

Proposed Coverage Enhancement Site in Laramie WY

The proposed Coverage Enhancement Site in Laramie at Greenhill Cemetery (455 N. 15th St) is the best of the many sites that have been evaluated in Laramie. This site is on a ridge slightly north east of the center of town, and was suggested by the Laramie Fire Department. The property is owned by the City of Laramie, and there is ample real estate for the construction of a tower and equipment shelter. Commercial power is readily available, and access is easy.

Coverage from existing conventional system

Figure 1 shows the coverage from the existing conventional system consisting of a main site on the east side of town and the two additional receiver sites. This is an estimate of the coverage and makes allowances for in building coverage with the radio worn on the hip. This projection has been borne out through on the ground testing.

Coverage from existing WyoLink sites

Figure 2 shows that coverage from existing WyoLink sites surrounding Laramie is inadequate. The orange shaded areas show in building coverage from a portable radio worn on the hip using a speaker microphone. The yellow shaded areas show a lack of coverage from a portable radio worn on the hip using a speaker microphone.

Coverage from this new WyoLink site

Figure 3 shows that coverage from the proposed new WyoLink site is excellent. The orange shaded areas show in building coverage from a portable radio worn on the hip using a speaker microphone. The yellow shaded areas show a lack of coverage from a portable radio worn on the hip using a speaker microphone.

Areas projected to lack coverage

Coverage projections of talk in (from a portable radio to the repeater) by Motorola are likewise very good, with only 6 areas predicted to lack talk-in coverage. These areas predicted to lack talk in coverage are:

1. An area from S 18th and Spring Creek extending to S 21st and Holliday Drive.
2. An area from S 10th and Russell extending to S. 14th and Russell.
3. An area from S 4th and Fetterman to S 4th and Steele to S 8th & Steele to S. 8th and Spring Creek.
4. An area from Overland Rd & Whitman St to Hillside Dr and Ashley St.
5. An area on S 4th from E Custer to E Iverson.
6. An area from N 3rd and E Baker to N 4th & E Baker to N 4th and E Hancock to N 3rd & E Hancock.

With the exception of area #4, I do not anticipate much difficulty obtaining coverage at any of these sites. Area #4 is a bit unique, as the path from the proposed tower to this location encounters a small ridge directly to the south east of the tower. However, removing the portable radio from the hip and using it at face level should overcome talk in problems at these problem areas (including area #4).

This proposed site is 1.08 miles from Iverson Memorial Hospital, with no obstructions between these two locations. This proposed site should provide portable coverage inside the hospital.

Recommendation

Therefore, it is my recommendation that the city of Laramie, The PSCC, WyoLink and Motorola proceed with constructing a coverage enhancement site at the Greenhill Cemetery located at 455 N 15th Street in Laramie, WY.

Other sites considered

Laramie City Hall, 406 Iverson. This site was ruled out because the amount of conventional VHF that is present on this tower would make it difficult, if not impossible to find VHF frequencies for WyoLink use that would co-exist with the other frequencies in use.

WYDOT, 3411 S. 3rd St. This site was ruled out because although it is only 2 miles from the city center, there is a ridge between this site and the city that shadows the city. This ridge reduces or eliminates portable in-building coverage from this site.

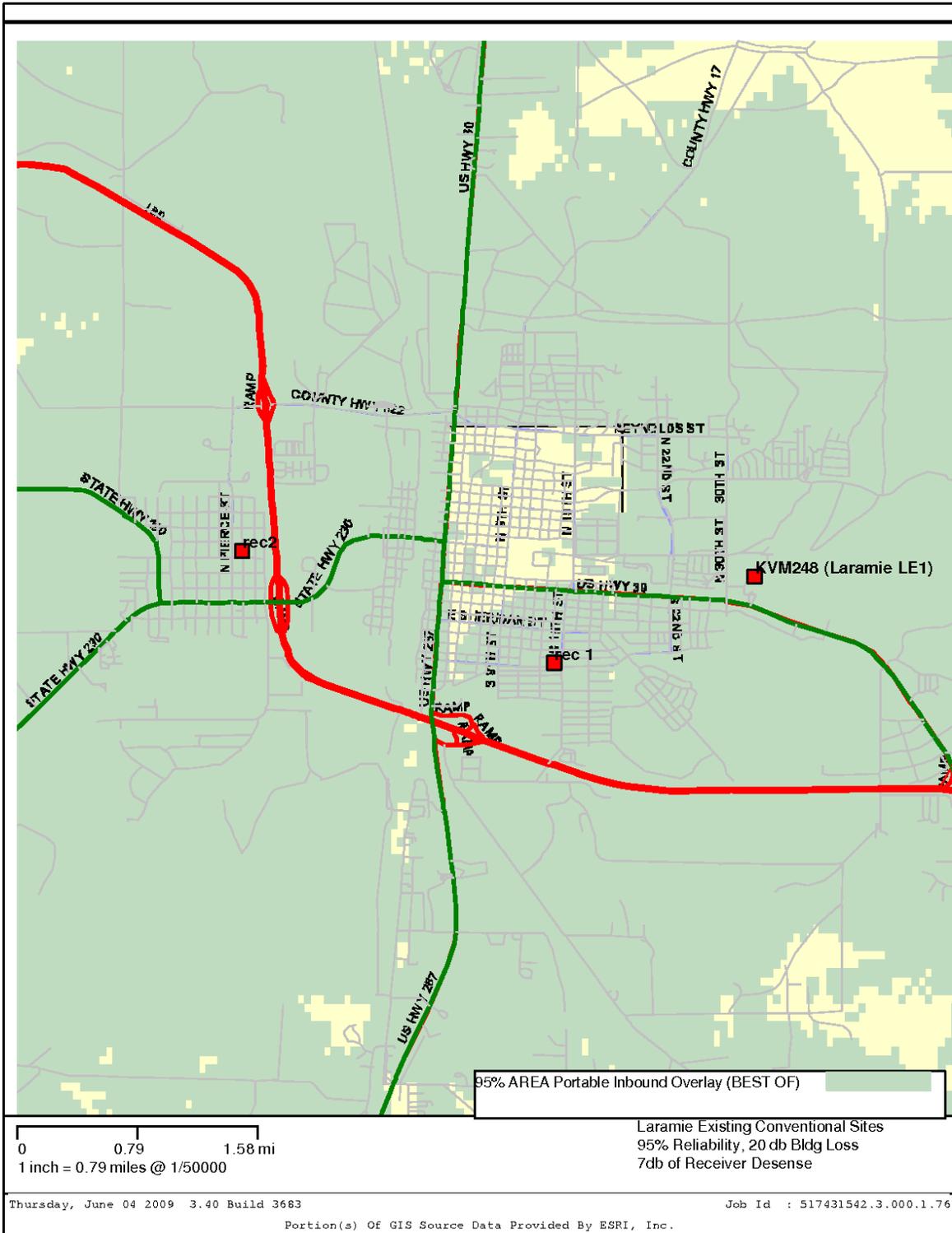
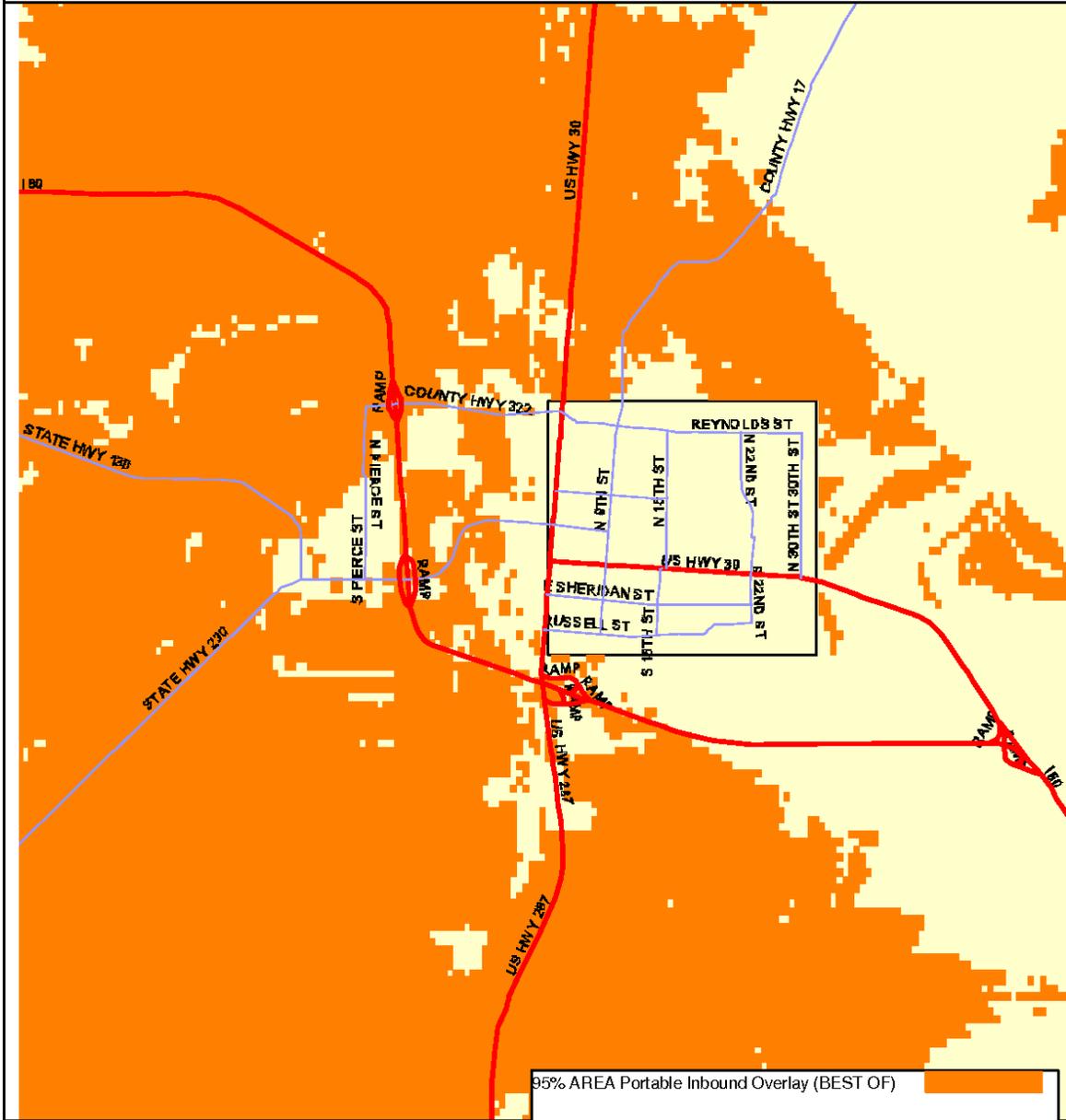


Figure 1: Existing In Building Portable on the Hip Coverage from the Conventional System

Laramie Talk IN coverage for Sherman and
 Strauss Hill
 Portable on the Waist
 95% reliability, 20db of bldg loss in the
 downtown area



95% AREA Portable Inbound Overlay (BEST OF)

0 1.00 2.01 mi
 1 inch = 1.00 miles @ 1/63600

Figure 2: In Building Portable on the Hip Coverage from Existing WyoLink Core Sites

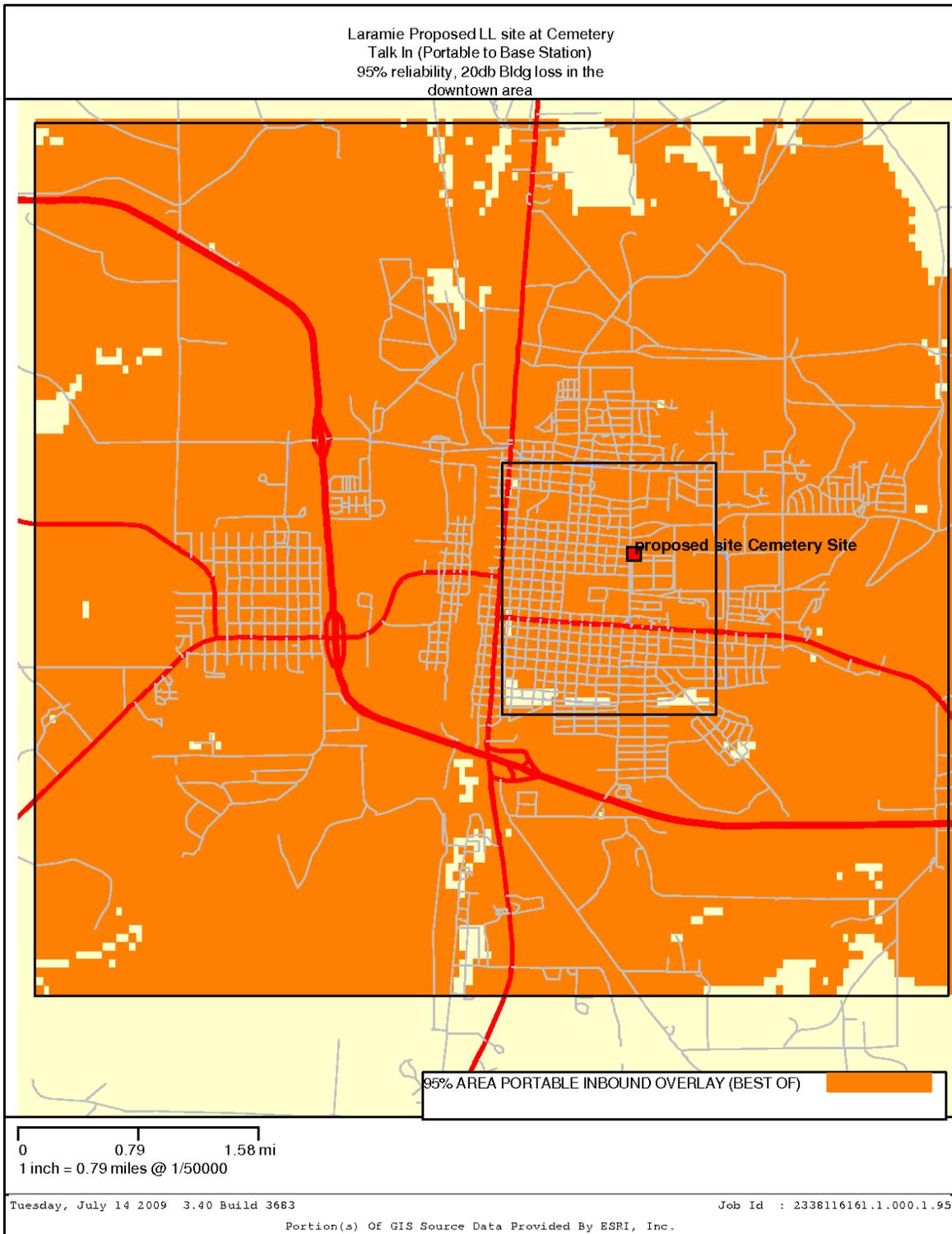


Figure 3: In Building Portable on the Hip Coverage from Proposed WyoLink Low Level Site