

## APPLE PIE, ICE CREAM AND MOTHER OR, A BRIEF PRIMER ON WIRELESS COMMUNICATIONS

We would all probably agree that apple pie and wireless communications (cell service) should be available to all residents of Kingsmill and the Resort who want it, within houses, buildings and outside.

We know that there are alternatives to the proposed intrusive cell towers which may even provide better service than the towers would.

But first, a definition or two: The term “coverage” describes the area around a transmission facility which the wireless company expects their signal to “cover.” On the other hand, reality is defined by the term “service” which is the actual performance at a given location where a cell phone receives a signal, say three (3) bars or more (outdoors or inside). Actual service is usually less than indicated on the coverage map published by the communications companies.

Neither we nor the communications companies know the extent to which Kingsmill Residents are experiencing poor service, but we believe that there are some low signal areas. You would think that the communications companies would like to know who has poor or zero service, where they live and what carrier they use - but they do not. They then go on to say that they will improve service to residents with a new tower or two. They have since admitted, at the June 2007 meeting, that they could not guarantee service to all residents (about 30%).

We are sure that good business managers would not approve the major expense of erecting cell towers and the payment of substantial annual ground rental to the Busch Corporation, just to satisfy a few Kingsmill Residents. We now know from the plans which have been submitted to the James City County Planning Division, that the primary objective of the tower installations is to handle increased wireless load in the I64 corridor, including vehicular traffic, new shopping centers, businesses and residential communities outside Kingsmill.

*So, why should Kingsmill Residents be saddled with two eye-sores, when the primary beneficiaries are outside Kingsmill and alternative solutions are available to the wireless companies?*

### ALTERNATIVES NORMALLY CONSIDERED

In order to cope with increased wireless traffic, the carriers have several solutions at their command, before considering the erection of new towers.

**REPOWERING** - First, they examine the possibility of increasing power or reorienting their existing antennas close to the problem areas.

**COLLOCATION** - If repowering has been undertaken or found inadequate, another technique to handle more traffic is to “collocate” a new antenna on an existing cell or other suitable tower or structure. An example of this was the approval by the Board of Supervisor last November, to place an antenna on a high tension pole just east of here. You have probably seen multiple cell antennas on towers or sometimes on high tension towers or even water towers. There are nine (9) towers and five (5) other structures within the area of the proposed Kingsmill site, which should be seriously considered for mounting of new antennas. These include existing towers, the large water tank across from the

Brewery and the Griffin Coaster.

ALTERNATE SITES - If there is no suitable existing structure available within the required area, the companies can consider locating antennas on "alternate" mounting sites or tall buildings. Examples are the Brewery grounds or the Brewery roof where a shorter mast might be erected.

#### ADVANCED TECHNOLOGY ALTERNATIVES WHICH CAN IMPROVE CELLULAR SERVICE

FIBER OPTIC CABLE - Today, fiber optic cable is widely used as a highly reliable, very high capacity conduit for all kinds of data transmission, including: television, cell phones, internet, emergency communications, etc. This is many times more reliable than over the air communications. Cox Cable already has fiber optic cable installed and in use within Kingsmill. Meanwhile, Verizon has fiber optic cable coverage in Kiln Creek and is actively recruiting more fiber optic technicians in Newport News. Why not Kingsmill?

DISTRIBUTED ANTENNA SYSTEM - Fiber optic cable delivers extremely reliable data over a large capacity medium which means fast and reliable service inside buildings and houses. To provide service outside buildings in specific areas of zero or low cell service, a "distributed antenna system (DAS)" in use today, can be installed. DAS utilizes small nodes and antennas often mounted on existing structures, such as our light posts, or mounted on individual "telephone" poles in concealed locations, as required. They cover a distance of ¼ to ¾ mile, depending on terrain and are located so as to provide service to any specific low signal area. As an example of use, the traffic control towers which VDOT recently erected along I64 would make ideal masts for DAS and would probably reduce dropped calls without a new cell tower.

REPEATERS (AMPLIFIERS) - Should an individual resident or building manager wish to improve the weak signal they are now receiving, "repeaters" are available for individual purchase and installation. These consist of a small whip antenna installed on the side of the house and a small signal amplifier in the attic which amplifies and broadcasts the cell signal throughout the house or building.

#### SINCE THERE ARE ALTERNATIVES, HOW CAN WE KEEP THESE UGLY TOWERS OUT?

*Just because a tower passes the "camouflage" test, doesn't mean that it is necessary. Engineering reviews of the above alternatives should be strictly required before considering final approval.*

The communications companies are taking the easy way out. The Kingsmill towers offer a simple way for them to service the growing load along the I64 corridor. They are adept at getting their way and they have deep pockets for lawyers - but they are not unbeatable with logic and public pressure.

- Keep letters going to the BOS, DRC, Sowers, Carson, Busch and Letters to the Editor
- Sign and help distribute petitions opposing the installation of towers in Kingsmill
- Talk it up among your friends and at meetings

**> If these towers are allowed in our residential area, this will be a green light for the wireless companies to continue erecting a forest of towers throughout James City County!**

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