

**Subject: County of Los Angeles Data Center Space Requirement**

The County of Los Angeles, Chief Executive Office, Real Estate Division (CEO-RED) is issuing this Property Search for the purchase of a vacant, ready to occupy Tier III Data Center facility. The Data Center requirements are as follows:

- Single-tenant, standalone data center facility
- 14,000 square feet of IT space
- 5,000 square feet of office space
- 19,800 square feet of support space
- 38,800 square feet of total space
- 20,000 square foot utility yard
- 75-100 Parking Spaces
- 800KW-2.1MW of IT electrical power

Please refer to the detailed instructions and specifications for more information. All submissions must document compliance with the County's detailed specifications.

Any questions regarding this notice can be directed to Acquisitions at (213) 974-4300 or [Leaseacquisitions@ceo.lacounty.gov](mailto:Leaseacquisitions@ceo.lacounty.gov). Submissions will only be accepted through July 15, 2015 at the following email: [Leaseacquisitions@ceo.lacounty.gov](mailto:Leaseacquisitions@ceo.lacounty.gov).

It is important to note that this Property Search does not bind the County of Los Angeles to any property, broker, or term sheet. Only the County Board of Supervisors can bind or commit the County to any of the aforementioned obligations. CEO-RED receives commissions, if applicable, on any County-related real estate transaction.

Si no entiende esta noticia o si necesita más información, favor de llamar a este numero (213) 974-4300.

Property Search for  
**Ready to Occupy Tier III Data Center**  
in LA Basin



29 June, 2015

## 1.0 Overview

The County of Los Angeles is performing a data center search for the purchase of a vacant and ready to occupy Tier III data center within the Los Angeles basin. The data center requirements are as follows:

- Single-tenant , standalone data center facility
- 14,000 square feet of IT space
- 5,000 square feet of office space
- 19,800 square feet of support space
- 38,800 square feet of total space
- 20,000 square foot utility yard
- 75-100 Parking Spaces
- 800KW-2.1MW of IT electrical power

Please refer to section 3.0 for detailed specifications.

## 2.0 Instructions and Timeline

Please respond to this Property Search by providing a list of available ready to occupy Tier III data centers along with details of whether these available data center facilities comply with the specification outlined in Section 3.0 and any pertinent pricing/cost information.

**Please provide your response no later than Wednesday, July 15.**

It is important to note that this Property Search does not bind the County of Los Angeles to any property, broker or term sheet. Only the County Board of Supervisors can bind or commit the County to any of the aforementioned obligations. The County of Los Angeles, Chief Executive Office, Real Estate Division receives commissions, if applicable, on any County-related real estate transaction.

## 3.0 Specifications

### 3.1 General Requirements

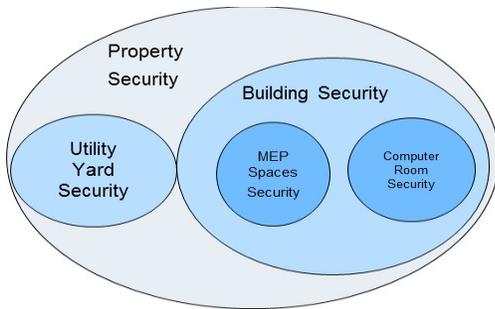
1. Sites located within Los Angeles County are strongly preferred. Sites in adjacent counties may also be considered, but are not preferred.
2. Data center shall be ready for occupancy, free of tenants and any binding contracts.
3. Data center shall comply with TIA-942-A (2012) Tier III specifications and be able to pass formal certification if so desired by the County. Further description of the TIA-942-A standards are provided in the Appendix.

4. Building shell shall comply with the International Building Code (IBC) Essential Facilities specifications and be designed in accordance with seismic Zone 4 requirements. Here is a link to the 2012 IBC: <http://publicecodes.cyberregs.com/icod/ibc/2012/>
5. Building shall be a single tenant standalone data center facility.
6. The data center electrical and mechanical infrastructure must have at least 10 years of useful life before any major upgrades are needed and must be energy efficient. (A power usage effectiveness (PUE) of 1.4 or better is desired).
  - A. Power Usage Effectiveness (PUE) measures the efficiency of a data center's energy usage. It is the ratio of the total amount of energy consumed to the energy delivered to the computer equipment. It is calculated using the following equation:  
**$$\text{PUE} = \frac{\text{Total Facility Energy}}{\text{IT Equipment Energy}}$$**

## 3.2 Site Considerations

In compliance with TIA 942-A, Data center site should comply with the following:

1. The site should not be located in a 100-year flood plain, near an earthquake fault (to the extent that this is possible in Los Angeles County or an Adjacent County), on a hill subject to slide risk, or downstream from a dam or water tower.
2. The building should not be nearby other buildings, aerial towers or other similar structures that could create falling debris during an earthquake.
3. The building should not be in the flight path of any nearby airports.
4. The building should be no closer than 0.8 km (½ mile) from a railroad or major interstate highway to minimize risk of chemical spills and other similar disruptions.
5. The building should not be within 0.4 km (¼ mile) of an airport, research lab, chemical plant, landfill, river, coastline, or dam.
6. The building should not be within 0.8 km (½ mile) of a military base.
7. The building should not be within 1.6 km (1 mile) of a nuclear, munitions, or defense plant.
8. The building should not be located adjacent to a foreign embassy or gas-station.
9. The building should not be located in high crime areas
10. The building should be located in an area where there is good access to utilities such a power, water and fiber optic telecommunication connections from the major telecom carriers.



11. Facility shall provide a minimum of 3 concentric rings of security before access to the computer room or any critical power and cooling infrastructure is gained (see picture below).
12. Minimum of two layers of security shall be provided for any equipment installed in a utility yard.
13. Property and building access must be fenced or have space to be fenced.
14. Building must have at least a 50' setback from any parking spaces and 100' setback from roads.
15. There should be parking available for 75 – 100 cars.

### 3.3 Space requirements

Preliminary list of required spaces and their size estimates for data center is shown in the table. This is not a comprehensive list but is intended to provide reasonable guidance.

No	Space	Size (Sq. Ft.)
1	Computer Room (SF)	14,000
2	Operations Center	1,000
3	Staging Room	800
4	Tape Storage	700
5	Electrical Rooms	4,000
6	Battery Rooms	1,700
7	Mechanical Rooms	4,000
8	Mechanical Galleries for Air Handlers	1,500
9	Loading and Receiving	450
10	Parts and Storage	1,000
11	Ramps, Corridors, Lobby	3,000

12	Hotel Office Space	1,000
13	Conference Rooms	650
14	<b>Total Support Areas (SF)</b>	<b>19,800</b>
15	Office Area (SF)	5,000
<b>16</b>	<b>Total Gross Square Footage (SF)</b>	<b>38,800</b>
17	Utility Yard (SF)	20,000

### 3.4 Electrical Requirements

Electrical requirements are as follows:

1. Electrical systems shall be designed for day 1 usable capacity between 800 KW, expendable in a modular design to 2.1MW. Initial capacity greater than 800 KW is acceptable. The system shall be designed to support expansion to 2.1 MW without outage to the operating data center.
2. Computer room shall be designed to support rack densities of up to 24KW
3. Electrical systems shall be designed with two active power pathways to each IT equipment downstream of the Utility Service Entrance.
4. The electrical distribution system to all IT and Mechanical equipment shall be concurrently maintainable.
5. The electrical distribution system supporting IT and Mechanical loads shall not include any single points of failure.
6. Permanent load banks should be installed for testing of generator and UPS systems.
7. Unconditioned house power outlets shall be provided throughout the computer room and facility for tools.
8. Lightening protection shall be provided.
9. Transient voltage surge suppression (TVSS) should be used throughout the power distribution system.
10. Grounding and Signal Reference Grid (SRG) should be provided for all IT equipment

### 3.5 Mechanical Requirements

1. The power distribution system for all HVAC and mechanical equipment shall be concurrently maintainable.
2. Computer room air handler redundancy should be able to be N+2.
3. Electrical, UPS, and battery room HVAC system shall be able to be N+1 redundancy

4. Efficiency of HVAC system should support a target Power Usage Effectiveness (PUE) of 1.4 or less.
5. All HVAC air handlers should use VFD or EC motors for maximum efficiency
6. Use of a chilled water (CW) system is not a requirement, but if present the following additional requirements shall be met:
  - a. Minimum redundancy of N+1 for all chillers, primary pumps, secondary pumps, cooling towers, and condenser pumps or ability to add components to achieve N+1 redundancy
  - b. Chilled water and condenser water loops must be concurrently maintainable by use of either 2N configuration or double ended lines and isolation valves or have the ability to add components to achieve 2N redundancy.

### **3.6 Additional Requirements**

1. There should be office space available for 25-50 people include general office needs (bathrooms, break room, etc.)
2. There should be access security and video surveillance already in place
3. In addition to compliance with local code and National Fire Protection Association (NFPA) 75, the following fire detection and suppression requirements should be met:
  - a. VESDA smoke detection system or a similar early warning device should be deployed in the computer room.
  - b. Double interlock pre-action sprinkler system shall be used as a substitute for wet sprinkler system
  - c. Use of gracious fire suppression system such as FM200 or Inergen is recommended, but optional.
  - d. All handheld fire extinguishers shall be CO2, FM200, or Inergen

## Appendix: Summary of TIA 942-A

	Description (TIA 942-A)	Common Usage Models
<b>Tier I: Basic</b>	<ul style="list-style-type: none"> <li>• Single points of failure exist which can result in unscheduled outages.</li> <li>• Single path for power and cooling distribution will require scheduled outages for maintenance</li> <li>• No redundant components, therefore replacement of parts can prolong outage</li> </ul>	<ul style="list-style-type: none"> <li>• Non critical systems</li> <li>• Test and development</li> <li>• Disaster recovery</li> <li>• High Performance and Scientific Computing where downtime can be tolerated</li> <li>• Applications that are distributed among multiple data centers such as internet search engines</li> </ul>
<b>Tier II: Some Redundant Components</b>	<ul style="list-style-type: none"> <li>• Redundant components can reduce time to recovery</li> <li>• Not all single points of failure are eliminated, therefore unexpected outages are still possible</li> <li>• Single path for power and cooling distribution will require scheduled outages for maintenance</li> </ul>	<ul style="list-style-type: none"> <li>• Critical systems that are active/active at more than one DC</li> <li>• Disaster recovery</li> <li>• Engineering and product development</li> <li>• Local manufacturing sites</li> <li>• Satellite data centers</li> </ul>
<b>Tier III: Concurrently Maintainable</b>	<ul style="list-style-type: none"> <li>• Multiple power grids or continuous on-site generation capability</li> <li>• Multiple power and cooling distribution paths, but only one path may be active</li> <li>• Redundant components and distribution paths are configured as concurrently maintainable, thereby eliminating any scheduled outage for maintenance.</li> </ul>	<ul style="list-style-type: none"> <li>• Mission critical applications</li> <li>• E-Commerce sites</li> <li>• Co-location and managed services with contractual SLAs</li> <li>• Primary corporate or government data centers</li> <li>• Global centers where downtime cannot be scheduled</li> </ul>
<b>Tier IV: Fault Tolerant</b>	<ul style="list-style-type: none"> <li>• Multiple power grids or continuous on-site generation capability</li> <li>• Multiple active power and cooling paths</li> <li>• Redundant components are concurrently maintainable and fully fault tolerant.</li> </ul>	<ul style="list-style-type: none"> <li>• Extensive financial transactions</li> <li>• Large financial institutions</li> <li>• Insurance industry</li> <li>• Some co-location and managed services providers</li> </ul>