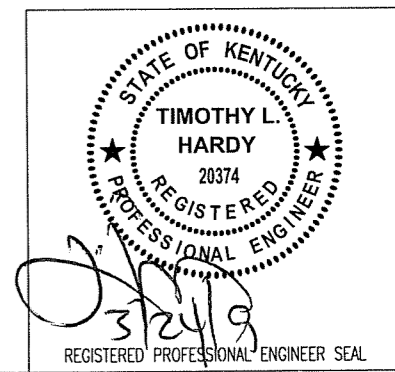
ANTENNA MARK	SECTOR	ANTENNA ①	COAX FEED LOCATION	AZIMUTH (0° = NORTH)	COAX COLOR CODE	COAX CABLE SIZE	MECHANICAL DOWN TILT ②	ELECTRICAL DOWN TILT	RADIATION CENTER
A1	A	RR65-19-04DP	BOTTOM	30°	TX/RX - RED TX/RX - RED-RED-RED	(4) 1 5/8"φ	0°	4'	250'
A2	A	RR65-19-04DP	BOTTOM	30°	TX/RX - RED-RED-RED-RED TX/RX - RED-RED		0°	4'	250'
B1	B	RR65-19-04DP	BOTTOM	150°	TX/RX - BLUE TX/RX - BLUE-BLUE-BLUE	(4) 1 5/8"φ	0°	4'	250'
B2	B	RR65-19-04DP	BOTTOM	150°	TX/RX - BLUE-BLUE-BLUE-BLUE TX/RX - BLUE-BLUE		0°	4'	250'
C1	C	RR65-19-04DP	BOTTOM	270°	TX/RX - GREEN TX/RX - GREEN-GREEN-GREEN	(4) 1 5/8"φ	0°	4'	250'
C2	C	RR65-19-04DP	BOTTOM	270°	TX/RX - GREEN-GREEN-GREEN-GREEN TX/RX - GREEN-GREEN		0°	4'	250'

- ① FINAL ANTENNA TYPE TO BE DETERMINED BY POWERTEL, ANTENNAS TO BE PROVIDED BY POWERTEL AND INSTALLED BY CONTRACTOR.
- ② ALL ANTENNAS TO BE INSTALLED WITH DOWNTILT BRACKETS.
- ③ POWERTEL'S RESERVE LOAD IS (9) PANEL ANTENNA'S, (6) TMA'S AND (18) 1-5/8" DIA. COAX

**GPS POSITIONING NOTE**  
THE CONTRACTOR SHALL FIELD VERIFY THE GPS LINE OF SIGHT TO THE SKY AND RELOCATE THE GPS ANTENNA ACCORDINGLY AS REQUIRED IF OBSTRUCTED BY EQUIPMENT ABOVE. COORDINATE DETAILS WITH THE CONSTRUCTION MANAGER.



GPS/GSM MOUNTING DETAIL  
AT ICE BRIDGE  
(SCALE: N.T.S.)



ITEM	REVISIONS	BY	CHK. BY	DATE

DRAWN BY:	J.E. STEGER	DATE:	3-04-09
CHECKED BY:	T.L. HARDY	DATE:	3-04-09
APPROVED BY:		DATE:	

**HARDY ENGINEERING, INC.**  
ENGINEERING AND CONSULTING  
209 LINDEN STREET, P.O. BOX 708  
TRUSSVILLE, AL 35173  
PHONE: (205) 655-1427 FAX: (205) 661-9027

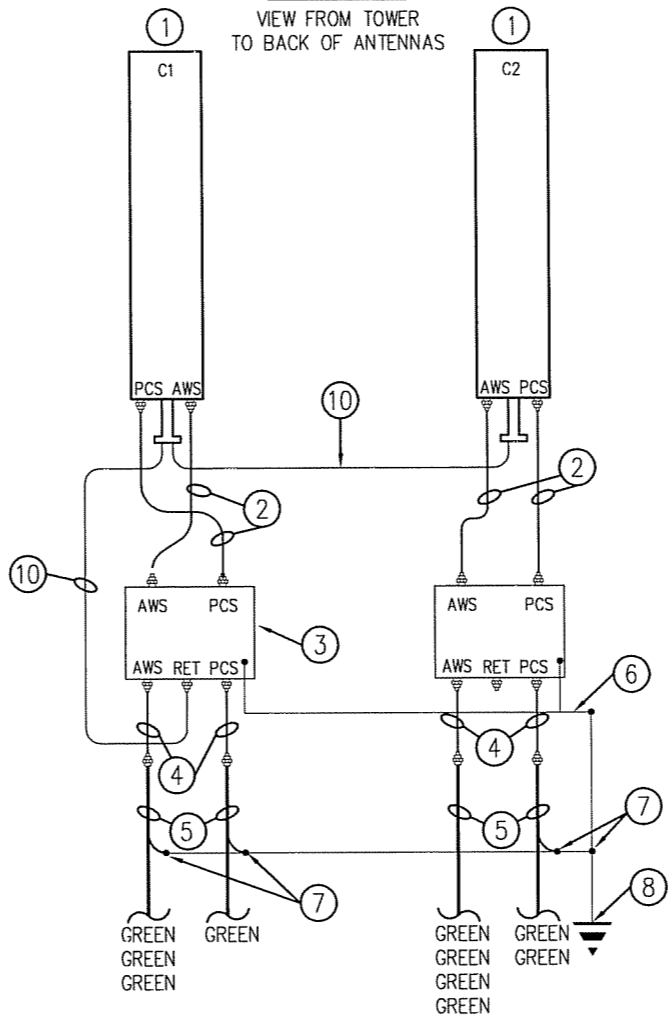
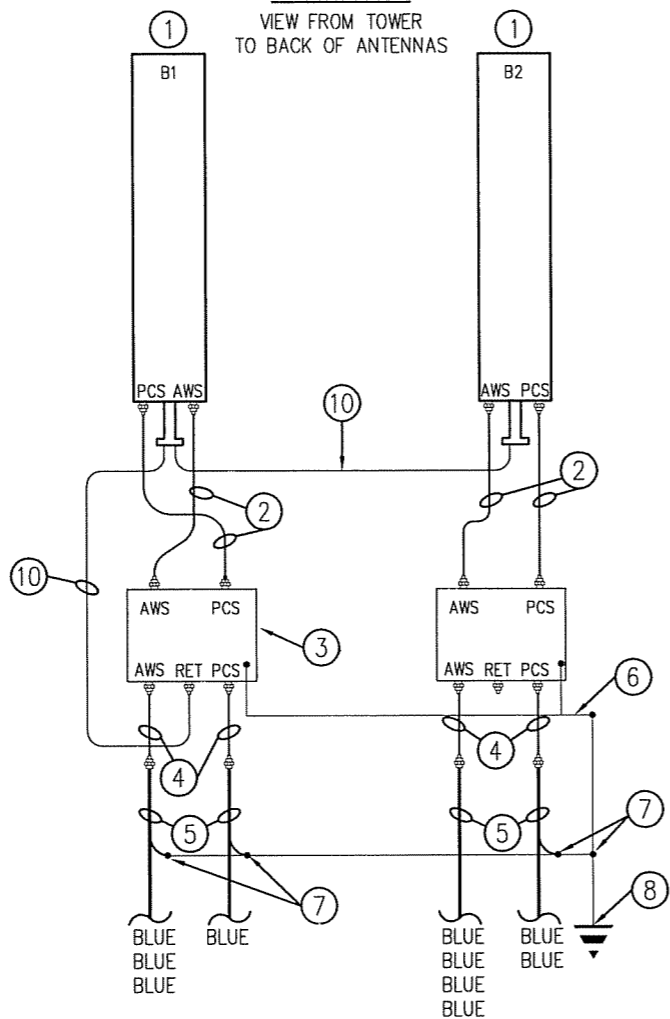
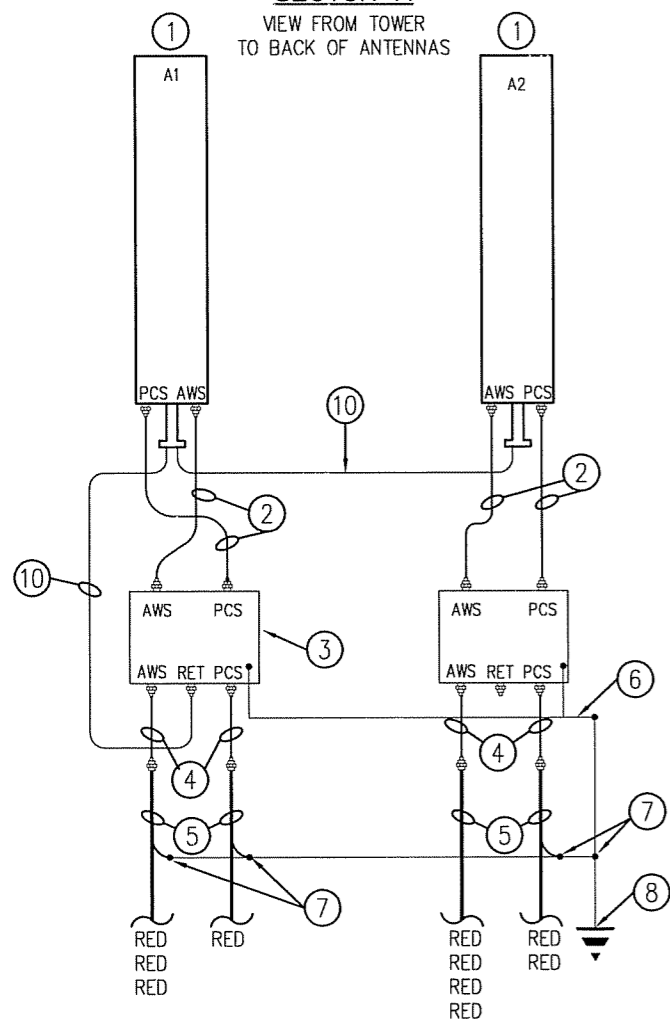
DWG NAME: **TOWER ELEVATION**  
9LV0920B SITE: SOUTH MURRAY  
MURRAY, KENTUCKY  
FOR  
POWERTEL / MEMPHIS, INC.  
LOUISVILLE, KENTUCKY

CAD No:	LV0920_C2	SCALE:	AS SHOWN	DWG No:	C2
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**SECTOR A**  
VIEW FROM TOWER  
TO BACK OF ANTENNAS

**SECTOR B**  
VIEW FROM TOWER  
TO BACK OF ANTENNAS

**SECTOR C**  
VIEW FROM TOWER  
TO BACK OF ANTENNAS

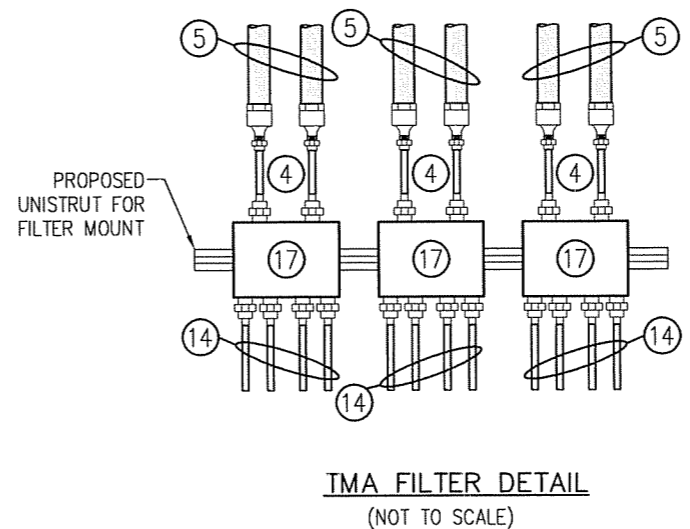
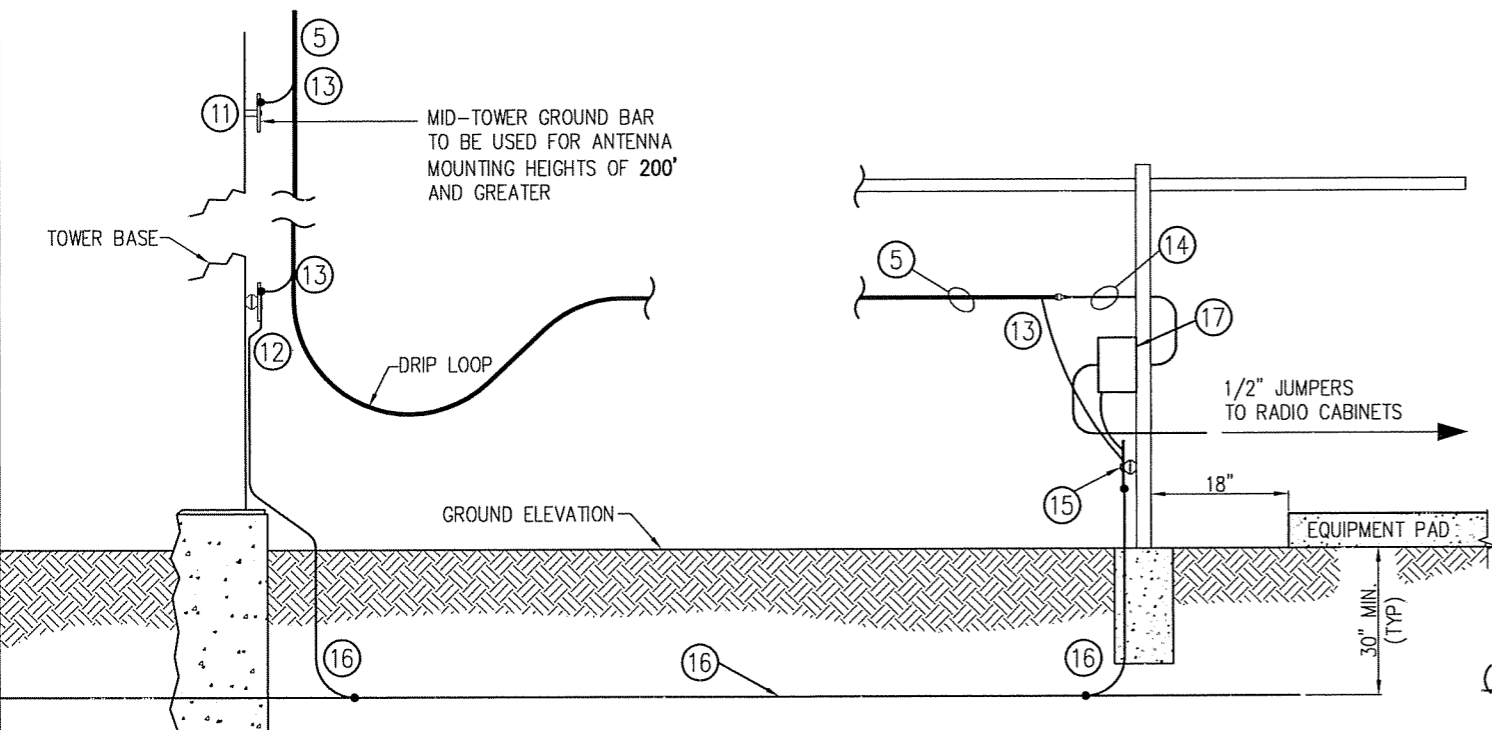


**MATERIAL LIST**

- ① PANEL ANTENNA
- ② JUMPER, 1/2"φ x 10'
- ③ TMA
- ④ JUMPER, 1/2"φ x 6'
- ⑤ COAX, 7/8"φ OR 1 5/8"φ
- ⑥ TMA GROUND, #6 THW INSULATED GROUND WIRE
- ⑦ COAX GROUND KIT
- ⑧ 4" x 14" x 1/4" GROUND BAR MOUNTED TO TOWER
- ⑨ (NOT USED)
- ⑩ AIS6 CABLE PART NO. ATCB-B01-010
- ⑪ GROUND BAR MOUNTED TO TOWER
- ⑫ GROUND BAR MOUNTED ON CHERRY INSULATORS
- ⑬ COAX GROUND KIT
- ⑭ JUMPER, 1/2"φ x 12'
- ⑮ GROUND TERMINATION BAR ON CHERRY INSULATORS
- ⑯ #2 Cu SOLID TINNED GROUND WIRE
- ⑰ TMA FILTER

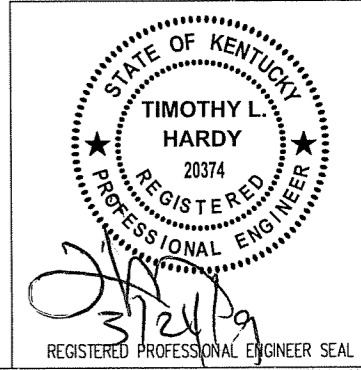
**NOTES:**

1. FOR EVERYTHING ABOVE THE TOWER BOTTOM BUSS BAR USE SINGLE HOLE LUG WITH HEAT SHRINK ON ANTENNA, TMA, TMA FILTER & 2 HOLE LUG WITH HEAT SHRINK ON BUSS BAR END OF GROUND WIRE.
2. ALL GROUND CONNECTIONS STARTING AT THE TOWER BOTTOM BUSS BAR AND DOWN ARE TO BE EXOTHERMIC WELD OR 2 HOLE CADWELD LUG.
3. NUMBER OF ANTENNAS AND LINES TO BE INSTALLED SHALL BE AS DIRECTED BY THE CONSTRUCTION MANAGER.
4. GROUNDING OF ANTENNAS, MOUNTS, COAX, AND EQUIPMENT SHALL BE IN ACCORDANCE WITH T-MOBILE'S SPECIFICATIONS.



(6) ANTENNA AND (12) COAX GROUNDING DETAIL  
(NOT TO SCALE)

TMA FILTER DETAIL  
(NOT TO SCALE)

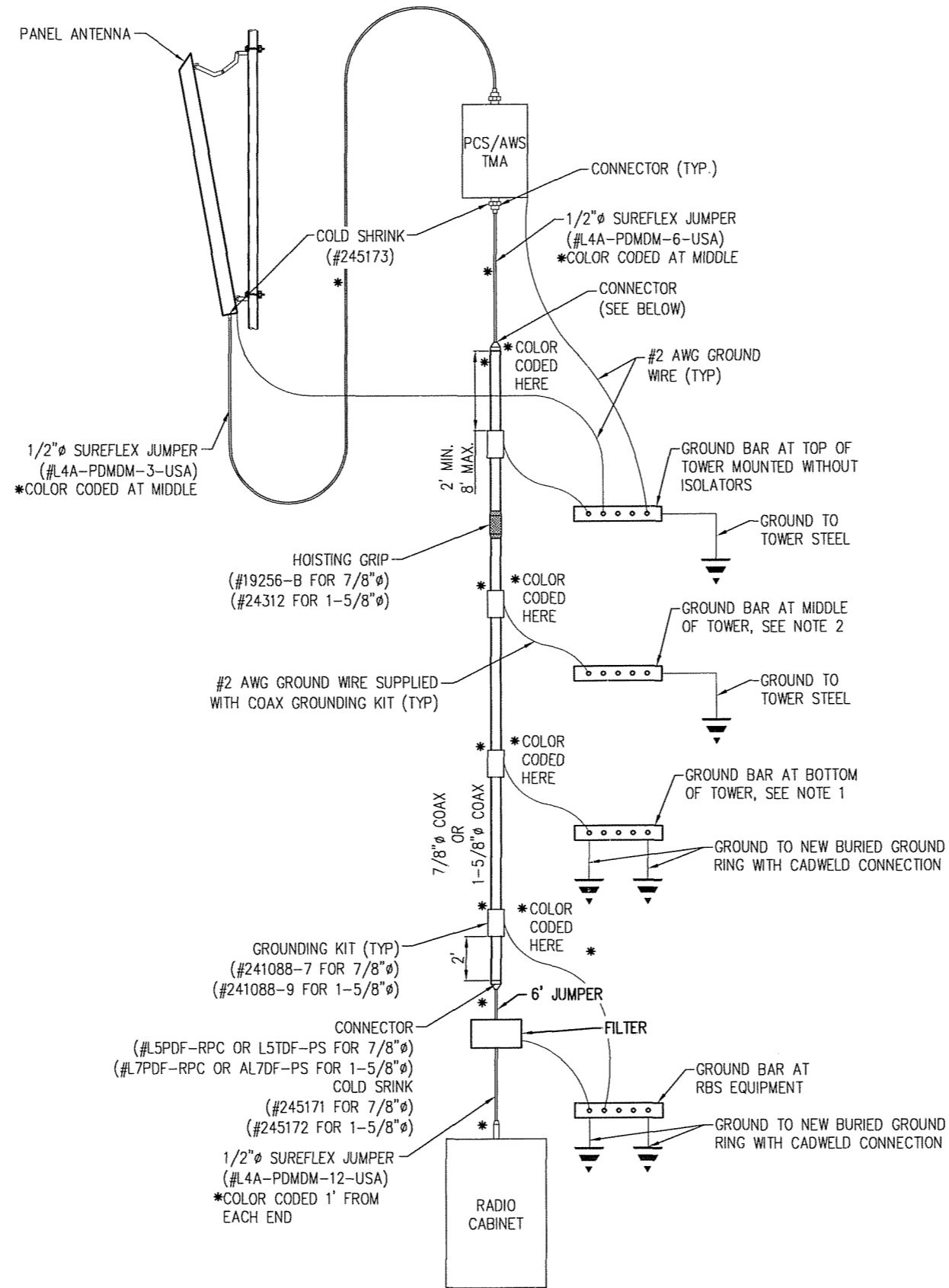


ITEM	REVISIONS	BY	CHK. BY	DATE

DRAWN BY:	DATE:
J.E. STEGER	3-04-09
CHECKED BY:	DATE:
T.L. HARDY	3-04-09
APPROVED BY:	DATE:

**HARDY ENGINEERING, INC.**  
ENGINEERING AND CONSULTING  
209 LINDEN STREET, P.O. BOX 708  
TRUSSVILLE, AL 35173  
PHONE: (205) 655-1427 FAX: (205) 661-9027

DWG. NAME: ANTENNA & COAX GROUNDING DETAIL	
STANDARD DRAWING	
FOR POWERTEL / MEMPHIS, INC. LOUISVILLE, KENTUCKY	
CAD No: LV0920_C3	DWG. No: C3



ANTENNA CABLE GROUNDING SCHEMATIC  
(NOT TO SCALE)

**NOTES**

1. ATTACH GROUND BAR TO THE TOWER USING STANDARD ADAPTER (ISOLATORS).
2. ATTACH GROUND BAR TO THE TOWER USING STANDARD ADAPTER (WITHOUT ISOLATORS). INSTALL ONLY WHEN RAD CENTERS EXCEEDS 200'. (SELF SUPPORT & GUYED TOWERS ONLY)

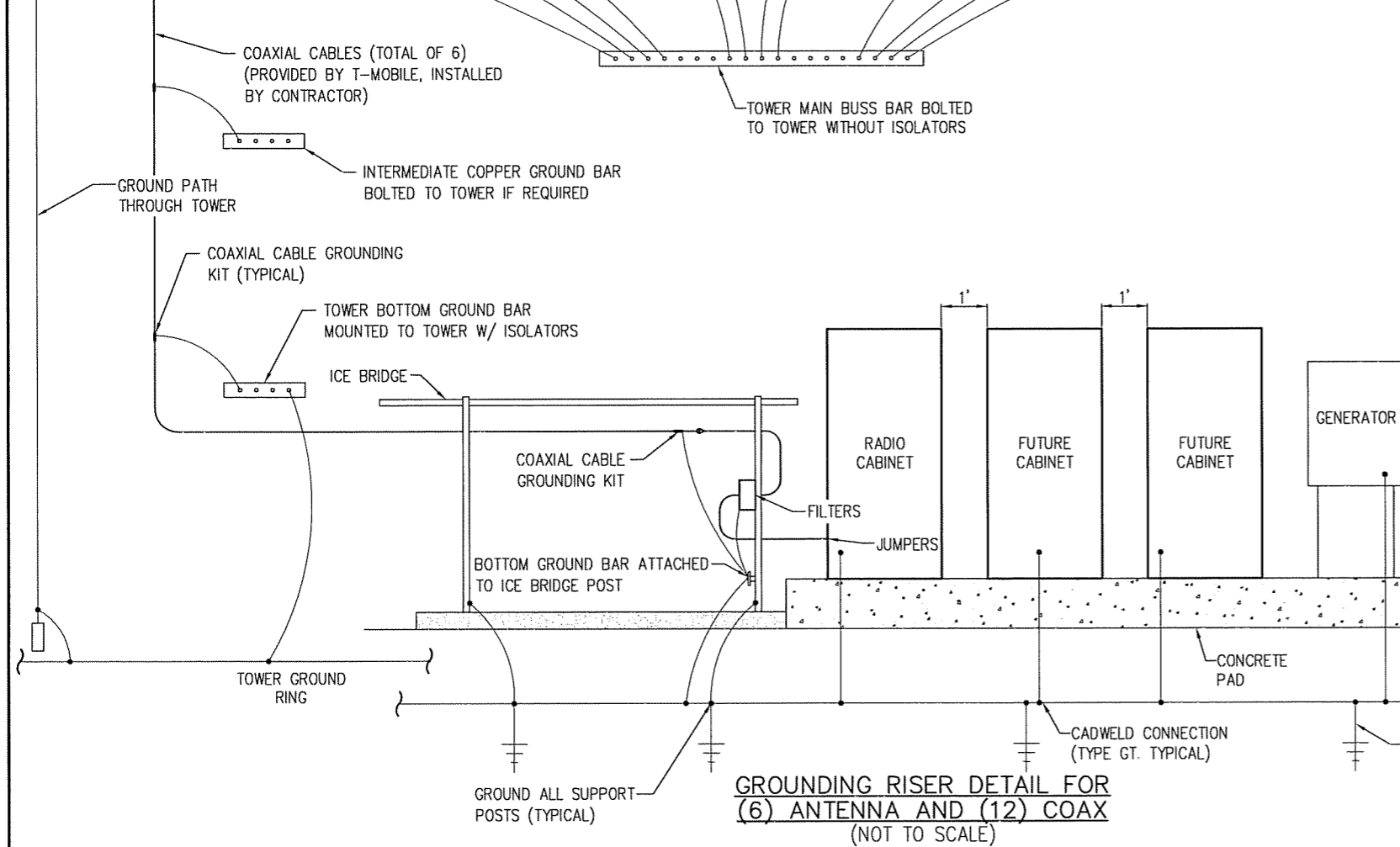
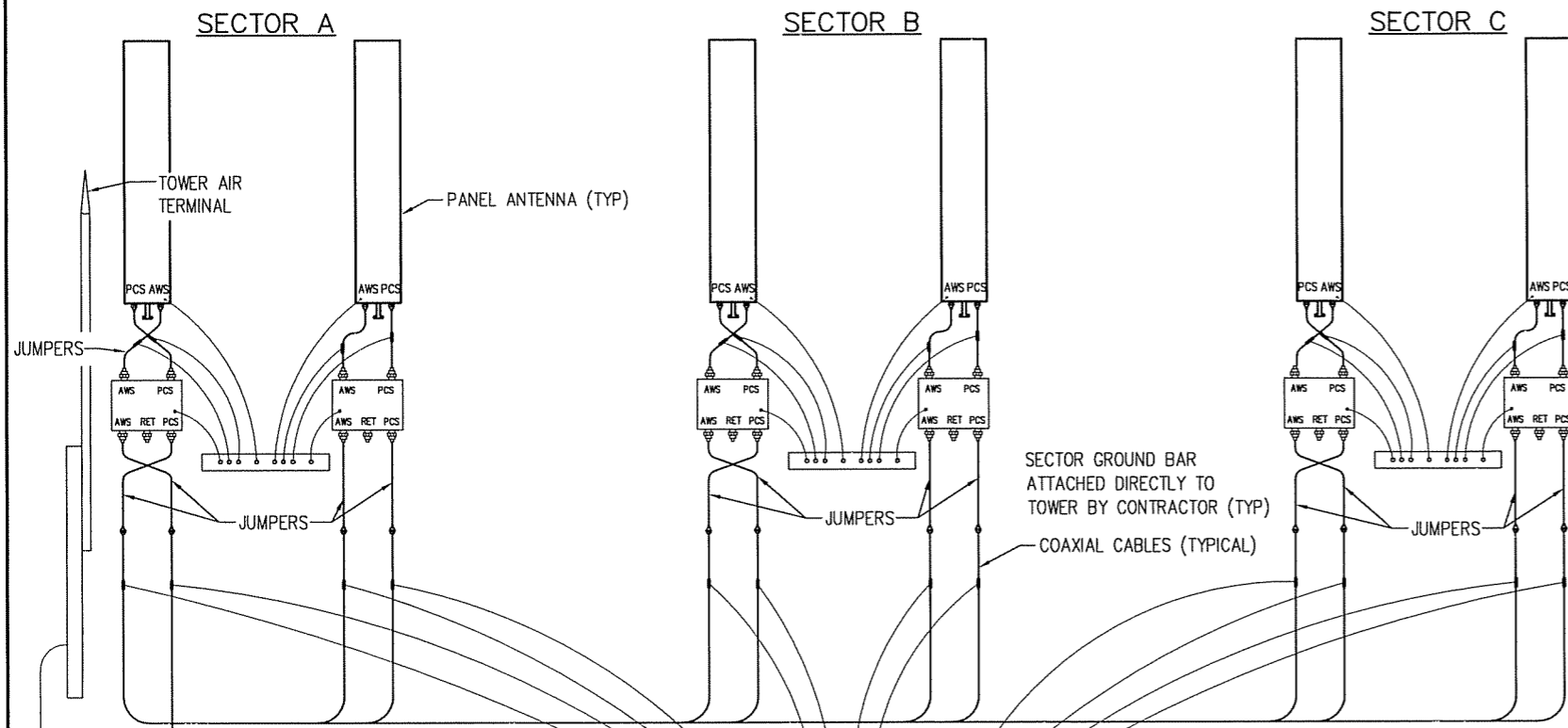


ITEM	REVISIONS	BY	CHK. BY	DATE

DRAWN BY:	DATE:
J.E. STEGER	3-04-09
CHECKED BY:	DATE:
T.L. HARDY	3-04-09
APPROVED BY:	DATE:

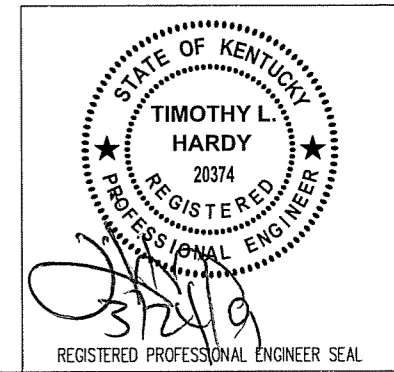
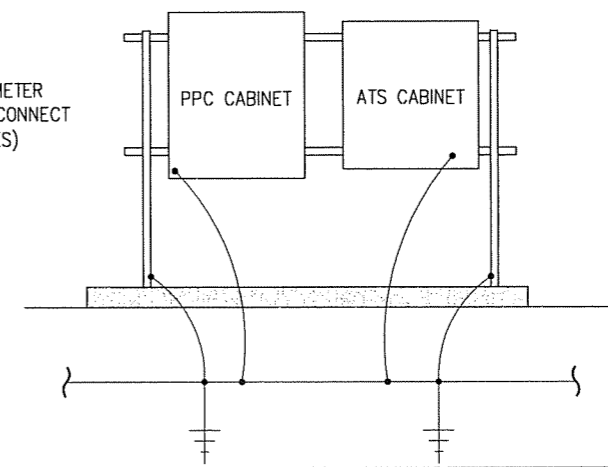
**HARDY ENGINEERING, INC.**  
ENGINEERING AND CONSULTING  
209 LINDEN STREET, P.O. BOX 708  
TRUSSVILLE, AL 35173  
PHONE: (205) 655-1427 FAX: (205) 661-9027

DWG. NAME:	COAX GROUNDING DETAIL
SCALE:	AS SHOWN
CAD No:	LV0920_C3.1
DWG. No:	C3.1



**GENERAL GROUNDING NOTES**

1. SITE GROUNDING SHALL COMPLY WITH POWERTEL GROUNDING STANDARDS, LATEST ADDITION, AND COMPLY WITH POWERTEL GROUNDING CHECKLIST, LATEST VERSION. WHEN LOCAL AND NATIONAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN. GROUNDING SHALL BE COMPLETED BEFORE ERECTION OF TOWER.
2. **GROUND RODS**
  - A. 5/8"x10" LONG COPPER CLAD STEEL.
  - B. MAXIMUM SPACING 10'-0".
  - C. TOP SHALL BE A MINIMUM OF 30" BELOW GRADE.
3. **GROUND CONNECTORS**
  - A. #2 AWG BARE TINNED SOLID COPPER UNLESS OTHERWISE NOTED.
  - B. WHEN DIRECTION OF CONDUCTOR CHANGES, IT SHALL BE DONE GRADUALLY.
  - C. ALL GROUNDING CONDUCTORS SHALL RUN THROUGH SEAL TIGHT SLEEVES WHEREVER CONDUCTORS RUN THROUGH CONCRETE SLABS.
  - D. GROUND RINGS SHALL BE BURIED A MINIMUM OF 30" BELOW GRADE AND SHALL BE LOCATED A MINIMUM OF 24" FROM THE OUTSIDE EDGE OF A CABINET, TOWER FOUNDATION AND OTHER SITE OBJECTS.
  - E. ALL CONNECTIONS SHALL BE EXOTHERMIC (CADWLD OR EQUAL) UNLESS INDICATED OTHERWISE. ALL MATERIALS USED SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS AND INSTRUCTIONS.
  - F. CONNECTIONS AT GROUND BARS AND SERVICE DISCONNECTION MEANS SHALL CONSIST OF LUGS CADWELDED TO GROUND CONDUCTORS UNLESS INDICATED OTHERWISE. LUGS SHALL BE ATTACHED TO GROUND BARS USING STAINLESS STEEL OR HOT DIPPED GALVANIZED STEEL BOLTS, NUTS AND LOCK WASHERS.
4. **COAXIAL TRANSMISSION LINE GROUNDING**
  - A. VERTICAL RUNS THAT ARE MORE THAN 200' OR LESS SHALL REQUIRE A GROUNDING KIT AT THE TOP AND BOTTOM OF THE TOWER.
  - B. VERTICAL RUNS WHICH ARE GREATER THAN 200' SHALL REQUIRE A GROUNDING KIT (IN ADDITION TO THE ABOVE) FROM THE TOP EVERY 150' TOWARDS THE GROUND BAR UNTIL THE DISTANCE IS LESS THAN 150' FROM THE GROUND.
  - C. SURGE ARRESTOR IS PROVIDED BY OTHERS AND INSTALLED BY CONTRACTOR. CONTRACTOR SHALL MAKE ALL CONNECTIONS REQUIRED FOR INSTALLATION.
  - D. ALL GROUNDING KITS SHALL BE PROVIDED BY OTHERS AND INSTALLED BY CONTRACTOR.
5. **MISC. ITEMS TO BE CONNECTED TO GROUNDING SYSTEM**
  - A. ANY METAL FENCE POST WITHIN 6'-0" OF GROUND ROAD.
  - B. TRANSMISSION LINE ENTRANCE HATCH.
  - C. METAL CABINET PARTS NOT GROUNDED BY THE INTERNAL GROUND RING.
  - D. METAL FUEL STORAGE TANKS.
  - E. ANY SIGNIFICANT METAL OBJECT WITHIN 6'-0" OF THE GROUNDING SYSTEM OR ANY OTHER GROUNDED OBJECT.
  - F. EXTERIOR ICE SHIELDS.
  - G. STEEL EQUIPMENT PLATFORM.
6. **INSTALLATION AND TESTING**
  - A. CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER IMMEDIATELY IF THERE ARE ANY DIFFICULTIES INSTALLING GROUNDING SYSTEM DUE TO FIELD CONDITIONS.
  - B. CONTRACTOR SHALL NOT COVER UP GROUND RING AND CONNECTIONS UNTIL AN INSPECTION HAS BEEN PERFORMED. COORDINATE INSPECTION WITH CONSTRUCTION MANAGER.
  - C. PROVIDE TESTING OF GROUNDING SYSTEM AS DIRECTED BY THE CONSTRUCTION MANAGER.
7. THE MAXIMUM ALLOWABLE RESISTANCE READING SHALL BE 5 OHMS TO THE GROUND. IF THE RESISTANCE OF THE ENTIRE GROUND SYSTEM AS MEASURED AT THE MAIN GROUND TEST WELL EXCEEDS 5.0 OHMS THE ELECTRICAL CONTRACTOR AND OWNERS REPRESENTATIVE SHALL BE NOTIFIED SO THAT ADDITIONAL GROUND LOCATIONS CAN BE UTILIZED.
8. ALL EXPOSED GROUND LEADS TO GROUND RING, PLACED IN CONCRETE, SHALL BE ENCASED IN 3/4" FLEXIBLE CONDUIT, SEALTIGHT OR EQUAL.
9. ALL GROUND WIRE CONNECTIONS TO EQUIPMENT GROUND RING THAT ARE RUNNING ABOVE GROUND SHALL BE RUN INSIDE SEALTIGHT FLEX CONDUIT.
10. ALL CONNECTIONS ABOVE GROUND EXCEPT CONNECTIONS TO GROUND BARS OR ARRESTOR BRACKET SHALL BE WITH DOUBLE LUG CONNECTORS. CONNECTIONS TO GROUND BARS AND ARRESTORS SHALL BE CADWELD.
11. ALL GROUNDING RUNS ON TOWER SHALL BE ROUTED ON THE INSIDE FACE OF THE ICE BRIDGE LADDER.
12. COMPACT BACKFILL OF ALL TRENCHES FOR GROUND RING. SITE SOIL OR #57 STONE MAY BE USED FOR BACKFILL MATERIALS. CONTRACTOR SHALL OBTAIN APPROVAL FOR BACKFILL MATERIALS FROM CONSTRUCTION MANAGER.
13. CONTRACTOR SHALL PROVIDE SS FLAT AND LOCK WASHERS AS REQUIRED FOR COMPLETE INSTALLATION OF GROUND LEADS AT GROUND BUSS.



ITEM	REVISIONS	BY	CHK. BY	DATE

DRAWN BY: J.E. STEGER  
 DATE: 3-04-09  
 CHECKED BY: T.L. HARDY  
 DATE: 3-04-09  
 APPROVED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

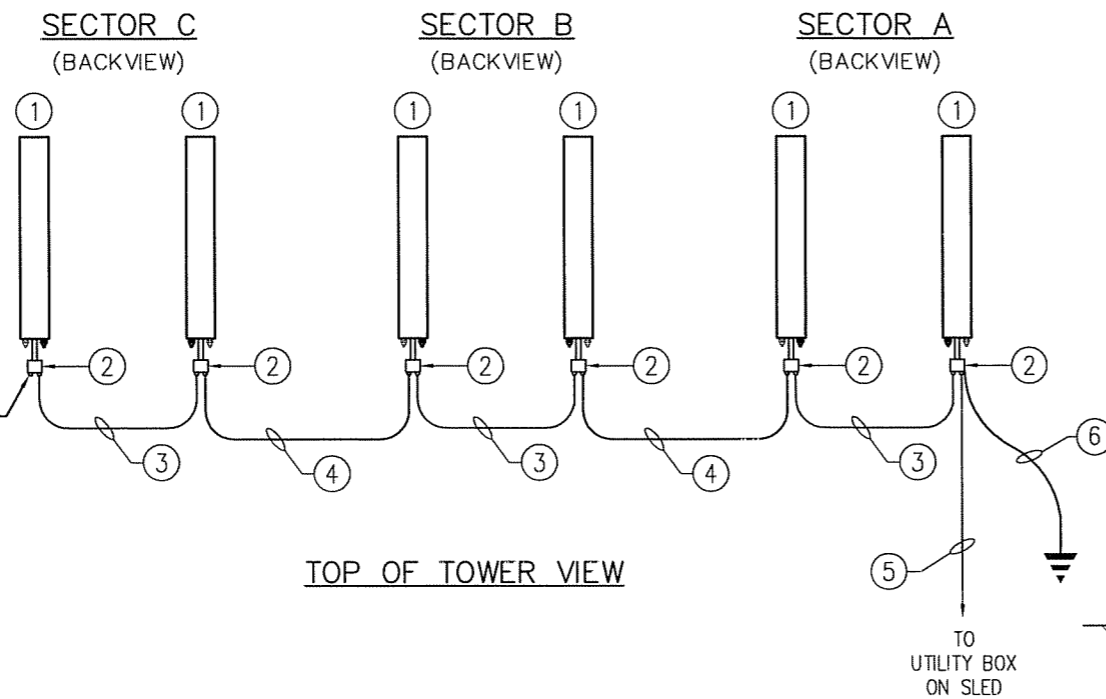
**HARDY ENGINEERING, INC.**  
 ENGINEERING AND CONSULTING  
 209 LINDEN STREET, P.O. BOX 708  
 TRUSSVILLE, AL 35173  
 PHONE: (205) 655-1427 FAX: (205) 661-9027

DWG. NAME: GROUNDING RISER DIAGRAM  
 STANDARD DRAWING  
 FOR  
 POWERTEL / MEMPHIS, INC.  
 LOUISVILLE, KENTUCKY  
 CAD No: LV0920\_C3.2 SCALE: NOT TO SCALE DWG. No: C3.2

**MATERIAL LIST**

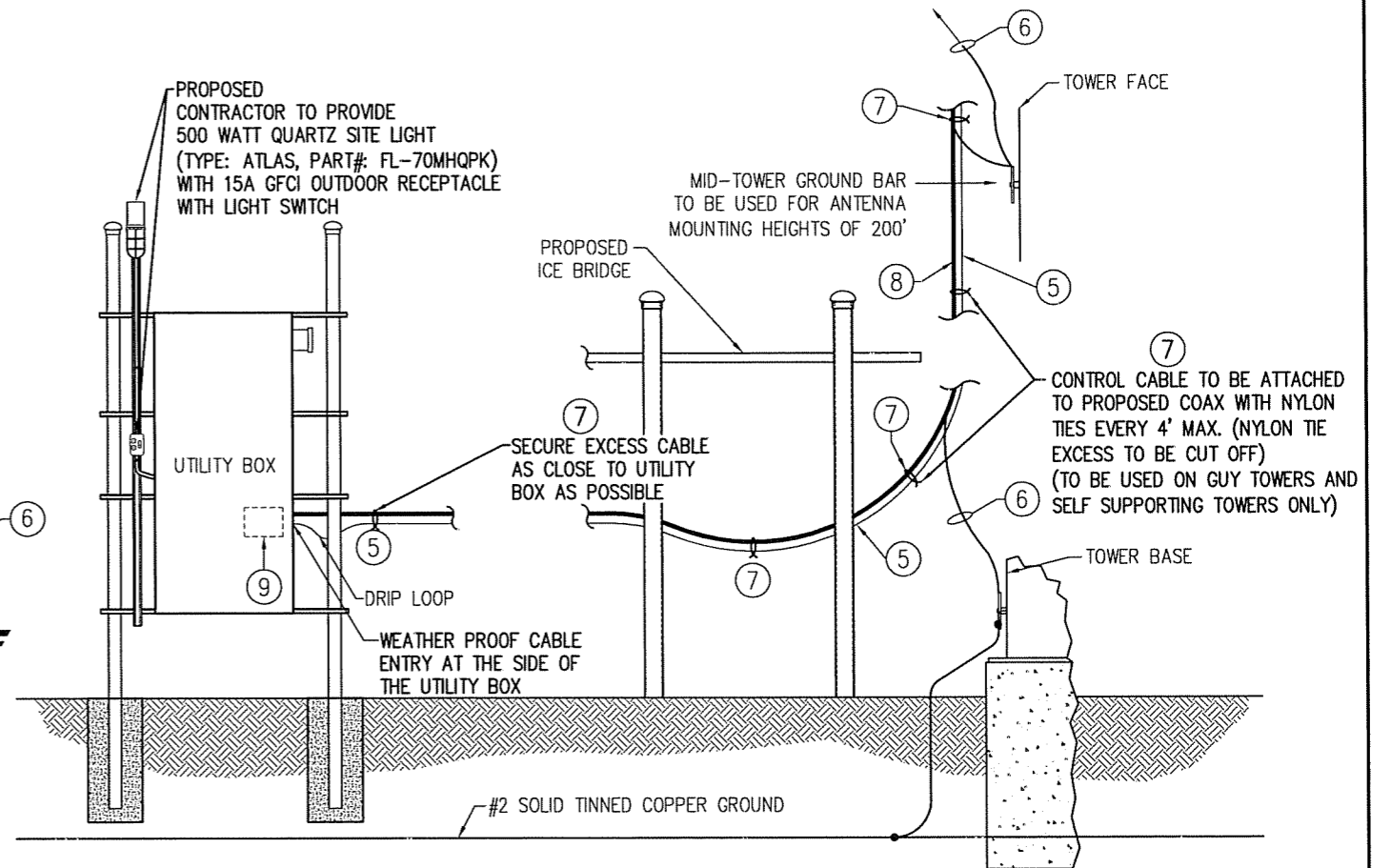
- ① PANEL ANTENNA
- ② ECU
- ③ CABLE ASSEMBLY BETWEEN ANTENNAS
- ④ CABLE ASSEMBLY BETWEEN SECTORS
- ⑤ CONTROL CABLE (TOWER PLACEMENT TO DETERMINE LENGTH)
- ⑥ CABLE GROUND KIT
- ⑦ NYLON CABLE TIES
- ⑧ 1 5/8" COAX
- ⑨ PA-1 CONNECTION

FILL THE UNUSED CONNECTOR WITH CLEAR SILICON RUBBER OR RTV COMPOUND. SEAL CONNECTOR WITH BLACK ELECTRICAL TAPE, A LAYER OF BUTYL RUBBER AND THEN COVER WITH BLACK ELECTRICAL TAPE TO PREVENT MOISTURE INTRUSION. (TYP.)



TOP OF TOWER VIEW

ELECTRICAL DOWNTILT EQUIPMENT DETAIL  
(6 PANEL ANTENNAS)  
(NOT TO SCALE)



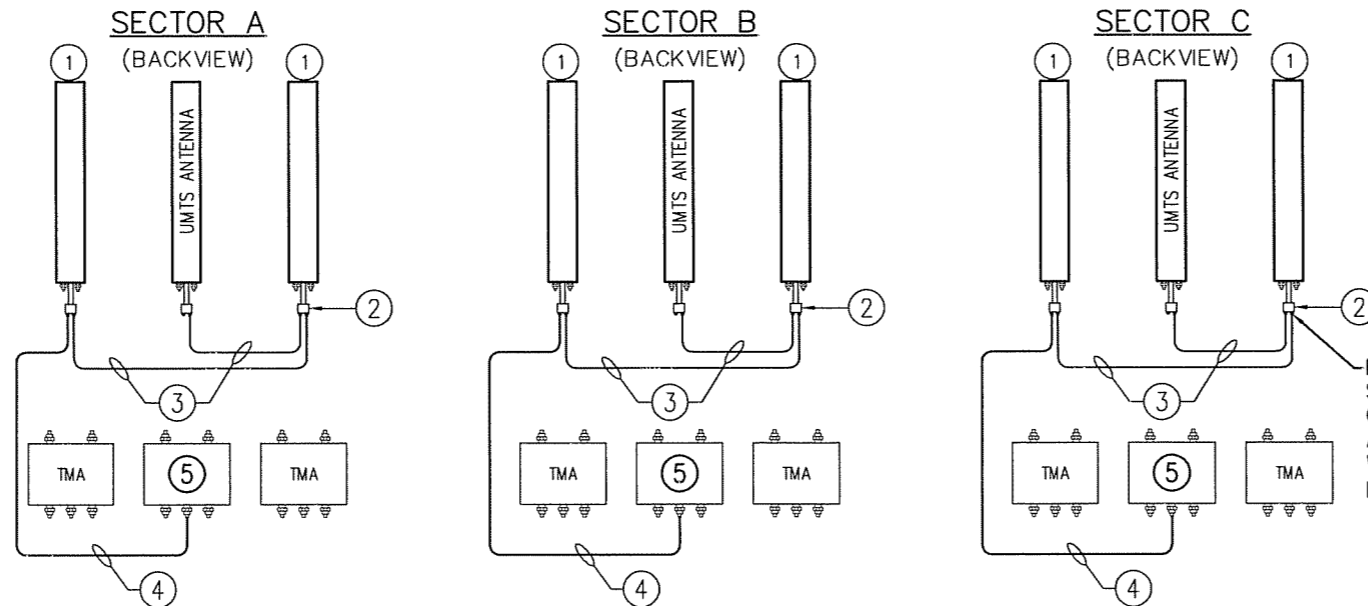
BASE OF TOWER VIEW

**MATERIAL LIST**

- ① PANEL ANTENNA
- ② ECU
- ③ CABLE ASSEMBLY BETWEEN ANTENNAS
- ④ CABLE ASSEMBLY TO UMTS TMA
- ⑤ UMTS TMA

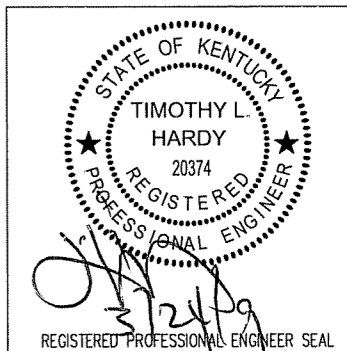
**NOTE**

1. COAX #1 IS TO BE CONNECTED TO **BTS-1** ON THE TMA.



FILL THE UNUSED CONNECTOR WITH CLEAR SILICON RUBBER OR RTV COMPOUND. SEAL CONNECTOR WITH BLACK ELECTRICAL TAPE, A LAYER OF BUTYL RUBBER AND THEN COVER WITH BLACK ELECTRICAL TAPE TO PREVENT MOISTURE INTRUSION. (TYP.)

ELECTRICAL DOWNTILT EQUIPMENT DETAIL  
(6 PANEL ANTENNAS & 3 UMTS ANTENNAS)  
(NOT TO SCALE)



ITEM	REVISIONS	BY	CHK. BY	DATE

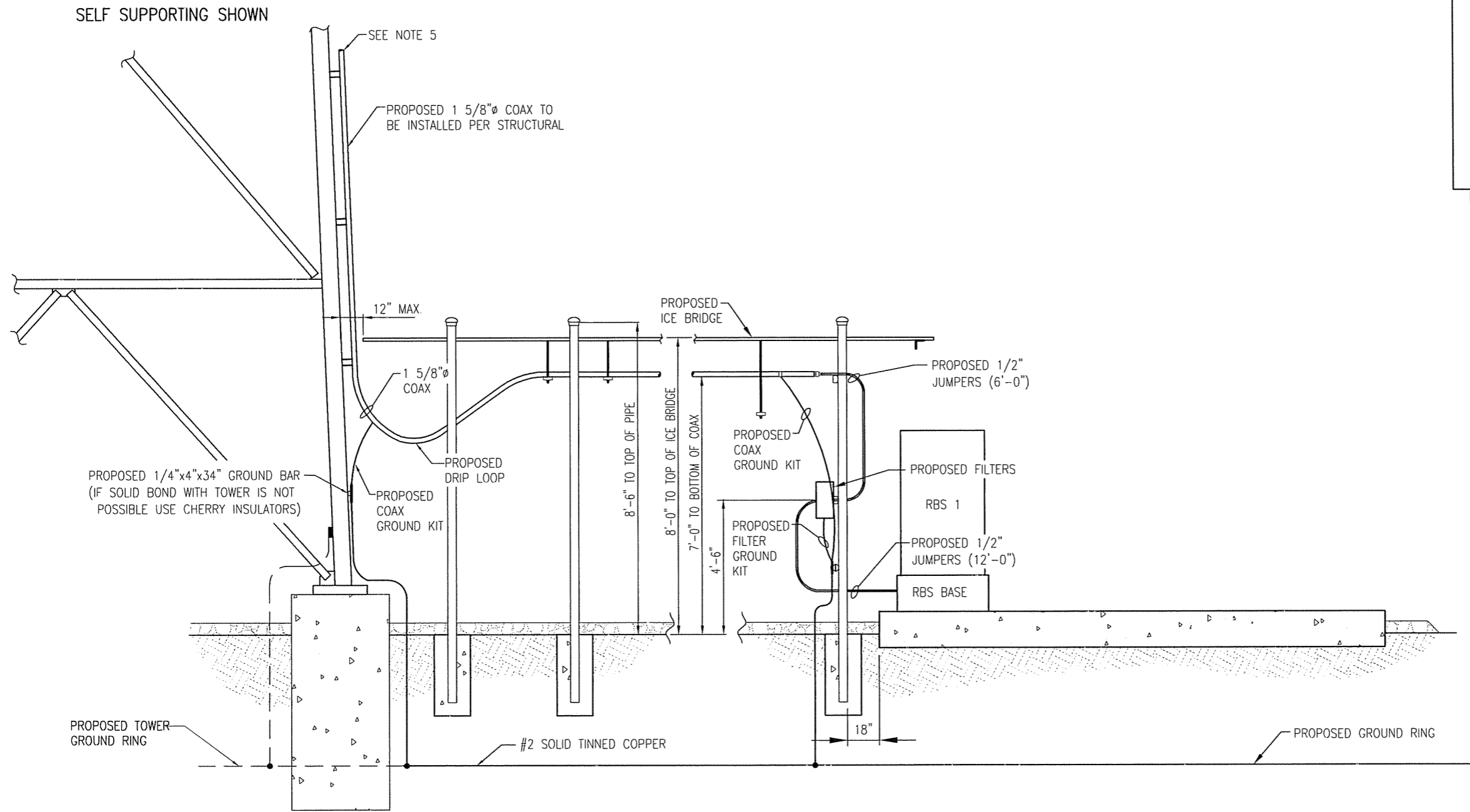
DRAWN BY:	DATE:
J.E. STEGER	3-04-09
CHECKED BY:	DATE:
T.L. HARDY	3-04-09
APPROVED BY:	DATE:

**HARDY ENGINEERING, INC.**  
ENGINEERING AND CONSULTING  
209 LINDEN STREET, P.O. BOX 708  
TRUSSVILLE, AL 35173  
PHONE: (205) 655-1427 FAX: (205) 661-9027

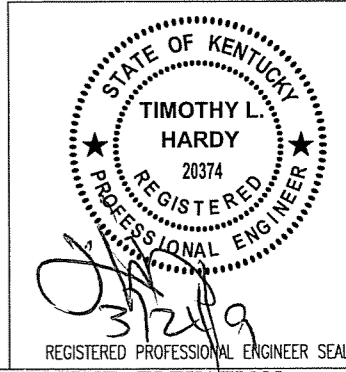
DWG. NAME: ELECTRICAL DOWNTILT EQUIPMENT DETAIL	
STANDARD DRAWING FOR POWERTEL / MEMPHIS, INC. LOUISVILLE, KENTUCKY	
CAD No: LV0920_C3.3	DWG. No: C3.3

**NOTES**

1. ALL CONDUIT SHALL BE PVC CONDUIT UNLESS OTHERWISE NOTED.
2. ALL CONDUIT PENETRATING EQUIPMENT PANELS SHALL BE SECURED WITH A GROUNDING BUSHING AND GROUNDED TO EQUIPMENT GROUND BUSS WITH A GROUND LUG.
3. ALL CONDUITS TO BE SECURED WITH CONDUIT BEAM CLAMP O-Z / GEDNEY TYPE "J".
4. PROVIDE A SMOOTH TRANSITION AND DRIP LOOP.
5. ANTENNA END OF 1 5/8"Ø COAX SHALL BE SUPPORTED NO MORE THAN 1 FOOT FROM END OF CONNECTOR.
6. 1/2"Ø COAX SHALL BE SUPPORTED EVERY 2'-0" TO 2'-6" WITH ANGLE ADAPTORS WITH CLAMP OR EQUIVALENT.



**EQUIPMENT ELEVATION**

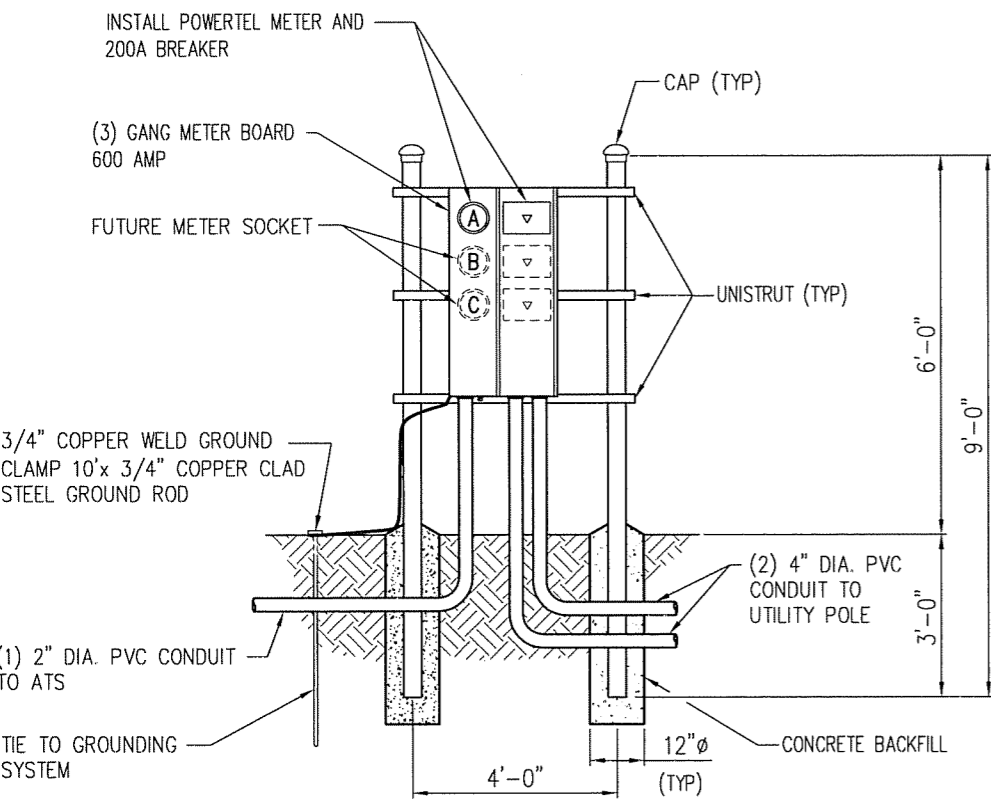
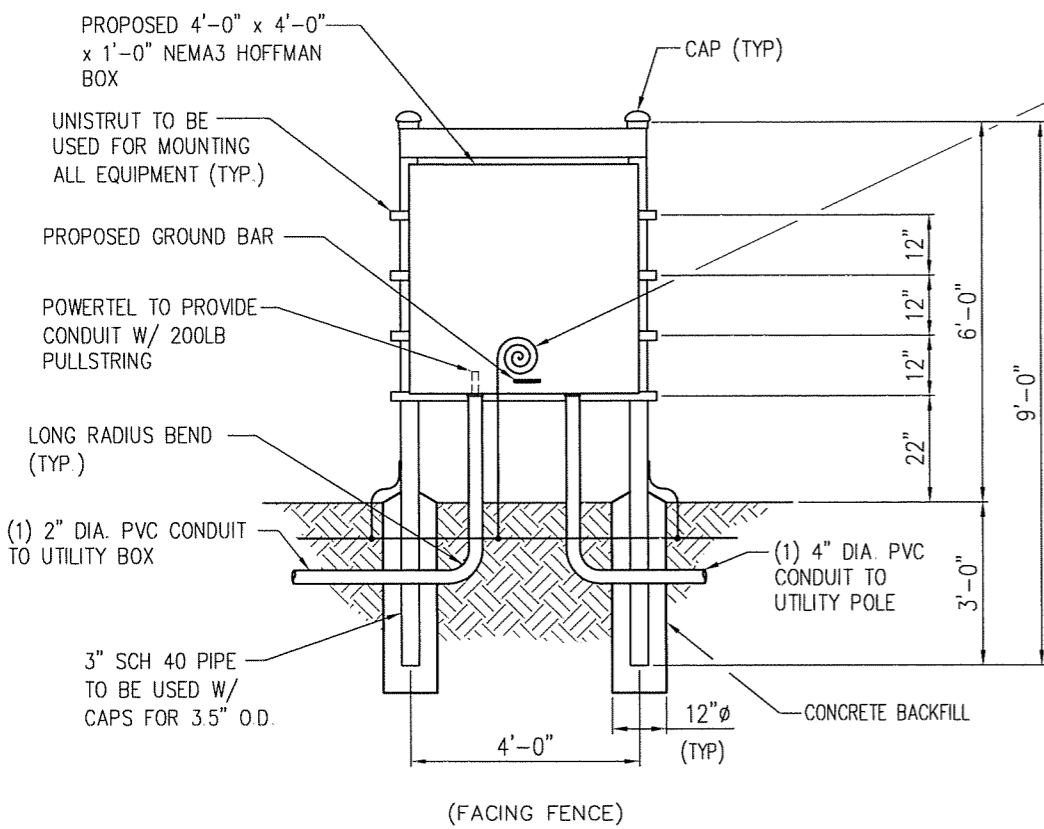


ITEM	REVISIONS	BY	CHK. BY	DATE


DRAWN BY :	DATE :
J.E. STEGER	3-04-09
CHECKED BY :	DATE :
T.L. HARDY	3-04-09
APPROVED BY :	DATE :

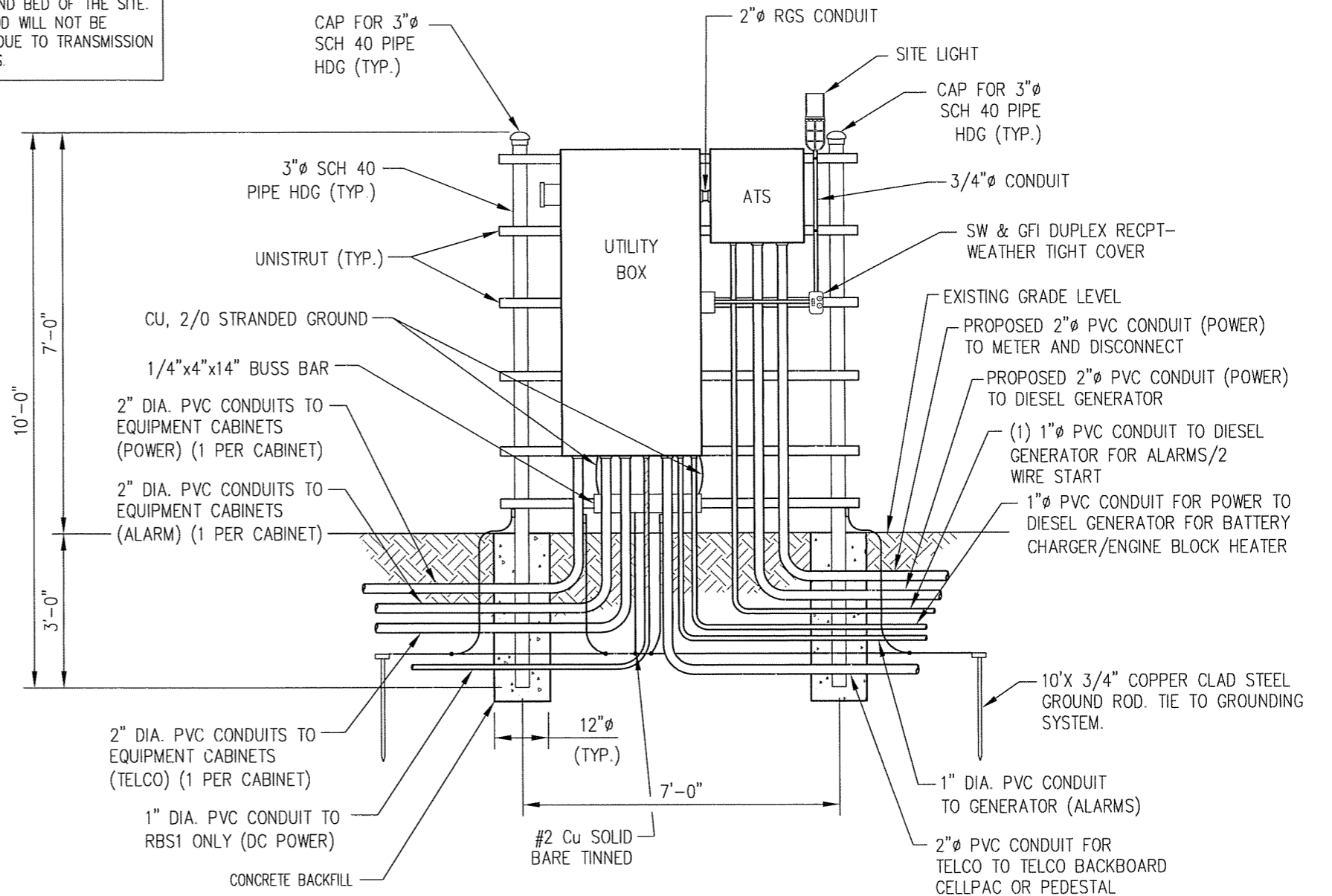
**HARDY ENGINEERING, INC.**  
 ENGINEERING AND CONSULTING  
 209 LINDEN STREET, P.O. BOX 708  
 TRUSSVILLE, AL 35173  
 PHONE: (205) 655-1427 FAX: (205) 661-9027

DWG NAME: <b>EQUIPMENT ELEVATION</b>		
STANDARD DRAWING FOR POWERTEL / MEMPHIS, INC. LOUISVILLE, KENTUCKY		
CAD No: LV0920_C4	SCALE: NOT TO SCALE	DWG No: C4



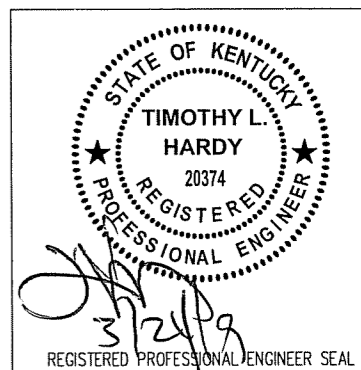
**MULTI-TENANT RACK**  
(SCALE: N.T.S.)

#6 AWG GROUND WIRE (6'-0") WILL BE PLACED & CAD WELDED TO THE GROUND BED OF THE SITE. A GROUND ROD WILL NOT BE ACCEPTABLE DUE TO TRANSMISSION REQUIREMENTS.



**UTILITY BOX & ATS SERVICE RACK**

SCALE: N.T.S.

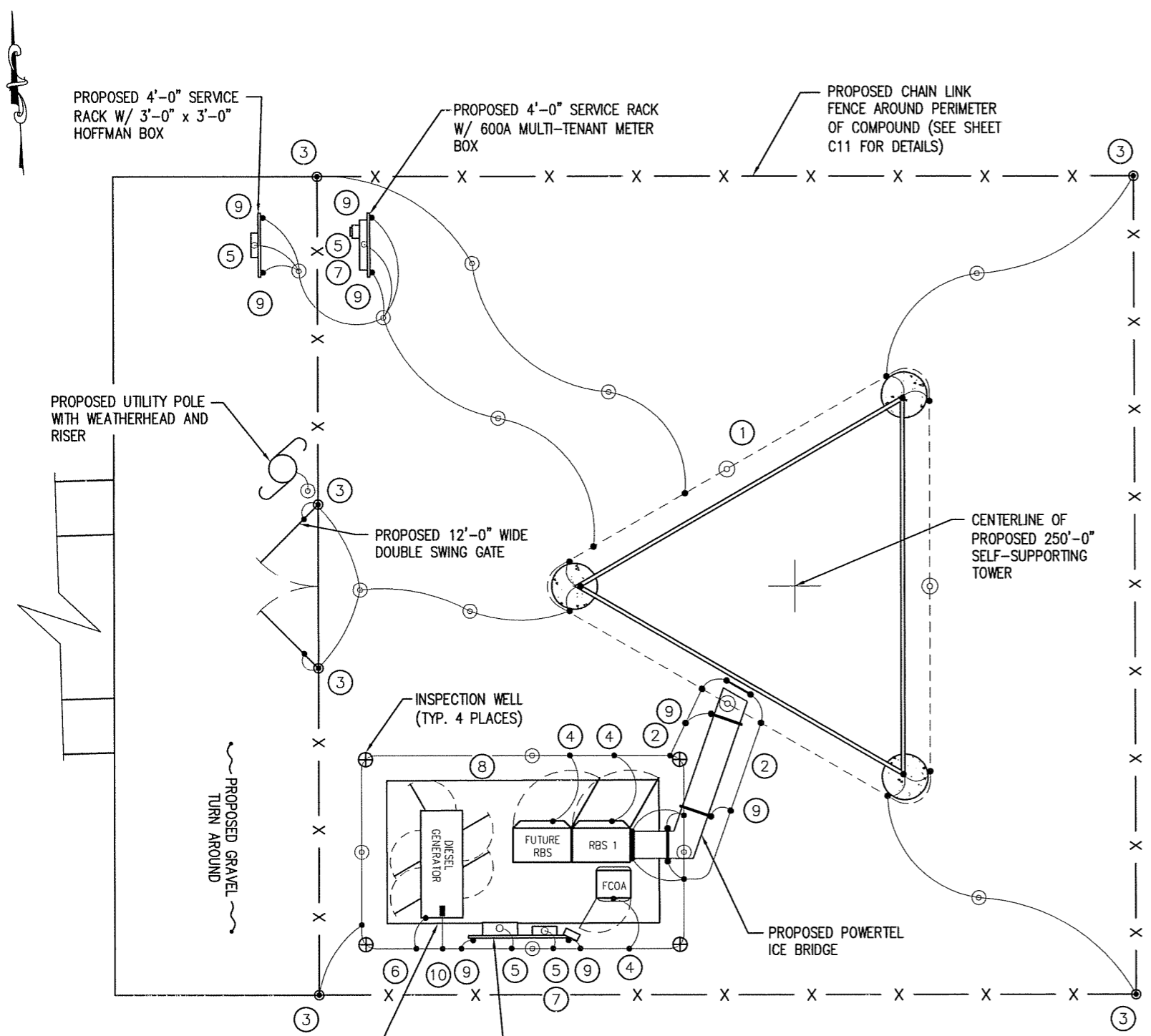


ITEM	REVISIONS	BY	CHK. BY	DATE

DRAWN BY:	J.E. STEGER	DATE:	3-04-09
CHECKED BY:	T.L. HARDY	DATE:	3-04-09
APPROVED BY:		DATE:	

**HARDY ENGINEERING, INC.**  
ENGINEERING AND CONSULTING  
209 LINDEN STREET, P.O. BOX 708  
TRUSSVILLE, AL 35173  
PHONE: (205) 655-1427 FAX: (205) 661-9027

DWG. NAME:	<b>ELECTRICAL DETAILS</b>		
	STANDARD DRAWING		
	FOR POWERTEL / MEMPHIS, INC. LOUISVILLE, KENTUCKY		
CAD No:	LV0920_C5	SCALE:	NOT TO SCALE
DWG. No:			C5

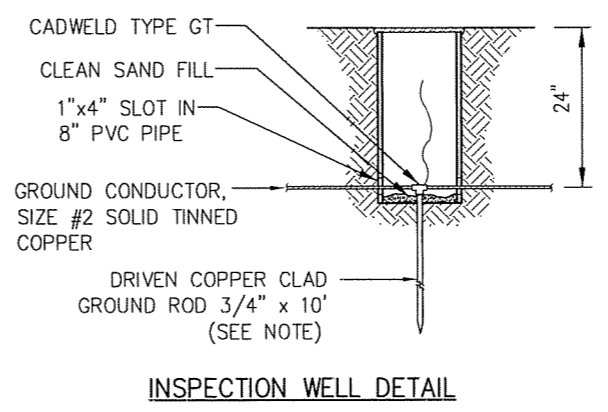


**GENERAL NOTES:**

1. GROUND RING TO EARTH SHALL BE 5 OHMS OR LESS. ADDITIONAL GROUND RODS MAY HAVE TO BE ADDED TO THE INITIAL 3/4"x10' RODS. USE TEMPORARY BOLTED CONNECTION TO ROD AND PERFORM GROUND RESISTANCE TEST.
2. ALL GROUNDING CONDUCTOR SWEEPS SHALL BE SMOOTH WITH NO SHARP BENDS (8" MIN. BEND RADIUS). SWEEPS SHALL BE CAD-WELDED TO GROUND RING WITH PARALLEL CADWELD.
3. ALL CADWELDS TO BURIED GROUND RING SHALL BE OF PARALLEL TYPE. NO "TEE" CONNECTIONS TO BE USED.
4. USE DE-OX OR NOALOX COMPOUND BETWEEN ALL GROUNDING LUG CONNECTIONS. DO NOT COVER LUGS OR HARDWARE WITH COMPOUND.
5. ALL MOUNTING & CONNECTING HARDWARE FOR GROUNDING TO BE STAINLESS STEEL ONLY, NO PLATED OR GALVANIZED HARDWARE IS TO BE USED.
6. GROUNDING CONDUCTORS TO BE BURIED A MINIMUM OF 30" DEEP UNLESS OTHERWISE SPECIFIED BY LOCAL CODE.
7. ALL GROUNDING CONDUCTORS TO BE BARE STRANDED, SOFT DRAWN COPPER UNLESS OTHERWISE SPECIFIED.
8. USE ONLY 2-HOLE CADWELD LUGS ON ENDS OF GROUNDING CONDUCTORS. DO NOT USE COMPRESSION OR MECHANICAL TYPE LUGS.

**CALL-OUT NOTES:**

- 1 PROPOSED TOWER STRUCTURE GROUND RING
- 2 CONNECT EXISTING TOWER RING GROUND TO EQUIPMENT RING GROUND ON BOTH SIDES. KEEP INTERCONNECTING WIRING OF EQUAL LENGTH AND TYPE
- 3 FENCE GROUND
- 4 RBS GROUND, TYP 2 PLACES, MAIN RBS AND FUTURE. INSTALL: CONTRACTOR TO SUPPLY AND INSTALL LUG IN RBS (2102) AND ATTACH TO #2 STRAND COPPER TYPE THHN (GREEN) WIRE TO CONNECT RBS TO EXTERNAL GROUND RING. REMOVE INSULATION BELOW GRADE.
- 5 ELECTRICAL AND TELCO EQUIPMENT BUSS BARS
- 6 REMOVE PAINT FROM SURFACE OF GENERATOR FRAME BEFORE ATTACHING GROUND CONNECTION. USE DE-OX COMPOUND BETWEEN FRAME AND LUG AFTER TIGHTENING CONNECTION COVER AREA WITH SPRAY ZINC OR COLD GALVANIZING COMPOUND.
- 7 NEUTRAL - GROUND BOND AT SERVICE DISCONNECT.
- 8 MINIMUM SPACING OF SLED GROUNDING FROM SLED FOUNDATION, 24 INCHES MIN
- 9 ICE BRIDGE & SERVICE BOARD POST GROUND, EACH POST TYP.
- 10 FUEL TANK GROUND



**LEGEND**

- PROPOSED TOWER GROUND RING
- #2 SOLID TINNED COPPER GROUND CONDUCTOR UNLESS OTHERWISE SPECIFIED.
- ⊕ EXOTHERMIC WELD CONNECTION
- ⊙ 3/4" x 10' COPPER CLAD STEEL GROUND ROD UNLESS OTHERWISE SPECIFIED.
- ⊙ #2 SOLID TINNED COPPER FROM EQUIPMENT OR STEEL TO GROUND RING UNLESS OTHERWISE SPECIFIED

PROPOSED POWERTEL EQUIPMENT:  
(1) RBS, (1) FCOA CABINET AND DIESEL GENERATOR ON A 10'-0" x 20'-0" CONCRETE SLAB WITHIN A 15'-0" x 20'-0" RESERVE EQUIPMENT AREA

PROPOSED 7'-0" SERVICE RACK W/ UTILITY CABINET, WORK LIGHT AND ATS

**GROUNDING LAYOUT**  
(SCALE: 1" = 10'-0")

PORTIONS OF SITE LAYOUT HAVE BEEN REMOVED FOR CLARITY. REFER TO SHEET C1 FOR COMPLETE SITE LAYOUT

NOTE: CONTRACTOR TO VERIFY ALL PROPOSED UTILITIES BEFORE DIGGING

STATE OF KENTUCKY  
**TIMOTHY L. HARDY**  
20374  
REGISTERED PROFESSIONAL ENGINEER

3/24/09  
REGISTERED PROFESSIONAL ENGINEER SEAL

ITEM	REVISIONS	BY	CHK. BY	DATE

DRAWN BY: <b>J.E. STEGER</b>	DATE: <b>3-04-09</b>
CHECKED BY: <b>T.L. HARDY</b>	DATE: <b>3-04-09</b>
APPROVED BY:	DATE:

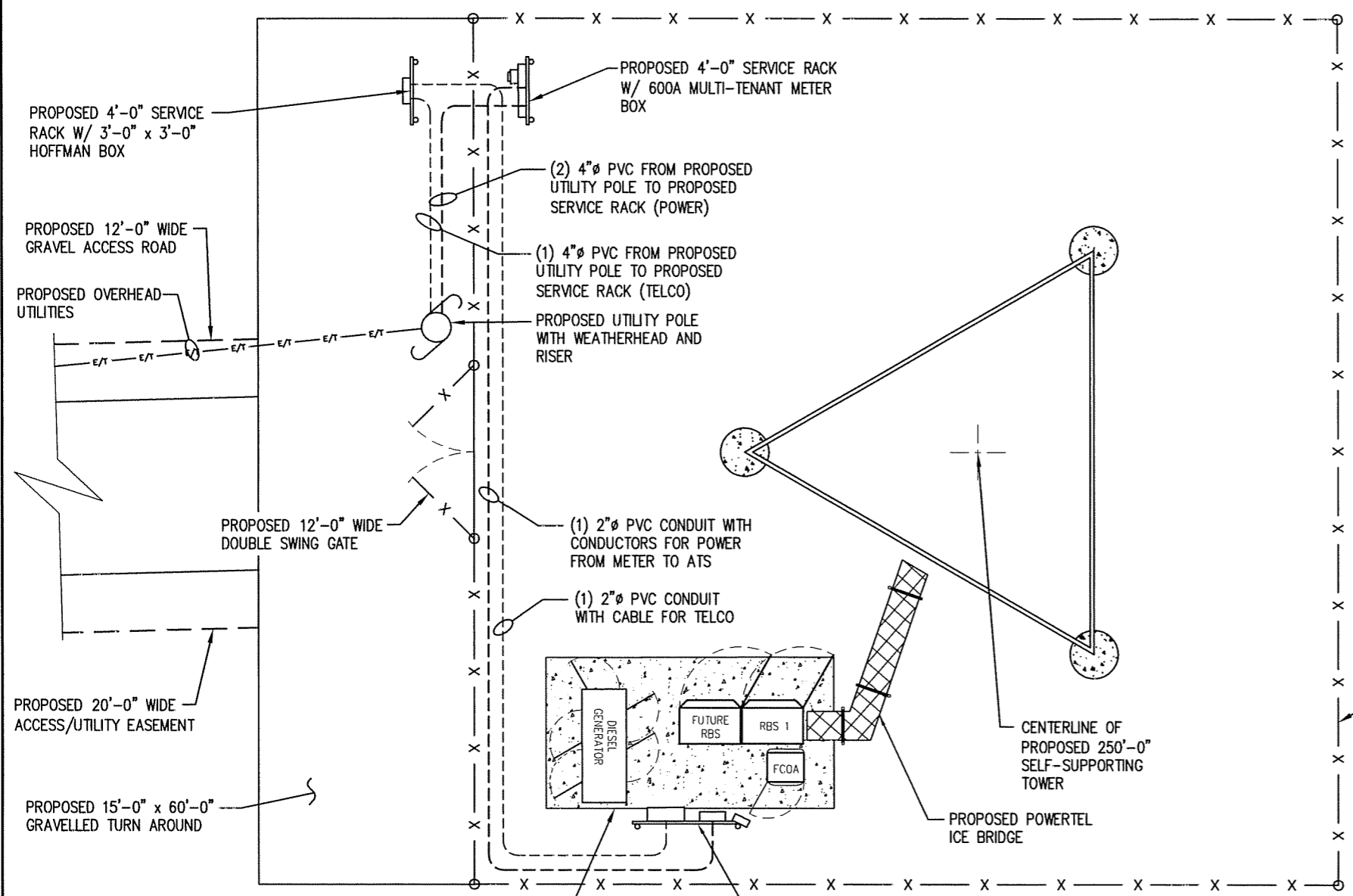
**HARDY ENGINEERING, INC.**  
ENGINEERING AND CONSULTING  
209 LINDEN STREET  
TRUSSVILLE, AL 35173  
PHONE: (205) 655-1427 FAX: (205) 661-9027

DWG NAME: <b>GROUNDING LAYOUT</b>	
9LV0920B SITE: SOUTH MURRAY MURRAY, KENTUCKY	
FOR <b>POWERTEL / MEMPHIS, INC.</b> LOUISVILLE, KENTUCKY	
CAD No: LV0920_C6	SCALE: AS SHOWN
DWG No: C6	

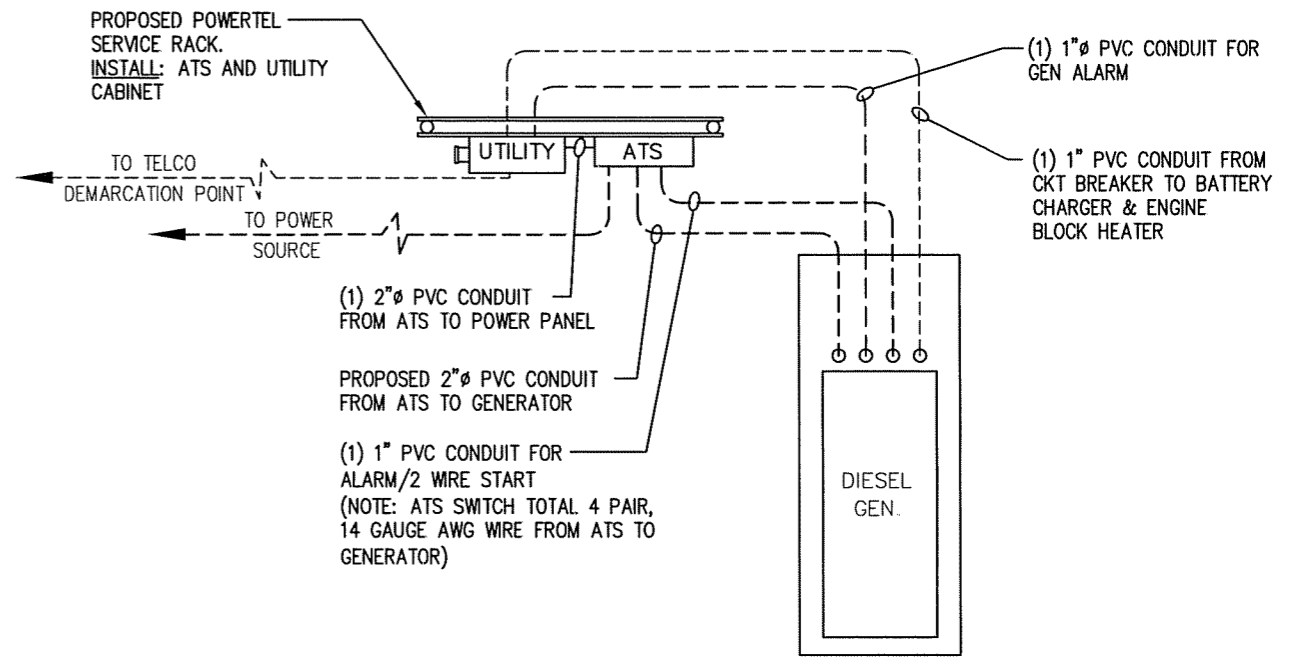


**NOTES:**

1. THIS INSTALLATION SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE AND ANY APPLICABLE LOCAL CODES AND ORDINANCES. SEE LOCAL AUTHORITIES FOR ANY REQUIREMENTS BEYOND THESE LISTED.
2. CONTRACTOR SHALL PROVIDE ALL MATERIALS NECESSARY FOR 200 AMP SERVICE.
3. THE LOCAL UTILITY WILL MAKE THE SERVICE CONNECTIONS.
4. CONTRACTOR TO INSTALL 8 PAIR, 24 GAUGE, (16 WIRES) FOR ALARMS.



**ELECTRICAL CONDUIT LAYOUT**  
(SCALE: 1" = 10'-0")



**CONDUIT LAYOUT DETAIL**  
(N.T.S.)

**NOTE:** CONTRACTOR TO VERIFY ALL EXISTING UTILITIES BEFORE DIGGING

**NOTE:** BOUNDARY AND SITE FEATURES ARE BASED ON FIELD MEASUREMENTS. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THIS DRAWING.



ITEM	REVISIONS	BY	CHK. BY	DATE

DRAWN BY:	DATE:
J.E. STEGER	3-04-09
CHECKED BY:	DATE:
T.L. HARDY	3-04-09
APPROVED BY:	DATE:

**HARDY ENGINEERING, INC.**  
ENGINEERING AND CONSULTING  
209 LINDEN STREET, P.O. BOX 708  
TRUSSVILLE, AL 35173  
PHONE: (205) 655-1427 FAX: (205) 661-9027

DWG NAME: <b>ELECTRICAL CONDUIT LAYOUT</b>			
9LV0920B SITE: SOUTH MURRAY MURRAY, KENTUCKY			
FOR POWERTEL / MEMPHIS, INC. LOUISVILLE, KENTUCKY			
CAD No: LV0920_C7	SCALE: AS SHOWN	DWG No: C7	

PANEL MOUNTING 200 AMP MAIN BREAKER 10 KAIC 200 AMP BUS 120 / 240 VOLT 1 PHASE 3 WIRE

CIRCUIT NUMBER	DIRECTORY	VA		DEVICE			BKR	PHASE	A	B	BKR		DEVICE			VA		DIRECTORY	CIRCUIT NUMBER
		ØA	ØB	MISC	R'CEPT	LIG					TRIP	POLE	TRIP	LIG	R'CEPT	MISC	ØA		
1	TVSS SURGE PROTECTOR	0					60	2			1	15					400	INSIDE & OUTSIDE GFI R'CEPT	2
3				0							2	50							
5	COOLING FAN	200					10	1										6	
7	OUTSIDE LIGHT		400				20	1										8	
9	BLANK																	10	
11	BLANK																	12	
13	BLANK																	14	
15	BLANK																	16	
17	BLANK																	18	
19	BLANK																	20	
21	BLANK																	22	
23	BLANK																	24	
25	BLANK																	26	
27	BLANK																	28	
29	BLANK																	30	

CONNECTED LOAD (VA)  
 PHASE A 600  
 PHASE B 400

TOTAL CONNECTED LOAD = 1.0 KVA = 4.2 AMPS  
 CASE 1 - 0 CABINETS INSTALLED

PANEL MOUNTING 200 AMP MAIN BREAKER 10 KAIC 200 AMP BUS 120 / 240 VOLT 1 PHASE 3 WIRE

CIRCUIT NUMBER	DIRECTORY	VA		DEVICE			BKR	PHASE	A	B	BKR		DEVICE			VA		DIRECTORY	CIRCUIT NUMBER
		ØA	ØB	MISC	R'CEPT	LIG					TRIP	POLE	TRIP	LIG	R'CEPT	MISC	ØA		
1	TVSS SURGE PROTECTOR	0					60	2			1	15					400	INSIDE & OUTSIDE GFI R'CEPT	2
3				0							2	50					4800		RBS-1
5	COOLING FAN	200					10	1								4800		6	
7	OUTSIDE LIGHT		400				20	1										8	
9	BLANK																	10	
11	BLANK																	12	
13	BLANK																	14	
15	BLANK																	16	
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19	BLANK																	20	
21	BLANK																	22	
23	BLANK																	24	
25	BLANK																	26	
27	BLANK																	28	
29	BLANK																	30	

CONNECTED LOAD (VA)  
 PHASE A 5400  
 PHASE B 5200

TOTAL CONNECTED LOAD = 10.6 KVA = 44.2 AMPS  
 CASE 2 - 1 CABINET INSTALLED

PANEL MOUNTING 200 AMP MAIN BREAKER 10 KAIC 200 AMP BUS 120 / 240 VOLT 1 PHASE 3 WIRE

CIRCUIT NUMBER	DIRECTORY	VA		DEVICE			BKR	PHASE	A	B	BKR		DEVICE			VA		DIRECTORY	CIRCUIT NUMBER
		ØA	ØB	MISC	R'CEPT	LIG					TRIP	POLE	TRIP	LIG	R'CEPT	MISC	ØA		
1	TVSS SURGE PROTECTOR	0					60	2			1	15					400	INSIDE & OUTSIDE GFI R'CEPT	2
3				0							2	50					4800		RBS-1
5	COOLING FAN	200					10	1								4800		6	
7	OUTSIDE LIGHT		400				20	1								4800	RBS-2	8	
9	BLANK															4800			10
11	BLANK																	12	
13	BLANK																	14	
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21	BLANK																	22	
23	BLANK																	24	
25	BLANK																	26	
27	BLANK																	28	
29	BLANK																	30	

CONNECTED LOAD (VA)  
 PHASE A 10200  
 PHASE B 10000

TOTAL CONNECTED LOAD = 20.2 KVA = 84.2 AMPS  
 CASE 3 - 2 CABINETS INSTALLED

PANEL MOUNTING 200 AMP MAIN BREAKER 10 KAIC 200 AMP BUS 120 / 240 VOLT 1 PHASE 3 WIRE

CIRCUIT NUMBER	DIRECTORY	VA		DEVICE			BKR	PHASE	A	B	BKR		DEVICE			VA		DIRECTORY	CIRCUIT NUMBER
		ØA	ØB	MISC	R'CEPT	LIG					TRIP	POLE	TRIP	LIG	R'CEPT	MISC	ØA		
1	TVSS SURGE PROTECTOR	0					60	2			1	15					400	INSIDE & OUTSIDE GFI R'CEPT	2
3				0							2	50					4800		RBS-1
5	COOLING FAN	200					10	1								4800		6	
7	OUTSIDE LIGHT		400				20	1								4800	RBS-2	8	
9	BLANK															4800			10
11	BLANK																	12	
13	BLANK															4800	RBS-3	14	
15	BLANK																		16
17	BLANK																	18	
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23	BLANK																	24	
25	BLANK																	26	
27	BLANK																	28	
29	BLANK																	30	

CONNECTED LOAD (VA)  
 PHASE A 15000  
 PHASE B 14800

TOTAL CONNECTED LOAD = 29.8 KVA = 124.2 AMPS  
 CASE 4 - 3 CABINETS INSTALLED



ITEM	REVISIONS	BY	CHK. BY	DATE

DRAWN BY: J.E. STEGER	DATE: 3-04-09
CHECKED BY: T.L. HARDY	DATE: 3-04-09
APPROVED BY:	DATE:

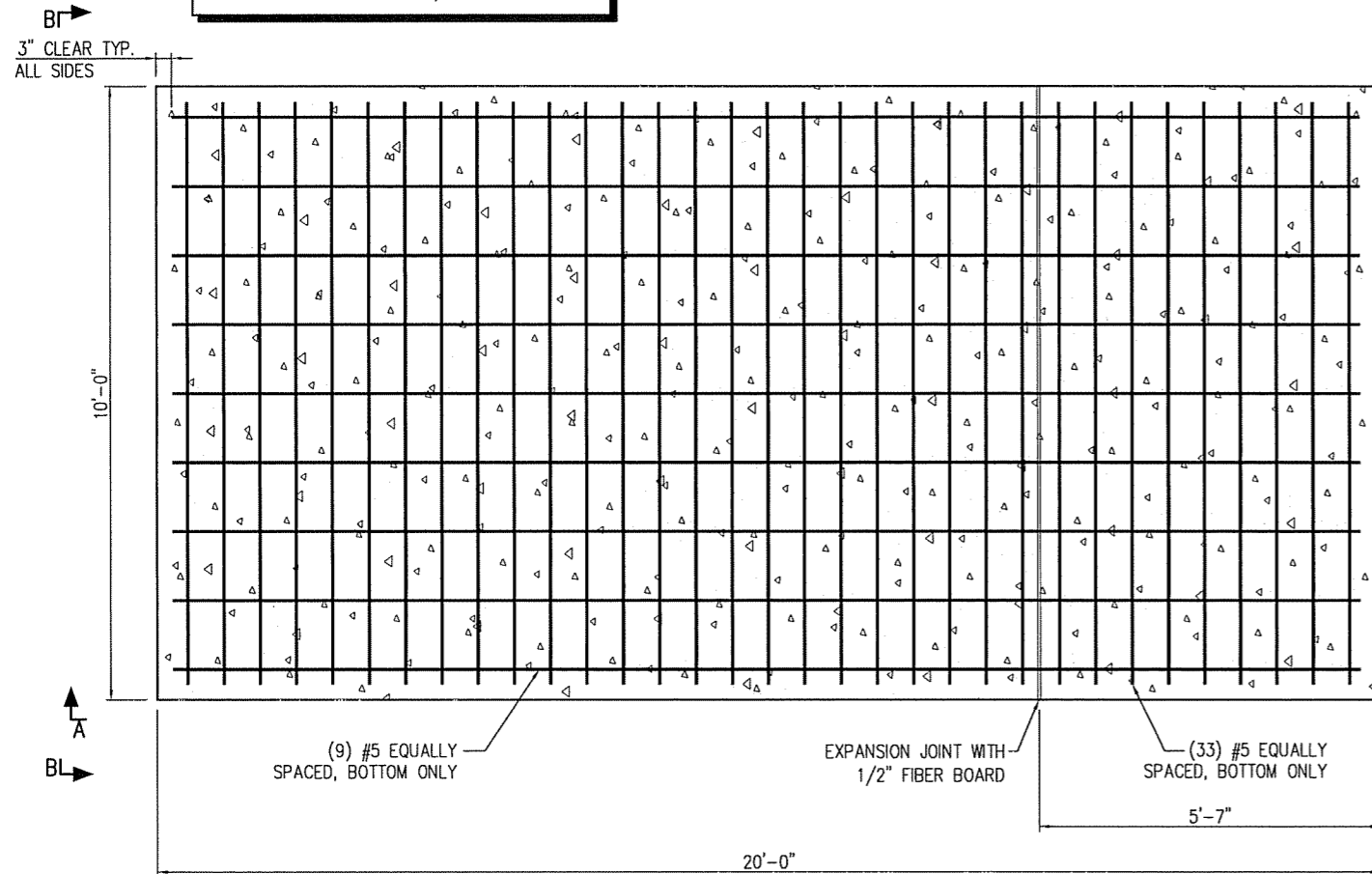
**HARDY ENGINEERING, INC.**  
 ENGINEERING AND CONSULTING  
 209 LINDEN STREET, P.O. BOX 708  
 TRUSSVILLE, AL 35173  
 PHONE: (205) 655-1427 FAX: (205) 661-9027

DRG NAME: PANEL BOARD CALCULATIONS
STANDARD DRAWING
FOR POWERTEL / MEMPHIS, INC. LOUISVILLE, KENTUCKY
CAD No: LV0920_C7.1 SCALE: AS SHOWN DRG No: C7.1

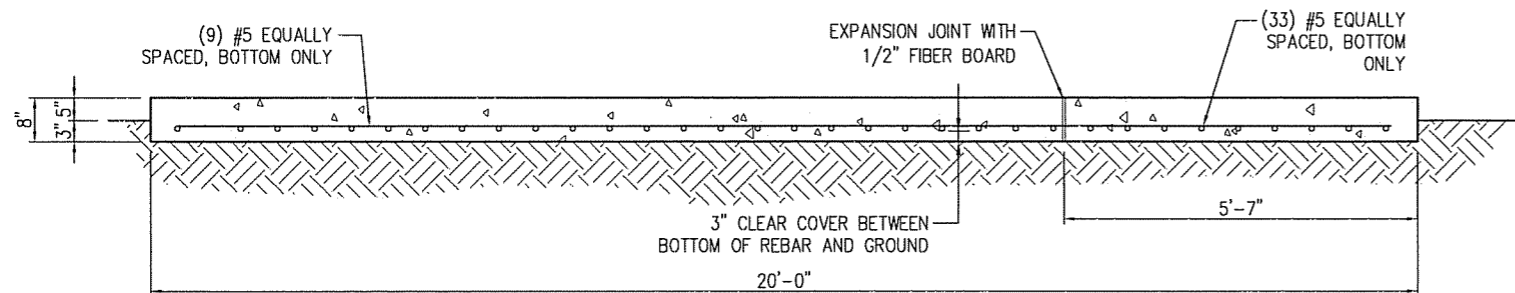
CONDUIT SCHEDULE				
CONDUIT	SIZE (IN.)	FROM	TO	DESCRIPTION
A	2"	GENERATOR	ATS	POWER
B	1"	GENERATOR	UTILITY BOX	BATTERY CHARGER / ENGINE BLOCK HEATER
C	1"	GENERATOR	ATS	ALARMS / 2 WIRE START
D	1"	GENERATOR	UTILITY BOX	ALARMS
E	2"	RADIO CABINET	UTILITY BOX	POWER
F	2"	RADIO CABINET	UTILITY BOX	25 PAIR CABLE / ALARMS
G	1"	RADIO CABINET	UTILITY BOX	ALARMS
H	1"	RADIO CABINET	UTILITY BOX	DC POWER

**NOTES:**

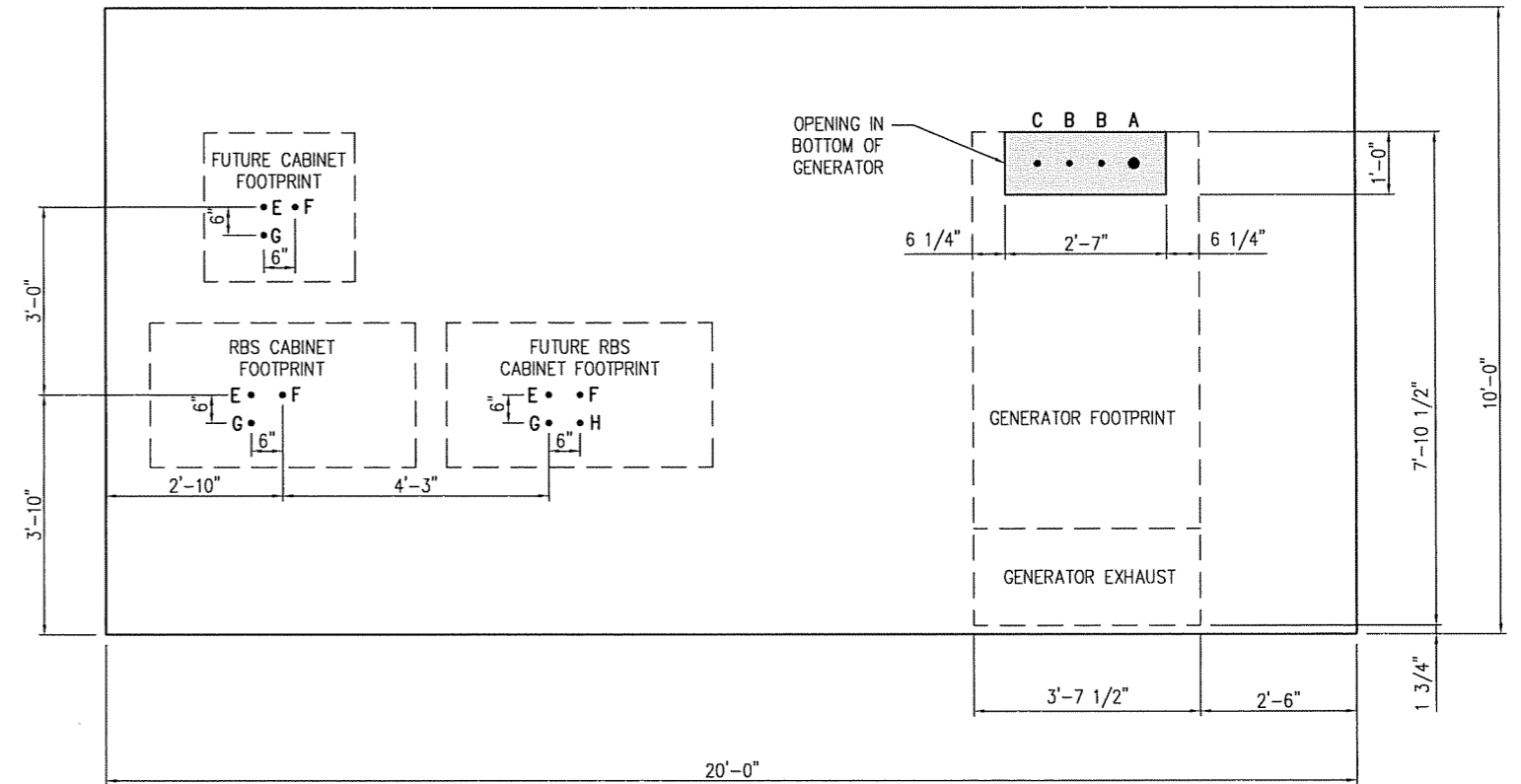
1. CONCRETE COVER TO BE A MINIMUM OF 3"
2. CONCRETE TO DEVELOPE A MINIMUM OF 3,000 PSI 28 DAY COMPRESSIVE STRENGTH
3. REBAR TO BE ASTM A615, GRADE 60



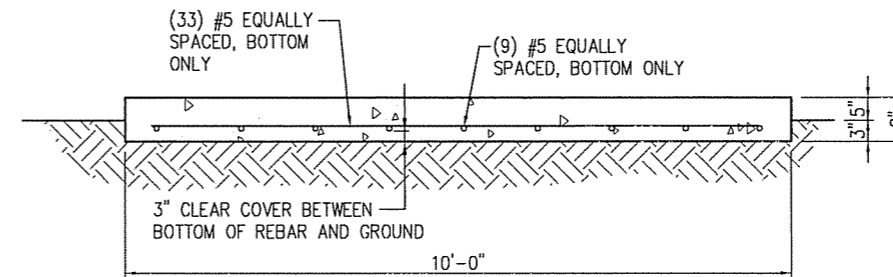
PLAN VIEW  
(CONCRETE SLAB)



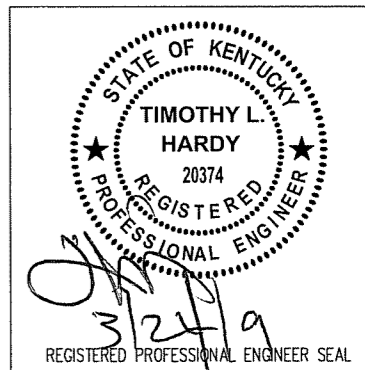
SECTION A-A



PLAN VIEW



SECTION B-B

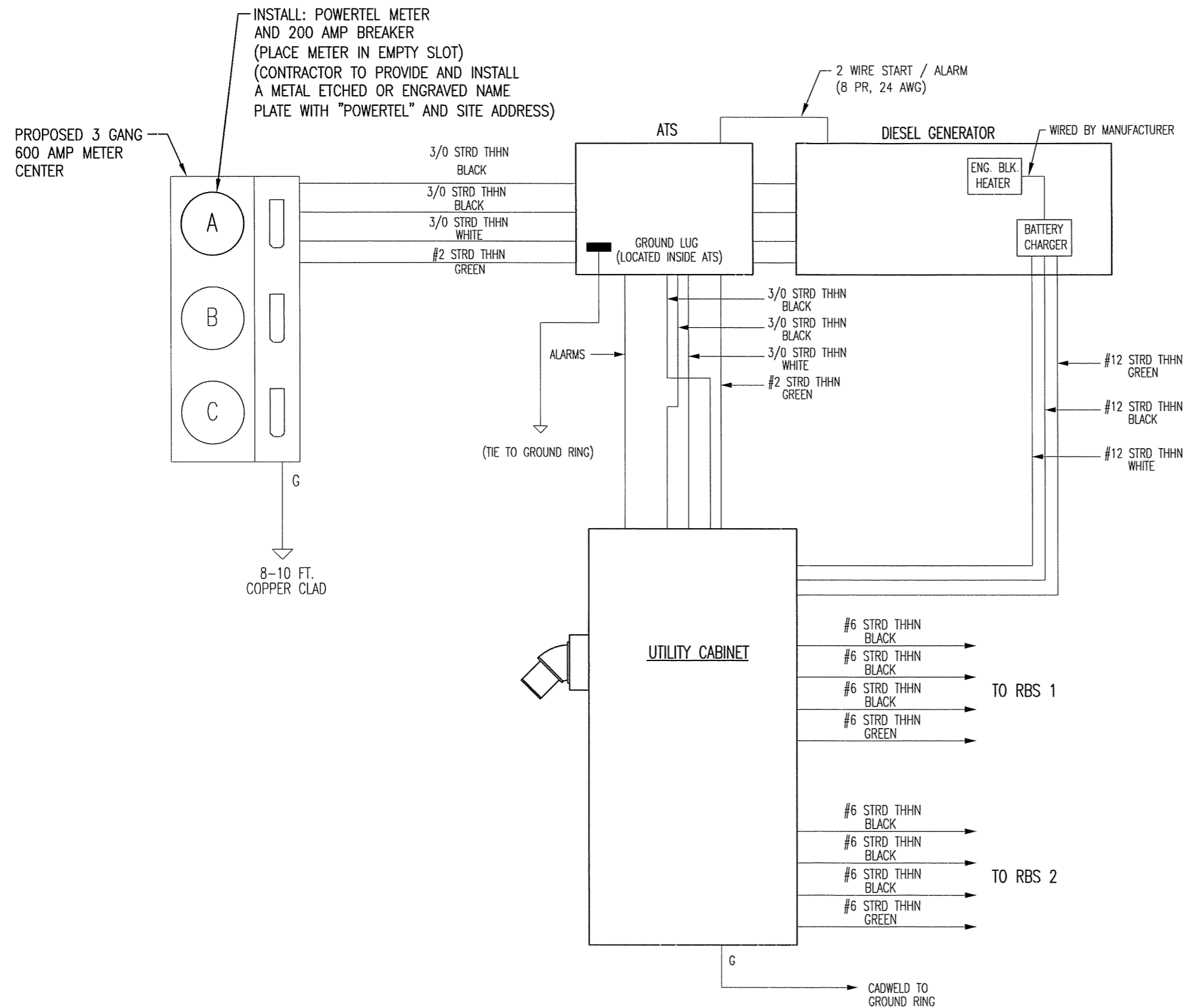


ITEM	REVISIONS	BY	CHK. BY	DATE

DRAWN BY:	J.E. STEGER	DATE:	3-04-09
CHECKED BY:	T.L. HARDY	DATE:	3-04-09
APPROVED BY:		DATE:	

**HARDY ENGINEERING, INC.**  
 ENGINEERING AND CONSULTING  
 209 LINDEN STREET, P.O. BOX 708  
 TRUSSVILLE, AL 35173  
 PHONE: (205) 655-1427 FAX: (205) 661-9027

DWG NAME:	ELECTRICAL CONDUIT LAYOUT		
	9LV0454A SITE: ZION SPOTTSVILLE, KY		
	FOR POWERTEL / MEMPHIS, INC. LOUISVILLE, KENTUCKY		
CAD No:	LV0920_C8	SCALE:	AS SHOWN
DWG No:	C8		



NOTE 1: WHEN INSTALLING TVSS UNIT, USE 3" LONG 1-1/4" CLOSE NIPPLE. USE LOWEST MOST BREAKER POSITIONS FOR 2P-60A BREAKER AND KEEP ALL WIRING TO TVSS AS SHORT AND DIRECT AS POSSIBLE NO SHARP WIRING BENDS.

NOTE 2: ALL FLEXIBLE OR SEALTITE CONDUITS ARE TO BE METALLIC TYPE ONLY.

NOTE 3: ALL ELECTRICAL NEUTRAL AND GROUNDING CONDUCTORS ARE TO BE SAME SIZE AS CURRENT CARRYING CONDUCTORS.

NOTE 4: USE A GROUNDING BUSHING ON ALL CONDUITS THAT ENTER LOAD CENTERS, GENERATOR AND TELCO ENCLOSURE.

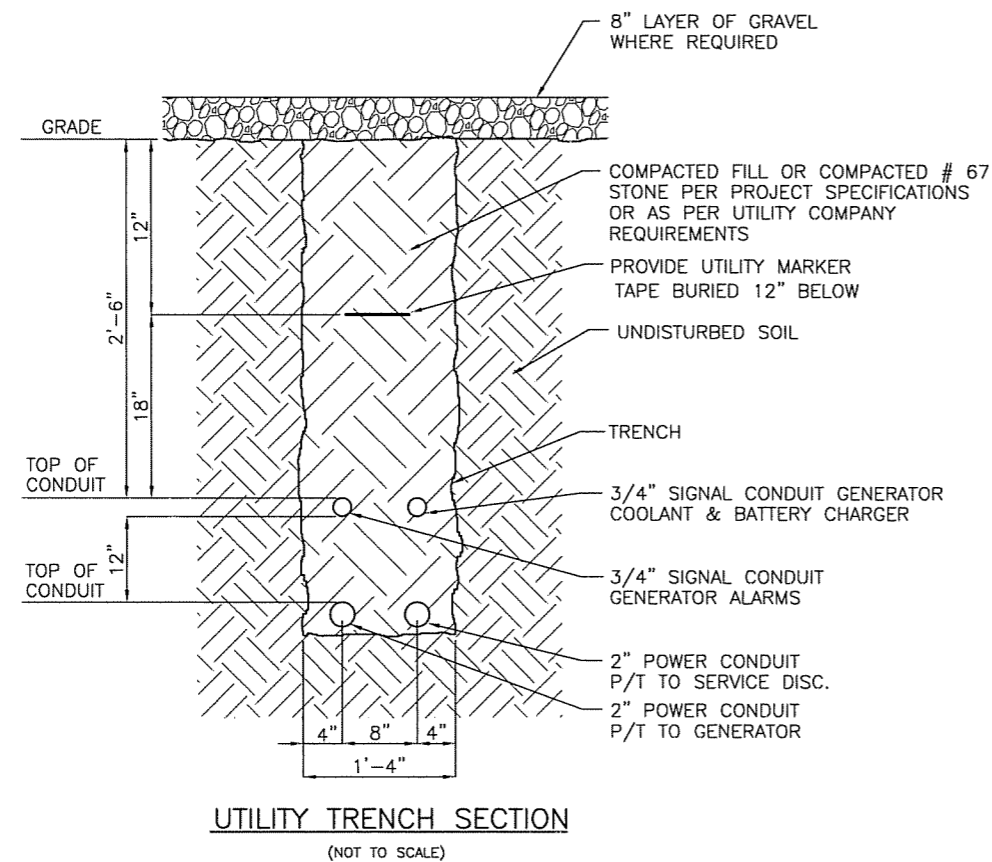
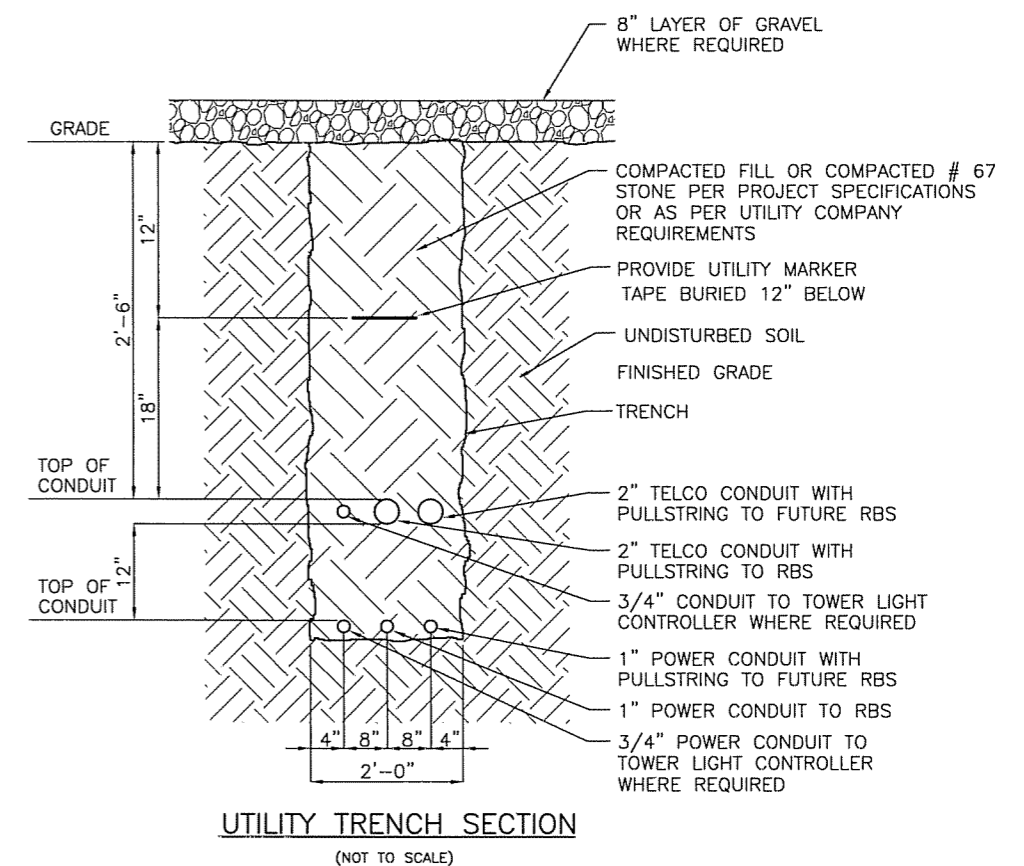
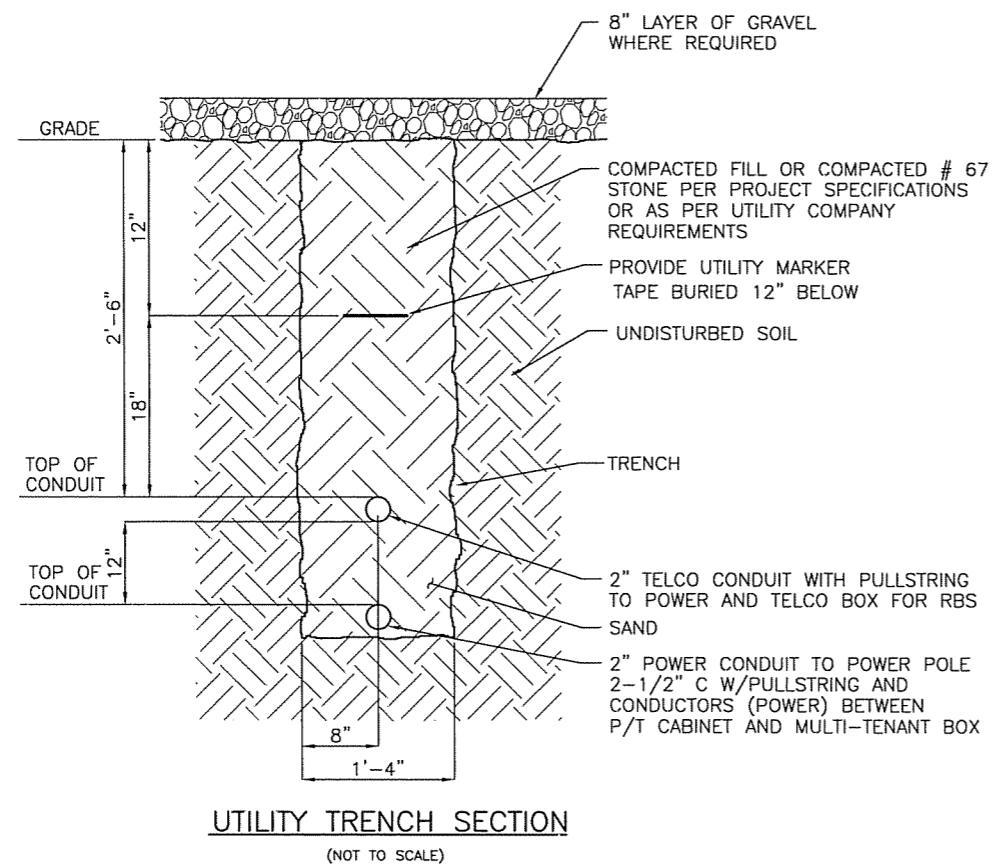


ITEM	REVISIONS	BY	CHK. BY	DATE

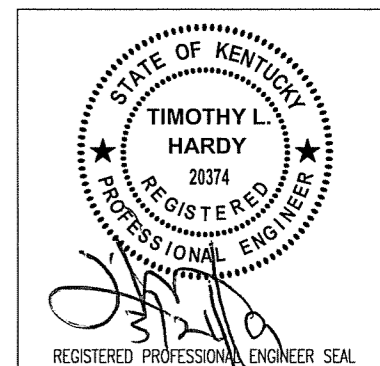
DRAWN BY:	DATE:
J.E. STEGER	3-04-09
CHECKED BY:	DATE:
T.L. HARDY	3-04-09
APPROVED BY:	DATE:

**HARDY ENGINEERING, INC.**  
 ENGINEERING AND CONSULTING  
 209 LINDEN STREET, P.O. BOX 708  
 TRUSSVILLE, AL 35173  
 PHONE: (205) 655-1427 FAX: (205) 661-9027


DWG. NAME:	SCALE:	DWG. No.
WIRING DIAGRAM	NOT TO SCALE	C9
STANDARD DRAWING		
FOR		
POWERTEL / MEMPHIS, INC.		
LOUISVILLE, KENTUCKY		
CAD No:		
LV0920_C9		

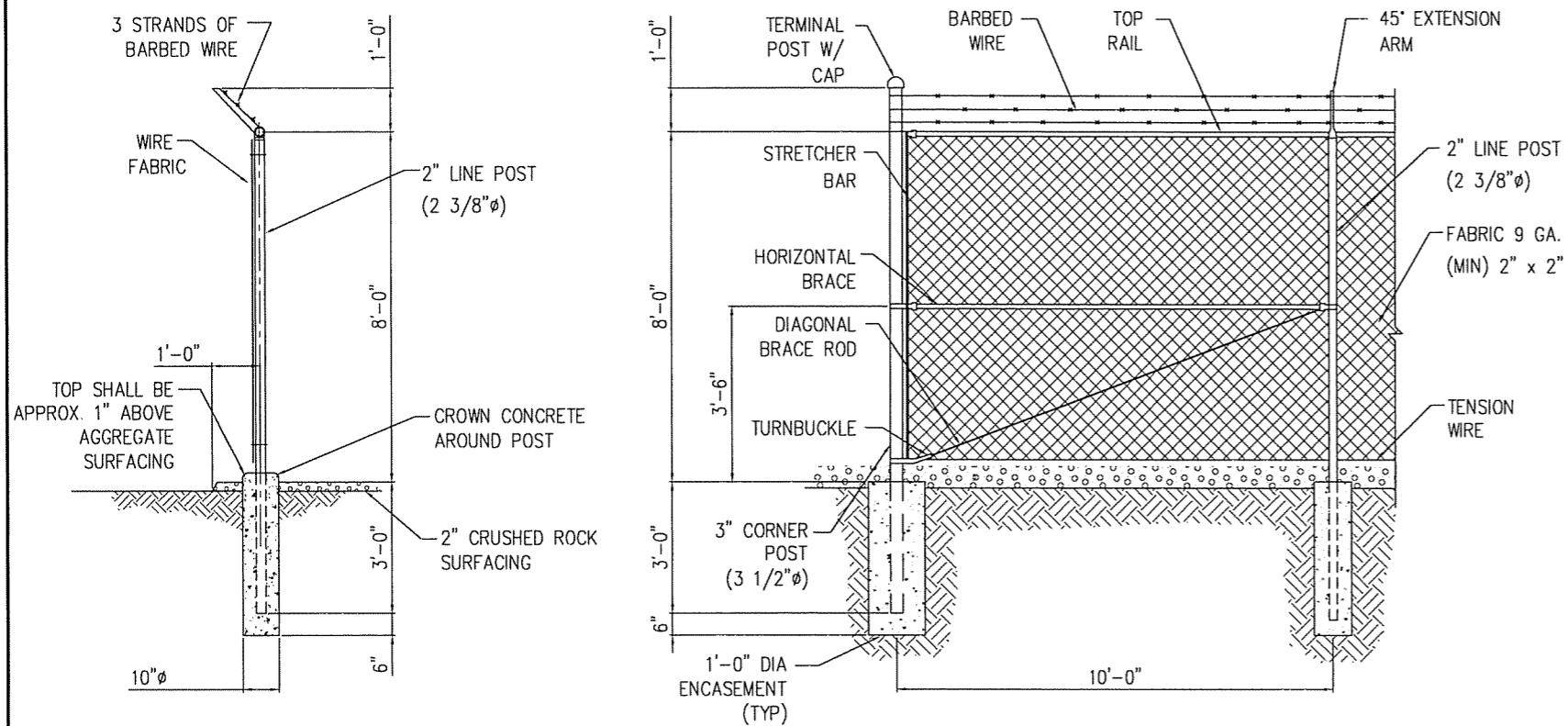


NOTE: ALL BACKFILL IN TRENCH TO BE MECHANICALLY COMPACTED IN LIFTS OF 6 INCHES.



ITEM	REVISIONS	BY	CHK. BY	DATE

DRAWN BY : J.E. STEGER	DATE : 3-04-09	 <b>HARDY ENGINEERING, INC.</b> ENGINEERING AND CONSULTING 209 LINDEN STREET TRUSSVILLE, AL 35173 PHONE: (205) 655-1427 FAX: (205) 661-9027	DWG NAME: <b>UTILITY TRENCH DETAIL</b>
CHECKED BY : T.L. HARDY	DATE : 3-04-09		STANDARD DRAWING FOR POWERTEL / MEMPHIS, INC. LOUISVILLE, KENTUCKY
APPROVED BY :	DATE :		CAD No: LV0920_C10 SCALE: NONE DWG No: C10



TYPICAL FENCE POST

TYPICAL CORNER POST DETAIL

**FENCE TYPE:**

SHALL CONSIST OF GALVANIZED STEEL FRAMEWORK AND GALVANIZED STEEL FABRIC WITH A HEIGHT OF 9 FEET AND AN OVERALL HEIGHT OF 8 FEET FROM THE BOTTOM OF THE FABRIC TO THE TOP BARBED WIRE. THE FENCE SHALL HAVE A TOP RAIL, BOTTOM TENSION WIRE, AND THREE STRANDS OF BARBED WIRE MOUNTED ON VERTICAL EXTENSION ARMS. THE UPPER STRAND SHALL BE APPROXIMATELY 12 INCHES ABOVE THE TOP OF THE FABRIC. POSTS SHALL BE SET IN CONCRETE OR IN SLEEVES AS DETAILED.

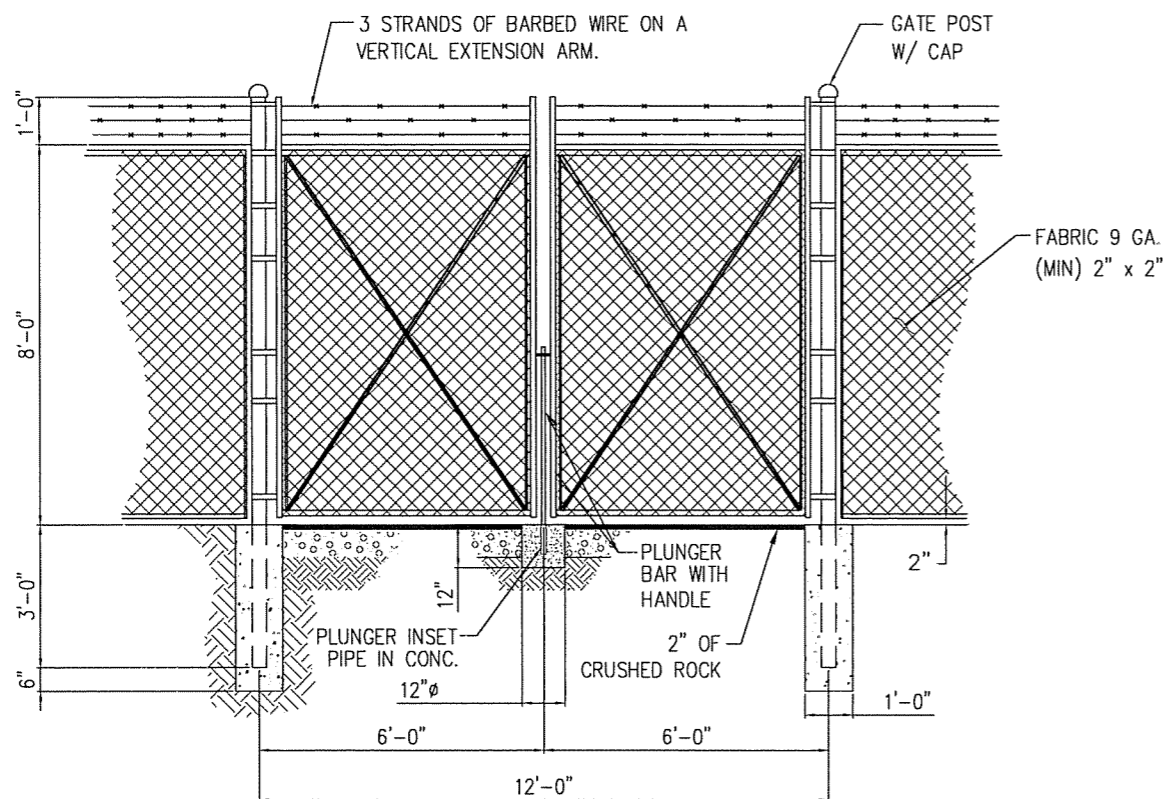
**MATERIALS:**

MATERIALS FOR CHAIN LINK FENCING SHALL BE AS FOLLOWS. ALL STEEL OR MALLEABLE IRON PARTS AND ACCESSORIES FOR FRAMEWORK SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH RESIDENTIAL STANDARDS:

**FABRIC:** RESIDENTIAL FABRIC 11-1/2 GAUGE, 2 1/4 INCH MESH; GALVANIZED ASTM A392, CLASS 2; TWISTED SELVAGE ON TOP, KNUCKLED SELVAGE ON BOTTOM.

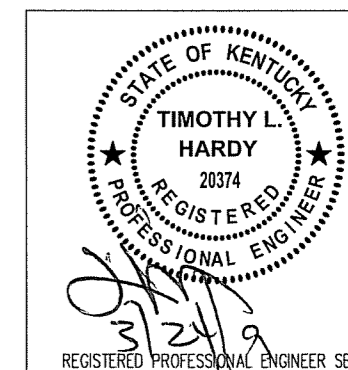
**COMMERCIAL POST:** LINE POST ARE 2" O.D. INCH, SCH. 40, 2 1/2 O.D. PIPE  
 TERMINAL POSTS (END, CORNER, AND PULL) ARE 2-1/2" O.D. INCH, SCH. 40, 2-7/8 INCH O.D. PIPE  
 GATE POST (SWING POSTS) ARE GATE OR LEAF 6ft OR LESS, 2-1/2" O.D. INCH, SCH. 40, 2-7/8 INCH O.D. PIPE  
 GATE OR LEAF OVER 6ft WIDE AND UP TO 13ft, 3-1/2" O.D. INCH, SCH. 40, 4 INCH O.D. PIPE  
 TOP RAILS ARE 1-5/8 INCH OD (17 GAUGE) PIPE.

**MATERIALS:** RAIL COUPLINGS: SLEEVE TPE, 6 INCHES EXPANSION SPRING IN EVERY FIFTH COUPLING.  
 BRACING: PIPE BRACE SAME AS TOP RAIL, WITH 3/8 INCH DIAMETER STEEL ROD TRUSS AND TIGHTENER  
 POST TOPS: PRESSED STEEL, MALLEABLE IRON WITH PRESSED STEEL EXTENSION ARM, OR ONE-PIECE ALUMINUM CASTING; WITH HOLE FOR TOP RAIL, DESIGNED TO FIT OVER THE OUTSIDE OF THE POST AND TO PREVENT ENTRY OF MOISTURE INTO TUBULAR POST.  
 BARBED WIRE: GALVANIZED, ASTM A121 CLASS 3; THREE 14 GAUGE MINIMUM STEEL WIRES WITH 4 POINT ROUND 14 GAUGE BARBS SPACED 4 INCHES APART.  
 STRETCHER BARS: STEEL, 3/16 BY 3/4 INCH, OR EQUIVALENT CROSS-SECTIONAL AREA.  
 FABRIC TIES: ALUMINUM BANDS AND WIRES.  
 GATE FRAMES: 1-1/2" O.D. INCH, SCH. 40, 1-7/8 INCH OD PIPE.  
 TENSION WIRE: GALVANIZED OR ALUMINUM COATED COIL SPRING WIRE, 7 GAUGE.



12'-0" DOUBLE SWING GATE DETAIL

NOT TO SCALE



ITEM	REVISIONS	BY	CHK. BY	DATE

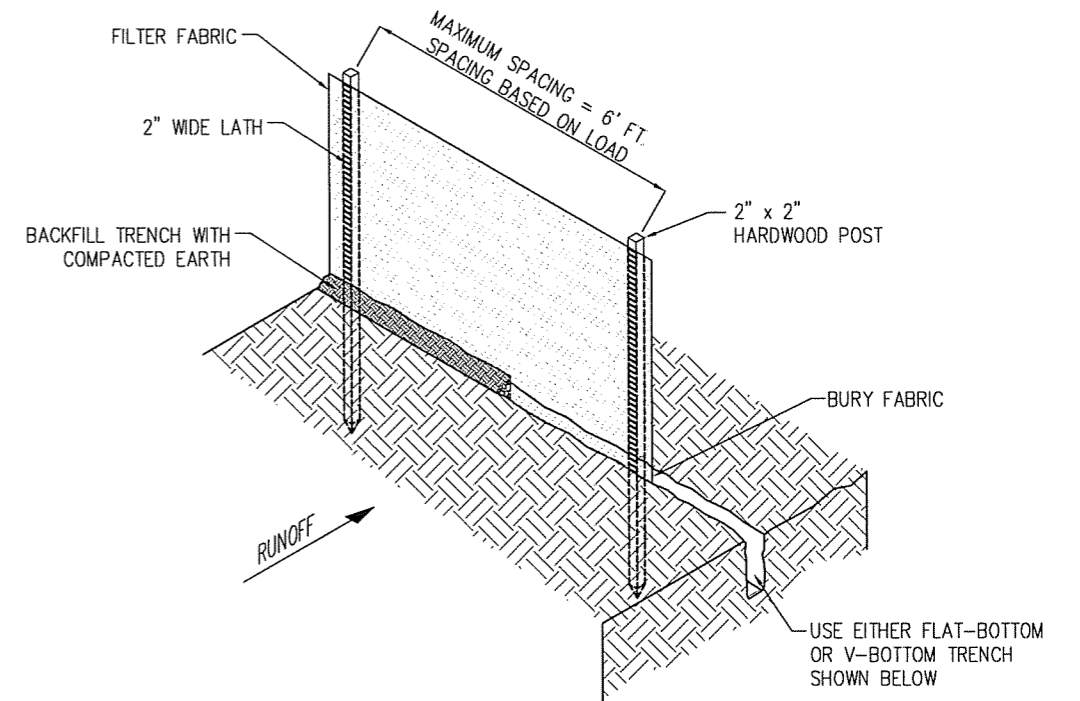
DRAWN BY: <b>J.E. STEGER</b> DATE: <b>3-04-09</b>	<b>HARDY ENGINEERING, INC.</b> ENGINEERING AND CONSULTING 209 LINDEN STREET, P.O. BOX 708 TRUSSVILLE, AL 35173 PHONE: (205) 655-1427 FAX: (205) 661-9027	DRG. NAME: <b>FENCE DETAILS</b> STANDARD DRAWING FOR <b>POWERTEL / MEMPHIS, INC.</b> LOUISVILLE, KENTUCKY SCALE: AS SHOWN DRG. No. C11
CHECKED BY: <b>T.L. HARDY</b> DATE: <b>3-04-09</b>	APPROVED BY:  DATE:  	CAD No: LV0920_C11

**INSTALLATION:**

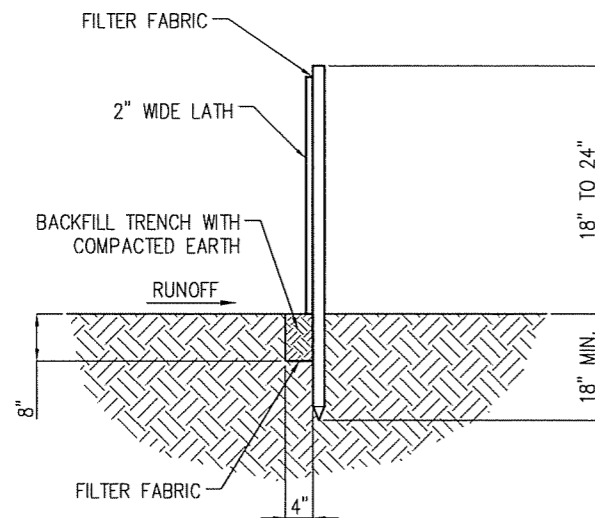
1. THE FENCE SHOULD BE PLACED ACROSS THE SLOPE ALONG A LINE OF UNIFORM ELEVATION (PERPENDICULAR TO THE DIRECTION OF THE FLOW). THE FENCE SHOULD BE LOCATED AT LEAST 10'-0" FROM THE TOE OF STEEP SLOPES TO PROVIDE SEDIMENT STORAGE AND ACCESS FOR MAINTENANCE AND CLEANOUT.
2. A FLAT-BOTTOM TRENCH APPROXIMATELY 4" WIDE AND 8" DEEP, OR A V-SHAPED TRENCH 8" DEEP SHOULD BE EXCAVATED. ON THE DOWN SLOPE SIDE OF THE TRENCH, DRIVE THE 2" x 2" WOOD POSTS AT LEAST 18" INTO THE GROUND, SPACING THEM NO FURTHER THAN 6'-0" APART.
3. POSTS SHOULD BE INSTALLED, WITH 1" TO 2" OF THE POST PROTRUDING ABOVE THE TOP OF THE FABRIC AND NO MORE THAN 3'-0" OF THE POST SHOULD PROTRUDE ABOVE THE GROUND. THE MINIMUM FENCE HEIGHT (HEIGHT OF FILTER FABRIC ABOVE GRADE) SHALL BE 18". THE MAXIMUM FENCE HEIGHT (HEIGHT OF FILTER FABRIC ABOVE GRADE) SHALL BE 24 INCHES.
4. THE FILTER FABRIC SHOULD BE PURCHASED IN A CONTINUOUS ROLL AND CUT TO LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHOULD BE WRAPPED TOGETHER ONLY AT A SUPPORT POST WITH BOTH ENDS SECURELY FASTENED TO THE POST, WITH A MINIMUM 6" OVERLAP.
5. EXTRA-STRENGTH FILTER CLOTH (50 POUNDS / LINEAR INCH MINIMUM TENSILE STRENGTH) SHOULD BE USED. A 2" WIDE LATH SHALL BE STAPLED OVER THE FILTER FABRIC TO SECURELY FASTEN IT TO THE UPSLOPE SIDE OF THE POSTS. THE STAPLES USED SHOULD BE 1.5" HEAVY-DUTY WIRE STAPLES SPACED A MAXIMUM OF 8" APART.
6. PLACE THE BOTTOM 12" OF THE FILTER FABRIC INTO THE 8" DEEP TRENCH, EXTENDING THE REMAINING 4" TOWARDS THE UPSIDE OF THE TRENCH AND BACK FILL THE TRENCH WITH SOIL OR GRAVEL AND COMPACTED.

**INSPECTION AND MAINTENANCE:**

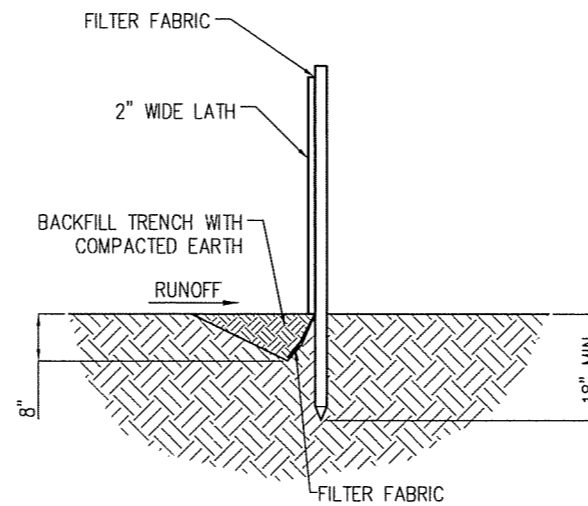
1. INSPECT SILT FENCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24-HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES 1/2" OR MORE OF PRECIPITATION. CHECK FOR AREAS WHERE RUNOFF HAS ERODED A CHANNEL BENEATH THE FENCE, OR WHERE THE FENCE WAS CAUSED TO SAG OR COLLAPSE BY RUNOFF OVER TOPPING THE FENCE.
2. IF THE FENCE FABRIC TEARS, BEGINS TO DECOMPOSE, OR IN ANY OTHER WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED SECTION OF FENCE IMMEDIATELY.
3. SEDIMENT MUST BE REMOVED WHEN IT REACHES APPROXIMATELY 1/3 THE HEIGHT OF THE FENCE, ESPECIALLY IF HEAVY RAINS ARE EXPECTED.
4. SILT FENCE SHOULD BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER TEMPORARY BMPs ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHOULD BE REMOVED OR STABILIZED ON SITE. DISTURBED AREAS RESULTING FROM FENCE REMOVAL SHALL BE PERMANENTLY STABILIZED.



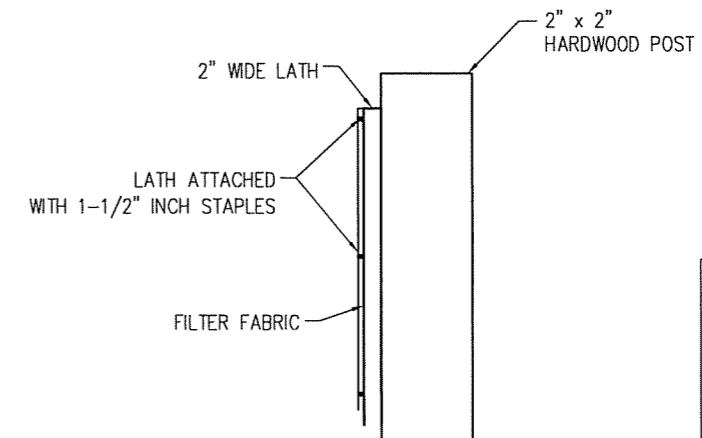
**SILT FENCE INSTALLATION**



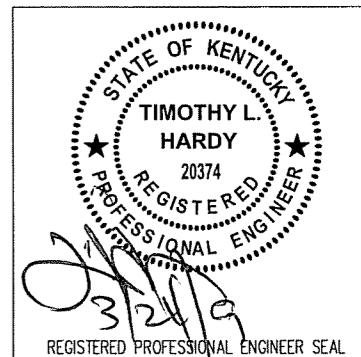
**FLAT-BOTTOM TRENCH DETAIL**



**V-SHAPED TRENCH DETAIL**



**FABRIC ATTACHMENT DETAIL**



ITEM	REVISIONS	BY	CHK. BY	DATE	DRAWN BY:	DATE:	DRG. NAME:
					J.E. STEGER	3-04-09	SILT FENCE DETAILS & NOTES
					T.L. HARDY	3-04-09	STANDARD DETAILS FOR POWERTEL / MEMPHIS, INC. LOUISVILLE, KENTUCKY
							SCALE: NTS DWG No C12

**HARDY ENGINEERING, INC.**  
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REGISTERED PROFESSIONAL ENGINEER SEAL