

ENGINEERING EXHIBIT

Application for Construction Permit

prepared for

Mirage Media 2, LLC
KOTR-LP Santa Cruz, CA
Facility ID 2871
Ch. 2 (analog) 0.84 kW

Mirage Media 2, LLC (“*Mirage*”) is the licensee of Low Power Television (“LPTV”) station KOTR-LP, analog Channel 2, Gonzales, CA, Facility ID 2871 (BLTVL-20070402KIR). A digital companion facility on Channel 41 is authorized by Construction Permit (“CP”, BDCCDTL-20081205ACL). *Mirage* herein proposes to make a minor change regarding the analog Channel 2 facility. The changes involve use of a different directional antenna pattern and effective radiated power (“ERP”). No change in KOTR-LP’s channel or transmitting location is specified. Santa Cruz, CA is specified herein as the community to be served by the proposed KOTR-LP facility in lieu of Gonzales, CA, the present community.

The KOTR-LP analog facility will continue to operate on Channel 2 using a “zero” offset. The existing antenna array will be reconfigured to achieve a different directional pattern having a maximum ERP of 0.84 kW.

The antenna system will continue to be side-mounted on the existing antenna support structure as the licensed KOTR-LP analog facility. The tower structure is not required to be registered with the FCC, as it is an existing structure of less than 61 meters overall height above ground and there are no known landing areas within 8 km of the site. No marking or lighting specifications are presently required. Since no change to the structure’s overall height is proposed, FAA notification and commensurate FCC registration are not necessary. The structure was previously registered (ASR# 1051048) however that registration was terminated since registration was not required (ASR reference 507986). The tower location and elevation data specified herein correspond to the terminated ASR and are slightly revised from the licensed facility (one second difference in geographic coordinates and three meters difference in site elevation).

Figure 1 depicts the 62 dB μ protected contour of both the licensed and the proposed facilities. The use of the same transmitter site and the service area overlap shown demonstrates compliance with §73.3572 for a minor change. The KOTR-LP analog coverage contour will continue to have overlap with the KOTR-LD digital companion facility's coverage contour (51 dB μ), as shown on **Figure 1**.

The instant proposal complies with the Commission's standard contour overlap protection requirements toward all DTV, television translator, LPTV, and Class A stations except those summarized in **Table 1**. The results of a detailed interference study per OET Bulletin 69¹ are summarized in **Table 1** which shows that any new interference created by the proposal does not exceed the Commission's 0.5 percent rounding tolerance to any currently authorized facilities. Accordingly, the instant proposal complies with §§74.706, 74.707, 74.708, and 74.710 regarding interference protection to digital television, low power television, television translator, and Class A television facilities.

The nearest FCC monitoring station is 133 km distant at Livermore, CA. This exceeds the threshold minimum distance specified in §73.1030(c)(3) that would suggest consideration of the monitoring station. The site is not located within the areas requiring coordination with "quiet" zones specified in §73.1030(a) and (b). The Land-Mobile protections of §73.709 are not relevant for Channel 2. There are no AM stations within 3.2 kilometers of the site, based on information contained within the Commission's database. The site location is beyond the border areas requiring international coordination.

¹FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 ("OET-69"). The implementation of OET-69 for this study followed the guidelines of OET-69 as specified therein. A cell size of 1 km was employed. Comparisons of various results of this computer program (run on a Sun Sparc processor) to the Commission's implementation of OET-69 show excellent correlation.

Human Exposure to Radiofrequency Electromagnetic Field (Environmental)

The proposal involves reconfiguration of an existing transmitting antenna which is side-mounted on an antenna support structure. The use of existing transmitting locations has been characterized as being environmentally preferable by the Commission, according to Note 1 of §1.1306 of the FCC Rules.

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the Commission's OET Bulletin Number 65. Based on OET-65 equation (10), and a conservative assumption of 50 percent antenna relative field in downward elevations, the calculated signal density near the tower at two meters above ground level attributable to the proposed facility is $7.2 \mu\text{W}/\text{cm}^2$, which is 3.6 percent of the general population/uncontrolled maximum permitted exposure limit. This is below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent.

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from RF electromagnetic field exposure in excess of FCC guidelines.

Certification

The undersigned hereby certifies that the foregoing statement and associated attachments were prepared by him or under his direction, and that they are true and correct to the best of his knowledge and belief.



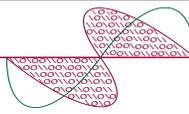
Joseph M. Davis, P.E.
June 14, 2010

Chesapeake RF Consultants, LLC
11993 Kahns Road
Manassas, VA 20112
703-650-9600

List of Attachments

| | |
|----------|---|
| Figure 1 | Proposed Coverage Contour |
| Table 1 | Interference Analysis Results Summary |
| Form 346 | Saved Version of Engineering Sections from FCC Form at Time of Upload |

This material was entered June 14, 2010 for filing electronically. Since the FCC's electronic filing system may be accessed by anyone with the applicant's account number and password, and electronic data may otherwise be altered in an unauthorized fashion, we cannot be responsible for changes made subsequent to our entry of this data and related attachments.



Chesapeake RF Consultants, LLC
 Radiofrequency Consulting Engineers
 Digital Television and Radio

Figure 1
Coverage Contour Comparison
KOTR-LP Santa Cruz, CA
Facility ID 2871
Ch. 2 (analog) 0.84 kW

prepared for
Mirage Media 2, LLC

June, 2010

KOTR-LD (CP)
 Digital Companion Ch. 41
 BDCCDTL-20081205ACL
 51 dBμ Contour

KOTR-LP (Proposed)
 Analog Ch. 2
 62 dBμ Contour

KOTR-LP (Licensed)
 Analog Ch. 2
 BLTVL-20070402KIR
 62 dBμ Contour

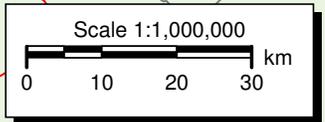
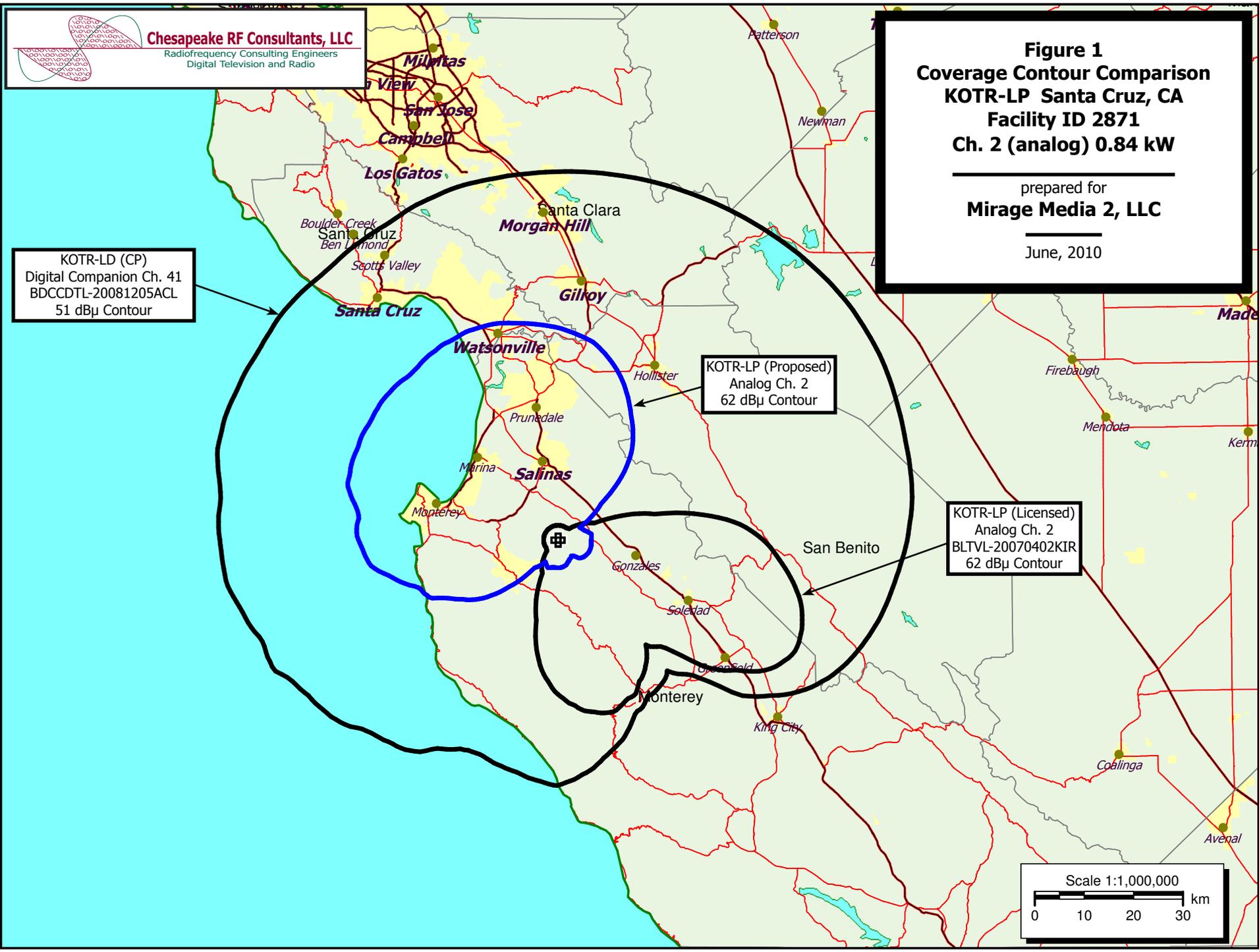


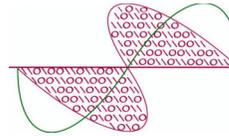
Table 1

Interference Analysis Results Summary

prepared for

Mirage Media 2, LLC

KOTR-LP Ch. 2 Santa Cruz, CA



Chesapeake RF Consultants, LLC

Radiofrequency Consulting Engineers
Digital Television and Radio

| | | | |
|-------------|----------------|--------------------|----------------------------|
| KOTR-LP | USERRECORD-01 | SANTA CRUZ | CA US |
| Channel | 02 ERP 0.84 kW | HAAT 998. m | RCAMSL 01056 m |
| Latitude | 036-32-05 | Longitude | 0121-37-09 |
| Dir Antenna | Make usr | Model KOTR CL24 v1 | Beam tilt N Ref Azimuth 0. |

| <u>Ch.</u> | <u>Call</u> | <u>City/State</u> | <u>Dist</u> <u>(km)</u> | <u>Status</u> | <u>Application Ref. No.</u> | <u>---Population (2000 Census)---</u> | |
|------------|-------------|-------------------|----------------------------|---------------|-----------------------------|---------------------------------------|-------------------------|
| | | | | | | <u>Baseline</u> | <u>New Interference</u> |
| 2 | KQRM-LP | PETALUMA CA | 177.0 | CP | BDISTVL-20090107AGJ | --- | none |
| 3 | KMMD-CA | SALINAS CA | 0.0 | LIC | BLTVA-20060524AGK | 336,971 | 535 (0.16%) |

SECTION III - ENGINEERING DATA (Analog)

TECHNICAL SPECIFICATIONS

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

TECH BOX

1. Channel Number:
2

2. Frequency Offset: No offset Zero offset Plus offset Minus offset

3. Translator Input Channel No. :

4. Primary station proposed to be rebroadcast:

| | | | | |
|---------------------|-----------|------|-------|---------|
| Facility Identifier | Call Sign | City | State | Channel |
|---------------------|-----------|------|-------|---------|

5. Antenna Location Coordinates: (NAD 27)
Latitude:
Degrees 36 Minutes 32 Seconds 05 North South
Longitude:
Degrees 121 Minutes 37 Seconds 09 West East

6. Antenna Structure Registration Number:
 Not Applicable [Exhibit 7] Notification filed with FAA

7. Antenna Location Site Elevation Above Mean Sea Level: 1032 meters

8. Overall Tower Height Above Ground Level: 51.5 meters

9. Height of Radiation Center Above Ground Level: 24 meters

10. Maximum Effective Radiated Power (ERP) Towards Radio Horizon: 0.84 kW

11. Maximum ERP in any Horizontal and Vertical Angle: 0.84 kW

12. Transmitting Antenna:
Before selecting Directional "Off-the-Shelf", refer to "Search for Antenna Information" under [CDBS Public Access](http://licensing.fcc.gov/prod/cdbs/pubacc/prod/cdbs_pa.htm) (http://licensing.fcc.gov/prod/cdbs/pubacc/prod/cdbs_pa.htm). Make sure that the Standard Pattern is marked Yes and that the relative field values shown match your values. Enter the Manufacturer (Make) and Model exactly as displayed in the Antenna Search.
 Nondirectional Directional "Off-the-shelf" Directional composite
Manufacturer SCA Model 2XCL-24 CUSTOM

Directional Antenna Relative Field Values: N/A (Nondirectional or Directional "Off-the-shelf")

Rotation (Degrees): No Rotation

| Degrees | Value | Degrees | Value | Degrees | Value | Degrees | Value | Degrees | Value | Degrees | Value |
|---------------------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|
| 0 | 0.697 | 10 | 0.615 | 20 | 0.477 | 30 | 0.338 | 40 | 0.220 | 50 | 0.084 |
| 60 | 0.034 | 70 | 0.038 | 80 | 0.047 | 90 | 0.046 | 100 | 0.047 | 110 | 0.047 |
| 120 | 0.046 | 130 | 0.047 | 140 | 0.045 | 150 | 0.040 | 160 | 0.041 | 170 | 0.042 |
| 180 | 0.041 | 190 | 0.040 | 200 | 0.043 | 210 | 0.035 | 220 | 0.055 | 230 | 0.182 |
| 240 | 0.336 | 250 | 0.498 | 260 | 0.664 | 270 | 0.802 | 280 | 0.884 | 290 | 0.934 |
| 300 | 0.995 | 310 | 0.982 | 320 | 0.959 | 330 | 0.926 | 340 | 0.848 | 350 | 0.764 |
| Additional Azimuths | | 305 | 1.0 | | | | | | | | |

[Relative Field Polar Plot](#)

NOTE: In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.

CERTIFICATION

13. **Interference** : The proposed facility complies with all of the following applicable rule sections. 47.C.F.R Sections 74.705, 74.706, 74.707, 74.708, 74.709, 74.710. Yes No
See Explanation in [Exhibit 8]

14. **Environmental Protection Act.** The proposed facility is excluded from environmental processing under 47. C.F.R. Section 1.1306 (i.e., The facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine RF compliance, an **Exhibit is required.** Yes No
See Explanation in [Exhibit 9]
By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.

PREPARERS CERTIFICATION ON PAGE 3 MUST BE COMPLETED AND SIGNED.

SECTION III PREPARER'S CERTIFICATION

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

| | | |
|--|--|---------------------|
| Name JOSEPH M. DAVIS, P.E. | Relationship to Applicant (e.g., Consulting Engineer) CONSULTING ENGINEER | |
| Signature | Date 6/14/2010 | |
| Mailing Address CHESAPEAKE RF CONSULTANTS LLC 11993 KAHNS ROAD | | |
| City MANASSAS | State or Country (if foreign address) VA | Zip Code 20112 - |
| Telephone Number (include area code) 7036509600 | E-Mail Address (if available) JDAVIS@RF-CONSULTANTS.COM | |