

San Diego County Regional Airport Authority
San Diego Rental Car Center
Tenant Design and Construction Standards



June 6, 2014

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1.0 INTRODUCTION

The Tenant Design and Construction Standards apply to the development of proprietary exclusive leasehold improvements and / or modifications within each Tenant's allocated premises at the San Diego International Airport Rental Car Center. These standards apply to all common-use and exclusive-use Tenant components, including: allocated vehicle ready/return facilities, Quick Turnaround Area vehicle service areas, exit security booths and customer service booths. These standards and criteria are intended to provide each Tenant, its designers and its contractors with information required for the design and construction of each Tenant's leasehold improvements.

These standards are generally organized to describe the work included in the Base Building, and the responsibility of the Airport, and work that shall be Tenant Improvements within the respective Exclusive Use Premises and the responsibility of the Rental Car Center Tenants as delineated per Exhibit G-1 of the Lease Agreement. The design section is further subdivided into the four major building components:

1. Ready/Return Areas (Operational Floor Plates)
2. Customer Service Building
3. Quick Turnaround Areas
4. Staging and Storage Areas

These standards must be read and applied in their entirety. Should there be any inconsistencies or ambiguities in this document, the Authority will be the sole interpreter of these Standards. Should there be any inconsistencies or ambiguities between the Tenant Design and Construction Standards and the Rental Car Lease and Concession Agreements, the Lease and Concession Agreements shall govern. Design standards and criteria incorporated herein apply to building materials, appearance and durability of improvements, signage, uses of the buildings and surrounding site, and Rental Car Center standards for Tenant improvements on the Rental Car Center site.

The construction section describes general issues and is further divided into three categories:

1. General construction information
2. Initial tenant improvement construction

1.1 DEFINITIONS

- Acceptance - "Accept", "accepted", "acceptable", "acceptance" and words of similar import will mean that acceptance by the Authority or its authorized representatives is required unless otherwise stated. Acceptance will always be in writing.
- Alteration - "Alteration" shall have the meaning set forth in Article 13.1 of the Lease Agreement.
- Approval - "Approve", "approved", "approval" and words of similar import will mean that approval of the Authority or its authorized representatives is required unless stated otherwise stated. Approval will always be in writing.

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- Authority shall mean the San Diego County Regional Airport Authority. The term as used in this document means the same as Owner, which is the San Diego County Regional Airport Authority (the Authority) or its authorized representative(s).
- Base Building – Includes all improvements that will be designed, funded and constructed including Site Development, and the Rental Car Center structure, but exclusive of tenant improvements within tenant exclusive-use premises. In the Lease Agreement it is known as the Project. “Project” shall mean and refer to the construction of the Rental Car Center on the Rental Car Center Site.
- Base Building Construction Manager at Risk (CMAR) – The CMAR or their designee, will be responsible to coordinate the construction of all Base Building components: Site Development, and the Rental Car Center structure. The Authority has contracted with the joint venture team of Austin-Sundt to deliver the Rental Car Center.
- Base Building Design Team – The Base Building Design Team is comprised of multi-disciplined architects and engineers who designed the Base Building Project components. The Prime Consultant leading the Base Building Design Team is Demattei Wong Architecture.
- Circulation Cores – The main common-use circulation area located on first through fourth floors to be utilized for customer access to each exclusive-use area.
- Commencement Date - “Commencement Date” shall mean and refer to the date on which the Authority turns over to Operator the Exclusive Use Premises. There may be different Commencement Dates for different portions of the Exclusive Use Premises, and Operator acknowledges that it is currently contemplated that there will for Operators (other than Small Operators) be separate Commencement Dates for the those portions of the Exclusive Use Premises in the Ready Return Area, Customer Service Building, Quick Turn Around area and the Storage area (4th level of the Rental Car Center).
- Concession Agreement - “Concession Agreement” shall mean and refer to the certain concession agreement between the Authority and a particular Concessionaire, together with the exhibits to the Concession Agreement and all agreements supplemental to or modifying the Concession Agreement. Since it is expected that the Concession Term for this initial Concession Agreement will be less than the Lease Term, the term Concession Agreement specifically includes each successor Concession Agreement to which the Authority and Operator are a party.
- Concessionaire - When used in the singular, Concessionaire shall mean and refer to the particular Concessionaire executing a particular Concession Agreement relating to the operation of a Rental Car Concession in the Rental Car Center. “Concessionaire,” when used in the plural, shall mean and refer to all Concessionaires having executed a Concession Agreement relating to the operation of a Rental Car Concession in the Rental Car Center. Concessionaire is referred to as “Operator” in the Lease Agreement.
- CFM - Cubic feet per minute
- Customer Service Building (CSB) – “Customer Service Building” shall mean and refer to the customer service area located on the Ground floor of the Rental Car Center and providing areas for customer service counters and back office support space for the operation of a Rental Car Concession.
- Days - “Days” (whether capitalized or not) shall, unless otherwise specified, mean and refer to calendar days, not business days.
- Deadline for Substantial Completion - “Deadline for Substantial Completion” shall mean and refer to the date identified by the Authority for the Operators’ substantial completion of their

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Tenant Improvements. Such date may be adjusted at the sole discretion of the President/CEO of the Authority upon reasonable consultation with Operator.

- Exclusive Use Premises (EUP) - "Exclusive Use Premises" shall mean and refer to those Portions of the CSB, the Ready/Return Area. The Quick Turn Around Space and Vehicle Storage Area (if any) as determined in accordance with Article 11 of the Lease Agreement and as thereafter indicated on Lease Agreement Exhibit B and depicted on Lease Agreement Exhibits C-1, C-2, C-3, C-4 and C-6.
- Facility Manager - "Facility Manager" shall mean and refer to the party chosen by the Operators to operate and maintain the Common Use Area pursuant to Article 15.1.3.2.1, "Common Use Area", of the Lease Agreement.
- Fixtures, Furniture & Equipment (FF&E) - Improvements that are not affixed to any permanent structure and that can be removed without damage to the premises.
- Fuel Facility Manager - "Fuel Facility Manager" shall mean and refer to the party chosen by the Operators to operate the fueling facilities.
- Guarantee / Warranty - No distinction between the meaning of the words "guarantee" and "warranty" or their derivative word forms is intended or implied by any Document of this Agreement. These words are used interchangeably. Guarantee and Warranty refer to "performance of the work" and are commonly associated with time and quality of construction.
- Initial Allocation - Allocation of Exclusive Use Premises as described / reflected in Exhibits J, C-1, C-2, C-3, C-4 and C-6 to the Lease Agreement
- Lease Line - The line of demarcation separating the Base Building construction and the area in which the Tenant shall design, construct and fund its proprietary leasehold improvements.
- Lease Agreement - "Lease Agreement" shall mean and refer to that certain lease agreement between the Authority and a particular Operator, together with the exhibits to the lease agreement and all agreements supplemental to or modifying the lease agreement, whether made contemporaneously therewith or subsequent thereto.
- Light Vehicle Maintenance - Shall mean and refer to the changing and rotation of tires, changing of belts, wiper blades, hoses and lamps, the changing of motor oil, oil filters and air filters, the flushing/changing of antifreeze/coolant or transmission fluid, changing/replacing windshields, replacing vehicle batteries, brake repair and maintenance (pads/rotors), and other minor repairs or replacements similar in nature and as approved by the Authority."
- Opening Date - "Opening Date" shall mean and refer to the date identified in the Lease Agreement for the public opening of, and commencement of all rental car operations from, the Rental Car Center; provided, however, the Opening Date may be adjusted at the sole discretion of the President/CEO of the Authority upon reasonable consultation with Operator.
- Operational Floor Plate - Areas within the building used for Rental Car Ready/Return operations.
- Operator - "Operator," when used in the singular, shall mean and refer to the particular Operator executing a particular Lease Agreement and Concession Agreement related to the operation of a Rental Car Concession in the Rental Car Center. "Operator," when used in the plural, shall mean and refer to all Operators having executed a Lease Agreement and Concession Agreement related to the operation of a Rental Car Concession in the Rental Car Center.
- Operator's Manager of Construction - "Operators' Manager of Construction" shall mean and refer to such construction management firm as the Operators' may elect to utilize for purposes of monitoring the construction of the Project.

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- Perform - "Perform" shall mean that the Tenant, at Tenant's expense, shall perform all the operations, including design, labor, and procurement of material and equipment necessary to complete the Work.
- PLF - Pounds per linear foot
- Premises - "Premises" shall mean and refer to the Exclusive Use Premises together with the Fuel Facilities and QTA Equipment, Common Use Area, and, for any Operator that is a Small Operator, the Small Operator Shared Area.
- Provide - "Provide" shall mean that the Tenant, at Tenant's expense, will furnish and install all work, complete in place and ready for the intended use. This definition applies the same to future, present, and past tenses except "provided" may mean "contingent upon" where such is the context.
- PSF - Pounds per square foot
- Quick Turn Around (QTA) Space - "QTA Space" shall mean and refer to the quick turnaround areas to be located immediately to the west of the Ready / Return Area and to be utilized by Operators for purposes of car washing, cleaning, fueling , or Light Vehicle Maintenance activities.
- QTA Equipment - "QTA Equipment" shall mean and refer to all equipment supplied by the Authority located in the QTA Space and used in connection with car washing, cleaning, light vehicle maintenance, and fueling activities, other than the Fuel Facilities. The QTA Equipment includes, without limitation, the car washes and associated standard equipment, the vacuums, all fluid and/or compressed air dispensing systems, and vehicle lifts.
- Ready/Return Area - "Ready/Return Area" shall mean and refer to those portions of the Rental Car Center located on the first through third floors to be utilized by the Operators for purposes of stacking, staging, returning and delivering rental cars. Each floor of this area is also referred to as an Operational Floor Plate.
- Rental Car Center (RCC) - RCC shall mean and refer to the RCC to be constructed by the Authority. The RCC includes (but is not limited to) the Circulation Cores, the Ready/Return Area, the CSB, the QTA Areas and all improvements (including Additional Special Facilities, if any) on the RCC Site.
- Rental Car Center Tenant Design and Construction Standards (Tenant Standards) shall mean and refer to those standards as contained within "Exhibit G-1" and "Exhibit G-2" of the Lease Agreement, and shall govern the development, design and construction of the Rental Car Center EUP.
- RCC Tenants (Tenants or Tenant) – Rental car companies who lease space and operate vehicle rental services at the RCC.
- Required - The word "required" and "required by the Authority" and words of similar import shall mean "as required to complete the work", as is applicable to the context of the place where used, unless stated otherwise.
- Roughed-In - Extended and terminated near or within the tenant space, with the Tenant completing the remaining Portions of work as required. Should the City or Authority require certain building areas to have received a Temporary Certificate of Occupancy (TCO) prior to the commencement of Tenant Improvements, "roughed in" refers to the installation of fire protection, fire detection, plumbing, electrical, and Heating/Ventilation/Air Conditioning (HVAC) systems to the extent required for such TCO. For the purposes of this document, TCO may also be regarded beneficial occupancy.
- San Diego County Regional Airport Authority (SDCRAA) or "Authority" - The entity responsible for operation, maintenance and development of the San Diego International Airport.

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- San Diego County Regional Airport Authority-Electrical Service (SDCRAA-ES) – Electrical utility providing electric service to the site via an internal 12kv line.
- Small Operator - “Small Operator” shall generally mean and refer to an Operator whose market share constitutes less than 2.5 percent of the overall market share for rental cars at the Airport and who operates from the Small Operator Area; provided, however, the Airport shall have the right to treat an Operator that otherwise falls under this Market Share standard that is showing significant growth and approaching the Market Share standard as other than a Small Operator. Also referred to as Small Operator Tenants – Reference Exhibit F of the Lease Agreement.
- Small Operator Area - “Small Operator Area” shall mean and refer to those Portions of the Ready/Return Areas and QTA Spaces that are set aside by the Authority for the use of the Small Operators. The Small Operator Areas consist of both EUP assigned to individual Small Operators and the Small Operator Shared Area for use, in common, by all of the small Operators.
- Submit - “Submit”, “submittal”, “submission”, and other terms of similar import will include the meaning of the phrase “submit to the Authority for approval” unless otherwise stated.
- Tenant – Any person, firm, corporation, or other entity that has or enters into an agreement with the Authority for the purpose of conducting business within the boundaries of the Authority property.
- Tenant Improvement – The design, construction, renovation, alteration, repair, relocation, or demolition of any structure, building facility or any part thereof including, but not limited to, paving, fencing, signs, landscaping, and utility services to or within any building site or interior site by or on account of a tenant.
- Tenant Leasehold Area - Also referred to as Exclusive Use Premises, or EUP.

1.2 PROJECT DELIVERY

The following has been adopted as the procedure by which the RCC Project and the EUP shall be developed. The Authority has contracted with a comprehensive Base Building Design Team (BBDT) to address the overall planning and design of the Project site. This team includes Demattei Wong Architecture (Prime Consultant), Simon Wong Engineering, Martin & Libby (structural engineering sub-consultant), Parsons Brinckerhoff (Civil, Structural, MEP engineering sub-consultant) and Blymyer Engineers Inc. (vehicle fueling / QTA sub-consultant).

The Authority has contracted with Austin-Sundt to provide Base Building CMAR services for the following work: 1) Site Civil/Infrastructure Improvements; 2) Circulation Cores; 3) Operational Floor Plates; 4) CSB, and 5) QTA areas.

The Tenant shall refer to the Base Building Construction Documents and Basis of Design for all details regarding the Base Building, including plans and specifications. Each Tenant shall be responsible for the design and construction of its improvements within its EUP. During the design of each Tenant’s EUP, the Tenant shall submit its design documents to the Authority Project Manager at the completion of the schematic design, 35%, design development 60%, and construction documents 100% design completion phases for review by the Authority. Please refer to the Airport Concession Development Manual (CDM), Section 09, “Design Review & Submittal Process”, for process requirements. The Tenant shall be responsible for submitting its construction documents to City of San Diego Building Department for review and issuance of a building permit. The tenant shall also be responsible for any costs associated with obtaining building permits or use and occupancy permits. Any Tenant seeking to use an alternative approach or otherwise vary from the

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fulfillment of the requirements stated herein may submit written documentation explaining and supporting its position to City of San Diego Building Department, and the Authority for consideration.

1.3 AUTHORITY CONTACT

All contact with the Authority regarding tenant improvements to the RCC are to be through Bob Bolton, Authority Project Manager, as follows:

Bob Bolton
bbolton@san.org
(619) 400-2935

1.4 PROCUREMENT OF DESIGN CONSULTANTS AND CONSTRUCTION CONTRACTORS

Each Tenant shall select the design and construction entities of its choice. Tenants shall comply with rules and regulations including all applicable Federal, state and local regulations.

Tenants may contract with any member of the existing Base Building Design Team individually or collectively to provide design services. Neither the Base Building CMAR nor any subcontractor working for the Base Building CMAR will be precluded from performing work on the EUP Improvements.

1.5 LEASEHOLD IMPROVEMENTS

Each Tenant shall be solely responsible for the funding, design, construction and commissioning of its EUP Improvements.

The following descriptions indicate the general anticipated scope for the specific items of the Tenant Leasehold Improvements to its EUP. The EUP shall include: 1) Ready/Return Area Operational Floor Plate improvements; 2) CSB retail space; 3) QTA improvements; and 4) Vehicle Staging and Storage Area. Exhibit B (first, second, third and fourth floor) of the Lease Document provides an overall view of Levels 1 through 4 generally indicating exclusive-use area, common-use area, and 3rd party operator areas

1.5.1 Ready/Return Areas / Operational Floor Plate Improvements

If Tenant requirements exceed the capacities or requirements of what is being provided by the Authority, the Tenant may request to upgrade or change said service or requirements from the Authority. The Authority will review the request and will render, at its sole discretion, a decision in writing to the Tenant. Should the Authority authorize the Tenant's request the Tenant shall proceed with the work at Tenant expense under Authority oversight and supervision. The Authority reserves the right to require modifications to the Base Building or Base Building systems to be performed by a Base Building CMAR at Tenant expense.

If the Authority incurs direct or indirect costs associated with the Tenant request for a change to the Base Building, the Tenant shall compensate the Authority. The Authority's Sustainability Policy states, in part, that it is: "...essential for San Diego International SDIA to continue to evolve into a known benchmark and respected role model for best

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sustainable practices in the San Diego region and the aviation industry. The Authority realizes that, "sustainability is consistent with and vigorously reinforces the Authority's mission statement which is to operate San Diego's air transportation gateways in a manner that promotes the region's prosperity and its quality of life." In July 2009, the State of California incorporated voluntary green building standards into the code.

These changes became mandatory in July 2011. As such, the Authority is committed to integrating the Leadership in Energy and Environmental Design (LEED) Program into SDIA's new and existing facilities.

The Tenant is encouraged to design and construct its facilities following the recommendations and standards of the United States Green Building Council ("USGBC") LEED program in the Green Building rating System "LEED For Retail; Commercial Interiors" latest draft or edition. ***The Tenant is encouraged to try and obtain a minimum LEED Certification and as well, follow these minimum requirements:***

- Equipment and appliances to be energy efficient as qualified by the EPA's ENERGY STAR program.
- Lighting systems to be energy efficient with lighting controls and task lighting to manage energy use and make use of day-lighting opportunities where they exist.
- Maintain a comfortable thermal environment for employees and customers, with energy efficient systems properly installed, calibrated and commissioned.
- Recycle and salvage non-hazardous construction and demolition debris.
- Use low VOC emitting materials in furniture, adhesives and sealants, paints and coatings, composite wood and agricultural fiber products. Furniture is defined as any retail display fixture, casework, and built-in millwork such as wall shelving display units, display tables and fixtures, cash wrap, storage units and cabinets.
- Use materials containing no urea formaldehyde and incorporate recycled content materials and building materials that are extracted and manufactured within the region.
- Wood products are to be wood certified in accordance with the Forest Stewardship Council's principles and criteria.
- The Tenant shall provide LEED certification point allowance forms with the 100% construction document submittal to demonstrate its good faith effort to comply with the LEED requirements as outlined herein. Should LEED requirements conflict with those set forth in this manual, the Tenant shall notify the Authority of the conflict for final resolution.

Tenant is required to attenuate the transmission of sound from their leased premises to all surrounding public and adjacent areas. The Tenant shall meet the following minimum requirements for Sound Transmission Class (STC), Impact Insulation Class (IIC) Noise Reduction Coefficient (NRC), and Noise Criteria (NC). NC values for all equipment, including but not limited to the HVAC systems, shall comply with the generally accepted practice by the American Society of the Heating Refrigeration and Air Conditioning Engineers (ASHRAE), sound and vibration design guidelines. The NC Level within the leased premises as a result of any equipment or system shall be limited to NC 40. All equipment, including but not limited to the HVAC systems, shall be vibration isolated from the terminal structure.

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The Tenant design and space planning shall strictly consider adjacencies and STC values. The Tenant's design team must confirm adjacencies prior to the start of design. IIC will be a minimum of 50 for all hard surfaced floor areas above occupied spaces. All waterproofing underlayment material must also be rated to increase the IIC of the floor assembly. Examples of isolation underlayment material manufacturers are Noble Seal, Ekasonic and Kinetic Noise Control.

Base Building Scope

The Base building scope is as defined in Exhibit G-1 of the Lease and as follows: Base Building construction includes the operational floor plate structure, vertical circulation cores, way-finding signage, lighting, common-use area striping, roughed-in utilities, IT backbone conduit, copper and fiber cabling, IT racks (enclosed racks or racks within cages), and termination devices (punch-down blocks or lockable cabinets) for terminating backbone cabling.

(Reference Exhibit D-2 of the Lease Agreement for Special Building Systems)

Tenant Scope

Tenant Scope is as defined in Exhibit G-1 of the Lease.

The operational floor plates (vehicle rental, return, parking and staging areas) shall be organized with each Tenant occupying a portion (or all) of a single level per Lease Agreement. Each Tenant shall secure its parking allocations and control its public entry / exit by exit booths, and other access control devices such as "tiger teeth", plate barrier, and gate arms. Tenants with larger market shares may utilize multiple exit points and exit booths.

Each Tenant shall be responsible for the costs of labor, material and equipment required for enhancements that may include but not be limited to signage elements associated with preferred customer convenience (booths, signs, etc.) and other items dedicated to customer convenience and satisfaction. Structural penetrations, mountings, anchors, fastening systems, and other such items shall be coordinated with the Base Building Design Team. Other basic requirements within the ready and return areas of a Tenant's Exclusive Use Premises operational floor plate area covered by this category include:

- Vehicular control system, "tiger teeth" devices, plate barrier, and gate arms. Such passive and active systems shall be surface mounted.
- Company unique parking space designation signs, electrical wiring, and communication cabling for all EUP equipment, and paint striping.
- Other miscellaneous temporary and permanent traffic circulation signage.
- Pavement markings required for circulation within the lease areas.
- Customer Service Booths and Exit Booths

The location of exit booths and customer service booths on levels 2 and 3 shall be restricted to areas of the operation floor plate that are structurally reinforced to accommodate the increased structural loads as part of the Base Building, as illustrated in Exhibit 7 of this document. Zones for exit booths and customer service booths are

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illustrated in Exhibit 27 – Level 1 and Exhibit 28, Levels 2 and 3. Exit booths and customer service booths shall not be constructed or located to obstruct customer visibility or interfere with access to, or visibility of, booths owned by another Tenant.

Electrical, communications, HVAC, fire suppression and other utility services to customer service and exit booths shall be provided by the Tenant.

1.5.1.1 Barriers

Base Building Scope

The Base Building Scope is as defined in Exhibit G-1 and as follows: The perimeter of the secured vehicle storage areas located on the operational floor plates shall be separated from non-secured areas with a re-locatable barrier system provided by the Base Building.

Tenant Scope

Tenant Scope is as defined in Exhibit G-1 and as follows: Barriers within Tenant EUPs shall be provided by the Tenant. Barriers may only be located on structural beams and in structurally reinforced areas as indicated on Exhibits 7 through 11 of this document.

1.5.2 CSB

1.5.2.1 Plaza

Base Building Scope

The Base Building Scope is as defined in Exhibit G-1 and as follows: The Plaza and Common-Use Areas will provide common customer services including circulation to access each company's EUP lobby areas and customer amenities. The common use areas includes finished floors, walls and ceilings up to the EUP area, basic building systems including fire protection, mechanical, electrical, and general communications.

Common-use features include:

- 1) Common Public Restrooms
- 2) Common Employee Restrooms
- 3) Security provisions
- 4) Miscellaneous Customer Amenities
- 5) Vertical Circulation (Elevators and Escalators)

Tenant Scope

There is no tenant scope nor will plaza tenant improvements be allowed in the Plaza or common-use areas.

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1.5.2.2 EUP Lobbies, Customer Counters, Customer queuing space and Back of House Offices

Base Building Scope

The Base Building Scope is as defined in Exhibit G-1 and as follows: The multiple EUPs will include sufficient space to be exclusively leased to each Tenant for its construction of a customer lobby, customer transaction counters, customer queuing area and support office administrative functions.

Similar to an office building, the building shell and EUP include “roughed-in” basic building systems including fire protection, mechanical, electrical conduits, plumbing and waste (for exclusive-use employee break rooms) and general communications conduits as part of the Base Building. Design standards have been established that address acceptable materials and quality to which each Tenant shall adhere.

Tenant Scope

The Tenant Scope is as defined in Exhibit G-1 and as follows: Each tenant is responsible for the design and construction of improvements within its exclusive-use premises including, but not limited to, the complete fit-out of their customer lobby, customer transaction counters, customer queuing area, support administrative functions areas and exclusive-use employee break rooms. Exhibit G-1 of the lease document illustrates the EUP spaces per at the Initial Allocation CSB.

Each Tenant shall be solely responsible for the costs of improvements including, but not limited to, interior wall construction, flooring, ceilings, all finishes, specialty millwork, extension of the mechanical/electrical /plumbing systems, extension and modifications to the fire detection and protection systems, data and communications wiring, lighting, signage, furniture and other Leasehold Improvements.

1.5.3 QTA Areas

1.5.3.1 Support Areas

Base Building Scope

The Base Building Scope is as defined in Exhibit G-1 and as follows: It is anticipated that each QTA back of house building will include sufficient space to be exclusively leased to each Tenant for its construction of office space to support service functions or to provide additional administrative functions.

Similar to an office building, the building shell and EUP of the QTA include “roughed-in” basic building systems including fire protection, mechanical, electrical, communications, etc. (for exclusive-use employee break rooms) and general communications as part of the Base Building. Design standards have been established that address acceptable materials and quality to which each Tenant shall adhere.

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Common-use features provided under the Base Building scope include:

- 1) Employee Restrooms
- 2) Windshield Washer Fluid system
- 3) Vacuum system
- 4) Compressed Air system
- 5) Security provisions in common-use areas
- 6) Traffic control signage for circulation, and signage required by applicable building codes, located in the common-use areas.
- 7) Miscellaneous pavement markings in common-use areas

Tenant Scope

The Tenant Scope is as defined in Exhibit G-1 and as follows: Each tenant is responsible for the design and construction of improvements within its exclusive-use premises including but not limited to administration areas and exclusive-use employee break rooms. Exhibits 12 through 18 of this document illustrate exclusive-use areas, common-use areas, and 3rd-Party Operator areas.

Each Tenant shall be solely responsible for the costs of improvements including, but not limited to, interior wall construction, flooring, ceilings, all finishes, specialty millwork, extension of the mechanical / electrical /plumbing systems, extension and modifications to the fire detection and protection systems, data and communications wiring, lighting, signage, furniture and other Leasehold Improvements.

1.5.3.2 Car Wash Area

Base Building Scope

The Base Building Scope is as defined in Exhibit G-1 and as follows: Each wash bay will include an automated car washing system with a reverse osmosis water reclamation system, including flush drains at the perimeter of the car wash area. The infrastructure (physical space and utility allowances) for optional pieces of equipment is provided. Exhibit 19 of this document illustrates a typical car wash bay.

Tenant Scope

The Tenant Scope is as defined in Exhibit G-1 and as follows: Optional pieces of equipment (and extension of related utilities) such as: Air blowers, fast-acting doors, pre-wash system and blasters, and plastic slats at car wash entry and exit openings.

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1.5.3.3 Light Maintenance

Base Building Scope

The Base Building Scope is as defined in Exhibit G-1 and as follows:

Common-lighting

Tenant Scope

The Tenant Scope is as defined in Exhibit G-1 and as follows: Tenants may also provide connection of additional air drops to compressed air system for proprietary synthetic oil systems. Exhibit 20 of this document illustrates a typical maintenance bay.

1.5.3.4 Fueling Area

Base Building Scope

The Base Building Scope is as defined in Exhibit G-1 and as follows: Fueling Equipment, which includes:

- Fuel dispensers and fuel monitoring control infrastructure
- Fuel storage tanks (below grade)
- Spill containment for the fueling area, including oil/water separators
- Lighted structure
- Hose bib at center columns
- Overhead vacuum drops
- Overhead compressed air reels
- Overhead windshield fluid dispenser reels
- VIN scanning system

Each fuel dispenser (dual nozzle) will serve two cars under a lighted structure and will be installed between traffic lanes (fuel island). On any fuel island, there will be no more than three dual dispensers and no less than two. Refer to Exhibits 21 and 22 which illustrate a typical QTA fuel island.

Tenant Scope

The Tenant Scope is as defined in Exhibit G-1 and as follows: Tenant may install a compatible card reader, pin pad or productivity meter for additional fuel inventory tracking compatible with the fuel monitoring control infrastructure.

1.5.4 Vehicle Staging and Storage Area

Base Building Scope

The Level 4 operational floor plate is provided for EUP vehicle staging and storage areas. This level shall be organized with each Tenant occupying a portion per the initial allocation reflected in Exhibit B-4 of the Lease Agreement. This area is accessible by an internal dedicated ramp system within the primary level of security.

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The perimeter of the secured vehicle staging and storage areas shall be separated from non-secured areas with a re-locatable barrier system provided by the Base Building.

Tenant Scope

Each Tenant shall be responsible for the costs of labor, material and equipment required for enhancements that may include, but not be limited to, securing its parking allocations and control its entry / exit by access control devices such as “tiger teeth”, plate barrier, and gate arms. Exhibit B (Fourth Floor) of the lease document illustrates exclusive-use and common-use areas on the roof level. Tenant shall provide any required separation/delineation within their individual EUP. Re-locatable barriers, similar to those provided by the Base Building, shall only be located over structurally reinforced areas over beams.

End of Section 1

2.0 DESIGN STANDARDS

2.1 GENERAL REQUIREMENTS

2.1.1 Procurement of Design Consultant(s)

Tenant may contract with any designer including any member of the Base Building Design Team individually or collectively for the design of their individual Tenant Improvements. See 2.1.5 "Professional Licensing" for designer requirements.

2.1.2 Design Contract

Each RCC Tenant shall include the following language in the contract with its selected Design Team:

Construction Documents – All construction documents must comply with Federal, state and local regulations and Authority Approved RCC Project-Specific BIM / CAD Standards.

Record Documents - As-Built Drawings (Record Documents) shall comply with Authority Approved RCC Project-Specific BIM / CAD Standards. Record Drawings are drawings maintained by the Tenant contractor onsite during construction and continuously updated to reflect the "As-Built" condition of the space including all addenda and change orders for the project. At the completion of the work, the Tenant shall furnish the Authority Project Manager record documents, as well as all other items identified in the Authority Concessions Development Manual, dated 4/10/2012. Chapter 11, paragraph 11.29.

2.1.3 Insurance

(Reference Article 17 "Indemnity and Insurance of the Lease Agreement for insurance requirements.).

2.1.4 Standards and Criteria for the Tenant EUP Leasehold Improvements

The design and construction of the Tenant Leasehold Improvements shall be completed in accordance with the following standards, or latest editions thereof. These standards shall be followed unless specific deviations have been requested in writing by the Tenant and approved in writing by the Authority.

2.1.4.1 Civil

2.1.4.1.1 Standard Specifications and Codes

- Standard Specifications for Public Works Construction (Greenbook), 2012 Edition
- City of San Diego Standard Specifications for Public Works Construction (Whitebook), 2012 Edition
- California Department of Transportation Manual of Uniform Traffic Control Devices, 2012 Edition
- California Department of Transportation U.S. Customary Standard Specifications, 2010 Edition

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- Requirements for Architects and Engineers Performing Services For The San Diego International Airport, April 2010

2.1.4.1.2 Standard Drawings:

- City of San Diego Standard Drawings for Public Works Construction, 2012 Edition
- 2012 San Diego Regional Standard Drawings
- California Department of Transportation U.S. Customary Standard Plans, 2010 Edition

2.1.4.2 Architectural

2.1.4.2.1 Standard Specifications and Codes

- Current California Building Code (CBC)
- 2012 City of San Diego Amendments to the 2010 CBC
- 2011 CalDag (California Disabled Accessibility Guidelines)
- 2010 ADA Standards for Accessible Design
- Master Format Division Numbers and Titles (Using 49 Section Format)

2.1.4.2.2 Standard Drawings:

- San Diego International Airport Facilities Criteria Document 16 March 2012
- Requirements for Architects & Engineers Performing Services for the San Diego International Airport Revision April 2010
- 2010 ADA Standards for Accessible Design
- BIM Requirements for Architects, Engineers, and Contractors Performing Services for the San Diego International Airport Revision August 2012

2.1.4.3 Structure

2.1.4.3.1 Standard Specifications and Codes

- Current California Building Code
- 2009 International Building Code
- 2005 ASCE 7-05 Minimum Design Loads for Buildings and Other Structures
- 2008 ACI 318-08 Building Code Requirements for Structural Concrete
- 2005 AISC 360-05 Specification for Structural Steel Buildings

2.1.4.3.2 Standard Drawings:

- Seismic Provisions for Structural Steel Buildings (ANSI/AISC 341-05) including Supplement No. 1 (ANSI/AISC 341s1-05)

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- AISC Standard Prequalified Connections for Special and Intermediate Steel Moment Frames for Seismic Applications (ANSI/AISC 358-05)

2.1.4.4 Fire protection

- NFPA 72, National Fire Alarm and Signaling Code, 2010
- NFPA 13, Standard for the Installation of Sprinkler Systems, 2010 Edition
- 2010 Edition of the California Fire Code (CFC).

2.1.4.5 Mechanical / HVAC/ Plumbing

2.1.4.5.1 Standard Specifications and Codes

- Current Title 24, Part 4 California Mechanical Code
- Current Title 24, Part 6 California's energy efficiency standards for residential and non-residential buildings.
- Current Title 24, Part 11 California Green Building Standards Code
- City of San Diego Technical Policy 4-1, Minimum Plumbing Facilities, Issued May 2012
- 2010 Edition of the California Plumbing Code (CPC)

2.1.4.3.2 Standard Drawings:

- ASHRAE 52.2, -1999 Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size
- ASHRAE 55 - 2004, Thermal Environmental Conditions for Human Occupancy
- ASHRAE 62.1- 2007, Ventilation for Acceptable Indoor Air Quality
- NFPA 54, National Fuel Gas Code
- NFPA 90A: Standard for the Installation of Air-Conditioning and Ventilating Systems
- ASHRAE 90.1 – 2007 Energy Standard for Buildings Except Low Rise Residential Buildings

2.1.4.6 Electrical

- 2010 California Electrical Code (CEC), C.C.R. Title 24 Part 2
- Current California Building Code
- 2010 California Energy Code
- 2010 California Green Building Standards Code
- San Diego International Airport Facilities Criteria Document 16 March 2012

2.1.4.8 Information technology / security / Fire alarm

- 2010 California Electrical Code
- Current California Building Code
- Telecommunication Industry Association and Electronic Industry Alliance (TIA/EIA)
- Building Industry Consulting Services International (BICSI)

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- 2010 ADA Standards for Accessible Design
- NFPA 72, National Fire Alarm and Signaling Code, 2010 Edition
- San Diego International Airport Information Technology Infrastructure Standards Construction Manual, dated February 1, 2011

2.1.4.9 Fueling

- NFPA 30A, Code for Motor Fuel Dispensing Facilities and Repair Garages, 2003 Edition (Ref. from NFPA 30)
- NFPA 30, Flammable and Combustible Liquids Code, 2003 Edition

2.1.5 Professional Licensing

All work and designs shall bear the seal of an Architect and/or Engineer licensed, insured and qualified to perform such work. All Architects and Engineers "sealing" the drawings and specifications shall be registered in the State of California. Out of state firms are allowed to team with A/Es licensed in the State of California to the extent allowed by the State of California.

Modifications to the fire sprinkler system shall be designed by a State of California Licensed Fire Protection Engineer under the employ of the fire protection subcontractor. Modifications to the fire alarm/detection system shall be designed by a State of California Licensed Fire alarm/detection Engineer under the employ of the fire alarm/detection subcontractor.

2.1.6 Affirmative Action

Refer to Article 31, "Miscellaneous", of the Lease Agreement for requirements.

2.1.7 Interpretation / Clarifications

The RCC Tenant Design and Construction Standards and the following sections from Authority's CDM must be read and applied in their entirety; Sections 02 - Architectural Design Standards, 04 - Interior Design Standards, 06 - Signage & Graphic Design Standards, 09 - Design review and Submittal Process, 10 - Preconstruction Requirements and 11 - Construction Standards. These standards complement other legal agreements between each Tenant and the Authority. Should there be any inconsistencies or ambiguities in this document, the Authority shall be the sole interpreter. Should there be any ambiguities between these standards and the Lease or Concession Agreement, the Lease or Concession Agreement shall govern.

2.1.8 Variance Requests

Tenant may request a variance from any Authority standard. All such requests must provide justification of the variance request and shall be made in writing to the Authority Project Manager who shall coordinate the approval or disapproval of the request within thirty days of receipt. If approved, a variance shall be issued in writing. If disapproved, the Authority Project Manager shall provide a written statement setting out the reasons for disapproval. It is recommended all variance requests are submitted with the submittal of Schematic Design (35%), or earlier.

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If conditions in the field preclude construction as designed, the Authority will consider Variance Requests on a case-by-case basis.

2.2 DESIGN REVIEW AND APPROVAL PROCESS

2.2.1 Pre-Design Kick-Off Meeting

Before the commencement of tenant design work, a mandatory Pre-Design Kick-Off meeting shall occur. Attendees shall include, at a minimum, the Tenant representative, tenant design team representative, and the Authority Project Manager. The agenda shall include, but not be limited to: introduction of participants, review of the RCC Tenant Design and Construction Standards, communication plan, required submittals and schedule. Each Tenant shall submit to the Authority a complete Gantt project schedule in Microsoft Project or Primavera reflecting all design project activities noted as bar tasks, milestones or critical path tasks. Each task shall show its respective commencement and completion dates. This schedule shall be reviewed in the kick-off meeting by the Authority Project Manager, and must be accepted, before any EUP design work is commenced on the Project.

2.2.2 Base Building Issued-For-Construction Drawings

The Authority will provide the Tenant information on available Base Building documentation. The Tenant is responsible to determine the information it needs and make their request to the Authority's Project Manager in writing. The Authority will make every effort to provide the Tenant the requested documents within 5-7 working days.

The Tenant must recognize that not all documentation may be available or permissible for release. The Authority does not warrant the accuracy or completeness of same. The Tenant is solely responsible to verify the accuracy of the information provided as well as conduct site specific surveys and inspections as required.

After initial construction of the RCC, and for all subsequent Tenant Improvements, Base Building record drawings may be accessed through the Airport Authority. The Project identification number is 104151. The Project name is "San Diego Rental Car Center".

2.2.3 Design Review Requirements

The Authority will review the design submittals for adherence to these design standards, building utility allowances and compliance with Lease Agreement and will provide comments back to the Tenant in writing. Authority reviews require three (3) weeks for the first review and four (4) weeks for subsequent reviews, approval or re-submittal. All Tenants shall go through the Authority Project Manager for coordination of submittals to the Authority.

The drawings and specifications for the proposed Tenant EUP Leasehold Improvements shall be submitted to the Authority at schematic design, 35%, design development 60%, and construction drawings 100% completion phases. (NOTE: The Customer Service Building areas will be the only locations on the project that will have schematic design phase. All other locations, Ready/Return and QTA, will not require a schematic review.) Plans and specifications shall include a date reference on every page. One (1) full-sized set

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and seven (7) sets of half-size drawings on bond are required for each submittal and complete package in pdf format burned to a CD.

Refer to the Concession Development Manual, Section 9.6 - Submittal Requirements for the following:

SCHEMATIC DESIGN REVIEW – 35%

After the initial pre-design meeting, the Tenant analyzes the project based upon the requirements of this manual and any project specific issues or requirements identified by the Authority. From these parameters the Tenant prepares a schematic design consisting of drawings (plans, sections, elevations), renderings (color renderings of the customer service and ready/return areas including signage concept), finish material boards (no more than two (2) samples per each 11 x 17 board – minimum sample size 4" x 4"), signage and graphics plans and elevations with material samples, outline specifications and other documentation as required to accurately illustrate the scale and relationships of project components, furnishings, space planning, lighting, fixtures, displays, equipment and systems. A preliminary project cost estimate and updated project schedule shall be submitted along with schematic design documentation.

At the completion of schematic design the Authority's Project Coordinator will schedule a meeting with the Authority's Architectural Review Team. The Tenant is required to provide an overview of the schematic design submittal including all materials and finishes proposed for the project. The architectural review team will review the schematic design for compliance with the Authority's design standards as outlined within this manual. Upon review and acceptance by the Authority of the schematic design documents, preliminary cost estimate, and updated project schedule submitted by the Tenant, this phase of service is complete.

DESIGN DEVELOPMENT REVIEW – 60%

The Design Development Review includes the preparation of more detailed design drawings and other product and systems data relating to the premises appearance, millwork, storefronts, furnishings, mechanical system extensions, electrical systems, plumbing fixtures and distribution, telecommunications systems, intercom systems, fire alarm system extensions, fire protection system extensions, construction materials and finishes, and other essential project components. The Tenant shall update the project cost estimate and the project milestone schedule and further refine the project delivery planning by considering accommodation for long-lead procurement and fabrication items. Additionally the Tenant shall submit an updated finish material board and renderings if changed from schematic design. The design development review process is mandatory for complex tenant improvements; however, may be waived for less complex improvements at the sole discretion of the Authority Project manager.

CONTRACT DOCUMENT REVIEW – 100%

This submittal must fully address all issues Identified in the Authority's Design Review from previous submittals. The Construction Document Review includes the preparation of contract construction documents, and technical specifications all describing in technical

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detail the construction contract scope of work to be performed. These contract documents shall include all Authority design, safety, security and construction requirements. The Tenant shall coordinate these requirements with the Authority's Project Manager prior to the submission of the contract documents for Authority review. The Tenant additionally shall submit an updated construction schedule, as well as a site logistics and project coordination plan.

The minimum requirements for construction (100%) documents are as follows:

- Site and Civil plans and specifications, where applicable, including a site drainage plan.
- Demolition plans showing specific walls, equipment and systems or portions thereof to be removed.
- Architectural plans and specifications showing completely the extent of new construction including elevations of all permanent millwork, and types of new and modified partitions and finishes.
- Reflected Ceiling Plans showing types / elevation of all ceiling finishes; coordinated as required with HVAC and lighting components.
- Structural plans showing any new work or modifications to existing systems.
- Mechanical and HVAC plans and specifications showing complete diagrams of the new equipment, and ductwork and connections to duct work, including all register locations, all return air locations, thermostat locations, and fire and smoke detector locations.
- Electrical plans and specifications, showing power wiring to all switches and receptacles, communications and data cables and outlets, emergency lighting / exit signage systems, and fire alarm systems.
- An outline statement of the mechanical and electrical design criteria for the project, including an electrical load analysis and proposed connections to the Authority's utilities infrastructure.
- Key plan(s) indicating the location of the improvements (usually on the cover sheet of the construction documents).
- Sample board (s), covering finishes, materials and colors, if there have been any changes or additions from the 35% set.
- Any industry, Federal, state, or local standard or other standards or specifications cited in the Tenant Design and Construction Standards, must be incorporated into the Tenant's construction documents.
- Fire Protection (Sprinkler) Plans and Specifications

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- Final project specifications subject to the requirements outlined in the San Diego International Airport Facilities Criteria Document 16 March 2012 (available on the Airport Authority website).
- Final Signage and graphic plans (with material samples, if there have been any changes from the 35% set).

The contract documents including, but not limited to, construction drawings, reports, calculations, and specifications required for the proposed construction, must strictly adhere to requirements as outlined within these Standards and all previous design review comments from the Authority. When the Tenant has received approval from the Authority and all other applicable City and County agency approvals, this phase of the project is complete.

The Tenant is to submit plans that are 100% complete. Any submittal that is determined not to be 100% complete will be returned to the Tenant without review. Contract Documents must be stamped "Approved" or "Approved as Noted" prior to submitting for City building permits, bidding or letting a direct construction or procurement contract.

The Tenant will address all Authority comments and resubmit the drawings for Authority approval prior to city permit submittal. Authority approval does not mean approval of the work by City of San Diego or other Federal, state or local agencies.

2.2.4 Permit Procedures

The Tenant's EUP design team shall be responsible for submitting for all required permits. The Authority reviews and approves all public and private construction projects at the Airport and the City of San Diego issues building permits. A letter from the Authority approving the project will be required for submittal to City of San Diego with the application for the building permit, and is only available after addressing all Authority comments. The City of San Diego reviews only the 100% submittals; reviews may take twelve (12) to sixteen (16) weeks. Permitting fees shall be at the expense of the Tenant.

In addition to the Building Permit, other permits may be required. Each EUP design team shall determine the applicability and requirements of the local governing agencies (this list may not be all-inclusive) for the following:

- Building Permit / Tenant Improvement Permit
- Dust and Erosion Control
- Factory Built Building Permit(s)
- Hazardous Waste Registration for Disposal of Chemical Waste
- Notice to Connect to Water Distribution System
- Air Quality (related to QTA fueling areas)

Tenants shall keep the Authority Project Manager formally advised of their respective permitting position. Copies of all permits obtained shall be provided to the Authority prior to initiating construction.

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2.2.5 Tenant Construction Coordination Services

See Section 3.0, Construction Standards, for requirements prior to start of construction.

2.3 FACILITY STANDARDS

2.3.1 Tenant Equipment/Accessories

Tenant equipment such as roof racks, baby seats, wheel chairs, etc. shall be stored out of public view at all times. Tenant design shall reflect adequately sized storage space for such items.

2.3.2 Signage

2.3.2.1 General Rules

The Base Building will provide and install all necessary identification, wayfinding and code required signage within the facility common areas. Tenants are required to provide current corporate identity graphics along with any pertinent usage specifications to the Authority for their use in providing these signs. The Authority will apply Tenant identification as required and appropriate for facility wayfinding.

Except for locations where company name or logo may be displayed, all text must match Helvetica Medium in a size proportional for the location.

Sign message content is limited to primary building Tenant name and/or logo only. No cartoons or supplementary graphics are permitted.

All Tenant (including sub-tenant) signs must be of an informative nature. "For Sale," "For Lease," or "For Rent" signs are not permitted.

Signs are not permitted on exterior walls or rooftops.

All signs shall be surface-mounted or recessed to a flush condition. Signs painted on any surface of the facility are not permitted.

All exterior metal sign materials, fasteners and clips of all types shall be hot dipped galvanized iron or stainless steel.

Tenant signs are not permitted in common use areas, and restricted only to lobby spaces.

Flashing or blinking signs are not permitted; however, RACs shall not be restricted from using variable message signs, moving images, or moving lights within their respective EUPs.

Signs on doors and windows are not permitted except as permitted by these Standards.

Exposed mounting devices, crossovers, conduit or raceways are not permitted.

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All signs must meet safety standards. All illuminated signs must bear the Underwriters Laboratories, Inc. (UL) label, and meet all local code requirements. The Tenant is responsible for obtaining any permits required by the local, state or Federal Agencies.

Handwritten signs are prohibited.

Signs not covered in these standards are not permitted.

2.3.3 Structural

All elements of the Tenant's proposed improvements that are suspended from the structure above the Tenant's leased premises or from a shell building wall, floor, or roof shall be detailed (including methods of attachment and load calculations) in the Tenant's leasehold improvement construction documents as submitted to the Authority for review. Signage and wind load calculations shall be prepared and signed by a structural engineer licensed in the State of California as a part of the Tenant's submittal for approval.

Floor penetrations shall be kept to a minimum. Floor penetrations shall be located by the Tenant to eliminate the possibility of compromising the structural integrity of the floor. Plans and test results shall be submitted to the Authority for written approval prior to drilling holes. Tenant is responsible to repair any Base Building systems or tenant systems damaged by penetrations or attachment to the structure. Penetration scanning shall occur prior to the drilling of any holes. Holes shall be sealed appropriately.

The Tenant shall coordinate mechanical, electrical, plumbing and fire sprinkler work with existing structural members. All floor/roof or wall openings/penetrations shall be properly fire-safed.

2.3.3.1 Design Loading Criteria

Tenant design teams will be responsible to request specific specification sections for review from the Authority. The Authority will provide them on written request.

2.3.3.2 Floor/Roof/Wall Penetrations

See specification sections Division 07 – Thermal and Moisture Protection and sections 07 27 20 and 07 84 13, in particular for detailed requirements. Tenant design teams will be responsible to request specific specification sections for review from the Authority. The Authority will provide them on written request.

Changes to or additions of new windows or doors to the exterior envelope of the Base Building are prohibited.

2.3.4 Communication Systems

Base Building Scope

All communication systems shall be in compliance with SDCRAA IT Infrastructure Standards Construction Manual (Feb 14, 2011) unless otherwise directed by the Authority.

Tenant Design and Construction Standards

2.3.4.1 Cabling Requirements

Backbone Cabling: Single mode fiber optic and multi-pair telephone exchange cable.

Backbone Terminations: SC connector pigtails fusion-spliced for single mode fiber, 110 punchdown blocks for telephone exchange cabling.

Horizontal Cabling: Category 6, 4-pair 24 AWG unshielded twisted pair, single mode fiber optic, multimode fiber optic and coaxial for cable TV and distributed antenna system.

Horizontal Terminations: SC connector pigtails fusion-spliced for single and multimode fiber,

8-position, Category 6, IDC terminal, T568B wiring scheme for Category 6 cable, F81 connectors for cable TV coaxial cable and other connectors as required for the distributed antenna system.

Color Coding: single mode fiber optic adapters shall be blue, multimode shall be beige.

2.3.4.2 Telecommunication / MPOE Room and Equipment

Telecom Room: Temperature and humidity controlled, equipped with a clean agent fire suppression system, pre-action fire sprinkler system, access control entry door, CCTV camera viewing outside of entry door, interior walls covered with plywood backboard, (4) equipment racks, dedicated electrical panelboard fed from a UPS, cable runway above the cabinets and around the room.

MPOE Room: Temperature controlled, equipped with a pre-action fire sprinkler system, interior walls covered with plywood backboard, wire mesh partitions used to provide (12) separate tenant "cages", (5) standalone equipment cabinets will be mounted within the common area of the room, (1) equipment rack per tenant cage, (2) adjacent rooms for Local Exchange Carriers service demarcation equipment, cable runway above all the cabinets and around the MPOE and LEC rooms. See Exhibit 26 of this document for MPOE room configuration.

Equipment Racks: Freestanding equipment cabinets with four corner posts, secured to the floor and capable of supporting 3000 lb. equipment. Cabinet shall be 79.3" by 23.6" by 39.4" with keyed lock.

Tenant Scope

Tenant IDF Rooms: Temperature controlled, equipped with a pre-action fire sprinkler system, interior walls covered with plywood backboard, wire mesh partitions used to provide (2) separate tenant areas and a common area, wall mounted equipment rack in some rooms for SDIA system equipment, (1) equipment rack per tenant area, (1) dedicated panelboard per tenant area. See Exhibits 23 through 25 of this document for IDF room configurations.

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Refer to Sections 2.4, 2.5 and 2.6 for specific description of tenant telecommunications scope at the Ready/Return, QTA and CSB, respectively.

2.3.5 Wireless System

A wireless LAN will be provided in the Plaza area. The system equipment will be Wi-Fi Forum certified, using the IEEE 802.11 standard. Outdoor equipment will be compliant with IP56/NEMA 4 dust and water ingress ratings.

2.3.6 Fire Detection and Alarm System

The facility will be equipped with a Fire Detection and Alarm System.

The main fire alarm control panel will be located within the Fire Command Center which is located on Level 1. A remote fire alarm annunciator panel will be located within the Facility Manager's office, in the monitor room. The fire alarm control panel will be monitored by a remote monitoring facility and in addition, alarm signals will be transmitted to the Airport operations center.

The entire RCC will be a single fire alarm zone. Any alarm condition will activate the horn strobes and evacuate the entire RCC. Remote fire alarm power supplies will be located throughout the RCC within the tenant telecom rooms to reduce voltage drop and wire size requirements.

Rental agencies will not be installing standalone fire alarm systems within their EUPs; but shall be required to tie into the Base Building systems in accordance with Code.

2.3.6 Fire Sprinkler System

The Base Building Fire sprinkler system is provided at the Ready/Return Building, Shuttler Ramps, Entry / Exit Helix, Customer Service Building and QTA. Wet standpipe systems will be provided for the emergency egress stairs and as required for area coverage. The sprinkler and standpipe systems will be designed per NFPA and local code requirements. Heads are turned up within Tenant EUP.

Each tenant will be responsible for modifications to the sprinkler system design and installation in accordance with Code relative to their respective EUP tenant improvements.

2.4 READY/RETURN AREAS / PARKING FACILITY (OPERATIONAL FLOOR PLATES)

2.4.1 Introduction / Base Facility

The operational floor plates are levels one through three of the rental car facility.

Customers will pick-up and return cars in these areas. Expected tenant improvements in this area include customer service booths, exit booths, tenant signage, and support systems.

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2.4.2 Separation of Common Use Areas / Exclusive Use Areas

Both building circulation cores shall be designated as Common Use Area. See Exhibits 3 through 6 of this document for extent of Common Use and Exclusive Use Areas.

2.4.3 Tenant Improvements

Any conduit installed by the Tenant shall be concealed from public view or painted to match the adjacent surfaces to which they are attached. All conduit runs shall be attached to existing horizontal or vertical surfaces and be a minimum of 1 inch from any joint line. Tenants are encouraged to locate utilities and conduit parallel to grid lines. Minimize visual and structural impact while maintaining National Electrical Code clearance requirements. Tenant shall not install any utilities below 9'-6" above the finish floor.

2.4.4 Operational Elements

Exhibits 7 through 11 of this document depict the barrier locations and enhanced structural elements on a typical floor.

2.4.4.1 Pavement Markings

All pavement markings required by Code in the common areas will be installed by the Base Building. Tenants are responsible for furnishing and installing all pavement markings within their Exclusive Use Premises Ready/Return Areas. At a minimum, pavement markings shall be provided to delineate parking spaces, space identifiers, pedestrian walkways, exit directions, and vehicle circulation flow. Pavement marking paint within the Ready/Return Areas Parking Facility shall be a non-reflective latex waterborne emulsion. "No Parking" zones shall be painted by the Base Building in common-use areas and where required by applicable codes.

2.4.4.2 Primary Perimeter Barriers

Each Tenant's Ready/Return Area and the perimeter boundary of the parking areas, between a Ready/Return Area and the common customer roadway shall be delineated and secured by use of re-locatable barrier system provided and installed by the Base Building. Primary perimeter boundaries shall be provided with openings for entrances and exits with locations provided by the Tenant and approved by the Authority.

See Section 2.4.7, "Structural", for barrier placement limitations.

2.4.4.3 Lease Delineation Barriers

The Base Building will provide a re-locatable barrier system between each Tenant's exclusive-use premises. See Section 2.4.7, "Structural", for floor loading limitations.

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2.4.4.4 Internal Barriers

Barriers within Tenant EUP shall be provided by the Tenant and approved by the Authority. Barriers are not required to match the Base Building, but shall all be the same within the Tenant EUP. See Section 2.4.7, "Structural" and Exhibits 7 through 11, for barrier placement limitations. The Authority will provide name of supplier of the Base Building barriers. Tenants may arrange purchases with that supplier.

2.4.4.5 Exterior Trash Receptacles

Each Tenant shall provide adequate trash and recycling receptacles within the Ready/ Return areas of the RCC to match the Base Building receptacles in appearance. Receptacles will be part of the base building drawings, and available for review by the RACs.

2.4.5 Architectural

2.4.5.1 Exit Booths and Exit Control Devices

Exit booths and access control devices, including associated software and wiring, shall be provided and installed by the Tenant within the Tenant's Ready/Return Area. These devices and/or structures shall be installed behind the perimeter barrier and with a setback from the perimeter roadway to permit at least one car length clear of the adjacent traffic lane. Access control devices such as gate arms, plate barrier, tiger teeth, etc. shall be located within the leased premises.

Exit Booths shall be pre-fabricated booths with tubular steel welded frame and metal or glass panel inserts. Booths shall be shop painted a custom color selected by the Tenant (as approved by The Authority), sealed for weather protection, and protected from cars with bollards. Bollard type and position are to be approved by the Authority.

Access control devices at exits shall be manually controlled or controlled by key pad, card swipe, bar code scanner or other secure technology from adjacent booth; only entrances shall have automatic access control devices.

Pre-fabricated booths, foundations (in this case the RCC operational floor deck or slab), and the connections thereto must be designed to meet the California Building Code (CBC) and City of San Diego requirements for the wind and seismic loads imposed. This will be evaluated and permitted by City of San Diego, which will also check access to these structures for code compliance.

Allowable booths that are component structures must comply with the Authority's approval process and must meet the assembly Quality Assurance (QA) standards of the IBC. A component structure is defined as a structure that is built in sections or panels and is assembled on site. The manufacturers or plants where these components are built must have the IBC QA procedures in place and must provide the Authority with written certification to verify compliance with these procedures. The component connections to each other and to the structure below must be

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designed by a licensed design professional to meet all loads imposed in accordance with the IBC. All other applicable codes must be met, including but not limited to electrical, ventilation, energy code, access to structure, etc.

The Tenant shall provide the Authority with written certification that the booths meet California State regulations before the booths are delivered to the RCC site.

Exit booths shall be delivered to the site fully wired per UL requirements with an electrical sub-panel. Booth(s) may have rooftop/ sidewall mounted HVAC units. Doors shall either swing open or be integrally sliding doors with deadbolt locks. Booth(s) may have counters and sliding windows for the Tenant Customer Service Representative to interface with the Tenant customer. The maximum floor area of an exit booth shall be 8' x 10'. The exit booths shall not exceed 75 PSF in weight, including occupant load, and shall not be placed closer than 8'-0" to an adjacent exit booth or customer service booth.

Placement of leveling compounds to achieve level booth flooring is prohibited from use. Floor leveling measures utilized must be provided along with the initial tenant improvement design/construction submittal.

Booths shall not be placed closer than 8'-0" to an adjacent barrier unless the barrier is located directly over a beam, at which point the exit booths shall not occur within 4'-0" of an adjacent barrier. Booths shall not be located so as to limit or obstruct the visibility of booths operated by other Tenants. See Section 2.4.7, "Structural" and Exhibits 7, 27, and 28 for exit booth location, structure connection information, and weight limitations. Tenant restrooms and break rooms shall not be located in the exit booths, customer service booths or elsewhere on the floor. Temporary or portable exit booths are prohibited.

2.4.5.2 Customer Service Booths

Requirements for Tenant customer service booths shall be similar to the requirements listed in the exit booth section above, excluding size limitations. Such booths or structures shall be located entirely within the Tenant's leased premises in designated areas. The maximum total superimposed weight of customer service booths, including occupant load and any materials required to level the garage operational floor plates shall not exceed 115 PSF. A customer service booth shall not be placed closer than 8'-0" to an adjacent customer service booth or exit booth. Customer service booths shall not be placed closer than 8'-0" to an adjacent re-locatable system barrier unless the barrier is located directly above a beam at which point the customer service booths shall not occur within 4'-0" of an adjacent barrier. See Section 2.4.7, "Structural" for customer service booth weight limitations. Mechanical leveling techniques are required in lieu of leveling compounds to allow for booth relocation in the future.

See Exhibits 7 and 28 for reinforced floor load zones in which to place customer service booths at Levels 2 and 3 and Exhibit 27 for locations at Level 1.

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2.4.6 Signage

The Authority reserves the right to require the removal of any Tenant advertising, displays or decorating that in its sole opinion is distasteful or is in any way in conflict with the best interest of the RCC environment. All signage in the EUP areas is to be provided and installed by the Tenant unless otherwise noted on the Base Building construction documents. All signage to be provided shall be incorporated into the Tenant's design and submitted for approval by the Authority.

2.4.6.1 Tenant Signage

Tenant specific identification signage furnished and installed by the Tenant is permitted in the EUP areas for rental return, special programs, space numbering and other directional information. Signs shall be surface mounted to the structural columns with compression fittings or hung from the surface of the beams or from the structure. See Section 2.4.7, "Structural", for penetration and attachment limitations and information. All Tenant signage within drive aisles shall be mounted with 8'-9" clear above the finish floor. The location and orientation of tenant signage may not block other tenant signage nor the Base Building wayfinding / directional signage.

All regulatory and warning signage and pavement markings shall comply with the Manual on Uniform Traffic Control Devices (MUTCD). Power requirements for all electrical signage shall be the responsibility of the Tenant, and part of the Tenant's lease space. See Section 2.4.9, "Electrical Systems", for electrical system requirements.

2.4.6.2 Customer Service Booth Signage

Signage on the Customer Service Booths will be restricted to maximum 24" in height. Promotional signs or banners are prohibited. Interior booth signage is permitted. Preferred service reader boards may be mounted to the exterior of the customer service booth or other locations within the Tenant's EUP.

2.4.6.3 Exit Booth Signage

The exit booths may have up to an 18" sign band at the top and may be painted a tenant-specific custom color. The sign band may include corporate identity graphics and colors.

2.4.6.4 Small Market Operator Areas

Small Market Operator Area companies shall provide and install signage graphics for their ready/return stalls, signage for customer kiosks, and the signage for the back wall of their customer service building area (whether static or dynamic). Stall signage and numbering system will be provided by the authority-provided build-out of the Small Market Operator (SMO) spaces. The tenant signage scope of work is to be further developed through consultation with the small market operators.

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2.4.7 Structural

2.4.7.1 Floor loading limits

Locations for customer service booths, exit booths, and barriers are limited. The increased structural floor loading area for customer service booths and exit booths is illustrated in Exhibit 7 of 4.0 Exhibits of this document.

The weight limit and placement of the re-locatable barrier system shall conform to the following:

- The weight of a barrier shall not exceed 270 pounds per linear foot.
- Barriers shall be placed directly above the beams.
- Locations defined for barrier placement are shown in Exhibits 7 through 11 of this document.
- In locations of increased structural floor loading for exits booths or customer service booth loading, a barrier shall not be placed closer than 8'-0" to an adjacent customer service booth unless the barrier is located directly above a beam at which point the barrier shall not occur within 4'-0" of an adjacent customer service booth. Exhibits 27 and 28 identify defined zones for exit booths and customer service booths.
- Barriers shall not be placed within 1'-0" of any expansion joint cover.
- Expansion joint covers shall be protected from wheel loads when barriers are being installed and relocated.

2.4.8 Mechanical, Plumbing and Fire Sprinkler Systems

2.4.8.1 HVAC

An outside air duct is supplied by the main building mechanical system for tenant connection at the customer service booths and exit booths. Supply air shall be filtered (activated carbon filters) to remove vehicle exhaust odors. It is the tenant's responsibility to provide supply fans, filtration, and heating or cooling of the air as needed. HVAC systems shall be stand-alone systems to condition the booths. AC units shall be specified with cooling condensate removal system and outside air filtration. Outside air shall be calculated using latest version of ASHRAE Standard 62. HVAC equipment energy efficiencies shall be per latest International Energy Conservation Code or ASHRAE 90.1, whichever is more stringent.

2.4.8.2 Domestic Water System

Water connections are not provided for the customer service booths or exit booths. Domestic water service will be available for tenant connection at the CSB and at the QTA back-of-house tenant EUP.

2.4.8.3 Sanitary Sewer system

Sanitary sewer system connections are not provided for the customer service booths or exit booths. The tenant shall coordinate their design with the stub ups provided at the CSB and QTA and the condensate drain provided at the

Tenant Design and Construction Standards

operational floor plates. Tenant is responsible for tying into the 3" vent in the CSB and QTA.

2.4.8.4 Fire Sprinkler System

Fire sprinkler system is provided at the Ready/Return Building, Shuttler Ramps, Entry / Exit Helix, Customer Service Building and QTA. Wet standpipe systems will be provided for the emergency egress stairs. The sprinkler and standpipe systems will be designed per NFPA and local code requirements. Tenants shall be responsible for modifying the fire sprinkler system in accordance with their tenant design requirements and code.

2.4.9 Electrical Systems

2.4.9.1 General

The electrical system for the RCC is divided between two substations: QTA substation and Ready-Return Area Substation. The Ready-Return Substation will provide electrical service to the following electrical rooms within the Ready-Return Operational Floor Plate areas of the facility: see Exhibits 29 through 32 of this document. (Refer to Section 2.5.6.1 for discussion concerning the QTA substation.) These zones may be found in the title blocks of the base building plan set.

Zone 3: Electrical Room R130, Electrical Room R126

Zone 4: Electrical Room R135 and Room 115

Zone 5: Electrical Room R121

Zone 6: Electrical Room R114 and Room 143

Electrical service to the substation is provided by two (2) 12,000 volt electrical feeders of which each feeder is from independent utility lines. This electrical architecture provides a redundant source of power. The 12kV system is fed from two independent utility services (SDG&E Circuits 457 and 496). These two services are fed in a loop-feed system (e.g., if one circuit fails the other circuit will pick up the loads.) Redundancy is, therefore, built into the 12kV system. The RCC substations (Ready-return and QTA Substations) provide additional redundancy; while it will take time (a few seconds) for the 12kV system to cut over, the substation TIE breaker will cut over in milliseconds.

Additionally, emergency electrical power is provided to the lighting and the fire alarm systems. Standby power is provide to the elevators, but not the escalators.

Electrical power is distributed throughout the facility for Base Building systems. Within the Ready-Return area, these 'base building' systems include Lighting, HVAC and general receptacles.

Tenant Design and Construction Standards

2.4.9.2 Tenant Power

Secure electrical demarcation panel boards have been provided as part of Base Building construction in designated electrical rooms (listed in 2.4.9.1 above) around the facility to serve as the Authority/RCC electrical demarcation points for the Tenants' Operational floor plate Ready/Return Area electrical fit out work. Each floor plate zone includes an electrical room with two tenant electrical panels and one data room (IDF) with two (2) tenant panels. See Exhibit 32 of this document.

The two tenant electrical panels within the electrical rooms will operate at 480/277V 3-phase, 4-wire. These panels will be fit out with 100 ampere main circuit breakers and an empty tub that can accommodate forty-two branch circuit breakers. Branch circuit breakers for this panel board shall be furnished and installed by the tenant under their tenant electrical fit-out work. Additionally, transformers required to attain a different voltage (208/120V or 240/120V) and associated panel boards will be furnished and installed by the tenant under their tenant electrical fit-out work. These electrical panels shall serve the anticipated following tenant loads:

- Illuminated Signage
- Exit Booth(s)
- Plate Barrier(s) / Tiger Teeth and other security devices
- Preferred Customer Service Booth Structure and associated loads (HVAC, Lighting, etc.)
- Miscellaneous (Receptacles, Additional lighting, etc.)

The two (2) tenant electrical panels within the data rooms (IDF) will operate at 208/120V 3-phase, 4-wire. These panels will be outfitted with transient voltage surge suppression and with single-pole 20 ampere circuit breakers. Any other circuit breakers (double-pole or three-pole) will be furnished and installed by the tenant under their tenant electrical fit out work. These electrical panels shall serve all telecommunication equipment within the data rooms (IDF).

Where a tenant's leased space entirely encompasses a set of electrical and data (IDF) rooms, that tenant shall have exclusive-use of both sets of panels provided.

From these demarcation points (panels) listed above, each Tenant shall be responsible for installing all electrical lighting panels and power subpanels, electrical conduit, wiring, fixtures, etc., to serve its supplementary lighting and power needs in their Ready/Return EUP (i.e. booths, gates, illuminated signage, security systems, etc.).

All Tenant fit out loads shall originate from Tenant power panels and not cohabitate with the base-building electrical systems. Tenants requiring additional circuits, panelboards or power in excess of the amount listed above shall pay the entire cost of installing the additional service, including any necessary power distribution equipment.

Residential grade equipment (loadcenters, etc.) or devices are not allowed.

Tenant Design and Construction Standards

New panel boards must have hinged covers with door-in-door construction.

Dry type transformers shall be located in compliance with Article 450.13 of the NEC. Transformers not exceeding 50 kVA shall be permitted to be located above an accessible ceiling in the Tenant's space provided the space is fire resistant, ventilated, and accessible. Transformers shall not be permitted to be located above accessible ceilings where the area is utilized for environmental air distribution, i.e., plenum. Transformers exceeding 50 kVA shall be mounted within the tenant space in a visible location adjacent to the appropriate electrical panel. Transformers may be either floor mounted on a 4" concrete housekeeping pad or wall mounted with listed wall brackets. Connections to the transformers are to be liquid-tight.

It is the Tenant's responsibility to verify service capacity and availability for its space. Each Tenant shall be responsible for providing sizing requirements based on its specific need.

Shutdown of the existing building service or any main electrical distribution must be coordinated with the Authority not less than two weeks in advance. All electrical work required to complete the system to accommodate the Tenant's plans shall be performed by the Tenant's electrical contractor at the Tenant's sole cost and expense.

2.4.9.3 Raceways and Wiring

All Tenant wiring (i.e., power, telephone, data, communications, low voltage, controls, etc.) must be in conduit. Conduit used shall be EMT in interior spaces. Any conduit routed in areas that are subject to damage from motorized vehicles, machinery, etc., shall be galvanized rigid steel (GRS). All special systems must be routed in separate conduit.

All wiring is to be copper. Aluminum is not permitted.

All electrical equipment shall be labeled by UL for the intended use.

Exposed conduit ends to have bushings.

Minimum conduit size is 3/4" diameter.

Wiremold surface raceways are not permitted.

Metal-Clad (MC) cable and Romex cabling are not permitted.

The tenant shall be aware of all construction joints in this area. Where raceways cross a construction joint, the necessary fitting shall be provided. Refer to structural general notes within the base building construction documents for tolerances of movement.

Tenant Design and Construction Standards

2.4.9.4 Lighting

Lighting within the common-use areas of the facility will be provided as a part of the Base Building scope of work. Lighting levels have been established at an average of 10 foot-candle at 30" above the parking surface level in the ready-return area. The light source for the ready-return area utilizes an array of light emitting diodes (LED).

Emergency lighting is provided and backed up by the generator. As egress paths cannot be defined until tenant design is complete, the Base Building' system provides 50 percent of the floor plate lighting on emergency power. Therefore, any egress paths (now or in future reallocation of leased space) will be provided with code required egress lighting.

Additionally, the 50/50 split of normal/emergency lighting allows the 'base building' lighting system to provide curfew lighting during non-operational times (assumed to be 1AM to 4AM – adjustable as needed). During this time, 50 percent of the lighting will be off (alternating between the normal and emergency).

Additional lighting required to highlight signage, exit booths, plate barriers and preferred customer structures shall be done by the tenant under their tenant electrical fit out work. The lighting loads shall be circuited back to the tenant electrical panels.

2.4.10 Communications Systems

All communication systems shall be in compliance with SDCRAA IT Infrastructure Standards Construction Manual (Feb 14, 2011) unless otherwise directed by the Authority. See 4.0 Exhibits for further information.

2.4.10.1 Wired Systems

Each Tenant will be responsible for providing all telecommunication conduit and cabling within their areas. Tenant shall route conduit and cabling to the nearest telecommunications room dedicated for that tenant.

Tenants shall not route conduit under beams, but shall instead use designated beam penetrations where provided. Prior to installing any conduit, pull box, manhole, or communications cable, the Tenant shall submit construction plans that are in accordance with Authority IT Infrastructure Standards Construction Manual (Feb 14, 2011) and obtain written approval from Authority. All tenant conduit and cables entering the communications rooms shall be furnished and installed by the Tenant.

The telecommunication rooms provided by the Base Building will only be used as a conduit and cable access and connection points and will not function as storage areas in any way.

Tenant Design and Construction Standards

2.4.10.2 Fire Detection and Alarm System

Each Tenant will be responsible for any necessary fire alarm/detection design and installation associated with their customer service and exit booths. The Base Building construction will provide fire alarm/detection circuit panel connection points (FTC). Each FTC will contain connection terminal points for a fire detection signal and a fire alarm notification circuit from the Tenant space. Each Tenant is responsible for providing and installing compatible fire detection and alarm devices within its space, and the associated conduit and wiring to connect these devices to the fire alarm panel connection points (FTC) provided by the Base Building. The fire alarm system design, testing and commissioning of the fire alarm detection and alarm circuits and devices within the Tenant space, will be the Tenant's responsibility. All design and installation shall be in compliance with all Federal, state and local codes. Fire alarm systems installation shall be contracted with Authority-approved vendor.

Tenant shall schedule a "pre-test" with the Authority prior to performing/requesting life safety inspection with City of San Diego. Any life safety inspections required by City of San Diego shall be scheduled through the Authority's Project Manager.

2.5 QTA AREAS

2.5.1 Mechanical Systems

2.5.1.1 Space Heating and Cooling Systems

Base Building Scope

The QTA Base Building RAC Admin Areas adjacent to the car washes include fresh air ducts with supply fans and vertical floor mounted split system heat pumps.

Tenant has been allowed for maximum 400 square feet of conditioned space per ton of cooling capacity.

HVAC equipment energy efficiencies shall be per latest International Energy Conservation Code or ASHRAE 90.1, whichever is more stringent.

All HVAC equipment and temperature sensors shall be connected to the Authority's Siemens APOGEE building Energy Management System. Tenants must provide unobstructed access to all mechanical units for maintenance purposes. Unobstructed access must also be available for ease of filter replacement and other maintenance.

Tenant Scope

Tenant shall be responsible for providing associated air distribution within its space including supply and return ductwork, diffusers, registers and grilles, dampers, fire dampers, etc. Each Tenant shall insulate ductwork and limit flexible ductwork to 5'-0" in length to connect galvanized steel ducts to air distribution devices. Ductwork

Tenant Design and Construction Standards

shall be constructed and installed in accordance with latest SMACNA construction standards.

The QTA Base Building does not include a centralized exhaust system. Tenant is responsible for providing exhaust systems as required for Tenant space requirements per latest Authority requirements. Tenant shall be responsible to provide exhaust fan, associate ductwork, grilles, etc. Exhaust duct shall terminate on north or east outside wall at a wall louver. Wall louver shall be anodized aluminum with custom color selected by the Base Building Design Team. Wall louver frame shall be sealed air and moisture tight.

2.5.1.2 Sanitary and Domestic Water Systems

Base Building Scope

Common-use area plumbing fixtures will include sinks and bi-level electric water coolers located outside restrooms. The restrooms will be provided with water closets, urinals, and lavatories. Mop basin with mop rack will be provided in the janitor's closet. Located in the janitor's closet is the electric water heater providing hot water for lavatories. Safety shower / eyewash units will be provided in the QTA area mounted on columns and accessible from the area of work. Wall hydrants will be located at the car wash and fueling areas for maintaining surface areas. Wall Hydrants will be operated using a loose key and to protect the water supply, vacuum breakers are provided at hose connections. Trap primers will be used for floor drains with traps to maintain a trap seal.

Urinals and water closets will be comfort height, wall-hung with automatic, hard wired, low-maintenance solenoid flush valves. Lavatories in restrooms will be counter-mounted with solenoid hard-wired faucets.

Domestic hot water for lavatories, showers, mop basins and sinks will be provided by electric water heaters.

Showers located in the wellness area of the QTA area will be provided with a single-handle pressure-balanced mixing shower unit, integral metal lever handle with a thermometer dial, and an integral stop. A hand-held shower unit will be mounted on a 24" slide with a 60" long flexible metal hose. The shower will be provided with 1-1/2" diameter grab bars in accordance with Code.

Level 4 of the Garage will be sloped and with rainwater collected at drains along the perimeter of the facility and guided to vertical storm drain pipes down to the stormwater sewer system.

At the car wash, drainage from the washing process will be collected in 6" drainage pipes connected to an 8" conductor routed to an oil water separator. The oil within the separator will remain while the water will be pulled from the separator and cleaned; the process will repeat itself reusing the water several cycles before fresh water is introduced.

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Hammer arrestors will be used to protect the piping at quick closing valves (such as flushometers used on urinals and water closets)

A 4", waste line with stub-ups within base building wall construction will be available for Tenants use. One 3" vent will be available to each Tenant's EUP. Domestic cold water will be available overhead to each Tenant's EUP.

Tenant Scope

Tenant shall be responsible for connecting their improvements to the waste line stub-up, vent and domestic cold water in accordance with Code. Refer to Base Building design drawings for locations.

Water heating devices within the tenant's EUP shall be provided by the Tenant. Water heaters shall be electric and shall not be larger than 25 KW.

2.5.1.3 Fire Sprinkler Systems

The entire QTA Base Building area, including the Fueling area, will have an automatic fire suppression system in accordance with applicable codes. No Tenant Improvements or modifications are anticipated to the Fire Sprinkler Systems at the Fueling Area. Tenant shall be responsible for tying into the Base Building Fire Sprinkler systems for its back-of-house Tenant Improvements in accordance with applicable Code.

2.5.1.4 Fire Alarm System

The entire QTA Base Building area, including the Fueling area, will have a fire alarm system in accordance with applicable codes. No Tenant Improvements or modifications to the Fire Alarm System are anticipated for the Base Building area or Fueling Area. Tenant shall be responsible for tying into the Base Building system for its back-of-house tenant improvements in accordance with Code.

2.5.2 Architectural/Operational – Back of House

Base Building Scope

Refer to Room Finish Schedule and specifications contained in the Base Building Construction Documents for requirements in addition to those listed below.

2.5.2.1 Demising Partitions

The Base Building will construct demising partitions between individual Tenants (as applicable), and between Tenants and Common Use Areas.

Base Building work includes CMU or metal wall studs at demising walls located between individual Tenant lease areas. The Tenant shall be responsible for finishing demising walls (including providing and installing gypsum wall board, taping, sanding, painting, base trim, etc.) on its side of the partition. Fire rated walls

Tenant Design and Construction Standards

constructed by Tenant as part of its tenant improvements shall extend to roof deck above.

Any modifications to demising partitions shall be constructed by the Tenant to match the Base Building standards. Prior approval by the Authority is required.

2.5.2.2 Exterior Walls

The exterior walls of the back of house buildings are masonry. The Tenant shall provide and install rigid insulation, furring, gypsum wallboard and all finishes.

Tenant Scope

2.5.2.3 Interior Walls

Interior Tenant partitions, when not required to be fire-rated or a plumbing chase, may terminate above the suspended ceiling, unless otherwise required by Code.

2.5.2.4 Wall Finishes

Wall finishes shall be high-impact resistant, scratch and scrape resistant and easily removable for repair or capable of being repaired in place. All wall finishes shall be washable in place.

2.5.2.5 Floors

The Tenant may provide floor finish material(s) as selected by the Tenant and as appropriate for the conditions of use.

All finish floor surfaces shall be installed level and smooth with a maximum surface variation of ¼' vertical in 10' (Class A floor finish). Under no circumstances may the existing concrete slab be chipped to accommodate flooring underlayment or any other construction. Transitions between Tenant floor and the Authority-controlled finish floor materials shall be the responsibility of the Tenant. Transitions between any finish floor elevations cannot vary by more than 1/8" vertically. Ramping of floor materials at transitions is prohibited.

Floor materials and their respective methods of adhesion shall be submitted to the Authority for written approval. Adhesives, thin-set mastic, applied backings, etc. shall be of such properties to eliminate or drastically reduce the occurrence of cracking, delaminating, shifting, popping and other negative results.

Variance from the requirements of this section must be approved by the Authority.

2.5.2.6 Ceilings

No ceiling system (grid, tile, etc.) will be provided by the Authority in exclusive-use Tenant lease premises. The Tenant shall provide a ceiling that meets Code. In no case shall the weight of the ceiling finishes exceed 3 PSF without prior written approval of the Authority.

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Recommended ceiling height is 9'-0".

2.5.2.7 Doors, Frames, and Hardware

See Specification Division 08 – Openings in general and Specification Sections 08 11 13, 08 31 13 and 08 71 00 of the construction specifications.

All interior doors at service buildings shall be 18 gauge (minimum) hollow-core metal doors with hollow metal, galvanized faces and rib construction at exterior doors, 16 gauge (minimum) frames.

All Tenant hardware will match the Authority proprietary lock system, as follows: door knobs by Primus, ND Series, IC core, C145P keyway. Panic hardware will be manufactured by Von Duprin or approved equal.

2.5.2.8 Windows and Window treatments

Window coverings may be installed by the Tenant subject to the review and approval by the Authority. Advertising and the application of decorative films are prohibited on all exterior windows. Windows shall be kept free of blockage at all times.

2.5.2.9 Millwork

Millwork within exclusive lease areas shall be provided by the Tenant.

2.5.2.10 Tenant Equipment/Accessories

Vending machines are prohibited on the exterior of the QTA service buildings.

2.5.3 QTA Signage

2.5.3.1 QTA Traffic Control Signage

The Base Building scope of work will include traffic control signage. Each Tenant may install additional Traffic Control Signage in its respective exclusive-use lease premises as required. Tenants shall follow State of California Standards for regulatory and warning signage and pavement markings.

2.5.3.2 Exterior QTA Building Signage

The Base Building will provide one (1) identification sign adjacent to each door entering each Tenant's EUP for the sole purpose of identifying the staff entrance into the Tenant lease premises. The sign shall contain the corporate name only. Tenant shall install the sign as provided; placement is to be contiguous with leased Tenant space. Tenant identification signage shall be non-illuminated letterforms/graphics using Tenant-specific corporate standard colors as applicable.

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2.5.4 QTA Structural

All elements of the Tenant's proposed improvements that are suspended from the structure above the Tenant's leased premises or from a shell building wall, floor, or roof shall be detailed (including methods of attachment and load calculations) in the Tenant's Improvement construction documents as submitted to the Authority for review. Load and signage wind load calculations shall be prepared by a structural engineer licensed in the State of California and sealed as a part of the Tenant's submittal for approval.

Floor penetrations shall be kept to a minimum. Floor penetrations shall be located by the Tenant to eliminate the possibility of compromising the structural integrity of the floor. Plans and test results shall be submitted to the Authority for written approval prior to drilling holes. Tenant is responsible to repair any Base Building systems or tenant systems damaged by penetrations or attachment to the structure.

The Tenant shall coordinate mechanical, electrical, plumbing and fire sprinkler work with existing structural members. All floor/roof or wall openings shall be properly fire-safed.

2.5.6 Electrical Systems – Back of House

2.5.6.1 General

The electrical system for the RCC is divided between two substations: QTA substation and Ready-Return Area Substation. The QTA Substation will provide electrical service to the following electrical rooms within the QTA Operational Floor Plate area of this facility: See Exhibits 33 through 35 of this document. (Refer to Section 2.4.9.1 for discussion concerning the QTA substation.)

Zone 1: Electrical/Data (IDF) room in each car-wash back of house space.

Zone 2: Electrical Room Q102

Electrical service to the substation is provided by two (2) independent 12,000 volt electrical utility feeders providing a redundant source of power to the substation.

Additionally, emergency electrical power is provided by a standby generator that provides emergency power to required lighting, fire alarm systems and required vertical transportation equipment (elevators/escalators).

Electrical power is distributed throughout the facility for Base Building systems. Within the QTA area these 'base building' systems: Lighting, HVAC, fueling, carwash equipment, vacuum equipment, maintenance bay equipment and general receptacles.

2.5.6.2 Tenant Power

Secure electrical demarcation panelboards have been provided as part of Base Building construction in designated electrical rooms (listed in 2.5.6.1 above) around the facility to serve as the Authority/RCC electrical demarcation points for the Tenants' Operational floor plate QTA Area electrical fit out work. Electrical room

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Q102 in Zone 2 includes an electrical room with two (2) tenant electrical panels and one data room (IDF) with two (2) tenant panels. The carwash back-of-house electrical/data (IDF) rooms have a single dedicated panelboard.

The two (2) tenant electrical panels within electrical room Q102 will operate at 480/277V 3-phase, 4-wire. These panels will be fit out with 100 ampere main circuit breakers and an empty tub that can accommodate forty-two (42) branch circuit breakers. Branch circuit breakers for this panelboard shall be furnished and installed by the tenant under their tenant electrical fit-out work. Additionally, transformers required to attain a different voltage (208/120V or 240/120V) and associated panelboards will be furnished and installed by the tenant under their tenant electrical fit-out work. These electrical panels shall serve the anticipated following tenant loads:

- Illuminated Signage
- Security equipment
- HVAC
- Miscellaneous (Receptacles, Additional lighting, etc.)

The two (2) tenant electrical panels within the data rooms (IDF) will operate at 208/120V 3-phase, 4-wire. These panels will be outfitted with transient voltage surge suppression and single-pole 20 ampere circuit breakers. Any other circuit breakers (double-pole or three-pole) will be furnished and installed by the tenant under their tenant electrical fit out work. These electrical panels shall serve all telecommunication equipment within the data rooms (IDF).

Where a tenant's leased space entirely encompasses a set of electrical and data (IDF) rooms, that tenant shall have exclusive-use of both sets of panels provided.

From these demarcation points (panels) listed above, each Tenant shall be responsible for installing all electrical lighting panels and power subpanels, electrical conduit, wiring, fixtures, etc., to serve its supplementary lighting and power needs in their QTA EUP (i.e. office space fit-up, illuminated signage, etc.).

All Tenant fit out loads shall originate from Tenant power panels and not cohabitate with the base-building electrical systems.

Tenants requiring additional circuits, panelboards or power in excess of the amount listed above shall pay the entire cost of installing the additional service, including any necessary power distribution equipment.

Residential grade equipment (loadcenters, etc.) or devices are not allowed.

New panel boards must have hinged covers with door-in-door construction.

Dry type transformers shall be located in compliance with Article 450.13 of the NEC. Transformers not exceeding 50 kVA shall be permitted to be located above an accessible ceiling in the Tenant's space provided the space is fire resistant, ventilated, and accessible. Transformers shall not be permitted to be located

Tenant Design and Construction Standards

above accessible ceilings where the area is utilized for environmental air distribution, i.e., plenum. Transformers exceeding 50 kVA shall be mounted within the tenant space in a visible location adjacent to the appropriate electrical panel. Transformers may be either floor mounted on a 4" concrete housekeeping pad or wall mounted with listed wall brackets. Connections to the transformers are to be liquid-tight.

It is the Tenant's responsibility to verify service capacity and availability for its space. Each Tenant shall be responsible for providing sizing requirements based on its specific need.

Shutdown of the existing building service or any main electrical distribution must be coordinated with the Authority not less than two weeks in advance. All electrical work required to complete the system to accommodate the Tenant's plans shall be performed by the Tenant's electrical contractor at the Tenant's sole cost and expense.

2.5.6.3 Raceways and Wiring

All Tenant wiring (i.e., power, telephone, data, communications, low voltage, controls, etc.) must be in conduit. Conduit used shall be EMT in interior spaces. Any conduit routed in areas that are subject to damage from motorized vehicles, machinery, etc., shall be GRS. All special systems must be routed in separate conduit.

All wiring is to be copper. Aluminum is not permitted.

All electrical equipment shall be labeled by UL for the intended use.

Exposed conduit ends to have bushings.

Minimum conduit size is 3/4" diameter.

Wiremold surface raceways are not permitted.

Metal-Clad (MC) cable and Romex cabling are not permitted.

The tenant shall be aware of all expansion joints in this area. Where raceways cross an expansion joint, the necessary fitting shall be provided. Refer to Structural General Notes within the base building construction documents for tolerances of movement.

2.5.6.4 Lighting

Lighting throughout the facility will be provided as a part of the 'base building' system. Lighting levels have been established at an average of 30 foot-candle at 30" above the parking surface level at the fueling island and 10 foot-candle at 30" above the parking surface at stacking, staging and light maintenance areas. The light source for the QTA area utilizes an array of LEDs.

Tenant Design and Construction Standards

Emergency lighting is provided and backed up by the generator. The Base Building system provides 50 percent of the floor plate lighting on emergency power.

The 50/50 split of normal/emergency lighting allows the 'base building' lighting system to provide curfew lighting during non-operational times (assumed to be 1AM to 4AM – adjustable as needed). During this time, 50 percent of the lighting will be off (alternating between the normal and emergency).

Additional lighting required by the tenant shall be done by the tenant under their tenant electrical fit out work. The lighting loads shall be circuited back to the tenant electrical panels.

2.5.7 Communications Systems – Back of House

All communication systems shall be in compliance with SDCRAA IT Infrastructure Standards Construction Manual (Feb 14, 2011) unless otherwise directed by the Authority. For purposes of the following, "service provider" shall be understood as the phone company. "Access Provider" shall be understood as Authority.

2.5.7.1 Wired Systems

Base Building scope shall include extending conduit and cabling from the Zone 1 IDF room to telecommunication rooms located within the back-of-house spaces adjacent to the car washes. Tenant will be responsible for providing all telecommunication conduit and cabling within their areas. Tenant shall route conduit and cabling to the nearest telecommunications room dedicated for that tenant.

2.5.8 QTA Washing, Fueling, and Other Equipment

2.5.8.1 Fueling System (Refer to Exhibits 21 and 22)

Base Building construction will include a vehicle fueling system that will be operated and maintained by an independent Fueling Manager. Three direct-burial underground 25,000 gallon fuel storage tanks will be manifold together to make up the fuel storage system. This system is located adjacent to the QTA facility within the service yard.

The fueling system will be provided with a fuel management system for the purposes of tracking the use of fuel at each nozzle by each Tenant. The Base Building will include junction boxes with wiring for power and communication at two locations at each fuel island. The Base Building will also include a CMI monitoring system capable of reading and recording specific vehicle information. If desired for security purposes or more detailed fuel usage tracking, each Tenant can, at its sole discretion and expense, install its own compatible card readers at these junction box locations. The Tenant shall coordinate tracking and reporting requirements with the 3rd-Party Facility / Fueling Manager. Tenant shall remove existing enclosure to facilitate installation of its proprietary card reader. Tenant shall replace any base building enclosure that is removed at the expiration of its lease.

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2.5.8.2 Car Washes

2.5.8.2.1 Car Wash (Refer to Exhibit 19)

The Base Building will include QTA car wash facilities that provide a minimum of 90 percent recycled water. Car wash units and equipment will be enclosed within the car wash tunnel of each QTA building. Car wash operation overflow water will drain to the sanitary sewer system and will be pretreated and discharged as required by local and Federal codes. Base Building construction does not include air blowers, fast-acting doors, blasters, or plastic slats at car wash entry and exit openings.

The Base Building includes a five brush system, reverse osmosis system, rinse arch, reclaim system, pre-wash system and a domestic water stub to each car wash equipment area with reduced pressure valve and shut-off valve.

Power for tenant installed equipment will be run from designated tenant electrical panels. Conduit in this area shall be rigid galvanized due to harsh environment.

Water to car washes is not individually metered.

Water lines shall be extended downstream of the backflow preventer for the reverse osmosis systems.

Tenant shall provide detergent for the system through the designated 3rd-party Facility Manager.

2.5.8.2.2 Tenant Installed Equipment

Space and power allowances have been made for tenant installation of the following equipment: Blowers.

Conduit and wire shall be provided by the Tenant for equipment noted. Conduit shall be the same as used for the Base Building.

2.5.8.2.3 Light Vehicle Maintenance Bays (Refer to Exhibit 20)

Fifteen light maintenance bays will be provided for the facility providing five maintenance bays per level. The Base Building will provide equipment in accordance with Exhibit G-1 to the Lease Agreement. In addition, overhead reels supplying fresh motor oil, windshield washer fluid, compressed air and utility lighting are provided.

2.5.8.3 Other Equipment

2.5.8.3.1 Vacuum System – A fully operational system is located at fueling islands.

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2.5.8.3.2 Windshield Washer Fluid – A fully operational system, including pumps and hose reels, is located at the fuel islands. Tenants shall provide concentrate Windshield Washer Fluid through the Facility Manager / Fueling Manager.

2.5.8.3.3 Supply and Used Oil Systems – A fully operational system, including pumps and overhead reels are provided at each maintenance bay. Supply and used oil storage tanks are provided at grade. A supply oil tracking system and used oil overfill notification are provided. Used oil will be collected in separate compartments by the Facility Manager / Fueling Manager.

2.5.8.3.4 Compressed Air – A fully operational system, including air compressor and hose reels, is located at the fuel islands.

2.5.9 Small Operator Areas

Small Market Operator (SMO) Tenants in this area shall provide office furnishings and equipment within their respective offices spaces. SMO signage scope of work, as necessary, is currently to be determined.

2.6 CSB

2.6.1 Mechanical Systems – Back of House

2.6.1.1 The Customer Service Building customer service areas and back of house spaces are served by a centralized variable air volume system with non-fan powered VAV terminal units with hot water reheat coils and direct digital controls. Each Tenant is responsible for providing all supply ductwork downstream of the VAV terminal units and extending the return ductwork to the customer service areas and back of house space including diffusers, registers and grilles, dampers, fire dampers, etc. Each Tenant shall insulate ductwork and limit flexible ductwork to 5'-0" in length to connect galvanized steel ducts to air distribution devices. Ductwork shall be constructed and installed in accordance with latest SMACNA construction standards.

HVAC equipment energy efficiencies shall be per latest International Energy Conservation Code or ASHRAE 90.1, whichever is more stringent.

All HVAC equipment and temperature sensors shall be connected to the Authority's Siemens APOGEE building Energy Management System. Tenant shall provide combination heat sensor and smoke detectors at all break room recirculating exhaust fan locations. Tenants must provide unobstructed access to all mechanical units for maintenance purposes. Unobstructed access must also be available for ease of filter replacement and other maintenance.

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2.6.2 Electrical Systems – Back of House

2.6.2.1 General

The electrical system for the San Diego Rental Car Center is divided between two substations: Quick Turnaround Area (QTA) substation and Ready-Return Area Substation. The Ready-Return Area Substation will provide electrical service to the Customer Service Building Back of House (BOH).

2.6.2.2 Tenant Power

Each tenant will be provided an empty conduit from their respective back of house (BOH) space to a distribution panel in the substation. As part of the tenant electrical fit out work, the tenant shall coordinate their service size (amperage) and extend the 'base building' conduit to their panel. Tenant conduits will be provided from a 480V 3- phase source. All feeders from the tenant's back of house panelboard to the Base Building distribution panel shall be done under the tenant electrical fit out work. ***(Note: The Authority is currently evaluating the foregoing electrical distribution concept for back-of-house spaces at the CSB; a final decision is not anticipated, however until 3rd-quarter 2014).***

From its individual panel, tenant shall be responsible for installing all electrical lighting panels and power subpanels, electrical conduit, wiring, fixtures, etc., to serve its supplementary lighting and power needs in the CSB EUP.

All Tenant fit out loads shall originate from Tenant power panels and not cohabitate with the base-building electrical systems.

Residential grade equipment (load centers, etc.) or devices are not allowed.

New panel boards must have hinged covers with door-in-door construction.

Dry type transformers shall be located in compliance with Article 450.13 of the NEC. Transformers not exceeding 50 kVA shall be permitted to be located above an accessible ceiling in the Tenant's space provided the space is fire resistant, ventilated, and accessible. Transformers shall not be permitted to be located above accessible ceilings where the area is utilized for environmental air distribution, i.e., plenum. Transformers exceeding 50 kVA shall be mounted within the tenant space in a visible location adjacent to the appropriate electrical panel. Transformers may be either floor mounted on a 4" concrete housekeeping pad or wall mounted with listed wall brackets. Connections to the transformers are to be liquid-tight. Wall mounted transformers shall have vibration isolation pads incorporated into the design to mute vibration transmissions to the wall studs.

It is the Tenant's responsibility to verify service capacity and availability for its space. Each Tenant shall be responsible for providing sizing requirements based on its specific need.

Shutdown of the existing building service or any main electrical distribution must be coordinated with the Authority not less than two weeks in advance. All electrical

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work required to complete the system to accommodate the Tenant's plans shall be performed by the Tenant's electrical contractor at the Tenant's sole cost and expense.

2.6.2.3 Raceways and Wiring

All Tenant wiring (i.e., power, telephone, data, communications, low voltage, controls, etc.) must be in conduit. Conduit used shall be EMT in interior spaces. Any conduit routed in areas that are subject to damage from motorized vehicles, machinery, etc., shall be GRS. All special systems must be routed in separate conduit.

All wiring is to be copper. Aluminum is not permitted.

All electrical equipment shall be labeled by UL for the intended use.

Exposed conduit ends to have bushings.

Minimum conduit size is 3/4" diameter.

Wiremold surface raceways are not permitted.

Metal-Clad (MC) cable and Romex cabling are not permitted.

The tenant shall be aware of all construction expansion joints in this area. Where raceways cross an expansion joint, the necessary fitting shall be provided. Refer to structural general notes within the base building construction documents for tolerances of movement.

2.6.2.4 Lighting

Lighting throughout the common-use areas of the CSB will be provided. . Lighting levels have been established with the architect to meet the retail environment anticipated for this type of space.

Emergency lighting in the common-use areas of the CSB is provided and backed up by the generator.

Back of house lighting is not included in the Base Building system. The tenant electrical fit-out work will provide all tenant requested lighting in their exclusive lease space. Emergency lighting in the tenant leased space shall be circuited to a dedicated emergency lighting circuit provided by the 'base building' electrical system.

End of Section 2

3.0 CONSTRUCTION STANDARDS

3.1 GENERAL REQUIREMENTS

3.1.1 This section of the RCC Tenant Design and Construction Standards applies to the development of leasehold improvements per the initial allocation of leased premises within the RCC. Specifically, it shall apply to the following components: EUP, including the Ready/Return Areas, CSB, and QTA Service Areas. The following standards and criteria are intended to provide the Rental Car Operators (Tenants), and their contractors with information required for the construction of their leasehold improvements.

It is the intent of the document to clarify tenant construction logistics at the RCC and allocate responsibilities for the various logistics actions. Tenant contractor shall comply with all Federal, state and local regulations, as applicable.

3.1.2 Tenant EUP Construction Contractors

Each RCC Tenant shall be allowed to select and contract with a Contractor to construct its EUPs. Subject to the following:

The Tenant shall only award construction contracts to qualified general contractors and sub-contractors licensed in the state of California that have been accepted in writing by the Airport Project Manager for work at SDIA. The Tenant's contractor must have proven experience with retail construction of this nature and the ability to execute the contract documents in a timely and professional manner in accordance with this manual and all Authority rules and regulations. The Airport Project Manager reserves the right to withhold acceptance of any contractor or contractor's personnel proposed by the Tenant to undertake work at SDIA. Reasons may include, but are not limited to:

- Previous failure to safely, timely or otherwise satisfactorily complete construction work at SDIA or other airports
- Default on a contract within the last three (3) years
- Default on a contract, which required that a surety complete the contract under payment or performance bonds issued by the surety
- Debarment within the last five (5) years by a public entity or any organization which has formal debarment proceedings
- Significant or repeated violations of Federal Safety Regulations (OSHA)
- Failure to have the required state of California licenses to perform the work described in the contract
- Failure to demonstrate adequate retail construction experience, resources, or personnel to successfully complete the work.

3.1.3 Construction Standards

Each Tenant shall comply with all rules and regulations set forth by City of San Diego and these RCC Tenant Design and Construction Standards. All contractors shall be properly licensed by the state of California to do the type of work required under their contract.

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3.1.4 Pre-Construction Meeting

Before commencement of Tenant construction, a mandatory pre-construction meeting will be held. Attendance shall include the Tenant, Tenant design team representative, Tenant contractor, Authority, CMAR and other interested parties. Discussion items shall include Authority requirements for security, safety, site access, site maintenance, inspections, coordination, insurance, bonds, etc. Tenant must provide the following at, or prior to the pre-construction meeting: three (3) sets of "as permitted" construction documents, and copies of all permits, project schedules, project directory, estimate of project construction cost and certificates of insurance. Notice to proceed will be issued by the Authority upon completion of these pre-construction requirements.

3.1.5 Construction Requirements

Construction schedules and responsibilities shall comply with the Agreements between the Authority and each Tenant. Each Tenant and/or its respective design/construction team shall field verify all utilities, other existing construction or utility conditions affecting its tenant improvements and shall coordinate, as required, with the CMAR. Tenant shall provide the following:

Summary of Tasks and Documents:

- Permits: Each Tenant is responsible for acquiring all necessary permits required for constructing its portion of the work in a timely manner, to meet their schedules. Copies of all permits shall be submitted to the Authority prior to initiating work. All permits must be clearly posted at the project site for the duration of the construction project.
- Certificates of Insurance: Each Tenant shall meet the insurance and indemnification requirements included in the Lease. A copy of Tenant certificates of insurance shall be submitted to the Authority prior to initiating work. Each tenant contractor shall submit Comprehensive Commercial General Liability, Workman's Compensation and Comprehensive Commercial Automobile insurance. All insurance policies shall include the Authority, its agents, and any other parties designated by the authority as additionally insured. Actual limits shall be provided by the Authority, and additional provisions shall apply to all policies including but not limited to: Acceptability of Insurers and Maintenance of Coverage. The Authority retains the right to review the coverage, form, and amount of the insurance and may require the Tenant contractor to obtain additional coverage if deemed insufficient at the Tenant's expense.
- Emergency Contact Numbers: Emergency contact phone numbers shall be provided to the Authority's Project Manager for general contractor, all subcontractors, and Tenant's Construction Manager, prior to initiating work. Emergency contact numbers shall be posted at the job site in a manner acceptable to the Authority.
- Construction Schedule: A Bar Chart (Gantt) schedule shall be provided at the pre-construction meeting indicating activities and dates for each trade throughout the entire construction project, including indication of required mechanical and electrical shutdowns. Updated construction progress schedules are to be submitted bi-weekly to the Authority Project Manager. All work activities must be planned to have minimum

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impact to the Authority. The work must be done in accordance with the schedule. Written approval from the Authority is required for schedule changes.

- Contract: Copy of executed construction contract or contract summary containing AIA or equally explicit language, including construction cost breakdown.
- Safety Plan: Shall be submitted to the Authority and the CMAR prior to initiating work.
- Submittal Log: A log of all required submittals shall be submitted and approved by the Authority prior to initiating work.
- Contractor's License: A copy of the Tenant's Contractor's license shall be submitted to the Authority prior to initiating work.
- Progress Meetings: Construction progress meetings will be held every two weeks between the Tenant, Authority and CMAR.
- Shop drawing submittals: Tenant may be required to submit six copies of approved shop drawing and product operating and maintenance data to the Authority's Project Manager.
- Payment and Performance Bond: Each tenant shall provide a Payment and Performance Bond prior to start of construction.

Within 90 calendar days of receiving its Temporary Certificate of Occupancy for its EUP Leasehold Improvements, each Tenant shall submit to the Authority the Tenant's Close-out package.

The Tenant general contractor and all sub-contractors involved with the construction process are responsible for procuring and maintaining through the duration of the construction, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the Tenant construction. The Authority Project Manager shall require verification in the form of certificates of insurance, showing evidence of coverage of the following required insurance prior to the issuance of the Notice to Proceed:

- Worker's Compensation
- Comprehensive General Liability
- Comprehensive Automobile Liability

Each tenant contractor shall submit Comprehensive Commercial General Liability, Workman's Compensation and Comprehensive Commercial Automobile insurance. All insurance policies shall include the Authority, its agents, and any other parties designated by the authority as additionally insured. Actual limits shall be provided by the Authority, and additional provisions shall apply to all policies including but not limited to: Acceptability of Insurers and Maintenance of Coverage. The Authority retains the right to review the coverage, form, and amount of the insurance and may require the Tenant contractor to obtain additional coverage if deemed insufficient at the Tenant's expense.

3.1.7 Contractor's licensing

All work shall be performed by contractors licensed in the State of California for that applicable scope of work.

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3.1.8 Interpretation / Clarifications

These standards must be read and applied in their entirety. These standards complement other legal agreements between the Tenant(s) and the Authority. Should there be any ambiguities between the Standards and the Lease Agreement, the Lease Agreement shall govern.

3.1.9 The Tenant / Contractor Agreement made in California.

The agreement between the Tenant and the Tenant's licensed contractor shall be deemed to have been made in the State of California, and shall be governed, interpreted, and construed in accordance with the laws of the State of California. The Tenant and its contractor shall at all times comply with the provisions of the ordinances, and applicable rules and regulations of the City and County of San Diego; laws, rules and regulations of the State of California, and applicable Federal laws and Federal rules and regulations which in any manner limit, control, or apply to the actions or operations of the Tenant, Tenant's contractor, subcontractors, subordinate subcontractors of any tier or their employees, agents or servants engaged upon the Work or affecting the materials supplied to them or by them. The Tenant shall ensure all Tenant/Contractor Agreements have been modified to directly bind the Tenant's contractor to all provisions, policies, procedures, and requirements as outlined herein, and within the Tenant's lease with the Authority. The Tenant shall submit the Tenant/Contractor Agreement to the Airport Project Manager for review prior to the execution of any contractor agreement. The Airport Project Manager will provide written comment to the Tenant/Contractor Agreement language within seven (7) business days.

3.1.10 Tenant Payment and Performance Bond

Prior to the issuance of a Notice to Proceed and the commencement of any Tenant construction, the Tenant shall secure and furnish to the Airport Project Manager a construction Performance Bond and a Labor and Material Payment Bond each in a payable sum not less than 100% of the construction contract amount. Bonds must be issued by a surety company licensed to transact business in the State of California and accepted by the Authority, in a form accepted by the Authority. Bonds must be at the sole cost of the Tenant and maintained in effect throughout the period of construction.

The Payment and Performance Bonds shall guarantee prompt and faithful performance of the Tenant/Contractor Agreement and full prompt payment by the Tenant and the Tenant contractor to all persons supplying labor, materials, sustenance, provisions, supplies, machinery, tools and equipment used directly or indirectly by any contractor, subcontractor or supplier in the prosecution of the work, and shall protect and hold harmless the Authority from any liability, losses or damages.

3.1.11 Notice to Proceed

Upon receipt of all required licenses, permits and the documentation listed herein, the Airport Project Manager will issue a written Notice to Proceed (NTP) and schedule a Pre-Construction Conference. Thereafter the work shall be executed as the permits require and shall be completed within the time set forth in the Tenant lease agreement with the

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Authority and the Tenant/Contractor Agreement. The NTP is only valid for six months, construction must have started within this timeframe or the project will need to be resubmitted.

The following documents must be received by the Airport Project Manager prior to the issuance of the NTP and must remain current as Tenant work proceeds:

- Minimum Initial Capital Investment Form
- Executed Tenant/Contractor Agreement (Including Addenda)
- Construction Deposit
- Payment and Performance Bonds
- City of San Diego Planning and Development Building Permit
- San Diego County Environmental Health Department Permit (where applicable)
- Permit drawings and specifications, with City and Authority stamp
- Certificate(s) of Insurance listing Authority as additionally insured
- Tenant contractor verification of workers compensation coverage
- Signed Acceptance of Premises Form
- Milestone schedule with sufficient detail to permit the Authority contractors controlling the work site to fully understand the planned work activities of the Tenant's contractors
- Environmental and Hazardous Materials drawings & permits.

3.1.12 Construction Deposit

Tenant is required to submit a construction deposit for each project prior to the start of construction. The construction deposit will compensate the Authority for costs incurred due to negligence of the Tenant and/or Tenant contractor, and to ensure the timely submission of documentation required to close out the project with the Authority. Upon submission of all close-out documentation, the Authority will refund the full balance of the construction deposit, less any incurred costs.

- Construction Value: \$25,000-\$100,000 / Deposit = \$1,500
- Construction Value: \$100,000-\$250,000 / Deposit = \$2,500
- Construction Value: \$250,000-\$500,000 / Deposit = \$5,000
- Construction Value: \$500,000-\$2,000,000 / Deposit = \$10,000

3.1.13 Close-out Packages

After issuance of the Certificate of Substantial Completion and Beneficial Occupancy, the Tenant shall have 90 days to provide the following project close-out documentation, and any and all documentation required per the Tenants agreement:

- Certificate of Occupancy
- Final audited costs – Certified Initial Capital Investment Form
- Lien releases – General contractor
- Lien Releases – Subcontractors, vendors, suppliers
- Architects Certification of Compliance with Authority standards
- CD – As-Built record documents
- Hard Copy As-built record documents

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- Certified Test and Air Balancing Report

3.2 TENANT ALTERATIONS

For Tenant projects implemented after the initial build-out (i.e., alterations to build-out of initial allocation of leased premises, or any subsequent alteration), these Tenant Design and Construction Standards shall apply.

3.3 INITIAL CONSTRUCTION OF TENANT EXCLUSIVE USE PREMISES

3.3.1 Construction Contracting

3.3.1.1 Tenant Construction Contracting

Each RAC Tenant is allowed to select and contract with a Contractor or Contractors to construct its EUPs.

Each Tenant may contract with the CMAR team individually or collectively for the completion of Tenant work. Base Building construction schedule or quality must not be affected due to CMAR participation as Tenant improvement contractor.

The Tenant Contractor is required to list the Subcontractors that will be used on the project. The Subcontractor's schedules shall include the estimated starting date and anticipated duration at each EUP.

3.3.1.2 Base Building Contractor

The RCC Base Building CMAR is Austin-Sundt. The CMAR is responsible for the construction site until Certificate of Occupancy is issued. The tenants and the Tenant Contractors are required to coordinate with the Authority and CMAR.

The CMAR shall be responsible for the supervision and detailed coordination of the Base Building. The CMAR shall also be responsible for the correct and timely construction, assembly and connection of various portions and parts of the complete work, avoiding interferences or conflicts in any of the Work and producing the best solution for the various installations with respect to layouts, clearances, functions, maintenance and repair access, cleaning and housekeeping, requirements of Contract Documents, and conformance to laws, ordinances, rules, regulations, and lawful orders of all public authorities having jurisdiction and bearing on performance of the work pertaining to the Base Building. The CMAR scope of work is defined in the Base Building contract documents. The Tenant shall design EUPs to merge with the Base Building design. The Tenant shall clarify all assumptions with respect to Base Building scope during EUP design.

3.3.2 Authority Personnel Identification / Access Control

The RCC is not located within or directly adjacent to the Airport Operations Area (AOA). Authority Identification Badges are not required.

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3.3.3 Safety

Tenant and their employees are required to comply with CMAR safety program and shall attend a site-specific training session by the CMAR prior to initiating work. The CMAR requires a hard-hat, proper eye and hearing protection, high visibility yellow safety vest, gloves, and hard-soled leather shoes for all workers and visitors on the RCC job site. This is a multi-employer worksite. As such, the following items will be required in addition to those called out within the CMAR safety plan.

Tenant contractor shall designate a safety representative who will be on site whenever work is being performed and shall have the responsibility and authority to ensure the safety of employees and property. The safety representative shall at a minimum have completed an OSHA 10-hour Hazard Recognition Course. Tenant contractor shall submit to the Authority TIP Construction Inspector no later than the pre-construction conference, the name and resume of the designated safety representative, and documentation of OSHA course completion along with a written safety plan and a statement signed by the Tenant contractor, and contractor's superintendent that all of its employees and all subcontractor employees of any tier have been briefed on and have read the safety plan. The Authority will monitor contractor safety performance.

Tenant contractor shall designate a job superintendent who will be on site whenever work is being performed and managing the installation of the work. Should a contractor be awarded more than one build-out, the superintendent may manage up to three jobs on Authority grounds.

- Personal Protective Equipment (PPE) shall be worn at all areas of the construction site.
- Contractors are responsible for compliance with housekeeping and sanitation regulations regardless of what is provided on-site by other contractors. Designated smoking areas will be defined on the site. Smoking except in designate smoking areas is prohibited.
- Only temporary power provided by the CMAR for use by tenant contractors shall be used. All temporary power will be provided with Ground Fault Circuit Interrupter protection and shall be accessible by 100' extension cord from any operation within the building area.
- All concrete slab penetrations shall be properly evaluated so that post tension cables or in-slab utilities will not be impacted. Subsurface scanning (x-ray/radar/infrared) shall be used at a minimum at penetration locations.
- Contractors are responsible for their own dumpsters, scaffolding, ladders, temporary barriers or other equipment. Tenant contractors shall coordinate site logistics with the CMAR.
- Motor vehicles and equipment shall be operated in a safe manner around the Project.
- Barricade policy in place on the site is as follows:
 - All barricades will have a sign posted identifying person-in-charge.
 - Yellow Caution Tape – Do not cross unless hazard is identified and safe passage or access is assured.
 - Red Danger Tape - Do not cross. Permission to cross is granted only by the person-in-charge identified on barricade tape signage.

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3.3.4 Base Building Construction Documents

3.3.4.1 Coordinated Shop Drawings

RCC Contract Documents will be made available to the Tenant Design Teams and Construction Contractors for coordination (as reference documents or point of clarification). Tenant shall contact the Authority for access.

3.3.4.2 As-built Construction Documents

The CMAR will be maintaining as-built construction documents at its construction trailers located on site. Tenant shall contact the Authority regarding access.

3.3.5 Coordination

3.3.5.1 Site Visits during Tenant Design and Bidding

Tenant shall contact the Authority regarding access to the building site. Visitors shall be escorted and are required to follow all site safety procedures.

Tenant design team and contractor shall attend safety training and attend mandatory site visit prior to initiating work.

3.3.5.2 Coordination with Base Building Contractor

The Tenant must coordinate their work to ensure tenant improvement construction does not impact the Occupancy Permit effort of the Base Building contract. The CMAR must support the Occupancy Permits for the tenant improvements. All parties must work together to ensure Occupancy efforts are effectively coordinated.

Logistics: Tenant Contractor may not utilize any Common Use Areas for equipment and materials storage and staging, employee parking, hoisting, contractor vehicle parking, etc. Coordinate all activities with CMAR. Prior to beginning work, the Tenant Contractor must accept the approved Authority/CMAR staging area. See Logistics 3.3.6.0

Interference: Tenant contractors shall examine their drawings and specifications and determine the points of possible interference between the works of the various trades and the Base Building. If any part of the Tenant work is installed which interferes with the Base Building work, the interference shall be eliminated and corrected as approved by the Authority, at the responsible Tenant's expense.

Restricted Spaces: Adequate clearance shall be maintained, where work is to be installed in restricted spaces, as required by governing codes and laws to allow for access, repairs, maintenance, and the removal of equipment and devices. Should blocking occur, the responsible Tenant Contractor shall correct it as approved and required at no cost to the Authority.

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3.3.5.3 Coordination with Other Tenant Contractors

When separate contracts are let within the limits of the RCC Project, each Tenant Contractor shall conduct their work so as not to interfere with or hinder the progress or completion of the work being performed by other Tenant Contractors. All Tenant Contractors working on the RCC Project shall cooperate with each other.

The Tenant Contractor shall arrange his work and shall place and dispose of the materials being used so as not to interfere with the operations of the other Tenant Contractors or that of the CMAR, within the limits of the Project. He shall join his work with that of others in an acceptable manner and shall perform it in proper sequence to that of the others.

The Authority reserves the right at any time to contract for and perform other or additional work in or near the work covered by the Tenant contracts.

3.3.5.4 Coordination Meetings

A Tenant Contractor representative shall attend bi-weekly progress / coordination meetings with the CMAR and the Authority. The Tenant Contractor shall be held responsible for all information distributed at this meeting regardless of who attends.

3.3.5.5 Conflict Resolution

Coordination Meetings: When piping, conduits, ducts, or other items are to run in the same general direction, elevation, or location as either Base Building scope or that of another Tenant, the Tenant Contractor involved shall request, in writing, a conference to determine the proper allocation of the space or position. Coordination meeting minutes shall be distributed to all interested parties.

Conflict Resolution: All conflicts or disputes arising due to coordination issues between Tenant Contractors or the CMAR shall be brought to the Authority in writing, for resolution. The decision of the Authority is final and binding.

3.3.5.6 Quality Assurance

Description: Tenant Contractor is responsible for establishing and implementing a Quality Assurance program that ensures timely and cost effective completion of the work.

Responsibilities of the Tenant Contractor:

3.3.5.6.1 Coordinate work of all subcontractors and work of all separate contracts, if any, assigned to this Tenant Contractor.

3.3.5.6.2 Cooperate with other contractors and the CMAR in performing work at Project site.

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- 3.3.5.6.3 Cooperate and coordinate with the CMAR in accommodating any Owner-furnished materials, furnishings, or equipment, and its installation.
- 3.3.5.6.4 Establish on-site lines of authority and communication.
- 3.3.5.6.5 Attend and prepare for Project meetings with the CMAR.
- 3.3.5.6.6 Furnish and maintain during the entire Contract Time, a competent staff of experienced construction, administrative and supervisory personnel in sufficient numbers to meet the Contract completion date.
- 3.3.5.6.7 Furnish a detailed time schedule of operations for the entire work; monitor the schedule as work progresses and revise the schedule bi-weekly to reflect actual progress and submit to the Authority.
- 3.3.5.6.8 Verify that applications for permits, inspections, temporary facilities, and permanent utilities are processed in a timely fashion.
- 3.3.5.6.9 Resolve conflicts that may develop among subcontractors and vendors over access to, and utilization of, the restricted spaces available for construction activities, materials, and equipment.
- 3.3.5.6.10 The Tenant Contractor and subcontractors are responsible to thoroughly review the Base Building Drawings and Specifications and, in a timely manner, notify the Authority on issues that require resolution so as not to impact the milestone and Substantial Completion dates for the Project.

3.3.6 Logistics

3.3.6.0 Work Plans

Prior to the start of work, logistics plans that explain the contractors course of work according to the items below shall be required. These work plans shall identify plans for site access, building access, material and equipment deliveries, staging, lay down, contractor vehicle access, trailer delivery, and dumpster locations. During the course of work, if the tenant needs to tie in to base building services outside the footprint of their space, the contractor shall provide to the Authority Project Manager a work plan. Work plan templates are available from the Airport Project Manager. If a work plan is incomplete or not on the template, the Authority Project Manager may withhold approval.

3.3.6.1 Site Access

The CMAR will provide paths for access into the site during normal work hours. Normal work hours will be 7:00 AM to 5:00 PM Monday through Friday. Tenant Contractors will coordinate with the Authority for access. All off-shift work shall be approved, in writing, by the Authority.

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3.3.6.2 Building Access- Ready/Return Levels - QTA Area

All deliveries shall be coordinated with the CMAR and the Authority's Construction Manager. Routes will be confirmed at the Pre-Construction Meeting.

3.3.6.3 Material and Equipment Deliveries

Tenant Contractors are responsible for unloading and transporting materials. The Tenant Contractors shall coordinate and obtain approval for equipment mobilization and demobilization as well as placement on the site with the Authority. Tenant Contractor shall provide to the Authority equipment description (make and model), maximum loads, and maximum floor load. Floor loads within the building are limited. See Section 2.4.7, "Structural", for load limits.

Tenant Contractor shall protect all expansion joints from construction loads.

Tenant Contractor shall coordinate with the CMAR for all deliveries and shall provide flagging personnel as required.

3.3.6.4 Elevators/Hoistways/Hoisting

Elevators will not be available for Tenant Contractor use; however the helical ramps shall be available for the tenant contractor to make deliveries. Tenant contractor shall coordinate directly with the CMAR, and with no less than 24 hour notice.

Tenant contractor shall provide their own hoisting for any equipment or material deliveries or transportation of materials within the building. All equipment use, storage and staging will be performed compliant with floor load limits. See Section 2.4.7, "Structural", for load limits.

3.3.6.5 Equipment

All lifts and equipment shall have white rubber tires to avoid damage to finish floors.

Provide floor slab protection from equipment oil/hydraulic fluids.

3.3.6.6 Staging

Limited lay down area is available. Tenant Contractors are encouraged to schedule just-in-time deliveries. A small assigned lay-down area at grade will be available to the Tenant Contractors. The Tenant Contractor shall receive a diagram indicating the location of their specific lay-down area at the Pre-Construction meeting. Tenant contractors must not obstruct circulation and access routes. The Authority may take back, change the size of the area, and/or relocate a Tenant contractor lay-down area at the Authority's discretion.

Lay-down areas must be kept clean at all times to the satisfaction of the Authority. Daily and end-of-shift cleaning is required.

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Tenant Contractor shall protect floor slab sealant material from any damage.

3.3.6.6.1 Materials

Materials may be located in the assigned lay down area. It is Tenant Contractor's responsibility to confirm materials stored do not exceed the load limits. See Section 2.4.7, "Structural", load limits. Tenant Contractor shall protect all expansion joints from construction loads.

Material stocked in the building must be stored within the Tenant space. Tenant contractors shall not store combustibles (e.g. card board packaging, wood crating) in the RCC structure and QTA structures except for work in progress during a work shift. All combustibles shall be disposed of in the dumpsters or off-site at the end of each work shift.

3.3.6.6.2 Contractor Vehicles

Each Tenant is allowed one parking space for one contractor vehicle on site. Location will be provided at the Pre-construction Meeting. Additional Tenant vehicles may be parked at that Tenant's Ready/Return Premises with approval of the CMAR and the Authority.

Overnight parking of contractor's vehicles is prohibited.

3.3.6.6.3 Trailers

Tenant Contractors may not have construction/office trailers on the site.

3.3.6.6.4 Dumpsters

Tenant contractors are responsible for providing dumpsters for use during the construction. Dumpster locations are to be coordinated with the CMAR and the Authority. Tenant contractors are required to keep the dumpster areas clean and free of debris to the satisfaction of the Authority.

3.3.7 Temporary Facilities and Controls

3.3.7.1 Construction Barricades

Barricades may be located no more than six feet beyond the Tenant lease line. Construction barricades shall not be removed before the Punch-list items are completed and approved by the Authority's Project Manager.

3.3.7.2 Keying

The Authority will do final keying. The Tenant or its contractor shall order construction cores and keys and provide keys to the Authority.

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3.3.7.3 Temporary Utilities

Availability: Tenant Contractors shall coordinate with the Base Building CMAR for access to and use of temporary power and water as provided by the Base Building CMAR.

Payment: The Authority will pay for electricity and water used for Tenant Improvement construction purposes at the Operational Floor Plates, Customer Service Building, and QTA facilities, until Deadline for Substantial Completion.

Tenant Contractor must provide its own services listed below:

- Temporary Power: Tenant Contractors shall provide the necessary extension cords (up to 100' in length) to tie into and extend temporary power provided by the Base Building CMAR for use by tenant contractors to their individual Exclusive Use Premises at the Ready/Return floors, Customer Service Building, or QTA. Tenant Contractors are prohibited from tying into Base Building electrical systems at other locations than those designated by the Base Building CMAR.
- Construction/temporary lighting of the tenant spaces
- Heating (Temperature) until such time as the building services are operational
- Filtration / Ventilation / Construction Barricades/ and Dust Enclosures
- Cell phones and phones for the contractor and employee use.
- Sanitary Facilities – Base Building restrooms will not be available at any time for tenant contractors. Tenant contractors must provide and use Sanicans. Location of Sanicans to be coordinated with the Base Building CMAR. Violation and use of the Base Building restrooms is cause for removal from the site.

No welders shall be connected to the Authority's electrical systems.

A non-potable permanent building water source will be available at each building level for use by the Tenant Improvement contractor.

3.3.7.4 Security of Tenant Contractor Site

Security and protection of each individual tenant space is the responsibility of the individual Tenant Contractor.

Security and Protection of stored construction equipment and materials is the responsibility of the individual Tenant Contractor.

3.3.7.5 Progress Cleaning and Waste Removal

Throughout all phases of construction, including suspension of the work, and until date of Tenant Deadline for Substantial Completion of the project, the Tenant Contractor shall keep the work area clean and free from rubbish, excess materials and debris generated by Tenant construction activities.

At all times, and as may specifically be requested by the Authority, cleanup and remove all refuse resulting from the Work daily in order that the project site remains

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free from an accumulation of construction debris. Leave the site broom-clean at the end of every shift. Upon failure to do so within 24 hours after request by the Authority to the Tenant, such cleanup work may be done by the Authority and the reasonable and customary cost thereof shall be charged to the Tenant.

Tenant Contractor is responsible for protection of Base Building at all times.

Tenant Contractor shall provide adequate storage for all items awaiting removal from the job site and observe all requirements for fire prevention and protection of the environment.

Tenant Contractor shall take care to avoid spread of dust, dirt, debris, water, paint, cement, sprayed materials, and other substances about the site or onto adjacent property. Splatters or spills of materials shall be cleaned up at time of occurrence. Cleaning materials shall not harm the finished surface being cleaned.

Tenant Contractor shall inform all trades and workers of clean-up requirements specified, and monitor where work is in progress to ensure full compliance with all clean-up requirements in this and other sections.

Tenant contractor shall not dispose of any rubbish or waste materials in fills or backfills. Disposal of wastes such as paint, thinner, mortar mix into drains is prohibited at all times. All disposal activity shall conform to Federal, state and local laws, ordinances, rules, regulations and pertaining orders. Tenant contractor shall attend the Authority's Spill Prevention Training.

3.3.7.6 Photo Verification of Existing Conditions Prior to starting Work

Tenant contractors shall provide the Authority with photos documenting condition of adjacent Base Building finishes prior to starting work.

3.3.7.7 Protection of Base Building

Any damage to the new construction built by the CMAR shall be repaired by the Tenant, to the satisfaction of the Authority, should it be determined that Tenant construction activity is responsible. Tenant Contractors will be held responsible for any damage caused by their crews.

Tenant Contractors are responsible for general protection of Base Building or other tenant work associated with the Tenant Contractors efforts. Tenant Contractors are obligated to take all reasonable measures to protect existing finishes or adjacent work whether complete or under construction, whether or not the Authority has accepted them. To that end, all wheeled equipment in the Rental Car Center is required to have pneumatic wheels (white). The Authority is not responsible to protect, repair, or clean up after Tenant Contractor operations.

Base Building Mechanical Filters: Tenant Contractors are required to take reasonable steps to control dust caused by their construction operations. If a Tenant Contractor does not take adequate steps to control dust caused by their construction operations and the Base Building mechanical system is damaged, or it

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is necessary to replace the filters early, the cost for repairs or replacement filters will be charged to the Tenant Contractor.

Base Building materials and finishes that must be removed to accommodate the tenant improvement effort must be preserved. Removal must be coordinated with the Authority and the CMAR prior to removal. The Tenant Contractor must map and number the items for reinstallation at a later date. Items to be removed must be crated for delivery to the Authority. Tenants are responsible to re-install or replace such base-building materials and finishes at the termination of their lease.

3.3.7.8 Contractor Employee Services

Drinking Water for Tenant Contractor employees is to be provided by each Tenant Contractor.

Smoking is permitted ONLY in designated area(s) on the site. Eating, "chew", and break areas are limited to the Tenant exclusive-use premises. At all 4 levels of the RCC, Tenant Contractors shall request approval of a designated area for eating, "chew", and breaks from the Authority Project Manager. This designated area shall be kept clean at all times.

Eating, "chew", and breaks shall not occur outside of the designated area.

Base Building rest rooms shall not be used by Tenant Contractors.

3.3.7.9 Cutting and Patching, Attachment to Structure

For floor penetrations and openings and attachment to structure see Section 2.4.7, "Structural". Results of testing shall be provided to Authority Project Manager prior to any penetration of or attachment to structure.

3.3.8 Acceptance of Tenant Space

Tenants shall perform a professional review of their Exclusive Use Premises prior to awarding a contract for and initiating tenant improvement construction. Tenant shall provide a statement in writing to the Authority indicating the space has been inspected and appears to be what was anticipated and is acceptable to construct the EUP as intended.

3.3.9 Inspections

The Tenant contractor must receive all City, County, and Federal inspections as required by their permits and all associated rules and regulations. The Authority will inspect all Tenant construction projects for full compliance with the contract documents and Authority construction, safety, and security standards.

The Authority's Project Manager working with the Authority Inspector will observe.

Tenant construction to determine if designs, materials, equipment, furnishings, fixtures, systems and finishes installed, satisfy the requirements of the contract documents.

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Additionally, they will work directly with the Tenant to facilitate and coordinate resolution of all Tenant design and construction issues.

The Authority Project Manager will periodically review all Tenant construction sites and may determine any work to be defective that is not in compliance with the contract documents or is not in compliance with Authority standards. Additionally, should the appearance and performance of any element of the work, in the opinion of the Authority Project Manager, fail to conform to the Authority standards for such work, that work may be declared defective. Any such rejection will be communicated by the Project Manager in writing to the Tenant with a courtesy copy to the Tenant contractor. The Authority Project Manager maintains authority to stop all construction until a resolution satisfactory to the Authority is reached.

The Tenant shall pay all costs associated with correcting defective work to the Authority's satisfaction. If any portion of the work is covered and inaccessible for inspection contrary to the request of the Authority or contrary to requirements of the contract documents, such covering or finishes must be uncovered for observation, and replaced, without charge to the Authority.

The Authority's inspectors will work directly with the Tenant contractor to facilitate and coordinate construction logistics and inspect construction sites for compliance with Authority standards.

The Authority inspector maintains authority to stop construction activities if it is determined that Authority safety and security requirements are not being followed or observes an unsafe working condition. The Tenant contractor shall allow the Authority access and provide the means of access to the Tenant construction. The Tenant contractor shall respond to any reasonable request to further the Authority's ability to complete construction site observations, inspections and testing. Such inspections shall not relieve the Tenant contractor of any of its obligations under the Tenant/Contractor Agreement.

End of Section 3

4.0 EXHIBITS

LIST OF EXHIBITS

1. SAN DIEGO INTERNATIONAL AIRPORT CONCESSION DEVELOPMENT MANUAL
ISSUED APRIL 10, 2012. **(See Appendix A)**
2. INFORMATION TECHNOLOGY INFRASTRUCTURE STANDARDS
CONSTRUCTION MANUAL ISSUED FEBRUARY 14, 2011. **(See Appendix B)**
3. OVERALL LEVEL 1 FLOOR PLAN – EXCLUSIVE-USE, COMMON-USE, AND 3RD PARTY
OPERATOR AREAS
4. OVERALL LEVEL 2 FLOOR PLAN — EXCLUSIVE-USE, COMMON-USE AND 3RD PARTY
OPERATOR AREAS
5. OVERALL LEVEL 3 FLOOR PLAN – EXCLUSIVE-USE, COMMON-USE AND 3RD PARTY
OPERATOR AREAS
6. OVERALL LEVEL 4 FLOOR PLAN – EXCLUSIVE-USE, COMMON-USE AND 3RD PARTY
OPERATOR AREAS
7. INCREASED STRUCTURAL LOAD AREA – LEVELS 2 & 3
8. TYPICAL BARRIER PLACEMENT – LEVEL 1
9. TYPICAL BARRIER PLACEMENT – LEVELS 2 & 3
10. TYPICAL BARRIER PLACEMENT – LEVEL 4 (OVER READY/RETURN)
11. TYPICAL BARRIER PLACEMENT – LEVEL 4 (OVER QTA)
12. CSB – EXCLUSIVE-USE AREAS – LEVEL 1
13. QTA – EXCLUSIVE-USE, COMMON-USE AND 3RD PARTY OPERATOR AREAS – LEVEL 1
14. QTA – EXCLUSIVE-USE, COMMON-USE AND 3RD PARTY OPERATOR AREAS – LEVEL 2
15. QTA – EXCLUSIVE-USE, COMMON-USE AND 3RD PARTY OPERATOR AREAS – LEVEL 3
16. QTA – TENANT IMPROVEMENT AREAS – LEVEL 1
17. QTA – TENANT IMPROVEMENT AREAS – LEVEL 2

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18. QTA – TENANT IMPROVEMENT AREAS – LEVEL 3

19. QTA – TYPICAL CAR WASH BAY

20. QTA – TYPICAL MAINTENANCE BAY

21. QTA – TYPICAL FUEL ISLAND (TWO-POSITION)

22. QTA – TYPICAL FUEL ISLAND (THIRD-POSITION)

23. READY/RETURN – TYPICAL IDF ROOM

24. READY/RETURN – TYPICAL IDF ROOM

25. READY/RETURN – TYPICAL IDF ROOM

26. READY/RETURN – MPOE ROOM

27. READY/RETURN – ZONES DEFINED FOR EXIT / CUSTOMER SERVICE BOOTHS – LEVEL 1

28. READY/RETURN – ZONES DEFINED FOR EXIT / CUSTOMER SERVICE BOOTHS – LEVELS 2 & 3

29. READY/RETURN – TYPICAL ELECTRICAL ROOM

30. READY/RETURN – TYPICAL ELECTRICAL ROOM

31. READY/RETURN – TYPICAL ELECTRICAL ROOM

32. READY/RETURN – ELECTRICAL ROOM / IDF ROOM / MPOE KEY PLAN

33. QTA – ELECTRICAL ROOM / IDF ROOM KEY PLAN

34. QTA – TYPICAL IDF ROOM

35. QTA – TYPICAL ELECTRICAL ROOM

San Diego International Airport Rental Car Center

Tenant Design and Construction Standards

Exhibit-1

See Appendix A

San Diego International Airport Rental Car Center

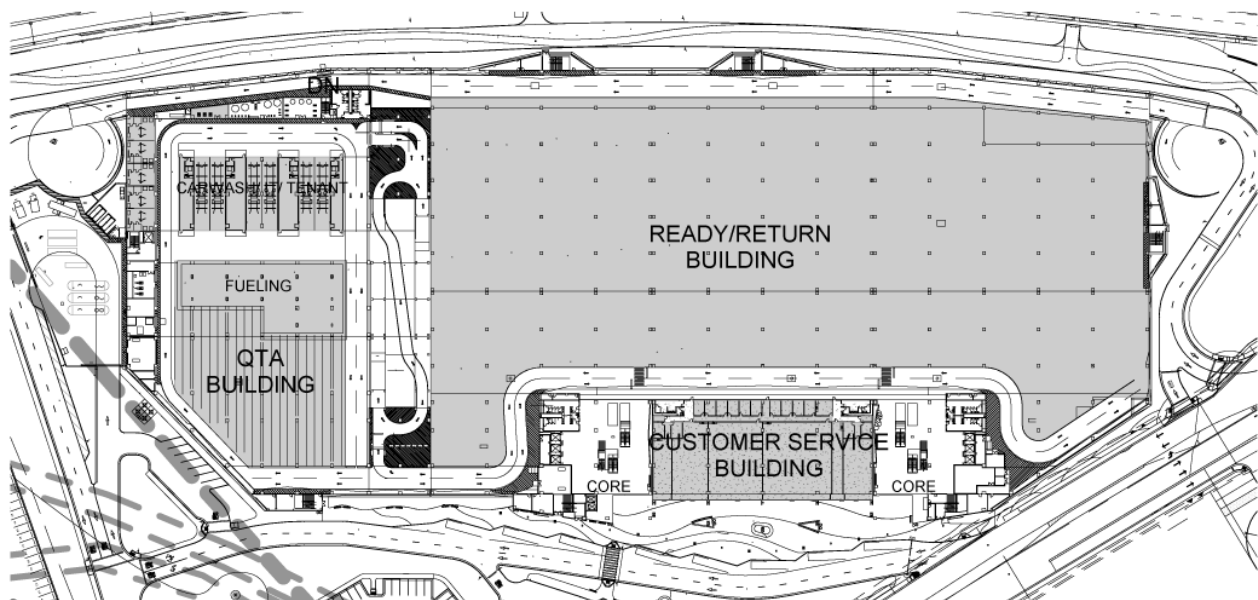
Tenant Design and Construction Standards

Exhibit-2

See Appendix B

Exhibit - 3

Exhibit 3 referenced for convenience; Exhibit B of the Lease shall govern with respect to Exclusive Use, Common Use and 3rd-party Operator spaces



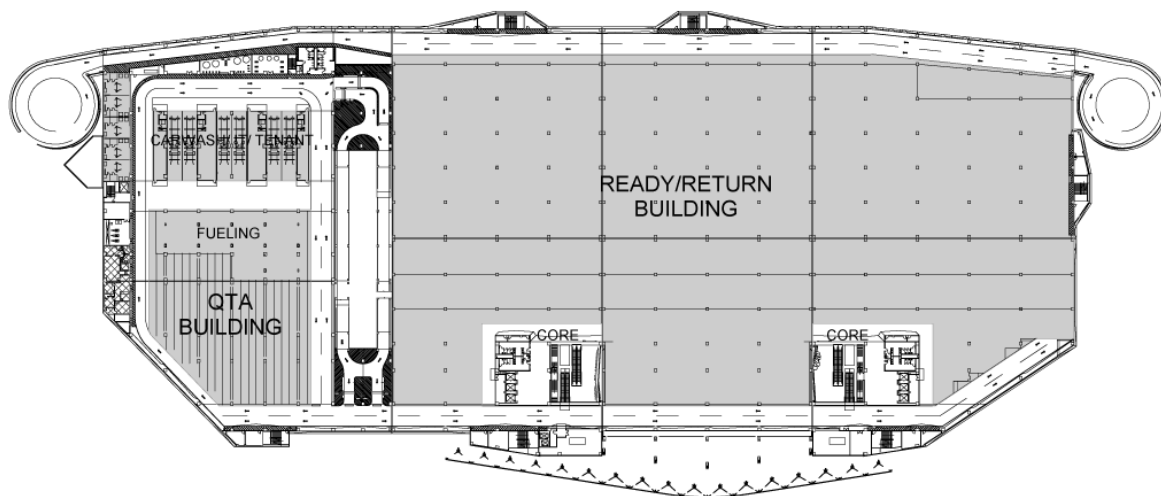
**OVERALL LEVEL 1 FLOOR PLAN -
EXCLUSIVE-USE, COMMON-USE,
AND 3RD PARTY OPERATOR AREAS**

①



Exhibit - 4

Exhibit 4 referenced for convenience; Exhibit B of the Lease shall govern with respect to Exclusive Use, Common Use and 3rd-party Operator spaces

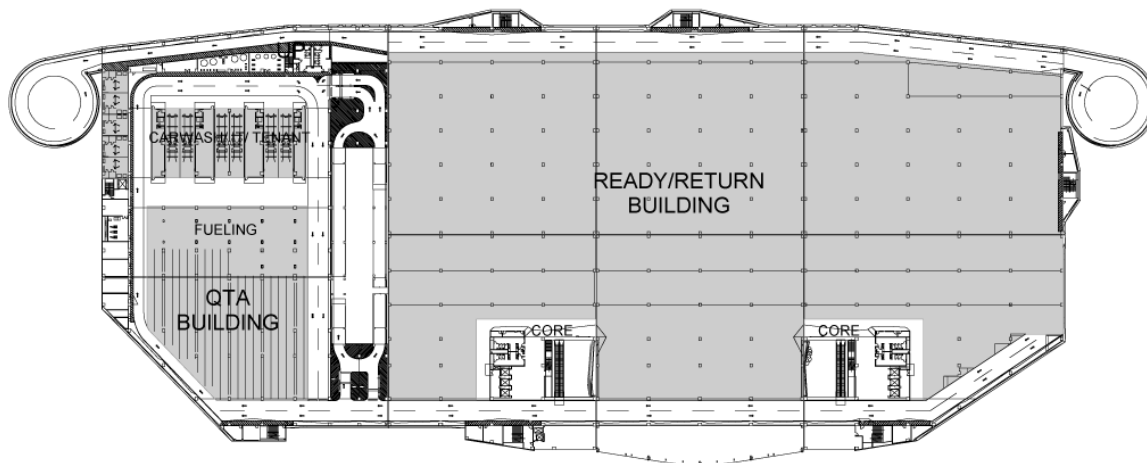


OVERALL LEVEL 2 FLOOR PLAN -
EXCLUSIVE-USE, COMMON-USE,
AND 3RD PARTY OPERATOR AREAS



Exhibit 5

Exhibit 5 referenced for convenience; Exhibit B of the Lease shall govern with respect to Exclusive Use, Common Use and 3rd-party Operator spaces



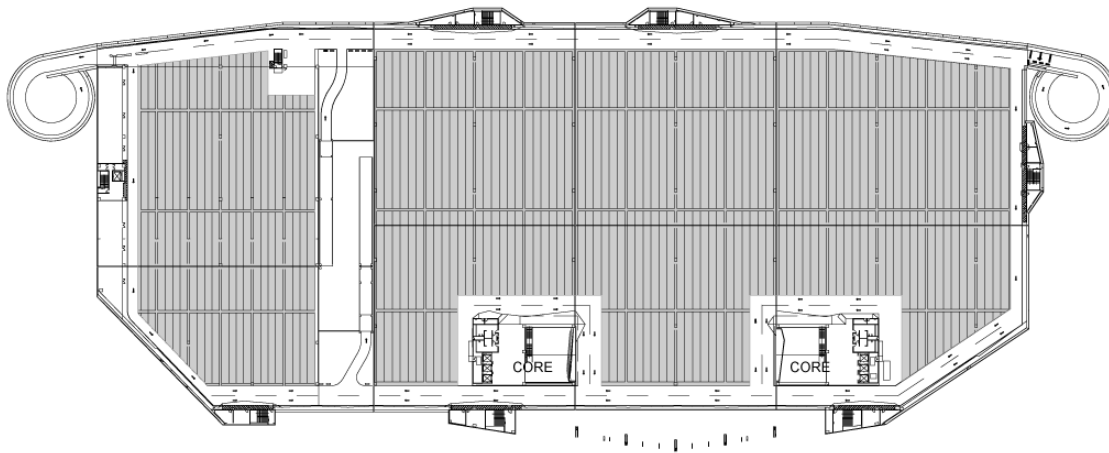
OVERALL LEVEL 3 FLOOR PLAN -
EXCLUSIVE-USE, COMMON-USE,
AND 3RD PARTY OPERATOR AREAS

1



Exhibit-6

Exhibit 6 referenced for convenience; Exhibit B of the Lease shall govern with respect to Exclusive Use, Common Use and 3rd-party Operator spaces

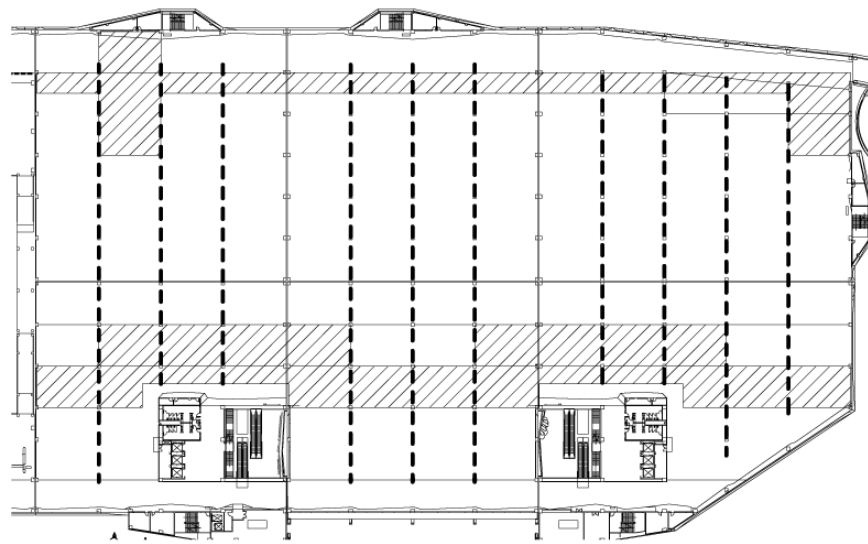


**OVERALL LEVEL 4 FLOOR PLAN -
EXCLUSIVE-USE, COMMON-USE,
AND 3RD PARTY OPERATOR AREAS**

①



Exhibit - 7



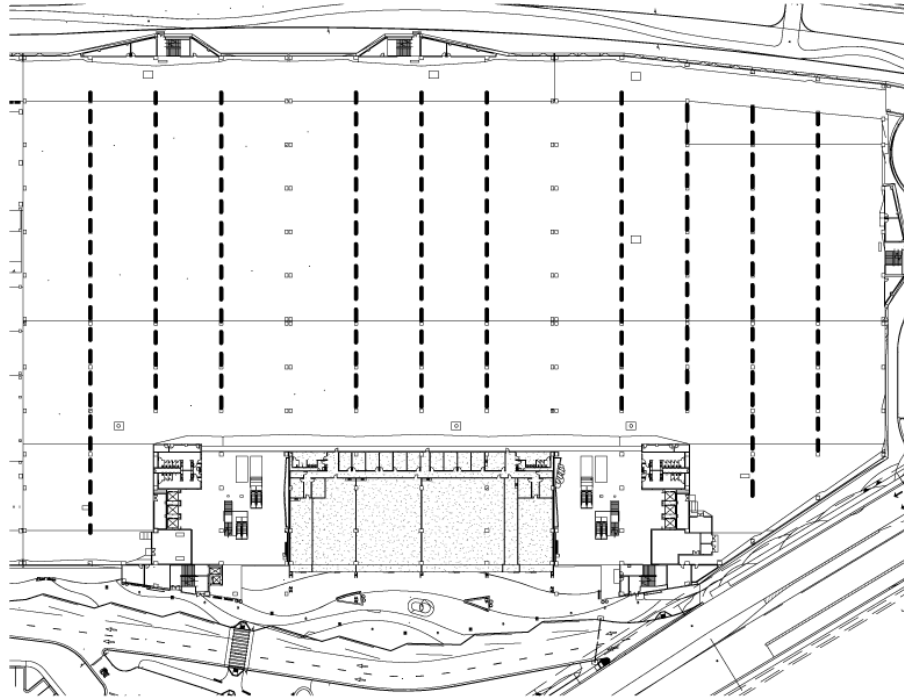
**INCREASED STRUCTURAL LOAD AREA -
LEVELS 2 & 3**

1

--- ALLOWABLE BARRIER
LOCATIONS

/// INCREASED STRUCTURAL
LOAD AREA

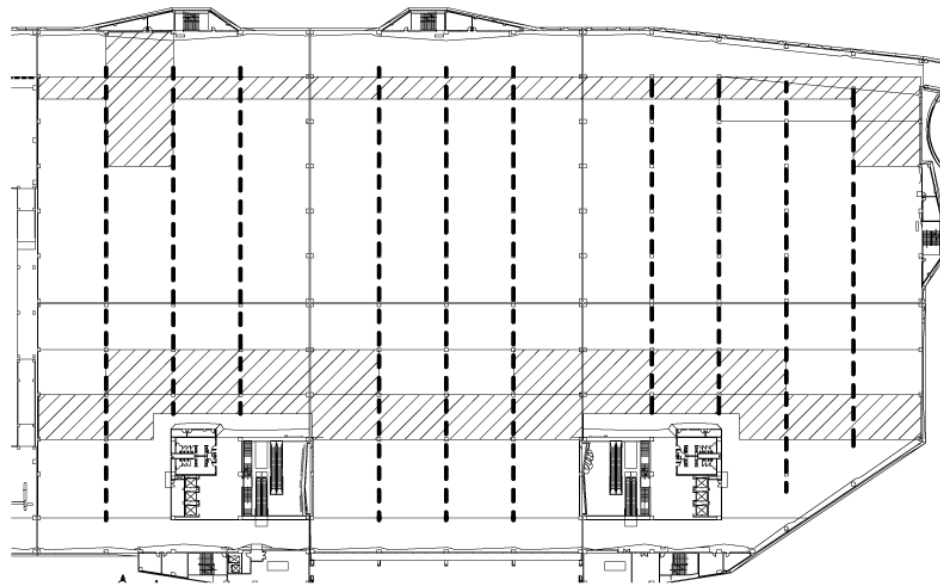
Exhibit-8



① TYPICAL BARRIER PLACEMENT - LEVEL 1

--- ALLOWABLE BARRIER
LOCATIONS

Exhibit-9



① TYPICAL BARRIER PLACEMENT - LEVELS 2 & 3

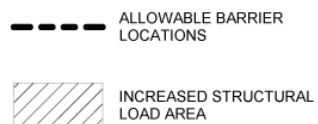
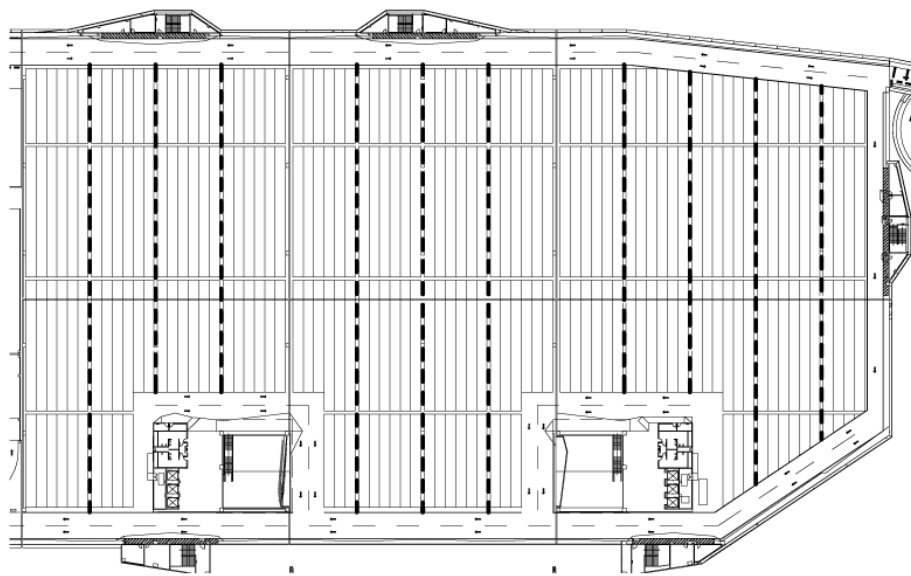


Exhibit 10



TYPICAL BARRIER PLACEMENT - LEVEL 4
(OVER READY/RETURN)

1

----- ALLOWABLE BARRIER
LOCATIONS

Exhibit-11

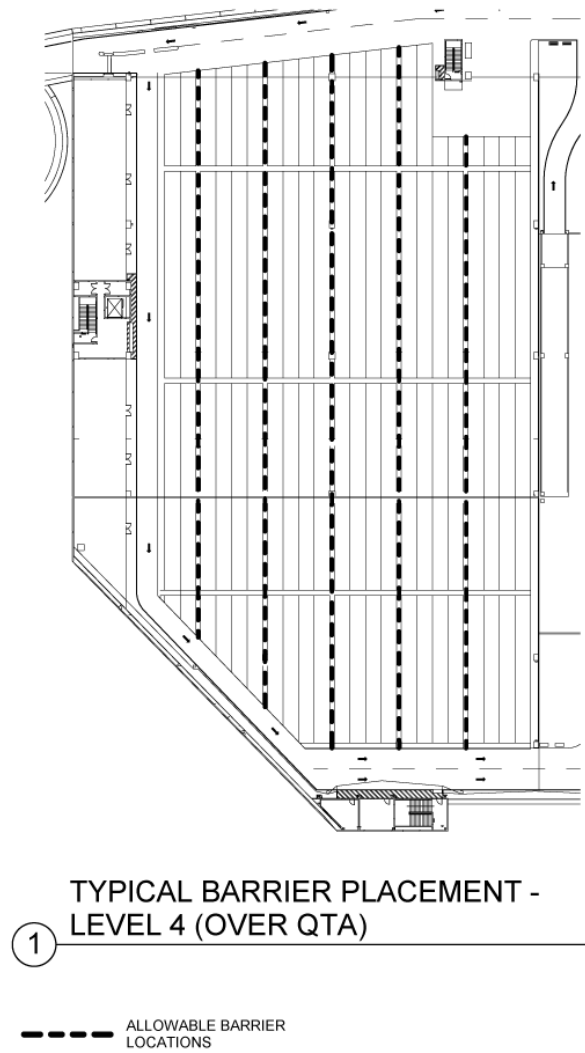


Exhibit-12

Exhibit 12 referenced for convenience; Exhibit B of the Lease shall govern with respect to Exclusive Use, Common Use and 3rd-party Operator spaces

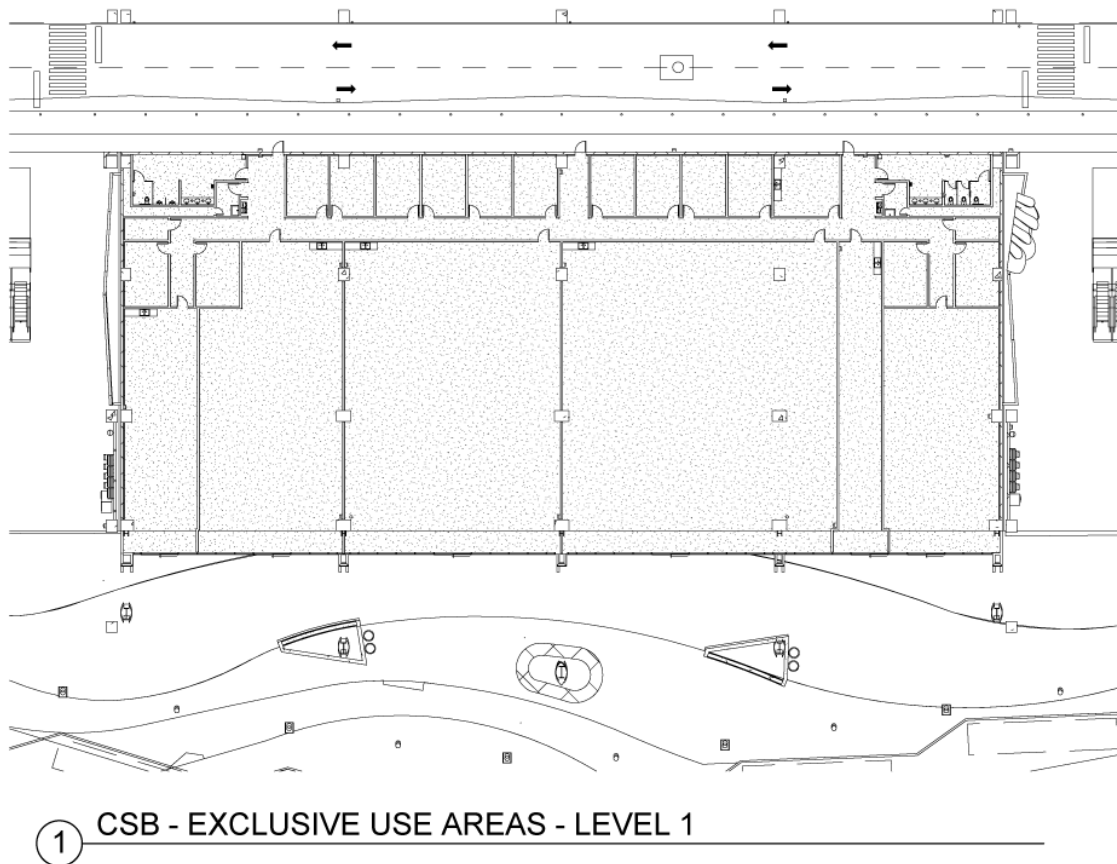


Exhibit-13

Exhibit 13 referenced for convenience; Exhibit B of the Lease shall govern with respect to Exclusive Use, Common Use and 3rd-party Operator spaces

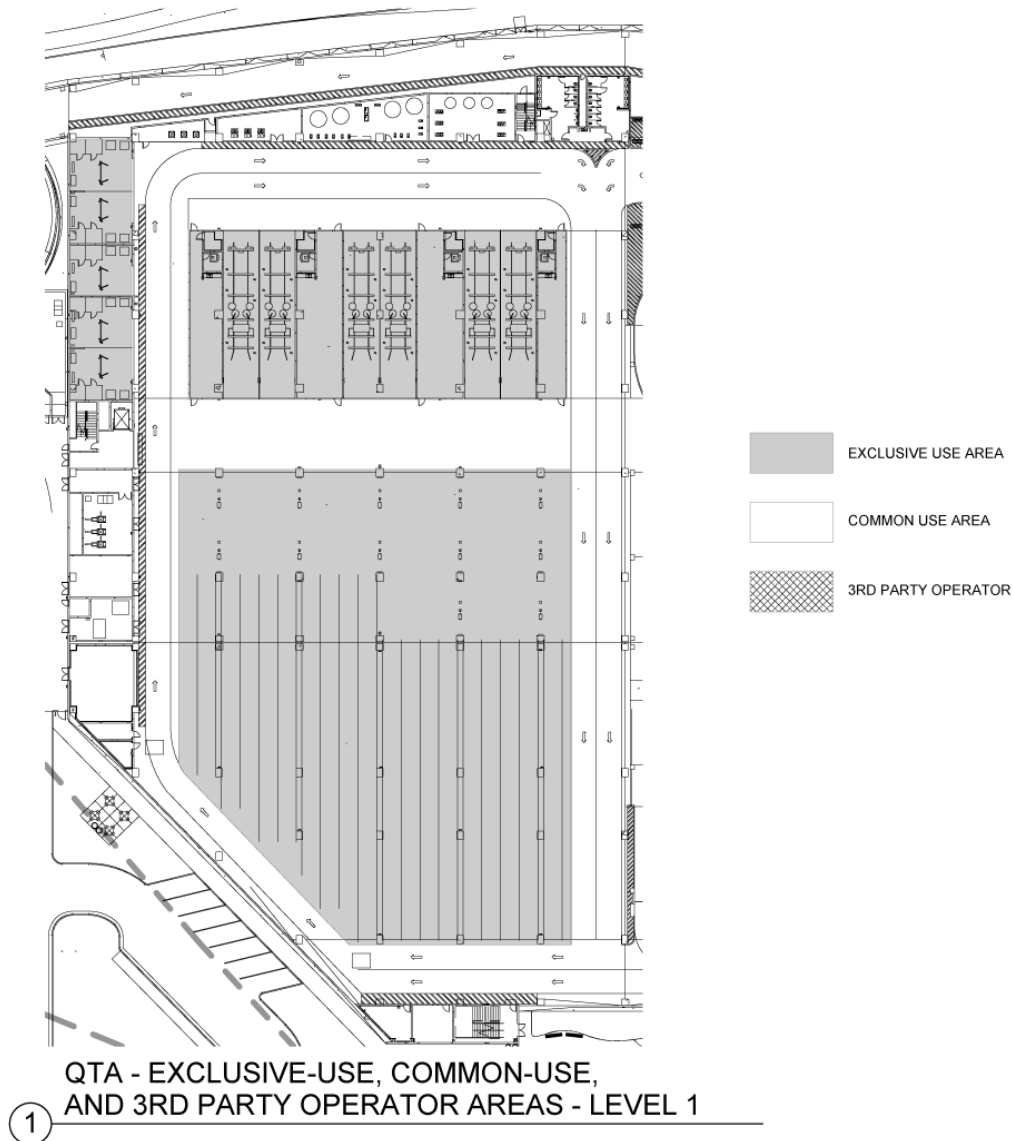
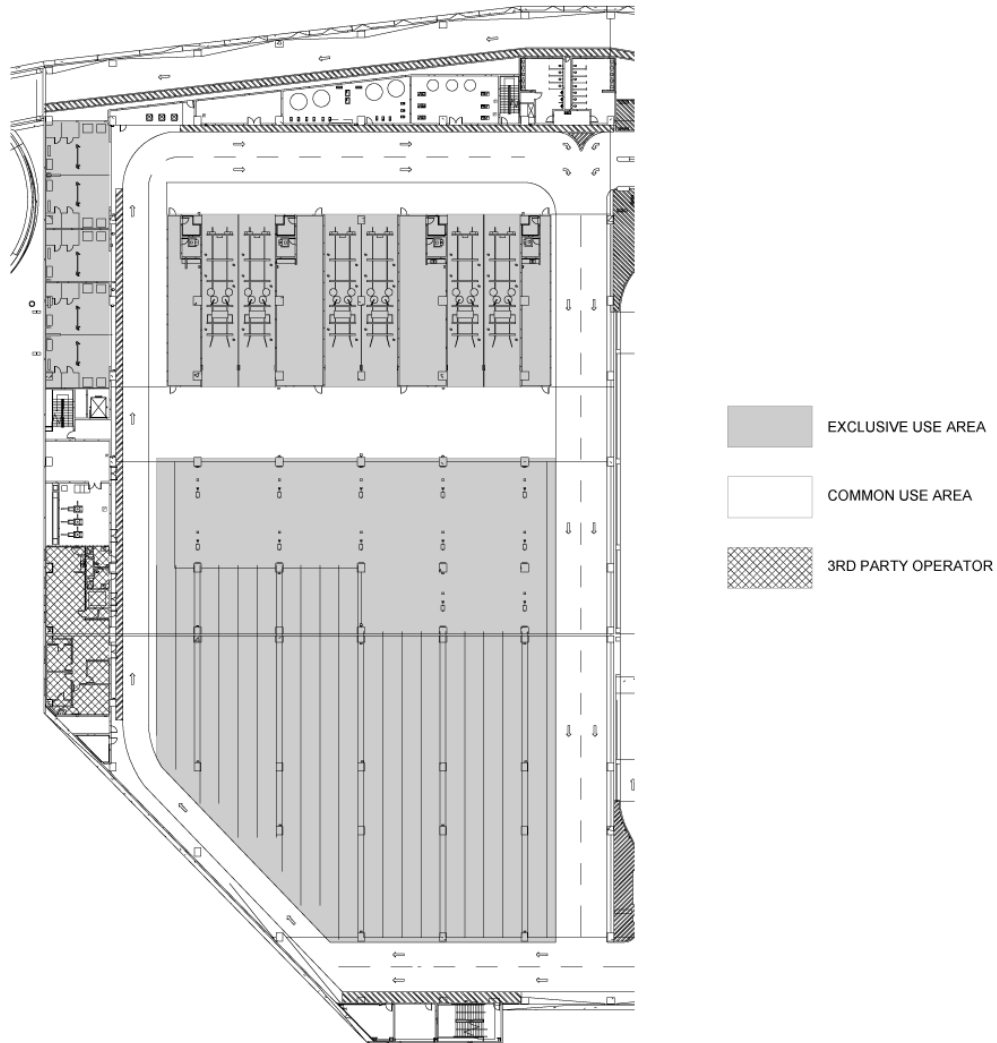


Exhibit-14

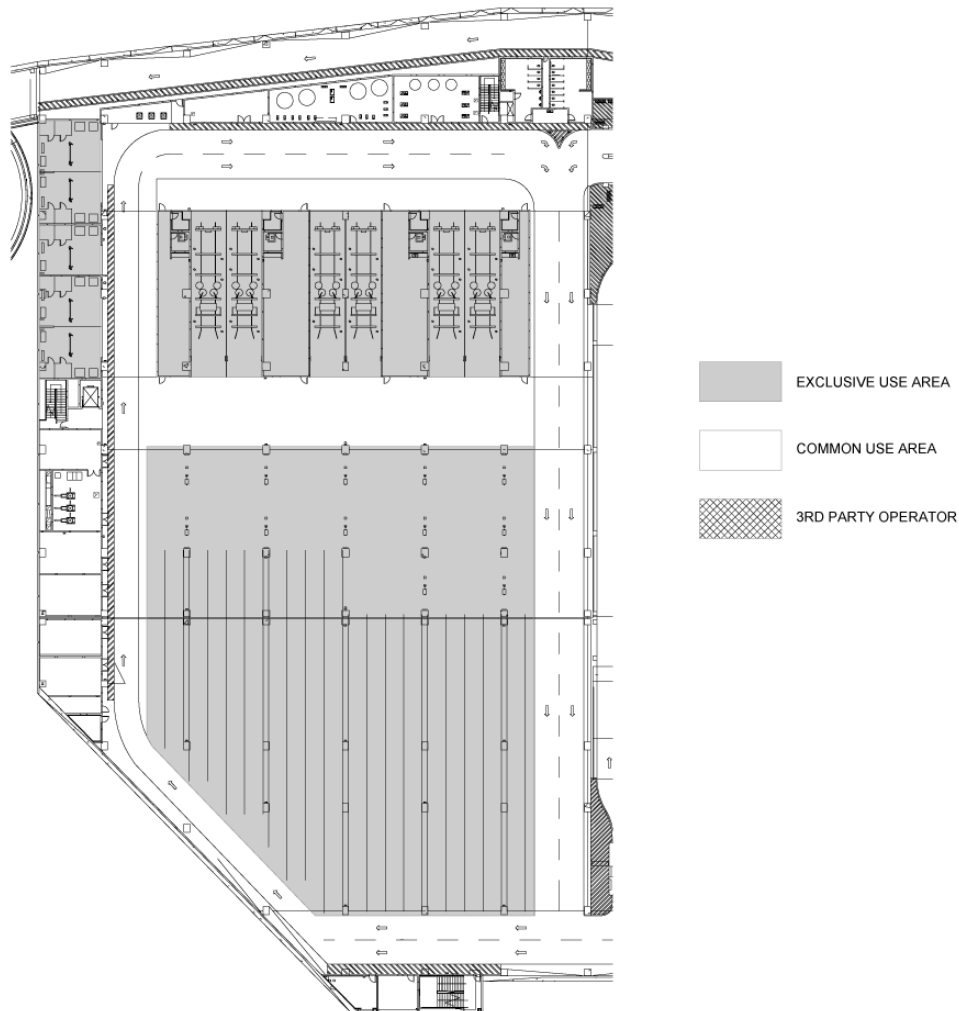
Exhibit 14 referenced for convenience; Exhibit B of the Lease shall govern with respect to Exclusive Use, Common Use and 3rd-party Operator spaces



1 QTA - EXCLUSIVE-USE, COMMON-USE,
AND 3RD PARTY OPERATOR AREAS - LEVEL 2

Exhibit-15

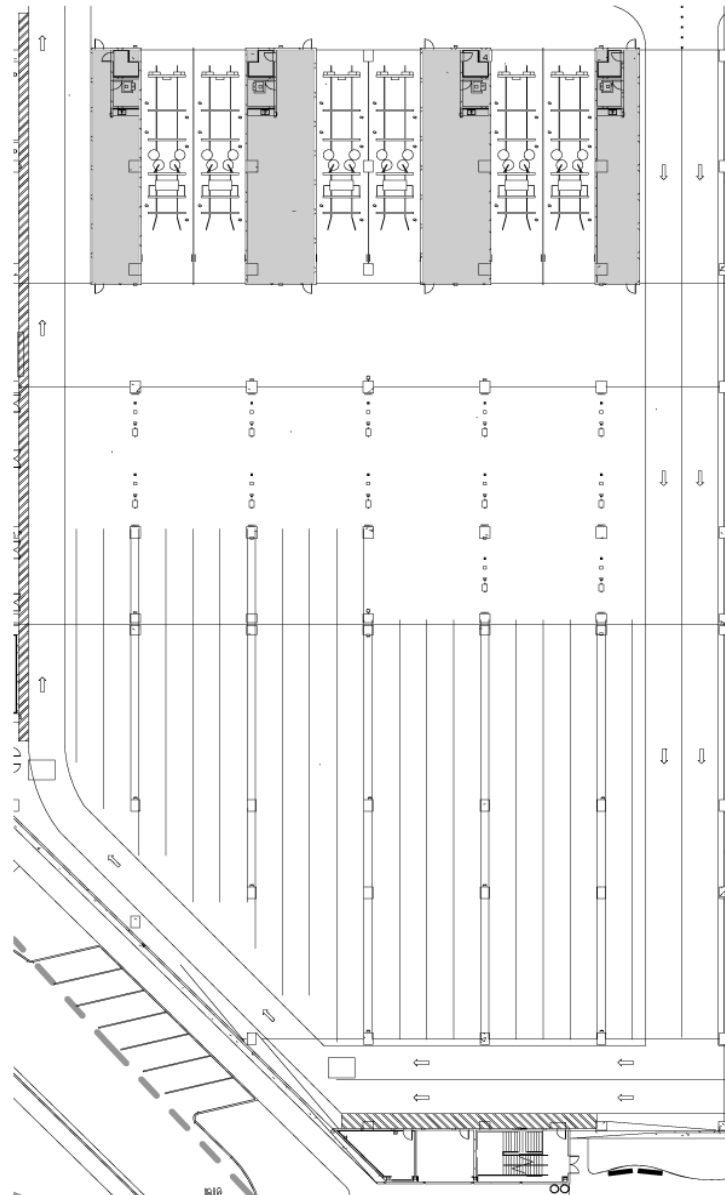
Exhibit 15 referenced for convenience; Exhibit B of the Lease shall govern with respect to Exclusive Use, Common Use and 3rd-party Operator spaces



1 QTA - EXCLUSIVE-USE, COMMON-USE,
AND 3RD PARTY OPERATOR AREAS - LEVEL 3

Exhibit-16

Exhibit 16 referenced for convenience; Exhibit B of the Lease shall govern with respect to Exclusive Use, Common Use and 3rd-party Operator spaces



① QTA - TENANT IMPROVEMENT AREAS - LEVEL 1

Exhibit-17

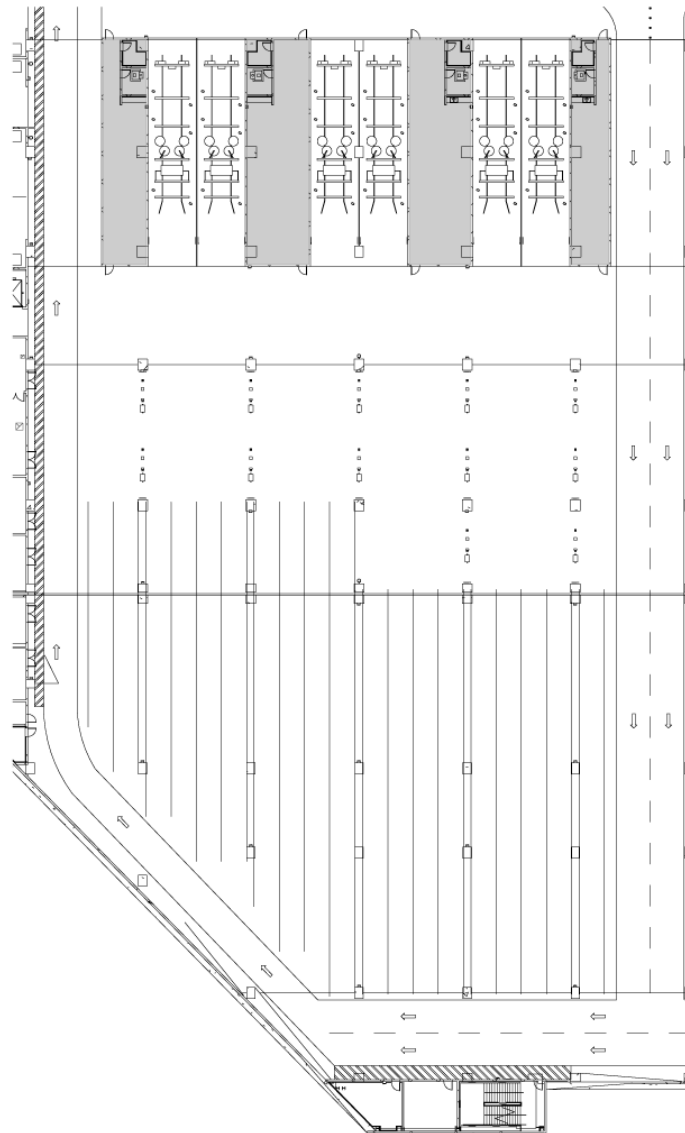
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① QTA - TENANT IMPROVEMENT AREAS - LEVEL 2

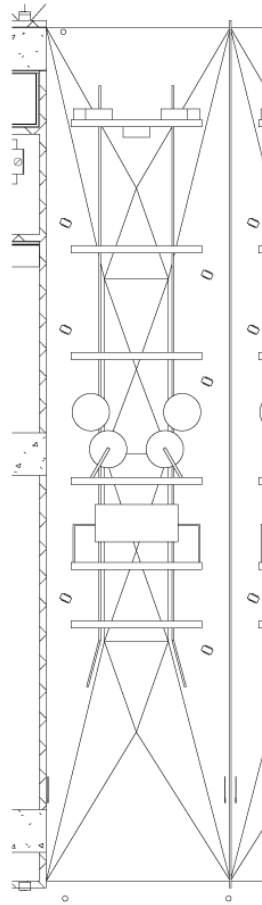
Exhibit-18

Exhibit 18 referenced for convenience; Exhibit B of the Lease shall govern with respect to Exclusive Use, Common Use and 3rd-party Operator spaces.



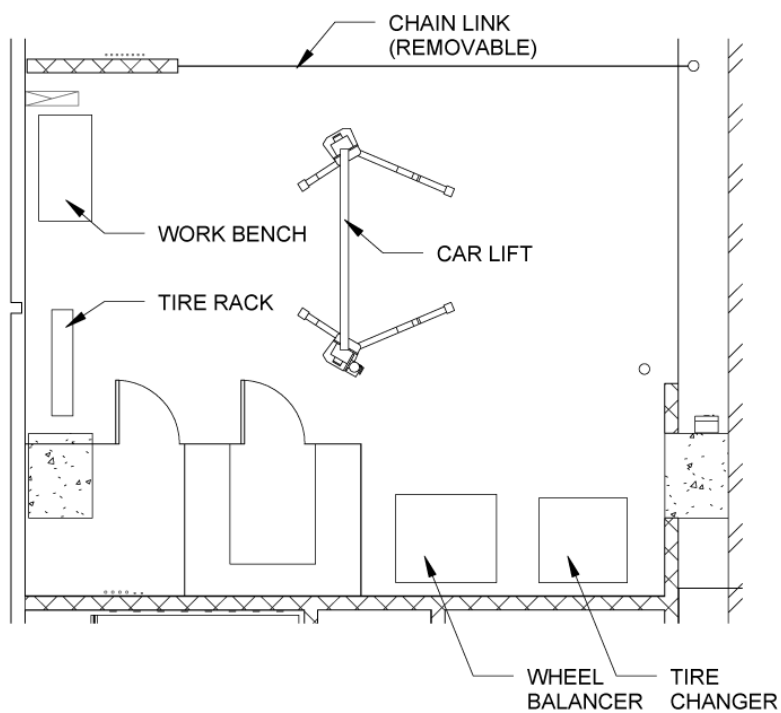
① QTA - TENANT IMPROVEMENT AREAS - LEVEL 3

Exhibit-19



① QTA - TYPICAL CAR WASH BAY

Exhibit-20



① QTA - TYPICAL MAINTENANCE BAY

Exhibit-21

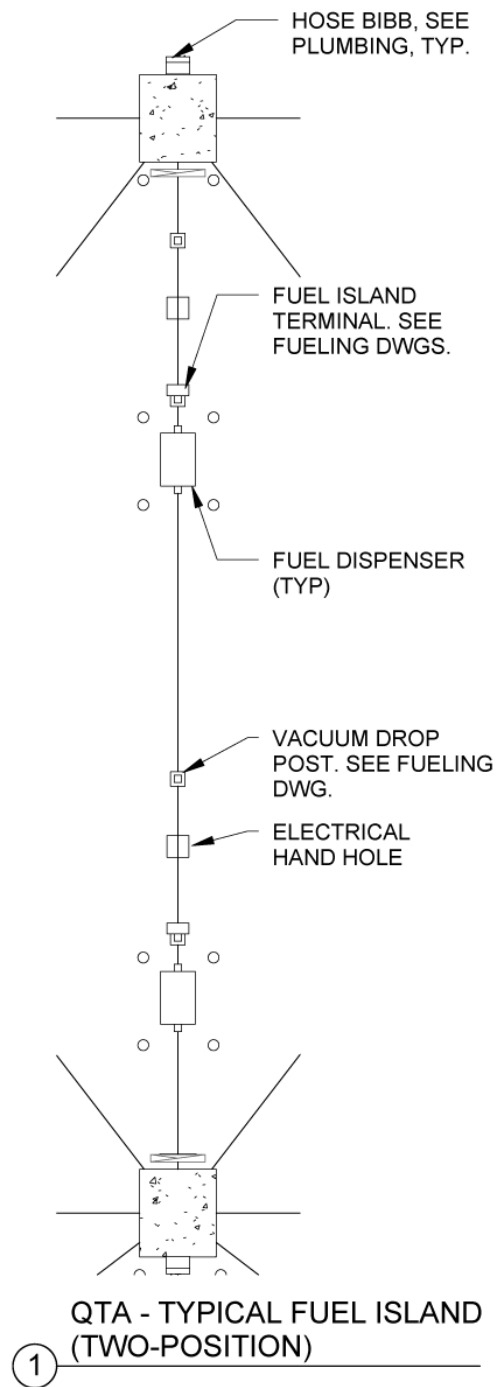
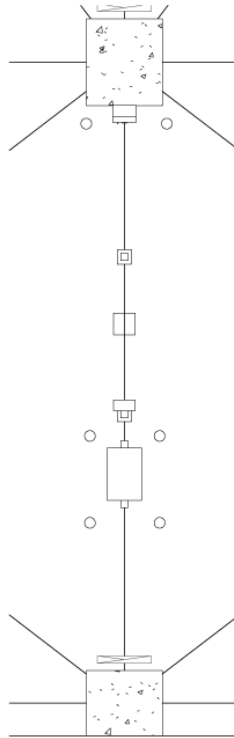
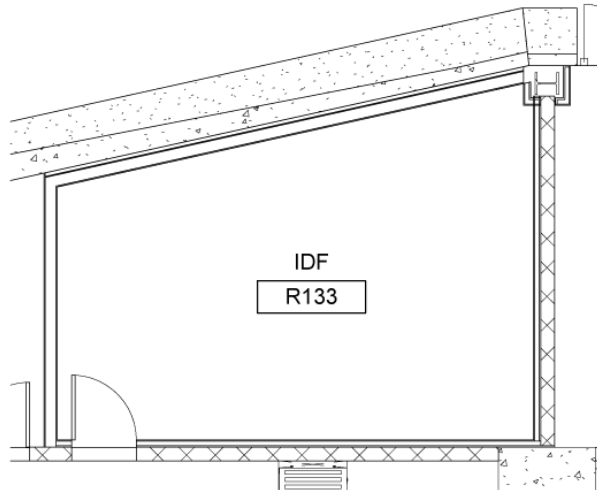


Exhibit-22

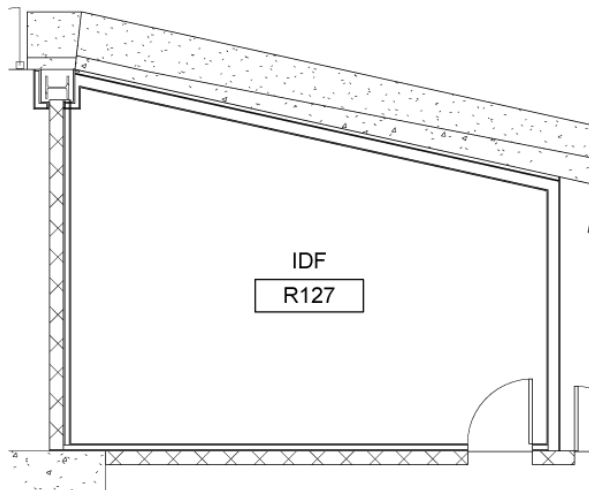


1 QTA - TYPICAL FUEL ISLAND
(THIRD POSITION)

Exhibit-23

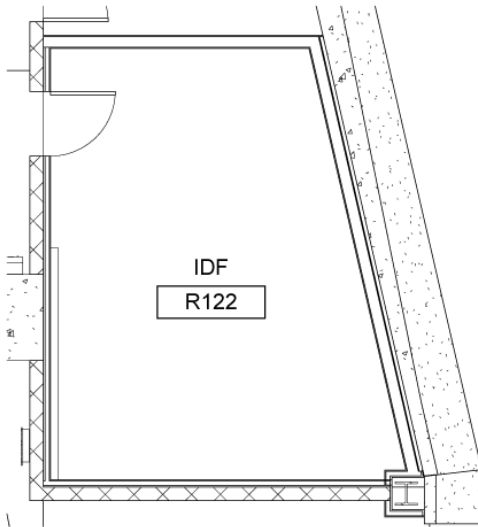


② READY/RETURN - TYPICAL IDF ROOM

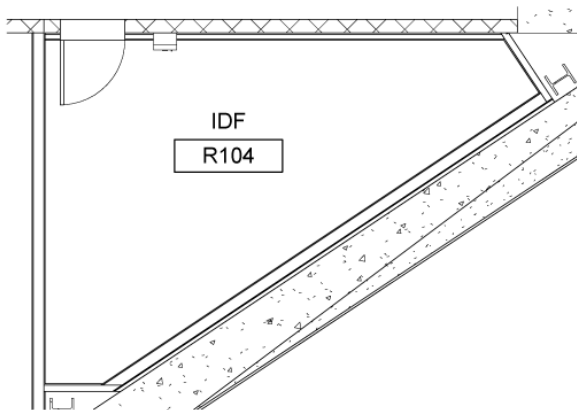


① READY/RETURN - TYPICAL IDF ROOM

Exhibit-24

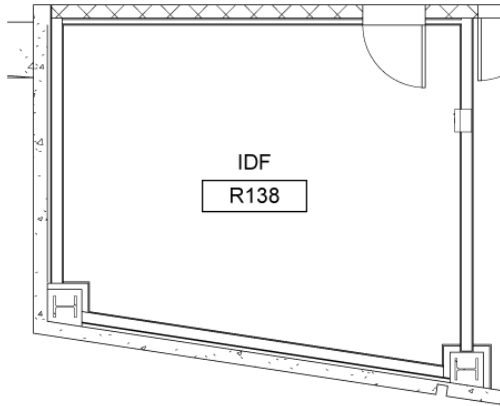


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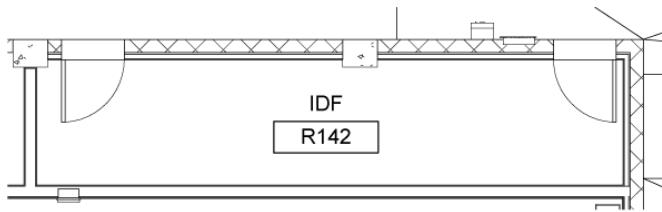


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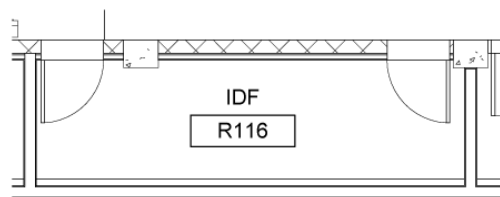
Exhibit-25



③ READY/RETURN - TYPICAL IDF ROOM

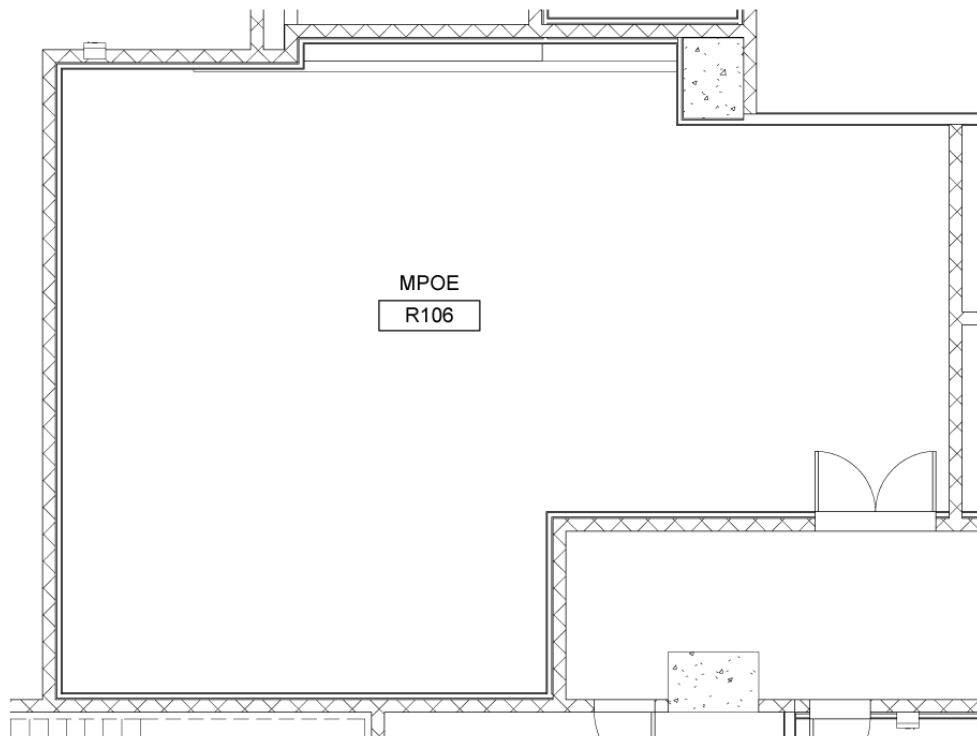


② READY/RETURN - TYPICAL IDF ROOM



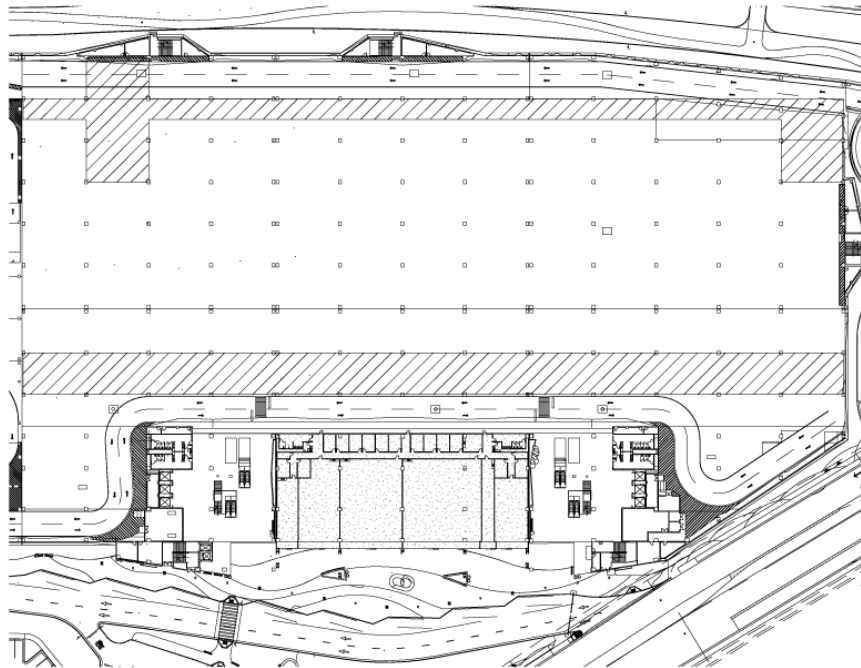
① READY/RETURN - TYPICAL IDF ROOM

Exhibit-26



① READY/RETURN - TYPICAL MPOE ROOM

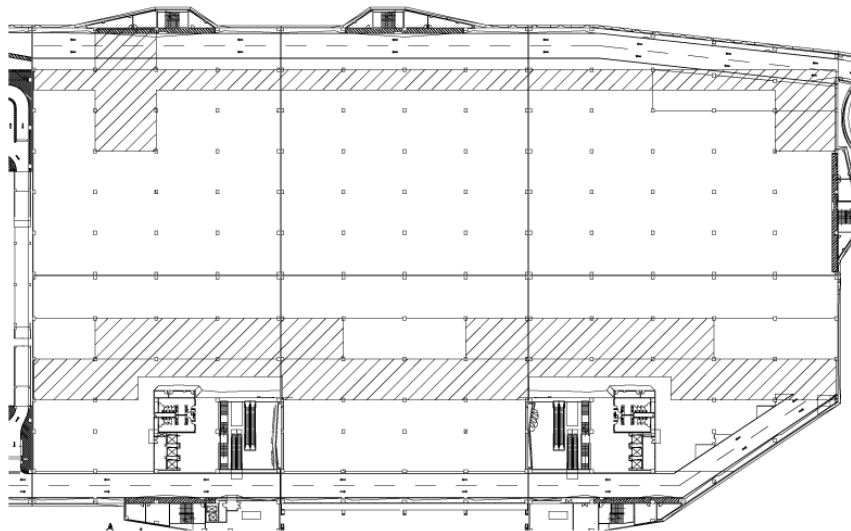
Exhibit-27



1 READY/RETURN - ZONES DEFINED FOR
EXIT/CUSTOMER SERVICE BOOTHS - LEVEL 1

 EXIT/CUSTOMER SERVICE
BOOTH ZONES

Exhibit-28

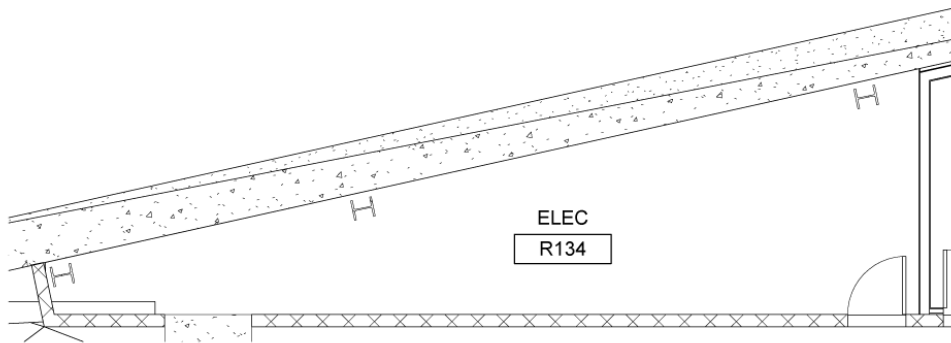


**READY/RETURN - ZONES DEFINED FOR
EXIT/CUSTOMER SERVICE BOOTHS - LEVELS 2 & 3**

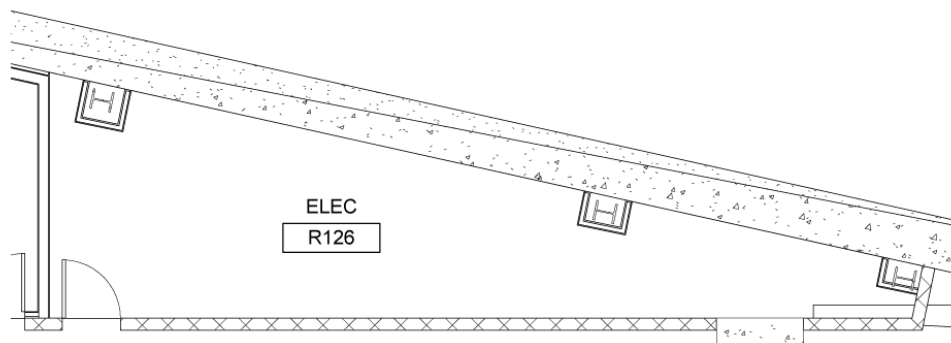
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 EXIT/CUSTOMER SERVICE
BOOTHS ZONES

Exhibit-29

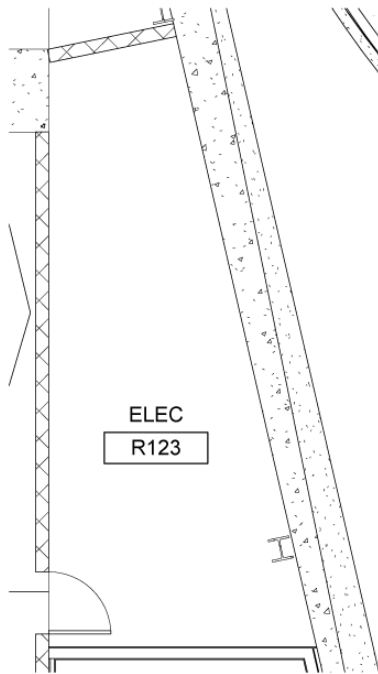


② READY/RETURN - TYPICAL ELECTRICAL ROOM

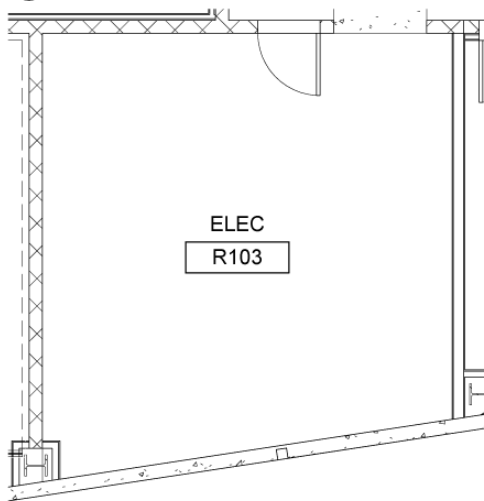


① READY/RETURN - TYPICAL ELECTRICAL ROOM

Exhibit – 30

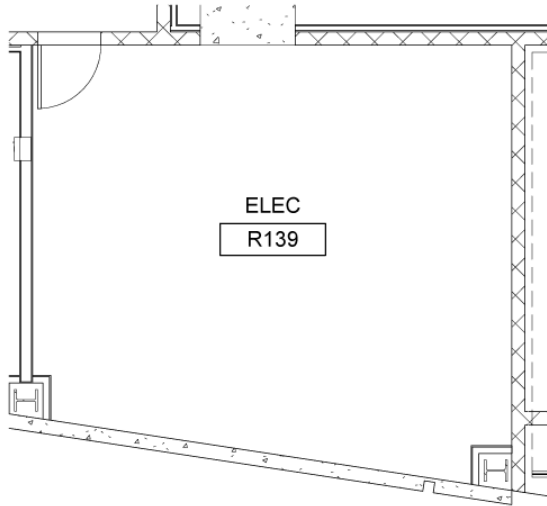


② READY/RETURN - TYPICAL ELECTRICAL ROOM

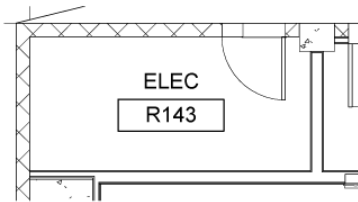


① READY/RETURN - TYPICAL ELECTRICAL ROOM

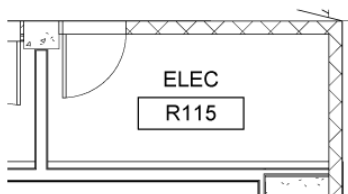
Exhibit – 31



③ READY/RETURN - TYPICAL ELECTRICAL ROOM



② READY/RETURN - TYPICAL ELECTRICAL ROOM

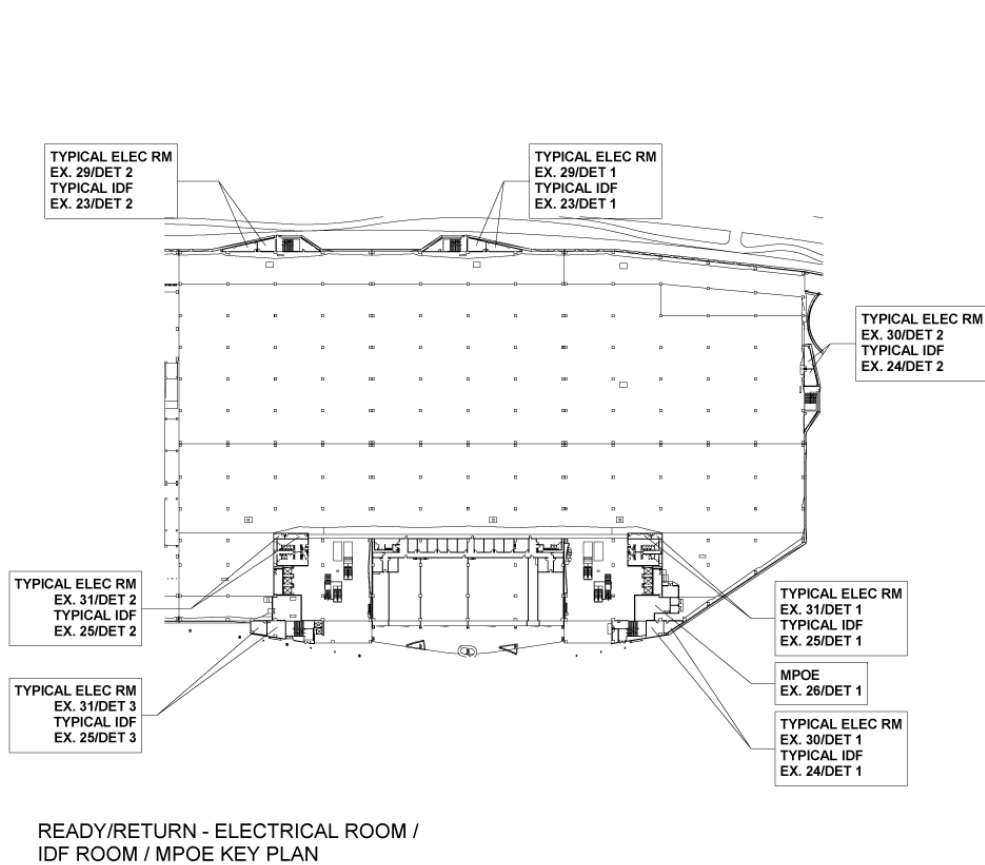


① READY/RETURN - TYPICAL ELECTRICAL ROOM

San Diego International Airport Rental Car Center

Tenant Design and Construction Standards

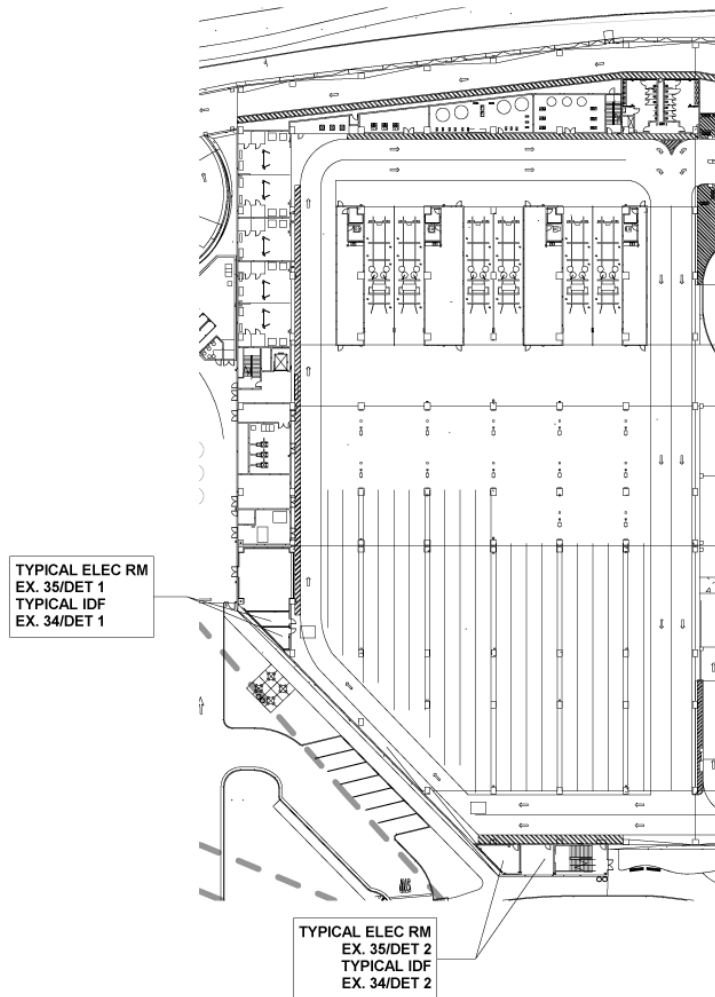
Exhibit – 32



San Diego International Airport Rental Car Center

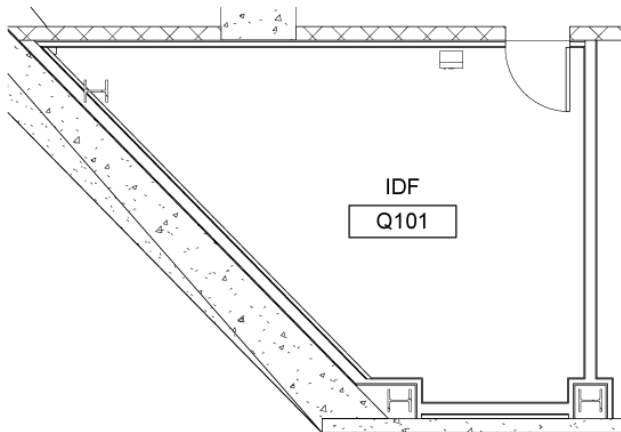
Tenant Design and Construction Standards

Exhibit-33

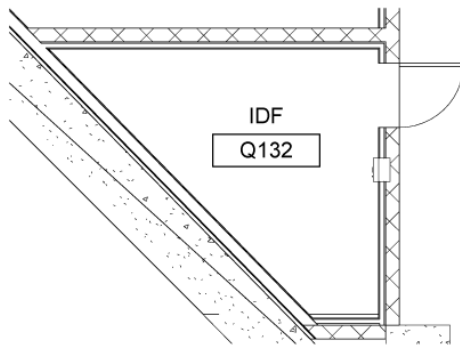


QTA - ELECTRICAL ROOM / IDF ROOM KEY PLAN

Exhibit-34

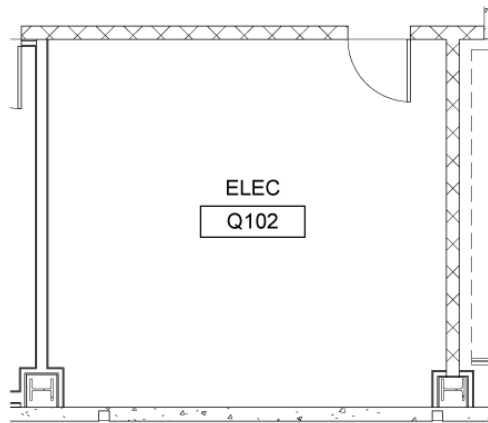


② QTA - TYPICAL IDF ROOM

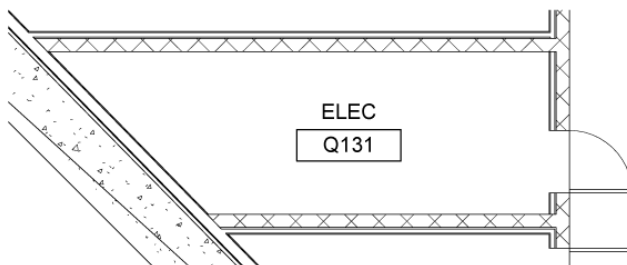


① QTA - TYPICAL IDF ROOM

Exhibit-35



② QTA - TYPICAL ELECTRICAL ROOM



① QTA - TYPICAL ELECTRICAL ROOM

APPENDIX A



SAN DIEGO INTERNATIONAL AIRPORT

CONCESSION DEVELOPMENT MANUAL

issued: April 10, 2012





SAN DIEGO INTERNATIONAL AIRPORT

sun | sand | sea | aviation

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**SAN DIEGO
INTERNATIONAL
AIRPORT**

01 INTRODUCTION

EXECUTIVE SUMMARY

The San Diego County Regional Airport Authority's (Authority) mission is to "perfect the art of airports." The Concession Development Program (CDP) will serve as a key component in helping to achieve this mission through the establishment of an ambitious program to transform the retail, food and beverage services offered at the San Diego International Airport (SDIA). The Authority's goal, with the help of the concession Tenant, is to provide a world-class shopping and dining experience for the millions of passengers who use SDIA each year.

Our region is renowned for its natural beauty and mild climate. From the spectacular aerial views of Balboa Park, the Coronado Bridge, San Diego Bay, and our lively downtown encountered prior to landing at SDIA, visitors are quickly taken with the special nature of San Diego. Whether they have come to enjoy our sunny beaches and scenic coastline, a round of golf, or an event at our waterfront convention center, it is the continual goal of the CDP to enhance our passengers' experience by providing a shopping and dining environment that captures the spirit of San Diego.

As a gateway to the San Diego County Region and the front door to our community, how passengers perceive SDIA establishes their first impression of our community. As such, the Authority has developed the Concession Design Manual (CDM) to set forth its overall design vision and to assist our tenants in creating concessions of the highest caliber to "perfect the art of food and beverage, retail and service operations" throughout SDIA.

The Authority looks forward to working closely with your talented team to achieve the best possible results as we develop an exciting concession program that reflects our extraordinary San Diego County region.

1.1 DESIGN VISION

The design principles set forth in the CDM are structured to:

Promote sophisticated, high caliber, creative concession design.

Tenant design solutions are to project a refined innovative image, integrating their concept consistently through the design of their storefront facades, signage, interior design and merchandising. Creative architectural expression of storefront facades combined with professionally designed product and merchandise displays set the pulse of the concession program, energizing the passenger experience.

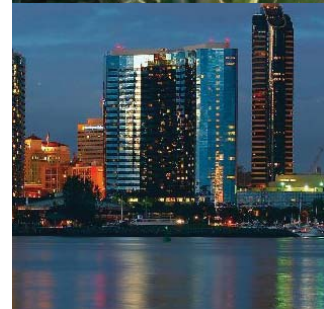
Regard the integrity of the design characteristics of the respective terminals.

Terminal design over the lifespan of SDIA has evolved. Each terminal possesses its own distinct aesthetic. Proposed designs are to be contextual to the respective terminal in which they reside and should enhance and complement the building's architecture and interior design.

Celebrate the San Diego County Region creating a sense of place uniquely San Diego.

The Tenant is encouraged to explore the many natural attributes and significant landmarks of San Diego to develop a design solution that celebrates these unique elements. The Tenant must consider creative adaptations to their typical branded storefront and design to achieve a concept that is expressive of the San Diego region.

The Authority has determined "**Sun, Sand, Sea and Aviation**" to be symbolic imagery which reflects the nature of the region and purpose of the SDIA. Subtle and sophisticated representation of these concepts implemented through distinctive design solutions,





branding of the stores, and the quality of regional offerings will provide passengers a memorable experience uniquely San Diego.

Support sustainable practices and regard for the environment.

The Authority's Mission Statement is to operate San Diego's air transportation gateways in a manner that promotes the region's prosperity and its quality of life. The Tenant is encouraged to support the Authority's mission in the design and operational practices of their concession to follow sustainable recommendations as established by the US Green Building Council.

1.2 PURPOSE & SCOPE

The CDM is a comprehensive set of guidelines that provides the planning, design and construction standards required to ensure that Tenant plans are prepared compliant with Authority standards and that projects are constructed with minimal impact to SDIA operations. The CDM outlines Authority and Tenant obligations as well as requirements and restrictions placed on Tenant construction. As such the Tenant shall distribute the CDM to all design and construction team members. The requirements of this manual are supplemental to the Tenant contractual lease with the Authority and in the event of any conflict between the CDM and the lease with the Authority, the lease shall prevail.

The CDM replaces all previous retail concession design guidelines and is to be used in conjunction with other Authority standards. Refer to Section 13, Additional Authority Resources, for a list of Authority standards including the Facilities Criteria Document (FCD) which sets Authority standards for all building components and systems which the Authority maintains. For the Tenant, the FCD applies to all conditions where an Authority or Base Building interface occurs. Dimensions and details are for reference only as actual conditions may vary. The Tenant is solely responsible to field verify the accuracy of all information prior to commencing design including field verification of all existing as-built conditions and the location of all built elements, utilities, and building systems. The Authority is not responsible for existing conditions and their effect upon the Tenant design and construction. For un built spaces it is the responsibility of the Tenant to thoroughly review all pertinent construction documents. In addition, as there are ongoing construction improvements at SDIA, it is the Tenant's responsibility to coordinate the status of these improvements relative to their impact on the Tenant's premises.

The Authority encourages a collaborative working relationship between Authority staff and the Tenant's design and construction teams. The Authority's Tenant Improvement Program (TIP) will assign an Authority Project Coordinator to serve as the Tenant liaison and primary point of contact for day to day Tenant needs. The Authority's Project Coordinator's responsibility is to assist the Tenant through the design review, construction and project closeout phases.

All Tenant improvements are to be submitted to the Authority for review and approval in writing as outlined in Section 09 Design Review & Submittal process prior to construction or installation and shall comply with all applicable local, state, and federal codes, rules, and regulations. The Authority reserves the right to reject any Tenant proposed design, finish material, fixture, furnishing, equipment, signage, graphic or method of construction or installation at the sole discretion of the Authority. The Authority may provide recommendations for correcting design deficiencies including possible alternative design solutions at the Tenant's expense.

The CDM shall be strictly adhered to as it establishes the minimum standards for the design, construction and performance requirements for Tenant improvements. All pertinent information contained within the CDM shall be fully explained and noted within the Tenant's contract documents.

1.3 TERMINAL DESCRIPTIONS

The Tenant design approach for concession spaces at SDIA will vary by terminal and may even differ within the same terminal. To assist the Tenant in better understanding the characteristics of each terminal and the design opportunities these conditions offer, the following is a brief description of each of the terminals.

Commuter Terminal (CT)

Set apart from SDIA's larger terminal buildings with the front entry just steps away from the San Diego Bay, the CT offers commuter passengers a slightly more relaxed travel experience. The ticketing lobby and baggage claim areas offer spaces filled with natural light and high ceilings. Post-security, the CT has a north facing facade that provides engaging views of the runway, aircraft and passenger activity. Concession spaces do not have a neutral frame with Authority finishes, refer to Section 3.10 Neutral Frame. This condition provides the Tenant the opportunity to fully express their design concept within the full facade of the storefront creating a strong presence and identity.

Finish materials within the CT are expressive of the SDIA Sun, Sand, Sea and Aviation imagery:

- Flooring: Sand inspired porcelain tile flooring is punctuated with bands of dark gray and blue tile while Holdrooms are finished in an ocean blue carpet with a subtle grid pattern.
- Walls: A sweeping wing-shaped wall of panels finished in a warm copper brown is contrasted with insets of brushed stainless steel. Ancillary walls are painted in shades of ocean blue and green.
- Ceilings: Reflecting the curvilinear form of the main lobby, a cloud white ceiling, indirectly illuminated, appears to float above the space.
- Curtain wall: Pre and Post security, the CT provides expansive full height windows framed with aluminum mullions.

Note: Designs for various terminal improvements are currently underway. Information provided in this manual is conceptual in nature and subject to change.

Terminal 1 (T1)

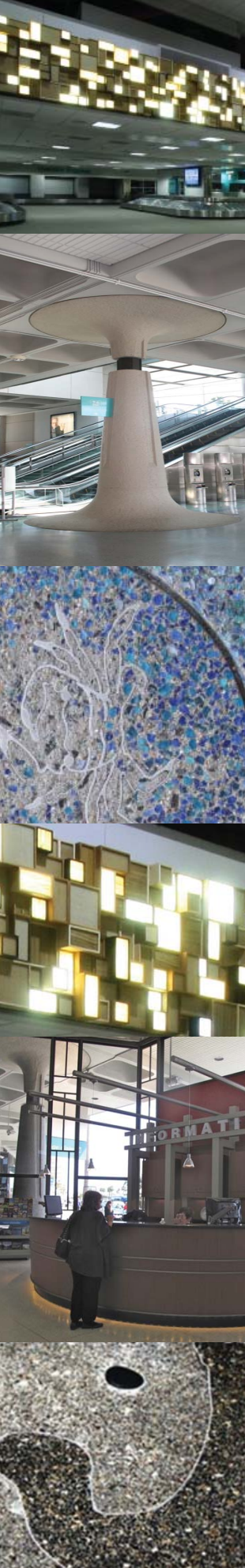
Designed in 1967, T1 represents classic 1960's modern architecture as recognized by the American Institute of Architects. The floor to ceiling glass curtain wall in the ticketing and bag claim lobbies flood the terminal with natural light diffusing the separation between interior and exterior space. Precast ceiling modules supported by soaring conical concrete columns extend through the facade to form a protective overhang. This unique space within SDIA provides a dramatic opportunity for Tenants to utilize the height of the ceilings to create a strong presence and distinctive identity.

Post-security, the ceiling heights are lower, therefore the Authority has not provided the typical neutral frame for concession spaces. This provides the Tenant an opportunity to fully utilize the entire storefront facade to establish their identity. Wide open entries are encouraged to increase the sense of space within the concourse. The T1 rotundas provide architecturally dynamic circular concession spaces with direct access to the hold rooms. The concessions form an active and engaging nucleus to the rotunda encouraging passengers to linger while providing convenient visibility to the surrounding gates.

Ticketing Lobby:

- Floors: Terrazzo in geometric bands make up the flooring in shades of ocean blue, gray, green and sand.
- Curtain wall: Precast concrete panels integrate with the full height tinted bronze glass curtain wall to form the exterior facade.





East Rotunda/Concourse:

- Floors: Sand colored Terrazzo tiles pave the concourse while holdrooms are carpeted in a subtle linear patterned carpet tile in sand, grey and black.

Dining Cove:

Building upon the beach theme, the overall color palette of sand beige, white and ocean blue recall the sun, sand and sea palette of SDIA. The experience of walking over wood plank paths that take the beach goer across the dunes to the water is invoked in the finish materials and patterns. The walls of the food court and neutral piers are inspired by beach huts, with light colored wood frames and trellises framing the architecture.

- Flooring: Beige terrazzo flooring represents sand, integrated with a matrix of marbles, shells and glass. Weathered wood colored terrazzo provides "paths" to the various Tenants.
- Walls: Neutral piers and columns are defined by bleached wood frames. The majority of wall surfaces are back-painted glass or white ceramic tile. The exposed shear wall will be clad in an abstract sea graphic that suggests a horizon at the beach.
- Ceiling: The ceiling is defined by wood louvers that continue the theme of an outdoor cabana. The wood louvers lighten the low ceiling height as dictated by the existing structure and mechanical services.



Terminal 1 Dining Cove

Note: Designs for various terminal and dining cove improvements are currently underway. Information provided in this manual is conceptual in nature and subject to change.

Terminal 2 East (T2E)

Designed to complement the 1960's classic modern style of T1, T2E incorporates the precast concrete ceilings, conical columns and curtain wall system of T1. Passengers enter the T2E pre-security ticketing lobby through an elevated sky bridge or escalators from curb side drop off to a space with high ceilings filled with abundant natural light. The T2E concessions spaces are provided with a neutral frame and Base Building finishes with a sign band. Similar to T1 Tenants are to utilize the higher volume of space to provide a strong presence and distinctive identity in keeping with the design aesthetic of the terminal.

Ticketing Lobby:

The materials palette in the ticketing lobby includes elements of Terminal 1, as well as materials which provide a transition to Terminal 2 West.

- Floors: Large scale terrazzo tiles in monochromatic tones of black and gray are laid in a geometric grid pattern.
- Walls: In contrast to the flooring, sun inspired Jerusalem Gold limestone tiles clad the walls.
- Ceilings: Precast concrete ceilings in a modular grid form carry over from the Terminal 1 design.

Concourse:

The concourse transitions to lower ceilings and materials recalling the Sun, Sand, Sea and Aviation material palette of Terminal 2 West. The concession spaces are provided with a neutral frame of Base Building finishes and a sign band. Due to the low ceiling height on the east side of the concourse the Tenant is to explore unique design solutions including signage and storefront compositions to maximize their presence within the space.

- Floors: Linear patterned carpet tiles in black and gray with gold accents extend from the concourse into the holdrooms, so as to expand the overall sense of space.
- Walls: In contrast to the dark flooring, walls are clad in Jerusalem Gold limestone.
- Ceilings: To increase the sense of height and natural light within the restricted space, ceilings are illuminated with indirect lighting.

Dining Cove:

Passengers will be drawn into the Dining Cove by the graceful curve of a metal “wing” ceiling peaking out into the concourse. A central seating area will anchor the food establishments providing views of the airfield. The space is activated by a dramatic ceiling of metal, treated gypsum board, and glass. The architectural features are juxtaposed in an asymmetrical play between the curved steel ceiling, the orthogonal glass canopy and the angular gypsum board walls.

The materials palette includes elements of the new T2East terminal palette.

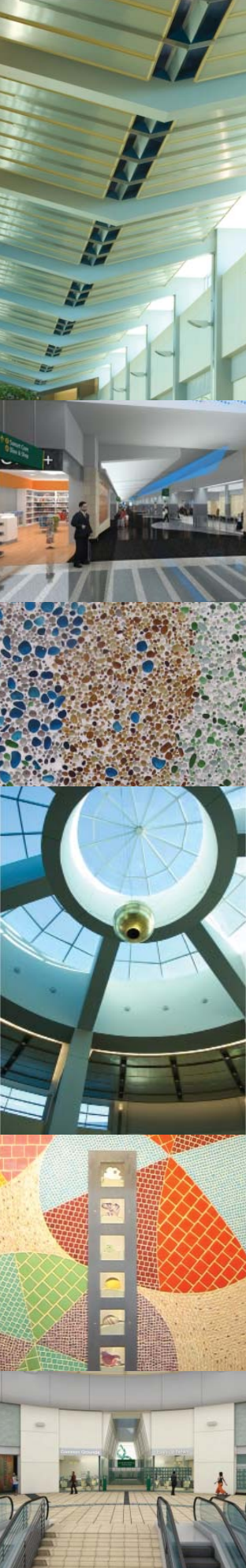
- Floors: Epoxy terrazzo with a matrix of neutral grays and aggregates of sea shells and metal, incorporate both the beach and aviation influence.
- Walls: The Tenant neutral surround is made up of warm Jerusalem Gold limestone tile as is typical throughout most of the SDIA.
- Ceilings: A composition of gypsum board, glass and metal formulate sculptural architectural elements which define the ceiling.



Terminal 2 East Dining Cove

Note: Designs for various terminal and dining cove improvements are currently underway. Information provided in this manual is conceptual in nature and subject to change.





Terminal 2 West (T2W)

The new Terminal 2 West Expansion completes the long awaited final phase of the T2W original design. The expansion adds ten new gates to the terminal, six new gates in the widened north concourse and four new gates in a new west concourse. Each concourse includes holdroom, concession and passenger amenities. The north and west concourses are connected by a grand space which serves as the primary focal point of the project. This is a dramatic space where concessions and artwork blend the new and existing buildings together by way of a grand central concourse linking the north concourse, west concourse and market rotunda.

Within the central concourse is the spectacular 'Sunset Cove'. A dramatic sixty-five foot high curved curtain wall provides 180 degree panoramic views of the airfield, aircraft and Point Loma beyond. Awash in natural light, Sunset Cove features a sparkling crystal sculpture simulating water droplets raining from the ceiling amongst soaring palm trees. This area will provide the highest concentration of retail and food and beverage offerings.

T2W features contemporary architectural elements noted by sculptural ceilings of perforated metal punctuated within the rotundas by massive skylights inspired by the imagery of jet engines. The market and south rotundas within T2W link circulation paths create natural gathering spots while providing the Tenant with unique design opportunities to respond to the circular geometry.

The landside exterior facade will be an extension of the existing T2W as defined by the angled glass curtain wall and soaring concrete columns. The attention of arriving passengers is drawn toward distant views of the San Diego Bay from the pre-security ticketing and baggage claim lobbies.

Concourse:

- Floors: Extending the length of the concourse, a dramatic curvilinear pattern in the terrazzo flooring representing waves crashing along the shoreline is rendered in monochromatic shades of black, gray, and white.
- Walls: Expansive walls of warm sunlight inspired Jerusalem Gold limestone contrast the cooler tones of the flooring.
- Ceilings: Illuminated with natural and indirect lighting, sculptural ceilings of inverted metal panels supported by exposed structure appear to float above the concourse.

Rotundas:

- Floors: Oceanic atole imagery inspired the design of the terrazzo flooring in a white matrix with water colored glass pebbles.

Sunset Cove:

A two-story canted curvilinear curtain wall provides views to the airfield. The space is refined and modern, yet warm in its interpretation of the Sun, Sand, Sea and Aviation imagery.

- Walls: Jerusalem Gold limestone tile clads the walls as is typical throughout the terminal.
- Floors: The flooring pattern, an artist's rendition of tide pools, is composed of terrazzo imbedded in a white matrix with water colored glass beads.
- Furnishings: Clean and modern in design, the chairs and tables are white with aluminum frames.



Terminal 2 West | Entrance to Sunset Cove



Terminal 2 West | Sunset Cove

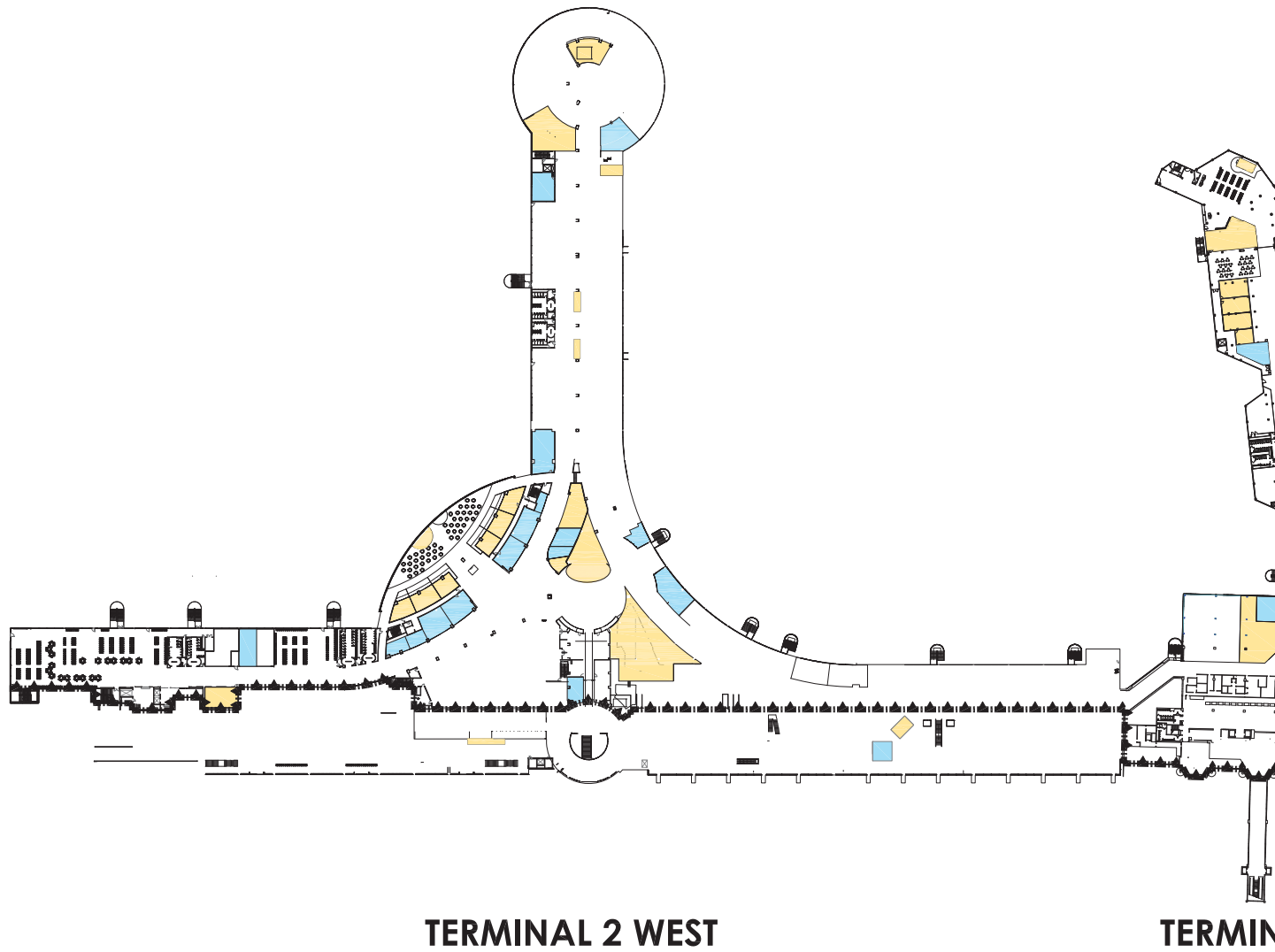


Terminal 2 West | Concourse



Note: Designs for various terminal and dining cove improvements are currently underway. Information provided in this manual is conceptual in nature and subject to change.





1.4 CONCESSION PLANS

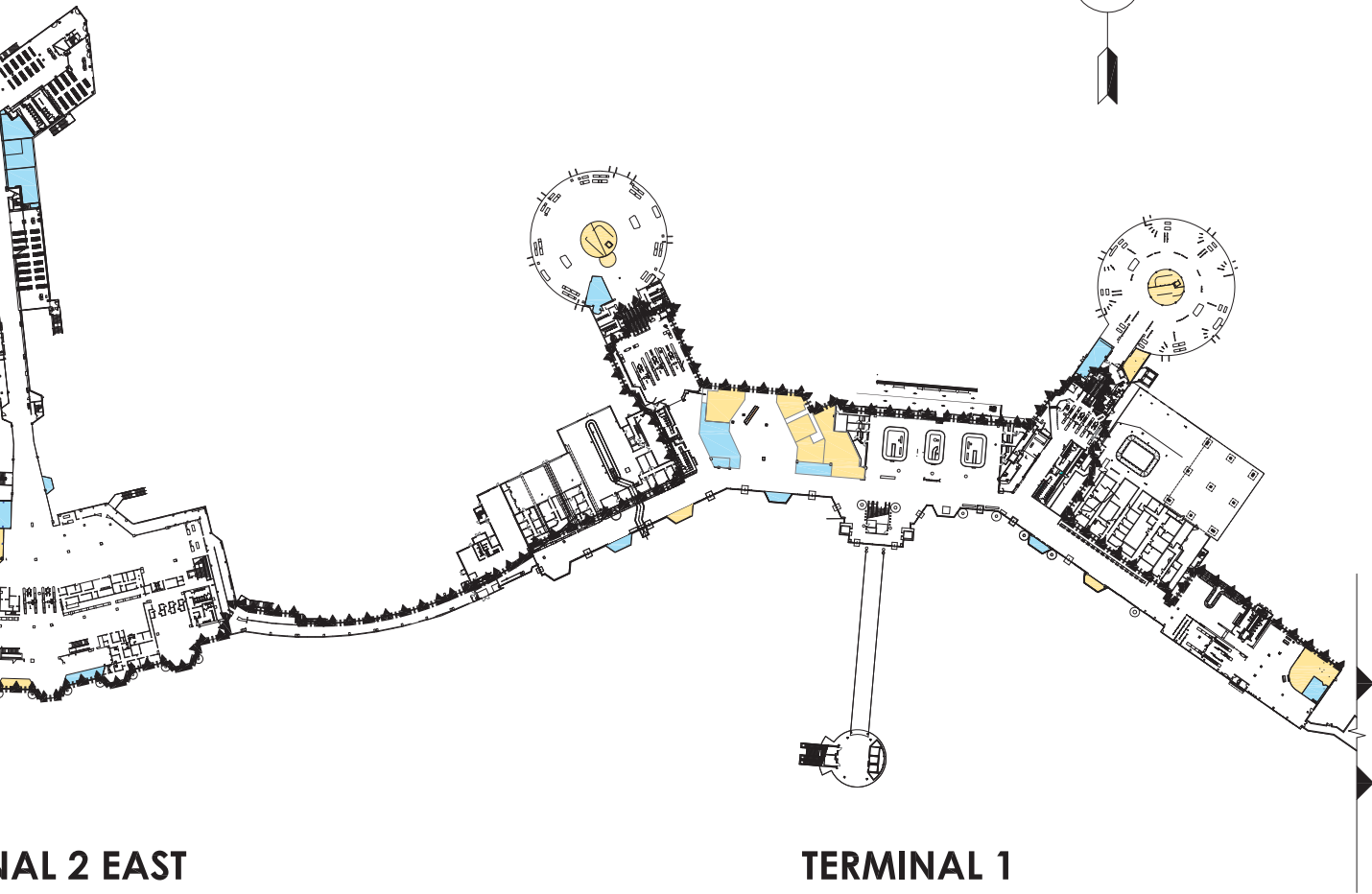


TERMINAL 2 WEST

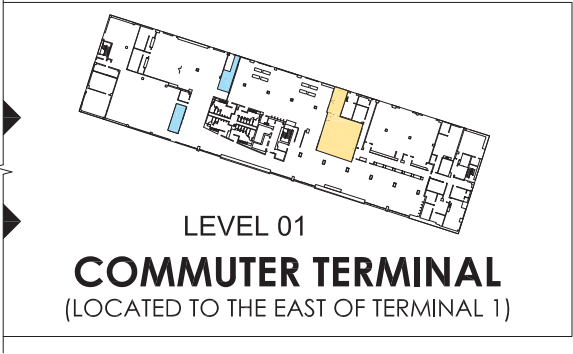
TERMINAL 2 EAST





SDIA: OVERALL C
N.T.S.

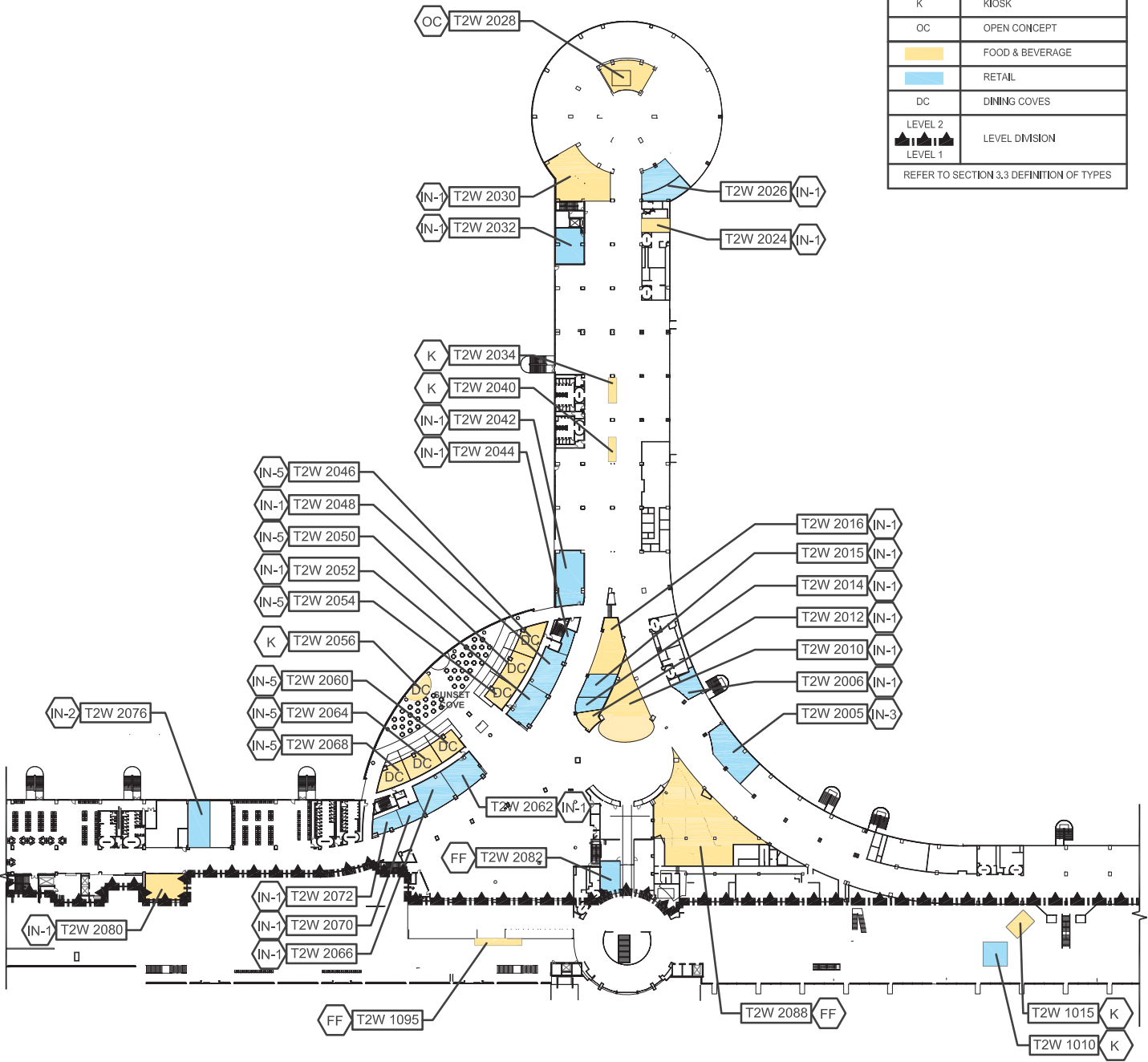
CONCESSIONS LEGEND	
	FOOD & BEVERAGE
	RETAIL
 LEVEL 02  LEVEL 01	LEVEL DIVISION



CONCESSION PLAN

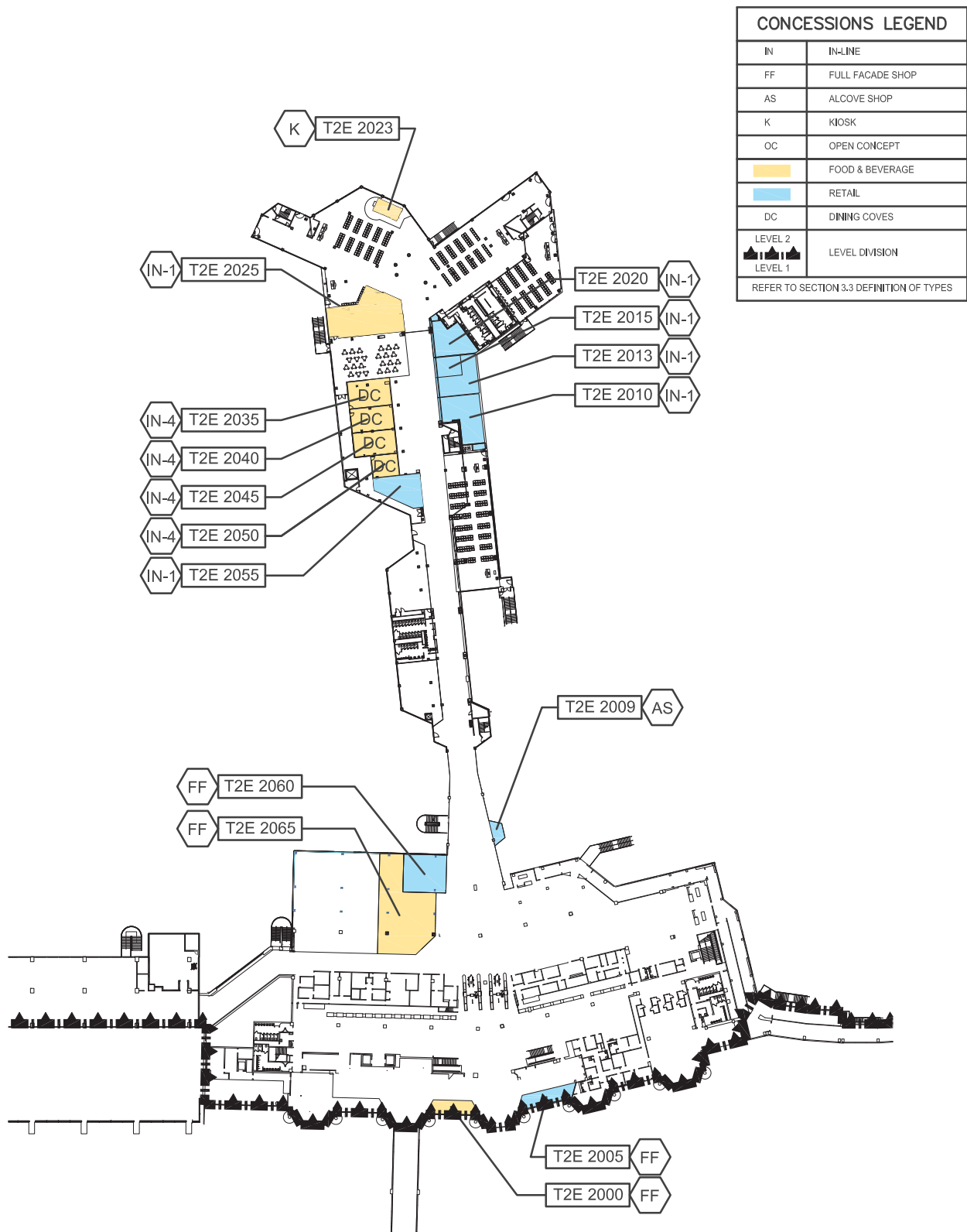


CONCESSIONS LEGEND	
IN	IN-LINE
FF	FULL FACADE SHOP
AS	ALCOVE SHOP
K	KIOSK
OC	OPEN CONCEPT
	FOOD & BEVERAGE
	RETAIL
DC	DINING COVES
<div><div> LEVEL 2</div><div> LEVEL 1</div></div>	LEVEL DIMSION
REFER TO SECTION 3.3 DEFINITION OF TYPES	



TERMINAL 2 WEST (PREFIX 106)




SDIA: CONCESSION PLANS
STOREFRONT LOCATION DIAGRAM

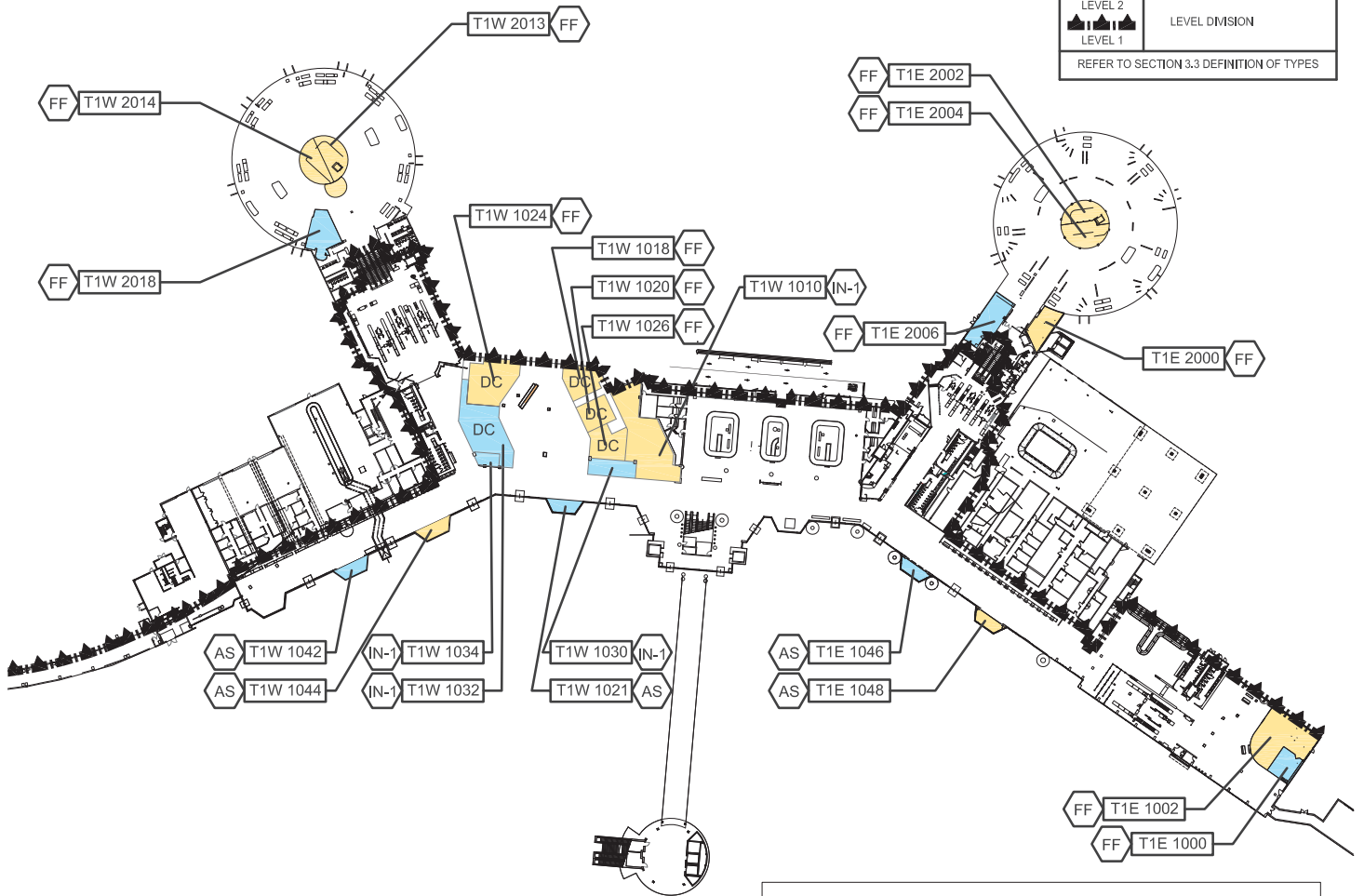


TERMINAL 2 EAST (PREFIX 102)

SDIA: CONCESSION PLANS

STOREFRONT LOCATION DIAGRAM

CONCESSIONS LEGEND	
IN	IN-LINE
FF	FULL FACADE SHOP
AS	ALCOVE SHOP
K	KIOSK
OC	OPEN CONCEPT
	FOOD & BEVERAGE
	RETAIL
DC	DINING COVES
<div><div>LEVEL 2</div></div> <div>LEVEL 1</div>	LEVEL DIVISION
REFER TO SECTION 3.3 DEFINITION OF TYPES	



TERMINAL 1 (PREFIX 101)

COMMUTER TERMINAL (PREFIX 012)

SDIA: CONCESSION PLANS

STOREFRONT LOCATION DIAGRAM



02 ARCHITECTURAL/ENGINEERING DESIGN STANDARDS

2.1 OBJECTIVES

The Architectural/Engineering Design Standards provide the minimum requirements for the planning, layout, and execution of the Tenant design. These standards are intended to assist the Tenant in understanding the distinct architectural conditions within the various terminals of SDIA to maximize the impact of their design.

2.2 GENERAL STANDARDS

The Tenant is required to provide all construction per Section 2.5 Tenant Improvements, and to install them per the manufacturer's recommendations, best industry practices, and in a manner to satisfy all conditions of warranty. Substrate and protective finish surfaces are to be properly prepared to receive and finish products per the manufacturer's recommendations. If Base Building conditions within the terminals conflict with any provisions within the CDM, the Tenant must notify the Authority in writing. All Tenant areas visible to the public, including the tops of ceilings, which may be exposed to public view, shall be finished by the Tenant.

Refer to Section 13 Additional Authority Resources 13.1 Facilities Criteria Document (FCD) for any building components or Base Building systems referenced within the CDM as required to meet Authority standards.

2.3 QUALIFIED PROFESSIONAL ARCHITECT & ENGINEER

SDIA related planning and design requires the understanding of complex and divergent procedures that require specialized training. It is essential that qualified personnel undertake the responsibility for preparation of all Tenant drawings and specifications. Only work prepared, stamped and signed by a qualified professional will be accepted. Without exception, a qualified professional is an Architect or Engineer (A/E) currently licensed to practice in the State of California and in the jurisdiction of SDIA. Where the term architect and engineer are referred to without qualification, it shall mean a qualified professional as described in this paragraph.

The Tenant is required to select qualified architects and engineers to prepare all investigations, calculations, drawings, and specifications. All submitted drawings must be stamped and signed by the designing Architect and Engineers of the appropriate discipline including modifications to Base Building or fire protection systems. Contract administration services shall be provided by a qualified architect, engineer or construction manager.

The Authority will provide the Tenant with a list of design and engineering consultants familiar with working at SDIA. The Tenant, at its option, may contact such consultants to retain their services. The Authority does not endorse the qualifications of the consultants listed. The Tenant is solely responsible for the selection of its consultants and the quality of their work.

2.4 BASE BUILDING IMPROVEMENTS

Depending on location, the Authority provides a Base Building shell and core structure demised per the Lease Outline Drawing (LOD) included as Exhibit A within the Tenant lease agreement ready for tenant improvements. Shell spaces will typically consist of a structural slab floor, no ceiling (i.e. space is open to structure above) and steel stud walls ready for finish material or gypsum board. For most conditions the following connection points or stub outs will be available to support Tenant infrastructure requirements:

- HVAC supply / return air ductwork
- Electrical raceway to distribution panel
- Water at food and beverage locations
- Sanitary sewer and grease interceptor at food and beverage locations
- Gas at food and beverage locations with kitchens
- Fire sprinklers as required
- Communication raceway to telecom closet

In some conditions in Terminal 2 West, ventilation/exhaust ducts to the roof may be partially provided as part of the Base Building. Improvements provided by the Authority vary depending upon the type and location of the Tenant premises. Information regarding existing building conditions and Authority provided improvements must be fully investigated by the Tenant prior to the start of design and confirmed in writing to the Authority's Project Coordinator. Refer to Section 10.8 Acceptance of Premises.

For additional information refer to Section 8.2 Base Building Conditions.

2.5 TENANT IMPROVEMENTS

The Tenant is to provide a dust-tight, secure construction separation wall between any public space and the Tenant's leased premises per Authority standards for construction barricades. The Tenant shall be responsible for all improvements required for a complete build out of their space, including but not limited to:

- 2.5.1 All walls, floors, ceilings, signage, casework and millwork
- 2.5.2 All finishes, furniture, fixtures and equipment
- 2.5.3 All HVAC supply/return ductwork, equipment and controls required for fully functioning system
- 2.5.4 All power wiring, branch circuiting, lighting fixtures, accessories, panels and metering
- 2.5.5 All data and communications devices, wiring and equipment
- 2.5.6 All fire alarm wiring, devices and connections to Base Building fire alarm system
- 2.5.7 All fire sprinkler piping and connections
- 2.5.8 Where required for Tenant's operation all connections to water, sewer, grease, and gas services including metering
- 2.5.9 All required kitchen equipment, fixtures, and systems including all necessary building modifications to meet system requirements and the authority having jurisdiction.

2.6 CODES & REGULATIONS

All work covered by the drawings and specifications shall conform to the latest edition of the Uniform Building Code of the State of California (code) as adopted by the City of San Diego Department of Development Services as the authority having jurisdiction. Review by the Authority does not relieve the Tenant of the responsibility to satisfy all applicable local, state, and federal codes, rules, regulations, and requirements governing work at SDIA.

Tenant is responsible for compliance with the Americans with Disabilities Act (ADA) and Title 24 of the California Code of Regulations. All Tenant projects with accessibility issues shall be reviewed by an independent third party ADA / Title 24 expert hired by the Tenant for conformance with all applicable accessibility requirements. The Tenant shall submit a letter from its ADA / Title 24 consultant certifying ADA compliance. When required by the Authority, at its sole discretion, the Tenant shall have its ADA / Title 24 consultant review and certify in writing the completed improvements comply with all applicable accessibility regulations no later than 30 days after substantial completion.

All Tenants selling consumables whether prepared onsite or pre-packaged must obtain a permit for plans and facilities, including support spaces, as inspected by the San Diego County Department of Environmental Health.

Disclaimer

Constructability and compliance to governing codes and regulations to the satisfaction of the authority having jurisdiction remains solely the responsibility of the Tenant. Where a discrepancy arises between Authority requirements and local, state, national, and federal codes and regulations, the latter shall govern unless the Authority standard is higher and does not conflict. The Tenant must inform the Authority in writing of any such conflicts.

2.7 SEISMIC DESIGN CRITERIA

The San Diego County region is an active seismic zone and as such the Tenant is responsible for contacting local authorities to determine current seismic design requirements specific to this region; including the Rosewood Canyon fault. Furthermore, the Tenant shall design their facilities for the Occupancy Category designated by Title 24 of the California Code of Regulation with the following amplification: SDIA, a Special Occupancy Group, is to be designed as an essential services facility for seismic design only. The intent is to limit potential damage and disruption to SDIA due to a seismic event by designing to the more stringent category requirement.

2.8 BASE BUILDING DRAWINGS

The Authority will provide the Tenant information on available Base Building documentation. The Tenant is responsible to determine the information it needs and make their request to the Authority's Project Coordinator. The Authority will make every effort to provide the Tenant the requested documents; however, Tenant recognizes that not all documentation may be available or permissible for release. The Authority does not warrant the accuracy or completeness of same. The Tenant is solely responsible to verify the accuracy of the information provided as well as conduct site specific surveys and inspections as required.

2.9 REQUEST TO MODIFY BASE BUILDING CONDITIONS

If Tenant requirements exceed the capacities or requirements of what is being provided by the Authority, the Tenant may request to upgrade or change said service or requirements from the Authority. The Authority will review the request and will render, at its sole discretion, a decision in writing to the Tenant. Should the Authority authorize the Tenant's request the Tenant shall proceed with the work at Tenant expense under Authority oversight and supervision. The Authority reserves the right to require modifications to the Base Building or Base Building systems to be performed by a Base Building contractor at Tenant expense.

If the Authority incurs direct or indirect costs associated with the Tenant request for a change to the Base Building, the Tenant shall compensate the Authority.

2.10 SUSTAINABILITY

The Authority's Sustainability Policy states, in part, that it is:

"...essential for San Diego International SDIA to continue to evolve into a known benchmark and respected role model for best sustainable practices in the San Diego region and the aviation industry."

The Authority realizes that, "sustainability is consistent with and vigorously reinforces the Authority's mission statement which is to operate San Diego's air transportation gateways in a manner that promotes the region's prosperity and its quality of life."

In July 2009, the State of California incorporated voluntary green building standards into the code. These changes became mandatory in July 2011. As such, the Authority is committed to integrating the Leadership in Energy and Environmental Design (LEED) Program into SDIA's new and existing facilities.

The Tenant is encouraged to design and construct its facilities following the recommendations and standards of the United States Green Building Council ("USGBC") LEED program in the Green Building rating System "LEED For Retail; Commercial Interiors" latest draft or edition. The Tenant is encouraged to try and obtain a minimum LEED Certification and as well, follow these minimum requirements:

- 2.10.1 Equipment and appliances to be energy-efficient as qualified by the EPA's ENERGY STAR program.
- 2.10.2 Lighting systems to be energy efficient with lighting controls and task lighting to manage energy use and make use of day-lighting opportunities where they exist.
- 2.10.3 Maintain a comfortable thermal environment for employees and customers, with energy efficient systems properly installed, calibrated and commissioned.
- 2.10.4 Recycle and salvage non hazardous construction and demolition debris.
- 2.10.5 Use low VOC emitting materials in furniture, adhesives and sealants, paints and coatings, composite wood and agricultural fiber products. Furniture is defined as any retail display fixture, casework, and built-in millwork such as wall shelving display units, display tables and fixtures, cash wrap, storage units and cabinets.
- 2.10.6 Use materials containing no urea formaldehyde.
- 2.10.7 Incorporate recycled content materials and building materials that are extracted and manufactured within the region.
- 2.10.8 Wood products are to be wood certified in accordance with the Forest Stewardship Council's principles and criteria.

The Tenant shall provide LEED certification point allowance forms with the 100% construction document submittal to demonstrate its good faith effort to comply with the LEED requirements as outlined herein. Should LEED requirements conflict with those set forth in this CDM, the Tenant shall notify the Authority of the conflict for final resolution.



2.11 SOUND TRANSMISSION DESIGN CRITERIA

Tenant is required to attenuate the transmission of sound from their leased premises to all surrounding public and adjacent areas. The Tenant shall meet the following minimum requirements for Sound Transmission Class (STC), Impact Insulation Class (IIC) Noise Reduction Coefficient (NRC), and Noise Criteria (NC).

NC values for all equipment, including but not limited to the HVAC systems, shall comply with the generally accepted practice by the American Society of the Heating Refrigeration and Air Conditioning Engineers (ASHRAE), sound and vibration design guidelines. The NC Level within the leased premises as a result of any equipment or system shall be limited to NC 40. All equipment, including but not limited to the HVAC systems, shall be vibration isolated from the terminal structure.

The minimum acceptable demising partition STC value between Tenant premises for non critical noise intrusion is STC 47. The minimum acceptable demising partition STC value for critical noise adjacencies such as, but not limited to, food and beverage, bar and dining areas, including food preparation, cleaning, and dish washing areas that are adjacent to other Tenant and Authority spaces shall be STC 55, with additional consideration for plumbing noise vibration isolation. The Authority may require higher STC values based on the use of the space and other adjacencies.

The Tenant design and space planning shall strictly consider adjacencies and STC values. The Tenant's design team must confirm adjacencies prior to the start of design.

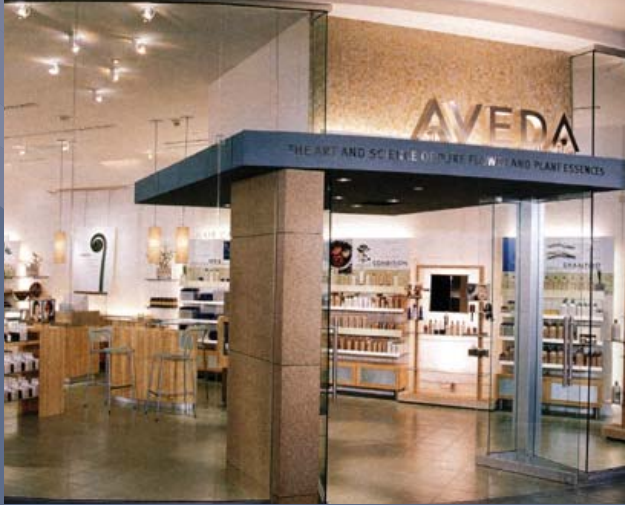
IIC will be a minimum of 50 for all hard surfaced floor areas above occupied spaces. All waterproofing underlayment material must also be rated to increase the IIC of the floor assembly. Examples of isolation underlayment material manufacturers are:

2.11.1 Noble Seal

2.11.2 Ekasonic

2.11.3 Kinetic Noise Control

Music, video and television entertainment and background paging systems are permitted, however, the volume of sound must be strictly controlled to limit the levels to the Tenant lease premises and not intrude into adjacent spaces or public areas. The Terminal Paging System and Emergency Messaging System must be clearly heard without interference from Tenant sound systems. The noise from any lease premises to the exterior shall not exceed 6 dBA above the ambient level. The ambient level is anticipated to be 50 dBA; therefore, the maximum level for the leased premises is not to exceed 56 dBA.



03 STOREFRONT DESIGN STANDARDS

3.1 OBJECTIVES

This section of the CDM will assist the Tenant in understanding the terminal and storefront conditions throughout the SDIA. The Tenant will encounter a variety of architectural settings each requiring a different approach to their storefront design. The Tenant must respond to the specific contextual environment in developing their design.

Refer to Section 01 Design Vision for additional parameters.

3.2 GENERAL CRITERIA

The following storefront criteria shall serve as the minimum standard for design and materials. Storefronts shall be designed and constructed using commercial grade materials in a style complementary to the specific terminal. The Tenant shall create distinctive and creative storefront design solutions that enhance Tenant identity, brand recognition and the overall passenger experience. The storefront shall be three dimensional and fully integrate brand and identity elements with signage and merchandise displays. Refer to Section 8.3 Structural.

3.3 DEFINITION OF TYPES

The following storefront types have been designated to categorize the various terminal conditions encountered at SDIA. Refer to Section 1.4 Concession Plans for storefront locations within SDIA.

In-Line Storefront (IN)

In-Line Storefront conditions are provided a neutral frame with Base Building finishes and an integral sign band. The Tenant is required to provide storefront design and construction vertically from the floor slab at the lease line up to the sign band and horizontally between the Base Building finishes at the neutral piers, or demising wall. Where a demising wall demarcates a Tenant's premises between neutral piers, a stainless steel end cap is provided as a neutral transition.

Full Facade (FF)

Within SDIA there exist conditions where a neutral frame has not been provided by the Authority. These areas have been categorized as Full Facade storefront conditions. Tenant finishes are to extend full height from the floor slab to meet the ceiling and surrounding Base Building finishes. Tenant is responsible for the design and finishes of the entire storefront facade and to provide the specified transition to Base Building finishes.

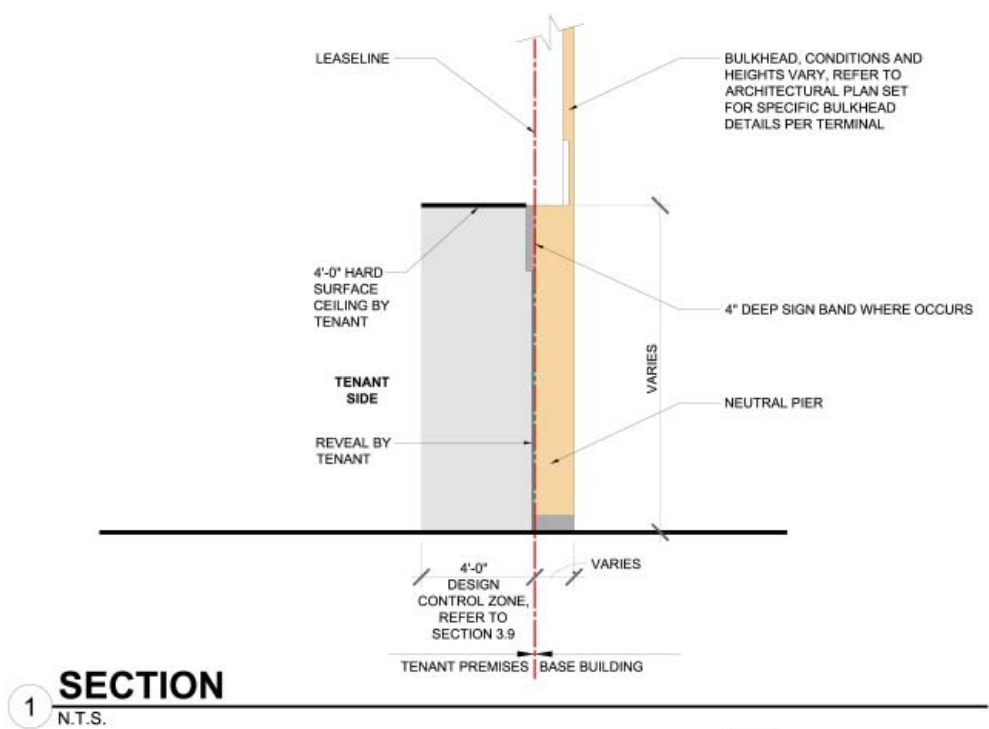
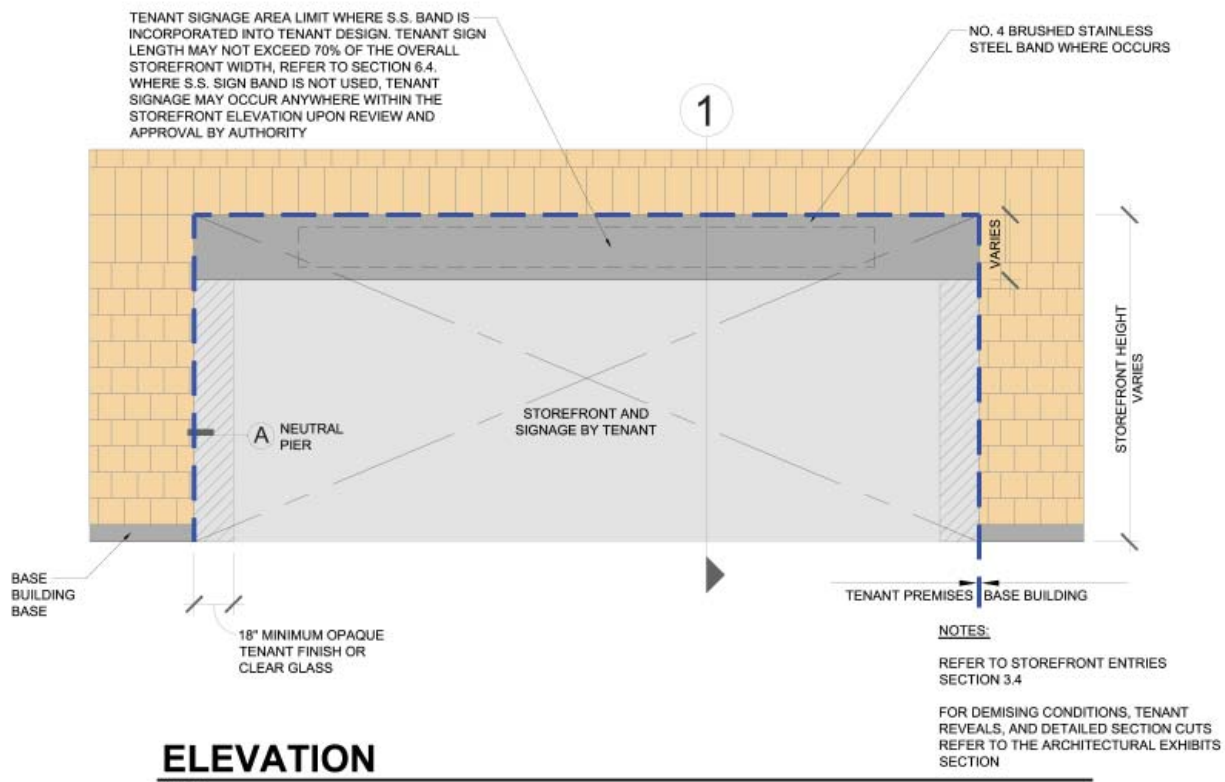
Alcove Shop (AS)

At the curtain wall of the T1 and T2East ticketing lobby and baggage claim areas are shallow concession spaces categorized as Alcove Shops. To provide maximum design flexibility for Tenant identity and brand recognition, the Authority has not provided a neutral frame at Alcove Shops. However, the Authority has established the height of 10'-0" Above Finished Floor (AFF) to serve as the horizontal datum for Tenant entry heights.

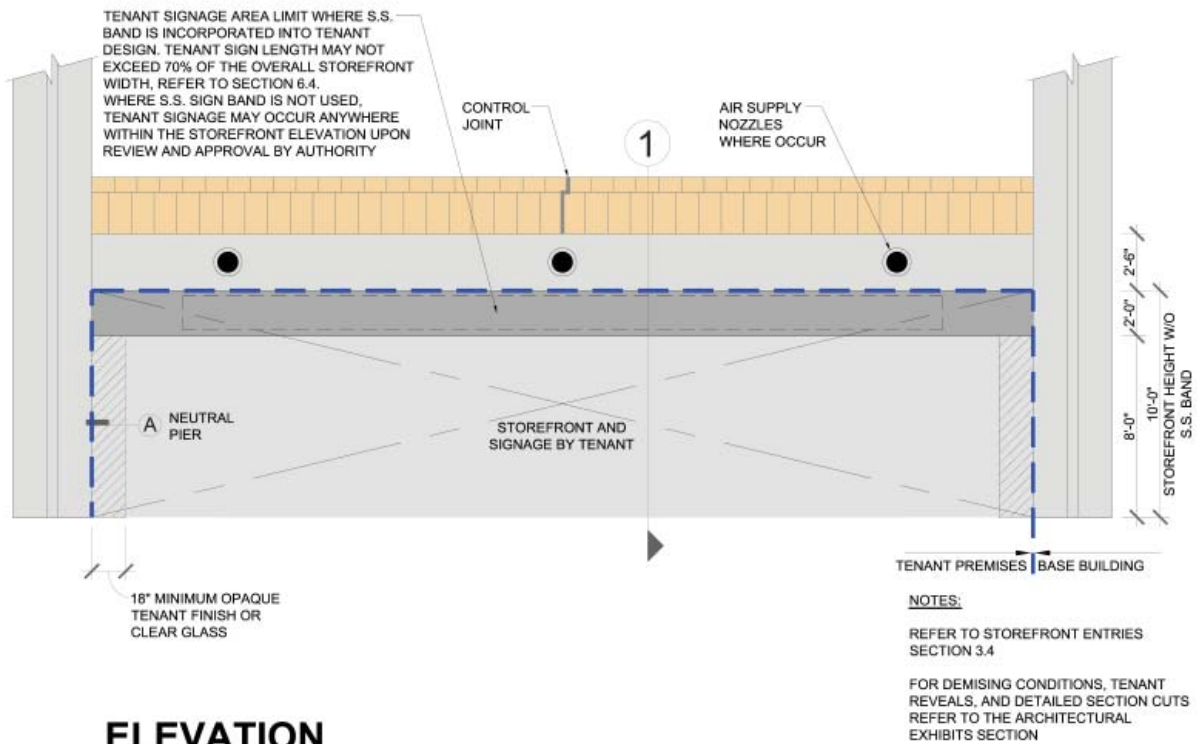
Tenant improvements including walls and ceilings are to be independently supported and are not to attach to Base Building structure or curtain wall. Walls and display fixtures at the curtain wall are to be designed to take advantage of their location and opportunity to bring daylight into the space. Any fixtures placed against the exterior glass are to be shielded. Tenant is to confirm method of screening with TIP Coordinator. Tenant storefront designs at alcove shops shall provide a dynamic three dimensional storefront integrated with striking vertical elements to maximize Tenant visibility within the ticketing lobby.

Due to the narrow depth of alcove shops, the entire Tenant ceiling must be treated per the requirements of the Design Control Zone in a hard surface material or open structure. Acoustical lay in ceilings will not be permitted.

The following graphic documents depict the various storefront conditions:

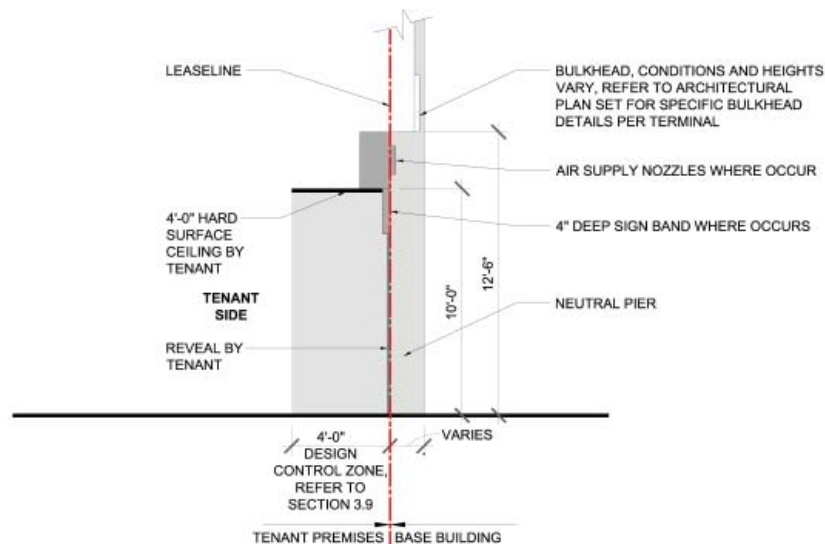


STOREFRONT: IN-LINE IN-1



ELEVATION

N.T.S.

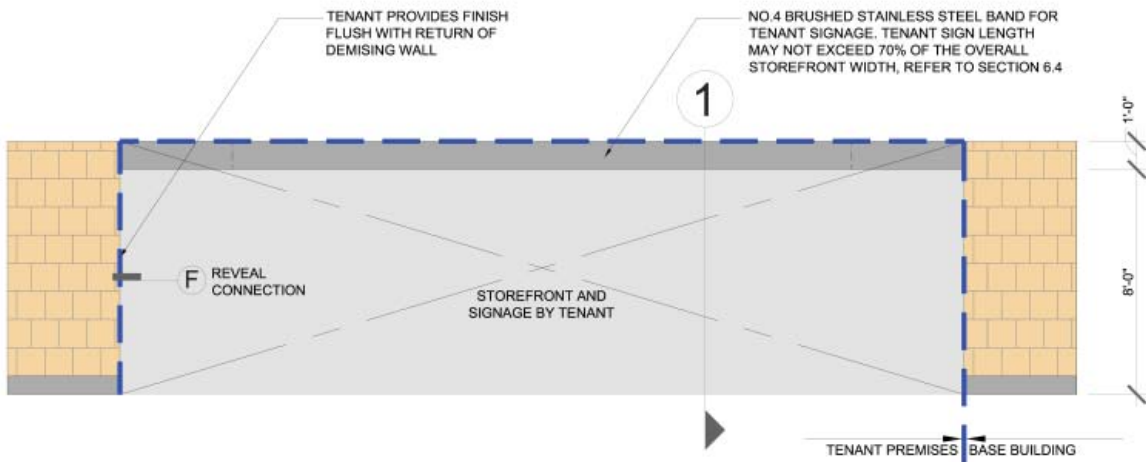


SECTION

1

N.T.S.

STOREFRONT: IN-LINE IN-2



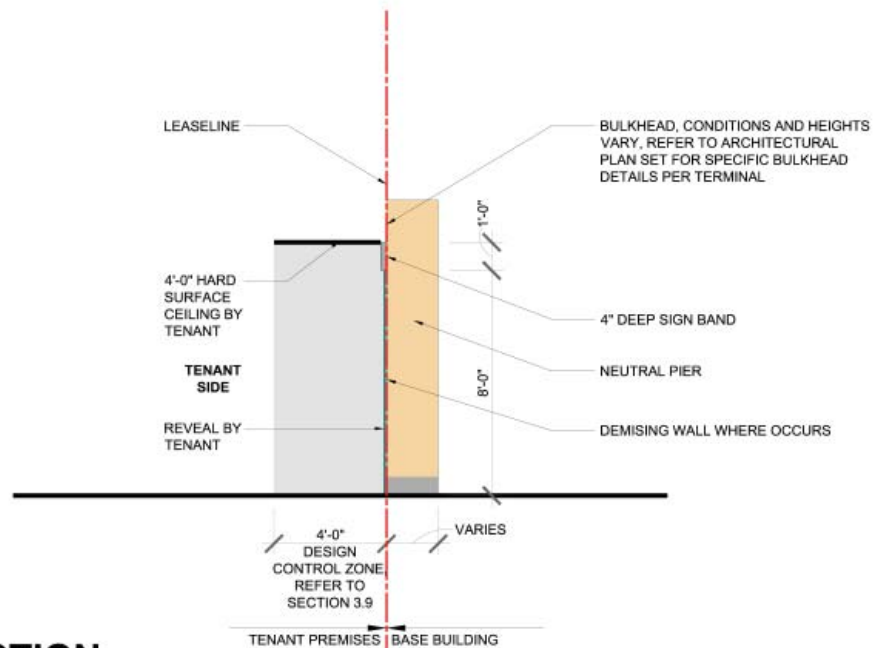
NOTES:

REFER TO STOREFRONT ENTRIES SECTION 3.4

FOR DEMISING CONDITIONS, TENANT REVEALS, AND DETAILED SECTION CUTS REFER TO THE ARCHITECTURAL EXHIBITS SECTION

ELEVATION

N.T.S.

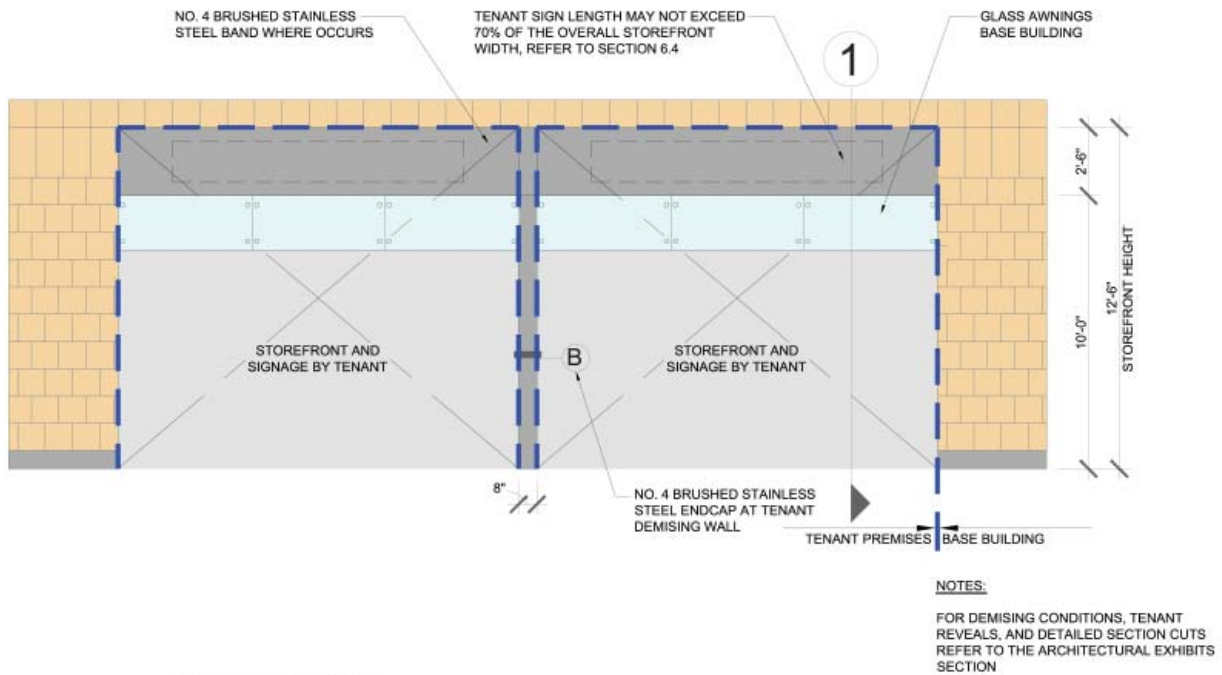


SECTION

N.T.S.

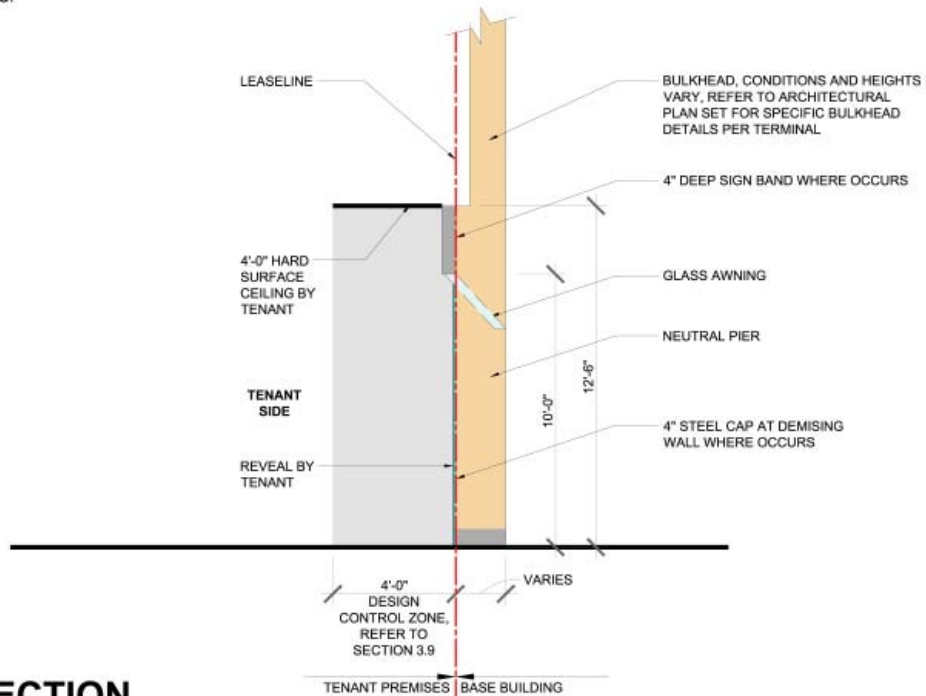
STOREFRONT: IN-LINE IN-4

T2E DINING COVE



ELEVATION

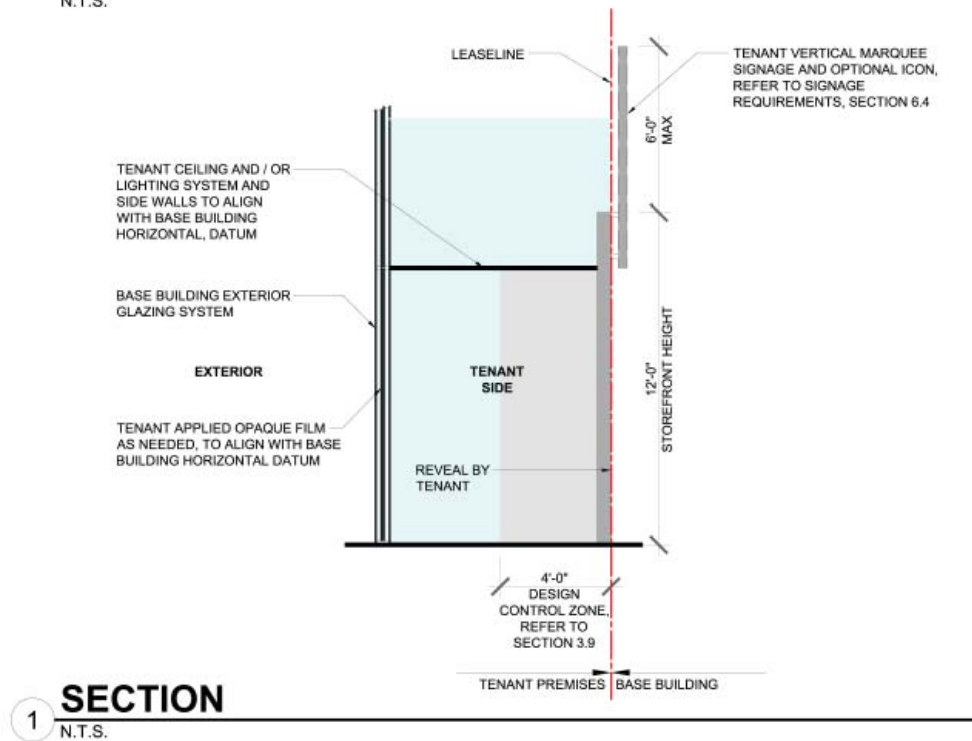
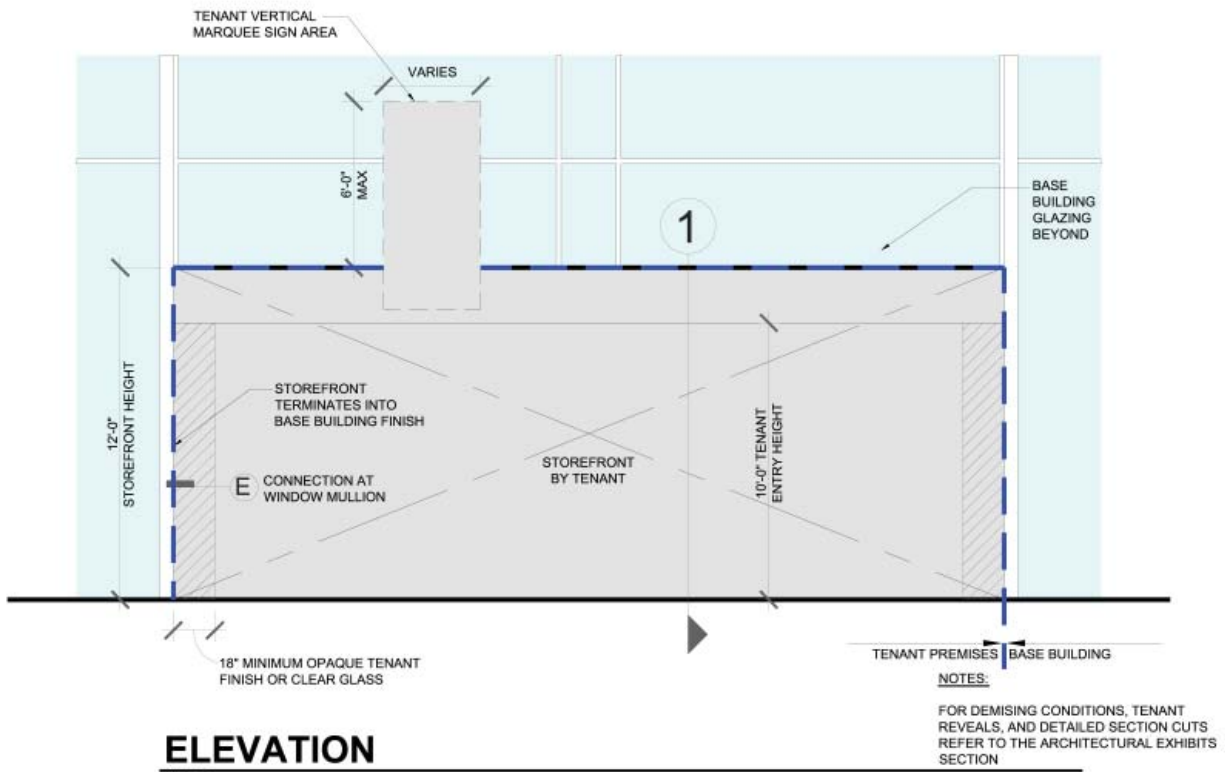
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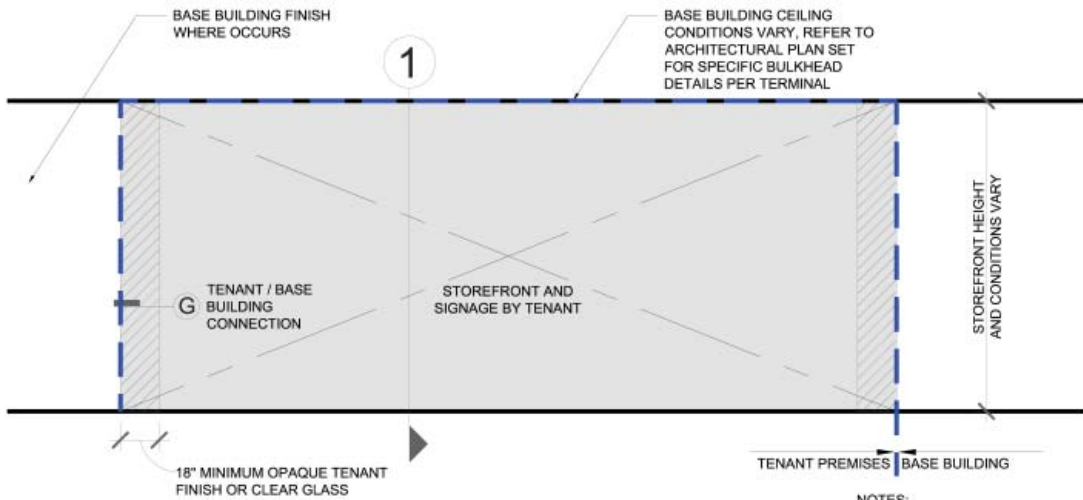
SECTION

N.T.S.

STOREFRONT: IN-LINE **IN-5**
T2W SUNSET COVE



STOREFRONT: ALCOVE SHOPS AS TERMINAL 1



NOTES:

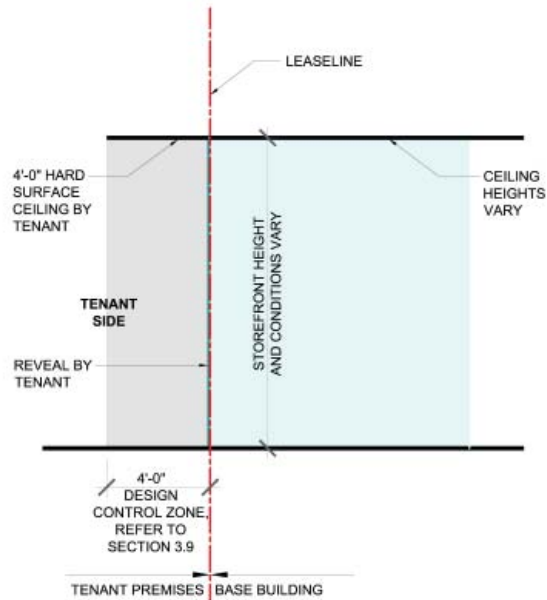
LOCATIONS OF BASE BUILDING EQUIPMENT SUCH AS PHONE BANKS, FIRE HOSE CABINETS MAY OCCUR ADJACENT TO LEASED PREMISE

FOR DEMISING CONDITIONS, TENANT REVEALS, AND DETAILED SECTION CUTS REFER TO THE ARCHITECTURAL EXHIBITS SECTION

REFER TO ARCHITECTURAL PLAN SET FOR SPECIFIC BULKHEAD DETAILS PER TERMINAL

ELEVATION

N.T.S.



SECTION

1 N.T.S.

STOREFRONT: FULL FACADE



3.4 ENTRIES

Open storefronts encourage customer interaction by maximizing Tenant exposure. A minimum of 60% of the storefront shall be vision glass or unobstructed open access, however, a minimum 8'-0" AFF opening is required unless noted otherwise. The storefront may be 100% open depending upon location. The storefront configuration need not emphasize the position and shape of the lease line, and locations on a corner may be permitted two open entries.

Upper storefront design elements and signage components may be allowed to extend beyond the lease line and above the designated sign band without attaching to Base Building finishes with Authority review and acceptance.

3.5 CLOSURES

Sliding or overhead security grilles are acceptable enclosures; however, the Tenant may propose an alternate type enclosure. Security grilles shall be perforated, anodized, clear finished aluminum or stainless steel with bottom and top locking devices using ceiling and floor pins. Floor tracks or thresholds are not permitted. Motorized overhead security grilles shall be key operated with concealed controls and emergency quick release. Security grilles must have independent structural support not attached to the Base Building structure. Structural supports must be incorporated into the overall storefront design with all tracks and operating hardware concealed from public view. Security grilles must be fully enclosed within pockets integrated into the storefront design and concealed from public view.

Open operations such as kiosks must address enclosures and incorporate lockable hardware as required for security. Note, due to the highly visible nature of kiosks, the closure system must be designed with aesthetics in mind for Tenant's after hours secured condition.

3.6 WALL BASE

Tenant shall align their storefront wall base with the adjacent Base Building wall base height. The Base Building wall base is typically 8" AFF, however, it may vary. Tenant wall base materials shall be durable and cleanable such as granite or stainless steel. All exposed surfaces must be finished to match face. If storefront material is suitable to withstand abuse and soiling, it may extend to the floor to serve as the base.

3.7 GLAZING

Where storefront glazing is provided or installed by the Tenant, it shall be tempered or laminated. Butt glazing shall have 1/8" gaps without the use of silicone and with a beveled edge detail at corners. Overlapping conditions are not permitted and joint edges are to be ground and polished. If glazing clips are required, they shall be metal. Acrylic clips are not permitted.

Glass other than transparent applications (e.g. laminated with color, pattern or film) will be reviewed on a case by case basis. The Tenant is to keep storefront glazing as transparent as possible. The Tenant should maximize merchandising opportunities and shall not place cabinetry with solid backs along the glass.

Note, in several locations the Authority has provided glazing within the Tenant storefront.

3.8 FINISH MATERIALS

The Tenant shall incorporate distinctive materials and designs that enhance identity and brand recognition yet are compatible with the surrounding terminal design and consistent with the Authority's design vision. Tenant storefront finish materials that transition to Base Building finishes in the same plane must terminate in a flush condition and shall include a reveal (Refer to Section 15 Architectural Exhibits) to separate Tenant finishes from Base Building finishes.

Storefronts shall be constructed of new materials of the highest quality, detailing, and workmanship. Materials are subjected to heavy passenger traffic, luggage and cart abuse as well as soiling from public area maintenance. All storefront materials must be durable, easily maintained and cleanable.

Acceptable Storefront Materials include, but are not limited to:

- 3.8.1 Stone: Natural or engineered composite stone in slab or large scale tile
- 3.8.2 Exposed aggregate/Terrazzo: Stone or glass aggregate set in nonporous epoxy or sealed concrete matrix in precast forms or large scale tile with ground smooth finish
- 3.8.3 Metal: Steel, brass, copper, zinc in heavy gauge (minimum 16 gauge) sheet or brake form
- 3.8.4 Glass: Clear or decorative in sheet or large scale tile
- 3.8.5 Porcelain: Solid color or patterned in slab or large scale tile with a polished smooth, or matte finish
- 3.8.6 Plaster: Heavy duty rated material such as Armourcast with a polished smooth finish
- 3.8.7 Wood: High grade mill quality Forest Stewardship Certified (FCS) natural wood veneers on fire treated Medium-Density Fibreboard (MDF) substrate or solid wood with finished and protected edges
- 3.8.8 Medium/High density fiberboard: Flat or textured panels such as Modular Arts or Interlam products with finished protected edges in natural, stain or factory applied color with protective coating
- 3.8.9 Reclaimed agricultural fiberboard: Solid panels with finished protected edges in natural or stained color with protective coating
- 3.8.10 Bamboo: Veneer on durable substrates or solid laminated bamboo with finished and protected edges in natural or stained colors finished with a protective coating
- 3.8.11 Resin: Translucent, colored, back painted or laminated panels in smooth or textured pattern
- 3.8.12 Rear illuminated assemblies: Translucent glass, resin panels, or perforated panels in durable commercial grade materials in finish per specific materials noted above

Unacceptable Storefront Materials Note these materials are discouraged, but may be submitted by Tenant for Authority review and acceptance on a case by case basis. Materials include, but are not limited to:

- 3.8.13 Materials designed to imitate natural materials such as wood, stone or brick
- 3.8.14 Plastic laminate
- 3.8.15 Metal laminate with exposed edges
- 3.8.16 Gypsum board: Painted or wallpapered
- 3.8.17 Wood: Unfinished, construction grade plywood, rough cut, diagonal siding, rotary cuts or busy grain patterns
- 3.8.18 Brick
- 3.8.19 Ceramic tiles: generic styles such as 4" x 4" glazed
- 3.8.20 Glass: sandblasted (prone to fingerprints), clear reflective mirror, or small scale mirror tile

- 3.8.21 Stucco
- 3.8.22 Slatwall or pegboard
- 3.8.23 Metal: Mill finish or field painted
- 3.8.24 Cork
- 3.8.25 Polymethyl methacrylate (PMMA) transparent thermoplastic (e.g. Plexiglas), acrylic transparent panel
- 3.8.26 Fiberglass
- 3.8.27 Carpet
- 3.8.28 Fabric

Installation

Materials shall be installed and finished or sealed to maximize their resistance to damage and promote ease of maintenance. Finishes sensitive to impact such as smaller module tiles, wood, reclaimed agricultural fiberboard and bamboo should be used at a minimum of 4'-0" AFF and only in locations not susceptible to impact, marring or scratching.

All field tile modules must be a minimum of 8" x 8" and grouted with an epoxy based grout. Grout color is to be specified to minimize discoloration and prevent staining.

Outside corners must have mitered, eased, bead and quirk, bull-nose or chamfered edge treatments and devoid of sharp conditions. All exposed edges of materials must be finished. Full height stainless steel corner guards on outside corners and column surrounds in high traffic areas are required. Refer to Section 15 Architectural Exhibits for detail of corner guard conditions and Tenant storefront transitions to Base Building finishes.

All joints including grout joints, seams and transitions between materials shall be of the minimum dimension recommended by the manufacturer for materials to provide a tight and flush installation. All fasteners must be concealed unless detailed in a manner which features hardware as an integral part of the design.

3.9 DESIGN CONTROL ZONE

The storefront design together with display, lighting and signage is most successful when the components rise above the sum of their parts to create a synergy that draws the customer into the space. To reinforce visual quality and ensure a high standard of presentation by each Tenant, the Authority has established a Design Control Zone (DCZ) within the leased premises that shall be given special attention in design and merchandising. The DCZ runs the entire length of the storefront and within the first 4'-0" of the stores depth. The Tenant shall emphasize this zone with high quality finishes, lighting, ceiling changes, and creative professional merchandise displays. The displays must be of merchandise, i.e. no placards, posters or other advertising media will be allowed. The Authority will closely monitor all fixtures and displays within the DCZ and reserves the right to reject any retail fixture or merchandise display, which in its sole opinion are not professional, or are of low or substandard quality. Additionally, the Authority may control aspects of the Tenant design within the DCZ. All security equipment within the DCZ is to be concealed from public view and fully integrated into the design.

Hard surface flooring and ceiling (such as gypsum board) material shall be used within the DCZ. Freestanding millwork or display fixtures are not to exceed a height of 5'-6" AFF and must be limited to a maximum of 30% of the width of the storefront. Point of Sale counters are not permitted within the DCZ.

Lighting must be shielded so as not to produce glare through the use of recessed downlights, indirect cove lights or track lights concealed in pockets. Direct lighting should focus on storefront fixtures and highlight merchandise.

Prohibited Items include but are not limited to:

- 3.9.1 Mass merchandising displays
- 3.9.2 Sales racks
- 3.9.3 Slatwall or pegboard
- 3.9.4 Credit card decals
- 3.9.5 Flashing lights or animation
- 3.9.6 Advertising
- 3.9.7 Point of Sale
- 3.9.8 Product pick-up or delivery
- 3.9.9 Standard issue walk off mats

3.10 NEUTRAL FRAME

The neutral frame is typically defined by the neutral piers on either side of the storefront and the bulkhead above, which serve as the enclosure to the Tenant premises. Base Building finishes provided at the neutral frame are meant to serve as a demarcation for Tenant's leased premises. The Tenant shall provide a reveal (refer to Section 15 Architectural Exhibits) as a separation between Tenant and Base Building finishes on wall surfaces, unless the finishes are divided by an overhead grille guide.

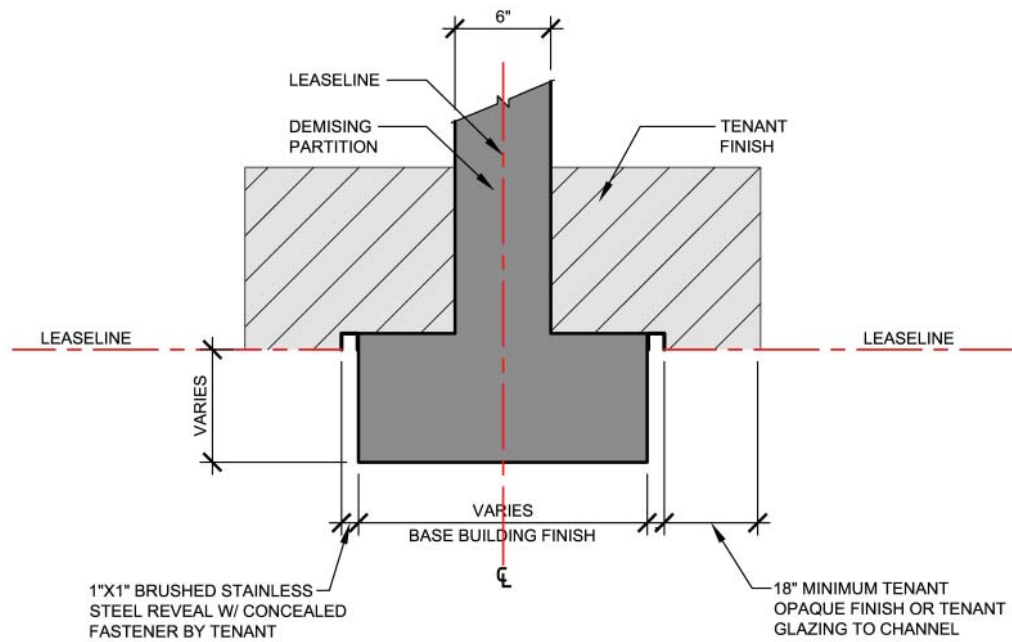
The level of the finished floor at the lease line must be flush with the Base Building finished floor elevation. Transition strips are to be detailed and installed in a secure flush manner with a 1/8" stainless steel schleuter strip. Tenant entry flooring must withstand maintenance procedures, as required for Base Building materials, including grinding and polishing at Base Building terrazzo. Flooring transitions between material changes within Tenant leased premises must be flush and integrate a 1/8" stainless steel transition strip.

Tenant design shall include a section or detail for all transitions from Tenant to Base Building finishes. Should the Authority find transitions are not adequately addressed, the Authority reserves the right to require design or field changes to create the desired effect.

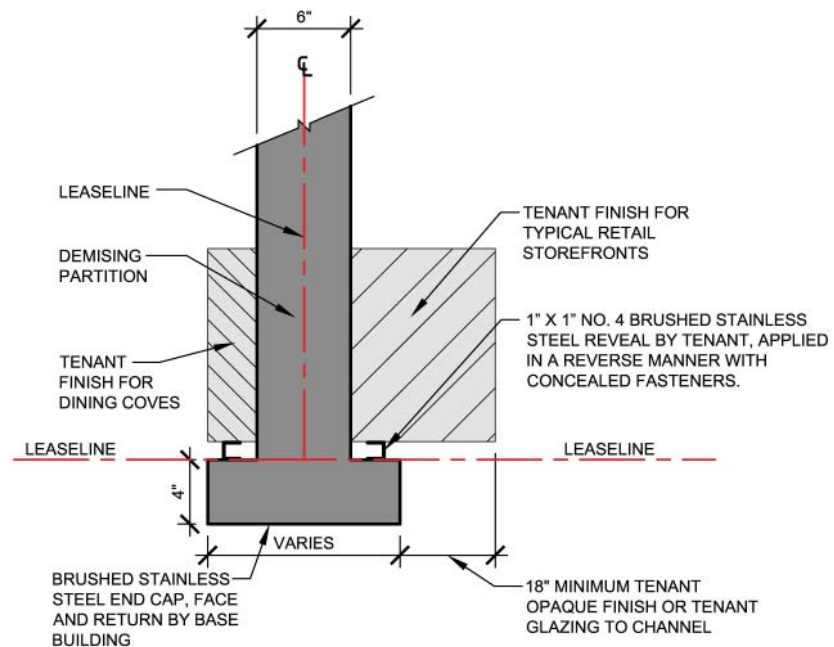
Horizontal elements along the storefront shall align with the spacing of the adjacent neutral pier reveals or at mid-points between reveals.

3.11 DEMISING WALL END CAP

At all Tenant to Tenant demising walls, a brushed stainless steel end cap will be provided by the Authority.



A TYPICAL NEUTRAL PIER
N.T.S.



B DEMISING WALL END CAP
N.T.S.



04 STORE INTERIOR DESIGN STANDARDS

4.1 OBJECTIVES

The Store Interior Design Standards provide the guidelines and minimum criteria to be followed in the layout and design of the interior of Tenant leased premises. Each space has design and control elements to be understood and adhered to by the Tenant. Store interiors must be creatively designed to enhance the Tenant's brand and integrate with the overall design of the storefront, DCZ, graphics and displays.

4.2 STORE LAYOUTS

The interior layout of all Tenant leased premises must reflect an open circulation path around store fixtures and merchandise displays for ease of navigation and clearance for luggage and wheelchairs with a 4'-0" minimum width aisle to provide a barrier-free design per ADA guidelines for accessible design. A clearly defined point of sales location and visual sightlines shall be maintained. Customer queuing is not permitted to extend beyond the lease line.

Merchandise displays must be integrated into the overall interior design concept featuring varying levels and types of presentation. All display fixtures and stands are to be contained within the leasehold and are not to encroach into the public space. Floor and counter fixtures used within the store interiors must be clearly identified within the plans. Modifications to fixture layouts including the addition of fixtures must be reviewed by the Authority prior to installation.

Fixtures, furnishings and equipment must be new, of high quality construction and materials, and coordinated with overall design concept. Point of Sale counters must be of suitable height with adequate knee space for those using wheelchairs and sufficient depth for personal bags.

Columns within the leased premises shall be fully integrated with the overall interior design, and where appropriate, may be merchandised to create a focal point within the space.

All concession operations shall have adequate storage integrated into the overall design and fully concealed from public view. Storage areas must be adequately fitted with shelving and shall not block any required access or clearances required for equipment.

4.3 DEMISING PARTITIONS

Demising walls between separate Tenants are centered on the lease line dividing the premises as shown on the Lease Outline Drawings (LODs) included as part of the Tenant's lease with the Authority. Demising wall framing provided by the Authority consists of 6", 18 gauge metal studs at 16" on center. The Tenant shall provide Type-X gypsum wallboard, 5/8" in thickness from the floor to the underside of deck. Tenant demising walls are non-load bearing partitions. Tenant is responsible for all additional wall reinforcement and independent support required for demising wall partitions used to support shelf standards, heavy kitchen equipment, millwork or other attachments.

Tenant design shall employ sound abatement measures to meet the acoustical requirements outlined in Section 2.11 Sound Transmission Design Criteria.

4.4 INTERIOR PARTITIONS

Interior Partition wall systems constructed by the Tenant shall be min. 3 ½" metal studs at 16" on center with 5/8" minimum thickness gypsum wallboard. Tenant shall comply with the following criteria:

- 4.4.1 Ceiling control joints shall not exceed fifty feet (50'-0") in any direction
- 4.4.2 Ceiling control joints are required at all changes in framing direction
- 4.4.3 Control joints in partition walls shall not exceed thirty feet (30'-0")

- 4.4.4 Control joints are required at door jambs extending from door head to ceiling
- 4.4.5 Provide detail of "through-wall" control joints at fire-rated assemblies
- 4.4.6 Control joints shall be installed where building control joints occur

Tenant is responsible to install finished wall material at building expansion joints. The finished wall surface is to be flush with the expansion joint detail and is not permitted to be installed over the expansion joint unless approved in writing by the authority having jurisdiction and not impede or limit expansion joint function.

Tenant is responsible for all wall reinforcement and independent support required for interior wall partitions used to support shelf standards, heavy kitchen equipment, millwork or other loads.

4.5 WALL FINISHES

Interior wall treatments and finishes shall align with the character of the overall design concept and image of the Tenant brand.

All wall materials shall be constructed of durable materials which are subjected to heavy traffic and impact damage, such as by luggage and carts. Exposed corners are extremely vulnerable and shall be detailed to resist impact using mechanically fastened full height stainless steel corner guards for protection. Alternatively proposed durable material matching adjacent surfaces may be permitted for review by the Authority. PVC or clear acrylic corner guards are not be permitted.

All food service and consumable product storage areas including but not limited to, kitchens, food prep areas, and storage rooms, must be finished with materials that conform to the requirements of Section 7.0 Food & Beverage Tenant Design Standards.

Tenants shall shield views of equipment, storage, or unsightly elements located along glazing. Tenant is to confirm method of screening with TIP Coordinator. Window coverings are not permitted unless concealed within pockets.

Slatwall must have heavy duty metal inserts and may only be used in limited quantity within the interior of the store. Exposed slatwall (non-merchandised) is not allowed, additionally, interiors with slatwall as the only method of wall display are not be permitted.

Acceptable interior partition finish materials *include but are not limited to:*

- 4.5.1 All materials listed under Section 3.8 Finish Materials - Acceptable Storefront Materials
- 4.5.2 Gypsum board: Painted or covered with commercial grade wallcovering

Unacceptable interior partition finish materials *include but are not limited to:*

- 4.5.3 All materials listed under Section 3.8 Finish Materials - Unacceptable Storefront materials with the exception of gypsum wallboard.

Installation

Installation of all wall finish materials shall follow guidelines established in Section 3.8 Finish Materials. Tenant is required to prepare walls to provide a smooth, sound, dry substrate suitable to receive finishes per manufacturer's recommendations. All gypsum board installations shall have a level 4 minimum finish.

Painted surfaces shall have primer coat plus minimum two coats of quality latex paint. Paints shall be compliant with San Diego County VOC regulations and chemical component limits meeting Green Seal's Standard GS-11 requirement.

Tenant is required to maintain expansion joints and to field verify locations or review architectural plans to determine requirements and details.

4.6 BUILDING PENETRATIONS

Core drilling or cutting of floors, walls, and roof structures may be required. Under no circumstances shall the Tenant or its contractors, at any time be permitted to drill or cut conduit, pipe sleeves, chases, or duct equipment openings in the floor, columns, walls or roofs of the structure without prior review and acceptance of the proposed locations, sizes, and details of finished conditions by the Authority. If any utility or service is damaged, the Tenant it shall notify the Authority immediately. All damaged items must be repaired immediately at the Tenant's expense.

Roof penetrations must be kept at a minimum and performed by the Base Building subcontractor of record to maintain existing warranties. The Tenant shall be responsible for costs and must meet all project standards and details. Prior to any penetration within existing terminal structures, existing substrates and finishes must be sampled for Asbestos Containing Material (ACM) and other hazardous materials by the Authority. The Tenant is responsible for the cost of abatement of ACM or other hazardous materials prior to the commencement of Work.

Floor and wall penetrations through a fire rated assembly or a waterproof membrane affecting the rating and function thereof, are not allowed. All floor penetrations shall be sealed at the floor during the rough-in stage. Penetrations through concrete must be scanned in advance using ground penetrating radar. Floor sinks and floor drains shall be sealed directly to the floor without a sleeve; these penetrations shall be of precise size, as to allow the body of the fixture to be sealed at the penetration. In spaces with plumbing fixtures, such as kitchens, and dish washing areas, the Tenant shall install a waterproof membrane as outlined herein.

All plumbing and conduit penetrations shall be sleeved with a welded seam or seamless, stainless or galvanized steel to a height of 3 inches above the finished floor and flush with underside of deck. The sleeve shall be precisely sized to fit opening in the concrete. In addition to sleeving, all openings and sleeves shall be sealed with an epoxy-type, non-shrink, waterproofing adhesive sealant.

4.7 INTERIOR WALL BASE

The Tenant shall provide a continuous wall base, a minimum of 6" high, made of an appropriately durable and cleanable material throughout the entire visible interior. All exposed faces of base must be finished to match face. Vinyl or rubber base are not be permitted in areas visible to the public.

All food service and consumable product storage areas including but not limited to, kitchens, food prep areas, and storage rooms, must be finished with materials conform to the requirements of Section 7.0 Food & Beverage Tenant Design Standards.

4.8 DOOR CLOSURES/EXIT DOORS

Tenant shall furnish and install all door, frames and hardware, meeting Authority standards per the Facilities Criteria Document (refer to Section 13), where required by the Tenant's design, including but not limited to connections to service corridors if not provided within the Base Building. Door finishes located on the Tenant side of the leased premises shall complement Tenant's adjacent wall color. Door finishes on the Authority side shall be dictated by the Authority, but finished at the Tenant's expense. Laminate is not an acceptable material. Heavy use doors shall include a 36" stainless steel kick plate extending the full width of the door.

Additional requirements include:

- 4.8.1 Doors to exit corridors shall not to project into the corridor when open.
- 4.8.2 Interior doors and frames in a required fire separation shall be rated, labeled and equipped with hardware as determined by the authority having jurisdiction.

- 4.8.3 Tenant shall coordinate with the Authority and comply with the latest hardware and keying standards.

4.9 FLOORING

Flooring materials shall be of a high quality, commercial grade rated for heavy traffic use. All flooring materials must be durable, stain resistant, cleanable, slip resistant, and compatible with flooring used throughout SDIA. Floor treatments should be designed to reinforce the character of the design concept and image of the Tenant's leased premises. The Tenant is encouraged to be creative in the use of patterns, borders, and variations to define areas within the space.

Tenant finished floor shall be flush with Base Building finished floor level. Floor transition conditions vary depending on the terminal. The Tenant is responsible to verify the specific conditions, to ensure a flush transition, refer to Section 3.10 Neutral Frame.

Acceptable flooring materials *include but are not limited to:*

- 4.9.1 Stone: Natural stone in slab or large scale tile in smooth, filled, non-porous texture
- 4.9.2 Exposed Aggregate/Terrazzo: Stone or glass ground and set in nonporous epoxy or sealed concrete matrix poured in place or precast large scale tile
- 4.9.3 Concrete: Precast large scale tile in a smooth finish
- 4.9.4 Metal: Inset flush as accent, 1" maximum width
- 4.9.5 Porcelain: Solid color or patterned. (Note: Patterns that simulate natural stone are discouraged and may be rejected.) Slab or large scale tile in a smooth finish.
- 4.9.6 Wood: Acrylic impregnated, highly compressed or engineered construction suitable for heavy duty commercial traffic

Unacceptable flooring materials *include, but are not limited to:*

(Note these materials are discouraged, but may be submitted by Tenant for Authority review and acceptance on a case by case basis.)

- 4.9.7 Materials designed to simulate natural materials such as wood, stone or brick
- 4.9.8 Vinyl composite tile
- 4.9.9 Carpet
- 4.9.10 Sheet vinyl
- 4.9.11 Rubber: Sheet or tile
- 4.9.12 Clay or shale extrusion: Quarry tiles (except in back-of-house areas, support premises not exposed to public view)
- 4.9.13 Wood: Exceptions include 4.9.6
- 4.9.14 Walk off mats: Standard issue styles not integral to Tenant's design (except in back-of-house areas, support premises not exposed to public view)

Flooring Transitions at Entries and Lease Lines

Base Building flooring throughout SDIA consists of terrazzo, tile, or carpeting. The Tenant must provide a hard surface flooring material consistent with their design within entries adjacent to Base Building flooring, recessed entry areas, and any areas set back from the lease line.

Careful consideration should be given to the transition zone between the Base Building floor finish and patterns or color variations proposed within the leased premises to avoid harsh contrast with conflicting designs.

The level of the finished floor at the lease line must be flush with the Base Building finished floor elevation. Transition strips are to be detailed and installed in a secure flush manner with a 1/8" stainless steel schleuter strip. Tenant entry flooring must withstand maintenance procedures, as required for Base Building materials, including grinding and polishing at Base Building terrazzo. Flooring transitions between material changes within Tenant leased premises must be flush and integrate a 1/8" stainless steel transition strip.

Floor tracks for sliding doors or raised thresholds are not permitted.

4.10 FLOORING INSTALLATION

Installation

Flooring materials shall be installed per manufacturer's recommendations and fully compliant with manufacturer's warranty conditions. Flooring shall be finished or sealed to maximize resistance to damage and to promote ease of maintenance. Field tile modules must be a minimum of 8" x 8" with all grout joints, seams and transitions between materials to install in a tight and flush manner with a minimum joint dimension as recommended by the manufacturer. Epoxy based grout, in a color to mask soiling and stains, shall be specified.

Tenant is required to prepare the interior slab to provide a smooth, sound, dry substrate suitable to receive Tenant finishes per manufacturer's recommendations. An underlayment of an anti-fracture and waterproof membrane must be installed below all tile.

At all water prone areas including bar, food prep, food service, kitchens and toilet areas, flooring shall be installed over a membrane waterproofing system that will result in a fully waterproofed surface, including a 6" minimum high cove base backed with waterproofing membrane. Installation shall be in accordance with manufacturer's written instructions. Overlap of adjacent sheets shall be 4" minimum. In addition, Tenant is to design a slip resistant surface as integral to their design. Standard issue walk off mats are prohibited except in back-of-house areas, not exposed to public view.

All floor penetrations must be limited in quantity and properly sealed to prevent leaks. Refer to Section 4.6 Building Penetrations. At expansion joints the finished floor material is to be level with the expansion joint and is only permitted to be installed over the expansion joint in a manner acceptable to the authority having jurisdiction. The function of Base Building control joints within the Tenant area shall be maintained by the Tenant.

All flooring transitions within the leased premises must be flush without the use of vinyl, rubber or metal reducer strips. A flush 1/8" stainless steel schleuter strip shall be used for flooring material transitions within the interiors of the leased premises. Transition strips are not required at changes of color, texture or pattern within the same material.

Joints, seams and transitions should be detailed in a manner to promote ease of maintenance. Joints should be installed to provide the minimum dimension recommended by the manufacturer to install materials in a tight, flush condition.

4.11 CEILINGS

Ceilings within the Tenant premises shall be handled creatively with varying ceiling heights and soffit conditions. Ceilings are one of the most visible design elements within Tenant's interior; therefore, single plane, single material ceiling systems are discouraged.

Exposed ceilings are not encouraged; however, where permitted by the Authority, the Tenant must paint all exposed ceiling components of building systems, such as, electrical conduit, mechanical ducts and equipment and fire protection piping. All metal is to be painted in a semi-gloss finish. All ceilings or underside of floor above must be painted in a flat finish. Neutral colors should be used when applied over a large area.

Ceilings shall be supported by construction carried on walls or partitions and not suspended from existing structures. Diagonal bracing details and layout required for stability and seismic restraint shall be submitted for review by the Authority. All exposed faces of ceilings must be finished to match or compliment ceiling materials.

Ceiling Material

Tenant ceilings beyond the DCZ within view of the public shall be raised a minimum of 6" and may match the material of the DCZ or change to an alternate material. Acoustical ceilings are acceptable within the interior of the Tenant leased premises, but must incorporate a tegular edge or concealed spline condition. Any exposed grid should have a 9/16" slot grid installed in a 2' x 2' configuration. Acoustical T-bar ceiling with generic 24" x 48" grid and tiles are not be permitted except in areas outside of public view.

Metal and wood paneled ceilings are acceptable and should have continuous acoustical backing. However, the finish must not be reflective or mirrored.

Tenant is required to maintain expansion joints and to field verify locations or review architectural plans to determine requirements and details.

Kitchen Ceilings

In a high moisture environment such as kitchens, Tenant shall use roll-formed aluminum grid system. Where ceilings may be exposed to high moisture levels and corrosive vapors, Tenant shall use a stainless steel system.

Distance between ceiling control joints shall not exceed fifty feet (50'-0") in any direction. Where ceiling framing changes direction, a continuous control joint shall be installed.

Access Panels

Tenants are to provide flush mounted, concealed access panels framed into the ceiling as required for servicing Base Building and Tenant systems. Concealed access panels are to be Amera Products or equal.

Ceiling Heights

General Tenant ceiling heights will vary and must be field verified for clearance of HVAC and other overhead conditions. Maximum ceiling heights are encouraged within Tenant premises. A minimum ceiling height of eight feet (8'-0" AFF) is to be maintained.

Ceilings must be offset at a minimum of 6" in height at transitions between ceiling materials. Tenants are encouraged to emphasize features within their space by varying ceiling heights, materials, and lighting for visual interest. Ceiling design can define perimeters, checkout areas, or displays to create focal points within the space.

4.12 LIGHTING

The Lighting Design Criteria provides the guidelines necessary to ensure a lighting strategy that provides a technically sound solution with state-of-the-art technology, for an energy efficient and high quality visual environment. The Tenant storefront shall provide illumination in contrast to the Base Building lighting creating an inviting entry setting the tone for the interior environment. Lighting shall be fully integrated into the overall design of the interiors.

The lighting system including fixtures shall be carefully designed to mitigate glare and shield lamps from public view through the use of baffles and louvers or concealing fixtures within architectural coves. Tenant fixtures are not permitted to provide any glare into the public area.

Light sources shall have a Correlated Color Temperature (CCT) between 2700 degrees and 3500 degrees Kelvin and a Color Rendering Index (CRI) greater than or equal to 82 CRI within all areas exposed to public view.

Recommended Light Levels

A recommendation of 100 foot candles (fc) for general interior illumination is suggested as well as the following, or as governed by Title 24:

- 4.12.1 Circulation areas: 40 fc
- 4.12.2 Merchandise: 100 fc
- 4.12.3 Design Control Zone: 100 fc
- 4.12.4 General Displays: 250 fc
- 4.12.5 Feature Displays: 500 fc

Key features and merchandise displays, including the DCZ, must have a high contrast ratio in relation to the surrounding areas of 3:1 - 5:1 depending upon the type of display.

A variety of lighting fixtures and levels of illumination shall be utilized to create visual interest and to suit various functions. The lighting design shall integrate energy efficient sources such as fluorescent and LED for general illumination reserving higher output sources for visual impact and merchandise displays. If fluorescent lighting is used in combination with halogen, a warmer temperature fluorescent light source is preferable.

Indirect Lighting

Indirect lighting within ceiling coves used in combination with direct lighting may be an effective way to achieve a pleasant ambient light while creating contrast for displays. Ensure that minimum footcandle (fc) levels are maintained when utilizing indirect lighting.

Neon, fluorescent tube and LED lamps recessed within coves are acceptable providing the light source is concealed and not visible to the public.

Direct Lighting

Higher intensity down lighting, recessed within the storefront entry soffit, shall be used to create an inviting entry way drawing passengers towards the entrance of the store. Adjustable downlights and track fixtures are recommended for accent and merchandise display lighting. Fixtures must be recessed or concealed within light coves. Care must be taken to ensure spotlights do not raise temperatures above a comfortable level.

Pendant mounted decorative fixtures may be used to highlight areas or special features within the interiors. Proper mounting heights and placement of such fixtures are to be given careful consideration to avoid glare, susceptibility to damage, or accessibility by the public.

If fluorescent lighting is used within the general sales area lamps must be shielded from public view. Acrylic lens, egg crates or bare fluorescent lamps are not be permitted. Fixtures within the general sales area or public view shall be 2' x 2' or other low profile fixture. 2' x 4' fixtures will only be permitted in back-of-house areas (support premises) outside of public view.

To fully comply with requirements of Title 24 the Tenant shall consider the use of high efficiency light sources such as ceramic metal halide for areas with high ceilings over 10' AFF or areas requiring high illumination levels.

Where a lighting system occurs within an open, exposed grid ceiling condition, the light fixtures must be fully coordinated with and integrated into the overall design. Fixtures shall be compatible with the interior of the space and match the ceiling grid coloration. Exposed transformers, wires, and conduits must be concealed from public view. Transformers shall be remotely mounted and accessible.

The use of colored light sources to achieve a special effect is subject to review and approval by the Authority.

Display cases must be adequately illuminated with light sources concealed from view and properly ventilated.

Interior emergency lighting and exit lighting shall be designed as integral part of the overall lighting design plan with emergency battery back-up units integrated within light fixtures. Surface mounted emergency light fixtures are not permitted.

All fixtures, including emergency lights are to be of high standard quality. Exposed raceways, crossovers, conduits, conductors, transformers and other equipment are not permitted.

Control Systems

Tenants must provide switched lighting controls for all areas including display and storefront signage. All support premises shall utilize automatic lighting controls to turn lights off when not occupied. Lighting controls are to be located out of public view.

A seven-day electronic timer is required to be installed by the Tenant to control storefront, display window lighting and signage during required hours, as determined by the Authority. To meet Title 24 requirements while maximizing lighting opportunities, Tenant shall use high efficacy light fixtures and examine the method by which the lighting is organized, controlled and circuited, including the use of dimmers and automated lighting controls for a complete and energy efficient lighting system.

Acceptable Light Sources *include but are limited to:*

- 4.12.6 Energy efficient lighting including warm temperature LED, low voltage, compact fluorescents or ceramic metal halide
- 4.12.7 Recessed incandescent or halogen downlights
- 4.12.8 Concealed track lighting
- 4.12.9 Decorative exposed fixtures including pendants or wall mounted fixtures
- 4.12.10 Lighting effects used to highlight merchandise displays

Unacceptable Light Sources *include, but are not limited to:*

(Note these sources are discouraged, but may be submitted by Tenant for Authority review and acceptance on a case by case basis.)

4.12.11 Exposed lamps visible to the public

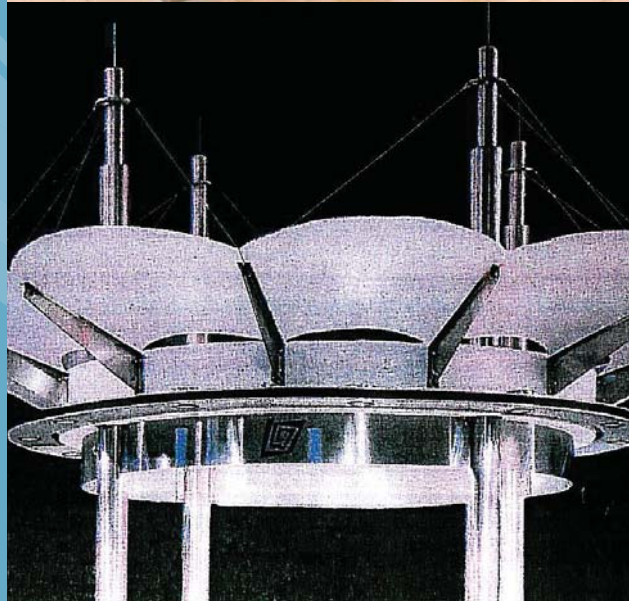
4.12.12 Exposed/surface mounted emergency fixtures which do not match Tenant's general lighting

4.12.13 Sodium or mercury vapor lamps (no exception)

4.12.14 Exposed neon

4.12.15 Strobe, flashing, animated or spinner chase fixtures

4.12.16 Colored lamps



05 KIOSK DESIGN STANDARDS

5.1 OBJECTIVES

The Kiosk Design Standards are intended to assist the Tenant in designing free standing kiosks units that complement the architecture of the terminal in which they are located. Kiosks shall generally be visually open units due to their location within passenger circulation areas. The design of the kiosk shall attempt to incorporate design elements of the terminal to reinforce the kiosk as a permanent feature of the terminal while remaining visually open and unobtrusive. The entire leased premises of the kiosk shall be considered to be within the DCZ. Refer to Section 6.5 Kiosk Signage for additional signage requirements. The overall height of the kiosk structure is to be limited to 9'-0" AFF, however, upper elements of the kiosk including signage may extend as high as 12'-0" AFF upon Authority review and approval. The layout and configuration of the kiosk must fully address requirements of ADA and provide a barrier free design with service counters at appropriate heights and configurations.

The footprint allocated to kiosk spaces varies depending on the location within SDIA. The Tenant shall pay close attention to circulation paths to ensure layout and queuing does not impede upon common area circulation. A queuing plan shall be included with the Tenant design review submittal.

Tenants are encouraged to take a unique and creative approach to the merchandising display, layout, function, and overall design of their kiosk. The Authority will work with the Tenant to ensure their design is consistent with and strengthens the sense of place within the terminal while providing a strong identity for the Tenant.

5.2 GENERAL CRITERIA

The following criteria apply to kiosks:

- 5.2.1 Maximum height of overall structure is 9'-0" AFF or 12'-0" depending upon specific location within SDIA
- 5.2.2 Kiosk lighting must be concealed
- 5.2.3 Kiosks must have the ability to be secured after hours. Lockable cabinets, rolling canvas, shutters, fold down panels or similar lockable devices may be proposed. While kiosks are open, the panels or shutters must be concealed.
- 5.2.4 Queuing must not impede upon SDIA operations or passenger circulation.
- 5.2.5 Permanent partitions are not permitted.
- 5.2.6 Custom showcase and display areas are to vary in heights to allow for maximum interest and creativity in presenting merchandise or food and beverage products.
- 5.2.7 All showcase and display fixtures must be integrated with the design concept and construction details.
- 5.2.8 Kiosk structures must have a 10' clearance from any common area objects, railings and walkways with the exception of columns.
- 5.2.9 Modifications to the Base Building flooring or surround are not permitted.
- 5.2.10 Overhead structures must be slim, lightweight and incorporate concealed lighting and signage.
- 5.2.11 Profile of overhead structures is not permitted to follow the kiosk body outline.

- 5.2.12 Kiosks are to maximize transparency and provide a see through quality so as not to become an opaque visual obstruction in the space.
- 5.2.13 Kiosks serving alcohol will require an enclosure consisting of a guardrail. Tenant to use Authority approved guardrail detail. Refer to Section 15 Architectural Exhibits.



5.3 FOOD & BEVERAGE

The following additional criteria apply:

- 5.3.1 Display cases presenting food items must be integrated into the overall design concept and materials palette.
- 5.3.2 All equipment backs must be shielded.
- 5.3.3 Equipment is to be integrated with the counter design to maintain a maximum height of 4'- 8" AFF.
- 5.3.4 Condiments and utensil dispensers must be fully recessed into the counter.
- 5.3.5 Cash registers are to be recessed within the counter to maintain a maximum height of 4'- 8" AFF.
- 5.3.6 Packaging and storage is to be concealed.
- 5.3.7 Self-serve drink dispenser locations and design must be reviewed by the Authority.
- 5.3.8 Fully recessed integrated countertop trash receptacles must be provided near the condiment and utensil dispensers.
- 5.3.9 Vendor equipment and ice machines must be located under counter.

5.4 MATERIALS

All finishes must be of high quality, durable and cleanable materials designed to withstand the abuse of high traffic and impact of luggage and carts. Careful attention to detailing is required, particularly where different materials transition.

Acceptable Finish Materials:

Kiosks shall be designed to comply with the standards for "Acceptable Storefront Materials" as described in Section 3.8 Finish Materials.

Unacceptable Finish Materials:

All Kiosks shall be designed to comply with the standards for "Unacceptable Storefront Materials" as described in Section 3.8 Finish Materials.

Installation:

All Kiosk finish materials shall be installed in compliance with the standards for "Installation" as described in Section 3.8 Finish Materials.

5.5 LIGHTING

General area lighting is provided within the SDIA common areas. If additional lighting is desired for operational functions or to highlight special merchandise, the Tenant is responsible to provide the lighting at its expense. Lighting is a critical component of kiosk design to showcase and highlight merchandise and as such is encouraged.

5.6 DISPLAY AREA

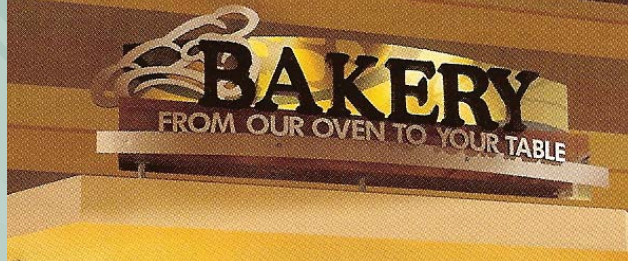
Components used for display should create visual interest and integrate with the overall kiosk design. Display methods should present the merchandise in an attractive manner specific to the type of product offered. They must engage the customer with state of the art display methods showcasing the merchandise in a fresh, new and unexpected way.

Acceptable Display Types *include but are not limited to:*

- 5.6.1 Freestanding, integrated design elements where permitted
- 5.6.2 Light box type showcases or base details
- 5.6.3 Specialty designed fixtures integrated into the kiosk body
- 5.6.4 Backlit transparencies with environmental graphics
- 5.6.5 Lifestyle images
- 5.6.6 Vertical display
- 5.6.7 Customized showcases

Unacceptable Display Types *include but are not limited to:*

- 5.6.8 Pegboard
- 5.6.9 Slatwall
- 5.6.10 Advertisements within display cases
- 5.6.11 Backlit advertisements
- 5.6.12 Display units not designed as integral to the design



06 SIGNAGE & GRAPHICS DESIGN STANDARDS

6.1 OBJECTIVES

The Signage & Graphics Design Standards are intended to ensure storefront identity signage and graphics are an integrated element of the Tenant storefront design. The Tenant shall provide a creative and innovative signage design solution that strengthens their overall design concept and identity. Tenant is encouraged to use their logo for brand recognition and provide three dimensional unique signage solutions.

6.2 GENERAL CRITERIA

Tenants are required to provide one (1) primary sign consisting of dimensional letter forms, and may use branded icon elements and graphics. Unless the Authority, in its sole discretion, authorizes the installation of a blade sign as described in Section 6.7 below, in-line tenancies will be permitted to install one (1) primary sign and corner tenancies will be permitted a total of two (2) signs, one (1) sign per elevation. Signs shall be limited to the Tenant trade name (DBA) and logo only, as identified in the Tenant's lease with the Authority. Tenant shall consider the variations in storefront conditions to provide for effective placement of signage and to maximize visibility to the flow of traffic. Signage shall be distinctive and not compete with SDIA wayfinding signage. Tenant primary storefront signage shall be located above or adjacent to the storefront entrance.

In-Line storefront locations are provided with a sign band within the neutral frame for mounting the Tenant's sign. Tenant may provide a backer panel mounted to the sign band if integral to the overall signage design. The maximum height of the backer panel shall be 2'-0" except where a custom background shape is integral to the design, or at T2East Dining Cove where the space is limited to 1'-0". The color, finish and material of the panel shall reflect the Tenant identity and the overall design and color scheme.

Refer to Section 3.3 Definition of Storefront Types for additional information.

6.3 TERMINAL SIGNAGE CONDITIONS

In-Line storefronts account for the majority of storefront conditions within the SDIA. Signage shall be contained within the limits of the sign band, however, where terminal ceiling heights are high, the Tenant may have the opportunity to extend above these limits with logos or supporting architectural icons. These sign elements may not be directly attached to any Base Building finishes and must be reviewed and approved by the Authority.

Some areas of SDIA have lower ceiling heights that will challenge the Tenants ability to design overhead signage while maintaining a maximum opening height of 8'-0" AFF. Tenant shall consider the use of vertical signage, blade signage or alternate design solutions that allow for maximum visibility. The Authority will consider allowing Tenant storefront soffits, ceiling treatments or other elements integrated with the signage design to protrude beyond the lease line allowing better visibility on a case-by-case basis.

Tenants located in T2E and T1 opposite the ticket lobby and baggage claim have the opportunity to provide vertical marquee type signage for maximum exposure within these congested areas of SDIA. These signs will define the storefronts while addressing the large volume of space surrounding the Tenant's leased premises.

SDIA Signage by Terminal:

Tenant signage is to be distinctive and yet not distract from the SDIA informational signage. The following outlines the typical Authority signage within each terminal.

Commuter Terminal

- Signage is non-illuminated and features a sky blue background with white lettering.

Terminal 1

- Signage features an aqua green background with illuminated white lettering.

Terminal 2E

- Signage features an ocean green background with illuminated white lettering.

Terminal 2W

- Signage is non-illuminated and incorporates ocean blues, greens and sand colors as well as stylized nautical symbols.

6.4 TYPES & SIZES

Tenants may utilize a wide variety of signage design and construction styles. The type selected should portray the Tenant's overall marketing image and enhance the architectural design.

Acceptable Sign Types *include but are not limited to:*

- 6.4.1 Reverse channel "halo" letters: Individually mounted metal letters with halo illumination. Letter faces and returns may be painted, brushed or polished metal with the rear face of each letter no more than 2" away from the background plane.
- 6.4.2 Channel letters with acrylic faces and internal illumination: The attachment of the acrylic faces must be clean and flush and the acrylic material should be of a matte finish. Internal illumination should be provided with the use of LED.
- 6.4.3 Dimensional opaque letters: Appropriate materials include metal, acrylic, or cast resin with surface illumination completely concealed within the fascia panel.
- 6.4.4 Metal faced letters with side illumination: Construction to consist of a thin metal or other opaque face material with frosted acrylic side illumination.
- 6.4.5 Edge-lit glass or acrylic panel with letters deeply carved or etched into the panel surface: Letter forms are to be illuminated sufficiently for visibility.
- 6.4.6 Frosted vinyl material to simulate etched glass: Signature window signage and small scale secondary signage may be permitted. Colored lettering or images may be considered on a case-by-case basis.

Unacceptable Sign Types *include but are not limited to:*

- 6.4.7 Exposed neon
- 6.4.8 Open channel with neon
- 6.4.9 Flashing lights or animated components
- 6.4.10 Vacuum-formed plastic letters or plastic materials of any kind
- 6.4.11 Cabinet signs or boxed signs
- 6.4.12 Sand-blasted wood signs

Signage must be appropriately scaled to complement the design of the storefront and its location within the terminal. Storefront sign letters are limited to a 16" maximum capital, 12" standard letter. Dimensional or pinned letters are to have a minimum depth of 1". A 3 1/2" maximum depth is required for internally illuminated types.

Vertical Marquee Signage

Upon review and approval by Authority marquee signage is encouraged for alcove shops so that they may take advantage of the high volume of space above their shops. By extending three dimensional signage forms, an sculptural horizon line is created. All signs must use concealed remote illumination techniques and be engineered to withstand seismic forces.

Marquee Types

- 6.4.13 Over-scaled dimensional letters
- 6.4.14 Directional sign towers
- 6.4.15 Three-dimensional icons

Fabrication/Installation

All signage must be of high quality construction, materials, details and finishes. All primary signage is required to have illumination. All equipment, transformers, raceways, ballasts, crossovers, and conduits must be concealed. Illuminated signage is to be on the Tenant's electrical circuit controlled by a timer set in accordance with the Authority's established hours of operation. Electrical service to all Tenant signs is to be provided by the Tenant's electrical panel.

6.5 KIOSK

Kiosks are generally restricted to a primary sign or graphic displaying the Tenant trade name and logo which must be compatible in size and finish with the overall kiosk design. Kiosk signs are to be creative and may be double sided or multi sided based on the overall design of the kiosk in order to capture the attention of passengers approaching from multiple directions.

All vertical elements shall be engineered to withstand seismic forces. Kiosk signage cannot exceed 16" in height, and the length of each sign cannot exceed 60% of the side of the kiosk on which it is located.

6.6 INTERIORS

A comprehensive and consistent graphics program must be established throughout the interiors of all retail, service, food and beverage concessions. Graphics must be fabricated of high quality materials that are able to withstand abuse if accessible by the public. Environmental graphics are encouraged where appropriate. Images shall not be used as advertising and all content is to be reviewed by the Authority.

If environmental digital graphics are used, they must be of highest quality resolution and are to be printed on a cleanable vinyl, installed in a seamless manner or applied behind glazing.

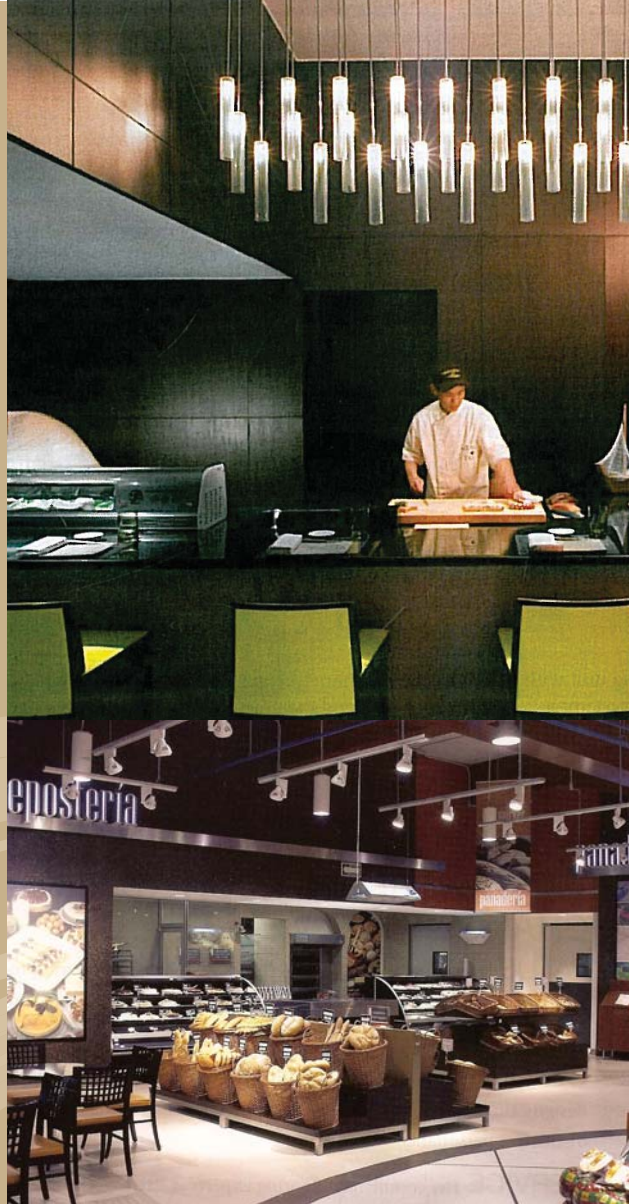
Advertising is not permitted. Credit card decals, placards, banners, pennants, names, insignia, trademarks or other descriptive or promotional material may not be affixed or maintained on storefront windows, glass fixtures or equipment.

Permanent appliances, vendor equipment or fixtures may not display advertising, sponsorship text, or branding of merchandise if in public view.

6.7 BLADE SIGNS

Blade sign locations are predetermined by the Authority and in most locations, are provided with blocking and electrical raceways. Blade sign brackets are predesigned by the Authority to create a uniform presence throughout the SDIA. Tenants are to utilize the Authority design and suggested list of vendors to fabricate and install the bracket at Tenant's expense. Note, Authority does not endorse the qualifications of the vendors. Tenant is to contract directly with vendor.

Blade sign brackets and criteria are currently under design and will be provided to Tenant as it becomes available.



07 FOOD & BEVERAGE TENANT DESIGN STANDARDS

7.1 OBJECTIVES

In addition to the requirements previously stated in the manual, this section provides supplemental guidelines specific to food and beverage facilities. The Tenant shall prepare plans appropriately addressing the unique operational and maintenance issues associated with food and beverage facilities at SDIA. Food and beverage spaces must be designed with fixtures, display and seating layouts taking into account that passengers will have luggage in tow as they shop and dine. Store layout, passenger queuing and seating designs must all accommodate these criteria along with ADA guidelines for barrier free design.

7.2 GENERAL CRITERIA

The Authority is looking for innovative design solutions for food and beverage concession spaces that reinforce the identity of the Tenant while providing a regional ambience. The Tenant's creative yet functional design solutions shall provide passengers with convenience, as well as, a memorable experience consistent with the SDIA.

The Authority has created strategically located dining areas which have been branded Dining Coves in keeping with the Authority's Sun, Sand, Sea, Aviation theme. The Dining Coves offer an opportunity to create a unified concession area within the terminal, with architectural features that provide a framework for the overall design concept of the space. Working within these architectural features, Tenants are encouraged to develop dynamic and individual identities. The food and beverage Tenant's storefront composition shall consider the placement of entries and signage in relation to the public space seating where these exist in the dining coves.

7.3 QUICK SERVE

The typical food and beverage Tenant at SDIA provides a quick serve style of venue with an In-Line or Full Facade storefront. All requirements within Section 07 Food & Beverage Tenant Design Standards are applicable to Quick Serve Tenants.

Particular attention shall be given to the visual organization of the rear and side walls of the service and preparation area. Walls shall be fully finished in stone, tile or other durable, cleanable material. The interior finish materials must complement the overall design of the Tenant premises. Any clutter or unsightly equipment shall be fully concealed from public view. Rear stock storage rooms are not to be visible to the public and any open storage of paper goods, packaging, supplies and product is unacceptable.

No food preparation areas or display cases are permitted in a zone 24" from the edge of each neutral pier or demising wall and within 18" of the finished floor.

Including the queuing space allocated per the Tenant LOD, a minimum of 8'-0" of clear space is to be maintained in front of all counters. Tenants are responsible for controlling individual queues within or immediately adjacent to their leasehold so that customer queues do not interfere with public circulation.

Counters

An open cafe style configuration is encouraged where space allows. If the Tenant design calls for a front service counter, particular attention is to be paid to the lease line, transition to neutral piers and transition to Base Building flooring.

At counter fronts located along the lease line, Tenant base material must meet the SDIA common area flooring in a manner so as to conceal the change in flooring materials. Base material must coordinate with the counter design. Counter fronts and countertops may be allowed to extend slightly beyond the lease line, but are not to attach to Authority finishes.

Service counters must fully meet all ADA requirements. Depending on function, service counters shall in general be a height of 34" to 36" AFF.

Displays, advertising, cash registers and other types of similar equipment must be built into the counter and counter top, to provide a clean and uncluttered appearance. Loose equipment and displays are unacceptable.

A personnel access door in the front counter line is permissible only where no rear entry is available. Access doors must be concealed by matching the height and material of the adjacent counter front and countertop. Hinges and hardware must be concealed and of heavy duty commercial grade quality. Countertop aprons and base details must be of extremely durable materials and construction.

Wall Base

If a recessed toe kick is used it shall be recessed by minimum of 4". If toe kick is adjacent to the Base Building base material it shall align in height. The toe kick face shall be covered in a durable material to coordinate with the counter design. Refer to 7.8 Flooring for additional wall base requirements within the Tenant space.

Closures

Tenant must provide self-locking counters or secure sliding or roll down grilles or shutters to secure the quick serve concession facilities during the times they are not in operation. Security grilles, if utilized, must be fully concealed during business hours and meet the applicable requirements as outlined in Section 3.5 Closures.

Ceilings

Due to the highly visible nature of ceilings in a congested area, ceiling treatments are to be designed to be dramatic and engaging. Ceilings within the front sales area are to be constructed of gypsum board surface material or other hard surface material. Acoustical lay-in ceilings are not permitted.

Miscellaneous

Storage units or pre-fabricated display cases installed at the back counter area shall adhere to the counter or display case requirements herein. Storage counter doors must be polished stainless steel or detailed to match the adjacent casework.

Wires, conduit and wire mold must be concealed from public view. Exposed wires from equipment, telephones, etc. are unacceptable.

Trash and recycling receptacles for customer use will be provided in the SDIA dining coves. Trash receptacles for customer use, if provided at the Tenant's counter must be concealed and built into the millwork. Cup holders, utensils and straws must be stored behind or under the Tenant's counter. Napkins and condiments must be set back a minimum of 6" from the front of the counter and must be dispensed from permanent holders recessed into the countertop or storefront.

7.4 OPEN CONCEPT

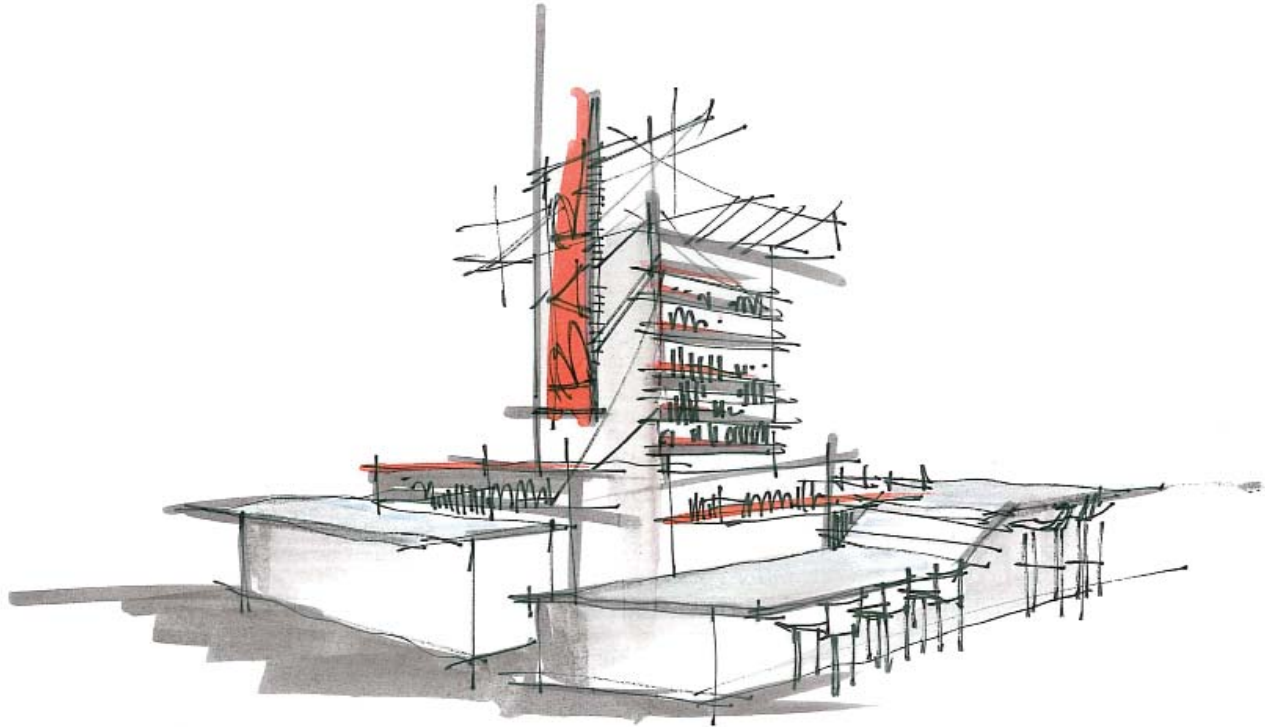
The Authority has placed some concessions within open areas of the terminals. Typically these are architecturally prominent locations that offer the Tenant an opportunity to design a concept with significant presence. Open concept concessions shall be self contained three-dimensional elements that utilize sculptural forms and contemporary architectural design treatments.

The layout and overall configuration of open concept spaces shall adhere to the identified lease lines; however, tall vertical elements integrated with Tenant signage and overall design concept are encouraged to provide a strong identity. These elements are to be a maximum of 15'-0" AFF, and are to minimize opaque elements that may impact visibility to SDIA signage, gates or exterior views in a negative way.

Concessions serving alcohol will require an enclosure consisting of a guardrail. Tenant is to use Authority designed guardrail constructed at Tenant expense. Refer to Section 15 Architectural Exhibits.

Types of security enclosures may vary depending on the design and layout of the open concept concession. All enclosures and security are to be fully integrated within the design of the space and concealed during operating hours.

Note, due to the highly visible nature of open concept concessions, the closure system must be designed with aesthetics in mind in the after hours secured condition.



7.5 EXTERIOR SEATING AREAS

If Tenant is responsible for creating a seating area outside its storefront, the Authority designed glass railing detail shall be used. Specifications and details can be found in Section 15 Architectural Exhibits. Railings are to be provided and installed by the Tenant at Tenant's expense unless noted otherwise on the Base Building construction documents.

The Tenant is generally responsible for flooring in open seating areas, however, Base Building terrazzo does exist in some areas. Tenant is to confirm flooring requirements against the Base Building construction drawings. Tenant design and layout of seating areas shall ensure adequate clearance for passengers with luggage and to meet ADA guidelines.

7.6 INTERIORS

The interior design and layout of the food and beverage facilities shall adhere to all applicable requirements of Section 4.0 Store Interior Design Standards, and within customer accessible areas must reflect an open circulation path around furniture, fixtures, and displays for ease of navigation and clearance for luggage, carts and wheelchairs. Point of Sale areas are to be located so as to be easily identified within the space. Customer queuing is not permitted to extend beyond the lease line except as permitted by LOD.

Views to the exterior and Base Building curtain wall glazing should be maximized in areas accessible by the public and where they can be properly integrated into the Tenant's design. Glazing is to be shielded in all back of house and support premises.

Food and beverage leased premises shall be designed to minimize sound transmission per requirements of Section 2.11 Sound Transmission Design Criteria. Special attention shall be placed on isolating noise from back of house food preparation, kitchen areas and plumbing chases within walls adjoining other SDIA or Tenant premises. The design of finish materials, fixtures and furnishings shall be considered for noise reduction.

7.7 INTERIOR PARTITIONS

The Tenant must provide visual and acoustical separation between its sales area and the kitchen, service and support premises areas to shield unsightly views and noise from the public. Walls within public areas shall have minimum wainscot of 2'-0" AFF, of a durable and cleanable material such as stone, wood or other alternate hard surface material which integrates with the Tenant's design.

Fiberglass Reinforced Panels (FRP)

All food and beverage Tenants shall provide cementitious backer board and mold/water resistant high-impact Fiberglass Reinforced Plastics (FRP) panels throughout all support premises, food preparation and kitchen areas, including behind walk-in boxes. FRP panels laminated to fire rated cementitious gypsum wall board may be acceptable. All FRP corners are to be protected with a minimum 1 1/4" stainless steel corner guard. FRP panels shall be sealed with a manufacturer approved sealant with particular attention paid to the seal at the floor. Panels are to be installed per the manufacturer's instructions and must meet all requirements of the U.S. Department of Agriculture Food Safety Inspection Service USDA/FSIS. FRP panels are not permitted in areas exposed to public view.

7.8 FLOORING

Flooring shall not extend beyond the Tenant lease line unless specifically accepted by Authority. Base Building flooring will terminate at the lease line. Tenant is to ensure all finished floor levels are level and flush with the height of the adjacent Base Building floor. Refer to 3.10 Neutral Frame.

Tenant flooring materials shall be durable, cleanable, slip-resistant tile, terrazzo or stone. Quarry tile or tiles with a simulated wood or other simulated finish are prohibited, except in support premises outside of public view.

All floors including kitchen, bar, food preparation, seating, storage, back counter and beverage service areas must be installed over a membrane waterproofing system that will result in a fully waterproof surface. In addition, a 6" minimum height cove base backed with a waterproofing membrane is to be installed throughout the Tenant space. NobleSeal TS Thin-set Waterproofing Membrane is to be used per manufacturer's recommendation.

7.9 CEILINGS

Ceilings within food and beverage leased premises shall comply with the following requirements and all applicable requirements of Section 4.11 Ceilings.

The minimum ceiling height in all support premises and kitchen areas is to be 9'-0" AFF. Ceilings in these areas shall include high-impact, durable and cleanable ceiling panels in a lay-in suspended ceiling, where frequent plenum access may be required. If the kitchen is visible to the public a smooth, acoustically treated, non-absorbent, hard surface ceiling shall be used.

Tenants are required to provide unobstructed access to all Base Building equipment, valves, controls, etc. mounted above the ceiling and must provide Authority required identification for such systems and devices.

7.10 DOORS/PASS-THRU AREAS

Service doors to kitchen or support premises visible to customer view, are to be finished in stainless steel or painted metal with a stainless steel kick-plate and equipped with automatic closures meeting Authority standards. Refer to Section 13.1 Facilities Criteria Document (FCD).

Pass-through openings shall be designed to obscure the preparation and kitchen area to the greatest extent possible. The only exception will be open display kitchens featuring upgraded designs and equipment.

Kitchen doors, frames and hardware shall meet all Authority standards, refer to Section 13.1 FCD. Doors must have a minimum dimension of 36" x 84".

7.11 FOOD PREP AREAS

If the food preparation area is an integral part of the visible service area, it must meet all criteria per Section 03 Storefront Design Standards and Section 04 Store Interior Design Standards. If the food preparation area is not intended to be part of the visible service area, acoustical and visual separation is required.

7.12 SALES SERVICE COUNTERS

Counters must present a clean, uncluttered appearance. Food service and other types of equipment located on counters must be concealed from view unless equipment is a design element to support the Tenant's overall design concept.

A minimum of 8'-0" clear space must be maintained in front of service counters unless a barrier is utilized to contain passenger queuing. Note, special queuing zones outside of the Tenant leased premises may be considered within the 8'-0" clearance, if indicated on the Tenant's LOD.

Frameless sneeze guards shall be used at counters as required where food presentation is accessible. Sneeze guards shall be set back a minimum of 6" from the face of the counter and be a maximum of 4'-8" AFF.

Glazing must be tempered or safety glass. All horizontal joints are to be butt glazed for maximum visibility. Acrylic glazing is not permitted. Tray slides, where required, must be stainless steel and designed as an integral part of the counter.

Display cases presenting food products must be fully integrated into the overall design and finish materials palette. Product displays must be between 18" and a maximum of 4'-8" AFF. Display cases may not extend beyond the face of the counter top. Display cases shall incorporate an integrated and continuous base with the counter.

Equipment located on counters shall be set back a minimum of 6" from the front counter edge and recessed into the countertop so no portion exceeds 4'-8" AFF. Cash registers must be recessed below the counter or placed behind a decorative screen or shroud. Condiments, utensils, napkins, straw containers and cup holders must be recessed into the countertop and located a minimum of 6" from the front counter edge.

The backside of the sales counter shall be designed to conceal trash, outlets etc. Open storage areas are not permitted unless they are in areas of the leased premises that are not visible to the public. Trash receptacles shall be integrated into the Tenant's overall design. Freestanding receptacles are not permitted.

Counter Materials

All materials must be durable, cleanable, and resistant to impact from heavy abuse. Counters are to be solid surface materials, and special consideration is to be given to scratching and marking of countertops.

Acceptable Front Counter Materials *(within public view) include, but are not limited to:*

All materials listed under "Acceptable Materials for Storefronts" with the understanding that sales and service counters may be subject to even greater abuse than storefronts and therefore must be designed accordingly.

Unacceptable Front Counter Materials *(within public view) include but are not limited to:*

All materials listed under "Unacceptable Materials for Storefronts"

7.13 MENU BOARDS

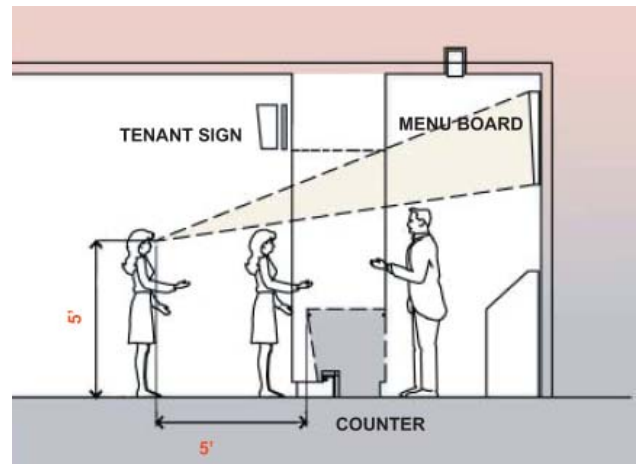
The menu board is a key component of food and beverage concession design and shall be professionally designed to integrate with the overall architectural, graphic and merchandising design. A minimum of (1) menu board, mounted on the rear wall of the sales area or on a suspended fascia is required for quick serve units. Menu boards shall be of a proper size, color and illumination level to be easily visible and readable from the common area, with a minimum letter height of 1 1/4". The storefront fascia shall not block views to the menu board based upon a viewing height of 5'-0" above finished floor level and 5'-0" distance from the face of the counter. Menu boards are to be remotely illuminated. If adjustable track lighting is used, it must be concealed from view. Backlit transparencies are not permitted. Where digital menu boards are used permanent information must be painted, silk-screened, etched or applied to:

7.13.1 Neutral, painted or anodized metal

7.13.2 Natural or painted wood

7.13.3 Clear, translucent or back-painted glass

Provisions shall be made for changing prices or products in an undetectable manner. Changeable information may be displayed using vinyl, die-cut numerals or letters, or other alternatives reviewed by the Authority. White boards are prohibited, but professionally maintained chalkboards may be considered. Graphic style and method for maintaining must be reviewed and approved by Authority.



7.14 FOOD SERVICE EQUIPMENT

Equipment exposed to public view shall be compact and recessed or encased in cabinetry. Exposed exhaust hoods shall be stainless steel, copper or an alternate approved material. The Authority will closely monitor the selection and placement of all equipment exposed to public view to ensure equipment is fully integrated within the overall design of the space.

Locations of remote equipment, including controls, and required penetrations are to be clearly identified on the construction drawings. All penetrations through the floor slab must be screened in advanced using Ground Penetrating Radar and sealed to prevent leaks. Refer to Section 4.6 Building Penetrations.

All cutlery storage and use must meet Transportation Security Administration (TSA) and SDIA security requirements and shall be clearly identified on the plans.

No used equipment, simulated wood finishes, trademark or supplier logos or other advertising will be permitted on equipment within public view. Clutter or unsightly equipment shall be concealed from public view including screening of equipment cords.

7.15 SPECIAL CONDITIONS

Glass Awnings: Sunset Cove T2W

Glass awnings are being provided by the Authority to reduce afternoon sun glare for those Tenants located in the Sunset Cove dining area. These awnings are designed to provide a consistent aesthetic look to the storefronts within the Dining Cove.

Sun Glare

It is possible the Tenant may encounter glare from sun shining into their space and are responsible for managing all such conditions. Tenant should consider the use of non-reflective counter finishes or other alternative solutions and pay particular attention to the design and layout of the back wall, including menu boards, to manage the impacts of direct sunlight.

7.16 EXHAUST SYSTEMS & GREASE HOODS

Tenant kitchen equipment shall be compliant with National Fire Protection Association (NFPA) 96 Standards for Ventilation Control and Fire Protection of Commercial Cooking Operations. This includes, but is not limited to Type I and Type II grease filtration and extraction hood exhaust systems. The Tenant shall utilize Ultra Violet ("UV") Type I kitchen exhaust hoods with the exception of heavy duty and extra heavy duty cooking appliances. In heavy duty and extra heavy duty applications UV hoods may be used in combination with another multi-stage grease removal system. Wash down or standard dry cartridge kitchen exhaust hoods and re-circulating hoods are not permitted.

The Tenant shall furnish and install a complete kitchen exhaust and mechanical make up air system, including a complete Fire Suppression System for extraction hoods and cooking equipment. The fire suppression system shall tie into the Base Building fire life safety systems and gas system shutoff. Type I and Type II exhaust systems shall be U.L. rated and listed. Tenant is required to provide an additional downstream induct grease exhaust treatment to mitigate discharge to the surrounding environment. Combining Type I and Type II exhaust systems is not permitted and each Type I hood must have a dedicated fan. Makeup air for kitchen exhaust hoods must be balanced and provide adequate ventilation in all occupied areas. Careful consideration shall be given to the location of the supply and exhaust units within the kitchen to ensure ventilation is supplied equally throughout the occupied areas. A combination of high efficiency hoods with a low velocity displacement ventilation system should be considered to provide an efficient low energy system. The exhaust air from kitchen hoods shall be free from grease vapor and smoke.

In the T2W Sunset Cove and the T2E Dining Cove, multiple food and beverage Tenants will be required to use common "right-of-way-routes" provided to the roof as part of the Base Building for all Type I and Type II grease exhaust systems. The routes for these exhaust ducts must be closely coordinated with the Authority prior to installation.

Hoods

The Tenant shall provide all required exhaust systems and equipment including kitchen hoods, exhaust ductwork, exhaust fans, controls and power connections, including but not limited to:

- 7.16.1 Controls to interface with the Base Building automation system to permit monitoring of Tenant's exhaust fan status.
- 7.16.2 Grease hoods with a sprinkler or dry chemical fire suppression systems.
- 7.16.3 Piping and the connections to the terminal fire sprinkler system to serve the sprinkler suppression system for the grease hood.
- 7.16.4 Hot water wash system for the grease exhaust system is not permitted.
- 7.16.5 Food Tenants must maintain negative pressure in relation to circulation area by method of exhaust.
- 7.16.6 All roof mounted Tenant equipment shall be curb mounted on a minimum 8" high curb with stainless steel flashing.
- 7.16.7 The exhaust fans installed by the Tenant on the roof, and the fan assembly shall be hinged above the roof-flashing curb to allow for easy access for grease duct cleaning. Penetrations through the roof structure and the Base Building roofing may be required to be performed by the Base Building contractor at the Tenant's expense, as well as construction of roof curbs and flashing to curbs.
- 7.16.8 The ductwork system shall be constructed of 18-gauge stainless steel and provide adequate access for cleaning and be grease (and liquid) tight via external welds or brazes. Where at all possible, grease exhaust ducts should be routed vertically to the roof with minimal offsets and turns to minimize pressure losses.

- 7.16.9 Where natural gas appliances are used, the fire suppression system shall shut down the gas line serving the protected equipment.

7.17 STORAGE

Tenant supplies shall be stored on appropriate racks or in cabinets within the Tenant's leased premises. All paper goods and supplies are to be stored in areas not visible to the public. Tenant is required to provide for interim, used cooking oil storage within leased premises.

7.18 FURNITURE, FIXTURES and EQUIPMENT STANDARDS

All proposed furniture, fixtures and equipment (FF&E) shall be new and of commercial grade for applications subjected to high traffic, high capacity demands. No FF&E items shall be installed unless clearly identified within the approved Contract Documents.

Tables and Chairs

Tabletops are to be made of a durable and cleanable surface, such as a solid surface natural stone, stainless steel or wood protected with a commercial grade finish. Stainless steel surfaces must have corner details that are beveled, rounded or chamfered to eliminate the possibility of sharp edges that could catch clothing or bags. Table bases shall be self leveling and of a suitable scale and construction to provide stability and durability.

Tenant is to pay particular attention to the construction of the chairs to ensure they do not create an unacceptable noise condition when sliding over the floor surface. Upholstery, where used, should be limited to banquette or bench style seating and be easily maintained, commercial grade fabric or vinyl. Furnishings shall be provided to meet ADA requirements.

Water Systems

Domestic cold water lines are provided by the Authority capped in the vicinity of each food and beverage location. Hot water (140 degree) is not provided by the Authority and is the responsibility of the Tenant. Hot water tanks or instantaneous hot water heaters are acceptable and shall be sized to suit the application and comply with all health and safety regulations. If suspended water heaters are not to be located above electrical panels. Water filtration and treatment is the responsibility of the Tenant and shall be provided for all food and beverage locations including remote food prep areas.

Refrigeration & Display Cases

Tenant shall supply refrigerated display units with heated evaporator pans. Please note the City of San Diego does not allow heated evaporation pans for walk-in refrigeration units. Display cases shall not be taller than 4'-8" above finished floor and must be illuminated and vented. All refrigerated display units must be recessed or otherwise fully integrated into the architectural design. Only the open display or merchandise area shall be exposed.

No food preparation or display cases are allowed within 24" of the neutral pier and within 18" of the finished floor. Prefabricated display cases on countertops are not allowed.

Beverage Dispensing Stations

Beverage stations must be incorporated behind the Tenant counter or screened from public view at the front counter, with exception of beer dispensers at bar locations. Beverage dispensing units with remote equipment must have all connections between any remote equipment and the beverage station run in conduit. Locations of all remote equipment including controls are to be clearly identified on the contract drawings. Location of floor penetrations if required to access remote beverage equipment must be reviewed and approved by the Authority in advance and properly sealed to prevent leaks. Refer to Section 4.6 Building Penetrations.

Trash & Recycling

Tenant is to provide an appropriate number of trash receptacles to maintain a clean and neat environment. Free standing trash bins are not allowed in public view. All integrated trash bins shall have openings sized to conceal trash within. Trash and recycling receptacles for customer use will be provided in the terminal dining coves.



08 TECHNICAL DESIGN STANDARDS

8.1 OBJECTIVES

The Technical Design Standards are general in nature and do not address every type of condition or detail the Tenant will encounter. The Tenant shall develop an on-going review process during the early design stages with the Authority to determine specific design criteria and conditions which are acceptable to the Authority. Reference Section 13 Additional Authority Resources – Facilities Criteria Document (FCD) for building component and system standards. Inferior design or poor construction are unacceptable and will be required to be corrected at Tenant's expense.

It is imperative the Tenant develops a full understanding of the Base Building provisions (i.e. mechanical, electrical, fire protections, etc.) prior to commencing design to determine whether or not the services are adequate. The Authority does not guarantee that all tie-in points will be within the Tenant's leased premises.

8.2 BASE BUILDING CONDITIONS

The latest available construction documents for Authority projects shall establish the baseline for Base Building services to be provided to each of the Tenant's leased premises. As such, the Authority will provide the Tenant access to all relevant and appropriate Base Building construction documents upon request by the Tenant. The following is a general summary of the Base Building conditions and the systems provided:

Floors

Bare concrete deck, no finishes and no sealer, will be provided. The floor of the Tenant premises may be recessed as much as one inch in relation to the Base Building finished floor elevation. The Tenant shall refer to the Base Building construction documents for transition details and locations. The Tenant is responsible to bring their floor finish to meet Base Building flooring in a flush condition per completed as built conditions of Base Building construction.

Walls

Metal stud exposed interior demising walls (6", 18ga, 16" on center) will be provided to demark the Tenant leased premises. Gypsum board will be provided on exterior of Tenant premises only, no gypsum board will be provided on the inside of Tenant premises. Walls are not designed to be load bearing. The Tenant is responsible to engage a structural engineer to assess the reinforcement required to address structural loads.

Ceiling

No ceiling will be provided; i.e. structure is exposed. The structural steel is fireproofed and disturbance or removal of the fire proofing during Tenant construction must be replaced by the Tenant immediately following its being disturbed or removed and must match the surrounding fireproofing thickness. Failure to properly replace existing fire proofing in a timely manner may result in the Authority replacing the fire proofing at the Tenant's expense.

HVAC

Supply and return ducts will be stubbed into or adjacent to each space. No make-up air or exhaust ducts are provided for food and beverage spaces but "right-of-way routes" are provided to the roof. These routes must be coordinated with the Authority in advance of any construction. In some locations the routes for exhaust and make-up air may reduce the Tenant ceiling heights especially in kitchen areas to as low as 8'-0" AFF to work around Base Building ductwork. Supply and return hydronic chilled and hot water lines for Tenant VAV boxes will be stubbed into or adjacent to the Tenant premises.

HVAC Controls

Thermostats for the control of Tenant VAV boxes shall be provided by the Tenant. The Tenant is required to use the Base Building HVAC controls contractor for systems controls and programming.

Fire Sprinklers

In all locations except Terminal 1, the Authority has provided standard upturned code minimum sprinkler head layout for all Tenant leased premises. The Tenant is responsible to modify sprinklers for the build-out of their space and to meet fire sprinkler requirements for the occupancy they are constructing. Additionally, the Tenant is solely responsible for the exhaust hood fire suppression system and any special fire suppression systems required based upon the Tenant's design.

Fire Alarm

The Authority has provided an empty raceway from the local Base Building Fire Alarm Control Panel to a junction box located within or adjacent to the Tenant's leased premises. The Fire Alarm Control Panel will have adequate fire alarm points to provide three strobes and one audio alarm for each Tenant premises. Any Tenant requiring additional fire alarm points within the system based upon the requirements of the Tenant design shall coordinate the specific system requirements with the Authority during the design review process.

Electrical

One empty 3" or 4" conduit, depending on location, is brought within or adjacent to each Tenant leased premises from the nearest Base Building concession distribution panel. A space is provided at the concession distribution panel for each premises based upon its programmed use. The Tenant supplies the electrical panel within their space and all conductors (wire) from the designated concession distribution panel. The Tenant shall furnish and install an electrical meter at the concession distribution panel and test and verify that the meter is functional and is reporting to the Base Building monitoring system. In general the Authority provides 120/208 volt, 3-phase, 4-wire electrical service. However, in some locations the electrical service to the Tenant premises is 480 volt, 3-phase, 4-wire. The Tenant is responsible to confirm the size and type of service provided and shall provide a transformer located within their leased premises to modify the service to 120/208 volt.

Plumbing

For food and beverage spaces, stub outs for plumbing are provided adjacent to or within Tenant premises. The Tenant shall confirm the plumbing pipe sizes are adequate to meet its needs. Any additional plumbing requirements in excess of what is provided will be the responsibility of the Tenant. The Tenant shall provide all branch plumbing lines complete with plumbing fixtures required based upon the Tenant's design.

Domestic water lines are brought to a location within or under the Tenant's leased premises. 140-degree hot water is not provided by the Base Building. This higher temperature water is the responsibility of the Tenant and equipment must be located within the Tenant's leased premises. The Tenant shall furnish and install a water meter and test and verify the meter is functioning properly and is reporting to the Base Building energy management system.

Sanitary

Sanitary waste sewer lines are stubbed below or adjacent to each food and beverage Tenant premises on the elevated floors or under the slab for level one slab on grade spaces. The Tenant shall saw cut the concrete slab on grade to extend the sanitary sewer to the point within their space they wish to locate their sanitary connection. All floor slabs are required to be screened using ground sensing radar prior to saw cutting. Refer to Section 4.6 Building Penetrations.

Grease Interceptors

Grease interceptors are provided by the Authority external to the terminal building and all food and beverage facilities will be required to connect to a grease interceptor. A grease waste line is provided within or adjacent to each food and beverage space. The Tenant is not allowed to install grease traps within the Tenant premises.

Gas

5-PSI natural gas is stubbed within or adjacent to only those proposed food and beverage spaces that have been programmed to have a "cooking kitchen". No natural gas is provided to concession storage spaces, retail concession spaces or food and beverage spaces not programmed as having a cooking

kitchen. The Tenant will provide a regulator, meter, and regulator vent through the roof. The Tenant shall contract with the Authority contractor for penetration of roof and construction of curb and roof flashing at the Tenant's expense. The Tenant shall furnish and install a mini gas meter and test and verify that the meter is functional and is reporting to the Base Building BMCS.

Telecommunications

One empty 2" data conduit will be stubbed into or adjacent each Tenant premises from a Base Building telecommunication room. A third party provider will provide internet connection, telecommunications connection and cable TV connection to the Tenant premises.

8.3 STRUCTURAL

The Structural Design Criteria provide the technical criteria required to ensure Tenant structural loads imposed on a temporary or permanent basis do not exceed the structural capacity of the building. Any modifications to the Base Building structure must be reviewed by the Authority.

Design Loads

The Tenant shall retain the services of a professional structural engineer to analyze loads imposed by the Tenant on the Base Building structural system. The following design loads are for reference only. The Tenant is responsible for confirming Base Building structural capacity.

- Structural Floor 100 lbs/sq. ft.
- Slab on Grade 250 lbs/sq. ft.
- Roof 20 lbs/sq ft.

Modifications to Base Building Structure

If the Tenant deems it necessary to modify the Base Building structural system in order to accommodate their design requirements, the Tenant shall submit a request in writing to the Authority for review. The Tenant will be responsible for retaining the services of a structural engineer to produce the work inclusive of required City permits and approvals.

Storefronts

Each design requires complete engineering plans and specifications clearly defining the details required for proper installation and performance. This includes, but is not limited to, head, jamb, sill and corner conditions showing all typical attachments to the Base Building structure. Storefronts shall be self-supporting between structural supports and shall be capable of accepting all live loads, dead loads, and seismic loads imposed and transfer all loads into the Base Building structure. The storefront may be braced by the existing Base Building structure, however, no penetrations are allowed and all structural connections must be developed by a professional structural engineer.

Heavy Equipment and Overhead Supports

Installation of heavy equipment of any kind is not permitted without prior consultation with a professional structural engineer and subsequent Authority review. All overhead equipment or systems to be supported from above shall be designed by a structural engineer. Attachments to structure shall be designed to work with the respective Base Building structural system.

Tenant is to use Base Building structural steel frame with no attachments to the underside of the concrete slab or deck. For concrete structural systems the engineer shall design supports as required for Authority review. The Tenant is responsible to coordinate-the transporting of heavy equipment through SDIA spaces and to provide a travel path and plan. Tenant shall verify and confirm transport through SDIA terminals and concourses to final destination including weight of equipment and materials, as well as confirm existing structural capacities are adequate to carry such loads. Refer to Section 11.10 Authority Contractor Cooperation & Coordination.

Core Drilling, Cutting, and Penetrations

Refer to Building Penetrations 4.6

Roof Mounted Equipment

The Tenant's structural engineer shall analyze the load imposed by any required new roof mounted equipment on the existing Base Building structural system. The Tenant shall provide roof structural reinforcement, roof opening framing and support curbs required for all new roof mounted equipment. Review by the Authority is required for all roof mounted equipment.

Roofing System and Access

The Tenant may access roof mounted equipment via existing roof walkway pads from Authority provided roof access points. Tenants must provide roof walkway pad extensions from existing Base Building roof walkway pads to all Tenant provided roof top equipment. All roof modifications must be in compliance with the Base Building roof system. To maintain existing roof warranties the Tenant is required use the Base Building roofing contractor to modify any portion of the roofing system at the Tenant's expense.

Seismic Connections and Expansion Joints

Tenant is to ensure that all work is designed to accommodate and protect for seismic events. Requirements include but are not limited to the seismic detailing for ceilings, walls, floors, utilities (joints, connections, auto and manual shut-offs), plumbing, casework and components in the project.

8.4 MECHANICAL

The objective of the Mechanical Design Criteria is to provide the Tenant with the technical criteria required to ensure the installation of Heating Ventilation and Air Conditioning (HVAC) equipment, plumbing, gas, sanitary, fire protection systems, and all mechanical systems including any miscellaneous heat producing appliances within the Tenant's leased premises or other leased support premises conform to the requirements as specified herein.

All work in this section shall meet all Authority standards and all governing local and state ordinances and regulations, including but not limited to:

- Applicable Safety Orders of The State of California
- California building Code
- California Code of Regulations Title 24
- California Mechanical Code
- California Plumbing Code
- California Fire Protection Code
- California OSHA
- California Environmental Quality Act (CEQA)
- San Diego County Department of Environmental Health (DEH)
- National Fire Protection Association (NFPA)
- ASHRAE Guide
- SMACNA/ANSI HVAC Duct Construction Standards
- SMACNA Seismic Restraint Manual- Guidelines For Mechanical Systems

All mechanical design data such as ultimate heating and cooling, water, gas and power demand shall be indicated on plans submitted for review, including all appropriate and completed calculations and data required for determination of compliance with the California Code of Regulations Title 24.

Local Conditions

The Tenant must field verify the site location and confirm availability and capacity of all mechanical, plumbing, and fire protection systems. The Tenant shall become familiar with existing local and as built conditions affecting their work, such as obstructions, level changes and any necessary cutting or penetrations prior to the start of the design.

Base Building - HVAC System

The Authority has provided a central HVAC distribution system utilizing multiple rooftop mounted air handlers and will provide information and data regarding the Base Building HVAC system. The Tenant shall confirm the Base Building HVAC capacity provided for each leased premises. Any additional HVAC

requirements beyond the capacity provided by the Authority shall be provided by the Tenant at its sole expense. The Base Building HVAC systems have generally been designed to the following criteria:

- Heating: Winter inside comfort design temperature 75°F
- Cooling: Summer inside comfort design temperature 75°F
- Outside Air: Per ASHRAE Handbook of Fundamentals
- Chilled Water Differential: Coils should be design for 20°F temperature
- Food and Beverage Supply Air Maximum supply air to conditioned areas 2.5 cfm/sf.
- Retail Supply Air Maximum supply air to conditioned areas 1 .5 cfm/sf.

In some areas of the terminal, Base Building HVAC ductwork will be in the plenum space inside the Tenant premises. This condition is the case in the T2W Sunset Cove concession core adjacent to the atrium. The Base Building HVAC traverses through the food and beverage and retail plenum space to provide supply and return air to the atrium. Tenant ductwork shall be installed below the Base Building ductwork in these locations. Hangers to support Tenant architectural, mechanical, plumbing and electrical elements shall be designed around the overhead Base Building ductwork.

HVAC Control System

The Authority has installed a Building Management and Control System (BMCS) for the SDIA and will provide a point of connection to this system within or adjacent to the Tenant's premises. Tenant shall supply all sensor input and output devices as required for the mechanical system design, and per the Authority's proprietary specification for HVAC system controls. The Tenant is required to use the Authority's HVAC control system contractor for connections to the system and programming at the Tenant's expense.

Authority HVAC System Maintenance

The Authority maintains the entire HVAC system at SDIA. The Tenant connects to the Base Building system for the supply and control of conditioned air within their space. As such the Tenant is required to install HVAC equipment that is compatible with the Authority's proprietary system specifications. The Authority's Facility Management Department (FMD) maintains the HVAC system including devices installed by the Tenant within the Tenant premises. FMD does not maintain Tenant specific stand alone systems such as hood exhaust, makeup air, and refrigeration systems.

Tenant Responsibilities

The Tenant will engineer the HVAC system to serve the Tenant's premises complete with ducted supply and plenum return air. Food and beverage facilities shall have ducted returns. It is essential the Tenant's mechanical engineer be completely familiar with the central HVAC system within the terminal and all requirements pertaining to the system.

All construction documents and specifications shall be developed by the Tenant and reflect a complete and fully engineered system. The installing contractor may perform certain engineering tasks, such as the fire protection, but the Tenant is responsible for the total overall design. If the Tenant requires modification or extension of any Base Building HVAC system they shall be completed in accordance with requirements as outlined herein. Mechanical system modifications requiring shutdown of other portions of the mechanical systems or work within the Authority's mechanical rooms shall be coordinated in advance with the Authority's TIP Construction Inspector and performed under Authority supervision.

The design and construction of the Tenant's mechanical HVAC system shall include but is not be limited to the following:

- 8.4.1 The HVAC system shall include all equipment, ducts, diffusers, insulation, controls, smoke and fire system components, final electrical connections and appurtenances as required for the operation of the system.
- 8.4.2 The HVAC system and its component parts shall operate without objectionable noise or vibration within occupied spaces. Noise levels shall not be above the recommended Noise Criterion (NC) as identified in Section 2.11 Sound Transmission Design Criteria.

- 8.4.3 The HVAC system shall include smoke control and fire alarm system components compatible with the Authority's Base Building fire alarm system. The Authority fire alarm system contractor is required to make all connections and provide programming at these systems at the Tenant's expense.
- 8.4.4 The HVAC system shall include automatic temperature control components compatible with the existing Authority's HVAC control system. The Authority HVAC control system contractor is required to make all connections and programming to this system at Tenant expense.
- 8.4.5 The HVAC air distribution system shall consist of Variable Air Volume (VAV) terminal units with heating and cooling capability, electronic digital system interface and thermostat for connection to medium pressure supply ducts. Tenant supplied ducting shall be rigid with the exception of a 6'-0" Flex duct will be allowed at diffuser connections. Details shall be provided for VAV unit and controls, ductwork mounting and installation including suspension system from the terminal's structural steel roof structure and seismic bracing.
- 8.4.6 All mechanical systems shall be designed to maintain adequate access and clearances to existing equipment and shall not create interference with the operations of existing equipment.
- 8.4.7 No openings for fans, outside air intakes, vents, louvers, grilles or other devices will be installed in any demising partitions, exterior walls or roof without the Authority's review. All penetrations through exterior walls and roof structure must strictly comply with the requirements as outlined herein to maintain roof warranty.
- 8.4.8 Powder actuated fasteners are not permitted.
- 8.4.9 All interior piping and ductwork shall be supported independently from structure. Support of piping and ductwork from other piping or ductwork is not permitted.
- 8.4.10 Roof mounted Tenant equipment shall be curb mounted.
- 8.4.11 If the ceiling is used as a return air plenum all equipment, pipe, conduit, conductors, and other building materials shall be plenum rated. Food and beverage facilities shall use ducted returns.
- 8.4.12 Negative air pressure must be maintained in kitchens to prevent odors from leaving the space. Objectionable odors will be exhausted in such manner as to prevent their release in the terminal or short-circuiting into any fresh air vents.
- 8.4.13 Elevations must be submitted showing any exterior devices including louvers to be installed for exhaust and make-up air units, including exhaust fans.
- 8.4.14 All mechanical equipment shall be U.L. listed and rated. Air handling equipment shall be certified for performance by a nationally recognized testing agency.
- 8.4.15 No fiberglass ductwork shall be permitted. All ductwork shall be steel, aluminum, stainless steel or metallic alloys suitable for intended use.
- 8.4.16 Flexible ductwork shall be wire type with factory installed collars. Minimum standard length 3'-6" is preferred to 7'-0" maximum standard length. Field altered flexible duct is prohibited. Installation shall be free of tight bends or kinks supported with one and a half inch 1-1/2" minimum hanger strap; and shall be used for connection to diffusers and registers or for terminal boxes when rated for appropriate duct pressure classification.
- 8.4.17 Ductwork drops to ceiling diffusers or registers when greater than 6'-0" in length shall have independent hanger supports to structure above and elbows shall be strapped for continuity. Lateral bracing for drops greater than 6'-0" shall be required.

- 8.4.18 Ductwork hangers shall be galvanized metal strap or minimum 3/8" diameter steel rod trapeze arrangement per "SMACNA" standards. Ductwork may not be hung or braced with wire. All ductwork shall be seismically braced, regardless of size, for lateral, longitudinal and uplift movement. The minimum bracing material shall be 2" x 2," 16 gauge galvanized steel angle, de-burred to remove sharp edges from shearing. Subsequent bracing requirements shall be per "SMACNA Seismic Restraint Guidelines" latest version.
- 8.4.19 The use of aircraft cables for seismic restraint of ductwork is prohibited. For equipment that requires noise and vibration isolation, a nationally approved seismic restraint system, which may consist of aircraft cables, is permitted only if proper cable displacement angles are met as required by SMACNA or other nationally recognized standards.
- 8.4.20 Roof mounted kitchen exhaust fans shall not be located within 15 feet of a make-up air unit or 20 feet from a fresh air intake. For exhaust fans, make-up air units, refrigeration condensers, and other Tenant equipment located on the roof the Tenant shall provide engineered drawings and calculations plus all structural reinforcement design documents to support their roof top equipment loads. The calculations may be reviewed by the Authority and the Base Building structural engineer if needed.

Plumbing, Gas, Fire Protection Criteria

The Plumbing, Gas, and Fire Protection criteria provides the technical criteria required to ensure the design and installation of all plumbing including hot and cold domestic water, sanitary sewer, waste and vent, grease waste, and natural gas within the Tenant's leased premises or other leased support premises conform to Authority standards. Work shall meet all requirements of the Authority and the authorities having jurisdiction.

Base Building - Plumbing, Gas, Fire Protection Systems

The Authority provides valved and capped domestic water, gas, sanitary sewer connections with vent and grease waste connections for all food and beverage. These lines will be brought to a location within or adjacent to the Tenant's leased premises. The exact locations of these stub outs is to be confirmed by the Tenant, however, shall be within fifty feet (50'-0") of Tenant's premises. Where required the Authority will provide upturned fire sprinkler heads within the Tenant premises with an isolation valve.

Tenant Responsibilities

The design and construction of the plumbing, gas, and fire protection systems shall include but is not limited to the following:

- 8.4.21 Tenant is to furnish and install all piping, fittings, valves, and associated components to accommodate the Tenant's design. Plumbing system modifications requiring "wet taps" shall be coordinated in advance with the Authority TIP Construction Inspector and the Authority contractor where appropriate. Work must be performed during the hours dictated and under the supervision of the Authority.
- 8.4.22 Tenant shall include within the Contract Documents a plumbing schedule with fixture connections sizes and fixture unit demands.
- 8.4.23 Tenant is required to provide an E-Mon-D-Mon water meter on the primary water supply lines immediately after entering the space. Meter must be mounted in an accessible location, maximum 5'-6" AFF. Tenant must provide a letter certifying the E-Mon-D-Mon water meter is properly installed and functioning prior to substantial completion.
- 8.4.24 Tenant is required to provide back flow preventer on main cold water service connection.
- 8.4.25 Toilet rooms are not permitted in concession spaces, unless specifically required by authority having jurisdiction.

- 8.4.26 No plastic pipe is allowed except for waste lines below grade. Food and beverage plumbing waste shall use grease waste lines. No grease shall be allowed into the Base Building plumbing systems.
- 8.4.27 The Tenant shall connect sanitary drainage piping to the provided stub out. Sanitary sewer lines, which may experience condensation, are to be fully wrapped with insulation (except at slab on grade locations) to prevent pipe condensation from dripping on other leased premises. The routing of piping shall not occur over CTX equipment.
- 8.4.28 Domestic hot water if provided by the Authority is provided at approximately 105 degrees. Tenant is responsible to provide equipment necessary to increase the water temperature as required for the food prep, kitchen and other support premises. Water heaters shall be electric and should not be mounted above ceilings. The Tenant is encouraged to install water heaters above mop sinks where practical.
- 8.4.29 Tenant is required to provide an E-Mon-D-Mon gas meter of sufficient capacity for intended use on the primary gas supply line immediately after entering the space. Meter must be mounted in an accessible location, maximum 5'-6" AFF. Tenant shall provide a letter certifying the E-Mon-D-Mon water meter is properly installed and functioning prior to substantial completion.
- 8.4.30 Gas meter shall be provided with a pressure regulator sized per equipment. Gas vent piping from gas appliances, and gas regulators, including gas vents must vent through the roof.
- 8.4.31 Gas piping within the Tenants premises will be required to be welded labeled and tested.
- 8.4.32 The Tenant will route grease waste from the kitchen dishwashers, pot sinks and other fixtures and equipment with waste effluent containing suspended grease particles to the grease waste stub out provided.
- 8.4.33 The Authority will provide and service a grease interceptor. Grease traps located within the Tenant's premises are not allowed. The horizontal waste lines shall be slopped at 1/4" per foot and a minimum of 4" diameter.
- 8.4.34 Modifications required for Tenant's refrigeration equipment including refrigerant and drain lines, plumbing, and floor drains, will be at Tenant expense. Remote condenser units shall be located outside of the building or in an area designated by the Authority.
- 8.4.35 Cutting and patching to be performed as required to return finishes to their original condition. Welding or torch-cutting must be under the direct supervision of the Authority's Construction Inspector. The Tenant must notify the Authority's TIP Construction Inspector and obtain a written "hot work permit" 24 hours prior to welding or torch cutting.
- 8.4.36 Where required the Tenant shall install a complete fire sprinkler system designed by a fire protection engineer licensed in the State of California.
- 8.4.37 Fire sprinkler system shall be fully engineered and supported by hydraulic calculations. The fire sprinkler contract documents shall include complete calculations along with the location of all valves, piping, and sprinkler heads.
- 8.4.38 The fire protection engineer is required to obtain flow test data, satisfactory to the authority having jurisdiction. The drawings and hydraulic calculations must include the site of the flow test, and the date and time the test was conducted. The calculations must be taken to the point of the actual water flow test.
- 8.4.39 The Tenant is required to certify the exact sprinkler indicated on the contract documents and hydraulic calculations is the sprinkler installed on the job site. There are numerous sprinklers

available, each with a unique set of design criteria, flow pressure requirements, spacing requirements and specific obstruction rules. Installing the wrong sprinkler invalidates the hydraulic calculations and could put the building at risk.

- 8.4.40 The Tenant shall coordinate with the Authority TIP Construction Inspector and Authority contractor where appropriate to isolate the effected sprinkler system zone valve so the piping may be drained prior to the installation of new fire sprinkler system.

Mechanical Systems - Work Sequence, Coordination and Installation

Tenant shall develop construction documents so all work is furnished and installed in logical sequence and performed in an expeditious manner for efficient flow of work. Particular attention is to be given to the positioning of large equipment items and tie-ins to existing systems that will require system shutdowns. Progress of mechanical work shall be coordinated by the Tenant contractor with all other trades, the Authority contractor where required, and all concurrent construction.

Tenant must verify all site conditions and dimensions by field measurements, and review of Base Building contract documents for work in progress. Chases, slots, openings, and Authority designated "Right of Way Routes" shall be verified and the mechanical system designed to allow for installation. When mounting heights are not specifically detailed or dimensioned, systems, materials, and equipment are to be installed so as to provide the maximum headroom possible with minimum headroom of 9'-0" typical or 8'-6" at kitchen and back of house areas.

All systems that require periodic servicing or equipment replacement shall be readily accessible from the Tenant's premises. Mechanical equipment installations shall be designed and located to facilitate servicing, maintenance, and repair or replacement of equipment and components. Tenant is to coordinate the connection of mechanical systems with Base Building systems including exterior underground and utility services.

Mechanical systems, materials, and equipment installation must conform to Authority reviewed construction documents, and submittal data. Where coordination requirements conflict with individual system requirements, conflicts are to be resolved by the Tenant in coordination with the Authority. Systems, materials, and equipment are to be designed to be level and plumb, parallel and perpendicular to building coordinates, systems and components.

Equipment shall be designed and installed for ease of disconnection, with minimum interference with other installations. Grease fittings are to be extended to an accessible location. Access panel or doors are required where units are concealed behind finished surfaces. Systems, materials, and equipment are to be installed to provide right-of-way priority to piping systems, which are required to be installed at a specific slope and those that are most costly to install.

Tenant is required to provide exhaust and make up air as required for the proper operation of the mechanical systems. All roof top equipment shall be installed by the Tenant meeting all requirements as outlined herein using the Base Building roofing contractor as required to maintain roof system warranty and at Tenant's expense.

Upon the completion of the project, the Tenant shall air balance the space and provide a certified air balance report to the Authority. The Authority's certificate of substantial completion and beneficial occupancy will not be issued until the balancing of the system can be completed to the satisfaction of the Authority. The air system balance shall be performed by contractors that are certified by the American Air Balance Council (AABC) or the National Environmental Balancing Bureau (NEBB). Air distribution systems shall be balanced for specific design flow rates and system static pressure.

Final Observation & Inspection

Prior to final observation by the Authority, all Work under the contract shall be completed and all systems shall be in proper working order and placed in operation. The HVAC system shall be properly balanced with quantities indicated on the record drawings.

The Tenant temperature control system shall be connected to the Base Building BMCS and be in proper working order. All Tenant refrigeration systems and equipment are to be running and in proper working order. All instruments shall be properly and accurately field calibrated.

At the request of the TIP Program Manager, a representative of the contractor who is thoroughly familiar with the project and operation of the various systems shall be present during the final observation to demonstrate proper operation of the equipment and controls.

8.5 ELECTRICAL

The Electrical Design Criteria provides the technical criteria required to ensure the design and installation of the electrical, fire alarm, and telecommunication systems and equipment within the Tenant leased premises or other leased support premises conforms to Authority standards.

All work shall meet the requirements of the SDIA Design & Construction Standards and the current version of the National Electrical Code, NFPA, and all governing local and state codes, ordinances and regulations. Including but not limited to the following:

- 8.5.1 Applicable Safety Orders of The State of California
- 8.5.2 California Building Code
- 8.5.3 California Electric Code
- 8.5.4 California Code of Regulations Title 24
- 8.5.5 California OSHA
- 8.5.6 National Fire Protection Association (NFPA)

All electrical design data such as ultimate power and lighting loads shall be indicated on construction documents submitted for Authority review, including calculations and data required for determination of compliance with the California Code of Regulations Title 24.

Base Building – Electrical System

The Authority has provided a Concessions Distribution Panel and a multi-meter unit (MMU) cabinet to meet the electrical service requirements. The Tenant shall confirm the amount and extent of electrical capacity provided is adequate. Additional electrical requirements beyond the capacity provided by the Authority shall be provided at the Tenant's expense. The Authority will provide the Tenant such information and data as it has available regarding the Base Building electrical systems. Tenant is required to provide and install an E-Mon-D-Mon meter at the MMU and provide a letter certifying the meter is properly installed and operational prior to substantial completion.

Base Building electrical systems have been designed to the following maximum demand loads and electrical service voltages:

- | | |
|-----------------------------------|---------------------------|
| • Food and Beverage | 100 W /sf |
| • Retail and Service Tenants | 25 W/sf |
| • T2W-TDP Electrical Service | 480/277v, 3-phase, 4-wire |
| • T2E, T1, CT, Electrical Service | 120/208V, 3-phase, 4-wire |

Local Conditions

The Tenant must field verify the site location and availability of existing electrical systems and the building structure. Prior to the initiation of the design, the Tenant shall examine site premises and utilities to become familiar with existing local conditions affecting work, such as obstructions, level changes, necessary cutting, and possible interferences inhibiting the installation of the electrical systems or the routing of

services for the system. In addition Tenant must review Base Building contract documents for work in progress which may affect Tenant's design.

Tenant Responsibilities

The Tenant shall provide a fully engineered and complete electrical system to meet the requirements of the Tenant design. It is essential that the electrical engineer be completely familiar with the Authority's electrical distribution system and all requirements pertaining to that system. If the Tenant's operations require modifications or extensions of any Base Building electrical equipment or system components they shall be completed in accordance with requirements as outlined herein and at the Tenant's expense. Electrical system modifications requiring shutdown of other portions of the building's electrical systems or work within the Authority's electrical rooms shall be coordinated in advance with the Authority's TIP Construction Inspector and performed under Authority supervision.

The design and construction of the electrical system shall include but may not necessarily be limited to:

- 8.5.7 Each Tenant will be given a space within a Concessions Distribution Panel and a corresponding meter socket in an adjacent MMU cabinet.
- 8.5.8 The Tenant shall furnish and install all electrical work required for and within the Tenant premises, including an E-Mon-D-Mon Class 3000 electrical meter, all connections at the MMU cabinet, feeder conductors to the Tenant's electrical panel and associated branch circuit wiring, devices, equipment connections and lighting.
- 8.5.9 The distance to the Concessions Electrical Distribution Panel varies. Tenant is responsible to confirm location and coordinate all access and connections for permanent power with the Authority TIP Construction Inspector and Authority contractor where required.
- 8.5.10 Electrical system modifications that require a shutdown of other portions of the electrical system shall be done after hours and must be coordinated with and in advance by the Authority TIP Construction Inspector.
- 8.5.11 The Tenant must conduct a demand load analysis and a short circuit study on the electrical system, and furnish and install properly sized breakers certified by the manufacturer. Tenant must provide a balanced electrical load in all three phases of the distribution system to within 5%.
- 8.5.12 The Tenant shall ensure all wiring for lighting, power, fire alarm, telephone, data, television, and low-tension systems within walls and ceiling plenum is installed in metal conduit, metal raceways, or cable trays. No exposed wiring is allowed, and a minimum of 3/4" conduit shall be used.
- 8.5.13 Tenants within the T2W will be required to provide a transformer within their leased premises to step down to 120/208 voltage. Transformer is to be pad mounted on the floor within the Tenant premises with proper seismic anchoring and vibration isolation. The Authority may consider allowing Tenant to suspended transformers from structure on a case-by-case basis. Transformers to be sized per the tenant electrical load and shall have copper windings, aluminum is not allowed.
- 8.5.14 Tenant shall be responsible for all labor, materials, equipment and related services necessary to furnish, install and connect temporary lighting and power.
- 8.5.15 Tenant shall provide all emergency egress lighting required by the authority having jurisdiction. Base Building emergency power is not available for Tenant use. Battery powered emergency egress lighting shall be integral to the lighting fixture. Surface mounted emergency fixtures are not allowed.

8.6 FIRE ALARM

The Fire Alarm Design Criteria provides the technical standards required to ensure the design and installation of the fire alarm system and equipment within the Tenant's leased premises or other leased support premises conform to Authority standards.

The design and construction of the fire alarm system shall include but may not necessarily be limited to the following:

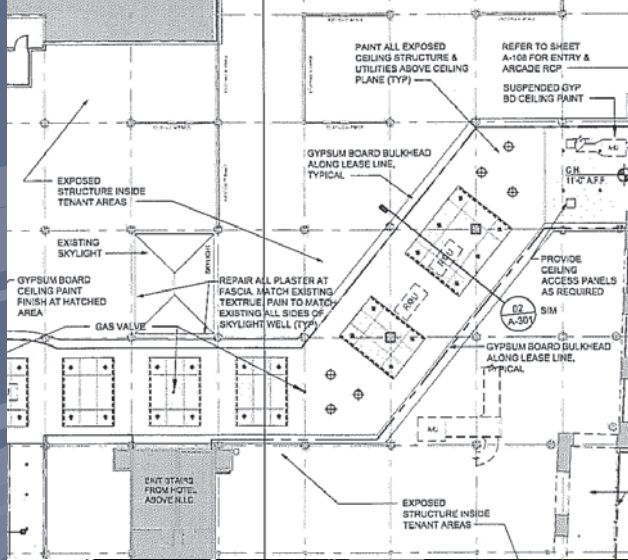
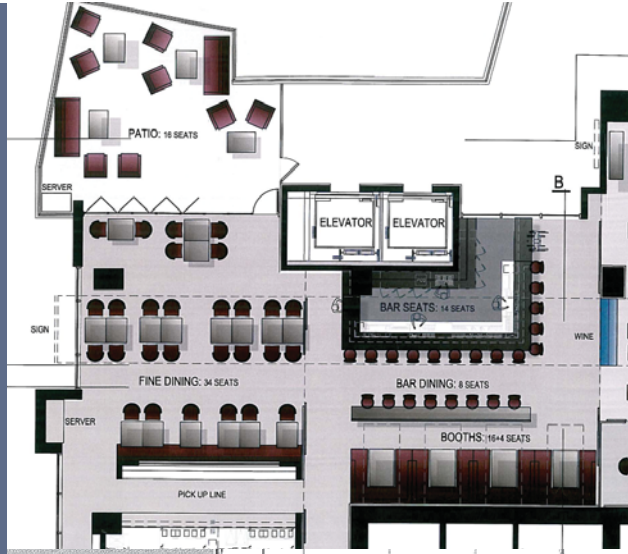
- 8.6.1 The Tenant is required to provide a fully engineered fire alarm system including plans and specifications. Fire alarm plans must indicate location and mounting for all pull stations, horns, strobes, smoke detectors, and connections for kitchen equipment, HVAC duct detectors and smoke dampers where required.
- 8.6.2 The fire alarm plans are to be submitted to the Authority as part of the design review process. Deferred submittals for the fire alarm system and equipment are not allowed.
- 8.6.3 The Tenant is required to use the Authority fire alarm contractor for connections to the system and programming at the fire alarm panel. All devices are required to meet Authority Base Building fire alarm system specifications and standards.

8.7 TELECOMMUNICATIONS

The Telecommunications Design Criteria provides the technical criteria required to ensure the design and installation of the telecommunications systems and equipment within the Tenant leased premises or other leased support premises conform to Authority standards.

The Authority is in the process of updating and expanding the Base Building telecommunications systems with the intent of providing the Tenant with greater range and flexibility of services. The new system will provide each Tenant with access to telephone, cable TV, and internet services from a local telecommunications closet. It is anticipated the telecommunications closets within each terminal will be connected with a fiber optic backbone.

- 8.7.1 The Tenant is required to provide a fully designed telecommunications system including plans and specifications. The telecommunications plans shall indicate location and mounting for all telephone, data and cable outlets within the space.
- 8.7.2 No roof mounted satellite dishes will be allowed. Tenant shall coordinate service requirements and connections with the Authority early in the design process.



09 DESIGN REVIEW & SUBMITTAL PROCESS

9.1 OBJECTIVES

The Authority requires all Tenant improvement projects to be submitted for design review prior to the start of construction. The Authority has established a standardized four-phase design review process to ensure Tenant designs comply with all Authority standards. These phases are briefly outlined below:

9.2 PRE-DESIGN ORIENTATION MEETING

The Pre-Design Orientation is an opportunity for the Tenant and its representatives to meet with the Authority to discuss the proposed project and to clarify the design review process and submittal requirements. The intent is to streamline and expedite the design review process and to address any design or compliance issues prior to proceeding with the design. Following the pre-design meeting the Authority will review the Tenant's conceptual design and provide written comments on the intended layout and use of space.

9.3 SCHEMATIC DESIGN REVIEW – 35%

Refer to Section 9.6 Submittal Requirements

After the initial pre-design meeting, the Tenant analyzes the project based upon the requirements of the CDM and any project specific issues or requirements identified by the Authority. From these parameters the Tenant prepares a schematic design consisting of drawings, renderings, material boards and other documentation as required to accurately illustrate the scale and relationships of project components, including materials, furnishings, space planning, lighting, fixtures, displays, signage, graphics, equipment and systems.

At the completion of schematic design the Authority's Project Coordinator will schedule a meeting with the Authority's Architectural Review Team. The Tenant is required to provide an overview of the schematic design submittal including all materials and finishes proposed for the project. The architectural review team will review the schematic design for compliance with the Authority's design standards as outlined within this manual. Upon review and acceptance by the Authority of the schematic design documents and submittal of a preliminary cost estimate, temporary operations plan, and an updated project schedule submitted by the Tenant, this phase of service is complete.

9.4 DESIGN DEVELOPMENT REVIEW – 60%

Refer to Section 9.6 Submittal Requirements

The Design Development Review includes the preparation of more detailed construction drawings and other product and systems data relating to the premises appearance, millwork, storefronts, security grilles, furnishings, mechanical system extensions, electrical systems, plumbing fixtures and distribution, food service preparation equipment outline specifications, telecommunications systems, intercom systems, fire alarm system extensions, fire protection system extensions, construction materials and finishes, and other essential project components. The Tenant shall update the project cost estimate, temporary operations plan and the project milestone schedule and further refine the project delivery planning by considering accommodation for long lead procurement and fabrication items. Additionally the Tenant shall submit an updated finish material board and renderings if changed from schematic design. The design development review process is mandatory for complex tenant improvements; however, may be waived for less complex improvements at the sole discretion of the TIP Manager.

9.5 CONTRACT DOCUMENT REVIEW – 100%

This submittal must fully address all issues identified in the Authority's Design Review from previous submittals.

Refer to Sections 9.6 Submittal Requirements 9.7 A/E Construction Documents & Specifications

The Construction Document Review includes the preparation of contract construction documents, and technical specifications all describing in technical detail the construction contract scope of work to be performed. These contract documents shall include all Authority design, safety, security and construction

requirements. The Tenant shall coordinate these requirements with the Authority's Project Coordinator prior to the submission of the contract documents for Authority review. The Tenant additionally shall submit an updated construction schedule, temporary operations plan and a site logistics and project coordination plan.

The contract documents including but not limited to, construction drawings, reports, calculations, and specifications required for the proposed construction, must strictly adhere to requirements as outlined within the CDM and all previous design review comments from the Authority. When the Tenant has received approval from the Authority and all other applicable City and County agency approvals, this phase of the project is complete.

The Tenant is to submit plans that are 100% complete. Any submittal that is determined not to be 100% complete will be returned to the Tenant without review. Contract Documents must be stamped "Approved" or "Approved as Noted" prior to submitting for permits, bidding or letting a direct construction or procurement contract.

9.6 SUBMITTAL REQUIREMENTS

All Tenant submittals must be made to the TIP Manager at:

Tenant Improvement Program Manager

Aviation and Commercial Business Department
San Diego International SDIA
2320 Stillwater Rd.
San Diego, CA 92101
(619) 400-2585 Office
(619) 400-2576 Fax
TIP@san.org

Submittal Requirements

Unless otherwise waived or modified by the Authority, the Tenant must submit all drawings, specifications, renderings, material boards and other documents as required, within the timeframe specified, and in quantities as outlined:

Schematic Design- 35%

Include information as noted in Section 9.3 Schematic Design Review.

- 9.6.1 Completed TI Application Form
- 9.6.2 (8) Sets – Colored presentation drawings (11x17)
- 9.6.3 (8) Sets – Half size schematic design drawings
- 9.6.4 (2) Sets – Full size schematic design drawings
- 9.6.5 Finish material boards with no more than 2 samples per board 4" minimum sample (11x17)
- 9.6.6 Signage & graphics boards (11x17)
- 9.6.7 Transition/Temporary operations plan
- 9.6.8 Furniture, fixture & equipment plan with cut sheets keyed to plans
- 9.6.9 Queuing plan
- 9.6.10 Preliminary cost estimate

9.6.11 Milestone schedule

9.6.12 CD with PDFs of complete package

Design Development- 60%

Include information as noted in Section 9.4 Design Development Review.

9.6.13 (8) Sets – Updated colored presentation drawings (11x17)

9.6.14 (8) Sets – Half size design development drawings

9.6.15 (2) Sets – Full size design development drawings

9.6.16 Finish material boards with no more than 2 samples per board 4" minimum sample (11x17)

9.6.17 Signage & graphics boards (11 x 17)

9.6.18 Transition/Temporary operations plan

9.6.19 Site logistics and project coordination plan

9.6.20 Furniture, fixture & equipment plan with cut sheets keyed to plans

9.6.21 Queuing plan

9.6.22 Updated cost estimate

9.6.23 Updated milestone schedule

9.6.24 CD with PDFs of complete package

Construction Documents- 100%

Include information as noted in Section 9.5 Contract Document Review and refer to Section 9.7 A/E Construction Documents & Specifications

9.6.25 (8) Sets – Updated colored presentation drawings (11x17)

9.6.26 (8) Sets – Half size construction documents

9.6.27 (2) Sets – Full size construction documents

9.6.28 Finish material boards with no more than 2 samples per board 4" minimum sample (11x17)

9.6.29 Signage & graphics colored presentation boards (11 x 17)

9.6.30 Transition/Temporary operations plan

9.6.31 Queuing plan

9.6.32 Updated cost estimate

9.6.33 Updated milestone schedule

9.6.34 LEED certification point allowance form

9.6.35 CD with PDFs of complete package

9.7 A/E CONSTRUCTION DOCUMENTS & SPECIFICATIONS

The Tenant shall submit the following:

Construction Drawings: 24" x 36" format at the designated scales. Two (2) full size and Eight (8) half size sets are required.

Product data binder: 8 ½" x 11" spiral bound with protective transparent cover. Two (2) sets are required.

Finish Material Submittals: Material size shall be appropriate to represent the full scale of the pattern. Material quantity shall represent the full color spectrum of the material to be used. Materials shall be submitted in their finished state. Two (2) sets are required.

Minimum requirements include:

- 9.7.1 Key/Location plan (minimum 1/32" = 1'-0"): Indicate location of leased premises within each terminal. Include structural grid indicators.
- 9.7.2 Construction Access and Site Logistics plan (minimum 1/32" = 1'-0"): Refer to Section 10.9 regarding requirements for Site Logistics plan.
- 9.7.3 Architectural Floor Plan (minimum 1/4" = 1'-0"), Sections and Details: Indicate location and provide details for all architectural elements including partitions, blocking support, doors, windows, storefront configuration and security closure. Key all architectural elevations, sections and details to plan. Include Door/Window schedule to indicate style type, manufacturer, specification, dimensions, frame style, finish, and hardware specification.
- 9.7.4 Reflected Ceiling Plan (minimum 1/4" = 1'-0"), Sections and Details: Indicate ceiling types, finish materials and ceiling heights. Locate all ceiling elements to include light fixtures, sprinkler heads, HVAC supply/return grilles, access panels, exit signs, and ceiling mounted fire/life safety system devices. Detail all transitions in ceiling heights and materials.
- 9.7.5 Light fixture schedule: Key to Reflected Ceiling Plan and indicate light fixture type and specification to include manufacturer's name, catalog number, lamp type/wattage/color temperature, mounting (recessed, surface, pendant). Include in Product Data Binder: manufacturer product data sheets for all light fixtures keyed to schedule and Reflected Ceiling Plan or Lighting Plan.
- 9.7.6 Storefront Elevation (minimum 1/2" = 1'-0"), Sections and Details: Include all finish material, fixture and signage locations. Indicate material patterns, transitions, edge and corner conditions.
- 9.7.7 Interior Elevations and Sections (minimum 1/4" = 1'-0") : For all areas visible to the public, include all wall mounted control device, finish material, fixture, and signage locations. Indicate material patterns, transitions, edge and corner conditions.
- 9.7.8 Material Finish Plan (minimum 1/4" = 1'-0") Sections and Details: Include locations for all finish materials, indicate pattern layouts, and details for all material applications, transitions and edge conditions.
- 9.7.9 Material Finish Schedule: Key to Material Finish Plan, Reflected Ceiling Plan, Storefront and Interior elevations. Indicate product specification to include manufacturer, style, pattern, and color. Include in Product Data Binder: manufacturer product data sheets, finish specifications and relevant testing data. Include in Finish material submittal: all specified materials.

- 9.7.10 Signage and Graphics Plan (minimum 1/2" = 1'-0"), Elevations, Sections and Details: Indicate locations for all signage and graphics. Include mounting and connection details. Indicate letter type, style, size, all colors and materials, methods of illumination, and voltage requirements. As applicable, include actual proposed graphic images and materials. Food and beverage Tenants must include menu board locations, elevations, sections, details and finish materials.
- 9.7.11 Millwork, Fixture and Furnishing Plan (minimum 1/4" = 1'-0"), Sections and Details: Include locations for all fixed and moveable millwork, to include Point of Sale and display fixtures and furnishings. Food and beverage Tenants must provide details to illustrate mounting and integration of equipment into casework.
- 9.7.12 Millwork, Fixture and Furnishing Schedule: All components must be keyed to Millwork, Fixture and Furnishing plan indicating specification, or detail reference for custom fixtures, manufacturer, material, finish, and color selection. Include in Product Data Binder: manufacturer product data sheets or 3 dimensional renderings of custom fabrications, and finish material specifications. Include Finish material submittal: all specified materials.
- 9.7.13 Mechanical Plan (minimum 1/4" = 1'-0") and Details: Include HVAC, plumbing, gas, and fire sprinkler plans. Drawings must indicate placement of all MEP equipment, connected electrical loads, weights of heavy equipment, controls, connection to Building Management System, detailed riser diagrams, load analysis, schedules and energy calculations. Include in Product Data Binder: manufacturer product data sheets for all fixtures exposed to public view. Refer to Section 8.4 Mechanical.
- 9.7.14 All equipment mounting is to be fully detailed including penetration details.
- 9.7.15 Food Service and Kitchen Equipment Plan (minimum 1/4" = 1'-0") for food and beverage facilities. Indicate dimensioned layout and specifications for all kitchen and food service equipment including all required utility connections for water, sewer, grease interceptor, electrical, mechanical and fire alarm. Equipment Schedule to indicate manufacturer, specifications, finish, model numbers, dimensions, and required utility connection. Key equipment to plans, schedule and Product Data Binder. Include in Product Data Binder: manufacturer product data sheets for all equipment exposed to public view.
- 9.7.16 Electrical Plan (minimum 1/4" = 1'-0") and Calculations: Include locations power, lighting, telephone, fire alarm, and controls. Indicate placement and mounting heights for all receptacles and switches, circuiting and connections to all equipment, lighting fixtures keyed to architectural reflected ceiling plan and all fire alarm devices and fire alarm connections to kitchen systems and equipment. The electrical drawings shall also include a riser diagram indicating the point of service to all panel locations. Schedules shall note load and short circuit analysis and energy calculations. Include in Product Data Binder: manufacturer product data sheets for all equipment and fixtures exposed to public view. Refer to Section 8.5 Electrical and Section 8.6 Fire Alarm.
- 9.7.17 Structural Plan (minimum 1/4" = 1'-0"), Details and Calculations: Indicate structural support details and calculations for the mounting of all heavy equipment and any load bearing elements of the design and any point loads placed on the building structure. Additionally, provide dimensioned layouts and details for all roof penetrations required for any Tenant roof mounted equipment.
- 9.7.18 Temporary Construction Barrier Partition Plan (minimum 1/4" = 1'-0"), Elevation, Sections, and Details: Provide design including graphics, material finishes and mounting details of the temporary barricades. Include dust and sound control measures.

- 9.7.19 Any other special facilities, systems or installations in respect to the Tenant's work or that may affect the Base Building conditions or systems, or SDIA facilities must be fully detailed within the Contract Documents.

9.8 DOCUMENTS & SAMPLES AT WORK SITES

The Tenant shall maintain at the work site on a current basis, one record copy of all permits, the perforated permit set of contract documents, change orders, change directives, shop drawings, product data and samples in good order and marked currently to record all changes made during construction.

9.9 SHOP DRAWINGS, PRODUCT DATA & SAMPLES

The Tenant shall provide a submittal register (list of all submittals) for Authority review prior to pre-construction meeting and the commencing of work.

The Tenant shall ensure that its contractor prepares reviews, certifies and submits to the Authority with reasonable promptness, in such sequence so as to cause no delay in the project, any requested shop drawings, product data and samples. The Tenant shall not be relieved of responsibility for any material deviation from the requirements of the approved contract documents by the Authority's review of shop drawings, product data, or samples unless the Tenant has informed the Authority in writing of such deviation at the time of submission and the Authority has given written acceptance to the specific deviation.

9.10 SUBSTITUTION OF MATERIALS & EQUIPMENT

The Tenant may ask for substitution of specified material, equipment or furnishings with equal or equivalent items only under the following circumstances:

- 9.10.1 The Tenant provides evidence to the Authority that establishes an item of specified material is not available.
- 9.10.2 The Tenant provides evidence, which, in the Tenant's opinion, establishes the specified item will have an unreasonable delivery time due to no fault of the Tenant.
- 9.10.3 The special conditions of the contract documents allow the use of equal or equivalent products.



10 PRE-CONSTRUCTION REQUIREMENTS

10.1 OBJECTIVES

This section outlines the Pre-Construction requirements for all Tenant construction projects at SDIA. These standards shall serve to ensure all work proceeds with a maximum focus on public safety and results in a minimum disruption to SDIA operations and other concurrent construction. It is the responsibility of the Tenant to obtain current copies of all Federal, State, Local, and Authority Operational, Safety and Security requirements and regulations. The CDM is supplemental to all other requirements and regulations, however, in no case shall any section or part be considered waived or modified unless specifically authorized in writing by the TIP Manager.

Because of the high hazard conditions inherent to Tenant construction at an operating airport and because Tenant construction will occur within the boundaries of Authority construction projects, strict compliance with the procedures and regulations as outlined within the CDM, along with the Authority's Operations, Safety, and Security requirements and all FAA advisories and regulations governing operational safety on airports during construction, shall be strictly enforced. Refer to 13 Additional Authority Resources.

10.2 TENANT/CONTRACTOR AGREEMENT MADE IN CALIFORNIA

The Tenant/Contractor Agreement between the Tenant and the Tenant's licensed contractor shall be deemed to have been made in the State of California, and shall be governed, interpreted, and construed in accordance with the laws of the State of California. The Tenant and its contractor shall at all times comply with the provisions of the ordinances, and applicable rules and regulations of the City and County of San Diego; laws, rules and regulations of the State of California, and applicable Federal laws and Federal rules and regulations which in any manner limit, control, or apply to the actions or operations of the Tenant, Tenant's contractor, subcontractors, subordinate subcontractors of any tier or their employees, agents or servants engaged upon the Work or affecting the materials supplied to them or by them.

The Tenant shall ensure all Tenant/Contractor Agreements have been modified to directly bind the Tenant's contractor to all provisions, policies, procedures, and requirements as outlined herein, and within the Tenant's lease with the Authority. The Tenant shall submit the Tenant/Contractor Agreement to the TIP Manager for review prior to the execution of any contractor agreement. The TIP Manager will provide written comment to the Tenant/Contractor Agreement language within seven (7) business days.

10.3 CONTRACTOR ACCEPTANCE

The Tenant shall only award construction contracts to qualified general contractors and sub contractors licensed in the state of California that have been accepted in writing by the TIP Manager for work at SDIA. The Tenant's contractor must have proven experience with retail and restaurant construction and the ability to execute the contract documents in a timely and professional manner in accordance with the CDM and all Authority rules and regulations. The TIP Manager can provide the Tenant with a list of contractors that are known to have experience working at SDIA or other airports. The Authority does not endorse the qualifications of the contractors listed. The TIP Manager reserves the right to withhold acceptance of any contractor or contractor's personnel proposed by the Tenant to undertake work at SDIA. Reasons may include, but are not limited to:

- 10.3.1 Previous failure to safely, timely or otherwise satisfactorily complete construction work at SDIA or other airports
- 10.3.2 Default on a contract within the last three (3) years
- 10.3.3 Default on a contract, which required that a surety complete the contract under payment or performance bonds issued by the surety
- 10.3.4 Debarment within the last five (5) years by a public entity or any organization which has formal debarment proceedings

10.3.5 Significant or repeated violations of Federal Safety Regulations (OSHA)

10.3.6 Failure to have the required state of California licenses to perform the work described in the contract

10.3.7 Failure to demonstrate adequate retail, restaurant construction experience, resources, or personnel to successfully complete the work

Tenant must submit the qualifications of the general contractor including relevant projects completed, resumes of all key personnel including project manager and site superintendents, current references, and a complete list of all current projects.

10.4 AUTHORITY PROPRIETARY CONTRACTORS

Tenant is required to use the Authority's Base Building contractors and to match existing building systems, components, and manufacturer for any improvements or modifications to the following systems:

10.4.1 HVAC controls

10.4.2 Fire alarm system

10.4.3 Roofing system

10.4.4 Fire sprinkler

10.4.5 Security system

10.5 PREVAILING WAGES

California prevailing wages are enforced for all labor under direct contract to the Authority. Tenant contractors in direct contracts with labor on Tenant construction utilizing private funding shall not be required to pay prevailing wages. However, all work for which the Tenant's contractor utilizes Authority contractors, the Tenant contractor shall pay prevailing wage at the rates published in the California State Prevailing Wage Act.

10.6 TENANT PAYMENT & PERFORMANCE BOND

Prior to the issuance of a Notice to Proceed and the commencement of any Tenant construction, the Tenant shall secure and furnish to the TIP Manager a construction Performance Bond and a Labor and Material Payment Bond each in a payable sum not less than 100% of the construction contract amount. Bonds must be issued by a surety company licensed to transact business in the State of California and accepted by the Authority, in a form accepted by the Authority. Bonds must be at the sole cost of the Tenant and maintained in effect throughout the period of construction.

The Payment and Performance Bonds shall guarantee prompt and faithful performance of the Tenant/ Contractor Agreement and full prompt payment by the Tenant and the Tenant contractor to all persons supplying labor, materials, sustenance, provisions, supplies, machinery, tools and equipment used directly or indirectly by any contractor, subcontractor or supplier in the prosecution of the work, and shall protect and hold harmless the Authority from any liability, losses or damages.

10.7 INSURANCE REQUIREMENTS

The Tenant general contractor and all sub contractors involved with the construction process are responsible for procuring and maintaining through the duration of the construction, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the Tenant construction. The TIP Manager shall require verification in the form of certificates of insurance, showing evidence of coverage of the following required insurance prior to the issuance of the Notice to Proceed:

10.7.1 Worker's Compensation

10.7.2 Comprehensive General Liability

10.7.3 Comprehensive Automobile Liability

All insurance policies shall include the Authority, its agents, and any other parties designated by the authority as additionally insured. Actual limits shall be provided by the Authority, and additional provisions shall apply to all policies including but not limited to: Acceptability of Insurers and Maintenance of Coverage. The Authority retains the right to review the coverage, form, and amount of the insurance and may require the Tenant contractor to obtain additional coverage if deemed insufficient at the Tenant's expense.

10.8 ACCEPTANCE OF PREMISES

At the turnover of the Tenant premises and prior to the commencement of any construction, the TIP Manager will prepare an Acceptance of Premises Form for Tenant signature. The Tenant shall verify all governing dimensions and field conditions, and shall examine all adjoining work systems and substrates on which the Tenant work is in any way dependent according to the Tenant lease agreement with the Authority and the construction documents. No disclaimer of responsibility for defective or nonconforming work will be considered unless written notice is attached with the Acceptance of Premises Form and agreed to in writing by the TIP Manager before the Tenant contractor begins any part of the affected work. The Authority will ensure all items agreed to are corrected. Failure to properly identify defective or nonconforming work will constitute an acceptance of the premises as fit, proper and ready for integration with the Tenant's work, with the exception of latent defects.

10.9 COORDINATION & SITE LOGISTICS PLAN

Tenant contractor is required to coordinate all access and on site activities with the Authority's Construction Inspector. For Tenant projects within the boundaries of active construction by another contractor, the Tenant contractor will be required to coordinate all access and on site activities, including tie ins to any service or system with that contractor's superintendent. Prior to the start of construction, the Tenant contractor shall submit a project specific Coordination and Site Logistics Plan that encompasses all of the requirements of this document and the Tenant lease agreement with the Authority. Tenant contractor shall be prepared to address the details of the project specific plan at the pre-construction conference.

10.10 SAFETY PROGRAMS

Tenant contractor shall respect and adhere to all Authority safety and security regulations as outlined in this manual and the Authority's SDIA Operational Safety & Security requirements. In addition, if Tenant project is within the boundaries of active construction by another contractor, the Tenant contractor must abide by that contractor's health, safety and security requirements. The Tenant and Tenant contractor shall be responsible for all damage or injury to person or property during the prosecution of the work, resulting from any act, omission, neglect or misconduct in the manner or method of executing the work or at any time due to defective work or materials. It is the Tenant contractor responsibility to know the current safety and security rules and regulations and to monitor the performance of all personnel onsite for strict compliance.

Tenant contractor shall designate a safety representative who will be on site whenever work is being performed and shall have the responsibility and authority to ensure the safety of employees and property. The safety representative shall at a minimum have completed an OSHA 10-hour Hazard Recognition Course. Tenant contractor shall submit to the Authority TIP Construction Inspector no later than the pre-construction conference, the name and resume of the designated safety representative, and documentation of OSHA course completion along with a written safety plan and a statement signed by the Tenant contractor, and contractor's superintendent that all of its employees and all subcontractor employees of any tier have been briefed on and have read the safety plan. The Authority will monitor contractor safety performance.

10.11 PERMITS & LICENSES

Tenant contractor and all subcontractors and suppliers of any tier shall obtain and pay for all required licenses, certificates, permits, required by the City and County of San Diego, the State of California, and the Federal Government, including but not limited to, liquor licenses, Department of Environmental Health Permits, and Building Permits. The Tenant or Tenant's design consultant is responsible for submitting the construction drawings and specifications to the proper Authority having jurisdiction for plan review and for receiving approval thereon sufficient to obtain the necessary permits. All costs for licenses, permits, and agreements required by the Authority having jurisdiction are solely at the Tenant's expense.

10.12 CONTRACT DOCUMENTS

Tenant shall not start any construction until the construction drawings and specifications are complete and stamped "Approved" or "Approved as Noted" by the Authority and the City and County of San Diego. The construction drawings and specifications shall become the Contract Documents once they are stamped "Approved" or "Approved as Noted" by the Authority and the authority having jurisdiction. Tenant construction must be performed in strict accordance with the Contract Documents only. Any material modifications, change orders, field sketches, addenda or change directives, which modify the Contract Documents must be reviewed accepted in writing by the TIP Manager.

10.13 NOTICE TO PROCEED

Upon receipt of all required licenses, permits and the documentation listed herein, the TIP Manager will issue a written Notice to Proceed (NTP) and schedule a Pre-Construction Conference. Thereafter the work shall be executed as the permits require and shall be completed within the time set forth in the Tenant lease agreement with the Authority and the Tenant/Contractor Agreement. The NTP is only valid for six months, construction must have started within this timeframe or the project will need to be resubmitted.

The following documents must be received by the TIP Manager prior to the issuance of the NTP and must remain current as Tenant work proceeds:

- 10.13.1 Minimum Initial Capital Investment Form
- 10.13.2 Executed Tenant/Contractor Agreement (Including Addenda)
- 10.13.3 Construction Deposit
- 10.13.4 Payment and Performance Bonds
- 10.13.5 City of San Diego Planning and Development Building Permit
- 10.13.6 San Diego County Environmental Health Department Permit (where applicable)
- 10.13.7 Permit drawings and specifications, with City and Authority stamp
- 10.13.8 Certificate of Insurance listing Authority as additionally insured
- 10.13.9 Tenant contractor verification of workers compensation coverage
- 10.13.10 Signed Acceptance of Premises Form
- 10.13.11 Milestone schedule with sufficient detail to permit the Authority contractors controlling the work site to fully understand the planned work activities of the Tenant's contractors
- 10.13.12 Tenant Coordination and Site Access Plan
- 10.13.13 Environmental and Hazardous Materials drawings & permits

10.14 CONSTRUCTION DEPOSIT

Tenant is required to submit a construction deposit for each project prior to the start of construction. The construction deposit will compensate the Authority for costs incurred due to negligence of the Tenant and/or Tenant contractor, and to ensure the timely submission of documentation required to close out the project with the Authority. Upon submission of all close-out documentation, the Authority will refund the full balance of the construction deposit, less any incurred costs.

Construction Value: \$25,000-\$100,000 / Deposit = \$1,500

Construction Value: \$100,000-\$250,000 / Deposit = \$2,500

Construction Value: \$250,000-\$500,000 / Deposit = \$5,000

Construction Value: \$500,000-\$2,000,000 / Deposit = \$10,000

10.15 PRE-CONSTRUCTION CONFERENCE

Prior to the commencement of construction the Tenant and at a minimum the contractor's project manager, on site superintendant and safety manager are required to attend a pre-construction conference generally held in the Aviation and Commercial Business department. The agenda for the pre-construction conference will include but is not limited to:

- Introductions
- Review Project Scope
- Review Tenant Coordination and Site Logistics Plan
- Escorting, AOA Access, and Vehicle ID
- Parking Locations For contractor vehicles
- Security requirements
- Safety program and enforcement
- Communication procedures
- Contractor, subcontractor emergency contacts
- Authority Tenant inspector and Base Building superintendant
- Construction inspection procedures
- Prior Notice - hot work, utility shutdowns, utility connection
- Submittal of concrete mix designs
- Review Temporary Construction Barricade plan
- Construction schedule
- Environmental notification
- Use of construction warning tags
- Certificate of Insurance
- Special provisions
- Submittals
- Record drawing requirements
- Review Notice To Proceed documents
- Notice of Work

The Authority TIP Construction Inspector must confirm receipt of the following documents at the pre-construction conference:

- 10.15.1 Copies of Notice To Proceed and all NTP Documents
- 10.15.2 Signed Environmental and ACM Forms, where applicable
- 10.15.3 Confirmation of security badges and airfield driving privileges
- 10.15.4 Tool cards
- 10.15.5 Emergency contacts

- 10.15.6 Environmental permits and plans, where required
- 10.15.7 Site Safety Plan and designated safety representative documentation
- 10.15.8 Construction schedule
- 10.15.9 Submittal register



11 CONSTRUCTION STANDARDS

11.1 OBJECTIVES

This section outlines construction procedures and requirements for all Tenant construction at the SDIA. The Tenant contractor shall assume complete responsibility for ensuring all work proceeds with maximum safety and minimum disruption to SDIA operations and other concurrent construction and for the quality of the Work, which shall extend to the work and products of subcontractors, fabricators, suppliers and vendors. The Tenant, the Tenant contractor and the Authority shall work cooperatively within their respective responsibilities to ensure a quality project that meets or exceeds the requirements of the Contract Documents.

Construction may commence once the pre-construction conference is complete and the Tenant contractor has obtained a "Job Start" form from the Authority TIP Construction Inspector. This form must be posted on the job site at all times. If construction commences and Tenant contractor cannot produce this form to Authority personnel upon request, construction on the project may be stopped.

11.2 LAWS & CODES

If the Tenant contractor or any of its subcontractors of any tier knows or reasonably should have known by virtue of common knowledge in the construction industry that any of the Contract Documents are at variance with applicable laws, statutes, building codes, regulations, or ordinances, in any respect, the Tenant contractor shall promptly notify the TIP Manager and Tenant in writing, and make any necessary changes as directed by the Tenant.

11.3 LINE OF AUTHORITY

The TIP Manager or the assigned Authority's Project Coordinator will transmit all written responses or other communications to the Tenant and courtesy copy to the Tenant contractor. The Tenant contractor shall designate (by name) their superintendent plus an alternate superintendent to receive oral and written field communications through the Tenant whenever the superintendent is away from the work site, and to act as the superintendent's designated representative. During such time the alternate superintendent shall be fully authorized to act immediately on orders or instructions issued by the Authority or Tenant.

11.4 TENANT CONTRACTOR SUPERINTENDENT

The Tenant contractor shall employ a competent superintendent whose qualifications have been reviewed and accepted by the TIP Manager. The superintendent shall serve on a full time basis at the work site and shall be authorized to act on behalf of Tenant contractor in all fields including financial, engineering and other matters related to the work. The Tenant contractor superintendent shall have the power to immediately stop or modify the work program and shall attend all job coordination meetings, which shall occur at a weekly minimum. Tenant contractor agrees the same person shall continue in the capacity of superintendent until the work has been completed, unless the Tenant or Authority requests that a superintendent be replaced or the superintendent ceases to be employed by the Tenant contractor or is sick or disabled. The superintendent or their designated representative must be onsite at all times when work is performed.

The Authority reserves the right to review and limit the number of projects the Tenant contractor's superintendent may be responsible to manage.

11.5 INSPECTIONS

The Tenant contractor must receive all City, County, and Federal inspections as required by their permits and all associated rules and regulations. The Authority will inspect all Tenant construction projects for full compliance with the contract documents and Authority construction, safety, and security standards. Refer to Section 13 Additional Authority Resources.

The Authority's Project Coordinator working with the Authority TIP Construction Inspector will observe Tenant construction to determine if designs, materials, equipment, furnishings, fixtures, systems and finishes installed, satisfy the requirements of the contract documents. Additionally, they will work directly with the Tenant to facilitate and coordinate resolution of all Tenant design and construction issues.

The TIP Manager will periodically review all Tenant construction sites and may determine any work to be defective that is not in compliance with the contract documents or is not in compliance with Authority standards. Additionally, should the appearance and performance of any element of the work, in the opinion of the TIP Manager fail to conform to the standards of the trade for such work, that work may be declared defective. Any such rejection will be communicated by the TIP Manager in writing to the Tenant with a courtesy copy to the Tenant contractor. The TIP Manager maintains authority to stop all construction until a resolution satisfactory to the Authority is reached.

The Tenant shall pay all costs associated with correcting defective work to the Authority's satisfaction. If any portion of the work is covered and inaccessible for inspection contrary to the request of the Authority or contrary to requirements of the contract documents, such covering or finishes must be uncovered for observation, and replaced, without charge to the Authority.

The Authority's TIP construction inspectors will work directly with the Tenant contractor to facilitate and coordinate construction logistics and inspect construction sites for compliance with Authority standards. The Authority TIP construction inspector maintains authority to stop construction activities if it is determined that Authority safety and security requirements are not being followed or observes an unsafe working condition. The Tenant contractor shall allow the Authority access and provide the means of access to the Tenant construction. The Tenant contractor shall respond to any reasonable request to further the Authority's ability to complete construction site observations, inspections and testing. Such inspections shall not relieve the Tenant contractor of any of its obligations under the Tenant/Contractor Agreement.

11.6 PROJECT CONTROL

If conflicts between the Tenant contractor and other Tenant or Authority contractors arise which they cannot resolve and which could delay the work, the TIP Manager or the Authority TIP Construction Inspector will recommend the contractors follow a course of action to mitigate or eliminate the delay and which best serves the interests of the Authority and the Tenant.

For all Authority projects the Authority contractor shall be solely responsible for and have control over, all portions of the Base Building project work site. The Authority contractor's superintendant will work with the TIP Manager, Project Coordinator, and the Authority TIP Construction Inspector to assist in coordinating, facilitating and expediting the work of the Tenant contractor and provide all reasonable effort to ensure the Tenant contractor can execute their work.

11.7 SITE CONDITIONS

Conditions and requirements affecting Tenant construction will vary by location. By executing the Tenant/Contractor Agreement, the Tenant contractor represents that it has visited the site, familiarized itself with the site specific requirements under which its work must be performed and correlated its observations with the requirements of the Contract Documents and all Authority construction, safety, and security standards.

11.8 REQUESTS FOR BASE BUILDING INFORMATION

The Tenant contractor shall submit any requests for information or clarification regarding Base Building construction and systems to the Authority's Project Coordinator. The Authority will respond to such requests for explanation or clarification in writing. The Tenant contractor shall attempt to answer requests for information from its subcontractors and suppliers prior to submitting requests to the Authority.

11.9 TENANT CONTRACTOR COOPERATION & COORDINATION

Tenant construction will occur within the existing operating terminals of SDIA and may occur within the boundaries of active construction work sites for Authority projects. For all Tenant construction occurring within the boundaries of an Authority project, there will be at a minimum, other SDIA contractors, sub contractors, special systems contractors, airline systems contractors, and other Tenant contractors working within or adjacent to the Tenant construction site during the performance of the Tenant's work. Tenants must anticipate in their scheduling, procurement, and cost estimating that their work will be interfered with or delayed from time to time by the acts or omissions of other contractors.

The Tenant and his contractors must be prepared to cooperate with the Authority, its contractors, sub contractors and any other entity involved in completing the Authority's work, and to the maximum extent possible to mitigate any delay or obstruction of each other's work. The Tenant is required, at a minimum, to have a company representative on site weekly that is fully authorized to make design, construction, and financial decisions on behalf of the company or JV partnership. The Tenant representative and contractors are required to be present on site at a weekly meeting with the TIP Manager and to attend all weekly construction meetings for projects where the Tenant has a project in construction. Depending on the number and complexity of Tenant projects, the TIP Manager reserves the right to require the Tenant to have full time project management support on site.

11.10 AUTHORITY CONTRACTOR COOPERATION & COORDINATION

The Authority and the Authority contractor shall, throughout the duration of the project, cooperate with the Tenant contractor, their sub contractors, and any other entity involved in the performance of the Tenant's work, and shall, to the fullest extent possible, afford the Tenant a reasonable opportunity to complete their work as and when required by the Tenant lease agreement with the Authority. For all Authority projects, the Authority contractor shall be solely responsible for, and shall have control over, all aspects of the project site until Beneficial Occupancy by the Authority. To assist the Tenant in completing its construction in an expeditious manner, an Authority site superintendant dedicated exclusively to Tenant coordination shall be assigned from each of the Authority major construction contracts, to coordinate work performed by the Tenant contractor with work performed by the Authority contractor. The site superintendant will develop and enforce a Tenant Coordination and Site Access Plan developed by the Authority contractors, to assist the Tenant contractor with site access, ingress/egress, temp power, utility tie ins, and all other site logistics required to facilitate the Tenant's work. The Tenant Coordination and Site Access Plan shall include rules that will govern:

- 11.10.1 Weekly construction coordination meetings
- 11.10.2 Coordination of three-week look ahead schedules
- 11.10.3 Equipment/Material lay down and staging areas
- 11.10.4 Tenant contractor deliveries
- 11.10.5 Loading dock and elevator access
- 11.10.6 Parking for Tenant contractor's site superintendant
- 11.10.7 Work hours
- 11.10.8 Construction safety
- 11.10.9 Access to all utility Tenant required utility connections
- 11.10.10 Utility shut-downs
- 11.10.11 Temporary power

11.10.12 Protection of work by others

11.10.13 Construction barricades

11.11 CONCURRENT CONSTRUCTION

The Tenant contractor shall afford the Authority and its contractor's reasonable and safe access to and across their work site and reasonable opportunity for the introduction and storage of their materials and equipment for the execution of their work within or adjacent to the Tenant's work site. The Authority may require certain facilities and areas be used concurrently by the Tenant contractor and other persons. If any part of the Tenant contractor's work depends on the proper execution or results upon the work of the Authority or any other contractor, the Tenant contractor is solely responsible to monitor and stay fully informed on the progress and details of such work. The Tenant contractor shall promptly report in writing to the TIP Manager any apparent discrepancies or defects in such work that render it unavailable, defective or unsuitable for the Tenant contractor's properly conforming work. Failure to so promptly notify will constitute an acceptance of the other work as fit, proper and ready for integration with the Tenants work, except for latent defects.

11.12 DAMAGE DURING CONSTRUCTION

The Tenant assumes sole responsibility for all damages to the existing or new facilities, including but not limited to the premises occupied by others, arising from the work of the Tenant or the Tenant contractor, and shall take immediate steps to replace or repair such damages. Damages not corrected immediately by the Tenant will be corrected by the Authority with costs deducted from the Tenant's construction deposit.

If the Tenant Contractor through its acts or omission, causes loss, damage or delay to the work or property of any separate contractor, the Tenant contractor shall, upon written notice from the TIP Manager, promptly attempt to remedy and settle such loss, damage or delay with the other contractor by agreement or otherwise. If another contractor or subcontractor shall assert any claim, bring any action against the Authority, or institute a dispute resolution proceeding on account of any delay or damage alleged to have been sustained as a result of the acts or omissions of the Tenant contractor, the TIP Manager shall notify the Tenant in writing and the Tenant shall indemnify and hold harmless the Authority from any liability, losses or damages.

11.13 INTERRUPTION OF EXISTING FACILITIES

All construction activities must be accomplished in such a manner as to permit normal operations within the existing buildings, facilities, and structures of SDIA during the performance of the Tenant contractor's work. Existing building systems including but not limited to fire alarm, security, heating, ventilation, air conditioning, electrical, lighting, and plumbing shall not be interrupted in occupied areas, except as required for making connections to existing systems as specified within this manual. The Tenant contractor may not perform any work causing interruptions to building systems or the normal operations of SDIA without written authorization from the Authority. Authorized work by the contractor shall be performed in strict compliance with all rules and regulations and directives of the Authority.

The Tenant contractor shall coordinate and schedule his work to minimize required interruptions and shall notify the Authority TIP Construction Inspector in writing at least 72 hours prior to each requested interruption. SDIA operations and all affected Tenants must be notified at least 72 hours in advance of commencing any work, which may block access, or otherwise cause undue difficulty to occupants or users of the property affected and any planned utility shut-off. The Tenant contractor is to make arrangements for temporary utility connections as directed by the Authority TIP Construction Inspector and as coordinated with the Base Building site superintendant where required. The Tenant shall be responsible to pay the cost of the connections and removal and all utility charges incurred as a result.

11.14 QUIET ENJOYMENT

The Tenant contractor is responsible for ensuring that during construction of the leased premises the rules and regulations of the Authority are strictly followed to ensure other Tenants who are open for business may have quiet enjoyment for their premises.

The Authority requires that certain Tenant construction activities occurring in the operating portions of SDIA take place between the hours of 11 p.m. and 5 a.m. unless specifically approved otherwise by the Authority's TIP Construction Inspector. Those activities include, but are not limited to:

- 11.14.1 Jack hammering, roto-hammering, core drilling or other noisy operations
- 11.14.2 Any activities, such as painting, that could produce offensive fumes that cannot be safely vented away from public spaces and employee work areas.
- 11.14.3 All dust producing activities, such as demolition, where the dust cannot be safely vented away from public spaces and employee work areas.
- 11.14.4 Work requiring public entrances be blocked
- 11.14.5 Deliveries made curbside, or any deliveries that require use of public areas
- 11.14.6 Any work that would prevent continuous operation of the building
- 11.14.7 Hauling trash or demolished materials
- 11.14.8 Setting up and removal of construction barricades
- 11.14.9 Authority approved shutdown of building systems
- 11.14.10 Any work in or around public areas that may create dust, noise or other nuisance or hazard.

11.15 WORK IN PUBLIC AREAS

The Authority will allow Tenant construction activity in public areas that has been properly coordinated by the Authority TIP Construction Inspector. This work may include, but is not limited to, temporary scaffolding or man lift for the installation of storefronts and signs as necessary. Only scaffolding or man lifts with non-marking rubber tires are permitted. All other construction work must take place within the leased premises.

No material shall be delivered to, or transported through, any public area without the Authority approval. Any material transported through public areas, public elevators or stairways, shall be moved on rubber tire trucks, using adequate padding, protective cloths, to safeguard existing finishes. Any damage resulting from movement of materials shall be repaired or replaced by the Tenant contractor, to the satisfaction of the Authority.

11.16 PROTECTION OF PROPERTY

The Tenant contractor shall take all reasonable precautions for the safety of, and shall, provide all reasonable protection to prevent damage, injury or loss to:

- 11.16.1 Prevent spreading or tracking of dirt through public areas of the SDIA and to prevent soiling of any SDIA finishes.
- 11.16.2 Other property at the work site or adjacent thereto, including but without limitation, lawns, walks, pavements, roadways, structures, finishes, and utilities not designated for removal, relocation or replacement in the course of construction.

- 11.16.3 All floor finishes for transporting materials from point of building entry to designated work areas.
- 11.16.4 Construction workers and building occupants against air quality problems by developing and implementing a Construction Indoor Air Quality Management Plan.

11.17 FREIGHT ELEVATORS

The Tenant contractor shall coordinate with the Authority TIP Construction Inspector for the use of freight elevators. Passenger elevators and escalators are not to be used for transporting materials. Suitable and durable floor and wall covering protection must be provided by the Tenant contractor in the freight elevator cab during each use to protect the cab finishes against damages. All damages to the cab shall be repaired by the Tenant contractor in a timely manner at no charge to the Authority.

The Tenant contractor shall schedule all deliveries of materials, furnishings, fixtures and equipment including any hoisting requirements, in advance, with the Authority TIP Construction Inspector.

11.18 TRASH REMOVAL & PORTABLE TOILETS

The Authority shall designate a central location in each terminal where Tenant construction wastes and recyclables can be collected and as well, for portable toilets for use by the Tenant contractor during construction. A proportionate part of the full cost to transport and dispose of the construction waste and recyclables and servicing the temporary portable toilets will be charged to the Tenant based upon a breakdown determined by the TIP Manager.

All Tenant construction waste and recyclables shall be removed from the work site on a daily basis and properly secured in the Tenant trash and recyclable receptacles. No materials are to be stored outside of the Tenant's premises, and should the Tenant contractor fail to properly maintain the premises in a clean and workable condition, the Authority will have any stored materials removed, the area cleaned and costs incurred deducted from the Tenant's construction deposit.

For any Tenant construction waste and recyclables not deposited in the Authority provided containers, the Tenant contractor is responsible for ensuring construction wastes and recyclables are disposed of at an appropriately permitted offsite facility. Disposal of solid waste on Authority property is expressly prohibited. Removal of the waste material, trash and debris to a suitable licensed landfill must be done on at least a daily schedule or whenever the waste material interferes with any contractor's work. The Contractor shall dispose of all generated construction and demolition waste offsite and outside of Tidelands and shall comply with the City of San Diego Recycling Ordinance as applicable. For further information, see Section 13.6 Additional Authority Resources. At a minimum, accommodate for the recycling of paper, corrugated cardboard, glass, plastic and metals.

11.19 CLEAN-UP DURING CONSTRUCTION

The Tenant construction site and all areas used by the Tenant contractor must be kept free of accumulated construction wastes, dirt and surplus material at all times. No materials are allowed to be stored outside of the Tenant's leased premises. If the Tenant construction site is not maintained in a clean, orderly, and safe condition or should it be necessary for the Authority to remove Tenant construction waste or debris because of inaction by the Tenant contractor, the Authority, after issuing a written notice to the Tenant, and within twenty-four (24) hours of issuing said notice, will have others cleanup the area and/or remove the waste and debris and charge the full cost thereof to the Tenant.

11.20 TEMPORARY CONSTRUCTION BARRICADES

Prior to demolition or start of construction the Tenant contractor is required to construct lease area temporary partitions (Barricades) and install Authority "Concession Development Program" signage. Barricades are required on all projects to prevent damage to adjacent leased premises, the public areas, and to ensure required security of the Tenant contractor's work site. The Authority shall approve all Barricade Plans at the Pre-Construction Conference, but in no case later than the issuance of the Job

Start Form by the Authority's TIP Construction Inspector. Barricades are to be placed so they do not inhibit storefront construction or public circulation and may need to be moved during the course of construction.

In all public areas barricades are to be constructed of white vinyl covered gypsum board and metal studs the full height and width of the Tenant opening with 8-mil polyethylene for dust barrier. For Tenant construction in non-public areas fully taped, spackled and painted gypsum board with 8-mil polyethylene for dust barrier may be used.

Barricades may be wall supported and braced by steel studs and shall have a 3/4" plywood base with a 1/4" cushion backing or other durable backing material, to protect all Base Building floor finishes. Barricades are to be continuous so as to prevent dust and control excessive noise and must remain rigid, square and plumb throughout leasehold construction. Barricades must include 8" black rubber core baseboard, trim at ceiling and corners, and painted metal doors and frames complete with Authority standard construction lock set. The Tenant contractor shall verify all code requirements (entrance/exit routes, fire protection, etc.) before barricades are installed. The Building Permit and Job Start Form shall be prominently displayed on the inside of the barricades.

Upon acceptance of the premises, the Tenant will be completely responsible for the security of all premises and the construction worksite and must meet all requirements of the Authority, TSA, and FAA for security. Additionally, the Authority will not assume any responsibility for damages including theft to Tenant materials, fixtures or equipment.

The Tenant contractor is responsible for maintaining and cleaning the area surrounding the barricades. If dirt, dust, or debris from the construction site is found in areas around the barricades, the Tenant contractor will be charged a "clean-up" fee by the Authority. All barricade doors must remain closed and locked at all times during construction. Repair or replacement of any Base Building finishes due to damage caused by the demolition or construction of the barricades will be the sole responsibility of the Tenant.

Relocation or removal of the barricades must be reviewed by the TIP Manager and must be scheduled at least 48 hours in advance or 2 working days.

11.21 STAGING

Staging areas are at a premium and are not available for storage of bulk materials. The Tenant must arrange for storage off-site and plan to deliver materials on an "in-time" basis, as they are required. Tenant construction staging shall occur within the Tenant's leased premises, no construction staging will be provided except temporary staging required for deliveries, which has been coordinated with Tenant Authority TIP Construction Inspector in advance. Areas provided for temporary staging of deliveries must be kept clean and free of debris. All containers shall be properly labeled.

11.22 WORK SITE ACCESS

The Authority must have access to all Tenant construction sites. Access doors are to be solid core or hollow metal doors mounted to metal frames. A shared-use digital keypad lock, Schlage FE595 V PLY ELA 626 shall be installed on the access door to allow Authority and emergency personnel access to the site.

11.23 WORKING HOURS

Terminal operations and Authority construction will result in contractors and suppliers being subjected to restrictions, which may be imposed by the Authority regarding the hours of work and schedule for deliveries. The Tenant contractor must submit a work and major delivery schedule for review by the Authority TIP Construction Inspector for review at the Pre-Construction Conference.

Within all operating portions of the terminal the Tenant contractor will be required to work non peak work hours for any activity or delivery that will cause excessive noise, dust, debris, or in any way interferes with the traveling public or SDIA Operations. Non-peak hours are 11 p.m. until 5 a.m. Sunday through Thursday. These hours and the situation requiring the Tenant contractor to work non peak hours may change or be modified as required by the Authority TIP Construction Inspector.

Tenant contractor working hours within Authority construction projects must be coordinated with the assigned Base Building superintendant and the Authority.

11.24 SECURITY

The Tenant, Tenant's contractor, sub contractor, and all personnel must comply with the requirements of the Authority's SDIA Operational Safety & Security Requirements, and all TSA and FAA advisories and regulations governing operational safety on SDIA during construction. These security requirements will be strictly enforced and shall include but are not limited to:

- 11.24.1 SDIA Operational Safety & Security Program
- 11.24.2 SDIA SIDA/NON-SIDA access & escorting policies
- 11.24.3 Policy regarding introduction/possession of prohibited items in sterile areas of the SDIA
- 11.24.4 SDIA Vehicle Media Program
- 11.24.5 Keys and lock control

The Tenant understands that violations of the SDIA Operational Safety & Security Program can result in the issuance of citations and fines, suspension or revocation and confiscation of the SIDA issued security ID badge or vehicle permit, removal of the violating person or vehicle from the AOA, suspension of construction activities. The Tenant also understands they will be solely responsible for paying any security related fines assessed upon the Authority by the Transportation Safety Administration or other related governmental agency due to the actions of the Tenant, Tenant contractor, sub contractor, supplier, manufacturer or vendor.

The Tenant shall know the current applicable safety and security rules and regulations and to monitor the performance of the Tenant contractor to ensure compliance. The SDIA may require that there be no vehicles parked within three hundred (300) feet of an active terminal, unless such vehicles are inspected by an Authority authorized person whose sole responsibility is to search vehicles entering within the three hundred (300) feet perimeter.

11.25 EQUIPMENT/TOOLS

Tools are never brought through a screening checkpoint. All tools and equipment that can safely fit inside an SDIA service elevator must be transported to the sterile area using the specified elevator or as instructed by the Authority TIP Construction Inspector prior to the start of construction.

Contractors with AOA driving privileges may, at the discretion of the Authority TIP Construction Inspector, be authorized to access the sterile area through ramp (SIDA) locations. The contractor must keep equipment in its presence at all times anywhere within the terminal. Security is a full time job while at the SDIA. Unattended equipment or tools found in the sterile area considered "prohibited items" may result in a heavy fine from TSA, and could significantly delay the completion of the project. Restroom or lunch breaks are inexcusable reasons to leave tools and equipment unattended in the terminal, especially in the sterile area. Plan to use relief workers as necessary to positively control tools and equipment.

11.26 TSA INSPECTIONS

Any item, large or small, that will become a permanent fixture in the sterile area must be inspected by TSA screening staff. This is prearranged with the Authority TIP Construction Inspector and TSA and achieved at specified screening checkpoint, typically the gate access to the AOA. Screening checkpoints within the terminal are not opened after hours by SDIA staff to facilitate movement of contractor employees, tools, equipment, or fixtures.

In order to facilitate TSA screening and inspection of fixtures and equipment to be brought into the sterile area of the terminal, all fixtures and equipment must be out of their boxes and crating material and available for inspection. For fixtures and equipment that are required to be transported through the

terminal, wheels must be duct taped prior to bringing them into the terminal to prevent carpeted areas from becoming marked by rubber tires.

11.27 PARKING

Remote parking of vehicles by the Tenant and Tenant's contractor, and subcontractors will be confined to those specific areas set aside for them by the TIP Manager and located in the designated areas only. Designated parking may not be within close proximity to the Tenant contractor work site. Standard per day rates for the assigned parking lot will apply and be paid by the Tenant, Tenant's contractor, or sub contractor. Provisions may be made on Authority construction sites for (2) on site vehicles per Tenant requiring site accessibility for AOA escorting and to facilitate material deliveries. This parking may be restricted or eliminated during certain phases of Authority construction. The location and availability of parking must be coordinated with the Authority TIP Construction Inspector. Parking in non-authorized areas /spaces will result in the removal of the vehicle at the owner's expense. Tenant contractor's trailers, if permitted by the Authority, may only be parked in designated areas as arranged by the TIP Manager. Tenant must submit a plan, indicating the number of remote parking spaces required.

11.28 SUBSTANTIAL COMPLETION BENEFICIAL OCCUPANCY

When the Tenant determines the work or designated portion thereof is complete to its satisfaction, the Tenant shall notify the TIP Manager in writing. The Authority's Project Coordinator will arrange an Authority compliance review of the project and prepare a punch list of required corrections. If Tenant has received a Certificate of Occupancy from the City of San Diego Building Department and health permit from the County of San Diego Department of Environmental Health, and all work is complete to the Authority's satisfaction, the TIP Manager will prepare a Certificate of Substantial Completion and Beneficial Occupancy, which shall establish the date of Beneficial Occupancy for the project, and will allow the Tenant to prepare the location to open for business. Additionally, the Certificate shall indicate the timeline for submittal of required project close-out documentation, clearly state any outstanding responsibilities of the Tenant including items still to be completed by the Tenant contractor, and the fixed time within which the Tenant contractor shall complete the items listed therein.

11.29 PROJECT CLOSE-OUT

After issuance of the Certificate of Substantial Completion and Beneficial Occupancy, the Tenant shall have 90 days to provide the following project close-out documentation, and any and all documentation required per the Tenants agreement:

- 11.29.1 Certificate of Occupancy
- 11.29.2 Final audited costs – Certified Initial Capital Investment Form
- 11.29.3 Lien releases – General contractor
- 11.29.4 Lien Releases – Subcontractors, vendors, suppliers
- 11.29.5 Architects Certification of Compliance with Authority standards
- 11.29.6 CD – As-Built record documents
- 11.29.7 Full size set as-built record documents
- 11.29.8 Certified Balancing Report
- 11.29.9 ADA Certifications Letter



12 AUTHORITY CONTACTS

The following Authority Contacts are provided to assist the Tenant and the Tenant's team in making contact with the appropriate Authority staff. All Tenant Improvement Program activities with the Authority, including project design, submittal review and construction, shall be made through the Manager, Tenant Improvement Program. All matters relating to the Tenant's lease agreement with the Authority and all issues relating to the Tenant operations are to be made through the Manager, Concession Development Program.

Aviation and Commercial Business Department

San Diego County Regional SDIA Authority
P.O. Box 82776
San Diego, CA 92138-2776

For overnight deliveries:
2320 Stillwater Rd.
San Diego, CA 92101-1022

Director, Aviation and Commercial Business

(619) 400-2575 Phone
(619) 400-2576 Fax

Manager, Tenant Improvement Program

(619) 400-2585 Phone
(619) 400-2576 Fax

Manager, Concession Development Program

(619) 400-2580 Phone
(619) 400-2576 Fax



13 ADDITIONAL AUTHORITY RESOURCES

13.1 Facilities Criteria Document (FCD)

13.2 SDCRAA Design, Technical and Construction Requirements (link)

[http://www.san.org/documents/real_estate/Design%20Technical%20%20Construction%20Requirements%20\(FINAL\).pdf](http://www.san.org/documents/real_estate/Design%20Technical%20%20Construction%20Requirements%20(FINAL).pdf)

13.3 SDIA Design and Construction Standards, Tenant Improvements (link)

http://www.san.org/documents/real_estate/Lindbergh%20Field%20Design%20&%20Construction%20Standards%20.pdf

13.4 Airport Operational Safety & Security Requirements (link)

http://www.san.org/documents/airport_authority/Airport_Operational_Safety_&_Security_Requirements_100111.pdf.

13.5 SDIA Security Instructions (link)

http://www.san.org/documents/business_opportunities/SDIA_security_instructions.pdf

13.6 Disposal of Construction and Demolition Waste (link)

<http://www.sandiego.gov/environmental-services/recycling/cdrecycling.shtml>



14 DEFINITIONS & ABBREVIATIONS

The following definitions are used throughout the SDIA Concessions Development Manual and shall be interpreted as follows:

A/E: Architect /Engineer

Architect/Engineer of Record: The Architect/Engineer of Record is a design professional in good standing licensed to practice in the State of California and the city and county of San Diego, who has stamped and signed the Contract Documents and is responsible to the Tenant and all regulatory agencies for the design and construction compliance with all codes and regulations applicable to the work

ACM: Asbestos Containing Materials

Accessibility: Refers to all codes pertaining to a persons' ability to use building components, including but not limited to the Americans with Disabilities Act (ADA), the California Building Code. Additionally, the California Disabled Accessibility Guidebook (CalDAG) may be referenced.

ADA: Americans with Disabilities Act

AFF: Above Finished Floor

Air Operations Area (AOA): The areas on the SDIA intended for the movement and parking of aircraft.

ASHRAE: American Society of Heating, Refrigeration and Air-Conditioning Engineers.

Authority: San Diego County Regional SDIA Authority (SDCRAA)

Authority Having Jurisdiction: The duly appointed body governing, regulating and enforcing all applicable codes, rules, regulations and standards.

Base Building: The existing terminal buildings including T1, T2 East and West and Commuter Terminal shell space provided for Tenants.

CBC: California Building Code, latest applicable version, Refer to CCR Title 24.

CD: Contract Documents, includes all Authority, City and County of San Diego approved construction drawings, specifications, calculations, and reports, including all addendum and change orders.

Closure: An operable item used to secure and close openings within and/or on the perimeter of a Tenant premises such as a door or grille.

Common Area: Public space outside of Tenant leased premises designated by the Authority for general passenger use and designed and maintained by the Authority. Includes Dining Coves identified in each terminal where tables and chairs have been provided by the Authority for general passenger use.

Concourse: That portion of a terminal consisting of gate hold rooms, boarding areas and passenger circulation zones and amenities directly adjacent to and supporting these functions.

CDM: Concessions Development Manual, provides standards and guidelines for the design and construction of all concession Tenant projects.

CFR: Code of Federal Regulations

Demising Wall: A wall constructed between Tenant leased premises for the demarcation of the spaces. The lease line is to the center of the demising wall.

Design Control Zone: Area located within the first 4'-0" of the Tenant leasehold and extending the entire width of the Tenant storefront. All architectural finishes, merchandising and display fixtures within the Design Control Zone are reviewed by the Authority and are strictly monitored for compliance with the Concession Development Manual and the highest level of professional merchandising and display standards.

Escort: An individual, meeting security requirements, taking responsibility for another individual not meeting security requirements while on the AOA or within a sterile area of the SDIA.

FAA: Federal Aviation Administration

Inspector: Authority TIP Construction Inspector responsible for inspecting Tenant construction projects for compliance with construction documents and Authority construction standards. Additionally, the inspector will coordinate Tenant construction site access, logistics, and utility shutdowns.

Kiosks: Individual, freestanding, self-contained concession unit that provides preparation, merchandise display, transaction space and storage.

Landlord: Is the Authority, SDCRAA

Lease Lines: The outermost point of the storefront's exterior face into the rear of the Tenant's leased premises and from the centerline of each side demising wall (except where noted in LOD exhibits).

Lease Outline Drawings (LOD): An exhibit to the Tenants lease with the Authority identifying the location and the extent of the Tenants leased premises.

Neutral Frame: Consists of a neutral pier on both sides and neutral band above the Tenant storefront that is clad in Authority provided i.e. Base Building, standard terminal finishes.

Neutral Pier: The vertical portion of the neutral frame clad with Authority provided i.e. Base Building, standard terminal finishes that provide a common demarcation between Tenant leaseholds.

Neutral Band: The horizontal bulkhead portion of the neutral frame clad with Authority provided standard terminal finishes above Tenant storefront finishes and signage.

Non-Secure Area/Landside: Area prior to the passenger screening checkpoint where passengers, Tenant employees and Tenant products are not required to be screened.

OSHA: Occupational Safety and Health Administration

Record Drawings: Drawings maintained by the Tenant contractor onsite during construction and continuously updated to reflect the "As-Built" condition of the space including all addenda and change orders for the project. To be submitted, in CAD format, to the Authority's Project Coordinator at the completion of the project.

SDCRAA: San Diego County Regional Airport Authority – This term refers to that entity designated and empowered by the State of California to provide day-to-day administrative oversight and management of the Airport and as fiduciary to its Board of Directors. This is often shortened to the word 'Authority' and represents the Airport Director, Senior Management and all the staff that serve the Airport.

SDIA: San Diego International Airport – This term is used to represent the Airport as an operational entity in the physical realm.

Secure Area/ Airside: Areas beyond the passenger security checkpoint where all passengers, Tenant employees and Tenant products must be screened and have an Authority issued security badge.

Security Identification Display Area (SIDA): Any area identified in the SDIA security program as requiring each person to continuously display an SDCRAA-issued identification badge, unless the person is under Escort. Access levels vary and must be verified through the SDIA Badging Office.

Sign Band: A clad element above the storefront provided for the mounting of Tenant signage. The sign band is typically stainless steel.

SMACNA: Sheet Metal and Air-Conditioning Contractors National Association.

Storefronts: Shall be defined as the architectural Facades of any Tenant leased premises adjacent to public circulation areas of the terminals, including doorways. The Storefront will be physically defined by Base Building elements that surround and frame the Tenant Storefront; those elements include side piers, the upper fascia / bulkhead, and the floor surface at the lease line.

T2W, T2E, T1, CT: Abbreviations for the various terminals within SDIA respectively, Terminal 2 West, Terminal 2 East, Terminal 1 and Commuter Terminal.

TDP: Terminal Development Program aka The Green Build – That entity established within the SDCRAA organization tasked to prosecute the design, construction and activation of the new 10 gate, \$1B dollar expansion to the existing Terminal 2 West.

Tenant: The lessee, including all food and beverage, retail and service Tenants in the SDIA or their duly appointed designee.

Tenant Improvement Program (TIP): As part of the Authority's Aviation and Commercial Business department the TIP is the department responsible for the management and oversight of all Tenant-initiated improvements at the SDIA.

Tenant Improvement Project Coordinator: The Authority's Project Coordinator as part of the TIP is the primary point of contact and liaison between the Tenants team and the Authority from the start of the Tenant project until project close-out.

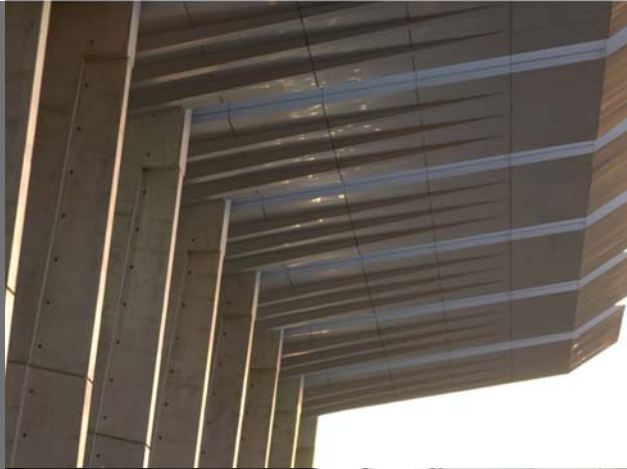
Tenant Improvement (TI): Any construction, remodel, addition, new building, build-out of shell space, or any improvement to the leased premises, performed by or for any Tenant occupying space at the SDIA.

Terminal: That portion of the SDIA complex consisting primarily of check-in areas, baggage claim facilities, gate hold rooms, boarding areas, passenger circulation zones and amenities supporting these functions. Terminals at SDIA include: Terminal (T1), Terminals 2East and 2West (T2E, T2W), and the Commuter Terminal (CT).

Tool Card: Tool Cards are issued to contractors who are working in a secure area of the SDIA and must have tools available to perform their work. The Tool Card tracks all tools in secure areas and is checked by the Authority TIP Construction Inspector and the TSA.

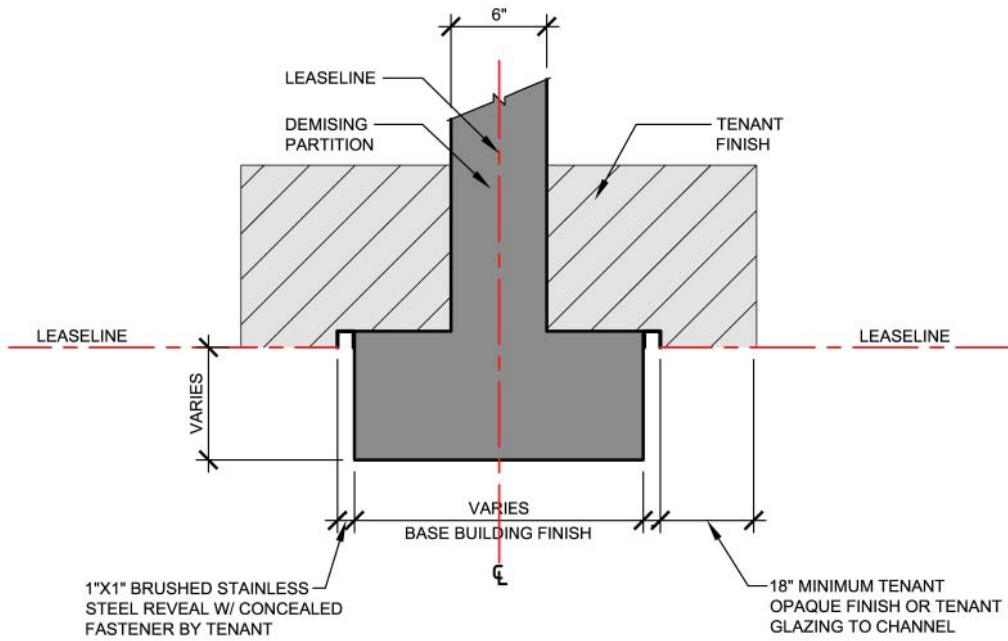
Transportation Security Administration (TSA): A division of the Department of Homeland Security charged with protecting the countries transportation systems.

Work: Refers to all aspects of the Tenant's design and construction as detailed within the Contract Documents.



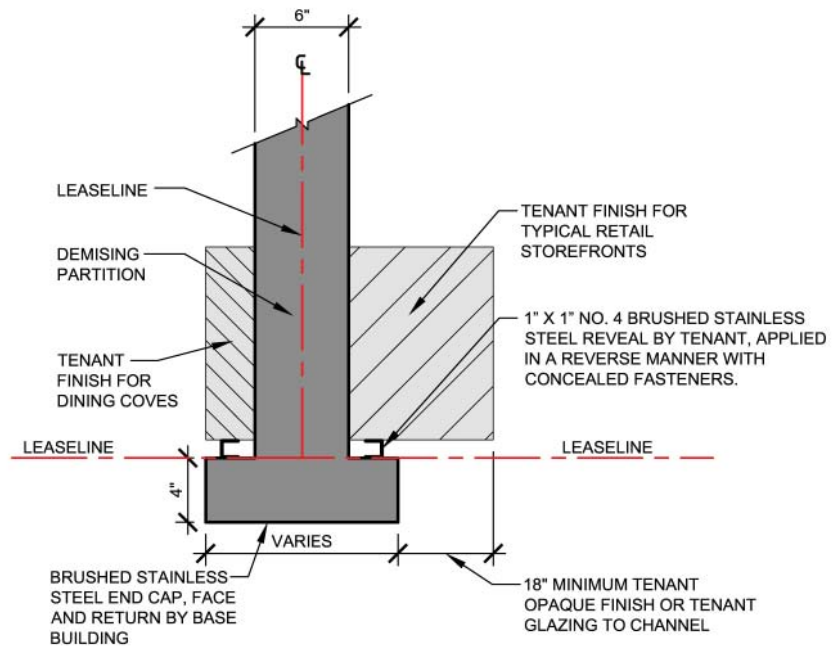
15 ARCHITECTURAL EXHIBITS

- A: Typical Neutral Pier
- B: Demising Wall End Cap
- C: Modified Demising Wall Storefront Condition
- D: Tenant Connection to Base Building Finish
- E: Tenant Connection at Window Mullion: Alcove Shops
- F: Tenant Connection at Window Mullion: Typical
- G: Tenant Connection to Base Building Flush Condition
- H: Tenant Storefront Corner Guard
- I: Tenant Storefront Corner Guard: Option
- T2 West: Glass Railing Details



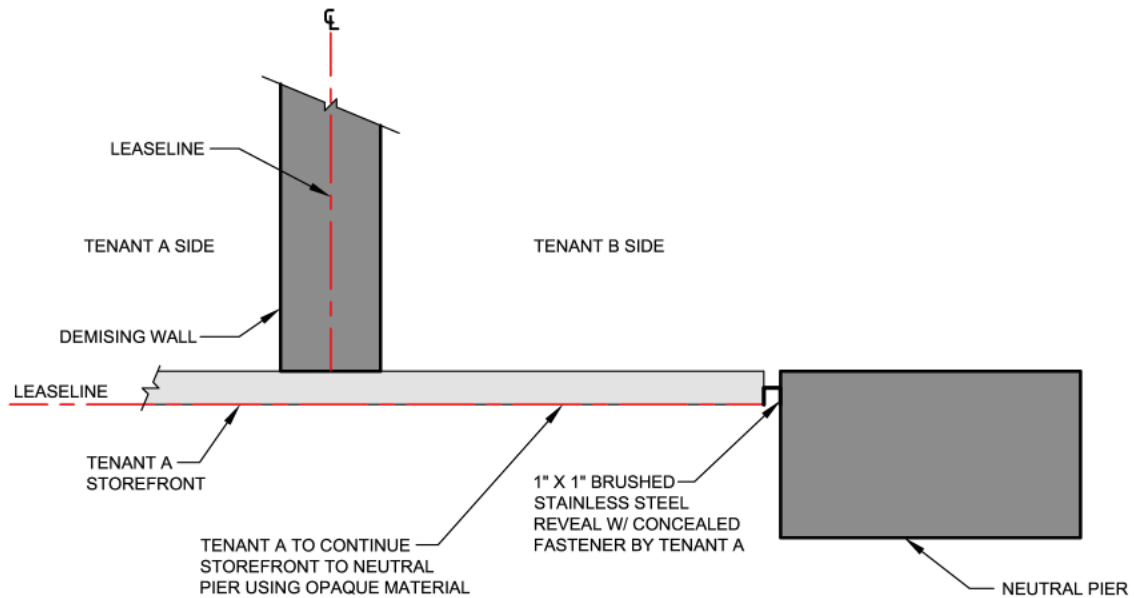
A TYPICAL NEUTRAL PIER

N.T.S.



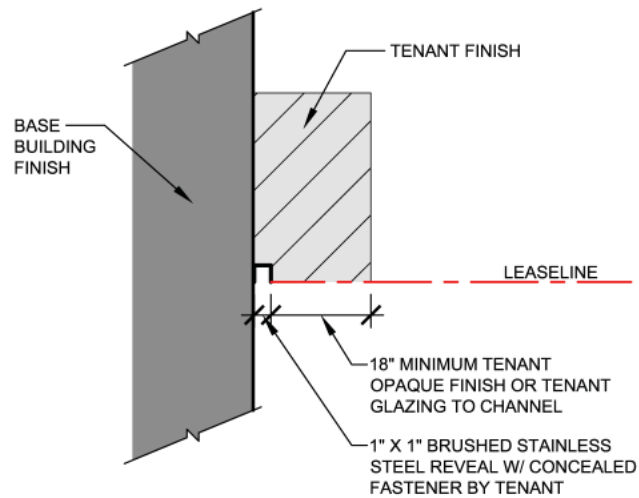
B DEMISING WALL END CAP

N.T.S.



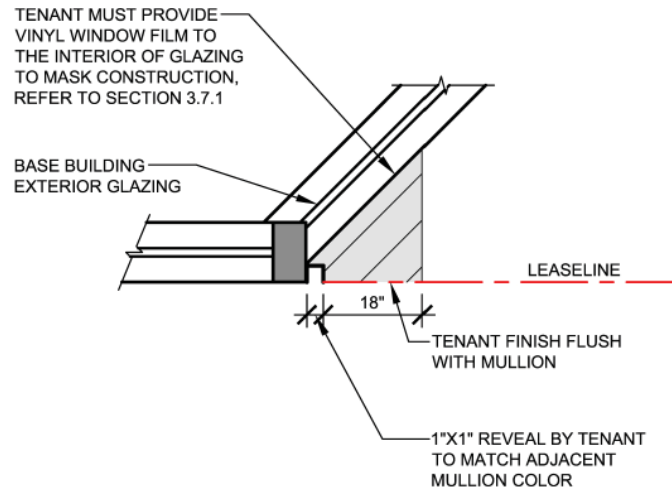
C MODIFIED DEMISING WALL STOREFRONT CONDITION

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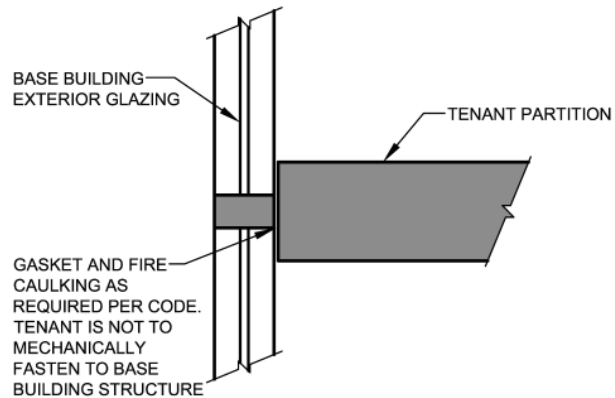
D TENANT CONNECTION TO BASE BUILDING FINISH

N.T.S.



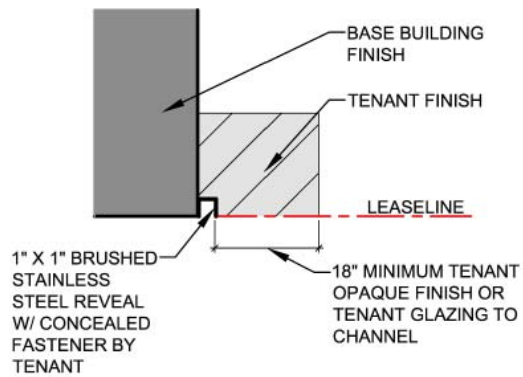
E TENANT CONNECTION @ ALCOVE SHOPS

N.T.S.



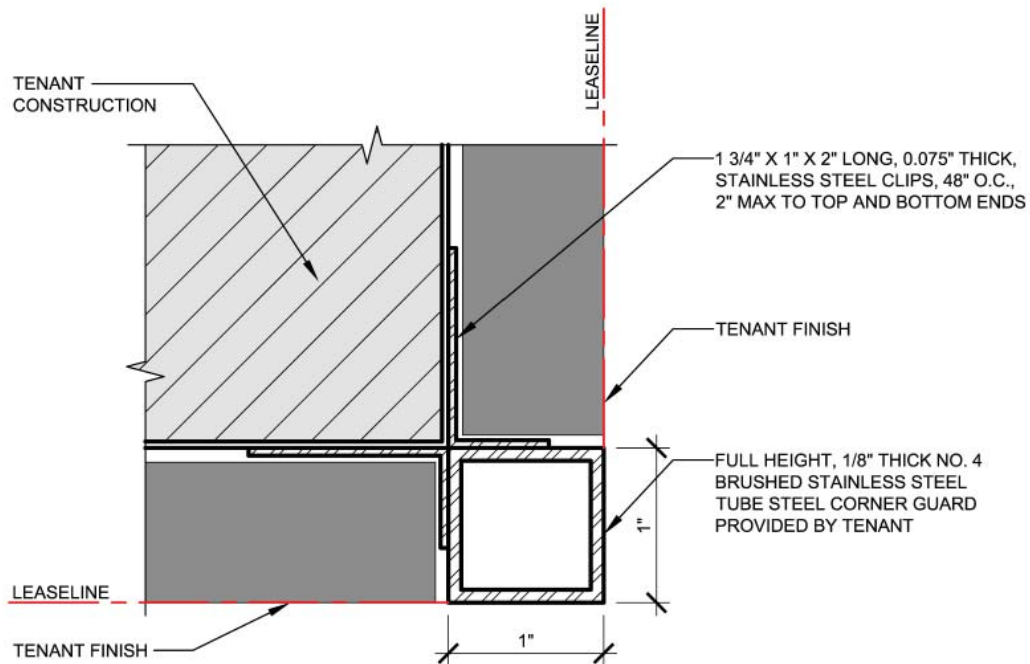
F TENANT CONNECTION TO WINDOW MULLION

N.T.S.



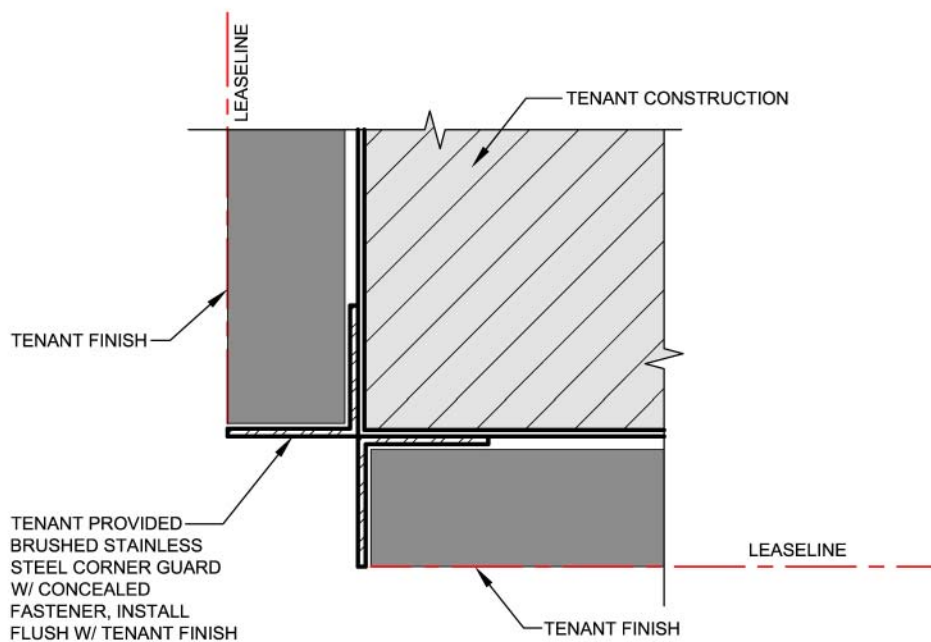
G TENANT CONNECTION TO BASE BUILDING FLUSH CONDITION

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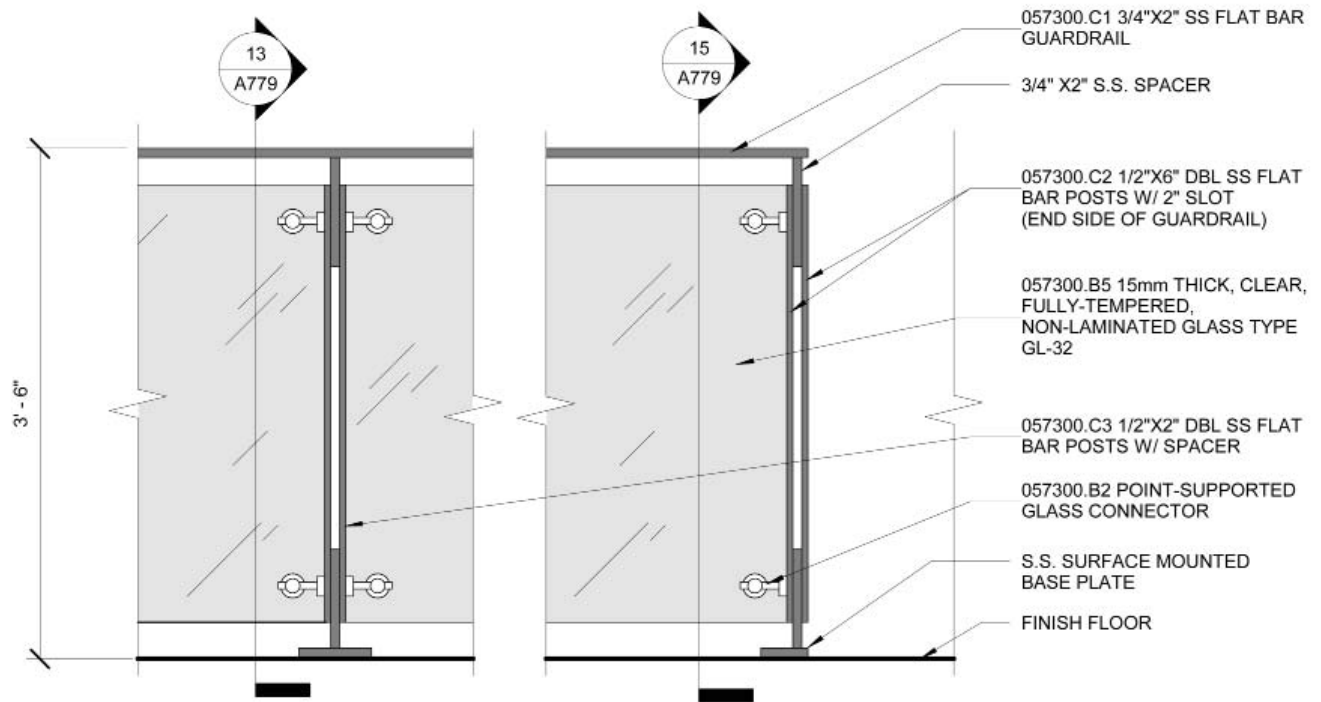


H TENANT STOREFRONT CORNER GUARD

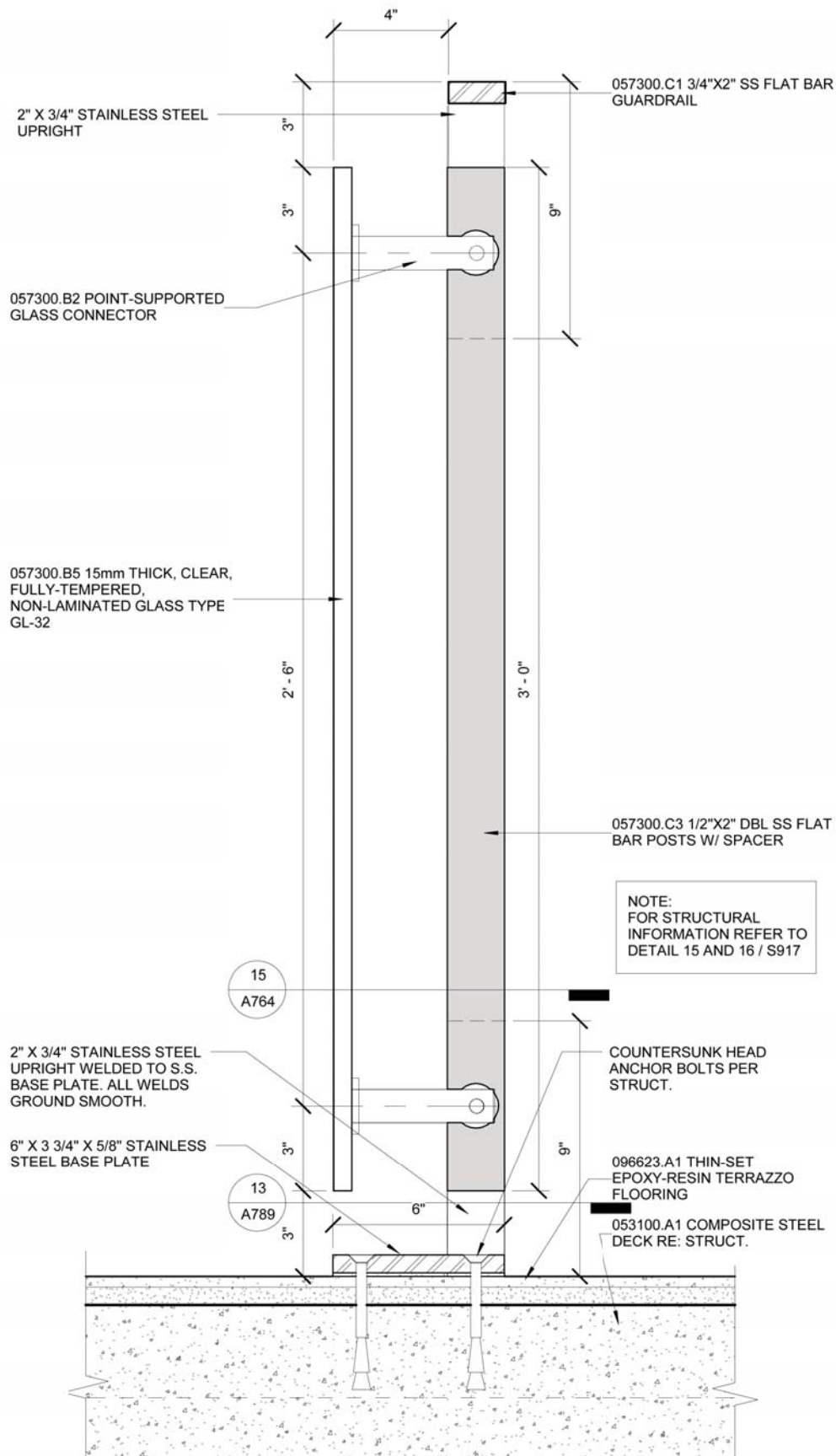
N.T.S.



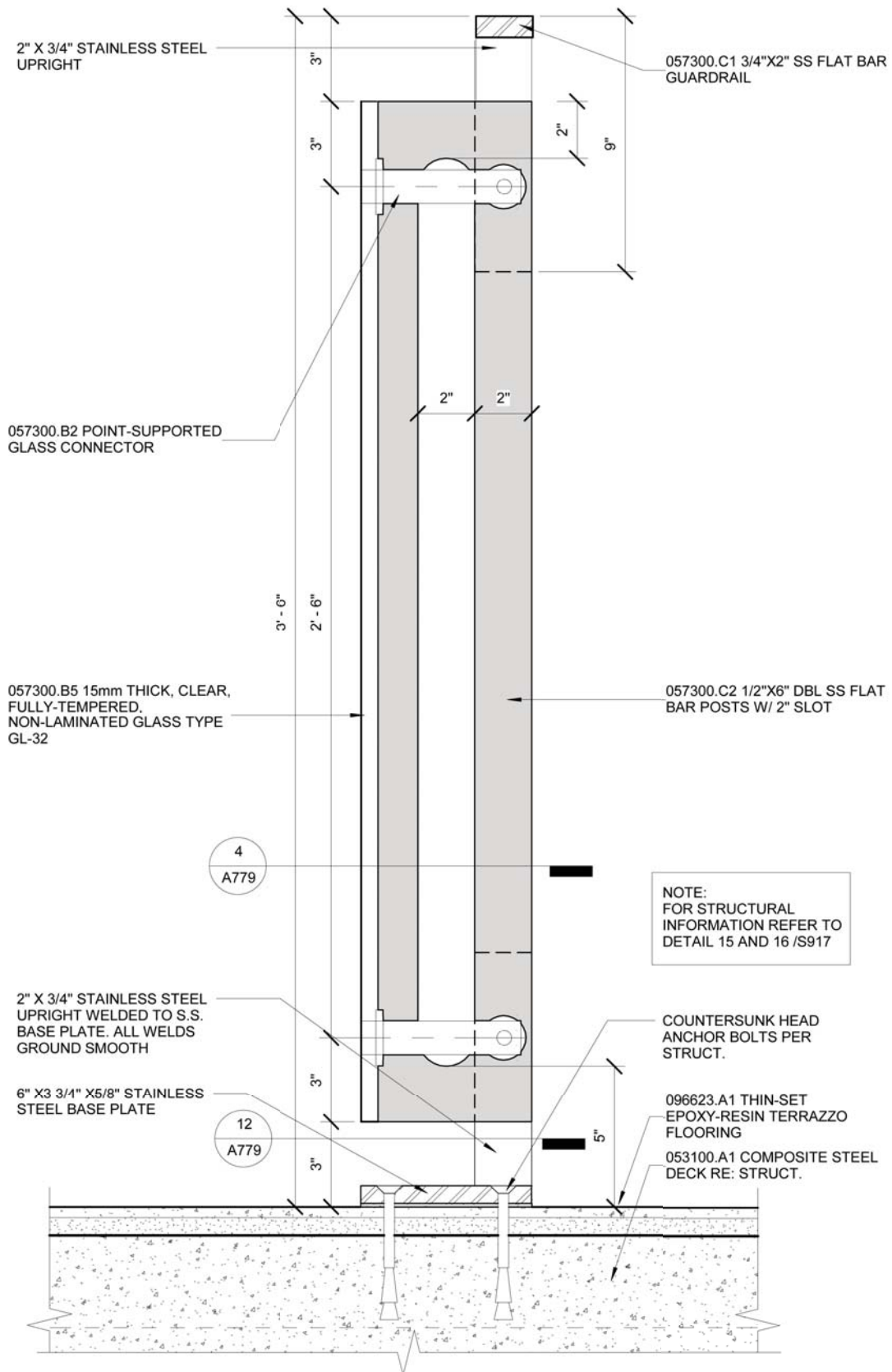
I TENANT STOREFRONT CORNER GUARD: OPTION N.T.S.



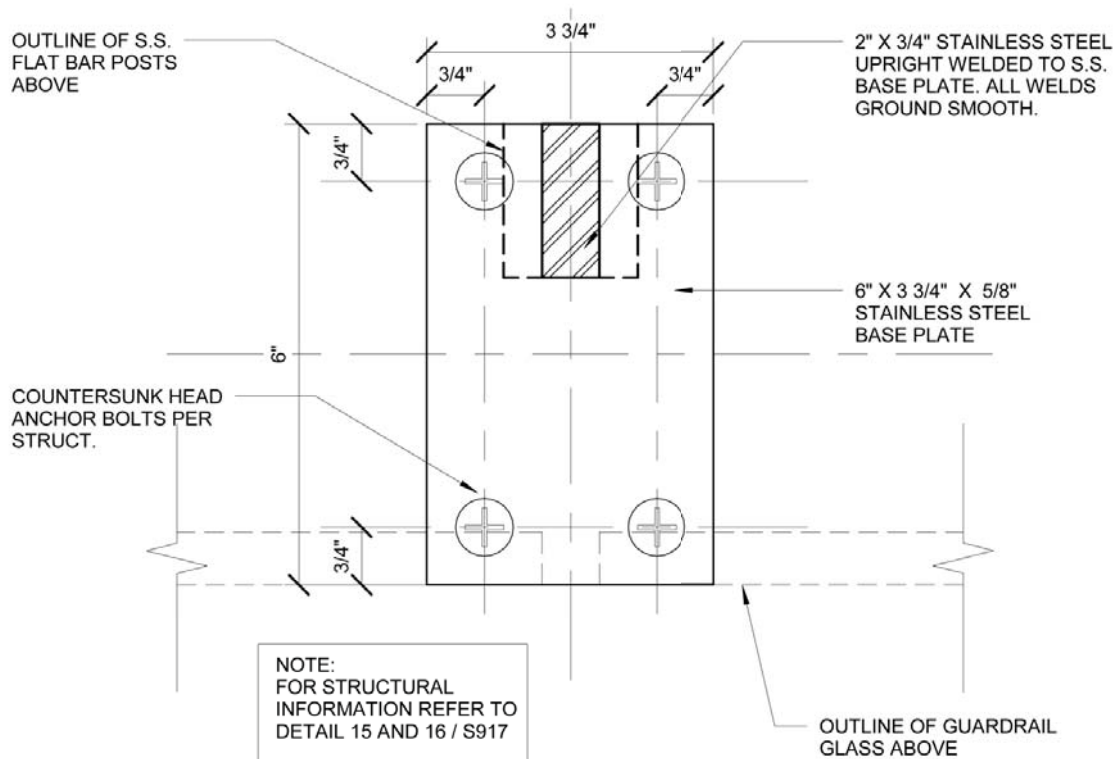
29
14 GUARDRAIL ELEVATION @ OPEN SEATING AREA
N.T.S.



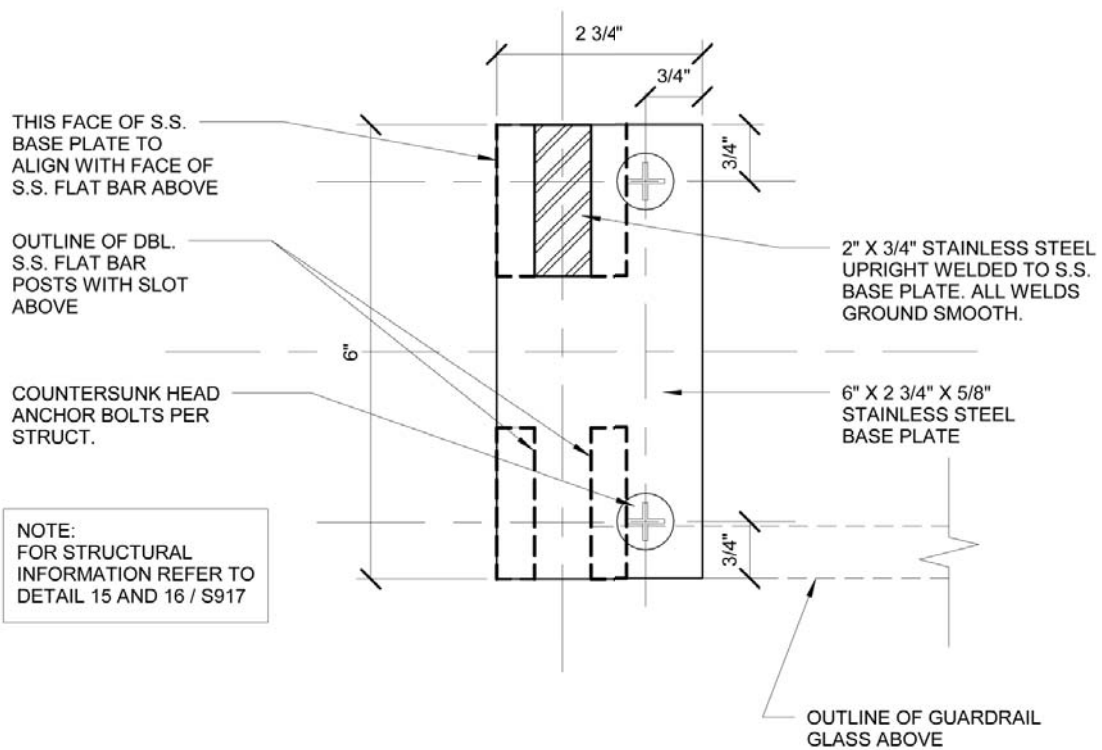
RAILING SECTION DETAIL WITH SURFACE MOUNTED S.S. BASE PLATE
N.T.S.



RAILING SECTION DETAIL WITH SURFACE MOUNTED S.S. BASE PLATE
N.T.S.

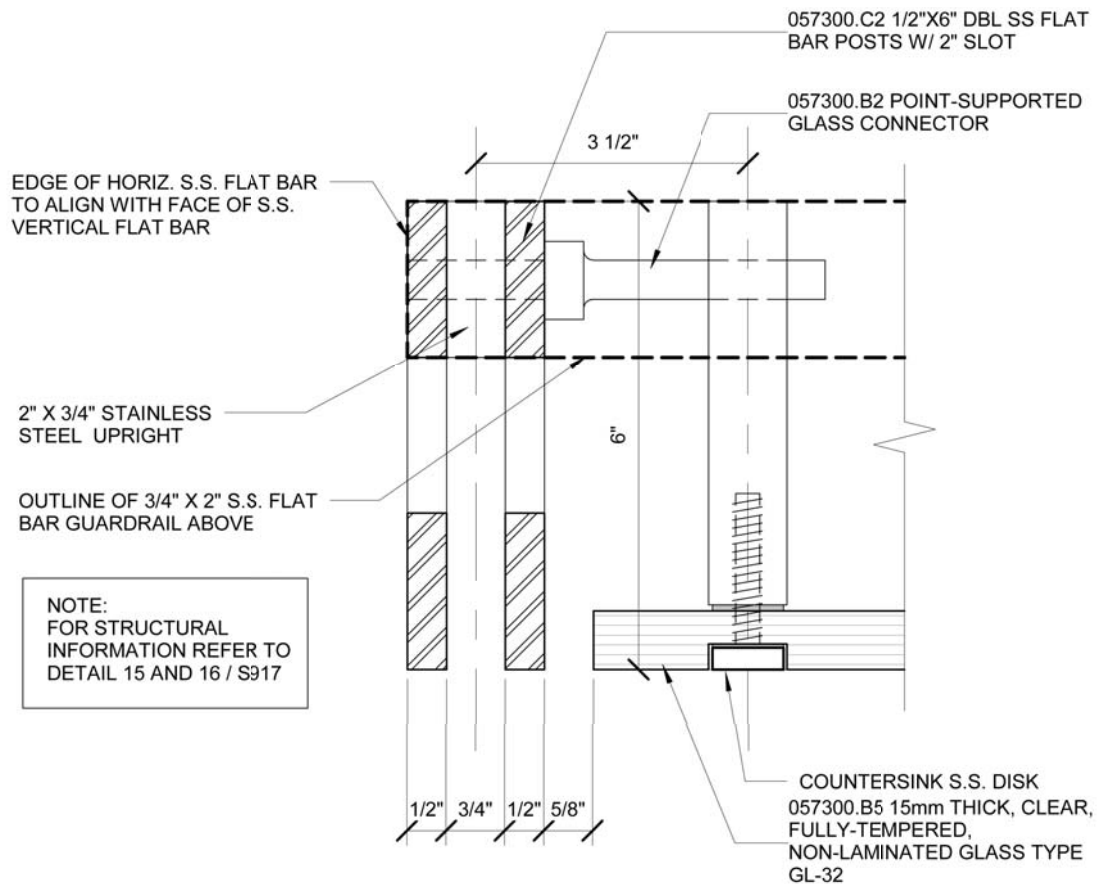


13 SURFACE MOUNTED S.S. GUARDRAIL BASE PLATE
N.T.S.

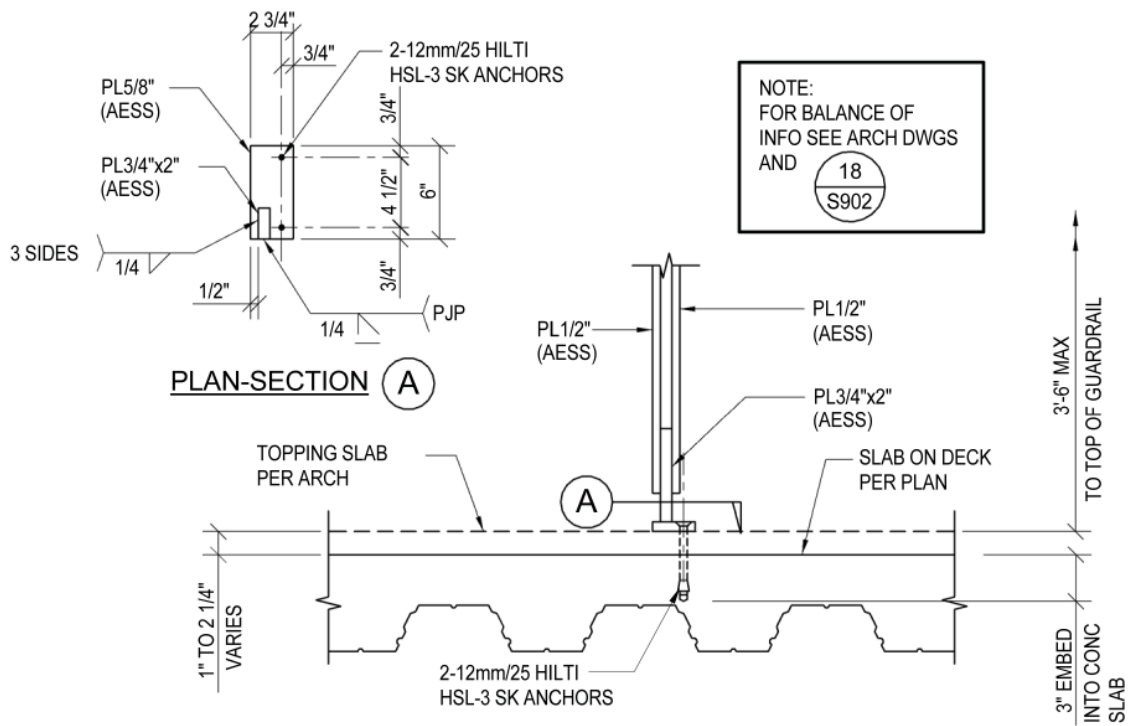


12 SURFACE MOUNTED S.S. GUARDRAIL BASE PLATE AT END SIDE OF GUARDRAIL

N.T.S.



4 GLASS CONNECTOR DETAIL AT END SIDE OF GUARDRAIL
N.T.S.



FLOOR MOUNTED GLASS GUARDRAIL - END CONN

N.T.S.

15

APPENDIX B



SAN DIEGO
INTERNATIONAL
AIRPORT

INFORMATION TECHNOLOGY INFRASTRUCTURE STANDARDS CONSTRUCTION MANUAL

SAN DIEGO COUNTY REGIONAL AIRPORT AUTHORITY



February, 14, 2011

This manual was developed for the
Information Technology Department
under the Terminal Development Program
to establish an airport-wide standard for IT
Communications Infrastructure

DISCLAIMER

The information contained in this document should be verified prior to use. Verification is the sole responsibility of the consultant utilizing the data provided. The San Diego County Regional Airport Authority (SDCRAA) expressly waives any responsibility for the accuracy of requested documents. If any discrepancies, inadequacies or inaccuracies are discovered during the review of this document, it should be reported to the Airport Terminal Development Program Department in writing. If any electronic files are supplied, it is understood that they are provided by the Regional Airport Authority for information only. Conversions of the information and data from the format supplied, to an alternate system or format that can result in files that may be altered, whether inadvertently or otherwise, may also result in the introduction of anomalies and errors which the Regional Airport Authority can neither predict nor control. This document provided by the SDCRAA, is SDIA specific, and is intended to be utilized as the guidelines, standards, and industry best practices for performing work at the SDIA.

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INTRODUCTION

SCOPE

This Standards Document provides design guidelines and requirements for designing infrastructure for Information Technology and Security Systems for San Diego County Regional Airport Authority (SDCRAA). It is not the intent for this document to replace existing technical specification, more so, to allow technical specification to be written by utilizing these guidelines as a base.

Architects, engineers, planners, consultants, installers, tenants, and staff are among the intended audience. The result of adhering to this specification is to provide infrastructure that:

1. Is secure
2. Provides for growth (Scalability)
3. Conforms to industry standards
4. Implements best practices
5. Improves reliability
6. Increases serviceability
7. Provides physical redundancy
8. Provides ease of maintenance

27 00 00 BASIC COMMUNICATIONS REQUIREMENTS

CONSTRUCTION APPROVALS

Before the construction or installation of any infrastructure, construction approvals shall be obtained from the San Diego County Regional Airport Authority's Aviation Security and Public Safety Department, IT Department, Facilities Development Department, and Real Estate Department. Direct all correspondence to:

- 1) Title: Engineer
Attention: Facilities Development Department
Address: P.O. Box 82776, 92138-2776
Or
2320 Stillwater Road
City: San Diego, CA 92101-1022
Phone: (619)400-2400 Fax: (619) 400-2596
- 2) Title: Director
Attention: Aviation Security and Public Safety Department
Address: P.O. Box 82776, 92138-2776
Or
2320 Stillwater Road
City: San Diego, CA 92101-1022
Phone: (619)400-2400 Fax: (619) 400-2596
- 3) Title: Director
Attention: IT Department
Address: P.O. Box 82776, 92138-2776
Or
2320 Stillwater Road
City: San Diego, CA 92101-1022
Phone: (619)400-2400 Fax: (619) 400-2596
- 4) Title: Director
Attention: Real Estate Department
Address: P.O. Box 82776, 92138-2776
Or
2320 Stillwater Road
City: San Diego, CA 92101-1022
Phone: (619)400-2400 Fax: (619) 400-2596

- 5) Title: Program Manager
Name: Peter Aarons
Attention: Terminal Development Program
Address: P.O. Box 82776

City: San Diego, CA 92138-2776
Phone: (619) 400-2955 Fax: (619) 758-9650

Subsurface utilities shall be located by calling the California Underground Service Alert South at (800) 227-2600, or One Call Referral Systems International at (888) 258-0808. Orange is the uniform color code for utility flagging, painting, and identifying communications, alarms, signals, and CATV.

Additionally, it is highly encouraged to utilize the services of a private locating service to ensure all utilities are located.

ADMINISTRATION AND EQUIPMENT MANAGEMENT

Records

The following work activities should be documented and recorded:

- a. Statement of work to be performed
- b. Project schedules
- c. Minutes of meetings
- d. Emergency contact lists
- e. Miscellaneous notes and photos

Labeling

1. General

- a. All labels shall be computer or label maker generated.
- b. It is recommended that cable labeling be conform to Telecommunications Industry Association TIA/EIA-606A, Administrative Standard for Telecommunication Infrastructure.
- c. Labeling scheme will be provided by the SDCRAA IT Department prior to installation. Examples listed below may not be the current approved scheme, and is the contractor's responsibility to ensure adherence to the current approved labeling scheme is achieved.

2. Conduit

- a. All conduit runs shall be labeled on origin and destination ends.

3. Innerduct/Fabric Multi-Celled Ducting in Pull Boxes, Maintenance Holes, and Manholes
 - a. Every innerduct and/or fabric multi-celled duct installed, shall have a brass or plastic tag that contains the origin, destination, and the owner. These tags shall be placed at both ends and in every pull box, handhole, or manhole along the pathway. These tags shall be securely fastened so that they cannot be accidentally removed.
 - i. Examples
 1. SDCRAA IT
 2. COM CTR TO ADMIN BSMT
 3. SDCRAA IT
 4. TR4 TO SR, MPOE
4. Cables
 - a. All cables shall be labeled, and that labeling schedule provided on all as-built drawings and printouts.
5. Fiber Optic Jumpers
 - a. All fiber patch jumpers will be labeled by the Contractor.
 - b. All fibers in a jumper shall be identified with white heat shrink labels, or wrap around label 5/8 inch to 3/4 inch wide by 1 to 1 ½ inch long, with lettering clearly visible and shall be placed near the boot of the connector. The heat shrink label shall not be shrunk.
 - c. Some examples of the labeling format for jumpers in the TR and the Cable Management System are as follows:
 - i. Line 1 is the near port of the jumper. The format is: AAA-RXX-Y-ZZ where AAA is the two or three letter building code, RXX is the rack number, Y is the shelf number, and ZZ is the port number.
 - ii. Line 2 is the far port of the jumper. The format is: AAA-RXX-Y-ZZ where AAA is the two or three letter building code, RXX is the rack number, Y is the shelf number, and ZZ is the port number.
 - iii. Line 3 is the circuit number. The format is #XXXX where XXXX is the circuit identification number as assigned by ITs.
 1. 1 - CC-R59-3-25
 2. 2 - CC-R53-1-10
 3. 3 - CKT #3007

- d. Some examples of the labeling format for all other jumpers is on three lines and is as follows:
 - i. Line 1 is the near port. The format is: XXX-YY-ZZ where XX is the two or three letter building code, YY is the patch panel number in that building, and ZZ is the port number in that panel.
 - ii. Line 2 is the far port. The format is XXX-YY-ZZ where XX is the two or three letter building code, YY is the patch panel number in that building, and ZZ is the port number in that panel. Line 3 is the circuit number. The format is #XXXX where XXXX is the circuit identification number as assigned by Its.
 - iii. Line 3 is the circuit number. The format is #XXXX where XXXX is the circuit identification number as assigned by ITD.
 - 1. 1 - AD-3-14
 - 2. 2 - AD-4-22
 - 3. 3 - CKT #2557
6. Work Areas
- a. Work area outlet cabling shall be labeled at each end.
 - b. Work area outlets shall be labeled on the front of the wall plate.
 - c. Patch panel labels to be clearly labeled on the front of the patch panel.
7. Tenant Areas
- a. If TRs are shared with tenants, provide clear separation and identification of the equipment and terminations. Refer to Figure 1 in the Appendix.

Documentation

- 1. Upon completion of installation and after the final acceptance of all systems, the Installer shall supply a complete set of as-built documentation as follows:
 - a. Site plan
 - b. System block diagram
 - c. Interconnection diagram
 - d. Dig Alert tickets and Utility Locate documentation
 - e. As-built drawings and prints of the conduit installation with routing
 - f. Butterfly diagrams of manhole and handhole conduit configurations and cable routing, to include conduit sizes and cable counts
 - g. Electronic drawings incorporated into BIM (Building Information Modeling) format
 - h. Final acceptance test data sheet
 - i. Updated Material List with quantities, model numbers and serial numbers

- j. Manufacturer manuals/data sheets on all equipment
 - k. Manufacturer representatives and telephone numbers
 - l. Operation manuals
 - m. QA/QC manuals
 - n. Quality Management Plan (QMP)
 - o. Commissioning test forms
 - p. Warranty letter and time frame of warranty
2. The above documentation shall illustrate in detail the interconnection of every component and its correct functional relationship showing the positional and geographical location. The above documentation shall also include the following information:
- a. All testing parameters and resulting outputs
 - b. All cable numbers
 - c. All grounding points
 - d. All conduit and/or cable tray pathways
3. Two (2) size "B" hard copies of the System block diagrams and Multi-wire Line diagrams must be submitted, along with one electronic copy in AutoCAD (AutoCAD 2010 minimum) .dwg format on CD ROM. In addition, two (2) hard copies of all other documents shall be provided, along with electronic one electronic copy of all other documentation listed above.
4. All information including, but not limited to, the definition of symbols, terms, and acronyms shall be included to assist in a clear understanding of the documentation.

STANDARDS, CODES AND REFERENCES

All installations shall comply with the latest National Electric Code, City, State and Federal codes, regulations, permits and inspections. Except as specified, standards and practices that prevail and which are generally accepted within the industry shall be used to assure the highest quality materials, equipment and workmanship.

If there is an apparent conflict between this specification and any code or standard, then the more stringent shall prevail.

Design energy efficient systems to comply with California Building Energy Efficiency Standards Title 24.

REFERENCES

List of codes and standards governing infrastructure installations:

ANSI C80-1	Rigid Steel Conduit, Zinc-Coated
ANSI C80-3	Electrical Metallic Tubing, Zinc-Coated
ANSI/CEA	Publication S-80-576
ANSI/ICEA S-83-596	Fiber Optic Premises Distribution Cable Technical Requirements
ANSI/NEMA FS 1	Fittings and Supports for Conduit & Cable Assemblies
ANSI/TIA/EIA 107	Return Loss for Fiber Optic Components
ANSI/TIA/EIA 455-A	Transducers, Sensors, Connecting and Terminating Devices, and Other Fiber Optic Components (FOTPs) Standard Test Procedures for Optical Fibers & Cables
ANSI/TIA/EIA 455-13	Visual and Mechanical Inspection of Fiber Optic Components, Devices, and Assemblies (R2002)
ANSI/TIA/EIA 455-57A	Optical Fiber End Preparation and Examination

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ANSI/TIA/EIA 455-59	Measurement of Fiber Point Defects Using An OTDR
ANSI/TIA/EIA 455-60	Measurement of Fiber or Cable Length Using An OTDR
ANSI/TIA/EIA 455-61	Measurement of Fiber or Cable Attenuation Using An OTDR
ANSI/TIA/EIA 455-95	Absolute Optical Power Test for Optical Fibers and Cables
ANSI/TIA/EIA 455-171	Attenuation by Substitution Measurement - for Short-Length Multi-mode Graded-Index and Single-mode Optical Fiber Cable Assemblies
ANSI/TIA/EIA 526-7	Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant
ANSI/TIA/EIA 526-14	Optical Power Loss Measurements of Installed Multi-mode Fiber Cable Plant
ANSI/TIA/EIA 568-A and Addenda	Commercial Building Telecommunications Cabling Standard, October 1995
ANSI/TIA/EIA 568-B.1 and Addenda	Commercial Building Telecommunications Cabling Standard - Part 1 general requirements.
ANSI/TIA/EIA 568-B.2 and Addenda	Commercial Building Telecommunications Cabling Standard - Part 2 balanced twisted pair.
ANSI/TIA/EIA 569-B	Commercial Building Standard for Telecom Pathways and Spaces, February 2003
ANSI/TIA/EIA 598-B	Optical Fiber Cable Color Coding, 2001
ANSI/TIA/EIA 604.2	Fiber Optic Connector Intermateability Standard, 1997
ANSI/TIA/EIA 606-A	Administration Standard for Commercial Telecommunications Infrastructure, 2002
ANSI/TIA/EIA 607	Commercial Building Grounding and Bonding Requirements for Telecommunications, August 1994
ANSI/TIA/EIA 758	Customer-Owned Outside Plant Telecommunications Cabling Standard, April 1999

ANSI/TIA/EIA 862	Building Automation Systems Cabling Standard for Commercial Buildings, 2002
ANSI/TIA/EIA 942	Telecommunications Infrastructure Standard for Data Centers
ANSI/TIA/EIA 1005	Telecommunications Industrial Cabling Standards
ANSI/TIA/EIA 4750000B	Generic Specifications for Fiber Optic Connectors
ANSI Z136.1	National Standard for the Safe Use of Lasers
ANSI Z136.2	National Standard for the Safe Use of Optical Fiber Communication Systems Utilizing Laser Diode and LED Sources
ASTM E-814	Fire Tests of Through-Penetration Fire-Stop
BICSI	Telecommunications Distribution Methods Manual (Latest Edition) NTS, OSP, WD, ESSRDM, A/V
FCC 47 Part 68	Code of Federal Regulations, Title 47, Telecommunications
FCC Part 76	Cable Television Service
IEEE	National Electrical Safety Code (NESC); Latest
ISO/IEC IS 11801	Standards
NEMA 250	Enclosures for Electrical Equipment (1000 V Max)
NFPA 70	National Electric Code; 2002
OSHA, 29 CFR Part 1910	Safety Requirements
SCTE	Society for Cable Television Engineers, Publications and Industry Standards.
TSB-67	Field Testing of UTP Cabling Systems, October 1995
TSB-72	Centralized Cabling Guidelines, October 1995

TSB-75	Additional Horizontal Cabling Practices for Open Offices, August 1996
TSB-95	Additional Field Testing Requirements for Category 5, October 1999
UL 1459	Underwriters Laboratories Standard for Safety – Telephone Equipment
UL 1863	Underwriters Laboratories Standard for Safety – Communications Circuit Accessories

ABBREVIATIONS

ACAMS	Access Control and Monitoring System
ACR	Attenuation-to-Crosstalk Ratio
AFF	Above Finished Floor
AWG	American Wire Gage
ANSI	American National Standards Institute
BTU	British Thermal Unit
BHS	Baggage Handling System
BICSI	Building Industry Consulting Service International
BMS	Building Management System
CAT	Category e.g., CAT6
CATV	Common Access Television
CCTV	Closed-Circuit Television
CMP	Communications Plenum
CMR	Communications Riser
COAX	Coaxial Cable
EIA	Electronic Industries Alliance
ELFEXT	Equal Level Far End Crosstalk
EMT	Electrical Metal Tubing
EVIDS	Electronic Visual Information Display System
FA	Fire Alarm
FEXT	Far End Crosstalk
FR-S	Fire Retardant Stamp
ID	Inside Diameter
IDF	Intermediate Distribution Frame
IEEE	Institute of Electrical and Electronics Engineers, Inc.
INS	Immigration and Naturalization Service
ISO	International Organization for Standardization
IT	Information Technology
LAN	Local Area Network
MM	Multimode fiber optic cable
MDF	Main Distribution Frame
MPOE	Main Point Of Entry
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NEXT	Near End Crosstalk
NFPA	National Fire Protection Association, Inc.
nm	Nanometer
OD	Outside Diameter
OSHA	Occupations Safety and Health Administration
OSP	Outside Plant

OTDR	Optical Time Domain Reflectometer
PIDS	Perimeter Intrusion Detection System
PLC	Programmable Logic Controller
PMD	Project Management Division (Engineering)
PVC	Polyvinyl Chloride
RMS	Resource Management System
RR	Rack Room
SM	Single Mode fiber optic cable
SR	Server Room
STP	Shielded Twisted Pair
TC	Telephone Closet
TDR	Time Domain Reflectometry
TGB	Telecommunications Grounding Busbar
TIA	Telecommunications Industry Association
TMGB	Telecommunications Main Grounding Busbar
TR	Telecommunications Room
UL	Underwriters Laboratories Inc.
UTP	Unshielded Twisted Pair
VoIP	Voice over Internet Protocol
WAO	Work Area Outlet
WLAN	Wireless Local Area Network

DEFINITIONS

1. **Active Equipment:** Electronic equipment used to develop various WAN and LAN services.
2. **Backbone:** Collective term sometimes used to describe the campus and vertical distribution subsystem facilities and media interconnecting service entrances, communications rooms, and communications cabinets.
3. **Bonding:** Permanent joining of metallic parts to form an electrically conductive path which will assure electrical continuity and the capacity to conduct safely any current likely to be imposed on it.
4. **Cabinet:** Freestanding, floor-mounted modular enclosure designed to house and protects rack-mounted electronic equipment.
5. **Cable Tray:** Vertical or horizontal open supports usually made of aluminum or steel that is fastened to a building ceiling or wall. Cables are laid in and fastened to the trays. A cable tray is not a raceway.
6. **Campus:** Grounds and buildings of a multi-building premises environment.
7. **Channel:** The end-to-end transmission path between two points at which application specific equipment is connected; may include one or more links, cross-connect jumper and/or patch cords, and work area station cords. Does not include connection to active equipment.
8. **Cross-Connect:** Equipment used to terminate and tie together communications circuits.
9. **Cross-Connect Jumper:** A cluster of twisted-pair conductors without connectors used to establish a circuit by linking two cross-connect termination points.
10. **Fiber Optic Distribution Unit (FDU):** Cabinet with terminating equipment used to develop fiber optic cross-connect facilities.
11. **Grounding:** A conducting connection to earth, or to some conducting body that serves in place of earth.
12. **Hinged Cover Enclosure:** Wall-mounted box with a hinged cover that is used to house and protect electrical devices.

13. Horizontal: Pathway facilities and media connecting Intermediate Distribution Facility (IDF) to Station Outlets (SO).
14. Information Technology (IT): A department which manages computers, voice, video, data networks and other technical areas of the business.
15. Intermediate Distribution Facility (IDF): Distributes communications services to users within a serving zone and interconnects with the BDF. Typically, the IDF contains passive equipment used for cross connect and active network equipment used for LANs. IDF is sometimes referred to as the communications equipment room.
16. Jack: Receptacle used in conjunction with a plug to make electrical contact between communications circuits, e.g., eight-position/eight-contact modular jacks.
17. Link: A transmission path between two points, not including terminal equipment, work area cables, and equipment cables; one continuous section of conductors or fiber, including the connecting hardware at each end.
18. Local Area Network (LAN): Data transmission facility connecting a number of communicating devices, e.g., serial data, Ethernet, token ring, etc. Typically, the network is limited to a single site.
19. Media: Twisted-pair, coaxial, and fiber optic cable or cables used to provide signal transmission paths.
20. Mounting Frame: Rectangular steel framework which can be equipment rack or wall mounted to support wiring blocks, patch panels, and other communications equipment.
21. Passive Equipment: Non-electronic hardware and apparatus, e.g., equipment racks, cable trays, electrical protection, wiring blocks, fiber optic termination hardware, etc.
22. Patch Cords: A length of wire or fiber cable with connectors on one or both ends used to join communications circuits at a cross-connect.
23. Patch Panel: System of terminal blocks or connectors used with patch cords that facilitate administration of cross-connect fields.

- 24. Pathway: Facility for the placement of communications cable. A pathway facility can be composed of several components including conduit, wire way, cable tray, surface raceway, under floor systems, raised floor, ceiling support wires, etc.
- 25. Private Branch Exchange (PBX): Private communications switching system located on the user's premises. A PBX switches voice and data calls within a building or premises and between the premises and facilities provided by public common carrier networks.
- 26. Protectors: Electrical protection devices used to limit foreign voltages on metallic communications circuits.
- 27. Raceway: An enclosed channel designed expressly for holding wires or cables; may be of metal or insulating material. The term includes conduit, tubing, wire way, under floor raceway, and surface raceway; does not include cable tray.
- 28. Racks: An open, freestanding, floor-mounted structure, typically made of aluminum or steel, used to mount equipment; usually referred to as an equipment rack.
- 29. Station Outlets (SO): Connecting device mounted in a work area used to terminate horizontal cable and interconnect cabling with station equipment.
- 30. Wide Area Network (WAN): Active communications transmission facilities extending beyond the premises.
- 31. Wiring Block: Punch down terminating equipment used to develop twisted-pair cross connect facilities.

27 05 00 COMMON WORK RESULTS FOR COMMUNICATIONS SYSTEMS

27 05 26 GROUNDING AND BONDING FOR COMMUNICATIONS SYSTEMS

1. Within the main point of entry (MPOE) there shall be installed a telecommunications main grounding bus bar (TMGB).
2. The TMGB shall be grounded to both the electrical grounding entrance facility and the building's steel exterior wall, or according to the local authority having jurisdiction. Use of gas or water pipes is not permitted. The TMGB shall also connect to a telecommunications grounding bus bar (TGB) within each IT room via a telecommunications bonding backbone (TBB). Grounding conductors shall be installed to building steel with clamps designed for the purpose. Connections to building steel should be made non-reversible means and any disturbance to the fire proofing must be restored.
3. The TMGB shall be a copper bus bar of a minimum 4 inches x 12 inches x ¼ inch with a minimum of twelve (12) 5/16 holes and six (6) 7/17 holes. The bus bar shall be insulated from its support.
4. The TGB shall be provided for each TR, and shall be connected to both the closest grounding point in the building's electrical service panel (or according to the local authority having jurisdiction), and the building's steel exterior wall. Any disturbance to the building steel fire proofing must be restored.
5. The TBB shall be installed to connect the TMGB to each TGB. Separate conductors shall run from the TMGB to every level within a building. TBB's can be extended from the TGB's in TRs on the same level.
6. TBB's shall be sized according to the resistance measurement at the TR TMGB of 5 Ohms or less. Measurements shall be taken from two points. Electrical designer must achieve this requirement via wire sizing for given distances versus resistance drop.
7. For TGB's, at a minimum a #6 AWG, stranded, copper, green, insulated, conductor shall be provided to connect equipment racks and cabinets and cable tray intersystem bonding. All equipment racks and cabinets shall be bonded to each other and to the telecommunications grounding bus bar.
8. All grounding conductors shall be protected by installing within ½ inch conduit. This does not apply for cable tray top cable tray connection points, which can be installed without utilizing conduit.

9. Isolated grounds to reduce electrical noise shall be provided if specified. Isolated grounding receptacles shall be colored orange or marked with an orange triangle.

27 05 28 PATHWAYS FOR COMMUNICATIONS SYSTEMS

The Installer shall not interfere with the owner and/or tenants' operations without SDCRAA's prior written notice and in line with current tenant advisory timelines/constraints.

Traffic Control

1. The Installer shall comply with Department of Transportation standards and the requirements of the SDCRAA. Prior to performing work in any roadway, the Installer shall review and adhere to the standards and specification set forth by the Facilities Development Division (FDD) and the Airport Traffic Officers.

Storage and Handling

1. Handle materials and equipment in accordance with the manufacturer's written instructions.
2. Follow the manufacturer's written instructions for storing all items.

27 05 28.29 HANGERS AND SUPPORT FOR COMMUNICATIONS SYSTEMS

Copper

1. Most SDCRAA cabling is required to be installed within conduit from work area outlets to a cable tray system. See section 27 05 28.36 CABLE TRAYS FOR COMMUNICATIONS SYSTEMS for specifications on cable tray systems at SDCRAA.
2. There are some installations where "J" hooks are allowed if pre-approved by the Engineer and the SDCRAA.
3. Above ceilings, copper cables shall be suspended either by prefabricated "J" hooks, a trapeze suspended from the ceiling with continuous rod, or some other approved and industry accepted practice. Ties and bridle rings shall **NOT** be used to support cable in ceilings.

4. Approved “J” hooks may be fastened to beams, ceiling drop wires, pencil rod, or approved communications wiring hangers.
 - a. Use of ceiling drop wires shall be independent and isolate from those supporting acoustical ceiling grid support wires.
 - b. Independent wires utilized for cable hangers, must not attach to the ceiling grid.
5. Supports shall be space every 4 to 5 feet to minimize cable sag.
6. In ceilings, copper cables shall **NEVER** be pulled directly over suspended ceiling tiles or fluorescent light fixtures and shall **NEVER** be laid upon ceiling tiles or fluorescent light fixtures.
7. Cable ties within the ceiling are not permitted.
8. Velcro cable ties may be used to secure copper cables provided that they are **NOT** over-tightened and have the appropriate fire rating.
9. Screw-mounts, one inch square, can be used on backboards provided that they are secured with flat-head mounting screws.

Coaxial

1. Same as copper.

Rooftops

1. One junction box for each vertical cable riser with two 4 inch conduits for each junction box shall be provided on the building rooftop. Each TR junction box shall be connected to the closest TR via two 4 inch conduits. Conduits penetrating the roof shall be galvanized rigid steel conduit. Junction boxes located on the roof shall meet or exceed a rating of NEMA-3R.

Antennas

1. Antenna Support: Install structural members on the roof near the rooftop TR junction box for the mounting of satellite antennas for each TR junction box.
2. Antenna transmission lines should follow the manufacturer’s specifications on minimum bending radius, connector installation, and support requirements; wrap-lock or other smaller support equipment is **NOT** permitted.

27 05 28.33 CONDUITS AND BACKBOXES FOR COMMUNICATIONS SYSTEMS

Conduits

1. No plastic or plastic based materials shall be used as conduits within buildings.
2. Rigid steel conduit and electrical metal tubing conduit shall be steel, hot dipped galvanized after fabrication.
 - a. Flexible metal conduit is not permitted without prior approval by the Authority.
3. Unless and otherwise specified by SDCRAA, minimum size of interior conduit within SDCRAA infrastructure shall be 1 inch.
4. All TRs shall connect to the Main Distribution Frame (MDF) or Server Room (SR) with a minimum of two 4 inch conduits.
5. Adjacent TRs shall connect to each other with a minimum of two 4 inch conduits.
6. Within passenger terminals, the backbone pathway shall be individual, physically separate, redundant pathways feeding each TR from the MDF or SR utilizing cable tray or conduits as appropriate.
7. Every TR on the level immediately below the rooftop shall provide for connectivity to the rooftop or as permitted by the SDCRAA.
8. Power lines shall not run in communications conduits.
9. All communications conduit shall be connected with compression fittings, reamed and bushings installed, unless otherwise specified.
10. Conduit shall be sized for forty percent (40%) of perfect fill.
11. The maximum number of cables that can be installed with two 90-degree bends is 40 percent of perfect fill.
12. Conduits shall not extend more than 100 feet in any one continuous run without a pull-box. Communication conduits shall not exceed a total of 180-degrees bend radius without installation of a pull box. Pull box sizing shall be coordinated with SDCRAA IT and based on conduit sizes and fill ratios.

13. All 4 inch communication Service Entrance and backbone conduits shall have a 2500# pull rope installed and attached at each end. All 2-inch and below conduits shall have a 1200# pull string installed and attached at both ends. Each conduit shall have a pull string shall be marked with distance in feet marking at each end and be labeled on each end with the origin and destination, respectively.
14. One 4 inch conduit entering the TR and one 4 inch conduit leaving the TR shall have three (3) three-celled fabric ducting or four 1 inch orange-colored innerducts installed with pull strings with distance in feet markings on it inserted in each of the ducts and tied off at each end.
15. All communications 2 inches and smaller conduits shall require a minimum of 24 inch bend radius sweeps. All communications conduits 3 to 4 inches shall require a minimum of 48 inch bend radius sweeps. All conduits bend shall be factory manufactured radius sweeps for 4 inch conduits. Field radius sweeps are not permitted for 4 inch conduits.
16. The inside bend radius of conduits sized greater than 2 inches shall be a minimum of 10 times the internal diameter of the conduit.
17. All conduit connectors shall have plastic bushings. No thread ends may remain exposed.
18. All conduits shall be labeled on both origin and destination ends.
19. All conduits shall be painted and/or labeled to identify the type of communications pathway. Markings to occur every 10 feet.
 - a. Color coding to be aligned with SDCRAA standard labeling scheme. (See Appendix Table-3)
20. Outlet boxes shall be no smaller than 2 inches wide, 3 inches high and 2 1/2 inches deep.
21. Work area outlet conduits fed from a cable tray system, shall be grounded and bonded to the cable tray.
22. Empty conduits shall have approved caps installed after pull strings have been installed.

Exterior Conduit

1. Horizontal distribution conduits may only run exterior to the building in the following circumstances:
 - a. It is not feasible to meet the recommended 250 feet cable length limitation by running within the facility.
 - b. The runs are essential and are not exposed to direct elements (i.e. rain, sunlight). Note: Extremes of heat lowers the maximum length of the 250 foot cable by approximately one (1) yard for every ten (10) degrees.
2. Unless and otherwise specifically authorized, minimum – 1 inch conduit shall be used.
3. No Conduit shall be routed on the roof unless specifically approved by SDCRAA. If such routing is approved, then only rigid steel type conduit shall be used on the roof.
 - a. Where roof installations must occur, the integrity of the roof must be taken into consideration during installations.
 - b. Roof penetrations should only be performed by the warranting roofing company, to avoid voids in warranty.
 - c. Where roof work is required for tenant needs, all costs will be absorbed by the tenant.
4. All conduits shall be painted and/or labeled to identify the type of communications pathway. Markings to occur every 10 feet.
 - a. Color coding to be aligned with SDCRAA standard labeling scheme. (See Appendix Table-3)

Pull Boxes

1. Sized according to the NEC, unless exact sizes are specified.
2. The minimum size pull box for 1 ¼ inch conduit is 12 inches long x 4 inches wide x 3 inches deep. (12" x 4" x 3").
3. The minimum size pull box for 4 inch conduit is 36 inches long x 12 inches wide x 8 inches deep. (36" x 12" x 8").

4. Conduits shall not run more than 100 feet or have more than two 90 degree bends without pull boxes.
5. Conduit entry and exit points shall be placed at opposite ends of the pull box if possible.
6. Exterior exposed pull boxes shall meet or exceed a NEMA-3R rating.
7. In all cases, pull box sizing must meet industry standards and installed to meet building code requirements.

Fabric Multi-celled Duct and Innerduct

1. Innerduct or fabric multi-celled ducting (preferred) shall be installed in all conduit systems where fiber optic cable is placed.
2. For new multiple conduit installations, four 1 inch innerducts or three 3-cell fabric ducts (preferred) shall be pulled and shall include a pull string with distance in feet markings at each end in each innerduct.
3. SDCRAA IT only uses orange-colored innerduct so as not to be confused with other agencies.
4. Innerduct and/or fabric multi-celled ducting should extend 4"-6" inside pull boxes, hand-holes and manholes, and be secured in place using an approved duct plug.
5. Unused innerducts shall be plugged with an approved plug.

27 05 28.36 CABLE TRAYS FOR COMMUNICATIONS SYSTEMS

Ladder Cable Tray

1. Ladder cable trays shall be used in all TRs at SDCRAA.
2. Ladder cable trays shall be a standard 18 inches wide and a rung spacing of 12 inches, mounted at least 8' (feet) 6" (inches) above the finished floor. Ideally, ladder cable trays should be mounted at 12 inches above the cabinets being served.
3. Ladder cable trays installed within TRs shall be installed above the center-line of the cabinets from wall to wall and tee off at intervals not to exceed six feet. For a row of four cabinets or more, the cable tray shall tee off in at least two locations.

4. Ladder cable trays shall be supported by a threaded rod trapeze sized for the rated load.
5. Ladder cable tray parts shall be bonded to a number 6 AWG copper conductor and connected to the grounding busbar.

Cable Trays

1. Cable trays shall be metal, suitable for indoors and protected against corrosion by electroplated zinc galvanizing, complying with ASTM B 633, Type 1, not less than 0.000472 inch thick.
2. Cable trays shall be a standard of at least 18 inches wide and mounted at least 8' (feet) 6" (inches) above the finished floor.
3. In office areas, cable trays should be installed above the common corridor. In areas with diverse architecture pre-approval for cable trays must be obtained.
4. Cable trays shall be supported by a threaded rod trapeze sized for the rated load.
5. Cable trays shall not exceed a 50% fill ratio.
6. Cable trays parts shall be bonded to a number 6 AWG copper conductor and connected to the grounding busbar.

Power Poles

1. Power poles are not permitted.

Surface Mount

1. Surface-mount raceways shall be used only if there is no other alternative pathway for cables.

Fire-stopping

1. All penetrations made through fire-rated structures shall be sealed with approved fire-stopping materials.
2. Fire-stopping materials shall be of like materials and sufficient to restore the fire-rating of the penetrated structure.
3. Fire stopping pillows may be used for through penetrations for cable tray pathways.

Core Drilling

1. Core drilling concrete floors may be permitted with approval from the Engineer, provided that structural integrity is not compromised.
2. Ground penetrating radar systems can be used to detect rebar, and other embedded objects.
3. Prior to drilling, the concrete shall be X-rayed, and the X-ray given to the Engineer along with a request for core drilling whenever:
 - a. Conduits are to pass through or interfere with a structural member.
 - b. Notching, boring or cutting of the structure is necessary.
 - c. Special openings are required through walls, floors, footings or other building elements to accommodate the work.
4. The concrete slurry from the drilling operation shall not be allowed to stain anything above or below it. Provisions shall be made to protect the environment and contain the slurry.
5. All spillage shall be cleaned up.
6. Damage to existing areas caused by spillage and/or splatter, shall be repaired at the expense of the contractor.
7. The core-drilled opening shall be properly fire stopped.
8. If coring is in a room with existing equipment, the Contractor is responsible for any damage to existing equipment caused by coring dust. Precautions shall be taken to minimize coring dust.

27 05 43 UNDERGROUND DUCTS AND RACEWAYS FOR COMMUNICATIONS SYSTEMS

Underground

1. Minimum - 3 inches minimum gap when near power, light and other conduits.
2. Minimum - 6 inches minimum gap when crossing oil, gas, water and other pipes.
3. Minimum - 12 inches minimum gap when running parallel to oil, gas, water and other pipes.
4. Minimum - 12 inches minimum gap when below the top of railroad rails.

5. SDCRAA installation standards require underground communications ductbanks to be installed no less than 24 inches below finished grade. Top of the conduit ductbank shall have 24 inches of cover to the finished grade. Exceptions can be made for 18 inches of cover, with proper approval by the Authority prior to installation.
6. During backfill of trenches, install a continuous underground, surface detectable, warning tape at 6 to 8 inches below finished grade.
7. Printing on tape shall be permanent and not be damaged during installation or backfill.
8. Tape materials and ink shall be chemically inert and not be subject to damage to commonly found destructive substances found in soils.
9. Reinforced Orange colored; detectable, plastic warning tapes shall be installed 12 inches above conduit to prevent accidental dig-ups and interruption of service.

Codes/Standards Reference
NEC article 300.5

10. Conduits shall be spray painted with system color coding at 3-foot intervals throughout installation, when not encased in concrete. (See Appendix Table-3 for system color codes)

Ductbanks

1. Conduits shall be encased in concrete and shall have an orange electronic marker strip for future location purposes.
2. A minimum of one 4 inch conduit shall be filled with four 1 inch innerducts or three 3-cell fabric ducts (preferred) along the installed pathway.
3. All conduits and innerducts shall have ½ inch poly pull rope installed and secured at each end with feet distance noted at each end.
4. Furnish and install all requirements to effectively seal all utilized and unutilized conduits with an approved conduit sealing kit after installation, splicing, termination, testing and acceptance.

Manholes and Handholes

1. Shall be constructed for an H-20 or higher rating for deliberate heavy vehicular traffic for non-airfield installations.
2. Airfield installations shall have an aircraft rating. SDCRAA Facilities Management Department and Airside Operations Department will provide guidance on Airfield installation prior to any construction activities taking place on the airfield.
3. Handholes shall be sized a minimum 4 feet long x 5 feet wide x 4 feet deep (4' x 5' x 4') to allow the coiling of a 25' service loop per run.
4. Manholes shall be tested for explosive and oxygen-displacing gases, prior to entry.
5. Manholes shall be exhausted and ventilated as required.
6. Manholes having abnormal gas levels shall be reported to the Engineer for record-keeping.
7. All personnel entering manholes shall have successfully completed the OSHA confined space entry safety training, and have their confined space ID card in their possession.
8. New manhole dimensions shall not be less than 8 feet long x 6 feet wide x 8 feet 6 inches high (8' x 6' x 8'6") to allow the coiling of a 50' service loop per run.
9. Distances between manholes shall not exceed 400 feet, 600 feet is allowed in special cases if there are no bends.
10. Bend radii of conduit entering manholes shall be 9 feet minimum.
11. New manholes/handholes shall have factory manufactured cable rack supports along the inner walls, for maintenance of service loops, splice case support and routing of cables within the manholes/handholes in a neat and tidy manner.
12. Manholes shall have a metal ladder secured to the structure.
13. Manhole covers shall be numbered by welding the numbers on top of the manhole cover. (Refer to SDCRAA IT for numbering sequence.)
14. Manhole numbers shall also be painted on the inside collar of the manhole.

15. Manhole and Hand-hole covers shall be hinged.

Direct Burial

1. Direct burial shall not be used as a cable installation method on the SDCRAA campus.

Aerial Pathways

1. Poles shall not be set except for temporary projects and only then with approval from the Engineer and the SDCRAA.
2. Communications cable shall be mounted 40 inches below any power lines and 18 feet above streets and driveways.
3. Aerial cable spans shall not exceed 98 feet to the building.
4. Aerial cable entrances shall be limited to 100 pairs.

Codes/Standards Reference

NEC article 230

NEC article 830.10, 830.11

27 05 48 VIBRATION AND SEISMIC CONTROLS FOR COMMUNICATIONS SYSTEMS

1. SEISMIC (Zone 4) restraint of the conduit support system and all other equipment is required based upon the California Code of Regulations, Part 2, Title 24 and all other applicable codes.

27 08 00 COMMISSIONING FOR COMMUNICATIONS SYSTEMS

Commissioning and testing of communications systems shall comply with the ANSI/TIA/EIA - 568-C, Commercial Building Telecommunications Cabling Standard (2009).

Copper Testing Requirements

1. CAT3 cabling
 - a. DC loop resistance
 - b. Continuity
 - c. Length
 - d. Attenuation
 - e. Crosstalk or Near End Crosstalk (NEXT)
 - f. Noise
 - g. TDR
2. CAT6 Cabling
 - a. Wire Map
 - b. Length
 - c. Attenuation
 - d. Near-End Crosstalk
 - e. Propagation Delay/Delay Skew
 - f. Power Sum Near End Crosstalk (NEXT)
 - g. Attenuation to Crosstalk Ratio / Power Sum Attenuation to Crosstalk Ratio
 - h. Equal Level Far End Crosstalk (ELFEXT)
 - i. Alien Crosstalk (AXT)
 - j. Return Loss
3. Coaxial
 - a. DC loop resistance
 - b. Length
 - c. TDR
 - d. Attenuation
 - e. Noise

Fiber Optic Testing Requirements

1. SDCRAA has the right to observe and verify all fiber optic tests. The Installer shall notify the Engineer one week prior to testing so that testing can be observed. SDCRAA will require the Installer to retest at the Installer's own expense if the tests are conducted without properly notifying the Engineer.

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2. Testing of all fiber optic cables shall occur on the reel with an OTDR prior to installations, to ensure there are no damages from the manufacturer. All strands shall be tested, and test results to be included in the overall documentation provided by the contractor.
3. The testing shall demonstrate that there are no errors, damaged or incorrectly installed components, that the installation is correctly labeled and that all of the installed components meet or exceed the criteria detailed in this document.
4. Any test that does not show that a component is satisfactorily installed, as per this document, shall be repeated at no additional expense to the SDCRAA. If a test procedure needs to be modified to satisfactorily test some components, the modifications shall be submitted to the Engineer for approval prior to the tests being conducted.
5. The Installer shall supply all test equipment required to carry out all of these tests. The Installer shall include the cost of obtaining, calibrating, and maintaining test equipment, and the cost of carrying out and recording the tests detailed in this document, including labor costs, in the total bid lump sum. No extra or additional costs will be considered.
6. If on submittal of the test results there are any missing test results or incorrectly named files, the test shall be repeated at no additional cost to the Contract.
7. The Installer shall test every fiber optic strand in the installation in accordance with the field test specifications defined by the ANSI/TIA/EIA 568-C or by the appropriate network application standard(s), whichever is more demanding.
8. The Installer shall offset-null the power meter before starting a testing session to eliminate the detector dark currents. Offset nulling shall be performed before every test session or when environmental conditions change.
9. The Installer shall use "Two (2) Jumper Reference" when referenced specification is not directed by primary specification to create reference test levels. The reference connections resemble those used during the actual loss test, which means that the same detectors are matched to the same sources for both the reference and the test.
10. Before starting any new testing session or when a test jumper has been disconnected from the source port of either test set, the two jumper reference shall be repeated.

11. Link attenuation does not include any active devices or passive devices other than cable, connectors, and splices, i.e. link attenuation does not include such devices as optical bypass switches, couplers, repeaters, or optical amplifiers.
12. The link test limits attenuation are based on the use of the "Two (2) Jumper Reference" Method specified by ANSI/TIA/EIA 526-14A, Method A and ANSI/TIA/EIA 526-7, Method A.1; or the equivalent method. The user shall follow the procedures established by these standards or application notes to accurately conduct performance testing.
13. The Installer shall test 100% of the installed cabling links; all cabling links must pass the requirements of the standards mentioned. The Installer shall diagnose and correct all failing links. The corrective action shall be followed with a new test to prove that the corrected link meets the performance requirements. The final and passing result of the tests for all links shall be provided in the test results documentation.
14. Trained technicians who have successfully attended an appropriate training program and have obtained a certificate as proof thereof shall execute the tests. These certificates may have been issued by any of the following organizations or an equivalent organization:
 - a. The manufacturer of the fiber optic cable and/or the fiber optic connectors
 - b. The manufacturer of the test equipment used for the field certification
 - c. Training organizations authorized by BICSI (Building Industry Consulting Services International with headquarters in Tampa, Florida) or by the ACP (Association of Cabling Professionals™) Cabling Business Institute located in Dallas, Texas
15. Test Jumpers shall have the core diameter and numerical aperture nominally equal to those of the cable plant being measured.
16. The fiber optic launch cables, test reference cables, test jumpers, test aids and adapters must be of high quality and the cables shall not show excessive wear resulting from repetitive coiling and storing of the tester interface adapters. All test or reference optical patch cords shall be 3 meters in length, no more than 0.25 dB of total insertion loss, and 0.15 dB of repeatability over 10 mating cycles.
17. Any test reference cable, launch cable or test aid used in the acquisition of a performance measurement of a fiber optic link or component shall never be coiled in a diameter less than 12 inches during testing.

18. The “Pass or Fail” condition for the link-under-test is determined by the results of the required individual tests. A pass or fail result for each parameter is determined by comparing the measured values with the specified test limits for that parameter.

Fiber Optic Test Parameters

The following are current standards. Should these standards change in any way it is the responsibility of the Installer to adhere to the most current standards.

1. The maximum allowable splice loss = 0.3 dB
2. The maximum allowable connector loss = 0.50 dB
3. The link attenuation shall be calculated by the following formulas specified in ANSI/TIA/EIA 568-B:
 - a. Cable Attenuation (dB) = Attenuation Coefficient (dB/km) x Length (Km)
 - i. Attenuation Coefficient for single-mode is:
 1. 1310nm = .05 (Depending on fiber)
 2. 1550 nm = 1.0 (Depending on fiber)
 - ii. Attenuation Coefficient for multi-mode is:
 1. 850nm = 3.5 (Depending on fiber)
 2. 1300nm = 1.5 (Depending on fiber)
 - b. Link Attenuation (dB) = Cable Attenuation + Connector Attenuation + Splice Attenuation
 - c. Splice Attenuation (dB) = Number of Splices (S) x Splice Loss (dB)
 - d. Connector Attenuation (dB) = Number of Connector Pairs x Connector Loss (dB)

Single-Mode Testing

1. The Installer shall perform the following tests on all single-mode fiber links.
 - a. Bi-Directional Attenuation / Insertion Loss using an Optical Power Meter
 - b. Bi-Directional Optical Return Loss (ORL)
 - c. Bi-Directional Optical performance Trace using an Optical Time Domain Reflectometer (OTDR)
 - d. Optical End Face visible inspection
2. Single-mode backbone links shall be tested at 1310nm and 1550nm in accordance with ANSI/TIA/EIA 526-7, Method A.1, “Two Reference Jumper” or the equivalent method. All single-mode links shall be certified with test tools using laser light sources at 1310nm and 1550nm.
3. Single-mode links shall be tested at 1310nm and 1550nm in accordance with

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ANSI/TIA/EIA 526-7, Method A.1, Two Reference Jumper Cable Measurement.

4. All single-mode links shall be certified with test tools using laser light sources at 1310nm and 1550nm.
5. The Installer shall test attenuation/insertion loss bi-directionally, in accordance with ANSI/TIA/EIA 526-7, Method A –1.
6. The Installer shall test Optical Return Loss (ORL) bi-directionally in accordance with ANSI/TIA/EIA 107, Return Loss for Fiber Optic Components
7. The Installer shall perform an optical performance trace using an OTDR, bi-directionally, in accordance with ANSI/TIA/EIA 455-59, "Measurement of Fiber Point Defects Using An OTDR", ANSI/TIA/EIA 455-60, "Measurement of Fiber or Cable Length Using An OTDR", ANSI/TIA/EIA 455-61, "Measurement of Fiber or Cable Attenuation Using An OTDR".

Multi-Mode Testing

1. The Installer shall perform the following tests on all multi-mode fiber links.
 - a. Bi-Directional Attenuation / Insertion Loss using an Optical Power Meter
 - b. Bi-Directional Optical performance Trace using an Optical Time Domain Reflectometer (OTDR)
 - c. Optical end face visible inspection
 - d. Multi-mode backbone links shall be tested at 850nm and 1300nm. All multi-mode links shall be certified with test tools using laser light sources at 850nm and 1300nm.
 - e. Multi-mode links shall be tested at 850nm and 1300nm in accordance with ANSI/TIA/EIA 526-14A, Method A.2, Two Reference Jumper Cable Measurement.
 - f. All multi-mode links shall be certified with test tools using laser light sources at 850nm and 1300nm.
 - g. Link segments less than 200 meters need only be tested at 850nm, because attenuation deltas due to wavelength are insignificant.

Optical Fiber Test Results and Documentation

1. The test result information for each link shall be recorded in the memory of the field tester upon completion of the test.
2. The test result records saved by the tester shall be transferred into a Microsoft Windows™ based database utility that allows for the maintenance, inspection and archiving of these test records. A guarantee must be made that these results are transferred to the PC unaltered, i.e., “as saved in the tester” at the end of each test. The popular ‘csv’ format (comma separated value format) does not provide adequate protection and shall not be acceptable.
3. The database for the completed job shall be stored and delivered on CD-ROM; this CD-ROM shall include the software tools required to view, inspect, and print any selection of test reports.
4. A paper copy of the test results shall be provided that lists all the links that have been tested with the following summary information:
 - a. The identification of the link in accordance with the naming convention defined in the overall system documentation.
 - b. The overall Pass/Fail evaluation of the link-under-test including the attenuation worst case margin (margin is defined as the difference between the measured value and the test limit value).
 - c. The date and time the test results were saved in the memory of the tester.
5. General Information to be provided in the electronic data base containing the test result information for each link:
 - a. The identification of the customer site as specified by the end-user.
 - b. The overall Pass/Fail evaluation of the link-under-test.
 - c. The name of the standard selected to execute the stored test results.
 - d. The cable type and the value of the ‘index of refraction’ used for length calculations.
 - e. The date and time the test results were saved in the memory of the tester.
 - f. The brand name, model and serial number of the tester.
 - g. The revision of the tester software and the revision of the test standards database in the tester.

6. The detailed test results data to be provided in the electronic database for each tested optical fiber must contain the following information:
 - a. The identification of the link/fiber in accordance with the naming convention defined in the overall system documentation.
 - b. The insertion loss (attenuation) measured at each wavelength, the test limit calculated for the corresponding wavelength and the margin (difference between the measured attenuation and the test limit value).
 - c. The link length shall be reported for each optical fiber for which the test limit was calculated.
7. Acceptance of the fiber cable installation is partially contingent on the review and approval of the fiber power meter/source test data submitted.

Performance Data

1. Submit all performance data in feet.
2. All tracings shall cover between 50% and 75% of the displayed scale on the tracing.

Submittals

1. Submit product data for the following:
 - a. Optical Loss Test Set model and manufacturer
 - b. OTDR model and manufacturer
2. Submit certification or calibration data for the following:
 - a. Optical Loss Test Set
 - b. OTDR

Sustainability

General

1. Technology sustainability shall be driven by the direct and indirect economics, operational efficiency, social responsibility, natural resource conservation, and reduction of side-effects and no direct impacts to the environment.
2. Every system and infrastructure installation that is planned to be deployed within SDCRAA ownership should be accompanied by supporting documentation such as Return on Investment, Life Cycle Costs Analysis, and Total cost of Ownership analysis data.

3. All Tenant systems and infrastructure shall maintain a clear itemized utilization /foot print log of their respective utilization of main power, standby/UPS power, HVAC capacity, redundant power need for system operation and cooling, and VOC/GHG footprint.

Cable Infrastructure Management

1. Cabling Management should include the process and standards by which cabling and cabling infrastructure systems are installed, maintained, assigned, labeled, and serviced, both initially and throughout the lifespan of the system.
2. Cable Management should store the type of cable, conduit plan with origination and destination, how and where cabling is routed (cable route map), its related infrastructure installed, label, color-coding, service code (security/IT/Tenant, etc) and other identification.
3. Cable infrastructure management system should be integrated with Security Systems and the Building Management System (BMS).

Radio Frequency (RF)

1. All RF infrastructures, active or passive, shall conform to Federal Communication Commission (FCC) regulations, FAA's Spectrum Assignment and Engineering Division (ASR-100), and be specifically approved by the SDCRAA before installation and commissioning of all devices.
2. All RF infrastructures, active or passive, require SDCRAA AVSEC/PS and ITD approval before installation and commission.
3. It is recommended to use Radio Frequency ID Devices for security initiatives in the 13.56MHz and 2.45 GHz range or as approved by SDCRAA.
4. Wireless LANs
 - a. Wireless LANs are permitted to operate without FCC licenses in 2.4 and 5.8 GHz range.
 - i. In exclusive lease areas, there is unrestricted use of 802.11b/g/n. Signals emanating from exclusive lease areas, are restricted to those areas. Signal/broadcast strengths must be adjusted to not propagate into airport common use areas.

- b. The 802.11b/g band at 2.4 GHz may be used as approved by SDCRAA for case by case basis, with an understanding the de-installation of a system will be at no cost to the SDCRAA.
- c. WLAN equipment should be Wi-Fi Forum certified, using the IEEE 802.11 standard.
- d. Wireless LAN must be scalable, secure and highly available and support 99% uptime.
- e. Site Surveys must be conducted to establish existing coverage areas within the SDIA.
 - i. Additions or expansions to the existing topology will first be documented through a site survey and presented to the SDCRAA for approval to ensure its accuracy.
- f. Support for laptop computers, PDAs, pads, tablets, scanners, phones, Radio Frequency Identification (RFID) sensing devices, sensors, medical devices, and other devices that can take advantage of a standards-based wireless network.
- g. A wireless network system that supports highly granular, location specific outdoor coverage, applications and content for the unique requirements of convention and visitors' bureaus and event producers that host events at SDIA.
- h. All outdoor equipment should be compliant with IP56/NEMA 4 dust and water ingress ratings.
- i. The equipment must incorporate protection and resilience against power surges from the electrical grid or from lightning.
- j. Equipment shall be designed and mounted in a manner which does not interfere with the operation of existing services
- k. Ensure that equipment complies with Federal Communications Commission (FCC) regulations concerning radiation limits (OET Bulletins No. 56 and 65).

27 10 00 STRUCTURED CABLING

27 11 00 COMMUNICATIONS EQUIPMENT ROOM FITTINGS

General

1. SDCRAA passive infrastructure should be designed in accordance with communication industry codes and standards, including but not limited to Building Industry Consulting Service International (BICSI) Telecommunication Distribution Methods Manual (TDMM), Commercial Building Telecommunications Cabling Standard ANSI/TIA/EIA-568 B series, IEEE standards for wired and wireless communications, National Electrical Code (NEC), local building codes, and SDCRAA standards.
2. SDCRAA has two primary groups that are responsible for maintenance and operation of systems and infrastructure, which are:
 - a. SDCRAA IT Department (ITD)
 - b. SDCRAA Aviation Security and Public Safety Department (AVSEC/PS)
3. The SDCRAA IT Department is involved in the maintenance and operation of all airport special systems, business operational systems, and back office systems. Please refer to Table -1 at the Appendix for a list of systems that are managed by ITD.
4. The SDCRAA AVSEC/PS Department is involved in the maintenance and operation of all security systems. Please refer to Table -2 at the Appendix for a list of systems that are managed by AVSEC/PS.
5. SDCRAA ITD and AVSEC/PS may use SDCRAA Facilities Development Department (FDD) in facilitating and implementing some of the maintenance and construction work.
6. Important room types in the SDCRAA infrastructure:
 - a. Main Cross-Connect (MC): MC is a structured cabling system connection point between entrance cables, equipment cables, inter-building backbone cables, and intra-building backbone cables of the core network. It is the centralized portion of the backbone cabling used to mechanically terminate and administer the backbone cabling, providing connectivity between equipment rooms entrance facilities, horizontal cross-connects, and intermediate cross-connects . MC is also referred as a Main Distribution Frame (MDF) or Server Room (SR). MC has one part of which the external trunk cables entering a facility terminate, and on another part

of which the internal user subscriber lines and trunk cabling to any Intermediate Distribution Frames (IDF) terminate. MC may be placed either in the IT segment or in the Security segment of the TR depending on the service area and the systems it support. SDCRAA's MC shall not be placed in the Common Area of the TR. Tenants' MCs shall be placed in their respective leased space or any other place as approved by the SDCRAA.

- b. Intermediate Distribution Frame (IDF): Intermediate distribution frame is a cable rack for managing and interconnecting the telecommunications cable between end user devices and a MC. Cables entering a building run through a centralized MC, then to each individual IDF and then on to specific active elements and workstations. IDF is also referred as a Telecommunication Room (TR). In addition to voice, data, and wireless systems, TRs can house equipment for life safety/fire systems, and building automation systems. IDF/TR may be placed either in the IT segment or in the Security segment of the TR depending on its service area and the systems it support. SDCRAA IDFs shall not be placed in the Common Area of the TR. Tenants' IDFs shall be placed in their respective leased space or any other place as approved by the SDCRAA.
- c. Telecommunications Room (TR): TR is a combined shell that houses Security, Information Technology/ Telecommunication, and Common Area systems and equipments in different compartments or segments within the shell. The compartments or segments are separated by a chain-link fence. Each compartment has an outward swing door that is controlled by Access Control System (ACS) for entry. IT/Telecommunication segment of a TR is managed by SDCRAA ITD and the Security segment of a TR is managed by SDCRAA AVSEC/PS. The Common Area segment of a TR is managed either by a tenant, FDD or any other SDCRAA department. A typical TR at SDCRAA is illustrated in the Figure 1 at the Appendix.\

Environment

- 1. The environment surrounding the location of the TR must be free from sources of electromagnetic interference. Wherever TRs are adjacent to electrical rooms with transformers on the opposite walls, install a 1/4-inch copper meshing within the wall to reflect electromagnetic interference / electromagnetic compatibility.
- 2. It is highly recommended that the immediate environment surrounding a TR should not contain HVAC equipment such as steam boilers, compressors, chilled/hot water pipes, elevator equipment, electrical co-generation equipment or waste processing.

3. If TR need to be located near dust or contaminant-producing activities then adequate filtering systems must be added and all necessary methods should be taken to make sure the exhaust, dust, or other source of contaminant does not enter the intakes of air handlers servicing the SDCRAA infrastructure. Maintenance schedule for the filtering system is recommended to commence every three months (quarterly), to include filter replacement.
4. It is highly recommended that the TRs need be located away from flying dirt and debris (i.e. airline equipment ramps). If that is not feasible, then the TRs shall have positive pressure in addition to the TRs main entrance equipped with weather proof and dust proof screening/apparatus.
5. It is highly recommended to minimize traffic through TR.
6. For high traffic TRs, it is recommended to have the main entry door area be most highly positive pressurized.
7. It is highly recommended to seal all penetrations between TRs and adjacent areas. Do not share subfloor or ceiling plenums with any other part of the building.
8. It is highly recommended that the location must be above any potential flood zones, including being located below rest rooms and restaurants. If this is not possible then assure all equipment is not located or mounted within the first few inches of the floor. Additionally, there shall be water and fluid sensors installed within such rooms and integrated with the Building Management System (BMS) for monitoring and alarm of possible flooding and water leaks.
9. Where TR's cannot be located away from potential flood zones, floor drains are recommended to be installed in adjacent plumbing chases, and concrete curbs should surround the TR, providing additional protection.
10. TRs need to be accessible from a corridor, stairwell, and/or a service elevator large enough for cabinet and equipment loading and servicing.
11. All TRs are to be designed according to Figure 1 – Typical TR found in the Appendix. This design allows for the separation of common areas, IT areas and security areas. If this separation is not feasible then combine IT and security areas but still keep common areas separate at all times. All SDCRAA UPS systems shall be housed only in the security area of the TR.

Location

1. The location and quantity of telecommunications (TR or IT) rooms shall be designed so that the maximum distance from these rooms to any network field device that the room supports shall not exceed 250 feet via the longest possible route (i.e. right angles) traveled by the cable from the room to the field device. This includes all work area outlets, ACS card readers, cameras, access points, displays, antennas, etc.
2. If the distance from the TR to the furthest network field device exceeds 250 feet via the longest possible route, then another TR shall be installed to accommodate the distant field devices to maintain the 250 foot limitation.
3. Within a building, if there are two or more TRs per floor, then the distance from one TR to an adjacent TR shall not exceed 500 feet via the longest possible pathway route (i.e. right angles).
4. It is recommended that all the field devices shall be fed from a TR on the same floor where that field device is installed. That is, where feasible, field devices should not be fed from TRs on levels above or below.
5. Where feasible, to maximize coverage of a TR, TRs should be located near the center of the floors that they serve, and there shall be a minimum of at least one TR per floor.
6. If more than one TR is installed within a building, then an MDF shall be identified that shall be larger than the other TRs.
7. SDCRAA TRs or equipment rooms shall not be used by tenants for their equipment unless explicitly approved by the SDCRAA Authorities. In such cases, the Tenant shall perform a detail load survey and testing for power utilization from building main power supply, standby/UPS, and HVAC BTU impact. It is recommended that the Tenants install all their proprietary communications equipment within their leasehold.
8. In a multi-level building, TRs on different floors should stack on top of each other. Straight vertical cable risers should be established for the purpose of cable routing.
9. Buildings with special shapes and sizes shall be considered on an individual basis.

Dimensions

1. Actual TR size shall be determined by the number of racks/cabinets plus space needed to access racks/cabinets plus space needed for UPS, HVAC equipment, FM-200, or other mechanical or electrical equipments with at least minimum 3' working space around as per code, such as BICSI code.
2. The size of a TR that contains active equipments shall never be less than 10'x10' in size although 12'x12' is preferable. Active equipment shall not be installed in a TR that is less than 100 square feet. This minimum dimension allows sufficient space for two equipment cabinets and wall space for terminations.
3. The size of dedicated SDCRAA TRs shall be designed large enough to accommodate all of the planned equipment required for existing and new technology, plus a growth factor of 50 percent. Typically this means a room large enough for between 2 and 4 equipment cabinets that are 28" wide by 36" deep by 84" tall.
4. The size of TRs designed for common use or to share with Federal Agencies shall be designed large enough to accommodate all of the planned equipment required for existing and new technology, plus a growth factor of 100 percent. Typically this means a room large enough for between 4 and 8 equipment cabinets that are 28" wide by 40" deep by 84" tall. Equipment rooms shall be designed on an individual basis.
5. Sizing TRs according to the number of equipment cabinets installed in a single row configuration is as follows, with 10 feet by 10 feet as the minimum size although 12 feet by 12 feet is preferred:
 - i. 2 cabinets = 10' x 10' (100 square feet)
 - ii. 3 cabinets = 11' x 10' (110 square feet)
 - iii. 4 cabinets = 14' x 10' (140 square feet)
 - iv. 5 cabinets = 16' x 10' (160 square feet)
 - v. 6 cabinets = 18' x 10' (180 square feet)
 - vi. 7 cabinets = 21' x 10' (210 square feet)
 - vii. 8 cabinets = 23' x 10' (230 square feet)
6. Sizing TRs according to the number of equipment cabinets installed in a double row configuration is as follows, with 16 feet as the minimum width:
 - i. 2 cabinets = 7' x 16' (112 square feet)
 - ii. 4 cabinets = 9' x 16' (144 square feet)
 - iii. 6 cabinets = 12' x 16' (192 square feet)
 - iv. 8 cabinets = 14' x 16' (224 square feet)

7. Where shallow closets are required for passive equipment, the closet dimension shall not be less than 8' long x 30" deep. (20 square feet)
8. Where small walk-in closets are required for passive equipment, the dimension shall not be less than either 4' x 6' (24 square feet) or 5' x 5' (25 square feet).

Construction

1. General TRs within buildings may be constructed with materials similar to the surrounding architecture.
2. TR's located adjacent to large electrical rooms housing EMI emitting equipment, shall be lined with proper materials to prevent EMI interference in data transmissions

Ceiling

1. Drop or false ceilings are not permitted.
2. Minimum ceiling height is ten (10') feet; preferred ceiling height is twelve (12') feet.

Floor

1. Floor must meet Class Zero Electrostatic Discharge (ESD), ANSI/ESD S20.20-2007, and DoD 4145.26-M standards, and any newer ESD standards that may apply to flooring at the time of installation.
2. Floor must not contribute to static generation.
3. Floor must be groundable after it is installed.
4. Floor should be covered with static resistant materials and its static resistant properties should be permanent regardless of temperature, humidity, maintenance or traffic.
5. Floor loading for general TRs shall be designed to support a minimum dead load 100 lbf/ft²
6. Floor loading for large TRs or SR's, shall be designed to support a minimum dead load 250 lbf/ft²
7. Raised access floors are not recommended.

Seismic Bracing (Required)

1. The Installer shall provide seismic (Zone 4) restraint of the conduit support system and all other equipment, based upon the California Code of Regulations, Part 2, Title 24 and all other applicable codes.

Walls

1. Exterior wall should not be one of the walls for TRs. If this is not feasible, then place barriers on the outside of the wall to slow down vehicles that might try to smash through. The barriers must be connected to SDCRAA's peripheral monitoring system.
2. Walls without plywood shall be painted white in a semi-gloss finish.
3. Walls with plywood shall be covered with 3/4 inch x 4 ft x 8 ft, AC-grade, fire-retardant treated plywood, with the Fire Retardant-Stamp on it.
4. The "C" side shall face the studs (attached on top of finished walls) so that the "fire retardant" stamp is visible on the "A" side.
5. Plywood shall be painted with two coats of white, fire-retardant, low VOC paint leaving the Fire Retardant-Stamp(s) exposed for inspectors.
6. Cutouts for electrical switches and outlets shall be provided.
7. Plywood shall be fastened with #12 flat-head sheet metal screws to metal studs, every 16 inches to 24 inches on center depending upon stud spacing.
8. Plywood shall not be fastened with a nail gun or explosive-charge device.

Doors

1. Minimum door size is 36 inches wide x 80 inches tall.
2. Door should swing outward if local building codes allow.
3. All doors shall utilize ACS card reader access.
4. Depending on the type of room, the door may also be connected to biometric reader for entry.

5. All TR doors shall be keyed to Schlage “FG” Keyway - ANSI 156., Grade 1, 7 pin type (to match existing airport system) or approved equal locks to allow opening from the outside, and shall have a mechanism to manually enable and disable the key lock.
6. The use of magnetic locks is the preferred standard at SCDRAA.
7. All doors shall have “request-to-exit” and “panic exit” apparatus attached.
8. Door signage will need to comply with the SCDRAA’s practices and shall be indicated by room number and access control code only.
9. All locked doors in the path of egress to be unlocked whenever an event, such as fire alarm pull station activation, has occurred per Uniform Building Code (UBC) and the International Building Code (IBC). Emergency egress should not be in the TR, except for space egress.
10. Proper mechanism, methods, and apparatus shall be used to avoid use of fire alarm activation as a diversion to gain access to restricted areas.

Windows

1. TRs shall not have any windows.

Power

1. All TRs serving active equipment shall have dedicated electrical panels located within the TRs. Must maintain a three foot clearance in front of electrical panels.
2. Electrical panels serving active equipment shall be separate from those serving lighting. Lighting panels should not be located within TR’s.
3. The panels shall be grounded with a proper mechanism such as independent isolated ground to avoid ground loop.
4. Power requirements for rooms shall be calculated on an individual basis.
5. At minimum, AVSEC/IP’s MDFs in TR shall have four (4) racks and six (6) wall-mount panels and IDFs shall have two (2) racks and four (4) wall-mount panels.
6. At minimum, ITD’s MDFs in TR shall have four (4) racks and six (6) wall-mount panels and IDFs shall have two (2) racks and four (4) wall-mount panels.

7. Except for special circuits, all panels shall be fully populated with 30 amp circuit breakers. It is recommended that power panels not be populated more than 80%.
8. Except for special power requirements, each individual equipment cabinet or equipment rack shall have two separate 120 VAC, 30 amp circuits feeding them. All outlets shall be isolated ground outlets double-duplex.
9. On walls with backboards, there shall be 120 VAC, 30 amp, non-switched, fourplex wall outlets installed every six (6) feet.
10. Systems such as chargers for electric ground service equipment and 400-hz aircraft ground power units should be isolated and fed from dedicated switchboards.

Standby Power

1. Standby power should support the availability and integrity of SDCRAA operations, security, communications, tenant operations, emergency egress systems, HVAC, and other systems as deemed necessary by SDCRAA.
2. Standby power should support low voltage devices, battery-driven remote and stand-alone devices, standard 110/220 voltage, and high amperage / high voltage systems such as explosive detection systems, and HVAC systems.
3. If feasible, all electrical panels, with the exception of lighting panels, in TR's shall be connected to a panel that is fed from a UPS system that is connected to the Emergency generator for the building. The panels that are connected to the UPS shall be labeled as being connected to emergency power. All UPS shall have the Standby Power Supply feed as fall-back feed.
4. Generator and UPS installations shall be sized for the load they are expected to serve, plus fifty (50) percent. Generator power must be sustainable for a minimum duration of four (4) hours. In the event of an outage lasting longer than four hours, additional fuel will be required.
5. Automatic Transfer System (ATS) shall be used to achieve automatic shift to the emergency/standby power source. It is recommended the flip over/uptime from main-2-UPS/standby to have zero down time to avoid potential critical operational failure or security breach.

6. If any system is operated or has backup power from battery then battery packs should be tested on a monthly basis. Design considerations should be made to allow for bypass to be installed, enabling battery testing to commence with no interruption in service.
7. UPS's shall have an RS-232 communications port and a 10/100 Base-T Ethernet NIC for LAN management to allow for remote monitoring.

Lighting

1. Lighting shall provide a minimum of 50 foot candles measured at three foot three inches (3' 3") above the finished floor. The Lighting shall be positioned at the center of the racks for adequate for front and back of the rack.
2. The required egress lighting level is one foot candle (fc) in the path of egress when exiting TR's.
3. An emergency light fixture shall be mounted over all TR exit doors.
4. Fluorescent fixtures shall use "cool white" lamps.
5. Dimmer switches shall not be used.
6. Light fixtures shall be centered in the aisles between racks or cabinets and mounted at a minimum of 8'6" above the finished floor.
7. It is recommended that the Light fixtures shall be installed at the minimum distance of twelve inches (12") from upper most cable tray. The distance will be determined by cabinet height plus tray design height plus twelve inches (12") clearance.

Air Conditioning

1. Shall be provisioned for 24 hour 365 day, continuous service.
2. For general TRs, 10,000 BTU's of heat dissipation per cabinet shall be used as a minimum for planning purposes with a set of redundant air conditioning units. HVAC designer shall coordinate actual HVAC requirements with SDCRAA ITD.
3. For large TRs or SR's, 20,000 BTU's of heat dissipation per cabinet shall be used as a minimum for planning purposes with a set of redundant air conditioning units. HVAC designer shall coordinate actual HVAC requirements with SDCRAA ITD.

4. All TRs that house active equipment shall avoid hot spots and have inlet air temperatures from 55°F to 62°F.
5. All TRs, if feasible, shall have the inlet air circulating from the top to the front of the racks to allow the hot air exhaust to leave equipment through the back side of the rack. Note: It is recommended that the racks in Security and IT area of TRs be front facing to each other to accommodate optimal cool air inlet circulation.
 - a. Use of a cold isle / hot isle layout is recommended.
6. It is recommended that all high density rooms have a mechanism to capture hot air for the purpose of energy efficiency, sustainability, and carbon footprint.
7. Inside temperature shall be maintained between 68 °F to 72 °F, and between 30% - 55% relative humidity.
8. A thermostat shall be provided within the TR. Room over-temperature and cooling unit failure shall be alarmed at the Network Operations Center , Security Operations Center, Facilities Management Office, and the Central Utility Plant (CUP).
9. All TR doors shall be sealed for dust-proofing, have positive ventilation, and all ventilation ducts into the room shall be filtered for dust abatement purposes.
10. Air conditioning is not required in TR's that do not contain active equipment as long as the temperature can be maintained between 50°F and 95°F with properly sized exhaust fans.

Fire-Life Safety

1. Smoke detectors are required and shall be installed per NFPA and local code requirements.
2. At a minimum a FM200 Clean Agent Fire Suppression System shall be installed for all TRs.
3. It is recommended to have an early warning fire detection system that is integrated to the Building Automation System (BAS) to report alarms, pre-alarms, and discharges. The early warning fire detection system should have the following features:
 - a. It should be a heat detection type

- b. It should be installed and maintained in accordance with NEP 72E, Standard on Automatic Fire Detectors.
 - c. Each installation should be engineered for the specific area it will protect, allowing for air current patterns.
 - d. Systems are required to have special exhaust ventilation providing dispersion of clean agent. These exhaust vents should be designed to not allow any reentry of dust or loss of thermal energy.
- 4. Fire-Life Safety system and security system shall be integrated.
 - 5. It is recommended to have a manual pull station to have a manual activation of the fire suppression system.
 - 6. It is additionally recommended to have a push button manual override.
 - 7. Means of communication such as intercom or telephone apparatus with direct-line connected to the Network Operations Center and Security Operations Center shall be provided. The communication apparatus shall be situated adjacent to the door and marked for emergency use.
 - 8. Provision for emergency exiting of room shall be made available and clearly marked as emergency exit pathway. Doors shall swing outward.

Plumbing

- 1. Except fire sprinklers required by code, no pipes intended to carry water or any other fluid shall be installed in or above the TR ceiling.
- 2. If avoiding water pipes, drains, or any pipes carrying liquids within a TR is not feasible, then some or all of precautions below must be followed:
 - a. Troughs to channel water out of the TR should be installed underneath pipes. These troughs should have the same or greater flow rate as the pipes themselves.
 - b. It is possible to have a pipe within a pipe. If the interior pipe develops a leak, the water would be contained in the outer pipe.
 - c. Water detection sensors should be placed along the runs of the pipes and at plumbing joints where most leaks are likely to start.

Security

1. Entry ACS card readers shall be provided for all TR doors.
2. A “request-to-exit” and “panic exit” button shall be provided for doors using crash bar technology to shunt the alarm on exit.
3. All TRs shall have cameras mounted on the outside of the room unless waived (approved) by AVSEC and Public Safety Department.
4. TR doors may also be connected to biometric reader for entry and exit as approved and required by AVSEC/PS.
5. Some rooms may have intercoms that connect back to the network operations center and security operations center.

Clearances

1. Electrical panels require a clearance of 36 inches in front and 30 inches to the side or as required by code. Equipment cabinets, UPS, and HVAC systems require a 36 inch working space clearance, front and back.
2. Equipment racks and cabinets require a 36” aisle space in front and behind each cabinet.

UPS Locations

1. It is recommended that UPS’s servicing TR and SR’s not be located within the TR or SR, to alleviate foot traffic from maintenance personnel.
2. When locating the UPS’s outside of a TR or SR cannot be avoided, the UPS shall be located in Security area unless otherwise authorized by the SDCRAA ITD and AVSEC/PS.
3. Depending on the type of batteries used in a UPS, exhaust fans maybe a requirement. Compensation for exhaust volume must be included in the HVAC design to maintain the positive pressure for Foreign Object Debris (FOD) rejection to the room.

Connectivity

1. All GenSet, UPS, HVAC units should have proper conduits to support Ethernet connectivity for Building Management System (BMS) and security operations center for control and monitoring.

27 11 13 COMMUNICATIONS ENTRANCE PROTECTION

1. Where copper cable pairs are placed underground and between buildings, electrical protection from lightning for every pair with Solid State type protectors at both ends, is required.
2. Furnish and install the appropriate amount of Multipair Protector Panels with 110 Connector System and all related components.
3. Install all equipment in accordance with manufacturer's specifications.
4. Route and terminate the copper feed cables inside the telecommunication space in accordance with manufacturer's requirements.
5. All directional changes with these cables shall be made with gradual sweeps to maintain a proper bend radius. All such cables shall be uniformly bundled and secured every 9 inches, utilizing black Velcro cable ties.
6. Bundle voice feed cables independent of other cables.

27 11 16 COMMUNICATIONS CABINETS, RACKS, FRAMES AND ENCLOSURES

Frame

1. Provide freestanding equipment cabinets to store computer, data storage, networking and security equipment in the data centers, computer rooms and equipment rooms. Each cabinet enclosure shall have a rectangular frame and removable top panel, side panels and doors. Installed cabinets shall include thermal, power, and cable management accessories that control airflow through the cabinet and keep network and power cables separate and organized.
2. The cabinet frame shall be rectangular with four corner posts, manufactured from steel with welded and bolted frame construction. The front and rear of the cabinet shall be welded rectangular frames. The sides of the cabinet shall have three steel supports located near the top, middle and bottom to allow attachment of equipment mounting rails and thermal, cable and power management accessories. The side supports shall be bolted to the front and rear frames.

3. The cabinet frame shall include leveling feet and casters. The cabinet frame shall support 3000 lb (1360 kg) of equipment when supported on leveling feet and secured to the structural floor. The cabinet frame shall support 2250 lb (1020 kg) of equipment when moved or supported on casters.
4. Each cabinet shall include two pairs of equipment mounting rails. Mounting rails shall clamp to the side supports located near the top, middle and bottom of the frame and shall be fully adjustable in depth to provide front and rear support for equipment. Equipment Mounting Rails shall be spaced horizontally to support 19" (482.6 mm) wide EIA/ECA-310-E compliant rack-mount equipment and shall provide up to 38" (965 mm) of rail-to-rail depth for equipment. Mounting rails shall be square-punched according to the EIA/ECA-310-E Universal hole pattern with equipment mounting holes on alternating 5/8" – 5/8" – 1/2" (15.9 mm – 15.9 mm – 12.7 mm) vertical hole centers. Square-punched holes shall accept cage nut hardware with various threads. Rack mount spaces or units (U) shall be 1-3/4" (44.45 mm) high and shall be marked and numbered on the mounting rails. Numbering shall start at the bottom of the rail. Mounting rails shall provide 42U for equipment.
5. The cabinet shall be 79.3" (2013 mm) high by 23.6" (600 mm) wide by 39.4" (1000 mm) deep when casters, doors and side panels are installed.
6. The cabinet shall include a solid top panel with four multi-sized cable knockouts/ports, one in each corner. Each multi-size knockout consists of one round 2.8" (71 mm) diameter grommet-protected cable access port and one round 2.8" (71 mm) diameter knockout captive within a larger 4.5"W x 9.0"D (114 mm x 228 mm) rectangular knockout. The top panel shall feature tool-less removal and will be pre-punched at the front and rear with attachment points for parallel (side-to-side) installation of 12"W (300 mm) cable runway. The manufacture will sell covers for the knockouts and attachment hardware for the cable runway as separate accessories.
7. The cabinet shall include a single curved perforated metal front door with quick-release hinge pins. The primary door panel shall be constructed using a single perforated sheet (63% open) with a solid outer perimeter. The primary door panel shall be embossed with a 4.6" (117 mm) diameter concave feature along the entire vertical height and include a protruding logo badge. The door assembly shall include upper and lower metal caps that follow the curved contour of the primary door panel. The door shall be removable and reversible to open from the right or left. The front door shall have a swing handle with a single-point cam latch and a keyed lock.

8. The cabinet shall include two half-height, solid side panels. Each side panel shall have a keyed latch located at the top center of the panel for easy installation and removal.
 - a. Adjacent cabinets containing like equipment do not require separate side panels; only side panels on the ends.
 - b. Adjacent cabinets containing unlike equipment (i.e. security and LAN), must be physically separated with side panels.
9. The cabinet shall include a double (vertically split) perforated metal rear door with quick-release hinge pins. Each door panel shall be constructed using a single perforated sheet (63% open) with a solid outer perimeter. The doors shall be removable. The double rear door shall have a swing handle with a two-point latch and a keyed lock.
10. The cabinet frame, top panel, side panels and doors shall be manufactured from steel. The front and rear of the cabinet shall be welded rectangular frames. The front and rear cabinet frames, mounting rail supports, mounting rails, doors and side panels shall assemble with hardware.
11. The mounting rails, top panel, side panels and doors shall be electrically bonded to the cabinet frame. The cabinet frame shall have a prepared location for attaching a grounding lug.
12. The mounting rails, top panel, side panels and doors shall be electrically bonded to the cabinet frame. The cabinet frame shall have a prepared location for attaching a grounding lug.
13. The cabinet shall include PDU mounting brackets. The brackets shall be L-shaped, shall attach to the rear right or left corner of the cabinet frame and shall include tool-less mounting points for two vertical rack-mount power distribution units (PDUs) or power strips. The brackets will orient the PDUs/power strips so that the outlets on the PDUs/power strips face the center of the cabinet frame.
 - a. Each cabinet shall be powered by two 120 VAC, 30 amp, circuit breakers.
 - b. Each cabinet shall have a full-length, 12 outlet, power strip installed.
14. The cabinet shall be UL Listed as an Information Technology and Communications Equipment Cabinet, Enclosure and Rack System to standard UL 60950 under category NWIN. UL Listing will be stated in the manufacturer's product literature.

15. The cabinet frame, top panel, side panels, mounting rails and doors shall be painted a light color with epoxy-polyester hybrid powder coat paint, to aid in obtaining additional points for LEED certification.
16. The cabinet shall include (4) casters, (4) leveling feet, (4) floor attachment brackets and a baying kit. The manufacturer of the cabinet shall sell compatible equipment mounting hardware as an accessory.

Cable Management

1. Each installed cabinet shall be equipped with a vertical cable manager to organize network cables. The vertical cable manager shall attach to the side of the equipment mounting rail in the cabinet. The vertical cable manager shall have cable openings along the side that align with each rack-mount unit (U) space on the mounting rail. The openings shall be sized to allow 24 patch cords to enter each rack-mount unit (U) space. The cable openings shall be separated by plastic T-shaped cable guides to route cables into each space.
2. Each installed cabinet shall be equipped with a rack-mount horizontal cable manager to organize cables in the rack-mount unit spaces above and below each patch panel or network switch within the cabinet. The horizontal cable manager shall be 19" EIA rack-mount and 1U, 2U or 3U high. The horizontal cable manager shall be a single-sided U-shaped trough with a front-facing snap on cover. Plastic T-shaped cable guides along the top and bottom edge of the cable manager shall divide cable openings that allow cables to exit or enter the top or bottom of the manager. The cable manager shall be made of plastic, at least 5.9" (150 mm) deep and shall be sized to hold 24 patch cords per rack-mount unit (U) space.
 - a. Cables that are to be secured and neatly bundled shall use Velcro.
 - b. Tie wraps are not permitted.
3. Each installed cabinet shall be equipped with plastic snap-in grommets to protect cables that pass through openings in the equipment mounting rails. The grommet shall be plastic, 5.5" (140 mm) high x 3.25" (83 mm) wide, and designed to snap into the large rectangular cable openings in the equipment mounting rails in 29.5" (700 mm) wide and 31.5" (800 mm) wide cabinets. The grommet will cover the exposed metal edge of the opening in the equipment mounting rail.

Power Distribution

1. Each installed cabinet shall be equipped with a vertical PDU and power cord manager to store PDUs and power cord slack. The vertical power manager shall be C-shaped, shall attach to the side of the cabinet frame and shall include tool-less mounting points for two vertical rack-mount power distribution units (PDUs) or power strips. Tool-less mounting points will be spaced vertically 64.75" (1645 mm) apart. The bracket will support two 2.4" (61 mm) wide or narrower PDUs side-by-side or one 4.9" (124 mm) wide PDU. The bracket shall orient PDUs so that the outlets on the PDUs/power strips face the center of the cabinet frame.

Thermal Management

1. Each installed cabinet shall be equipped with an internal airflow baffle to block airflow around the sides of equipment in the cabinet. The airflow baffle shall seal the space at the front of the cabinet between the equipment mounting rails and the sides of the cabinet enclosure.
2. Each installed cabinet shall be equipped with plastic snap-in grommets with covers to block airflow through the cable pass through openings in the equipment mounting rails. The grommet shall be plastic, 5.5" (140 mm) high x 3.25" (83 mm) wide with a removable cover, and designed to snap into the large rectangular cable openings in the equipment mounting rails in 29.5" (700 mm) wide and 31.5" (800 mm) cabinets.
3. Each installed cabinet shall be equipped with covers to seal any cable opening in the top panel. The top panel includes several pre-punched round and rectangular cable knockouts. If a knockout is removed, the opening must be sealed with a cover (grommet) that protects cables as they pass through the top panel and seals open spaces between cables. Use a solid 2.8" (71 mm) diameter round thermoplastic elastomeric grommet that can be cut to match cable requirements on round openings. Use a rectangular plastic cover that has a 3.9" (99 mm) wide x 8.8" (224 mm) deep brush sealed cable opening in the center for cables and a split design (two-halves) that allows the grommet to be removed after cables are passed through the grommet opening on rectangular openings.
4. Each installed cabinet shall be equipped with filler (blanking) panels that seal any open rack-mount unit space (spaces not occupied by other equipment). The filler (blanking) panels shall be made of plastic and shall be designed to attach to square-punched equipment mounting rails without hardware, at the rear of the cabinet to prevent exhaust air being re-introduced to the cabinet. The filler (blanking) panel design shall allow the panels to be installed and removed from the equipment mounting rails without tools. Panels shall be sized to fit 1U x 19"EIA and 2U x 19"EIA rack-mount panel spaces.

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5. Each installed cabinet shall include a fan top panel kit to help remove hot air from the cabinet. The fan top panel kit shall include four 100 CFM (170 CMH) fans in two housings attached to a solid cabinet top panel with vented center section and cable knockouts in each corner. Fans will be rated for 115 VAC, 50-60 Hz. The fan kit shall include a single detachable 15' (5 m) long power cord with dual IEC 60320 C13 power connectors (1 per fan housing) and a NEMA L5-15P plug.
6. Each installed cabinet shall be equipped with a bottom panel to block airflow through the bottom of the cabinet. The panel will have 8.8" (228 mm) wide x 3.9" (99 mm) deep brush-sealed cable access port located near the rear edge of the panel.

Cabinet Mounting Hardware

1. Provide additional equipment mounting hardware to attach equipment to the equipment mounting rails in the cabinet.
2. Provide hardware for attaching ladder rack (cable runway) to the top of the cabinet. The hardware shall attach the ladder rack in parallel (side-to-side) orientation and will elevate the ladder rack a minimum of 2" (50 mm) above the cabinet.
3. Cabinets to be mounted using a minimum of (4) 3/8" or M10 anchors and associated hardware for securing the cabinet to the structural floor.

Racks

1. Equipment racks shall be 19 inches.
2. Each rack shall be powered by two 120 VAC, 30 amp, circuit breakers.
3. Each rack shall have a full-length, 12 outlet, power strip installed.

Rack Mounting Hardware

1. Provide additional equipment mounting hardware to attach equipment to the equipment mounting rails in the cabinet.
2. Provide hardware for attaching ladder rack (cable runway) to the top of the rack.
3. Racks to be mounted and secured to align with Zone 4 seismic bracing standards.
4. Racks to be mounted using a minimum of (4) 3/8" or M10 anchors and associated hardware for securing the rack to the structural floor.

Wall Mounting

1. If cabinets or racks are not provided, wall mounting is acceptable provided that the equipment is small and the installation can be done securely to the plywood backboard. This requires Engineer approval.

Hardware

1. All fastening hardware used outdoors shall be stainless steel grade 18-8 or better.

27 11 19 COMMUNICATIONS TERMINATION BLOCKS AND PATCH PANELS

Patch Panels

1. *Wall-mount:* All fibers shall be terminated with standard SC connectors in fiber patch panels. Terminations of all fiber optic cables shall conform to EIA/TIA-568SC standard.
2. *Rack-mount:* All fibers shall be terminated with standard SC connectors in fiber patch panels. Terminations of all fiber optic cables shall conform to EIA/TIA 568SC standards.
3. All CAT6 Data UTP cables shall be terminated on CAT6 RJ45 (or manufacturer specified) patch panels inside the equipment rack.
4. All UTP cable termination shall conform to EIA/TIA-568B standards. Wire-minders shall also be installed for cable management.

27 11 26 COMMUNICATIONS RACK MOUNTED POWER PROTECTION AND POWER STRIPS

1. The Installer shall install two (2) 72 inch, 12-receptacle, 110VAC, 30A, power strip with a 6 foot power cord on either side, at the rear of the cabinet.
2. Power strip shall be capable of being mounted within three inches of the rear of the cabinet.

27 13 13 COMMUNICATIONS COPPER BACKBONE CABLING

1. Voice Backbone
 - a. If Voice Over Internet Protocol (VOIP) is specified then verify design criteria involving any copper cabling.
 - b. Install sufficient pairs of UTP from the Main Cross Connect room (MC) or MDF, to all other TRs, to cover current and future needs of telephone wires and data circuits for the area served by that particular TR.
 - c. Sufficient telephone wire-pairs from telecommunications service provider shall also be brought into the MPOE of the building to cover current and future needs of telephone wires and data circuits for the building.
 - d. Pair count requirements per TR will be determined on a case-by-case basis.
2. Data Backbone
 - a. Copper cable is **NOT** used as network backbone cable at SDCRAA
3. Speaker Cable
 - a. Recommended to use 12 AWG, unshielded, twisted pair
4. Coaxial
 - a. Cable TV (CATV) - The cable used depends upon the length of the run.
 - b. Analog Closed Circuit TV (CCTV)
 - c. The cable used depends upon the length of the run. If the total length of any coaxial run is less than 800 feet, then RG-6 or approved equal shall be installed.
 - d. If the total length of any coaxial run is between 800 feet and 1500 feet, then RG-11/U or approved equal shall be installed.
 - e. Video CCTV runs greater than 1500 feet must use fiber optics and need SDCRAA ITD authorization before deployment.

27 13 13.13 COMMUNICATIONS COPPER CABLING SPLICING AND TERMINATIONS

1. Backbone terminations shall be available in no less than 100 pair increments and terminated on a minimum of one 300-pair tower.
 - a. Use of horizontal cross-connect fields are recommended and encouraged.
 - b. Horizontal cross-connects shall be placed between each 300-pair tower as applicable.
2. Terminations shall match the existing 110 termination blocks currently at SDIA.
3. Splice cases shall be water tight and re-enterable. Secure all cables in the splice case and end plates in accordance with manufacturer's specifications, ensuring a watertight seal.
4. Exercise special care when assembling the case as to not damage any conductors and/or splice modules. Splicing technicians must have a manufacturer's installation certification for the splices and splice cases being installed.
5. Splice modules should contain encapsulate to prevent water damage in the event the case is damaged and water enters the case.
6. The splice enclosure must not be flooded with encapsulate.
7. Perform a pressure test each case for leaks at 12 psi, ensuring a watertight seal.
8. Bond the cable's metallic sheath/shield (if armored) to the metallic splice case with the bonding bar assembly provided with the splice case, and in accordance with manufacturers specifications.
9. Connect the splice case to the manhole/building grounding grid using a #6 AWG solid copper wire or bonding tape.

27 13 23 COMMUNICATIONS OPTICAL FIBER BACKBONE CABLING

1. Outdoor Backbone Cable
 - a. A minimum of 72 strand single mode fiber, 48 strand multi-mode fiber cables are required for inter-building connections
 - b. Optical fibers shall be placed inside a loose buffer tube. The nominal outer diameter of the buffer tube shall be 3.0 mm.

- c. Each buffer tube shall contain up to 12 fibers.
- d. Buffer tubes containing fibers shall be color coded with distinct and recognizable colors in accordance with TIA/EIA-598-B, "Optical Fiber Cable Color Coding."
- e. The fibers shall not adhere to the inside of the buffer tube.
- f. Each fiber shall be distinguishable by means of color coding in accordance with TIA/EIA-598-B, "Optical Fiber Cable Color Coding."
- g. For gel-filled constructions each buffer tube shall be filled with either a non-hygroscopic, non-nutritive to fungus, electrically non-conductive, homogenous gel. The gel shall be free from dirt and foreign matter. The gel shall be readily removable with conventional nontoxic solvents. For gel-free construction each buffer tube shall contain a water-swellaable yarn for water blocking protection. The water-swellaable yarn shall be non-nutritive to fungus, electrically non-conductive, and homogeneous. It shall also be free from dirt or foreign matter. This yarn will preclude the need for other water blocking material; the buffer tube shall be gel-free.
- h. The buffer tubes shall be resistant to external forces and shall meet the buffer tube cold bend and shrink back requirements of 7 CFR 1755.900.
- i. A filler may be included in the cable core to lend symmetry to the cable cross-section where needed. The fillers shall be nominally 3.0 mm in outer diameter.
- j. The central member shall consist of a dielectric, glass reinforced plastic (GRP) rod. The purpose of the central member is to provide tensile strength and prevent buckling. The central member shall be over coated with a thermoplastic when required to achieve dimensional sizing to accommodate buffer tubes/fillers.
- k. The buffer tubes shall be stranded together with the dielectric central member and a water blocking yarn using the reverse oscillation, or "S-Z," stranding process.
- l. Two polyester yarn binders shall be applied contrahelically and with sufficient tension to secure each buffer tube to the dielectric central member without crushing the buffer tubes. The binders shall be non-hygroscopic, non-wicking and dielectric with low shrinkage.

- m. A water blocking tape shall be applied longitudinally around the outside of the cable core. The tape shall be held in place by a single polyester binder yarn. The water blocking tape shall be non-nutritive to fungus, and electrically non-conductive. It shall also be free from dirt and foreign matter.
- n. Tensile strength shall be provided by the central member, and dielectric yarns. Dielectric strength yarns shall be applied around the outside of the cable core.
- o. Cables shall contain at least one ripcord under the outer sheath to facilitate its removal.
- p. Non-armored cables shall be sheathed with medium density polyethylene (MDPE). The minimum nominal jacket thickness shall be 1.4 mm. Jacketing material shall be applied directly over the tensile strength members and water blocking tape. The polyethylene shall contain carbon black to provide ultraviolet light protection and shall not promote the growth of fungus.
- q. The MDPE jacket material shall be as defined by ASTM D1248, Type II, Class C and Grades J4, E7 and E8.
- r. Cable jackets shall be continuous, free from pinholes, splits, blisters, or other imperfections. They shall have a consistent, uniform thickness; jackets extruded under high pressure are not acceptable. The jacket shall be smooth, as is consistent with the best commercial practice. The jacket shall provide the cable with a tough, flexible, protective coating, able to withstand the stresses expected during normal installation and service.
- s. Cable jackets shall be marked with the manufacturer's name, month and year of manufacture, sequential meter or foot markings, a telecommunication handset symbol as required by Section 350G of the National Electrical Safety Code[□] (NESC[□]), fiber count, and fiber type. The actual length of the cable shall be within -0/+1% of the length markings. The print color shall be white; with the exception that cable jackets containing one or more coextruded white stripes shall be printed in light blue. The height of the marking shall be approximately 2.5 mm.
- t. The maximum pulling tension shall be 2700 N (600 lbf) during installation (short term) and 890 N (200 lbf) long term installed.
- u. Non-armored cables shall be all-dielectric.

- v. The storage temperature range for the cable on the original shipping reel shall be -40 °C to +70 °C. The installation temperature range for the cable shall be -30 °C to + 70 °C. The operating temperature range for the cable shall be -40 °C to + 70 °C.
 - w. Fibers Optic cables shall have a fifty foot service loop coiled at each end and in each manhole, as applicable. These cables shall be dressed neatly and secured to the inside walls of the manholes utilizing a cable management system within the vault (i.e. racking) or fastened neatly and securely to ladder racking within TR's.
 - x. 50 foot service loops to be provided within each manhole and 25 foot service loops to be provided in each handhole. Service loops to be coiled neatly and secured to racking within the manhole or handhole.
2. Indoor Backbone Cable
- a. 72 single-mode fibers and 48 multi-mode fibers are the minimum count permitted for backbone fibers between TRs within the passenger terminals.
 - b. Fibers optic cables that are run indoors shall have twenty-five (25) feet of cable coiled up at each end of the run. These cables shall be dressed neatly and secured to the inside walls of junction boxes or atop cable raceway or cable runway systems with TR's or SR's.

27 13 23.13 COMMUNICATIONS OPTICAL FIBER SPLICING AND TERMINATIONS

1. Fiber Optic Connectors and Pigtails
 - a. Pre-polished connectors (preferred) or connectorized pigtails are fusion spliced to the cable. Connectors shall not be installed and polished in the field.
 - b. Single-mode, 2 meter length, ultra PC polish, SC connector, fusion spliced, heat shrink protected on the splice.
 - c. Multi-mode, 2 meter length, regular polish, SC connector, fusion spliced, heat shrink protected on the splice.
2. Fiber Optic Adapters
 - a. Fiber optic adapters shall be color coded to differentiate between single-mode and multi-mode fibers. Blue-colored adapters shall be used for single-mode angled-polished connections, and Beige-colored adapters for multi-mode connections.
3. Fusion-splice Protection Sleeves
 - a. The Installer shall protect all fusion splices with rod-reinforced heat-shrink protective sleeves.
4. Splice Trays
 - a. The Installer shall use metallic splice trays that contain 24 splices with foam combs and pads for fiber strain relief.
 - b. Trays shall be stackable, contain a plastic polycarbonate protective cover, and have a hole in the center for vertical and horizontal mounting.
5. Splice cases shall be water tight and re-enterable. Secure all cables in the splice case and end plates in accordance with manufacturer's specifications, ensuring a watertight seal.
6. Exercise special care when assembling the case as to not damage any conductors and/or splice modules. Splicing technicians must have a manufacturer's installation certification for the splices and splice cases being installed.
7. The splice enclosure shall not be flooded with encapsulate.
8. Perform a pressure test each case for leaks at 12 psi, ensuring a watertight seal.

9. Bond the cable's metallic sheath/shield (if armored) to the metallic splice case with the bonding bar assembly provided with the splice case, and in accordance with manufacturers specifications.
10. Connect the splice case to the manhole/building grounding grid using a #6 AWG solid copper wire or bonding tape.

27 15 13 COMMUNICATIONS COPPER HORIZONTAL CABLING

1. Sufficient CAT6, 4-pair 24 awg. UTP shall be installed as a universal structured cable for the structured cable plant at each building.
2. CAT6 cables shall be used as a universal cable for all TELECOMMUNICATIONS needs, including telephone, data, fax, video, audio, etc. CAT6, 4-pair, UTP cables shall be installed at all conceivable required locations and for future expansion needs.
3. Each location shall be installed with a minimum of two, CAT6, UTP cables.
4. Termination of the CAT6 UTP cables shall be on 8-position CAT6 RJ45 jacks on a six port single-gang faceplate. All terminations of CAT-6 UTP cables shall conform to ANSI/EIA/TIA 568B.

27 15 23 COMMUNICATIONS OPTICAL FIBER HORIZONTAL CABLING

Installation Requirements

1. 6 (six) single-mode fibers and 2 (two) multi-mode fibers are the minimum count permitted for horizontal fibers between TRs and field devices such as work area outlets and surveillance cameras.
2. The Installer shall procure and install all new with **NO** refurbished materials.
3. SDCRAA has the right to observe and verify all tests. The Installer shall notify the Engineer one week prior to testing so that testing can be observed.
4. Before installation, while the fiber optic cable is still on the reel, the Installer shall test each individual fiber strand with an OTDR for transmission anomalies and length. Single-mode fiber shall be tested at 1310 nm, and multi-mode fiber shall be tested at 850 nm.

5. Pre-installation test results shall be recorded and given to the Engineer in electronic form with the software to view the test results if necessary. These results shall be given to the Engineer prior to installation. There shall be no deviation from these initial test procedures.
6. Failures detected during the testing shall be recorded. Rectification of all damaged cable(s) shall include replacing damaged cable(s) with new cables with no additional cost to the contract. All damaged cables shall be removed from the project site.

Installation

1. During installation, the minimum bending radius shall be 20 times the cable diameter. After installation the minimum bending radius shall be 10 times the cable diameter.
2. If fiber optic cable is damaged during installation, movement or storage, the Installer shall replace the cable at the Installer's expense.
3. There shall be **NO** repairs to damaged cable. Damaged cable shall be removed from the site and replaced with a new cable.
4. Except for fusion-spliced connectors or factory-connectorized, pre-terminated pigtails, the Installer shall not use fusion splicing or mechanical splicing to repair any damage to any part of the cable prior-to, during, or after installation.
5. Damage includes but is not limited to; breaks in the fiber opens, abrading the cable jacket to expose the fibers or conductors, bending the cable more than the manufacturer's specification for bend radius and exceeding the manufacturer's tensile load installation specification.
6. All installed lengths of fiber shall be brand new and continuous. The Installer shall not fusion splice two short pieces of cable to make a longer piece, unless providing distribution from a high count cable to lower count cables.
7. Fibers optic cables that are run underground shall have 50 (fifty) feet of cable coiled up in every other manhole along the run. These cables shall be dressed neatly and secured to the inside walls of the manhole.
8. Fibers optic cables that are run underground shall have three labels attached. One label shall be attached on the spare coiled-up fiber or in the center between the entrance and exit of the manhole. One label shall be attached within twelve inches of the entrance and one label within twelve inches of the exit of the conduits in the manhole.

Terminating

1. The Installer shall only fusion-splice connectors or pigtails that have been polished by the manufacturer. The Installer shall not install or polish fiber optic connectors, either in the field or in his shop.
2. Both Single Mode and Multimode connectors shall be SC type connectors.
3. Fiber optic cable used in the assembly of the pigtails shall have similar optical characteristics as the installed fiber optic backbone cable.
4. Mechanical splices are not permitted.
5. Splices shall be protected with reinforced sleeves and installed in a specified splice tray.
6. All fiber must be terminated and labeled.

Cleaning

1. All connectors installed or accessed for testing shall be cleaned and then examined under a microscope to assure no contamination. Cleaning of optical connectors shall be accomplished only with the highest grade optical tools and supplies.
2. All connectors shall have a smooth, polished, scratch free finish. Optical fiber end face shall not show any signs of cracks or pistoning on optical endface surface at 200X magnification.
3. Minor chipping of the glass around the outside of the cladding is acceptable, but not to exceed 15% (fifteen percent) of end face surface, and positioned at edge of optical end face to ceramic connector. No defects in optical transmission area (core) are acceptable.

Connector Replacement

1. Any connector damaged or improperly installed shall be removed and replaced with a new connector. Damaged conditions will be determined by the Engineer and the Engineer shall make final decisions on the replacement of questionably damaged connectors.

Testing

1. The Installer shall ensure that all employees and sub-installers testing optical fiber comply with safety standards because some light sources used in testing and operating fiber optic cable assemblies may cause permanent eye damage.

2. Protection from eye exposure to light sources shall be in accordance with the American National Standard for the Safe Use of Lasers; and the Safe Use of Optical Fiber Communication Systems Utilizing Laser Diode and LED Sources.

Codes/Standards Reference
ANSI Z136.1, Z136.2

Installation Equipment Requirements

1. Tooling and equipment used in the termination of fiber optics shall not impart damage to the optical fiber or to any part of the termination.
2. Equipment shall be appropriately stored and adequately protected when not in use. Equipment shall be verified or recalibrated at established intervals to assure compliance and precision.
3. The Installer shall select tools and equipment used in fiber optic termination and cabling operations appropriate to their intended function, and shall clean and properly maintain equipment and tooling being used on installation.
4. Pulling lubricant shall be used on all fiber optic cable pulls.
5. All test equipment shall be calibrated by a certified laboratory, or the manufacturer, within one year of point of use, and such certification shall be submitted to the Engineer prior to testing.
6. Tools requiring calibration shall have records that contain as a minimum:
 - a. Date of calibration
 - b. Calibration due date
 - c. Identification of the organization performing the calibration
7. Calibration shall be traceable to the National Institute of Standards and Technology (NIST). Calibration intervals shall be based on the type of tool and records of the tool calibration. Intervals may be lengthened or shortened on the basis of stability demonstrated over previous calibration periods.
8. If the Installer requests deviation from this equipment list, the burden of proof shall be upon the Installer to demonstrate that any proposed substitute equipment meets or exceeds the specified parameters.
9. All fiber must be terminated and labeled.

Safety

1. All necessary safety precautions shall be taken to protect personnel from injury while fabricating, inspecting or testing fiber optic cable assemblies. Protective equipment shall comply with the requirements of the Occupational Safety and Health Administration.
2. At a minimum, personnel who may come in contact with bare fibers shall wear ANSI approved eye protection.
3. Fiber waste is an individual and collective safety concern. The Installer shall not allow slivers of bare fibers to be disposed of on the floors of the TRs.

Codes/Standards Reference OSHA, 29 CFR Part 1910

Fiber Optic Test Jumpers

1. Single-mode
 - a. The Installer shall use single-mode test jumpers that meet the requirements of the Telecommunications Industry Association.
 - b. Single-mode test jumpers shall be of the same fiber type as the optical fiber cabling.
2. Multi-mode
 - a. The Installer shall use multi-mode test jumpers that meet the requirements of the Telecommunications Industry Association.
 - b. The fiber optic launch cables and adapters must be of high quality and the cables shall not show excessive wear resulting from repetitive coiling and storing of the tester interface adapters.
 - c. Multi-mode test jumpers shall be of the same fiber type as the optical fiber cabling.

Codes/Standards Reference ANSI/TIA/EIA 526-7 ANSI/TIA/EIA 526-14A, section 3.3

27 15 43 COMMUNICATIONS FACEPLATES AND CONNECTORS

Work Areas

1. Work area outlets shall be connected by zone distribution or consolidation transition points to the TR.
2. Work area outlets in office areas shall be located so that one outlet serves each 80 square feet of usable office space.
3. Work area outlets shall contain (6) 8-position RJ45 type modular jacks positions in single faceplate for used with snap-in jacks accommodating any combination of Unshielded Twisted Pair (UTP), optical fiber, and coaxial work area cords.
 - a. All unused ports shall be blanked out for future use.
 - b. Blanks shall be of the same manufacturer as the faceplates and match in color.
4. Work areas outlets shall use Category 6 modular jacks.
 - a. Jacks to be 8-position, Category 6, IDC terminals, T568B wiring scheme
 - b. Each jack must be stamped or have icons to identify it as Category 6.
5. It is recommended to color coordinate high impact plastic faceplate to surrounding area.
6. It is recommended that the top three jacks shall be for voice and the bottom three jacks shall be for data.
7. Work area outlet boxes shall be flush-mounted and located adjacent to a power receptacle.
8. Work area outlet boxes shall be fed with 1 inch conduit.
9. Work area outlets shall be mounted at the same height as the existing convenience outlets unless required to meet ADA requirements.
10. Work area outlets shall be neatly and professionally labeled at the outlet (machine printed using adhesive-tape label for cable), on the front of the wall plate and in the TR.

11. Faceplate shall have snap-in clear-label covers and machine-printed paper for inserts.
12. Work area outlets shall meet or exceed the performance criteria for the cable type used, i.e. CAT6.

27 16 00 COMMUNICATIONS CONNECTING CORDS, DEVICES, AND ADAPTERS

1. For clarification purposes, "Patch Cord" refers to cords installed on the patch panel end in the Server Room or TRs and at the Work Area Outlet.
2. These must be of the same grade and manufacturer as the horizontal/backbone cabling. i.e. CAT 6

27 16 13 COMMUNICATIONS CUSTOM CABLE ASSEMBLIES

1. Mode conditioning cords may be required to transition from 62.5 to 50 micron Multimode fiber.

27 16 16 COMMUNICATIONS MEDIA CONVERTERS, ADAPTERS, AND TRANCEIVERS

1. Fiber optic adapters are to be color coded to differentiate between Single mode and Multimode fibers.
 - a. Single Mode – Yellow
 - b. Multimode – Orange or Aqua

27 16 19 COMMUNICATIONS PATCH CORDS, STATION CORDS, AND CROSS CONNECT WIRE

Cross-Connect Facilities

1. All voice backbone and horizontal cables shall be terminated on 110 style, punch-blocks. All data backbone and horizontal cables shall be terminated in jack fields that are rack-mounted.
2. Cables of similar type shall be terminated next to each other.
3. Horizontal and vertical wire management for organization of patch cords shall be provided.

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Cross-Connect Color Coding

1. SDCRAA IT may NOT follow Industry standards for color-coding backboards. Please refer to Appendix-ii for Color code for all electrical conduits at SDCRAA.
2. SDCRAA ITD Ethernet cable color code is green.
3. Backboards shall be painted white until further notice.

Patch Cords

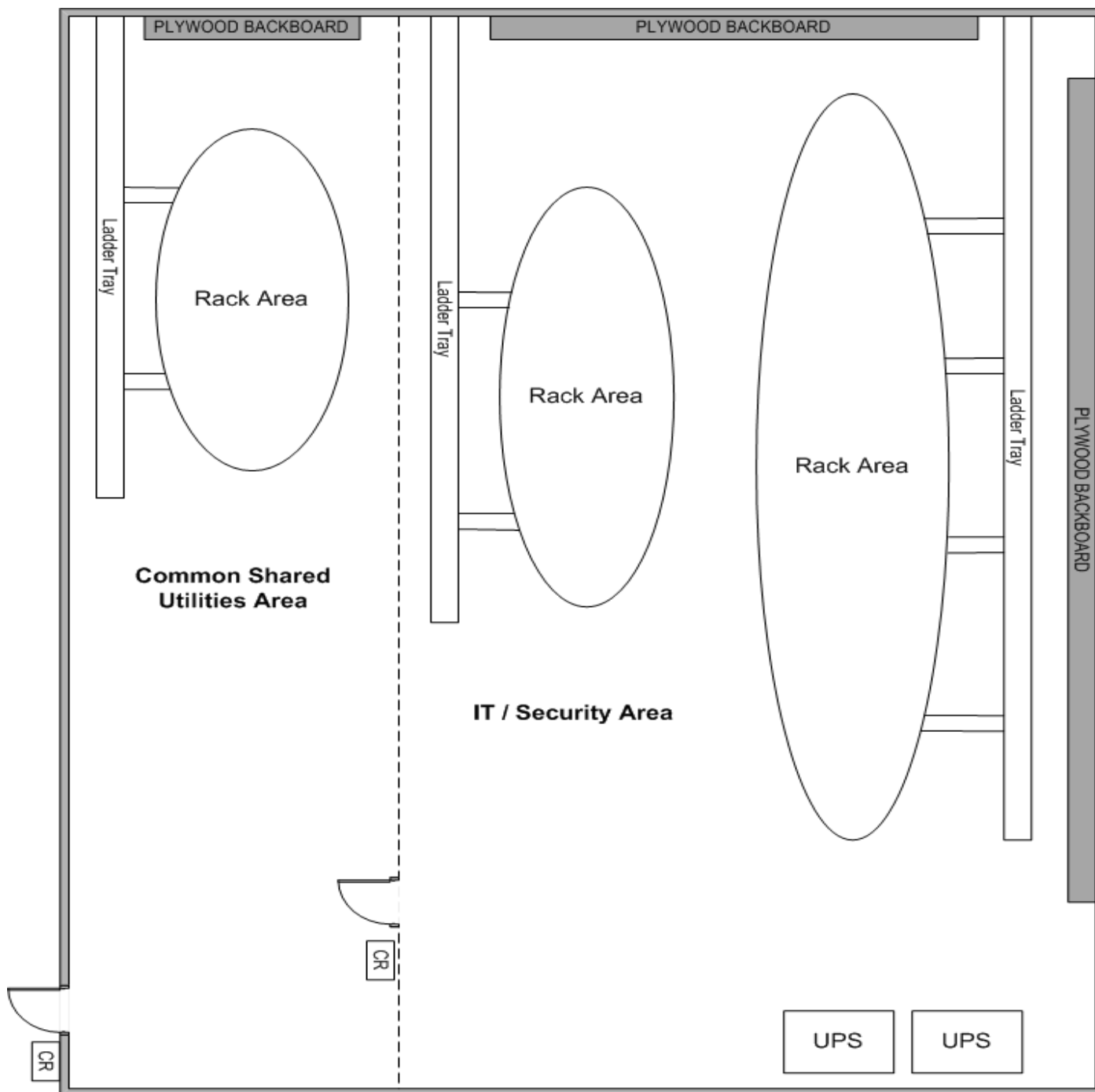
1. Recommended to use 24 AWG, stranded wire, 100 ohm, UTP, CAT-6 for copper patch cords.
2. If installing a structured cabling system, to be Channel certified, the patch cords must comply with the requirements set forth by the manufacturer to maintain the manufacturer's warranty.

Fiber Optic Jumpers

1. The Installer shall not manufacture or field assemble fiber optic jumpers.
2. Single-mode and Multimode jumpers shall be SC type, unless otherwise required for equipment interface.
3. For single fiber circuits, use single strand jumpers. For duplex fiber circuits, use zipcord jumpers.

APPENDIX

FIGURE – 1: TELECOMMUNICATIONS ROOM (TR)



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FIGURE – 2: SDCRAA TENANT IMPROVEMENT REQUEST FORM

CONCEPT APPROVAL			
Tenant Legal Name and Address			Date
Tenancy Business (DBA) Name		Project Location: San Diego International Airport ¹	
Signature – Owner/Officer	Printed Name – Owner/Officer	Telephone Number	E-Mail Address
PROJECT DESCRIPTION (ATTACH ADDITIONAL PAGES, IF REQUIRED) ¹ :			
<input type="checkbox"/> 2 – Bond Sets of Concept Plans Received (Floor Plan, Elevation, and Colored Renderings) and Electronic Copy (PDF/JPEG)			
<input type="checkbox"/> 2 – Material Sample Boards (depicting all materials, finishes, and locations) and Electronic Copy (PDF/JPEG)			
<input type="checkbox"/> Project Schedule/Timelines including Key Milestones			
<input type="checkbox"/> Project Cost Estimate (Attach Additional Pages, If Required)		\$	
<input type="checkbox"/> Other			
CONSTRUCTION DOCUMENTS APPROVAL			
SUBMITTED:			
<input type="checkbox"/> Permitted Construction Documents – Printed Copy and Electronic Copy (PDF & CAD) ²			
<input type="checkbox"/> Specifications – Printed Copy and Electronic Copy ²			
<input type="checkbox"/> Updated Material Sample Boards (depicting all materials, finishes, and locations) – 1 Board and Electronic Copy (PDF/JPEG)			
<input type="checkbox"/> Airport Terminal Map Highlighting Project Location			
Proposed Architect/Engineer		Telephone Number	License Number
Proposed Contractor		Telephone Number	License Number
Estimated Construction Commencement Date		Estimated Construction Completion Date	
CONSTRUCTION / CLOSEOUT – AUTHORITY USE ONLY			
<input type="checkbox"/> Punch List Corrections Completed		<input type="checkbox"/> Copy of Signed-Off Permit Card Received	
<input type="checkbox"/> Copy of Record Drawing Received		<input type="checkbox"/> Bond/Deposit/Retention/Security Funds Released – Date:	
<input type="checkbox"/> Other:			
FOOTNOTES:		^{1.} Please contact Real Estate Management if additional assistance is required. ^{2.} Number of Printed Copies submitted for TI Project Plan Approval will be determined at Concept Approval.	

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TABLE – 1: LIST OF SYSTEMS THAT ARE MANAGED BY SDCRAA ITD

Special Systems:

- 1) Baggage Handling Systems
- 2) Resource Management System
- 3) CUPPS/CUTE
- 4) CUSS
- 5) Building Management System
- 6) Flight Information Display Systems (FIDS, BIDS, RIDS, GIDS, SIDS)
- 7) Master Clock
- 8) Audio and Visual Paging
- 9) CATV
- 10) GIS
- 11) Roadway Dynamic Signage
- 12) Information Kiosks
- 13) Cable Management System
- 14) Local Departure Control System
- 15) Parking Access and Revenue Control System

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IT/Telecom Systems:

- 1) Radio Communication System
- 2) Wireless Local Area Network
- 3) Wired Local Area Network
- 4) Telephones (VoIP, Public, Courtesy, Airport Authority)
- 5) Network and Telecommunications Backbone
- 6) Common Use Infrastructure

TABLE – 2: LIST OF SYSTEMS THAT ARE MANAGED BY SDCRAA AVSEC/PS

- 1) Access Control
- 2) CCTV
- 3) Alarm Monitoring
- 4) Screening
- 5) Breach Management
- 6) Perimeter Intrusion Detection

TABLE – 3: COLOR CODE FOR ALL ELECTRICAL CONDUITS AT SDCRAA**

	Brown	HVAC
	Yellow	Public Address/Intercom
	Orange	Emergency
	Pink	ACS/Security
	Red	Fire Alarm
	White	Telephone/Data
	Yellow/Black	12KV
	Blue	120/208V
	Violet	Loading Bridge
	Gray	Visual Display
	Green	Ground

**** Color Codes for electrical conduits are provided by SDCRAA FDD. Please verify with SDCRAA FDD for any updates.**