

**RIVERSIDE COUNTY OFFICE OF ECONOMIC DEVELOPMENT  
GENERAL CONSTRUCTION SPECIFICATIONS**

**A. INTENT**

1. It is the intent of these instructions to convey to the Design-Build team the construction requirements for obtaining a complete and usable facility under design-build agreement.
2. All references to the County in this or any other specification means the Director of the Office of Economic Development or designee.
3. All work in accordance with these specifications or any other specifications and plans must be coordinated with the Director of the Office of Economic Development or designee. Specifications contained on or with specific plans for construction may contain more stringent provisions than the minimum requirements stated herein. The more stringent requirements shall govern.
4. When fully justified, the Design-Build firm may request waiver of any portion of these specifications. Such requests must be submitted in writing to the County with full justification. All specifications will be enforced unless specifically waived by the County in writing.

**B. COMPLIANCE WITH LOCAL REGULATIONS**

1. In the absence of such codes, ordinances or regulations, the Design-Build firm contractor shall use the latest edition of the "Uniform Building Code". However, when such local, County or State requirements contain more stringent provisions than the minimum requirements stated herein, the more stringent requirements shall govern.
2. The Design-Build firm shall, without additional expense to the County, be responsible for obtaining and paying for any necessary construction fees, licenses and permits required, unless County otherwise identifies. Design-Build Firm shall comply with any applicable Federal, State and Municipal laws, codes, and regulations in connection with the prosecution of the work, and shall take proper safety and health precautions to protect work, the workers, the public, and the property of others.
3. All work in accordance with these specifications must be done in strict compliance with the Americans with Disabilities Act of 1990 and any regulations issued pursuant thereto.

**C. DRAWINGS**

1. A site plan, clearly indicating employee, visitor and open parking spaces, shall be prepared. Floor plans, elevations, mechanical and electrical drawings shall be prepared, preferably at one eighth inch (1/8") scale.
2. The County shall be provided four (4) complete sets of the aforementioned drawings and specifications for review and approval.
3. Prior to start of construction, two (2) complete approved sets of construction plans and specifications shall be provided to the County. These sets shall be signed to indicate approval by Riverside County Information Technology and the user department. One set will be

returned to Design-Build Firm for construction, the second set shall be retained by County.

4. Any changes or deviation from the approved plans and specifications will not be accepted without prior written approval from the County.

**D. CONSTRUCTION**

1. A pre-construction conference with Design-Build Firm, contractor and County shall be conducted at a mutually agreed-upon site for reviewing and defining the construction requirements.
2. General inspections by the County (not the Building Official/Inspector of Record) will be conducted at random times during the course of construction. The contractor shall maintain, on the job site, a complete set of approved final drawings and specifications marked up to show any changes and as-built conditions. At the final inspection, a punch list will be developed, and any deficiencies noted will be corrected prior to County's acceptance of the facility.

**E. SPECIFICATIONS**

1. The Design-Build Firm shall be responsible, in all cases, for the proper design and coordination of architectural, structural, plumbing, electrical, heating, ventilation, air conditioning, site elements, etc., of the proposed facility. Accessibility for physically handicapped is required, unless specifically waived in writing by the County.
2. Design-Build Firm shall verify the accuracy of all dimensions, and he shall be responsible for correcting and recording any discrepancies.

**SITE REQUIREMENTS**

**A. SITE**

1. The Design-Build Firm shall be responsible for determining site conditions, including sub-surface soil conditions, adequate public utilities and load-bearing characteristics, the installation of retaining walls, demolition, relocation of utilities, and other site improvements.

**B. GRADING**

1. The finish grades and contours shall be correlated with street and sidewalk grades established by the local municipality. Floors, driveways, etc., shall be adjusted by the Design-Build firm architect as necessary, to insure property clearances, surface drainage, slope gradients, storm and sanitary sewer gradients and connections. All paved areas shall be graded as necessary to provide positive drainage of surface runoff water away from the buildings. The Design-Build firm shall provide two pad certifications: one from a licensed surveyor certifying the finish grade of the pad, and another from the Geotechnical Engineer of Record certifying continuous observation and testing, over excavation requirements and compaction. Sample letters can be provided upon request.

**C. DRAINAGE**

1. Walks, parking areas, driveways and maneuvering areas shall be provided with positive natural

drainage whenever possible. The floor of the building and adjacent grades may be raised sufficiently to provide natural drainage.

O. **RETAINING WALLS**

1. The determination of the location and extent of retaining walls required is the responsibility of the Design-Build firm.

E. **LANDSCAPING**

1. Suitable regionally appropriate, water conserving, low-maintenance planting shall be provided. Preservation of existing vegetation and the providing of additional landscaping shall meet local environmental requirements.

F. **CLEANUP**

1. Upon completion of the facility and prior to move-in and acceptance by the County, the Design-Build Firm shall clean, seal and wax floors, clean windows, fixtures and finishes, interior and exterior, and remove surplus materials and debris from the site.

**ARCHITECTURAL REQUIREMENTS**

**A FLOORS**

1. Floor elevations shall be at least eight inches above finished exterior grade whenever possible. When floor slab is below grade, it shall be waterproof.
2. Floors shall be designed in accordance with uniform, concentrated and special loads given in the "Uniform Building Code", chapter 23.
3. Carpet - One hundred percent (100%) continuous filament nylon or olefin with static control; minimum yarn weight - 28 oz. Require statement of pile weight from vendor or manufacturer. Minimum five (5) year warranty excluding the use of protective chair pads against ten percent (10%) surface wears when properly maintained. Four inch (4") rubber cove base shall be used for base in all carpeted areas. Colors/patterns must be approved by the County.
4. Carpet tiles may be used and are preferred. Pile weight 28 oz. static control 2.0 K.V. or less. Color shall meet County color standards.
5. Non-carpeted floors - restrooms shall be porcelain tile with minimal grout lines for ease of custodial cleaning, with corresponding tile cove base. Colors/patterns of tile must be approved by the County.
6. Common areas – Lobbies, main pathways/walkways, break rooms, community rooms, shall have minimum 4.8 mm, 12 mil wear layer luxury vinyl tile (LVT) including rubber cove base similar. Colors/patterns of LVT must be approved by the County.
7. Non-carpeted floors – Data rooms should have static dissipative flooring with rubber cove base.

**B. WALLS**

1. Interior walls - all interior partition construction shall comply with applicable Federal, State, County and City codes. The types of interior partitions to be used must be approved by the County. Systems furniture may be used.
2. Toilet room walls adjacent to occupied spaces shall be sound insulating double-wall construction and filled with sound-absorbing materials.
3. Exterior walls - Exterior walls constructed of wood or steel stud shall be insulated to R-11 specifications, unless current codes require more stringent specifications.

C. **ROOF AND INSULATION**

1. Roof construction and insulation shall be appropriate to the overall design of the building and prevailing weather conditions. Light colored materials are encouraged.
2. All roof designs shall include a minimum one-half inch (1/2") to one foot (1') slopes for positive drainage.
3. Roofs on existing buildings shall be subject to (a) an inspection by a licensed roofing contractor, (b) County's review of roofing contractor's findings and (c) proof of corrective action.
4. 20 year minimum warranty term guarantee against leaking, with a written certified letter from the roofing manufacturer guaranteeing that the roof has been inspected and accepted by the manufacturer.

D. **TIMBER AND WOOD**

1. All lumber used structurally shall be stress-graded with the stamp of the Lumber Association indicated on each piece showing the stress grade.

E. **CEILING CONSTRUCTION**

1. All ceilings shall be placed at nine feet (9'0") above finish floor level, unless otherwise specified.
2. A suspended acoustical ceiling system with integrated lighting shall be installed in all occupied areas.
3. Rest rooms and coffee rooms shall have solid ceilings (drywall, etc.).

F. **WINDOWS**

1. Glazing that extends below thirty-two inches (32") above the floor shall be protected with a horizontal railing or similar safety barrier. Individual windows may be metal or wood of commercial quality. All window openings shall be properly flashed to prevent moisture intrusion.
2. Low energy and reflective glazing shall be used in high heat gain areas.
3. Windows shall receive window tinting in all areas, and in offices, break rooms, community rooms, and flex spaces shall also mechanical roller shades, Mecho Shade or similar.

G. **DOORS**

1. Exterior doors - all wood doors will be solid core. Exterior doors will be weather-stripped and have stops. Exterior doors to be not less than thirty- six inches (36") wide. Appropriate metal doors are acceptable.
2. Exterior doors shall have automatic closers.

## **H. CABINETWORK**

1. Cabinet work shall conform to the standards as defined in the Woodwork Institute of California, Manual of Millwork, (reference "WIC #102", standard cabinet design).
2. Acceptable cabinet work quality is laminated plastic covered deluxe (D) grade, or wood factory finished deluxe (D) grade, except utility (U) grade in utility storage areas.
3. Countertops and splashes shall be laminated plastic, custom grade, self- edge trim. Minimum four inch (4") high splashes where abutting vertical wall surfaces.
4. Countertops and splashes in the restrooms shall be a solid surface, marble, granite, quarts, etc. custom grade. Minimum four inch (4") high splashes where abutting vertical wall surfaces.
5. Cabinet work to be complete with knobs, pulls, hinges, catches, etc.
6. Colors/patterns of laminated plastic and finishes of casework must be approved by the County.

## **I. HARDWARE**

1. Hardware will be of good commercial quality grade and type. Automatic door closers shall be provided on public and employee entrance doors, toilet room doors, and coffee room doors. Public entrance and glazed partition lobby doors shall be equipped with push bars with integral PUSH AND PULL signs. Toilet and coffee room doors will have push plates and door pulls. When public entrance, lobby, toilet or coffee room doors are wood or metal with enameled finish, kick plates shall be provided. At buildings where only one (1) toilet is provided, the door closer will be omitted and the door fitted with a privacy lockset. Door locks shall be an interchangeable core (IC) system and will be operable by a master key system with change keys. Panic hardware must be installed where required by code. Simplex cipher locks (or equal) may be used in lieu of keyed locks when approved by the County.
2. Exterior doors with hinges exposed to the public (out- swinging doors) will be equipped with door butts that have "fast" pins to prevent removal or tampering.
3. All doors to be provided with adequate hardware. Interior door locksets to be provided only where indicated on plans. Interior doors to be provided with doorstops.
4. Double doors (pair) - shall be avoided on exterior openings wherever possible. When pair is required by design, use removable mullion, unless specifically approved otherwise.
5. Exterior doors - all exterior doors must have a deadbolt lock, except where panic hardware is required.
6. Door lock keying - Simplex or equal may be substituted for keyed locks when approved by the County.

- a. All keyed locks shall be equipped with six (6) pin keyways.
- b. Three (3) keys shall be furnished for each lock.
- c. All locks shall be keyed as specified by County, except that all locks within the following individual groups shall be keyed alike:
  - (1) Mechanical equipment rooms.
  - (2) Janitor's closets.
  - (3) Employee entrances (interior & exterior).
  - (4) Bulletin boards.
  - (5) Electrical panel boxes.
- d. A master key system shall be provided and five (5) master keys and fifteen (15) change keys shall be furnished, unless otherwise specified.
- e. Keying - locks will incorporate a security system to assure that keys used during construction will not open doors after County occupancy. The key side of all locks will be on the public side.

J. **TOILET ENCLOSURES AND ACCESSORIES**

Facilities must comply with all existing codes.

1. All toilet and urinal enclosures shall be secured to the floor and ceiling.
2. Doors shall be installed in men's and women's restrooms. Entrance doors to toilet enclosures shall be fitted with specific locking devices. Toilet enclosures for non ADA stalls shall be 34" wide, or more, on all new construction.
3. Each toilet compartment shall be provided with a metal coat hook and double roll toilet paper holder, suitable for dispensing rolled tissue.
4. Install one battery powered roll towel dispensing cabinet for each multiple of two (2) lavatories or less in all rest rooms. Towel dispensers shall be designed to dispense paper towels.
5. Each pair of lavatories in all rest rooms shall be provided with soap dispensers.
6. Each lavatory in all rest rooms shall be provided with a 24" x 30" wall-mounted mirror. Provide a stainless steel shelf at each mirror.
7. Women's rest rooms shall be provided with feminine napkin dispenser. Women's toilet compartments shall be provided with one (1) feminine napkin disposal container.
8. Trash bins shall be provided in rest rooms.
9. Baby Changing Stations shall be provided in each restroom.
10. Both men's and women's toilets shall be designed and constructed to accommodate the physically handicapped. One water closet compartment shall be sized to meet handicapped requirements, provided with out swinging door and grab bars. The toilet fixtures, lavatory, mirrors, etc., shall be located at the correct height for handicapped.

**K. Painting**

1. All exterior painted surfaces shall be given a minimum of two (2) coats. Colors must be approved by the County.
2. Interior surfaces and trim shall be given two (2) coats minimum. One hundred percent (100%) coverage required. Prefinished acoustical ceiling shall not be painted. Finish coat shall be in accordance with colors as prescribed by County and shall match color chips.
3. Paint colors must be approved by the County.
4. All interior painted surfaces shall receive two (2) coats of semi-gloss enamel.
5. Wall coverings other than painted surfaces (i.e., wood paneling, vinyl material, etc.) shall be permitted. Location and colors must be approved by the County.
6. Parking strips four inches (4") wide of highway traffic paint are to be provided.
7. Street number - Minimum six inches (6") high number - by Design-Build Firm.

**L. WINDOW TREATMENT**

1. Minimum treatment – Mecho Shades or equal, mechanical, or other as specified by the County.

**M. SIGNS**

1. Identification sign to be installed on exterior of building. Sign will be specifically identified by the County. Placement and specific size of letters will be determined according to layout and location of structure. Letters will be black injection molded plastic, Helvetica in style.
2. Interior signs to be black phenolic material laminated with white letters. Signs will be specifically identified by the County.

**N. Lettering on entrance doors will be specifically identified by the County. ASBESTOS & LEAD BASED PAINT**

1. All buildings constructed prior to 1978 will have asbestos and lead based paint check to ascertain that no friable asbestos or flaking lead-based paint is in evidence. A copy of the report is to be filed with the County.

**0. PLUMBING FIXTURES AND FITTINGS**

1. All rest room lavatories shall have self-closing faucets.
2. All toilets and urinals shall be equipped with flush valves.
3. Refrigerated water fountains - provide refrigerated water fountains at location indicated.
4. "Water-Saver" toilets will not be acceptable.
5. Provide hot water in rest rooms and break rooms and in any flex rooms (opportunity, community, etc.).

6. All work in accordance with these specifications must be done in strict compliance with the Americans with Disabilities Act of 1990, the California Title 24 section which implements it, and any regulations issued pursuant thereto.

**P. FIRE PROTECTION**

1. Provide all necessary certified fire extinguishers as required by local fire regulations.
2. Provide sprinkler inspection and test prior to occupancy, including 1 year and 5 year certification stickers.
3. Provide all other necessary protective devices and equipment as required by local fire regulations.
4. Building alarms and fire monitoring equipment shall not be installed in the telephone/data room without written permission of the IT Department.

**Q. ELEVATORS**

1. Provide documentation of inspection and routine maintenance prior to and during occupancy.

**R. WATER STATIONS**

1. Provide electric water coolers with bottle filling capability and drinking fountains throughout facility at locations to be specified by County. ELKAY EZH2O Bottle Filling Station with Bi-Level Filtered LZ Cooler Models LZSTL8WS & LZSTLDDWS.

**SPACE CONDITIONING**

**Heating, Ventilation and Air Conditioning**

**A. GENERAL REQUIREMENTS**

1. Space conditioning shall be considered the year-round control of temperature, humidity, air circulation, ventilation and air cleaning to the degree required to assure satisfactory and efficient use of the space for occupants and equipment. Follow good accepted practices as reflected in the latest issue of the American Society of Heating, Refrigeration and Air Conditioning Engineer's Guide (ASHRAE).

**B. VENTILATION**

1. Ventilation for air-conditioning system - Provide ventilation makeup air in the amount of 10% of total air requirement for cooling or two (2) air changes per hour, whichever is greatest, plus all exhaust air requirements.
2. Prior to construction of office space over 5,000 square feet, existing systems over ten (10) years of age shall be inspected by a licensed HVAC company and a statement of condition detailing the reliability and efficiency of the systems shall be provided.

**C. EXHAUST SYSTEMS**



1. Exhaust toilet areas - the exhaust fan shall be connected to the light switch or interconnected with the air conditioning time clock.
2. Air shall not be directly exhausted, except in the following instances:
  - a. Air used to make up exhaust for toilet rooms.
  - b. Air exhausted specifically for cooking, food preparation or removal of excessive heat generated by vending or various other machines.
  - c. When specified for coffee rooms.

**D. SPACETEMPERATURE CONTROLS**

1. Central control system for the various areas or provide a thermostat for each heating and/or air-conditioning system. Use separate slide lever adjustments for heating and cooling with lock covers.
2. All systems shall be controlled by seven (7) day, twenty-four (24) hour time clocks set to the County requirements.
3. Thermostats controlling space conditions during occupied hours shall be adjustable from sixty eight degrees (68°) to eighty degrees (80°) with the normal set at seventy degrees (70°) for heating and seventy-six degrees (76°) for cooling.
4. Simultaneous heating and cooling will not be acceptable.
5. Design-Build Firm shall comply with existing codes.
6. Heat-generated equipment shall be of adequate capacity to heat the building under design conditions.
7. All gas furnaces shall be approved by the American Gas Association.
8. All electric components shall be UL-approved and comply with the California Electric Code.
9. Electric strip heating is not acceptable.

**E. AIR FILTERS**

1. All recirculated and outside air shall pass through filters before entering air-handling units.
2. Filters shall be replaceable types.
3. A location map showing filter locations shall be provided to County.

**F. PIPING**

1. Piping in finished areas, such as lobbies and offices, shall be concealed. No water piping of any description shall be installed near electrical switchgear. Provide shutoff valves at all locations necessary to isolate separate zones of the system served.
2. Piping shall be type L copper pipe, unless approved in writing by the County.

3. All hot and chilled water piping shall be insulated.

## **G. AIR DISTRIBUTION**

1. Ductwork shall be provided, as required, for proper air distribution with supply outlets spaced so as to avoid excessive throws and dead spots. In order to maintain sound privacy, door louvers will not be used to return air from offices. Sound-attenuating, acoustically lined transfer ducts or return air ducts must be used. All supply and return air ductwork shall be constructed and installed in accordance with ASHRAE Standards and shall comply with state and local building codes.
2. All air handling units, except unit heaters, must be provided with outside air intakes. Intakes shall be located to avoid the introduction of boiler flue gases or vehicle and condenser unit exhausts.
3. Diffusers shall be selected and spaced so that, at the occupied level, the movement of air will be uniform and not be less than ten (10) cubic feet per minute, nor more than fifty (50) cubic feet per minute when measured at four feet (4") above the floor. They shall be selected so that the throw from an air diffuser does not impinge on walls, columns, or the throws from other diffusers based on a terminal velocity of one hundred feet (100') per minute. Diffusers located in offices shall be of the fully adjustable air pattern type.

## **H. BALANCING AND ADJUSTING**

1. Space conditioning equipment shall be balanced and adjusted by persons certified to perform such functions prior to occupancy.
2. Copy of air balance report shall be provided to the County.

## **I. NOISE AND VIBRATION**

1. Particular care shall be exercised in the design, selection and installation of all mechanical equipment and components to attain reasonable noise levels in occupied space. In general, sound levels for various spaces shall be maintained in accordance with the recommendations of the ASHRAE Guide.

## **J. OPERATING INSTRUCTIONS**

1. The Design-Build Firm shall provide simplified consolidated equipment and control diagrams with specific operating instructions posted on a readily accessible label on each utility system, such as furnaces, refrigeration equipment, air handling systems, and pumping systems. These instructions shall clearly indicate how to stop and start systems, what adjustments must or may be made by County personnel to assure proper operation, and what action shall be taken in emergencies.

## **ELECTRICAL**

### **A. GENERAL REQUIREMENTS**

1. All electrical work shall be designed and installed in accordance with the plan requirements.

2. Codes and ordinances - shall conform to standards of the National Electrical Code (NEC), O.S.H.A., serving public telephone company, State Fire Marshal and local ordinances.
3. The County Building Official has commonly requested the following items, which are above and beyond code. Design-Build firm shall include these items as the basis of design. After award, the Design-Build firm and County may review these items with the Building Official to waive the requirement and provide the County a credit:
  - Solid conductors shall be  $\leq 10$  AWG; Stranded conductors  $\geq \# 8$  AWG.
  - If the building steel is connected to a conductor that rings the entire foundation of the building and a point of attachment is made at two vertical steel members at each of the exterior walls of the building. The ring conductor shall be a minimum of 4/0 bare copper buried to a depth of at least 4 feet below grade. The connections from the ring to the building steel shall be 4/0 copper and exothermically welded at the point of attachment to the ring and the building.
  - Switchboards shall be close coupled to the building transformer and securely fastened to a housekeeping pad. The housekeeping pad shall be a minimum of four inches high and eight inches larger in length and width than the assembly footprint. All edges of the housekeeping pad shall be chamfered.
  - All bus work and conductors inside switchboards shall be hard drawn copper with 98% conductivity.
  - The switchboard shall be equipped at the factory with hard drawn copper equipment grounding bus and main bonding jumper.
  - All mechanical rooms throughout the building must be sized to allow for the addition of new equipment and adequate (30%) spare breaker space in all breaker panels, switchboards, building load centers, and lighting, and BAS control panels shall support this goal.
  - All feeder breakers supplied with the switchboard shall be equipped with time, instantaneous and ground fault over current devices.
  - Wrap 20 mil PVC taped around the galvanized rigid metal riser elbows the entire length.
  - The radius of conduit stub-ups shall be 12x conduit diameter of the pipe.
  - Bedding material shall be granular material with a sand equivalent (SE)  $> 30$ . 3 inches under and 4 inches around conduit sides.
  - The minimum depth below finished grade shall be 24".
  - Pipe Zones for slurry: The minimum slurry psi shall be determined by the engineer of record with a minimum of 2000 psi or as determined by the engineer. Red dye shall be used for all duct bank slurry.
  - Conduit shall be support by interlocking chairs space  $\leq 5'$  along the length. Spacing between conduits shall be  $\geq 3''$ .

- The total number of bends between any two pull-points of a raceway system shall be  $\leq 270^\circ$ .
- Use compression type fittings ONLY for all metallic conduits.
- RMC shall be used to enclose all medium voltage conductors within buildings. RMC is required in mechanical rooms up to eight feet above the finished floor. These raceways may be converted to EMT at elevations above eight feet.
- Conduits that enter the bottom of the control panels in mechanical spaces shall be RMC.
- Conduits that pass through drilled holes in walls or foundations of a building below grade shall be galvanized RMC and include segmented link seals at exterior building penetrations."
- MC cable shall not be used.
- Provide Lighting for roof top equipment. Indicate twist timer located at the roof access.
- To add lighting where the bike racks are located.
- Service equipment shall be located in separate electrical/mechanical room with proper working clearances and grounding, All breakers shall be clearly identified.

**B. INTERIOR LIGHTING**

1. LED lighting only.
2. The lighting shall be designed to maintain a uniform level of illumination of the minimum foot -candles designated. Lighting levels shall be based on working plan thirty inches (30") above floor, appropriate coefficient of utilization for the fixture and maintenance factor. Conform to Title 24, Division 9 for lighting requirements. Provide not less than ten foot-candles in halls, thirty foot-candles in rest rooms and fifty foot-candles in all other areas, unless specifically noted otherwise. (eighty foot-candles in drafting room areas).
3. Each working space, utility or storage room shall have at least one receptacle. Each office shall have a minimum of one (1) receptacle on each twelve feet (12') of wall space. See plans for additional and/or special outlets.
4. Provide twenty-four (24) hour lighting for security.
5. Emergency lighting - Shall be provided where required by applicable codes, or natural lighting will not provide sufficient lumens for emergency exiting of building.

**C. EXTERIOR LIGHTING**

1. Install sufficient lighting to provide a minimum of five (5) foot-candles of illumination at each building entrance, around the perimeter of the building, in the parking and maneuvering areas and on driveways.
2. All exterior lighting shall be high or low-pressure sodium as specified by the County.

Fixtures shall be controlled by photocell, time clocks, or combinations of both.

### **TELEPHONE AND COMMUNICATIONS**

Reference Separate Attachment: RCIT Telecommunications Infrastructure Specifications