

**MEMPHIS AND SHELBY COUNTY OFFICE OF PLANNING AND DEVELOPMENT**  
**ADDENDUM TO STAFF REPORT #18**  
**FOR S.U.P. 06-207 CC**

**CASE NUMBER: S.U.P. 08-202 CC      L.U.C.B. MEETING: February 14, 2008**

**LOCATION:** South side of Highway 70, ±90 feet east of Brunswick Farms Road

**OWNER OF RECORD:** Bernard W and Lawanda Cogbill

**APPLICANT:** SBA Communications Corp.

**REPRESENTATIVE:** Oasis Consulting, LLC - Shawn Massey

**REQUEST:** Replace existing 110' cell tower (CMCS) with a 150' tower

**AREA:** 5,000 sq. ft. site in a 21-acre tract.

**EXISTING LAND USE & ZONING:** In the Agricultural (AG) District, a single-family residence on estate-size tract with a twin-tower CMCS installation on a 5,000 sq. ft. leased parcel approved under *S.U.P. 01-232 CC* & *S.U.P. 06-232 CC*

**SURROUNDING USES AND ZONING:**

**North:** Across Highway 70, vacant land, land under development and single-family residences of Brunswick Farms Subdivision, including Phase III and Phase I, all in the Single-Family Residential (R-S10) District

**East:** Vacant land in the AG District

**South:** Single-family residences on estate-size tracts in the AG District

**West:** Around the intersection of Brunswick Road and Highway 70, the Bush Grove neighborhood developed with single-family residences, and two churches, on ½ acre to 4 acre tracts in the AG District

**OFFICE OF PLANNING AND DEVELOPMENT RECOMMENDATION:**

**Approval, with Conditions (See Item #4 Below)**

## CONCLUSIONS:

1. This site currently has two CMCS towers (i.e. cell towers) designed to simulate pine trees. The taller of these towers was approved in 2006 (S.U.P. 06-207CC) for a minor height increase to 151 feet.
2. The site operator now wishes to replace the shorter tower 110' with a taller 150' monopine tower that will be the twin of the current 151' tower.
3. Staff supports this minimal change at an existing tower site in order to accommodate collocation of adding CMCS carrier service.
4. Appropriate amendments to the site plan conditions will be drafted for consideration at the Land Use Control Board hearing, including any amendments necessary to accommodate the County Engineer's concerns.



Figure 1: An aerial view of the subject property. "X" shows the tower location. This partially wooded tract is directly south of the new Brunswick Farms Subdivision, across Highway 70.

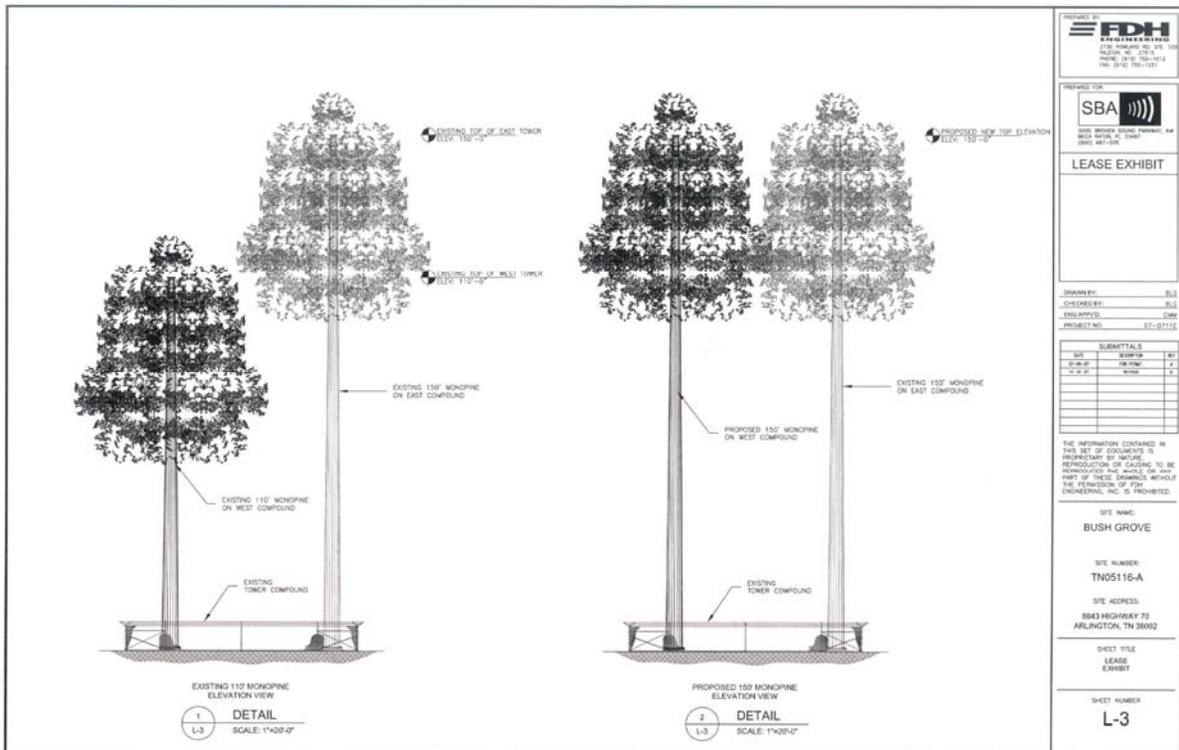


Figure 2: PROPOSED PROFILE AFTER IMPROVEMENT



**Figure 3: CURRENT PROFILE AS VIEWED FROM MEMPHIS ARLINGTON ROAD.**



**Figure 4: 2006 VIEW FROM HIGHWAY 70**

## AGENCY COMMENTS

**City Engineer:** This site is located in the Bartlett Reserve Area.

**County Engineer:**

1. To keep soil and gravel off public streets, the private ingress/egress drive should have 50' of asphalt pavement where it connects to U.S. Highway 70.
2. A driveway permit is required for a culvert connection to U.S. Highway 70, if one has not already been issued, from the County Engineer.

### City/County Health Department-

1. The Water Quality Branch has no comments concerning the placement of this communication tower.

**City Fire Division:** No comments.

**OPD-Plans Development:** No comments.

**County Fire Department:** No comments received.

**County Board of Education:** No comments received.

**Construction Code Enforcement:** No comments received.

**Memphis Light, Gas and Water:** No comments received.

**Bell South / Millington Telephone:** No comments received.

**Memphis Area Transit Authority (MATA):** No comments received.

**OPD-Regional Services:** No comments received.

**Division of Park Services:** No comments received.

**County Conservation Board:** No comments received.

**County Sheriff:** No comments received.

**City of Bartlett:** Notification in progress

**City of Lakeland:** Notification in progress

### Neighborhood Associations:

Brunswick Community Association No comments received.



### **CONCLUSIONS:**

- 1. This site currently has two CMCS towers (i.e. cell towers) designed to simulate pine trees. The taller of these towers was approved in 2001 (S.U.P. 01-232CC) for a height of 150 feet, but was constructed to a height of 145 feet.**
- 2. In order to add another cell phone carrier, the tower owner is requesting a modification of the site plan so as to permit an extension of the tower to 151 feet. This would also require an amendment of the site plan conditions to one foot to the approved tower height.**
- 3. Staff ordinarily opposes any increase in the height of a “monopine” tower above 130 feet. However in this case, staff can support an increase of less than one percent to the height already approved, as a relatively insignificant change, provided that the need for the additional service can be fully documented.**



**Figure 1: An aerial view of the subject property. "X" shows the tower location. This partially wooded tract is directly south of the new Brunswick Farms Subdivision, across Highway 70.**

## STAFF ANALYSIS

### Site Characteristics

The subject property is a 21-acre tract of land located along Highway 70 (Summer Avenue) in the unincorporated area east of Brunswick Road and west of Oliver Creek, which forms the western boundary of Lakeland. It is a nearly triangular 21-acre tract with nearly 1,800 feet of frontage along Highway 70, and an average depth of roughly 500 feet. The subject property is partially wooded, and slopes downward to the north and east, with a net onsite change in elevation of roughly 45 feet. In the middle of the property is a typical farm pond. The principal use is a single-family residence located east of the pond. Two existing “monopine” cell towers are located south of the pond on a 5,000 sq. ft. leased parcel, with an ingress-egress easement that shares a portion of the main driveway to the residence.

Both cell towers are operated by the applicant, SBA Communications. The original monopine tower is listed as 103 feet tall on the SBA web site. It was authorized by special use permit in 1998 (*S.U.P. 98-238 CO*). A second, 150-foot monopine tower was authorized in 2001 (*S.U.P. 01-232 CC, however the tower*). The two towers occupy adjacent, but separate 2,500 sq. ft. compounds which are fenced with 8-foot high chain-link fencing that leaves the interior equipment open to view.

Away from the compound, the tower bases are somewhat well screened by currently existing deciduous woodland vegetation on the east, south and west sides. However, the entrance drive creates a broad opening with clear site lines from the north.



**Figure 2: The tower compound as viewed from the north. The base of the 145-foot tower is partially hidden by a free-standing tree on the left.**

### Development Request

In order to add another cell phone carrier, the tower owner is requesting a modification of the site plan so as to permit an extension of the tower to 151 feet. This would also require an amendment of the site plan conditions to one foot to the approved tower height.

### Compatibility Issues

Located in the AG zoning district, which is considered residential, these monopine cell towers conform to the requirement for a stealth design. However the screening of the tower base does not conform to the requirements of the zoning ordinance with respect to a sight-proof fence; and the existing natural tree cover is probably not a completely equivalent alternative to the screening specified in the zoning ordinance.

With reference to more distant views, the existing cell towers are camouflaged, but still unmistakable in appearance. Due to existing tree cover, views of the towers are relatively limited. The most prominent are views along a ridge from the south (Memphis-Arlington Road), and along the northern frontage of the subject property (Highway 70). Less prominently, the existing towers may also be seen from certain locations in the Brunswick Farms subdivision.



**Figure 3: View of the existing towers from Memphis-Arlington Road.**

### Synthesis

The current ordinance stresses the importance of “collocation” --- serving multiple communications networks from a single tower, up to the limits of what is compatible in the neighborhood, in order to limit the total number of tower installations. The proposed change would amount to an increase of less than one percent of the total approved tower height, and less than a five percent increase in the extension in length of the existing tower that is visible above the tree canopy.

Staff ordinarily opposes any increase in the height of a “monopine” tower above 130 feet. However in this case, with two stipulations, staff can support this proposed increase in height that should be barely noticeable. The stipulations would be a follows:

- 1) The applicant must provide evidence of the service deficiency that the proposed tower extension would alleviate, as consistent with the ordinance requirements for a CMCS tower special use permit.
- 2) The applicant must submit a landscaping plan that addresses the requirements of the zoning ordinance for residentially zoned land (*Section 9 D.2. v (8)*), as specified in the proposed site plan conditions

### **RECOMMENDATION: Approval, with Conditions**



**Figure 4: View of existing tower from Phase 3 development area of Brunswick Farms.**

## RECOMMENDED SITE PLAN CONDITIONS

A Special Use Permit is hereby granted to the applicant SBA Communications, Inc. to allow construction of a second Commercial Mobile Communications Service (CMCS) Tower and ancillary facilities, with **modifications as specified below** on the 21.1-acre property described in deed instrument number K3-7714, also known as 8843 Highway 70, in accordance with a site plan approved by the Office of Planning and Development and with the following supplemental conditions.

1. The maximum tower height shall be one-hundred fifty **one** feet (**151'**). The tower will be of a stealth design, as shown in the approved site plan
2. The tower and related equipment shall be removed within one-hundred eighty (180) days of ceasing operations. Prior to the issuance of a building permit for such facilities, adequate financial security in the amount of \$20,000 shall be posted with the building official to assure the dismantling, removing and restoring of the property upon which the CMCS facilities will be located.
3. The tower shall be constructed within two (2) years of approval by the Memphis City Council. The Land Use Control Board may grant a time extension through the applicant filing a correspondence item application with public notice sent to all property owners within five-hundred (500') feet of the property.
4. The tower shall be structurally designed to accommodate at least five (5) antenna co-locations.
5. **The site perimeter shall be landscaped with at least one row of deciduous trees, not less than two inches in diameter measured three feet above the grade, spaced not more than 20 feet apart within 25 feet of the site boundary, as well as at least one row of evergreen trees and shrubs, at least 5 feet high when planted and spaced not more than 15 feet apart and within 40 feet of the site boundary. Alternatives may be permitted based on security or other reasons subject to the approval of the Office of Planning and Development. Existing trees shall be preserved when possible.**
6. The access drive shall be ~~a minimum of 22 feet in width~~ **maintained as all-weather surface**, paved with asphalt a minimum of 50 feet back from Highway 70.
7. Any interference with Memphis-Shelby County emergency communications by carrier(s) located at this tower shall be the responsibility of the carrier(s) & or owner(s) to remediate.

## GENERAL INFORMATION

<b>Coordinates:</b>	35° 14' 47" N, 89° 45' 57"
<b>Parcel Number:</b>	D0150 00063
<b>Address:</b>	8843 HIGHWAY 70, LAKELAND TN 38002-9337
<b>Street Frontage:</b>	1777 feet along (US) Highway 70
<b>Planning District:</b>	Arlington
<b>Census Tract:</b>	208.30
<b>Annexation Reserve Area:</b>	Bartlett
<b>Zoning Atlas Page:</b>	1655
<b>Zoning History:</b>	1961: Zoned "Agricultural" in original County zoning. 1998: First cell tower approved (S.U.P. 98-238 CO) 2001: Second cell tower approved (S.U.P. 01-232 CC)

## DEPARTMENTAL COMMENTS

The following comments were provided by agencies to which this application was referred:

**City Engineer:** This site is located in the Bartlett Reserve Area.

**County Engineer:** No comments.

### County Fire Division:

1. The following maximum length's of dead-end water supply to the hydrants shall not exceed:  
  
6 inch- 380 feet  
8 inch- 1550 feet  
10 inch- 4600 feet  
12 inch- 11,150 feet
2. The Fire Official shall designate the location and number of hydrants and in no case shall distances between installed fire hydrants exceed 500.

3. Maximum distance from the nearest fire hydrant to the most remote exterior point of any building shall be 500 feet. The distance shall be measured on a roadway surface meeting the fire department access equipment.
4. Any dead end road more than 300 ft. long shall be provided with a cul-de-sac at 80 ft. in diameter, or a turn around approved by the Authority having jurisdiction, at the closed end. Any cul-de-sac less than 90 ft. in diameter shall be posted as a "Fire Lane" in accordance with state law.
5. FPC 602.3 - Every building hereafter constructed shall be accessible to the fire department apparatus by way of access roadways with all-weather driving surfaces of not less than 20 ft. of unobstructed width, with adequate roadway turning radius capable of supporting the imposed load of the fire apparatus and having minimum vertical clearance of 13 ft. 6 in. before combustibles are brought on site. All required fire hydrants shall be installed and operable.
6. FPC 602.3.6 - Automobile gates may be installed for security purposes and shall provide fire department access in accordance with the following:
  - a. Entry space shall be provided fire apparatus to pull off the roadway while accessing the property. The length of access driveway shall be determined by the fire official upon inspection of the site.
  - b. A manual override shall be provided in the event of electrical power failure. This may be in the form of a Medico padlock keyed to the Shelby County Fire Department key.
  - c. Electrical override of the gate shall be by Medico switch keyed to the Shelby County Fire Department key.
  - d. The minimum gate width to accommodate the fire apparatus access shall be no less than fourteen feet.
8. **The nearest fire station from this location is 3.64 miles away, and the average response time for that fire station to you location is 5 minutes.**
9. Minimum Fire Flow Requirement: See Exhibit G.

<b>City/County Health Department:</b>	No comments.
<b>City Board of Education:</b>	No comments received.
<b>County Board of Education:</b>	No comments received
<b>Construction Code Enforcement:</b>	No comments received.
<b>Memphis Light, Gas and Water:</b>	No comments received
<b>Bell South / Millington Telephone:</b>	No comments received
<b>Memphis Area Transit Authority (MATA):</b>	No comments received.

<b>City Division of Park Services:</b>	No comments received.
<b>County Conservation Board:</b>	No comments received.
<b>County Sheriff:</b>	No comments received.
<b>City of Bartlett:</b>	No comments received.

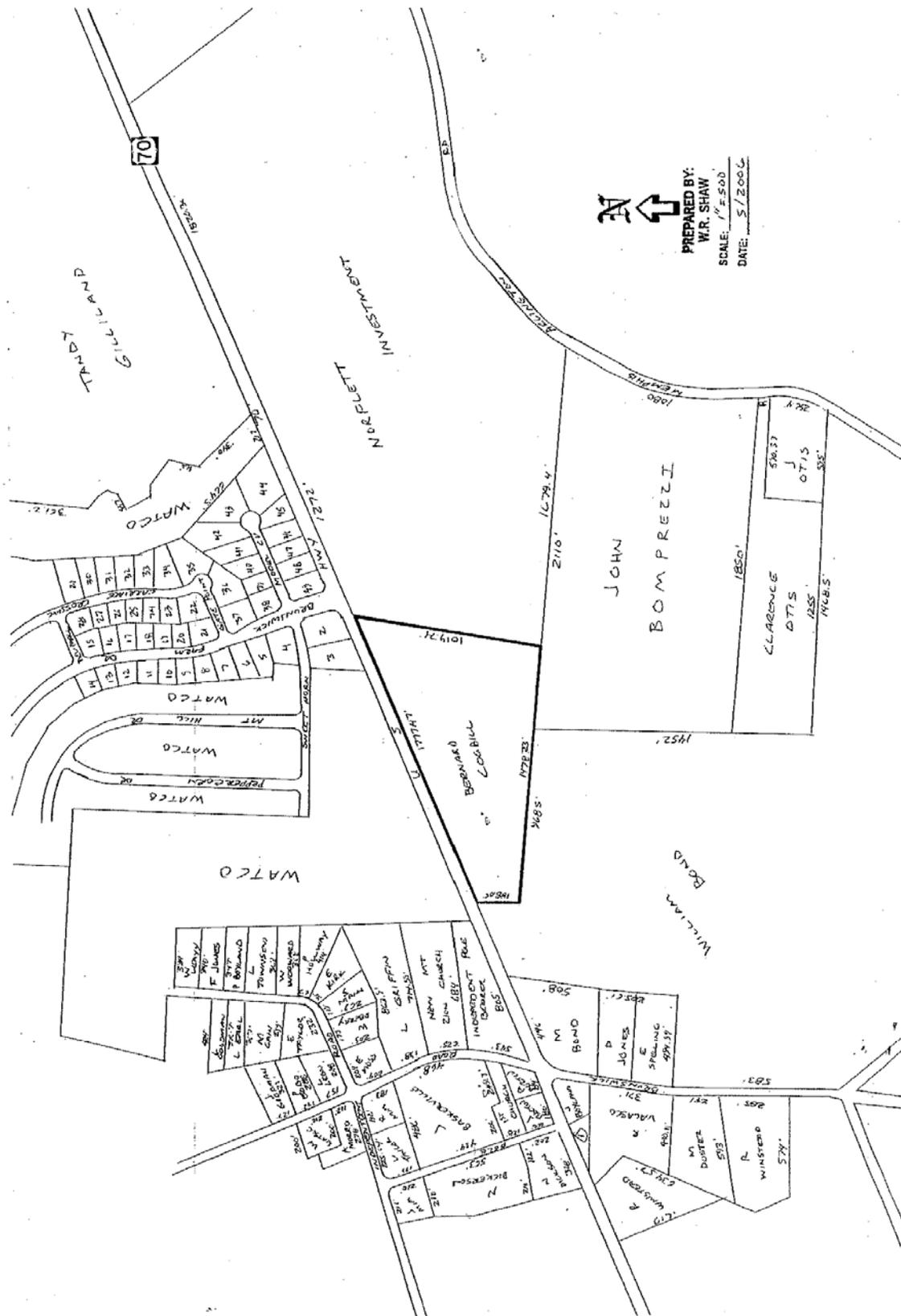
**OPD-Regional Services:**

1. This application was reviewed by the staff of the Department of Regional Services/Memphis Urbanized Area Metropolitan Planning Organization on June 27, 2006. After careful consideration, DRS/MPO has determined that the proposed actions specified in this application will have no effect on the DRS/MPO's Long Range Transportation Plan, Transportation Improvement Plan, Unified Planning Work Program, or any other plan, document, program, or initiative of this department/organization. (Note: Communications tower).

<b>OPD-Plans Development:</b>	No comments.
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SW- DGA  
7/7/2006

EXHIBIT A VICINITY MAP  
EXHIBIT B: MAP OF LAND USE AND ZONING  
EXHIBIT C: OVERALL PLOT PLAN SHOWING ACCESS ROAD  
EXHIBIT D: LEASE PARCEL SITE LAYOUT (INFINIGY C-3) REVERSED IN LUCB EDITION  
EXHIBIT E: LEASE PARCEL SITE LAYOUT (INFINIGY C-4) REVERSED IN LUCB EDITION  
EXHIBIT F: TOWER ELEVATION & DETAILS (INFINIGY C-5)  
EXHIBIT G: MINIMUM FIRE FLOW REQUIREMENTS



**EXHIBIT A: VICINITY MAP**







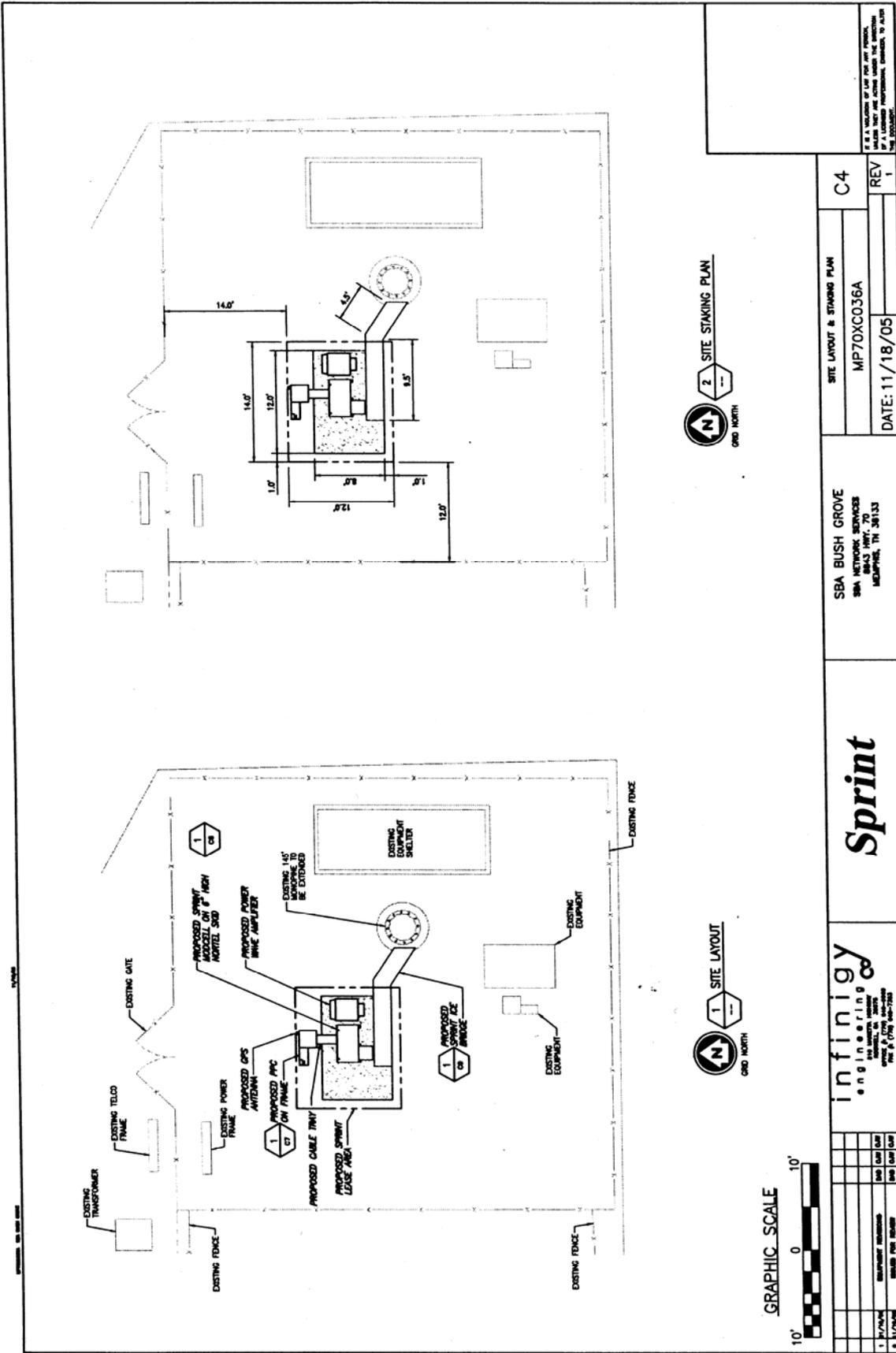


EXHIBIT E: LEASE PARCEL SITE LAYOUT --- INFINIGY DRAWING C-4

CONTRACTOR TO VERIFY RF INFORMATION W/FINAL RF CONFIG SHEETS PRIOR TO INSTALLATION

RF SYSTEM SCHEDULE

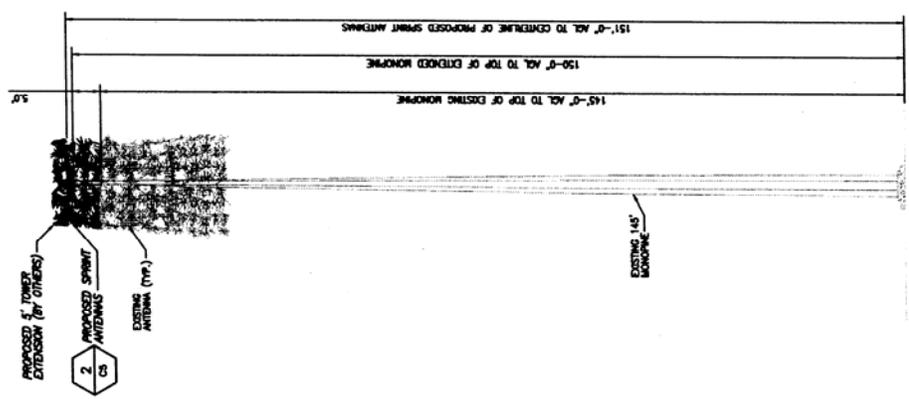
SECTOR	ANTENNA AZIMUTH	TYPE OF ANTENNA	MECH. DOWNTILT	ELEC. DOWNTILT	COAX SIZE	ANTENNA HEIGHT	EST. * LENGTH	CABLE SCHEDULE	COAXIAL CABLE COLOR SCHEME
SECTOR 1 (ALPHA)	45°	ANDREW/DECIBEL DB850G85E-M	0°	0°	1 5/8"	151'-0"	200'-0"	FIRST RING YELLOW SECOND RING BROWN THIRD RING WHITE	85° 85° 85°
SECTOR 2 (BETA)	180°	ANDREW/DECIBEL DB850G85E-M	0°	0°	1 5/8"	151'-0"	200'-0"	FIRST RING RED SECOND RING BROWN THIRD RING WHITE	85° 85° 85°
SECTOR 3 (GAMMA)	310°	ANDREW/DECIBEL DB850G85E-M	0°	0°	1 5/8"	151'-0"	200'-0"	FIRST RING GREEN SECOND RING BROWN THIRD RING WHITE	85° 85° 85°
GPS ANTENNA	NA	NA	NA	NA	1/2"	NA	25'		

\* EST. LENGTH INCLUDES A 15' SAFETY FACTOR ON BOTH ENDS

NOTE: POWER WIRE (MERCURY SOLUTION) REQUIRED FOR ALL SECTORS. POWER WIRE MUST BE INSTALLED WITH 1/2"-1/4" DIA. RINGS AND CODE MARKED.

PROPERTY ENGINEERS HAS NOT EVALUATED THE EXISTING TOWER, NOR THE PROPOSED EXTENSION BY OTHERS, FOR THIS SITE. REFER TO STRUCTURAL ANALYSIS PROVIDED BY FISH ENGINEERING ON JUNE 7, 2006.

CONTRACTOR SHALL VERIFY THE TYPE OF CONSTRUCTION & STRUCTURAL ANALYSIS BEFORE INSTALLATION.



1 MONOPINE ELEVATION  
NOT TO SCALE

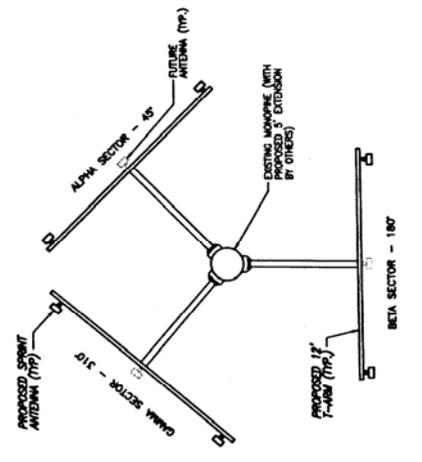
**infingy**  
engineering & consulting  
1000 W. 10th Street, Suite 100  
Tulsa, Oklahoma 74103  
Phone: 918.437.4200  
Fax: 918.437.4201  
162-09

**Sprint**

SBA BUSH GROVE  
SBA NETWORK SERVICES  
1000 W. 10th Street, Suite 100  
Tulsa, Oklahoma 74103

TOWER ELEVATION AND DETAILS  
MP70XC036A  
C5  
DATE: 11/18/05  
REV

- GENERAL NOTES:
- VERIFY COAX SIZE WITH SPRINT.
  - COLOR CODE AT TOP CONNECTION, BOTTOM CONNECTOR AND ITS JUMPER BELOW FRAME.
  - REFER TO PLAN BY APPROVAL.
  - ALL CABLES SHALL BE MARKED AT THE TOP AND BOTTOM WITH 1" COLORED TAPE AND THE COLOR SHALL BE OBTAINED FROM OVERSEA ELECTRONIC. FLUORESCENT TAPE IS ONLY NECESSARY ON CELL INSTALLATIONS SERVING TWO SECTORS THIS SHOULD BE PERFORMED AND MARKED LOCALLY.
  - TREAT A REPEATER AS A TWO SECTOR CELL. USE SECTOR ONE FOR THE DONOR ANTENNA AND SECTOR TWO FOR THE SPRINT ANTENNA.
  - FOR A SECTOR WITH A LOWER OMA, USE THE THIRD SECTOR CONNECTIONS FOR THE OMA.
  - AS-BUILT DRAWINGS TO BE COMPLETED BY FIELD ENGINEER WITH ACTUAL LENGTHS.
  - AS-BUILT DRAWINGS ARE ORDERED CLOCKWISE FROM TRUE NORTH.
  - GROUND CABLE LENGTHS HAVE BEEN ESTIMATED BASED ON THESE DIMENSIONS. LENGTHS LISTED ARE APPROXIMATE AND ARE NOT INTENDED TO BE USED FOR FABRICATION. DUE TO FIELD CONDITIONS, REQUIRED ANTENNA CABLE LENGTH MAY VARY FROM LENGTH LISTED. CONTRACTOR SHALL VERIFY THE ACTUAL LENGTH EXCEEDS ESTIMATED LENGTH.
  - ALL COAXIAL CABLE (INCLUDING JUMPERS) SHALL BE MARKED AT EACH END WITH COLORED TAPE. THE COLOR SECOND RING.
  - ALL COAXIAL WILL UNLESS OTHERWISE SPECIFIED AS FOLLOWS:
    - TOP OF TOWER (ANTENNA LEVEL) ONE END MECHANICALLY CONNECTED TO THE ANTENNA AND THE OTHER END MECHANICALLY CONNECTED TO THE EXTENSION CABLE (COAX).
    - EXTENSION CABLE (COAX).
    - PRIOR TO CONNECTING EQUIPMENT CABINET, ONE END MECHANICALLY CONNECTED TO EXTENSION GROUND BAR (COAX).
  - ALL TOP AND BOTTOM JUMPERS WILL BE (6) FEET IN LENGTH OR AS APPROVED BY SPRINT.
  - ALL COAXIAL CABLE SHOULD BE INSTALLED WITH ANY AND ALL BENDS WITHIN THE ALLOWABLE BENDING MOULD AS SUPPLIED BY THE MANUFACTURER.
  - ALL COAXIAL CABLE WILL BE SECURED TO SUPPORT FRAMEWORK WITH A DISTANCE NOT TO EXCEED 7'-0".
  - RECEPTORS TO RECORD EXACT CABLE LENGTHS IN TABLE (THIS SHEET) TO BE SUBMITTED WITH AS-BUILTS.
  - CONTRACTOR SHALL VERIFY ANTENNA RED CENTER AND ALIGNMENT WITH SPRINT PRIOR TO INSTALLATION.



2 ANTENNA ORIENTATION PLAN  
NOT TO SCALE

(SEE CONSTRUCTION MATERIAL NOT SHOWN FOR CLARITY)

THIS IS A REVISION OF AN EXISTING DRAWING. THE REVISIONS ARE INDICATED BY A NUMBERED PROFESSIONAL ENGINEER TO ALTER THE DOCUMENT.  
REV 2

EXHIBIT F: TOWER ELEVATION AND DETAILS --- INFINGY DRAWING C-5

## MINIMUM FIRE FLOW REQUIREMENT

The following is a tabulation of minimum fire flow requirements used as design criteria within the City of Memphis, unincorporated Shelby County, the City of Lakeland and the City of Arlington served by MLGW. Prospective customers or other interested parties will arrange for the financing of water system enlargements or extensions in accordance with the Memphis, Light, Gas and Water Division, Water Service Policy Manual in effect at the time application is made. These minimum requirements are subject to change without notice.

1. CONGESTED VALVE DISTRICT

12,000 gpm plus 3,000 gpm  
For a second fire  
Total 15,000 gpm

3. MERCANTILE

Heavy 10,000 gpm  
Moderate 5,000 gpm  
Minor 3,500 gpm

2. INDUSTRIAL SECTIONS

Heavy 10,000 gpm  
Moderate 5,000 gpm  
Light 3,000 gpm

4. CHEMICAL AND BULK OIL

Major Hazard 15,000 gpm  
Moderate 10,000 gpm  
Minor 5,000 gpm

5. STORE BUILDINGS and ALL OTHER OCCUPANCIES TYPE NOT LISTED

	<b>No sprinklers</b>	<b>sprinklers</b>	<b>esfr</b>
<b>Up to 5,000 sq. ft. -</b>	3,000 gpm	3,000 gpm	3,000 gpm
<b>5,001-50,000 sq. ft.</b> <i>Up to 12' storage</i>	4,000 gpm	3,000 gpm	3,000 gpm
<b>5,001-50,000 sq. ft.</b> <i>Over 12' storage, or</i> <b>50,001-100,000 sq. ft.</b> <i>Up to 12' storage</i>	6,000 gpm	4,200 gpm	3,000 gpm
<b>Over 50,000 sq. ft.</b> <i>Over 12' storage, or</i> <b>Over 100,000 sq. ft.</b> <i>Up to 12' storage</i>	8,000 gpm	5,200 gpm	4,800 gpm

6. APARTMENTS

Non fire resistant - 3 or more stories - 4,000 gpm  
Semi fire resistant - 3 or more stories - 3,000 gpm  
No exposures - 1 or 2 story

7. RESIDENTIAL

Non fire resistant - less than 25' apart - 3,000 gpm  
Non fire resistant - 26' to 50' apart - 2,500 gpm  
Non fire resistant - no exposures - 2,000 gpm

### EXHIBIT G