UCR DISH, ANTENNA AND STRUCTURE REQUEST REQUIREMENTS

I. REFERENCES

A. UCR

B. UCR Policy & Procedure Manual (PPM)

700-03 Licensed Real Property

700-90 Use of University Properties

300-62 Planning, Design and Construction – Role of Facilities Design and Const.

II. DEFINITIONS

The requirements include the use of the following types of equipment:

A. Satellite Dish /Microwave Dish - Parabolic shaped dish commonly used to transmit microwave frequencies (above approximately 3 GHz). In wireless data applications, satellite communications and other high bandwidth microwave applications, the most common type of antenna is the dish which is a reflector.

B. Panel/Sector Antenna - Thin, rectangular antennas that radiate or collect signals from different sectors in a cell. Panel or sector panel antennas have a flat panel shape and are usually enclosed within a plastic radome to protect the internal elements and/or any electronics.

C. Omni (Whip) Antenna - Flexible rod antennas supported on a base insulator. These capacitive antennas or electric doublets are insulated from the structure (plane, car or other product) and the whole assembly radiates.

D. Support Structure - Apparatus used to mount equipment includes pipe mounts, steel tripods, non-penetrating roof mounts, and tower support structures.

E. Equipment- Generic term that includes antennas, dishes, screening material, radio equipment cabinets, support structures, coax cable, and electrical cabling.

Panel antennas less than 12” x 12” and Omni antennas less than 24” are exempt from the policy.

III. REQUIREMENTS

The intent of these requirements is to direct appropriate sites of wireless dish antenna equipment and facilities to provide enhanced telecommunications services to the campus, while reducing the visual impact of such facilities to the campus and surrounding community. Further, this policy will facilitate the installation of multiple, diverse users in defined spaces and help to avoid disruption to existing facilities. These requirements also apply to future technologies that serve the same or similar functions as the dish and antenna equipment as defined in Section II. This policy applies to all telecommunications equipment and facilities on the UCR Campus. These requirements are for the approval of Commercial Entities’ Projects (Section VI.).

IV. SITING AND DESIGN GUIDELINES

A. Guidelines for Siting Antenna and Dish Facilities

1. Co-location with existing cellular equipment and antenna systems is strongly preferred

2. Locating cellular equipment and antenna systems on building rooftops is preferred, provided the rooftops can support the total gross load.

3. Cellular equipment and antenna systems should not impact the campus' existing or planned solar power generating equipment/sites.

4. Siting of equipment in or around campus parking lots should not impact visual sight lines from parking lot users that impact their view of safety and access. Equipment should be located in unused areas around the peripheral of parking lots.

B. Guidelines for Design of Antenna and Dish Facilities

1. Designs for placement of rooftop equipment must be done to minimize the potential for RF exposure to persons who may access the roof (for purposes of minimizing RF exposures, rooftops should be considered "Uncontrolled Environments"). In addition to required warning signs, design considerations should include, but are not limited to the following:
    - Antennas located a minimum of 8 feet above walking/working surfaces
    - Barriers in place restricting access at least 6 feet in front of a single antenna or 10 feet in front of two or more antennas
    - Install antennas on sides of buildings instead of rooftops

2. Rooftop equipment shall be located toward the center of the building to the greatest extent possible.

3. Screening material may be required to architecturally integrate the equipment with the building to mitigate visual impacts.

4. Rooftop equipment should not extend above the building parapet by more than 10% of building height or 10 feet whichever is less, although technical requirements or campus design considerations may justify additional height.

5. Ground equipment shall be screened with landscaping and/or architectural walls.

6. Proposed telecommunications equipment shall be sited with existing facilities, to the greatest extent possible, to minimize visual impact and maximize operational efficiency.

7. Electrical metering or sub-metering devices and corresponding equipment shall be provided and installed for each individual telecommunication installation for billing and energy monitoring purposes.

8. Telecommunication and antenna systems shall follow proper electrical installation guidelines, codes and standards for the practical safeguarding of persons and property from hazards arising from the use of electricity. Installations shall follow the following articles from NFPA70 – National Electric Code when applicable and all local codes and

9. other authorities having jurisdiction: Article 800 – Communication Circuits, Article 810 – Radio and Television Equipment, Article 820 – Community Antenna Television and Radio Distribution Systems, Article 830 – Network Powered Broadband Communications System, Article 840 – Premises Powered Broadband Communication Systems.

Feet

NOTE: Requestor will be required to pay all maintenance costs for the Dish/Antenna system, including maintenance of any structures, screening, fencing, landscaping, and all other associated equipment.

V. APPROVAL PROCEDURES FOR COMMERCIAL ENTITIES

The project design and location shall determine the type of review process required prior to construction. After review of initial submittal, Real Estate Services (RES) staff will advise the applicant on the appropriate review process based on the project characteristics.

A. Initial Submittal Requirements

1. Initiation letter: The purpose of a commercial project should be to enhance campus services. A letter should therefore be prepared explaining such enhancements or benefits. Also included should be a detailed project description including the proposed location, equipment, use, purpose, and consideration, and sent to the Executive Director of Real Estate Services. Co-location of facilities is encouraged and therefore coordination among proposers will expedite review. If the commercial entity (Requestor) is not requesting the co-location on an existing facility, then Requestor must provide a valid and reasonable explanation for not co-locating on an existing facility.

2. Site application form (Exhibit A): Complete and submit the site application form.

3. Facility Map: A map of any existing facilities on and adjacent to University property shall be provided. Geographic coverage maps of the entire campus shall also be submitted by Requestor to reflect the company's existing and proposed signal coverage.

4. Photographs: Photos looking at the site from the north, east, south, west, and any other prominent view shed shall be provided. Photos of comparable existing facilities or photo simulations of the proposed project should be submitted to show the equipment that will be used.

5. Drawings: PDF file format of 11x17 size drawings reflecting the antenna size and placement, use of screening, equipment cabinets/enclosures, coax/power/telco utility lines. The drawings should include a site plan and at least two (2) elevations. If landscaping is needed to screen equipment, then a concept landscape plan should be included. Drawings should also contain specifications about how the Requestor intends to connect to UCR or public utility/infrastructure, and indicate where the utility/infrastructure will occur. Drawings must include UCR State Fire Marshal Adopted Codes (see Exhibit B).

6. Technical Information: A written description of the proposed frequency range, frequency interference with other antenna and dish equipment (existing at the proposed building site or nearby), estimated power output, radiofrequency radiation, and power

7. requirements shall also be submitted.

NOTE: Requestor will be required to pay all maintenance costs for the Dish/Antenna/Structure system, including maintenance of any structures, screening, fencing, landscaping, and all other associated equipment.

Once Real Estate Services staff has determined that the aforementioned information has been submitted and is complete, the project will be circulated for interdepartmental review.

B. Interdepartmental Review

The following departments will be forwarded a copy of the submitted information for review and comment.

- Planning, Design and Construction (PD&C)
  - PD&C will facilitate a cursory review with: Campus Building Official (CBO) and the Campus Designated State Fire Marshal (DSFM)
- Facilities Services (FS)
- Real Estate Services (RES)
- Information Technology Solutions (ITS)
- Environmental Health & Safety (EH&S)
- Transportation and Parking Services (TAPS), if applicable
- Other Departments as needed

All comments shall be forwarded to Real Estate Services within 30 days of circulation, otherwise the project will be evaluated for Administrative Design and Site Approval based the siting and design guidelines described in Section IV. Additional information may be requested to address issues raised during the Interdepartmental Review.

C. Project Impact Study and Campus Community Notification

UCR Environmental Health and Safety (EH&S) may require the project applicant may to hire an independent consultant(s) to determine the potential effects of the proposed project. If engaged, the independent consultant would recommend a project notification distance and if third party review is not necessary then the distance would be specified by EH&S. In both instances the campus community notification distance shall be determined on a case-by-case basis depending on project characteristics.

If deemed necessary, campus community notification shall include a description of the proposed facility including technological characteristics (e.g. frequencies, power output, azimuth, etc.) and would be issued to the appropriate building managers to be distributed to the building occupants. The project response period will end thirty (30) days from the date of project notice. Only those comments received within the 30-day response period will be considered when evaluating the suitability of the proposed wireless dish or antenna project.

D. Administrative Design and Site Approval

If the project: 1) conforms to the Siting and Design Guidelines (see Section IV); 2) is supported by the departments involved with the Interdepartmental Review; and 3) has not received a negative response from the campus community notification (if applicable), then the project shall be eligible for Administrative Approval granted by the Executive Director of Facilities Services.

Following Administrative Approval, the Building Permit Application and License Agreement Review processes shall begin (see Sections V.F. and V.G.).

If the project does not receive Administrative Approval, then the Requestor can request an appeal from Real Estate Services and such appeals will be subject to review and approval by the Vice Chancellor of Planning, Budget and Administration (VCPBA).

E. Vice Chancellor of Planning, Budget and Administration (VCPBA) Appeal Review Process

Projects not receiving Administrative Approval may be presented for an appeal review to the Vice Chancellor of Planning, Budget and Administration (VCPBA).

Projects will be presented to the VCPBA once for information and once for action. The VCPBA may require the Requestor to provide further information and/or analysis during the appeal review process.

Following VCPBA Appeal Review Process approval for the project the Building Permit Application and License Agreement Review processes shall begin (see Section V.F. and V.G.)

F. Building Permit Application

Upon design and site approval of the project by Administrative Approval or Vice Chancellor of Planning, Budget and Administration Review an application for permit shall be submitted to the Campus Building Official (CBO).

1. Construction Drawings: In PDF file format, should include applicable coax/utility runs, roof/wall penetrations, mounting details, electrical calculations, structural calculations, all equipment specifications, and soils report, if applicable.

G. License Agreement Review

Upon campus design, site, and constructability approval of the proposed project, the Real Estate Services (RES) office will prepare a License Agreement documenting all terms and conditions of the project, including business terms, access procedures, utility cost reimbursement, and a construction work agreement (from PD&C).

1. Work Agreement: This document shall document in detail all proposed construction work (including screening, if applicable), timeframes, contractors, contractors' insurance, warranties, and specifics of the project.

2. Construction: CBO, DSFM and EHS shall review and approve all plans and specifications before commencement of construction. This approval is in lieu of City building permits. CBO, DSFM and EH&S shall inspect the work for compliance with the plans, specifications, and radiation safety. The commercial entity shall pay for all costs of such services, which can also include, but not limited to: seismic peer review, soils and geotechnical testing/reports, utility sub-metering, and cost associated for UCR PD&C Project Manager(s) and Facilities Services Technician time involvement with the project. Co-location of facilities is encouraged. If multiple projects will be scheduled simultaneously, proposing entities should coordinate and select one contractor.

3. Operations and Maintenance: CBO, DSFM and EHS shall review and approve all plans and specifications before commencement of any improvements to existing facilities where the commercial entity has an existing license agreement with the University. This approval is in lieu of City building permits. CBO, DSFM and EH&S shall inspect the work for compliance with the plans, specifications, and radiation safety. The commercial entity shall pay for all costs of such services, which can also include, but not limited to: seismic peer review, soils and geotechnical testing/reports, utility sub-metering, and cost associated for UCR PD&C Project Manager(s) and Facilities Services Technician time involvement with the project . If multiple projects will be scheduled simultaneously, proposing entities should coordinate and select one contractor.

EXHIBIT A

SITE FOR APPLICATION FOR
ANTENNA and DISH EQUIPMENT AT UCR TELECOM SITES

PART I – GENERAL INFORMATION

Company Name _____

Mailing Address _____
_____
_____

Physical Address _____
_____
_____

Type of Business Entity _____

PART II – CONTACTS INFORMATION

Attending Technician(s) Contact(s)
Name/Title _____
Phone Number _____
Fax Number _____
E-Mail Address _____
(attach list if necessary)

Contracts Contact
Name/Title _____
Phone Number _____
Fax Number _____
E-Mail Address _____
(If mailing address different than above fill in correct mailing address)

PART III – PROJECT OPERATIONS

Description of Business Activities _____

Description of Planned Use of Site* _____

Geographic Area To Be Served _____

UCR Customer Base to be Served by the Site _____

PART IV – TECHNICAL INFORMATION

Transmitter & Receive Characteristics

Manufacturer _____

Series _____

Model _____

Version _____

Transmitter Frequency _____

Receive Frequency _____

Emission _____

Effective Radiated Power _____

Transmit Power _____

Circulator/Harmonic Filter _____

Duplexer _____

Mounting _____

Control (Auto Relay/Radio Link/ Leased Line/Other) _____

Electrical Power Requirements

Voltage _____

Amperage _____

HVAC _____

UCR DISH, ANTENNA AND STRUCTURE REQUEST REQUIREMENTS

Space Requirements for Transmitter & Receiver _____

Number of Space Requirements (Equipment Area) _____

Space #1

Weight _____

Standard 19” Mounting _____

Cabinet Size (W x D x H) _____

Space #2

Weight _____

Standard 19” Mounting _____

Cabinet Size (W x D x H) _____

Antenna System

Receive Type _____

Transmit Type _____

Gain _____

ERP _____

Feedline Type _____

Location on Tower _____

FCC License Information****

Licensee _____

Call Letters _____

Radio Service _____

Issue Date _____

Expiration Date _____

File # _____

Areas of Operation _____

Equipment to Comply with Site Requirements in Future**

Transmitter Bandpass Filter _____

Cavity _____

Isolators _____

PART V – CONTRACT INFORMATION

Address for Official Notices

Address _____

_____

_____

Attn: _____

Contract Signator Block Information

Name of Contract Signor _____

Title of Signator _____

Brokers Name (if applicable) _____

Disclosure of Hazardous Substances to Be Used

Radio Frequency Interference Study _____

Radio Frequency Radiation Study _____

Radio Frequency Geographic Coverage Map _____

Insurance Information***

Each Occurrence	**$1,000,000**
Products/Completed	**$1,000,000**
Personal & Advertising Injury	**$1,000,000**
General Aggregate	**$5,000,000**
Business Auto Liability	**$1,000,000 per occurrence**
Additional Insured	The Regents of the University of California

* To be known as “Permitted Use”
** To be filled out at later date if required by UCR EH&S]
*** Insurance Certificate attached as part of this application
**** FCC License attached as part of this application

EXHIBIT B

State Fire Marshal Adopted Codes
(Projects submitted on or after January 1, 2017)

Applicable Codes:

2016 California Building Code (CBC) Part 2, Volumes 1 and 2, Title 24
[Based on 2015 International Building Code]

2016 California Electrical Code (CEC) Part 3, Title 24
[Based on 2014 National Electrical Code]

2016 California Mechanical Code (CMC) Part 4, Title 24
[Based on 2015 Uniform Mechanical Code]

2016 California Plumbing Code (CPC) Part 5, Title 24
[Based on 2015 Uniform Plumbing Code]

2016 California Fire Code (CFC) Part 9, Title 24
[Based on 2015 International Fire Code]

2016 California Referenced Standard Code, Part 12, Title 24

Title 19, Public Safety, State Fire Marshal Regulations

Partial list of Applicable National Fire Protection Association (NFPA) Standards

NFPA 13, 2016 Edition – Installation of Sprinkler Systems (As amended by CSFM)
NFPA 14, 2013 Edition – Installation of Standpipe and Hose Systems (As amended by CSFM)
NFPA 17A, 2013 Edition - Wet Chemical Extinguishing Systems
NFPA 24, 2016 Edition – Installation of Private Fire Service Mains (As amended by CSFM)
NFPA 25, (2013 California Edition, Based on NFPA 25, 2011 Edition) – Inspection, Testing & Maintenance of Water-Based Fire Protection systems
NFPA 72, 2016 Edition - National Fire Alarm and Signaling Code (As amended by CSFM)
NFPA 80, 2016 Edition – Fire Doors and Other Opening Protectives

REFER TO CBC Chapter 35 FOR ADDITIONAL STANDARDS NOT PROVIDED ON THIS LIST.